

**Illinois Tollway Base Sheet Revisions**

Section M		Base Sheet Drawings	
Drawing	Modification Summary	Effective: 03-01-2026	
<b>Cabinet Wiring (ITS) - Series 1200</b>			
<b>M-ITS-1200</b>	<b>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-MVDS)</b>		
Sheet 1	Replace GFI plugs by Non GFI plugs and identify top power outlet as DIN 1 and bottom power outlet as DIN 2		
	Removed space for two spare DC power supplies		
	Removed space reserved for two surge suppressors and one PoE power injectors		
	Removed space reserved for two MVDS surge suppressors		
	Installed spare 5A breakers as part of breaker terminal		
	Changed designation of HOT 3 terminal block to CB10A		
	Replaced the word Gator Patch by Fiber Patch Panel in Note 13		
	Added Note 31: PoE power cable shall be free standing from PoE to power outlet		
	Added Item AS: not used for this sheet application		
<b>M-ITS-1201</b>	<b>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-MVDS)</b>		
Sheet 1	Replace GFI plugs by Non GFI plugs and identify top power outlet as DIN 1 and bottom power outlet as DIN 2		
	Removed space for two spare DC power supplies		
	Removed space reserved for two surge suppressors and one PoE power injectors		
	Removed space reserved for one MVDS surge suppressor		
	Installed spare 5A breakers as part of breaker terminal		
	Changed designation of HOT 3 terminal block to CB10A		
	Replaced the word Gator Patch by Fiber Patch Panel in Note 13		
	Added Note 31: PoE power cable shall be free standing from PoE to power outlet		
	Item AQ changed description to say: Not used for this sheet application		
Added Item AS: not used for this sheet application			
<b>M-ITS-1202</b>	<b>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (3-MVDS)</b>		
Sheet 1	Replace GFI plugs by Non GFI plugs and identify top power outlet as DIN 1 and bottom power outlet as DIN 2		
	Removed space for two spare DC power supplies		
	Removed space reserved for two surge suppressors and one PoE power injectors		
	Installed spare 5A breakers as part of breaker terminal		
	Changed designation of HOT 3 terminal block to CB10A		
	Replaced the word Gator Patch by Fiber Patch Panel in Note 13		
	Added Note 31: PoE power cable shall be free standing from PoE to power outlet		
	Item AQ changed description to say: Not used for this sheet application		
	Added Item AS: not used for this sheet application		

**Illinois Tollway Base Sheet Revisions**

Section M		Base Sheet Drawings	
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<b>Cabinet Wiring (ITS) - Series 1200</b>			
<b>M-ITS-1202</b>	<b>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (3-MVDS)</b>		
<b>M-ITS-1203</b>	<b>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-CCTV)</b>		
Sheet 1	Replace GFI plugs by Non GFI plugs and identify top power outlet as DIN 1 and bottom power outlet as DIN 2		
	Removed space for one spare DC power supply		
	Removed space reserved for one surge suppressors and one PoE power injector		
	Installed spare 5A breakers as part of breaker terminal		
	Removed space reserved for three surge supressor for MVDS		
	Changed designation of HOT 3 terminal block to CB10A		
	Replaced the word Gator Patch by Fiber Patch Panel in Note 13		
	Added Note 31: PoE power cable shall be free standing from PoE to power outlet		
	Item AQ changed description to say: PoE Injector Axis TU8003 90W Midspan 120VAC		
	Added Item AS as Axis T91A03 DIN Rail Clip B		
<b>M-ITS-1204</b>	<b>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-CCTV and 1-MVDS)</b>		
Sheet 1	Replace GFI plugs by Non GFI plugs and identify top power outlet as DIN 1 and bottom power outlet as DIN 2		
	Removed space for one spare DC power supply		
	Removed space reserved for one surge suppressors and one PoE power injector		
	Installed spare 5A breakers as part of breaker terminal		
	Removed space reserved for two surge supressors for MVDS		
	Changed designation of HOT 3 terminal block to CB10A		
	Replaced the word Gator Patch by Fiber Patch Panel in Note 13		
	Added Note 31: PoE power cable shall be free standing from PoE to power outlet		
	Item AQ changed description to say: PoE Injector Axis TU8003 90W Midspan 120VAC		
	Added Item AS as Axis T91A03 DIN Rail Clip B		
<b>M-ITS-1205</b>	<b>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-CCTV and 2-MVDS)</b>		
Sheet 1	Replace GFI plugs by Non GFI plugs and identify top power outlet as DIN 1 and bottom power outlet as DIN 2		
	Removed space for one spare DC power supply		

**Illinois Tollway Base Sheet Revisions**

Section M		Base Sheet Drawings	
Drawing	Modification Summary	Effective: 03-01-2026	
<b>Cabinet Wiring (ITS) - Series 1200</b>			
M-ITS-1205	<b>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-CCTV and 2-MVDS)</b>		
M-ITS-1206	<b>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-CCTV and 3-MVDS)</b>		
Sheet 1	Replace GFI plugs by Non GFI plugs and identify top power outlet as DIN 1 and bottom power outlet as DIN 2		
	Removed space for one spare DC power supply		
	Removed space reserved for one surge suppressor and one PoE power injector		
	Installed spare 5A breakers as part of breaker terminal		
	Changed designation of HOT 3 terminal block to CB10A		
	Replaced the word Gator Patch by Fiber Patch Panel in Note 13		
	Added Note 31: PoE power cable shall be free standing from PoE to power outlet		
	Item AQ changed description to say: PoE Injector Axis TU8003 90W Midspan 120VAC		
	Added Item AS as Axis T91A03 DIN Rail Clip B		
M-ITS-1207	<b>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-CCTV)</b>		
Sheet 1	Replace GFI plugs by Non GFI plugs and identify top power outlet as DIN 1 and bottom power outlet as DIN 2		
	Removed space reserved for three MVDS surge suppressors		
	Installed spare 5A breakers as part of breaker terminal		
	Changed designation of HOT 3 terminal block to CB10A		
	Replaced the word Gator Patch by Fiber Patch Panel in Note 13		
	Added Note 31: PoE power cable shall be free standing from PoE to power outlet		
	Item AQ changed description to say: PoE Injector Axis TU8003 90W Midspan 120VAC		
	Added Item AS as Axis T91A03 DIN Rail Clip B		
M-ITS-1208	<b>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-CCTV and 1-MVDS)</b>		
Sheet 1	Replace GFI plugs by Non GFI plugs and identify top power outlet as DIN 1 and bottom power outlet as DIN 2		
	Removed space reserved for two MVDS surge suppressors		
	Installed spare 5A breakers as part of breaker terminal		
	Changed designation of HOT 3 terminal block to CB10A		
	Replaced the word Gator Patch by Fiber Patch Panel in Note 13		

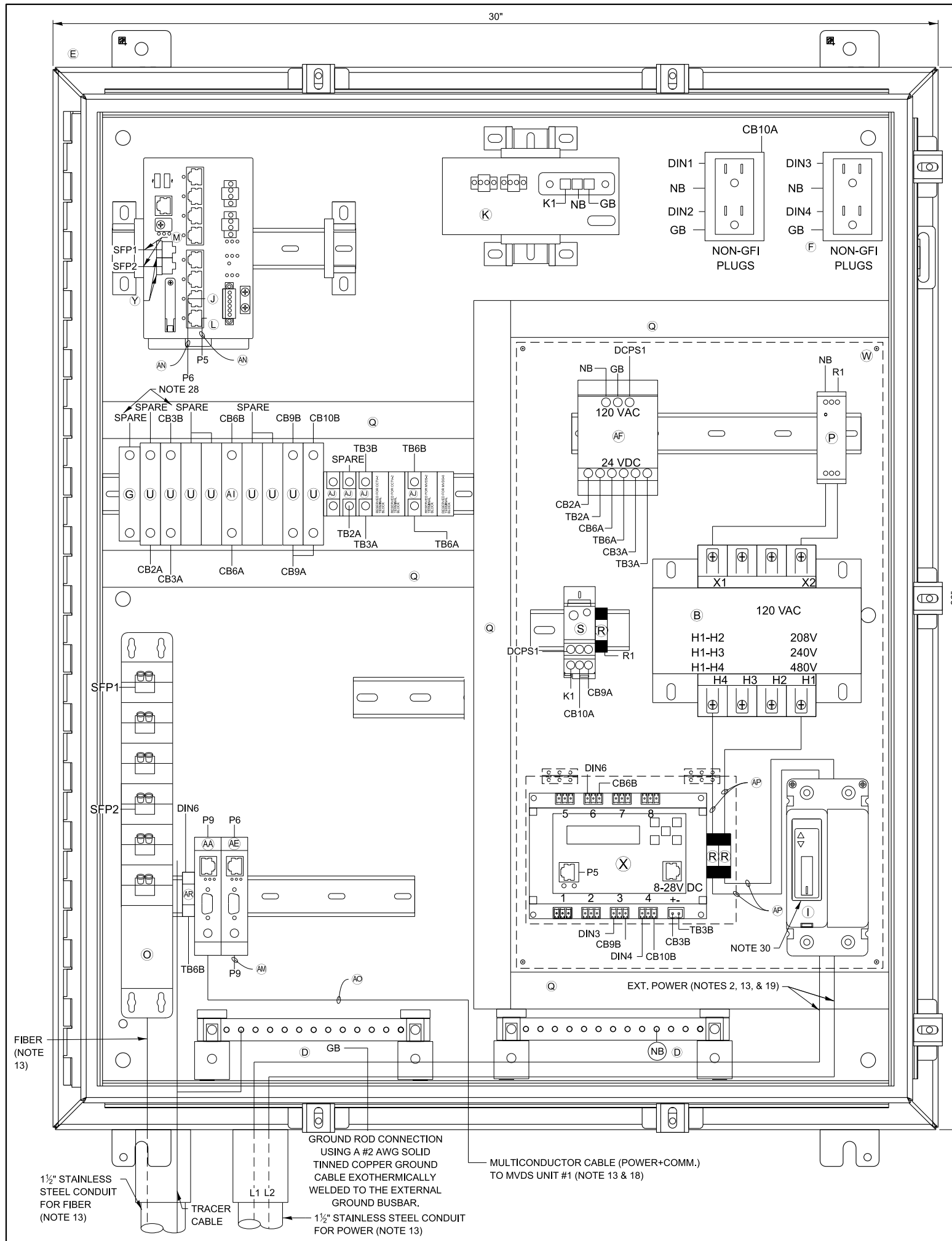
**Illinois Tollway Base Sheet Revisions**

Section M		Base Sheet Drawings	
Drawing	Modification Summary	Effective: 03-01-2026	
<b>Cabinet Wiring (ITS) - Series 1200</b>			
M-ITS-1208	<b>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-CCTV and 1-MVDS)</b>		
M-ITS-1209	<b>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-CCTV and 2-MVDS)</b>		
Sheet 1	Replace GFI plugs by Non GFI plugs and identify top power outlet as DIN 1 and bottom power outlet as DIN 2		
	Installed spare 5A breakers as part of breaker terminal		
	Changed designation of HOT 3 terminal block to CB10A		
	Replaced the word Gator Patch by Fiber Patch Panel in Note 13		
	Added Note 31: PoE power cable shall be free standing from PoE to power outlet		
	Item AQ changed description to say: PoE Injector Axis TU8003 90W Midspan 120VAC		
	Added Item AS as Axis T91A03 DIN Rail Clip B		
M-ITS-1210	<b>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-CCTV and 3-MVDS)</b>		
Sheet 1	Replace GFI plugs by Non GFI plugs and identify top power outlet as DIN 1 and bottom power outlet as DIN 2		
	Changed designation of HOT 3 terminal block to CB10A		
	Replaced the word Gator Patch by Fiber Patch Panel in Note 13		
	Added Note 31: PoE power cable shall be free standing from PoE to power outlet		
	Item AQ changed description to say: PoE Injector Axis TU8003 90W Midspan 120VAC		
Added Item AS as Axis T91A03 DIN Rail Clip B			
M-ITS-1217	<b>Cabinet Wiring Diagram in Pavement Detection System AP, PoE, and Injector ITS Assembly</b>		
Sheet 1	Replace GFI plugs by Non GFI plugs and identify top power outlet as DIN 1 and bottom power outlet as DIN 2		
	Installed spare 5A breakers as part of breaker terminal		
	Removed space reserved for one surge suppressors and one PoE power injector		
	Removed space reserved for two MVDS surge suppressor		
	Replaced the word Gator Patch by Fiber Patch Panel in Note 13		
	Added Note 31: PoE power cable shall be free standing from PoE to power outlet		
Item AQ changed description to say: PoE Injector Axis TU8003 90W Midspan 120VAC			

**Illinois Tollway Base Sheet Revisions**

 **New Sheet**

 **Retired Standard**



**ITEM DESCRIPTION**

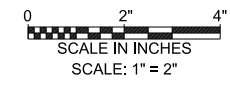
- (A) NOT USED FOR THIS SHEET APPLICATION
- (B) CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- (C) NOT USED FOR THIS SHEET APPLICATION
- (D) TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- (E) NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"x27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- (F) TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- (G) 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- (H) NOT USED FOR THIS SHEET APPLICATION
- (I) 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD EATON/HFD2030L & 625B220G07
- (J) NETWORK SWITCH CISCO IE-3300-8T2S-E
- (K) CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
- (L) IP SERVICES LICENSE: IE3300-DNS-A-3Y
- (M) 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5220002M
- (N) NOT USED FOR THIS SHEET APPLICATION
- (O) SMF PATCH PANEL WITH LC CONNECTORS, SEE SPECIAL PROVISIONS
- (P) 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- (Q) PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1LG6
- (R) 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- (S) SPLICE BLOCK, ALTECH/38041
- (T) NOT USED FOR THIS SHEET APPLICATION
- (U) 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- (V) NOT USED FOR THIS SHEET APPLICATION
- (W) CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.) COMES WITH ACCESS DOOR FOR IP RELAY. REFER TO ITEM X.
- (X) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (Y) (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- (Z) CATEGORY 6 CABLE, 23 AWG, OUTDOOR RATED CABLE BELDEN/7953A
- (AA) SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB24510
- (AB) NOT USED FOR THIS SHEET APPLICATION
- (AC) NOT USED FOR THIS SHEET APPLICATION
- (AD) NOT USED FOR THIS SHEET APPLICATION
- (AE) RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A-T, DK-035T
- (AF) AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- (AG) NOT USED FOR THIS SHEET APPLICATION
- (AH) NOT USED FOR THIS SHEET APPLICATION
- (AI) 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- (AJ) TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- (AK) MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS
- (AL) TRANSFORMER COVERS, SQUARE D/9070FSC2
- (AM) 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- (AN) INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- (AO) MVDS CABLE, SEE SPECIAL PROVISIONS
- (AP) #10 AWG
- (AQ) NOT USED FOR THIS SHEET APPLICATION
- (AR) T-BUS CONNECTOR (WAVETRONIX)
- (AS) NOT USED FOR THIS SHEET APPLICATION

**NOTES:**

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
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).
4. NOT USED.
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 GFIS 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. THE FIBER CABLE SHALL RUN STRAIGHT DOWN FROM THE FIBER PATCH PANEL THROUGH THE LEFT MOST CONDUIT. THE POWER CABLE SHALL BE PULLED THROUGH THE CONDUIT TO THE RIGHT OF THE FIBER CONDUIT. NO SLACK SHALL BE PLACED IN THE CABINET. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THEIR RESPECTIVE HANDHOLES.
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.
18. CABLES TO BE ROUTED THROUGH POLE.
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, 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.
31. PoE POWER CABLE SHALL BE FREE STANDING FROM PoE TO POWER OUTLET.


**NOTE TO DESIGNER**

THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.



**NOTE TO DESIGNER**

DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (O) TO INCLUDE THIS LENGTH.



**CABINET LAYOUT AND WIRING ITS POLE MOUNTED ENCLOSURE (1-MVDS)**

VERSION: 2026-03	BASE SHEET: M-ITS-1200	SHEET: 1 OF 1
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FIBER (NOTE 13)

1 1/2" STAINLESS STEEL CONDUIT FOR FIBER (NOTE 13)

TRACER CABLE

L1 L2

GROUND ROD CONNECTION USING A #2 AWG SOLID TINNED COPPER GROUND CABLE EXOTHERMICALLY WELDED TO THE EXTERNAL GROUND BUSBAR.

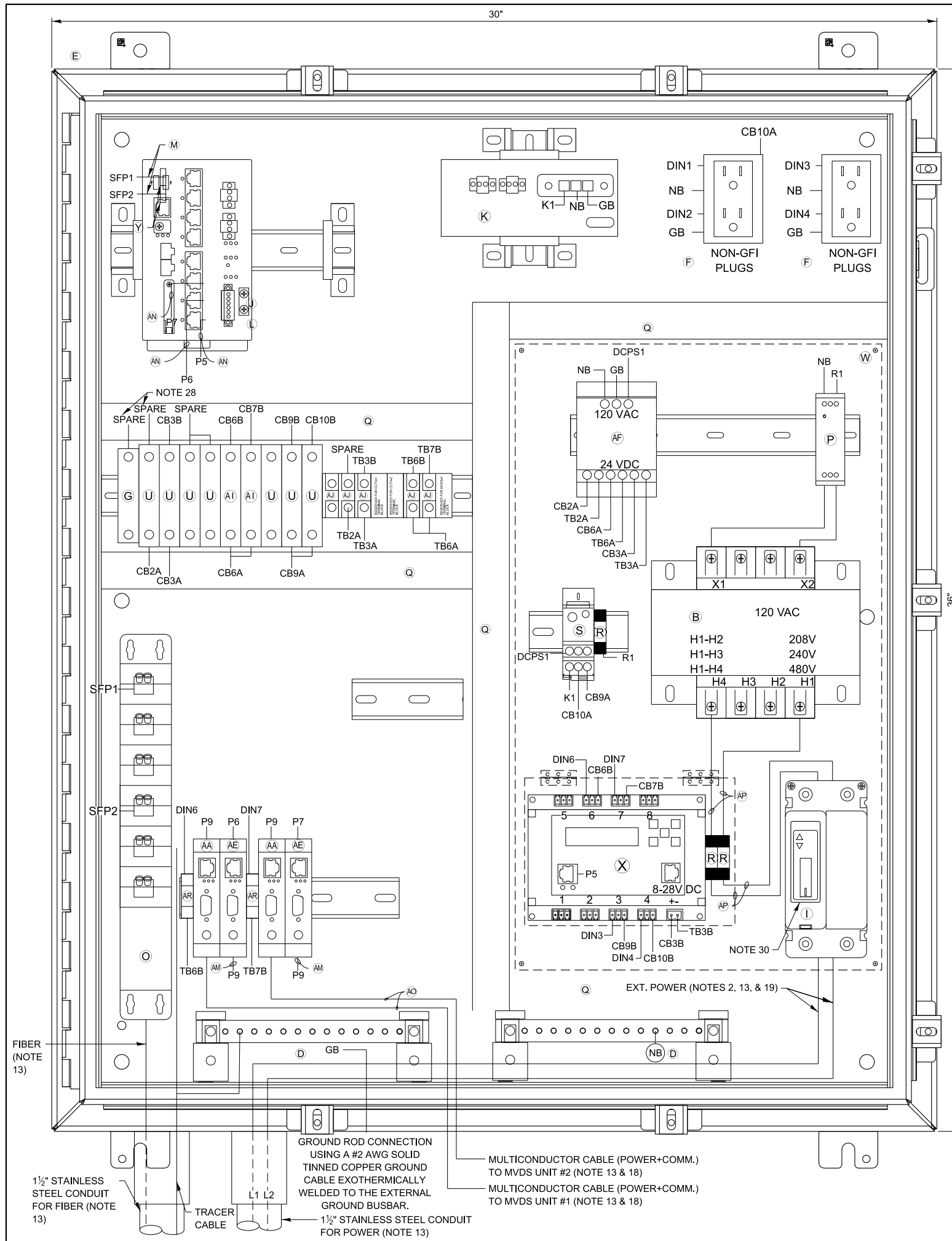
1 1/2" STAINLESS STEEL CONDUIT FOR POWER (NOTE 13)

MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #1 (NOTE 13 & 18)

EXT. POWER (NOTES 2, 13, & 19)

NOTE 30

NOTE 28



**ITEM DESCRIPTION**

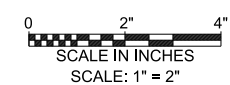
- (A) NOT USED FOR THIS SHEET APPLICATION
- (B) CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- (C) NOT USED FOR THIS SHEET APPLICATION
- (D) TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- (E) NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- (F) TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFCI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- (G) 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- (H) NOT USED FOR THIS SHEET APPLICATION
- (I) 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD EATON/HFD2030L & 625B220G07
- (J) NETWORK SWITCH CISCO IE-3300-8T2S-E
- (K) CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
- (L) IP SERVICES LICENSE: IE3300-DNS-A-3Y
- (M) 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- (N) NOT USED FOR THIS SHEET APPLICATION
- (O) SMF PATCH PANEL WITH LC CONNECTORS, SEE SPECIAL PROVISIONS
- (P) 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- (Q) PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1LG6
- (R) 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- (S) SPLICE BLOCK, ALTECH/38041
- (T) NOT USED FOR THIS SHEET APPLICATION
- (U) 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- (V) CAT6 PoE+ SURGE SUPPRESSOR: USE AXIS T8061 FOR AXIS PoE CAMERA
- (W) CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.) COMES WITH ACCESS DOOR FOR IP RELAY. REFER TO ITEM X.
- (X) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (Y) (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- (Z) CATEGORY 6 CABLE, 23 AWG, OUTDOOR RATED CABLE BELDEN/7953A
- (AA) SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB24510
- (AB) NOT USED FOR THIS SHEET APPLICATION
- (AC) NOT USED FOR THIS SHEET APPLICATION
- (AD) NOT USED FOR THIS SHEET APPLICATION
- (AE) RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A-T, DK-035T
- (AF) AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- (AG) NOT USED FOR THIS SHEET APPLICATION
- (AH) NOT USED FOR THIS SHEET APPLICATION
- (AI) 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- (AJ) TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- (AK) MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS
- (AL) TRANSFORMER COVERS, SQUARE D/9070FSC2
- (AM) 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- (AN) INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- (AO) MVDS CABLE, SEE SPECIAL PROVISIONS
- (AP) #10 AWG
- (AQ) NOT USED FOR THIS SHEET APPLICATION
- (AR) T-BUS CONNECTOR (WAVETRONIX)
- (AS) NOT USED FOR THIS SHEET APPLICATION

**NOTES:**

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
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).
4. NOT USED.
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 GFIS 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. THE FIBER CABLE SHALL RUN STRAIGHT DOWN FROM THE FIBER PATCH PANEL THROUGH THE LEFT MOST CONDUIT. THE POWER CABLE SHALL BE PULLED THROUGH THE CONDUIT TO THE RIGHT OF THE FIBER CONDUIT. NO SLACK SHALL BE PLACED IN THE CABINET. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THEIR RESPECTIVE HANDHOLES.
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.
18. CABLES TO BE ROUTED THROUGH POLE.
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, 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.
31. POE POWER CABLE SHALL BE FREE STANDING FROM PoE TO POWER OUTLET.

**NOTE TO DESIGNER**

THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.

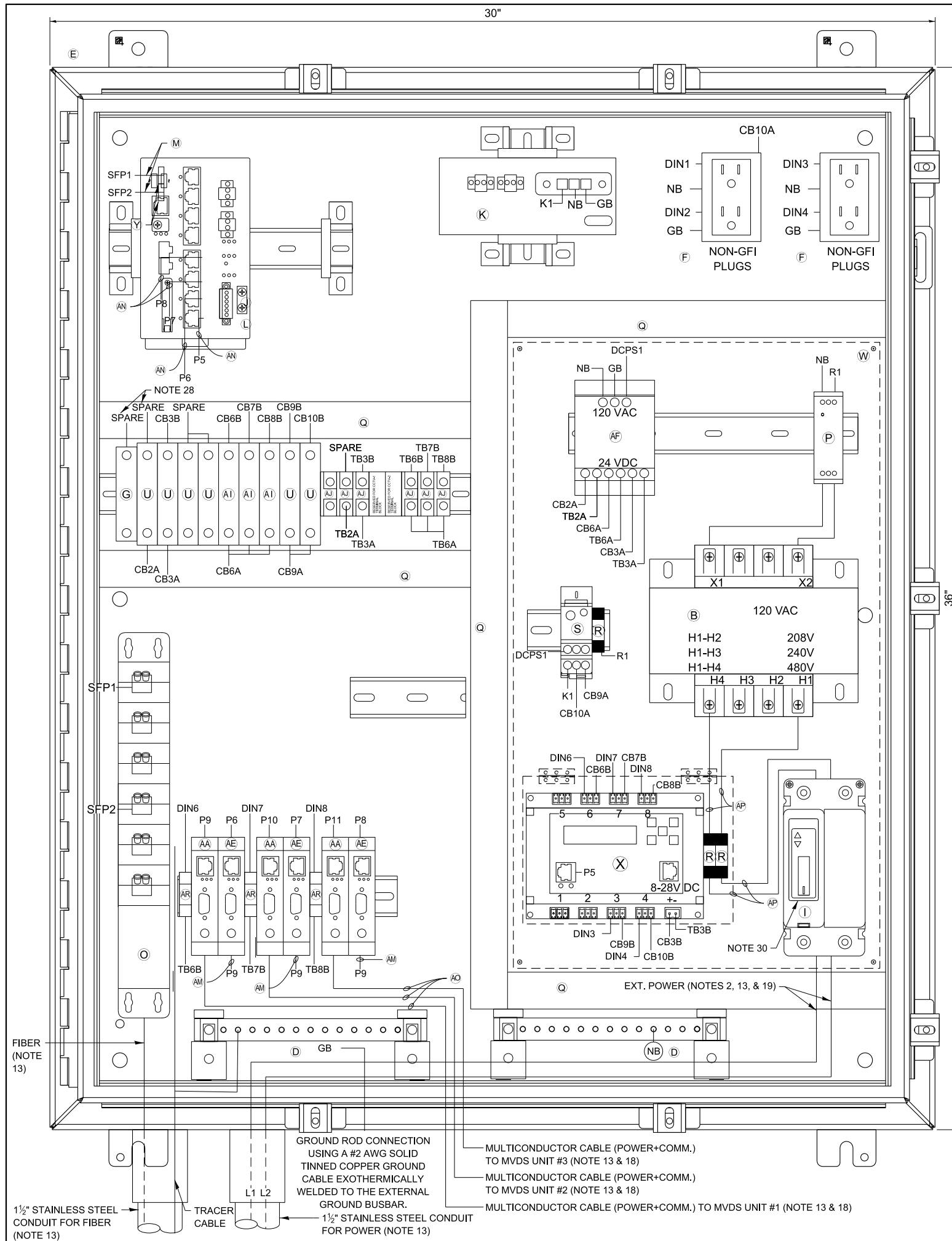


**NOTE TO DESIGNER**

DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (O) TO INCLUDE THIS LENGTH.



**CABINET LAYOUT AND WIRING ITS POLE MOUNTED ENCLOSURE (2-MVDS)**



**ITEM DESCRIPTION**

- A NOT USED FOR THIS SHEET APPLICATION
- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- D TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- E NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"x27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD EATON/HFD2030L & 625B220G07
- J NETWORK SWITCH CISCO IE-3300-8T2S-E
- K CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
- L IP SERVICES LICENSE: IE3300-DNS-A-3Y
- M 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- N NOT USED FOR THIS SHEET APPLICATION
- O SMF PATCH PANEL WITH LC CONNECTORS, SEE SPECIAL PROVISIONS
- P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- T NOT USED FOR THIS SHEET APPLICATION
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CAT6 PoE+ SURGE SUPPRESSOR: USE AXIS T8061 FOR AXIS PoE CAMERA
- W CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.) COMES WITH ACCESS DOOR FOR IP RELAY. REFER TO ITEM X.
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z CATEGORY 6 CABLE, 23 AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB24510
- AB NOT USED FOR THIS SHEET APPLICATION
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A-T, DK-035T
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, SEE SPECIAL PROVISIONS
- AP #10 AWG
- AQ NOT USED FOR THIS SHEET APPLICATION
- AR T-BUS CONNECTOR (WAVETRONIX)
- AS NOT USED FOR THIS SHEET APPLICATION

**NOTES:**

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
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).
4. NOT USED.
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 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. THE FIBER CABLE SHALL RUN STRAIGHT DOWN FROM THE FIBER PATCH PANEL THROUGH THE LEFT MOST CONDUIT. THE POWER CABLE SHALL BE PULLED THROUGH THE CONDUIT TO THE RIGHT OF THE FIBER CONDUIT. NO SLACK SHALL BE PLACED IN THE CABINET. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THEIR RESPECTIVE HANDHOLES.
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.
18. CABLES TO BE ROUTED THROUGH POLE.
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, 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.
31. PoE POWER CABLE SHALL BE FREE STANDING FROM PoE TO POWER OUTLET.

**NOTE TO DESIGNER**

THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.

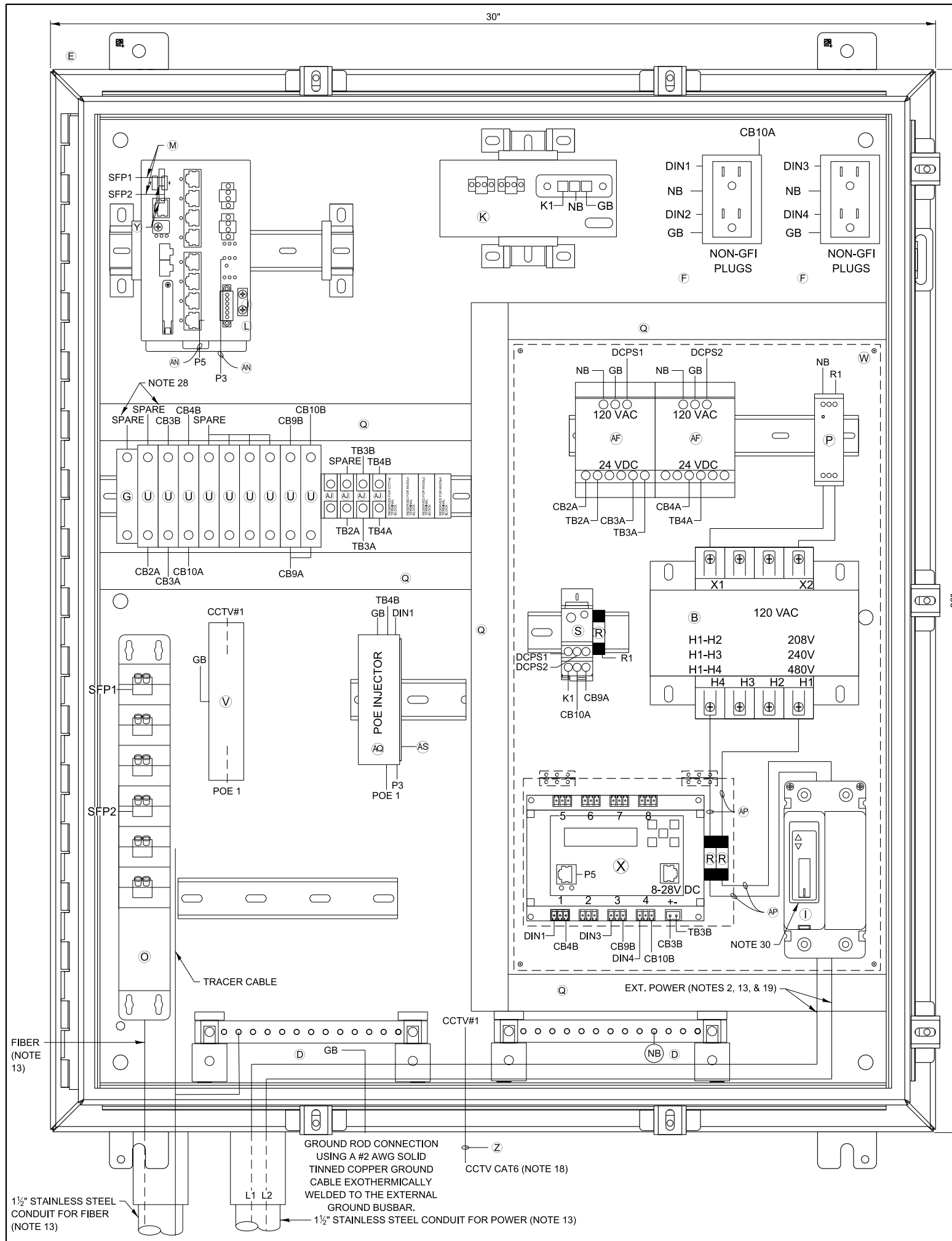


**NOTE TO DESIGNER**

DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (O) TO INCLUDE THIS LENGTH.



**CABINET LAYOUT AND WIRING ITS POLE MOUNTED ENCLOSURE (3-MVDS)**



**ITEM DESCRIPTION**

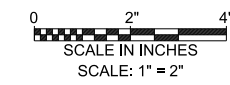
- (A) NOT USED FOR THIS SHEET APPLICATION
- (B) CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- (C) NOT USED FOR THIS SHEET APPLICATION
- (D) TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- (E) NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"x27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- (F) TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFCI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- (G) 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- (H) NOT USED FOR THIS SHEET APPLICATION
- (I) 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD EATON/HFD2030L & 625B220G07
- (J) NETWORK SWITCH CISCO IE-3300-8T2S-E
- (K) CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
- (L) IP SERVICES LICENSE: IE3300-DNS-A-3Y
- (M) 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5220002M
- (N) NOT USED FOR THIS SHEET APPLICATION
- (O) SMF PATCH PANEL WITH LC CONNECTORS, SEE SPECIAL PROVISIONS
- (P) 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- (Q) PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1LG6
- (R) 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- (S) SPLICE BLOCK, ALTECH/38041
- (T) NOT USED FOR THIS SHEET APPLICATION
- (U) 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- (V) CAT6 PoE+ SURGE SUPPRESSOR: USE AXIS T8061 FOR AXIS PoE CAMERA
- (W) CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.) COMES WITH ACCESS DOOR FOR IP RELAY. REFER TO ITEM X.
- (X) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (Y) (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- (Z) CATEGORY 6 CABLE, 23 AWG, OUTDOOR RATED CABLE BELDEN/7953A
- (AA) SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB24510
- (AB) NOT USED FOR THIS SHEET APPLICATION
- (AC) NOT USED FOR THIS SHEET APPLICATION
- (AD) NOT USED FOR THIS SHEET APPLICATION
- (AE) RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A-T, DK-035T
- (AF) AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- (AG) NOT USED FOR THIS SHEET APPLICATION
- (AH) NOT USED FOR THIS SHEET APPLICATION
- (AI) 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- (AJ) TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- (AK) MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS
- (AL) TRANSFORMER COVERS, SQUARE D/9070FSC2
- (AM) 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- (AN) INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- (AO) MVDS CABLE, SEE SPECIAL PROVISIONS
- (AP) #10 AWG
- (AQ) PoE INJECTOR AXIS TU8003 90W MIDSPAN 120VAC
- (AR) T-BUS CONNECTOR (WAVETRONIX)
- (AS) AXIS T91A03 RAIL CLIP B

**NOTES:**

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
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).
4. NOT USED.
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 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. THE FIBER CABLE SHALL RUN STRAIGHT DOWN FROM THE FIBER PATCH PANEL THROUGH THE LEFT MOST CONDUIT. THE POWER CABLE SHALL BE PULLED THROUGH THE CONDUIT TO THE RIGHT OF THE FIBER CONDUIT. NO SLACK SHALL BE PLACED IN THE CABINET. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THEIR RESPECTIVE HANDHOLES.
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.
18. CABLES TO BE ROUTED THROUGH POLE.
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, 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.
31. PoE POWER CABLE SHALL BE FREE STANDING FROM PoE TO POWER OUTLET.

**NOTE TO DESIGNER**

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**NOTE TO DESIGNER**

DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (O) TO INCLUDE THIS LENGTH.



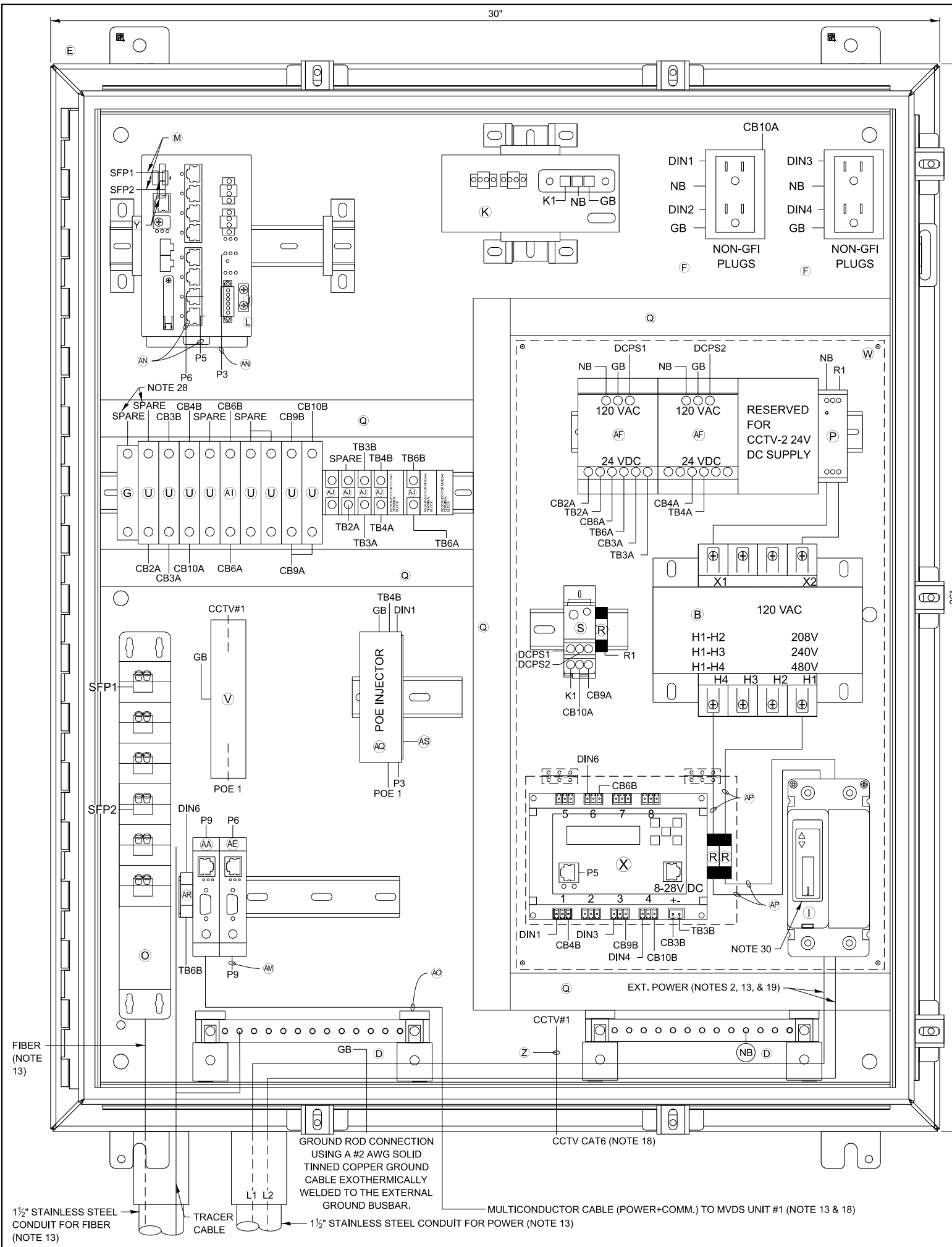
**CABINET LAYOUT AND WIRING ITS POLE MOUNTED ENCLOSURE (1-CCTV CAMERA)**

VERSION: 2026-03	BASE SHEET: M-ITS-1203	SHEET: 1 OF 1
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1 1/2" STAINLESS STEEL CONDUIT FOR FIBER (NOTE 13)

GROUND ROD CONNECTION USING A #2 AWG SOLID TINNED COPPER GROUND CABLE EXOTHERMICALLY WELDED TO THE EXTERNAL GROUND BUSBAR.

1 1/2" STAINLESS STEEL CONDUIT FOR POWER (NOTE 13)



**ITEM DESCRIPTION**

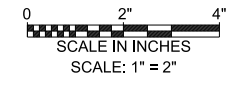
- (A) NOT USED FOR THIS SHEET APPLICATION
- (B) CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- (C) NOT USED FOR THIS SHEET APPLICATION
- (D) TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- (E) NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- (F) TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- (G) 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- (H) NOT USED FOR THIS SHEET APPLICATION
- (I) 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD EATON/HFD2030L & 625B220G07
- (J) NETWORK SWITCH CISCO IE-3300-8T2S-E
- (K) CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
- (L) IP SERVICES LICENSE: IE3300-DNS-A-3Y
- (M) 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- (N) NOT USED FOR THIS SHEET APPLICATION
- (O) SMF PATCH PANEL WITH LC CONNECTORS, SEE SPECIAL PROVISIONS
- (P) 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- (Q) PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1LG6
- (R) 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- (S) SPLICE BLOCK, ALTECH/38041
- (T) NOT USED FOR THIS SHEET APPLICATION
- (U) 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- (V) CAT6 PoE+ SURGE SUPPRESSOR: USE AXIS T8061 FOR AXIS PoE CAMERA
- (W) CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.) COMES WITH ACCESS DOOR FOR IP RELAY. REFER TO ITEM X.
- (X) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (Y) (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- (Z) CATEGORY 6 CABLE, 23 AWG, OUTDOOR RATED CABLE BELDEN/7953A
- (AA) SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB24510
- (AB) NOT USED FOR THIS SHEET APPLICATION
- (AC) NOT USED FOR THIS SHEET APPLICATION
- (AD) NOT USED FOR THIS SHEET APPLICATION
- (AE) RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A-T, DK-035T
- (AF) AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- (AG) NOT USED FOR THIS SHEET APPLICATION
- (AH) NOT USED FOR THIS SHEET APPLICATION
- (AI) 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- (AJ) TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- (AK) MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS
- (AL) TRANSFORMER COVERS, SQUARE D/9070FSC2
- (AM) 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- (AN) INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- (AO) MVDS CABLE, SEE SPECIAL PROVISIONS
- (AP) #10 AWG
- (AQ) PoE INJECTOR AXIS TU8003 90W MIDSPAN 120VAC
- (AR) T-BUS CONNECTOR (WAVETRONIX)
- (AS) AXIS T91A03 DIN RAIL CLIP B

**NOTES:**

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
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).
4. NOT USED.
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 GFIS 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. THE FIBER CABLE SHALL RUN STRAIGHT DOWN FROM THE FIBER PATCH PANEL THROUGH THE LEFT MOST CONDUIT. THE POWER CABLE SHALL BE PULLED THROUGH THE CONDUIT TO THE RIGHT OF THE FIBER CONDUIT. NO SLACK SHALL BE PLACED IN THE CABINET. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THEIR RESPECTIVE HANDHOLES.
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.
18. CABLES TO BE ROUTED THROUGH POLE.
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, 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.
31. PoE POWER CABLE SHALL BE FREE STANDING FROM PoE TO POWER OUTLET.

**NOTE TO DESIGNER**

THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.



**NOTE TO DESIGNER**

DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (O) TO INCLUDE THIS LENGTH.



**CABINET LAYOUT AND WIRING ITS POLE MOUNTED ENCLOSURE (1-CCTV CAMERA AND 1-MVDS)**

VERSION: 2026-03	BASE SHEET: M-ITS-1204	SHEET: 1 OF 1
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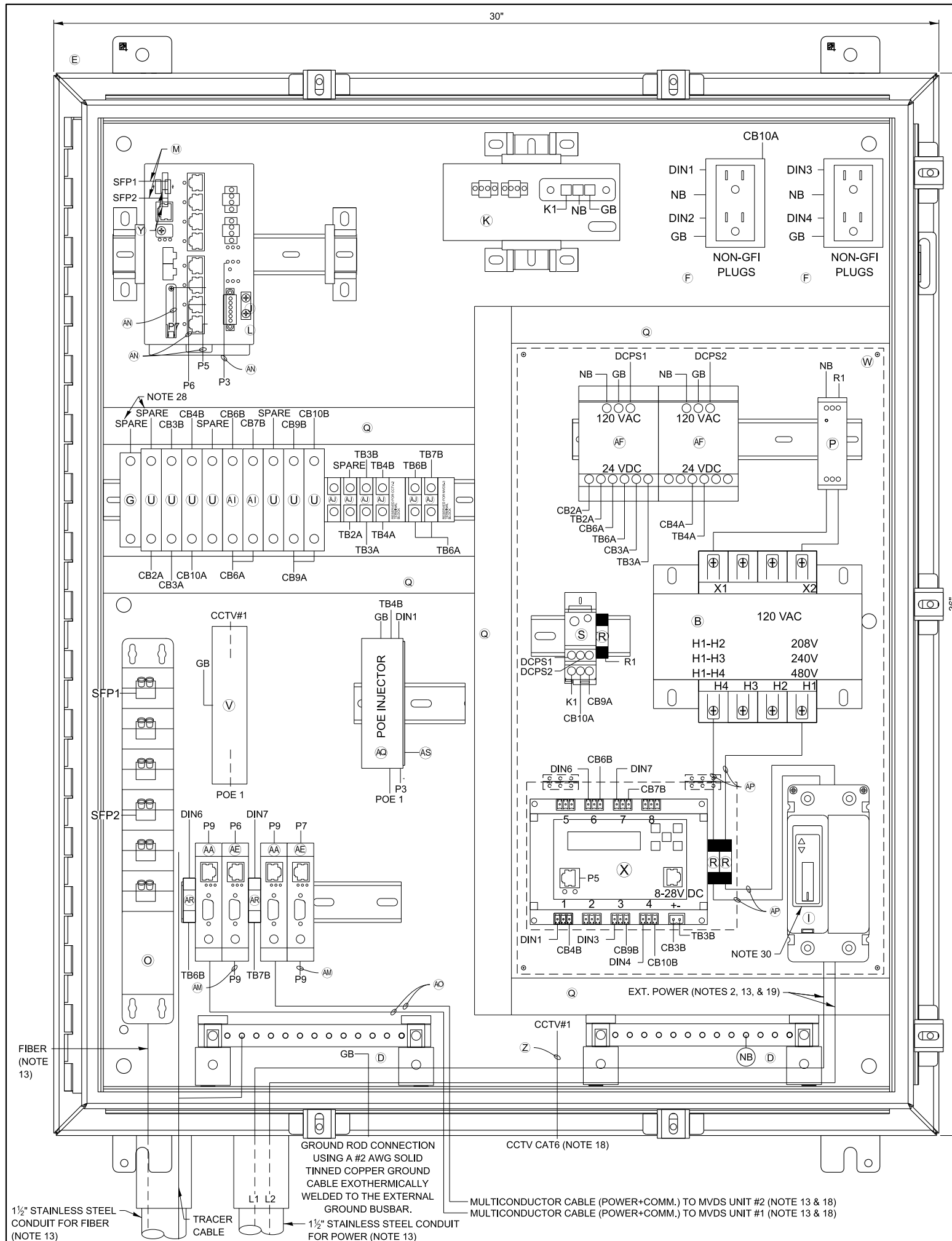
1 1/2" STAINLESS STEEL CONDUIT FOR FIBER (NOTE 13)

TRACER CABLE

GROUND ROD CONNECTION USING A #2 AWG SOLID TINNED COPPER GROUND CABLE EXOTHERMICALLY WELDED TO THE EXTERNAL GROUND BUSBAR.

MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #1 (NOTE 13 & 18)

CCTV CAT6 (NOTE 18)



**ITEM DESCRIPTION**

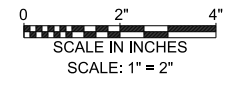
- (A) NOT USED FOR THIS SHEET APPLICATION
- (B) CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- (C) NOT USED FOR THIS SHEET APPLICATION
- (D) TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- (E) NEMA 4X STAINLESS STEEL, 36"X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- (F) TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- (G) 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- (H) NOT USED FOR THIS SHEET APPLICATION
- (I) 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD EATON/HFD2030L & 625B220G07
- (J) NETWORK SWITCH CISCO IE-3300-8T2S-E
- (K) CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
- (L) IP SERVICES LICENSE: IE3300-DNS-A-3Y
- (M) 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- (N) NOT USED FOR THIS SHEET APPLICATION
- (O) SMF PATCH PANEL WITH LC CONNECTORS, SEE SPECIAL PROVISIONS
- (P) 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- (Q) PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1LG6
- (R) 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- (S) SPLICE BLOCK, ALTECH/38041
- (T) NOT USED FOR THIS SHEET APPLICATION
- (U) 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- (V) CAT6 PoE+ SURGE SUPPRESSOR: USE AXIS T8061 FOR AXIS PoE CAMERA
- (W) CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.) COMES WITH ACCESS DOOR FOR IP RELAY. REFER TO ITEM X.
- (X) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (Y) (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- (Z) CATEGORY 6 CABLE, 23 AWG, OUTDOOR RATED CABLE BELDEN/7953A
- (AA) SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB24510
- (AB) NOT USED FOR THIS SHEET APPLICATION
- (AC) NOT USED FOR THIS SHEET APPLICATION
- (AD) NOT USED FOR THIS SHEET APPLICATION
- (AE) RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A-T, DK-035T
- (AF) AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- (AG) NOT USED FOR THIS SHEET APPLICATION
- (AH) NOT USED FOR THIS SHEET APPLICATION
- (AI) 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- (AJ) TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- (AK) MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS
- (AL) TRANSFORMER COVERS, SQUARE D/9070FSC2
- (AM) 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- (AN) INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- (AO) MVDS CABLE, SEE SPECIAL PROVISIONS
- (AP) #10 AWG
- (AQ) PoE INJECTOR AXIS TU8003 90W MIDSPAN 120VAC
- (AR) T-BUS CONNECTOR (WAVETRONIX)
- (AS) AXIS T91A03 DIN RAIL CLIP B


**NOTES:**

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
2. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
3. NOT USED.
4. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
5. 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.
6. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
7. WIFI COMMUNICATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
8. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
9. ALL BREAKERS SHALL BE LABELED (E.G. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
10. NOT USED FOR THIS SHEET APPLICATION.
11. 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.
12. THE FIBER CABLE SHALL RUN STRAIGHT DOWN FROM THE FIBER PATCH PANEL THROUGH THE LEFT MOST CONDUIT. THE POWER CABLE SHALL BE PULLED THROUGH THE CONDUIT TO THE RIGHT OF THE FIBER CONDUIT. NO SLACK SHALL BE PLACED IN THE CABINET. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THEIR RESPECTIVE HANDHOLES.
13. POWER FEED TO THE CISCO IE4000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
14. NOT USED FOR THIS SHEET APPLICATION.
15. 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.
16. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
17. CABLES TO BE ROUTED THROUGH POLE.
18. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
19. NOT USED FOR THIS SHEET APPLICATION.
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, 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.
31. PoE POWER CABLE SHALL BE FREE STANDING FROM PoE TO POWER OUTLET.

**NOTE TO DESIGNER**

THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.





**CABINET LAYOUT AND WIRING ITS POLE MOUNTED ENCLOSURE (1-CCTV CAMERA AND 2-MVDS)**

VERSION: 2026-03      BASE SHEET: M-ITS-1205      SHEET: 1 OF 1

**NOTE TO DESIGNER**

DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (O) TO INCLUDE THIS LENGTH.

1 1/2" STAINLESS STEEL CONDUIT FOR FIBER (NOTE 13)

FIBER (NOTE 13)

TRACER CABLE

GROUND ROD CONNECTION USING A #2 AWG SOLID TINNED COPPER GROUND CABLE EXOTHERMICALLY WELDED TO THE EXTERNAL GROUND BUSBAR.

1 1/2" STAINLESS STEEL CONDUIT FOR POWER (NOTE 13)

MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #2 (NOTE 13 & 18)

MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #1 (NOTE 13 & 18)

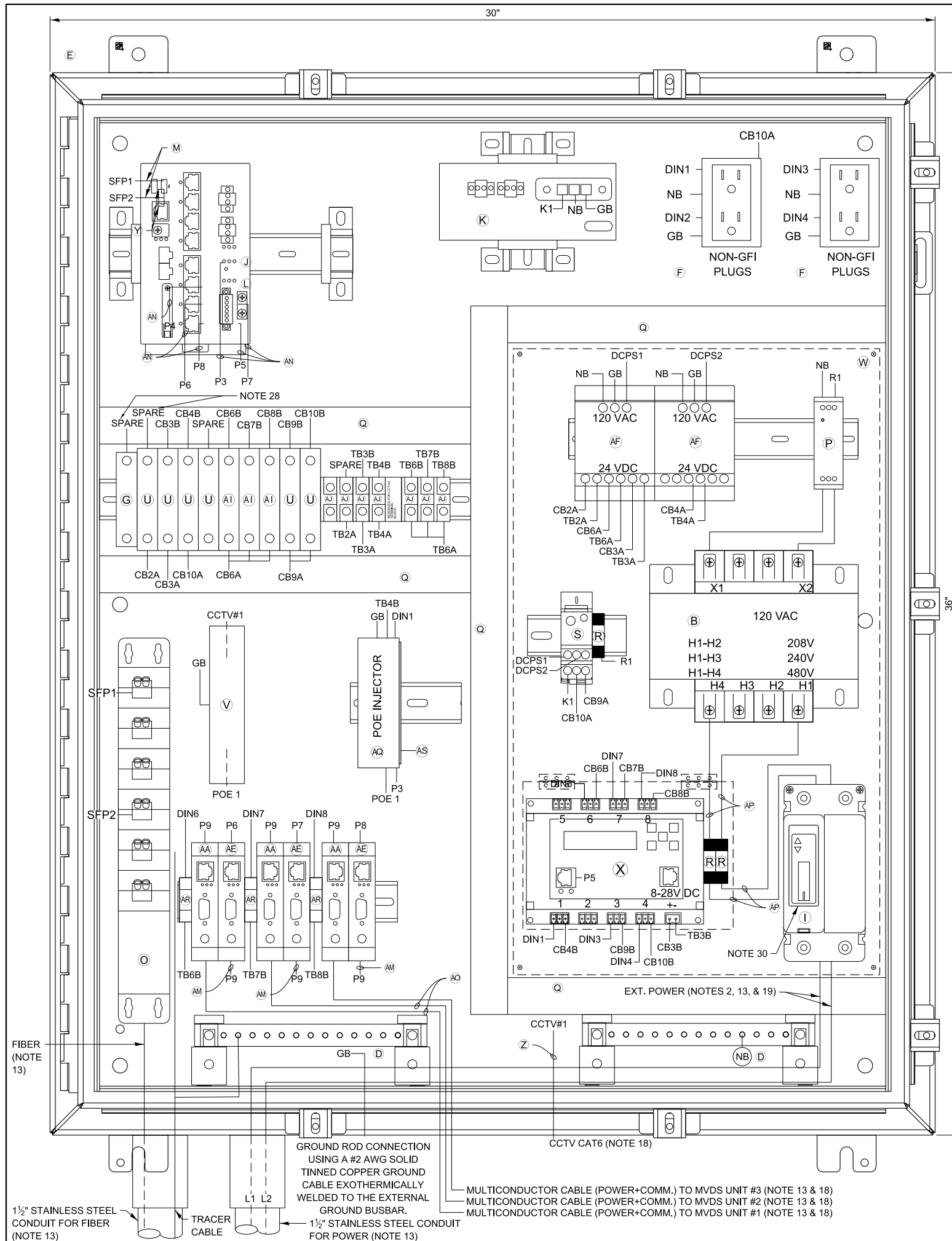
CCTV CAT6 (NOTE 18)

CCTV#1

EXT. POWER (NOTES 2, 13, & 19)

NOTE 28

NOTE 30

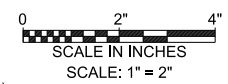


- ITEM DESCRIPTION**
- A NOT USED FOR THIS SHEET APPLICATION
  - B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
  - C NOT USED FOR THIS SHEET APPLICATION
  - E TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
  - F NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"x27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
  - F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
  - G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
  - H NOT USED FOR THIS SHEET APPLICATION
  - I 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD EATON/HFD2030L & 625B220G07
  - J NETWORK SWITCH CISCO IE-3300-8T2S-E
  - K CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
  - L IP SERVICES LICENSE: IE3300-DNS-A-3Y
  - M 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/04042R5Z20002M
  - N NOT USED FOR THIS SHEET APPLICATION
  - O SMF PATCH PANEL WITH LC CONNECTORS, SEE SPECIAL PROVISIONS
  - P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
  - Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1LG6
  - R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
  - S SPLICE BLOCK, ALTECH/38041
  - T NOT USED FOR THIS SHEET APPLICATION
  - U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
  - V CAT6 PoE+ SURGE SUPPRESSOR: USE AXIS T8061 FOR AXIS PoE CAMERA
  - W CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.) COMES WITH ACCESS DOOR FOR IP RELAY. REFER TO ITEM X.
  - X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
  - Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
  - Z CATEGORY 6 CABLE, 23 AWG, OUTDOOR RATED CABLE BELDEN/7953A
  - AA SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB24510
  - AB NOT USED FOR THIS SHEET APPLICATION
  - AC NOT USED FOR THIS SHEET APPLICATION
  - AD NOT USED FOR THIS SHEET APPLICATION
  - AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A-T, DK-035T
  - AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
  - AG NOT USED FOR THIS SHEET APPLICATION
  - AH NOT USED FOR THIS SHEET APPLICATION
  - AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
  - AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
  - AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS
  - AL TRANSFORMER COVERS, SQUARE D/9070FSC2
  - AM 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
  - AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
  - AO MVDS CABLE, SEE SPECIAL PROVISIONS
  - AP #10 AWG
  - AQ PoE INJECTOR AXIS TU8003 90W MIDSPAN 120VAC
  - AR T-BUS CONNECTOR (WAVETRONIX)
  - AS AXIS T91A03 DIN RAIL CLIP B

- NOTES:**
1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  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).
  4. NOT USED.
  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 SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE GFIS 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. THE FIBER CABLE SHALL RUN STRAIGHT DOWN FROM THE FIBER PATCH PANEL THROUGH THE LEFT MOST CONDUIT. THE POWER CABLE SHALL BE PULLED THROUGH THE CONDUIT TO THE RIGHT OF THE FIBER CONDUIT. NO SLACK SHALL BE PLACED IN THE CABINET. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THEIR RESPECTIVE HANDHOLES.
  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.
  18. CABLES TO BE ROUTED THROUGH POLE.
  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, 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.
  31. PoE POWER CABLE SHALL BE FREE STANDING FROM PoE TO POWER OUTLET.

**NOTE TO DESIGNER**

THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.



**NOTE TO DESIGNER**

DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (O) TO INCLUDE THIS LENGTH.



**CABINET LAYOUT AND WIRING ITS POLE MOUNTED ENCLOSURE (1-CCTV CAMERA AND 3-MVDS)**

VERSION: 2026-03	BASE SHEET: M-ITS-1206	SHEET: 1 OF 1
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1 1/2" STAINLESS STEEL CONDUIT FOR FIBER (NOTE 13)

TRACER CABLE

GROUND ROD CONNECTION USING A #2 AWG SOLID TINNED COPPER GROUND CABLE EXOTHERMICALLY WELDED TO THE EXTERNAL GROUND BUSBAR.

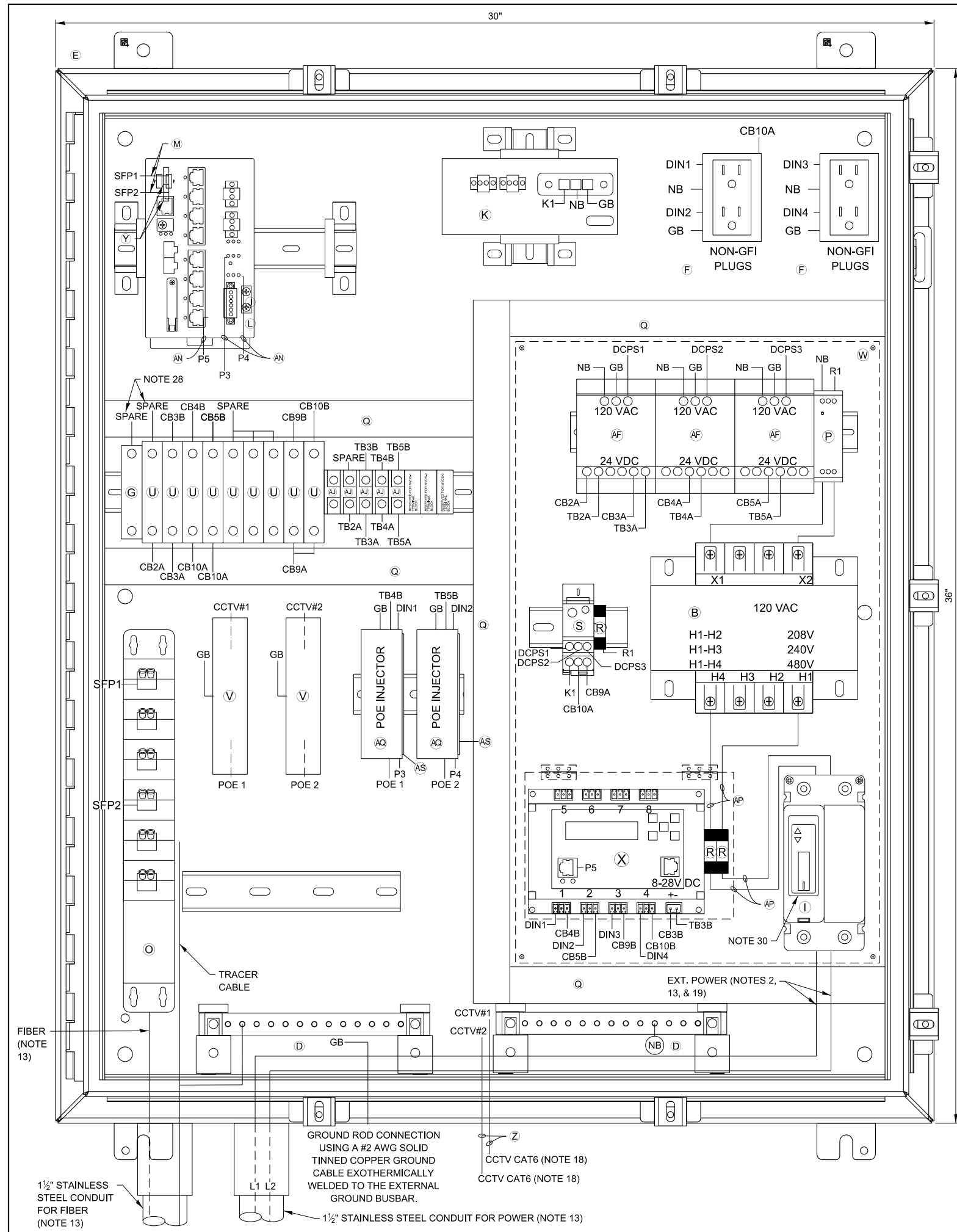
1 1/2" STAINLESS STEEL CONDUIT FOR POWER (NOTE 13)

MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #3 (NOTE 13 & 18)

MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #2 (NOTE 13 & 18)

MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #1 (NOTE 13 & 18)

CCTV CAT6 (NOTE 18)



**ITEM DESCRIPTION**

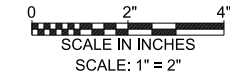
- A NOT USED FOR THIS SHEET APPLICATION
- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- D TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- E NEMA 4X STAINLESS STEEL, 36"X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD EATON/HFD2030L & 625B220G07
- J NETWORK SWITCH CISCO IE-3300-8T2S-E
- K CISCO POWER SUPPLY, PWR-IE170W-PC-A#
- L IP SERVICES LICENSE: IE3300-DNS-A-3Y
- M 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5220002M
- N NOT USED FOR THIS SHEET APPLICATION
- O SMF PATCH PANEL WITH LC CONNECTORS, SEE SPECIAL PROVISIONS
- P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- T NOT USED FOR THIS SHEET APPLICATION
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CAT6 PoE+ SURGE SUPPRESSOR: USE AXIS T8061 FOR AXIS PoE CAMERA
- W CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.) COMES WITH ACCESS DOOR FOR IP RELAY. REFER TO ITEM X.
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z CATEGORY 6 CABLE, 23 AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB24510
- AB NOT USED FOR THIS SHEET APPLICATION
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A-T, DK-035T
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, SEE SPECIAL PROVISIONS
- AP #10 AWG
- AQ PoE INJECTOR AXIS TU8003 90W MIDSPAN 120VAC
- AR T-BUS CONNECTOR (WAVETRONIX)
- AS AXIS T91A03 DIN RAIL CLIP B

**NOTES:**

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
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).
4. NOT USED.
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 GFIS 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. THE FIBER CABLE SHALL RUN STRAIGHT DOWN FROM THE FIBER PATCH PANEL THROUGH THE LEFT MOST CONDUIT. THE POWER CABLE SHALL BE PULLED THROUGH THE CONDUIT TO THE RIGHT OF THE FIBER CONDUIT. NO SLACK SHALL BE PLACED IN THE CABINET. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THEIR RESPECTIVE HANDHOLES.
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.
18. CABLES TO BE ROUTED THROUGH POLE.
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, 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.
31. PoE POWER CABLE SHALL BE FREE STANDING FROM PoE TO POWER OUTLET.

**NOTE TO DESIGNER**

THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.

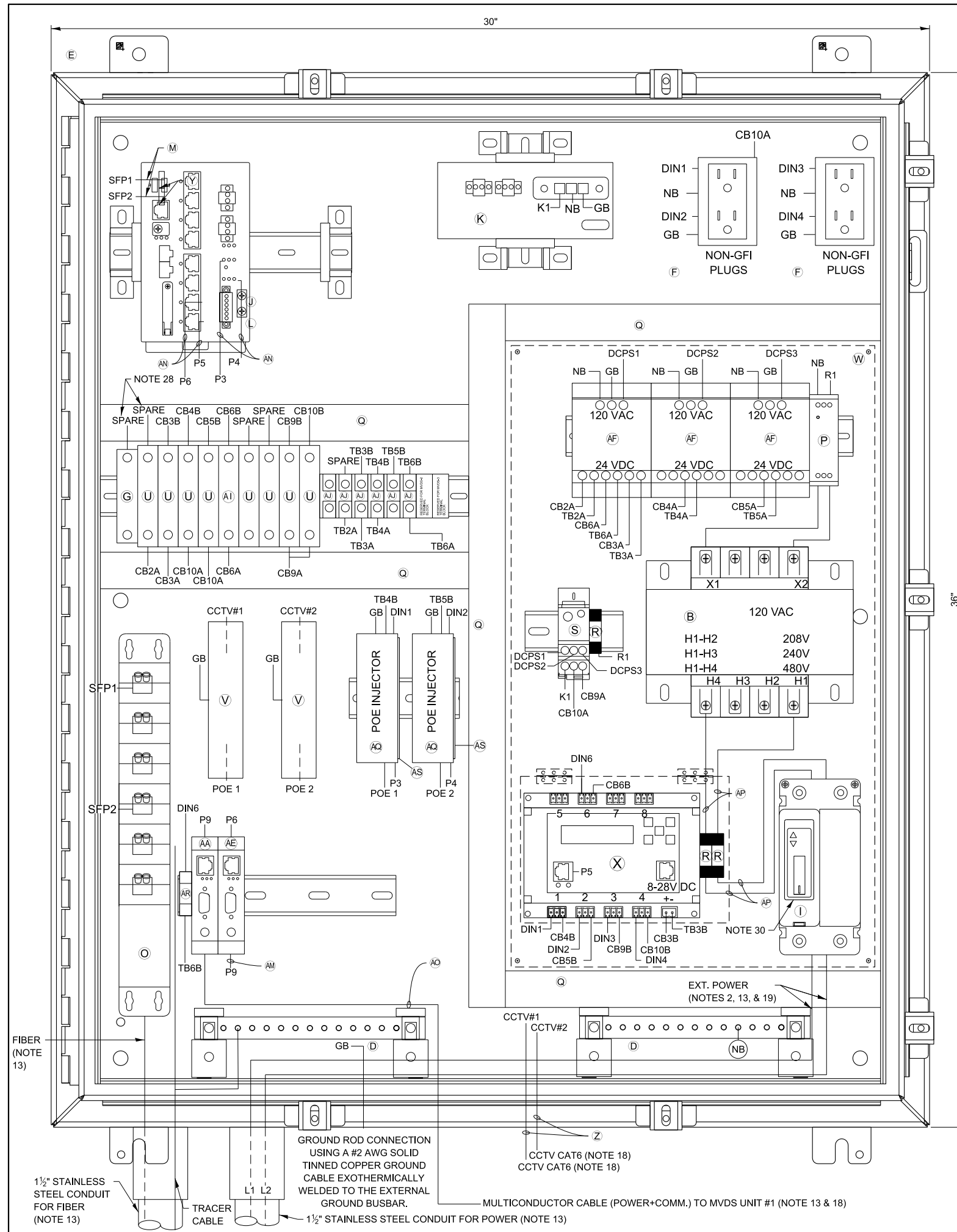


**NOTE TO DESIGNER**

DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (O) TO INCLUDE THIS LENGTH.



**CABINET LAYOUT AND WIRING ITS POLE MOUNTED ENCLOSURE (2-CCTV CAMERAS)**

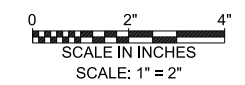


- ITEM DESCRIPTION**
- (A) NOT USED FOR THIS SHEET APPLICATION
  - (B) CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
  - (C) NOT USED FOR THIS SHEET APPLICATION
  - (D) TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
  - (E) NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"x27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
  - (F) TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
  - (G) 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
  - (H) NOT USED FOR THIS SHEET APPLICATION
  - (I) 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD EATON/HFD2030L & 625B220G07
  - (J) NETWORK SWITCH CISCO IE-3300-8T2S-E
  - (K) CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
  - (L) IP SERVICES LICENSE: IE3300-DNS-A-3Y
  - (M) 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5220002M
  - (N) NOT USED FOR THIS SHEET APPLICATION
  - (O) SMF PATCH PANEL WITH LC CONNECTORS, SEE SPECIAL PROVISIONS
  - (P) 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
  - (Q) PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1LG6
  - (R) 10 AMP FUSE, GOULD (MERSEN)/ATM-10
  - (S) SPLICE BLOCK, ALTECH/38041
  - (T) NOT USED FOR THIS SHEET APPLICATION
  - (U) 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
  - (V) CAT6 PoE+ SURGE SUPPRESSOR: USE AXIS T8061 FOR AXIS PoE CAMERA
  - (W) CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.) COMES WITH ACCESS DOOR FOR IP RELAY. REFER TO ITEM X.
  - (X) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
  - (Y) (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
  - (Z) CATEGORY 6 CABLE, 23 AWG, OUTDOOR RATED CABLE BELDEN/7953A
  - (AA) SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB24510
  - (AB) NOT USED FOR THIS SHEET APPLICATION
  - (AC) NOT USED FOR THIS SHEET APPLICATION
  - (AD) NOT USED FOR THIS SHEET APPLICATION
  - (AE) RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A-T, DK-035T
  - (AF) AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
  - (AG) NOT USED FOR THIS SHEET APPLICATION
  - (AH) NOT USED FOR THIS SHEET APPLICATION
  - (AI) 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
  - (AJ) TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
  - (AK) MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS
  - (AL) TRANSFORMER COVERS, SQUARE D/9070FSC2
  - (AM) 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
  - (AN) INDOOR/OUTDOOR RATED CAT6 (100MBPS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
  - (AO) MVDS CABLE, SEE SPECIAL PROVISIONS
  - (AP) #10 AWG
  - (AQ) PoE INJECTOR AXIS TU8003 90W MIDSPAN 120VAC
  - (AR) T-BUS CONNECTOR (WAVETRONIX)
  - (AS) AXIS T91A03 DIN RAIL CLIP B

- NOTES:**
1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  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).
  4. NOT USED.
  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 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. THE FIBER CABLE SHALL RUN STRAIGHT DOWN FROM THE FIBER PATCH PANEL THROUGH THE LEFT MOST CONDUIT. THE POWER CABLE SHALL BE PULLED THROUGH THE CONDUIT TO THE RIGHT OF THE FIBER CONDUIT. NO SLACK SHALL BE PLACED IN THE CABINET. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THEIR RESPECTIVE HANDHOLES.
  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.
  18. CABLES TO BE ROUTED THROUGH POLE.
  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, 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.
  31. PoE POWER CABLE SHALL BE FREE STANDING FROM PoE TO POWER CABLE.

**NOTE TO DESIGNER**

THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.



**NOTE TO DESIGNER**

DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (O) TO INCLUDE THIS LENGTH.

**CABINET LAYOUT AND WIRING ITS POLE MOUNTED ENCLOSURE (2-CCTV CAMERAS AND 1-MVDS)**

VERSION: 2026-03      BASE SHEET: M-ITS-1208      SHEET: 1 OF 1

FIBER (NOTE 13)

1 1/2" STAINLESS STEEL CONDUIT FOR FIBER (NOTE 13)

GROUND ROD CONNECTION USING A #2 AWG SOLID TINNED COPPER GROUND CABLE EXOTHERMICALLY WELDED TO THE EXTERNAL GROUND BUSBAR.

TRACER CABLE

1 1/2" STAINLESS STEEL CONDUIT FOR POWER (NOTE 13)

MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #1 (NOTE 13 & 18)

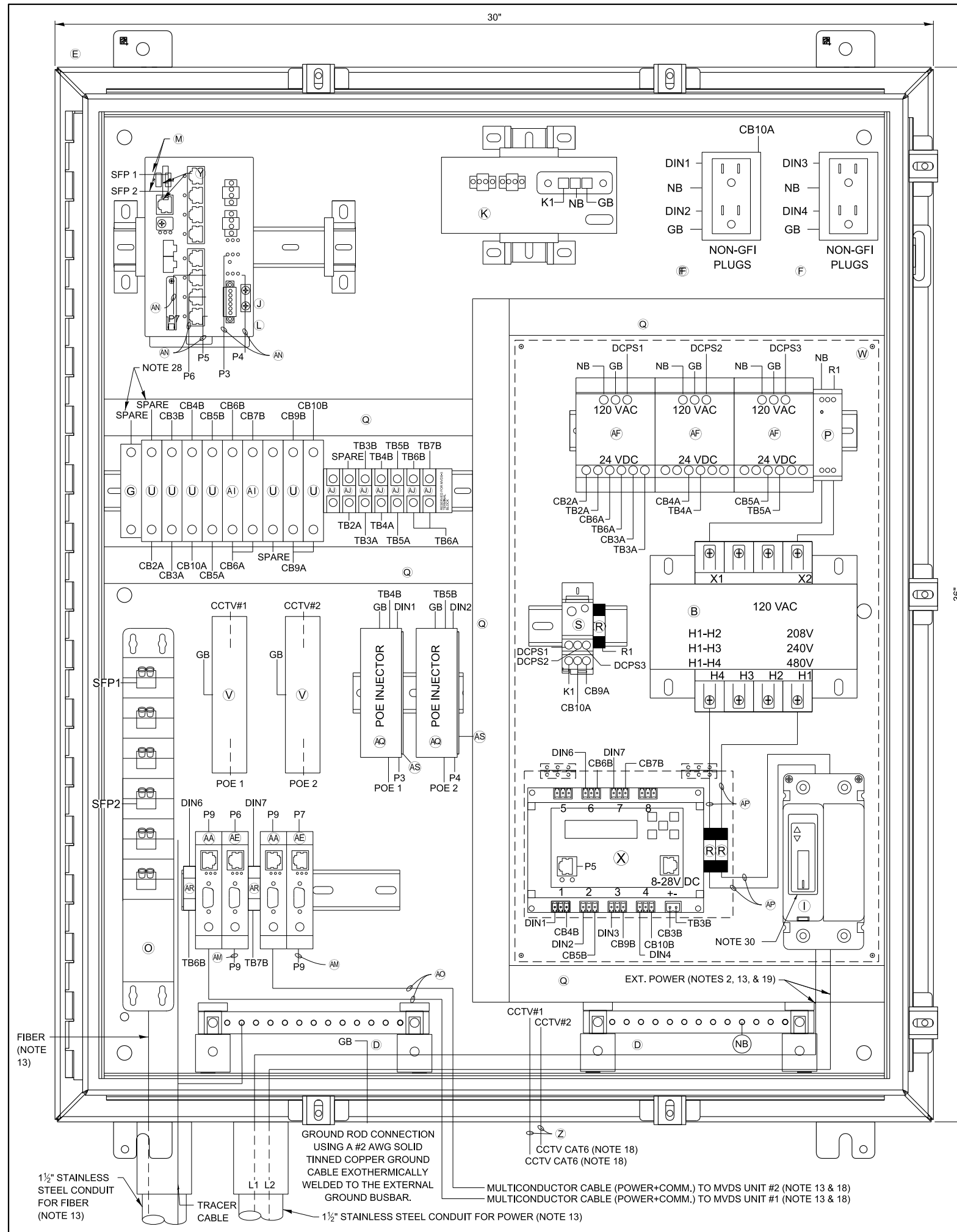
CCTV CAT6 (NOTE 18)

CCTV CAT6 (NOTE 18)

EXT. POWER (NOTES 2, 13, & 19)

NOTE 28

NOTE 30



**ITEM DESCRIPTION**

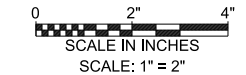
- (A) NOT USED FOR THIS SHEET APPLICATION
- (B) CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- (C) NOT USED FOR THIS SHEET APPLICATION
- (D) TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- (E) NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"x27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- (F) TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFCI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- (G) 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- (H) NOT USED FOR THIS SHEET APPLICATION
- (I) 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD EATON/HFD2030L & 625B220G07
- (J) NETWORK SWITCH CISCO IE-3300-8T2S-E
- (K) CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
- (L) IP SERVICES LICENSE: IE3300-DNS-A-3Y
- (M) 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R520002M
- (N) NOT USED FOR THIS SHEET APPLICATION
- (O) SMF PATCH PANEL WITH LC CONNECTORS, SEE SPECIAL PROVISIONS
- (P) 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- (Q) PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1L66
- (R) 10 AMP FUSE, GOULD (MERSENY)/ATM-10
- (S) SPLICE BLOCK, ALTECH/38041
- (T) NOT USED FOR THIS SHEET APPLICATION
- (U) 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- (V) CAT6 PoE+ SURGE SUPPRESSOR: USE AXIS T8061 FOR AXIS PoE CAMERA
- (W) CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.) COMES WITH ACCESS DOOR FOR IP RELAY. REFER TO ITEM X.
- (X) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (Y) (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- (Z) CATEGORY 6 CABLE, 23 AWG, OUTDOOR RATED CABLE BELDEN/7953A
- (AA) SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB24510
- (AB) NOT USED FOR THIS SHEET APPLICATION
- (AC) NOT USED FOR THIS SHEET APPLICATION
- (AD) NOT USED FOR THIS SHEET APPLICATION
- (AE) RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A-T, DK-035T
- (AF) AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- (AG) NOT USED FOR THIS SHEET APPLICATION
- (AH) NOT USED FOR THIS SHEET APPLICATION
- (AI) 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- (AJ) TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- (AK) MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS
- (AL) TRANSFORMER COVERS, SQUARE D/9070FSC2
- (AM) 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- (AN) INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- (AO) MVDS CABLE, SEE SPECIAL PROVISIONS
- (AP) #10 AWG
- (AQ) PoE INJECTOR AXIS TU8003 90W MIDSPAN 120VAC
- (AR) T-BUS CONNECTOR (WAVETRONIX)
- (AS) AXIS T91A03 DIN RAIL CLIP B

**NOTES:**

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
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).
4. NOT USED.
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 GFIS 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. THE FIBER CABLE SHALL RUN STRAIGHT DOWN FROM THE FIBER PATCH PANEL THROUGH THE LEFT MOST CONDUIT. THE POWER CABLE SHALL BE PULLED THROUGH THE CONDUIT TO THE RIGHT OF THE FIBER CONDUIT. NO SLACK SHALL BE PLACED IN THE CABINET. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THEIR RESPECTIVE HANDHOLES.
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.
18. CABLES TO BE ROUTED THROUGH POLE.
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, 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.
31. PoE POWER CABLE SHALL BE FREE STANDING FROM PoE TO POWER OUTLET.

**NOTE TO DESIGNER**

THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.



**NOTE TO DESIGNER**

DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (O) TO INCLUDE THIS LENGTH.

**CABINET LAYOUT AND WIRING ITS POLE MOUNTED ENCLOSURE (2-CCTV CAMERAS AND 2-MVDS)**

VERSION: 2026-03      BASE SHEET: M-ITS-1209      SHEET: 1 OF 1

1 1/2" STAINLESS STEEL CONDUIT FOR FIBER (NOTE 13)

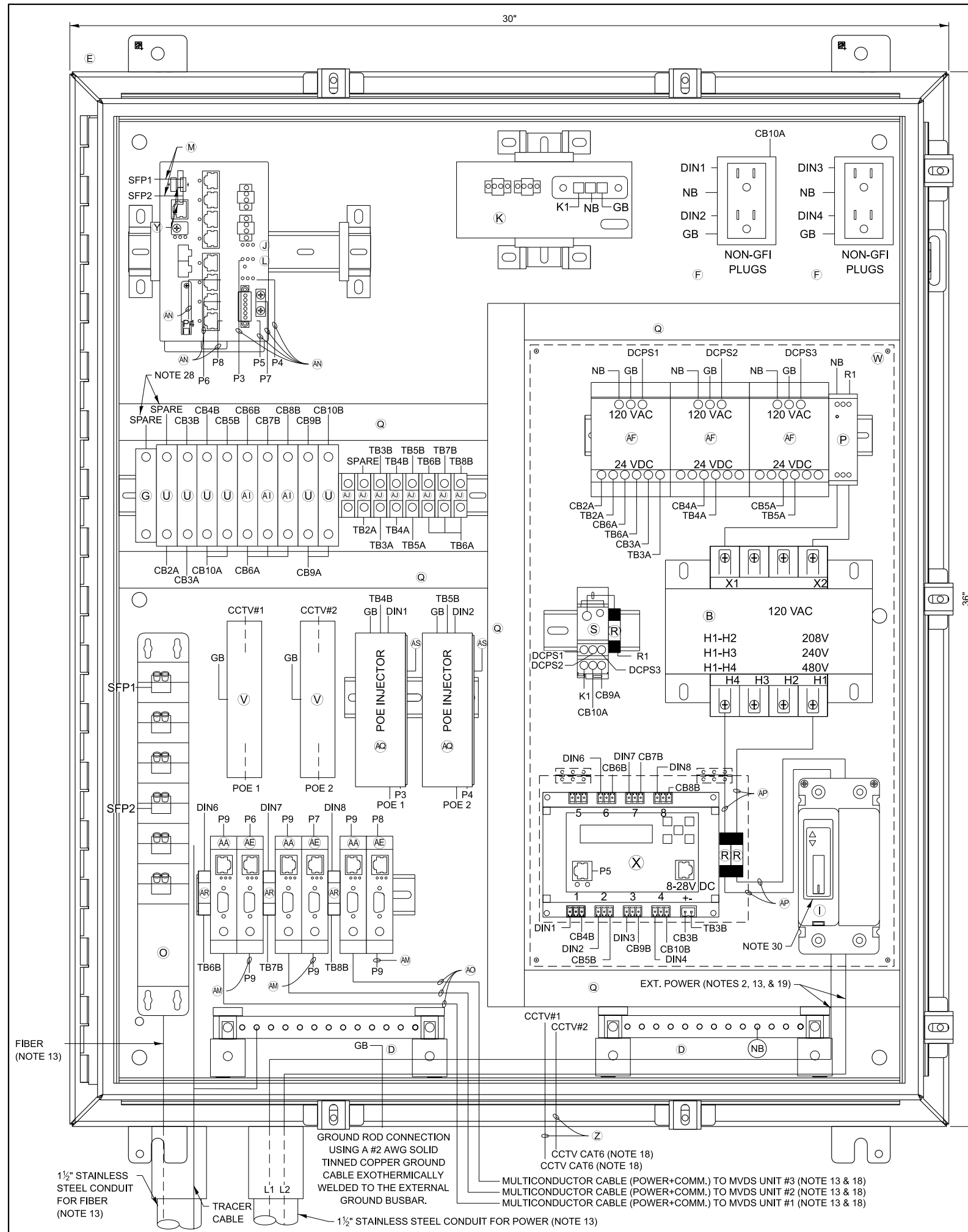
TRACER CABLE

GROUND ROD CONNECTION USING A #2 AWG SOLID TINNED COPPER GROUND CABLE EXOTHERMICALLY WELDED TO THE EXTERNAL GROUND BUSBAR.

CCTV CAT6 (NOTE 18)

MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #2 (NOTE 13 & 18)

1 1/2" STAINLESS STEEL CONDUIT FOR POWER (NOTE 13)



**ITEM DESCRIPTION**

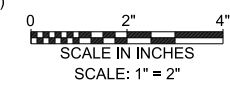
- A NOT USED FOR THIS SHEET APPLICATION
- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- D TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- E NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"x27" PANEL, HOFFMAN/A36H3012S66LP & A36P30
- F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD EATON/HFD2030L & 625B220G07
- J NETWORK SWITCH CISCO IE-3300-8T2S-E
- K CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
- L IP SERVICES LICENSE: IE3300-DNS-A-3Y
- M 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5220002M
- N NOT USED FOR THIS SHEET APPLICATION
- O SMF PATCH PANEL WITH LC CONNECTORS, SEE SPECIAL PROVISIONS
- P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- T NOT USED FOR THIS SHEET APPLICATION
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CAT6 PoE+ SURGE SUPPRESSOR: USE AXIS T8061 FOR AXIS PoE CAMERA
- W CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.) COMES WITH ACCESS DOOR FOR IP RELAY. REFER TO ITEM X.
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z CATEGORY 6 CABLE, 23 AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB24510
- AB NOT USED FOR THIS SHEET APPLICATION
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A-T, DK-035T
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, SEE SPECIAL PROVISIONS
- AP #10 AWG
- AQ PoE INJECTOR AXIS TU8003 90W MIDSPAN 120VAC
- AR T-BUS CONNECTOR (WAVETRONIX)
- AS AXIS T91A03 DIN RAIL CLIP B

**NOTES:**

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
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).
4. NOT USED.
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 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. THE FIBER CABLE SHALL RUN STRAIGHT DOWN FROM THE FIBER PATCH PANEL THROUGH THE LEFT MOST CONDUIT. THE POWER CABLE SHALL BE PULLED THROUGH THE CONDUIT TO THE RIGHT OF THE FIBER CONDUIT. NO SLACK SHALL BE PLACED IN THEIR RESPECTIVE HANDHOLES.
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.
18. CABLES TO BE ROUTED THROUGH POLE.
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. 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.
31. PoE POWER CABLE SHALL BE FREE STANDING FROM PoE TO POWER OUTLET.

**NOTE TO DESIGNER**

THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.



FIBER (NOTE 13)

1 1/2" STAINLESS STEEL CONDUIT FOR FIBER (NOTE 13)

GROUND ROD CONNECTION USING A #2 AWG SOLID TINNED COPPER GROUND CABLE EXOTHERMICALLY WELDED TO THE EXTERNAL GROUND BUSBAR.

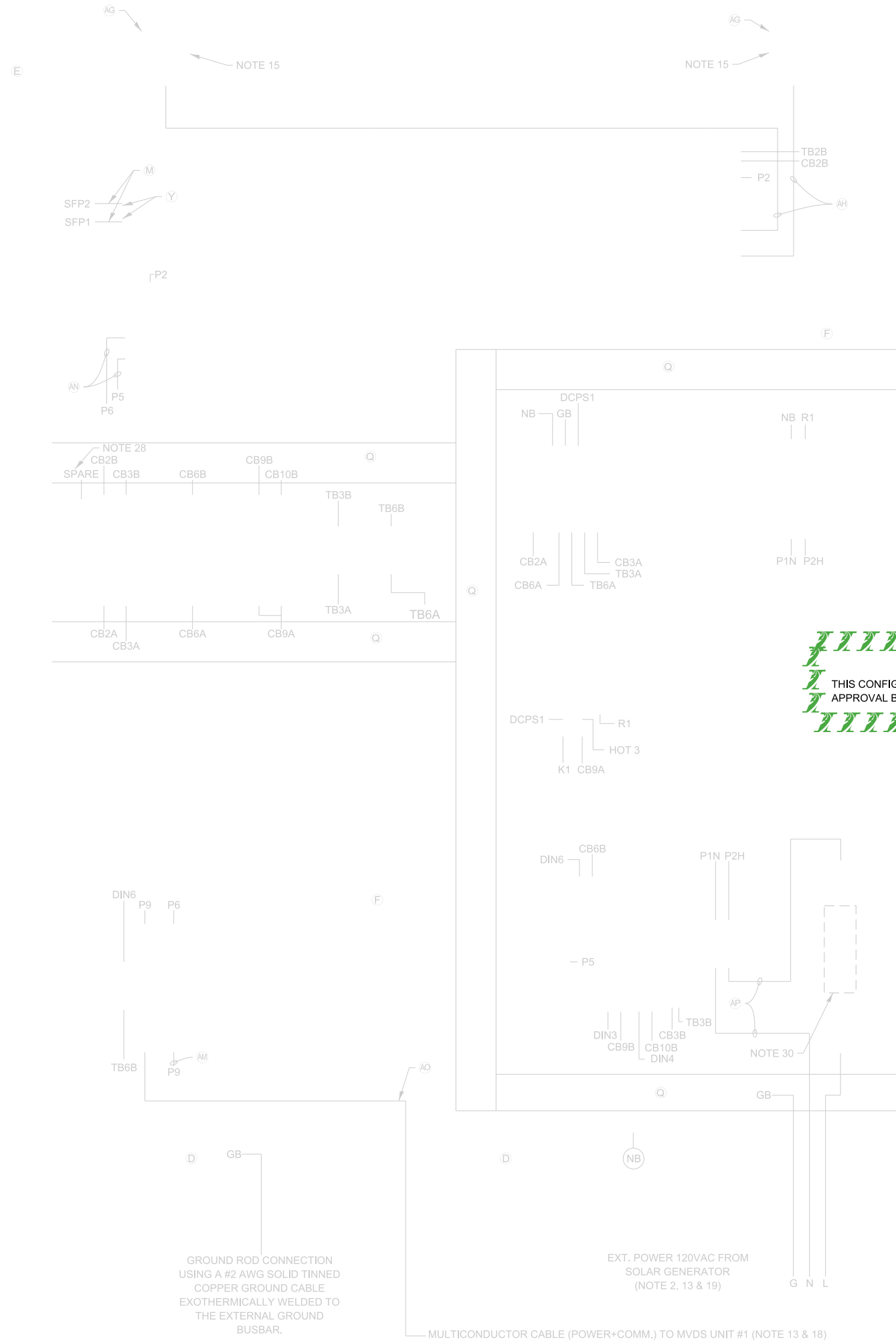
CCTV CAT6 (NOTE 18)  
 MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #3 (NOTE 13 & 18)  
 MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #2 (NOTE 13 & 18)  
 MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #1 (NOTE 13 & 18)

**NOTE TO DESIGNER**

DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (O) TO INCLUDE THIS LENGTH.

**CABINET LAYOUT AND WIRING POLE MOUNTED ENCLOSURE (2-CCTV CAMERAS AND 3-MVDS)**

VERSION: 2026-03	BASE SHEET: M-ITS-1210	SHEET: 1 OF 1
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**ITEM DESCRIPTION**

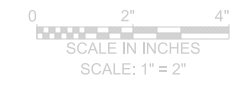
- (A) NOT USED FOR THIS SHEET APPLICATION
- (B) CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- (C) NOT USED FOR THIS SHEET APPLICATION
- (D) TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
- (E) NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- (F) TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- (G) 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- (H) NOT USED FOR THIS SHEET APPLICATION
- (I) 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- (J) NOT USED FOR THIS SHEET APPLICATION
- (K) NOT USED FOR THIS SHEET APPLICATION
- (L) CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- (M) 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- (N) NOT USED FOR THIS SHEET APPLICATION
- (O) NOT USED FOR THIS SHEET APPLICATION
- (P) 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- (Q) PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1LG6
- (R) 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- (S) SPLICE BLOCK, ALTECH/38041
- (T) NOT USED FOR THIS SHEET APPLICATION
- (U) 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- (V) NOT USED FOR THIS SHEET APPLICATION
- (W) CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- (X) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (Y) (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- (Z) NOT USED FOR THIS SHEET APPLICATION
- (AA) SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE
- (AB) WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- (AH) WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
- (AI) 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- (AJ) TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- (AK) MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- (AL) TRANSFORMER COVERS, SQUARE D/9070FSC2
- (AM) 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- (AN) NOT USED FOR THIS SHEET APPLICATION
- (AO) MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
- (AP) #10 AWG
- (AQ) NOT USED FOR THIS SHEET APPLICATION
- (AR) T-BUS CONNECTOR (WAVETRONIX)
- (AS) NOT USED FOR THIS SHEET APPLICATION

**NOTES:**

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
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).
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. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED WITH HIGH DENSITY NEOPRENE GASKETS RATED FOR HIGH TEMPERATURE TO PREVENT WATER PENETRATION INTO THE CABINET.
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.
18. CABLES TO BE ROUTED THROUGH POLE.
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. 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.

**NOTE TO DESIGNER**  
 THIS CONFIGURATION IS NOT TO BE USED WITHOUT PRIOR APPROVAL BY THE ILLINOIS TOLLWAY. SEE SHEET M-ITS-1004.

**NOTE TO DESIGNER**  
 THIS CONFIGURATION IS NOT TO BE USED WITHOUT PRIOR APPROVAL BY THE ILLINOIS TOLLWAY. SEE SHEET M-ITS-1004.  
 THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE DRAWING INTO THE PLAN SET.  
 DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (O) TO INCLUDE THIS LENGTH.

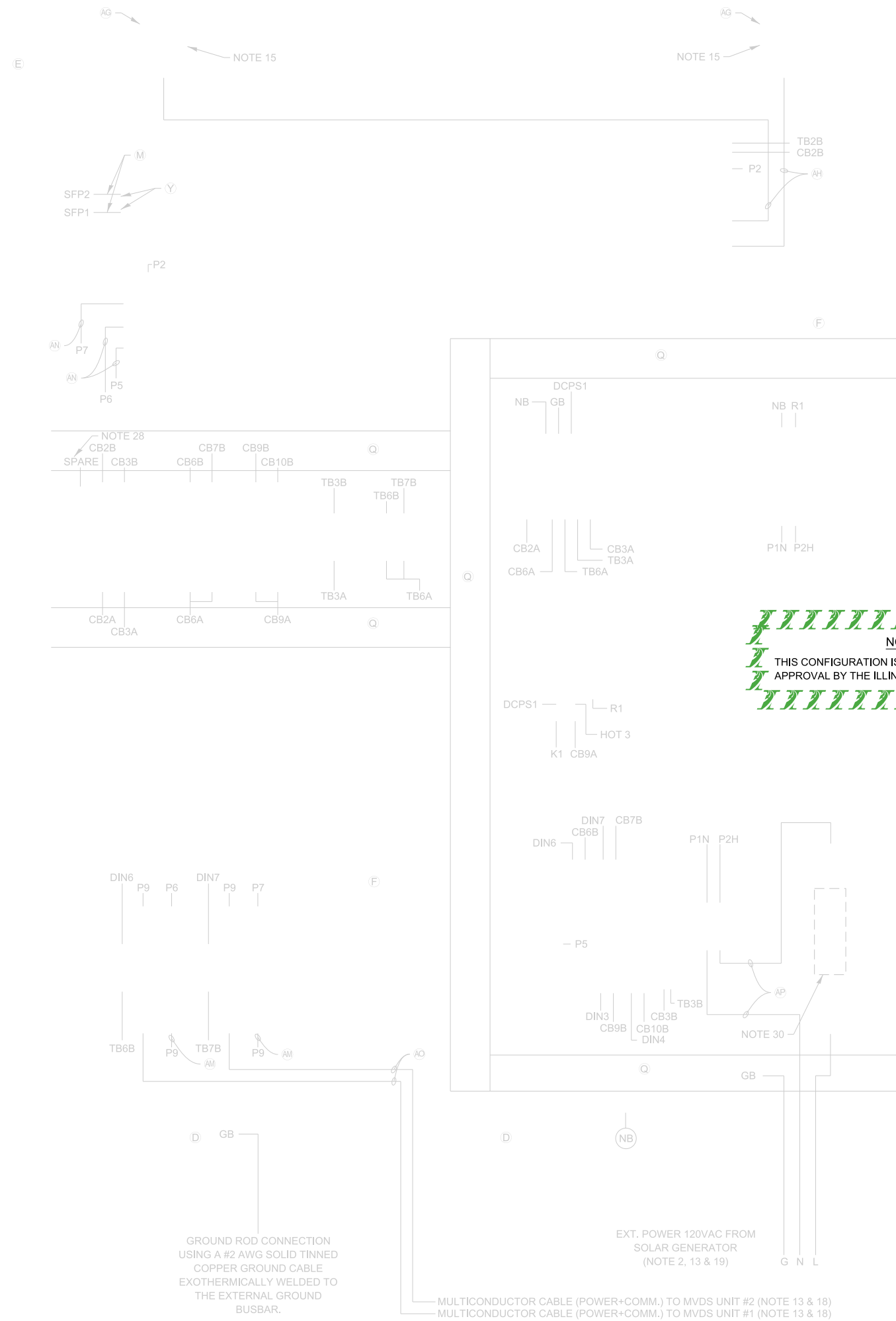


**CABINET LAYOUT AND WIRING ITS POLE MOUNTED ENCLOSURE (1-MVDS) SOLAR GENERATOR AND WIRELESS**

GROUND ROD CONNECTION USING A #2 AWG SOLID TINNED COPPER GROUND CABLE EXOTHERMICALLY WELDED TO THE EXTERNAL GROUND BUSBAR.

EXT. POWER 120VAC FROM SOLAR GENERATOR (NOTE 2, 13 & 19)

MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #1 (NOTE 13 & 18)



ITEM DESCRIPTION

- (A) NOT USED FOR THIS SHEET APPLICATION
- (B) CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- (C) NOT USED FOR THIS SHEET APPLICATION
- (D) TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- (E) NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"x27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- (F) TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- (G) 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- (H) NOT USED FOR THIS SHEET APPLICATION
- (I) 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- (J) NOT USED FOR THIS SHEET APPLICATION
- (K) NOT USED FOR THIS SHEET APPLICATION
- (L) CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- (M) 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5220002M
- (N) NOT USED FOR THIS SHEET APPLICATION
- (O) NOT USED FOR THIS SHEET APPLICATION
- (P) 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D1/SI OR APPROVED EQUAL
- (Q) PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1LG6
- (R) 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- (S) SPLICE BLOCK, ALTECH/38041
- (T) NOT USED FOR THIS SHEET APPLICATION
- (U) 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- (V) NOT USED FOR THIS SHEET APPLICATION
- (W) CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- (X) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (Y) (2) CISCO GLC-LX-SM-RGD = 1 Gbps SM SFP MODULES
- (Z) NOT USED FOR THIS SHEET APPLICATION
- (AA) SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
- (AB) NOT USED FOR THIS SHEET APPLICATION
- (AC) MVDS ASSEMBLY (FOR VERIZON NETWORK)
- (AD) S SHEET APPLICATION
- (AE) ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA
- (AF) PLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- (AG) ANTENNAS, PCTEL/BMLPVDB700/2500
- (AH) ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PFD5-193-RG58B
- (AI) 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- (AJ) TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- (AK) MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- (AL) TRANSFORMER COVERS, SQUARE D/9070FSC2
- (AM) 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- (AN) NOT USED FOR THIS SHEET APPLICATION
- (AO) MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
- (AP) #10 AWG
- (AQ) NOT USED FOR THIS SHEET APPLICATION
- (AR) T-BUS CONNECTOR (WAVETRONIX)
- (AS) NOT USED FOR THIS SHEET APPLICATION

NOTES:

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
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).
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 GFIS 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. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED WITH HIGH DENSITY NEOPRENE GASKETS RATED FOR HIGH TEMPERATURE TO PREVENT WATER PENETRATION INTO THE CABINET.
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.
18. CABLES TO BE ROUTED THROUGH POLE.
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. 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.

**NOTE TO DESIGNER**

THIS CONFIGURATION IS NOT TO BE USED WITHOUT PRIOR APPROVAL BY THE ILLINOIS TOLLWAY. SEE SHEET M-ITS-1004.

**NOTE TO DESIGNER**

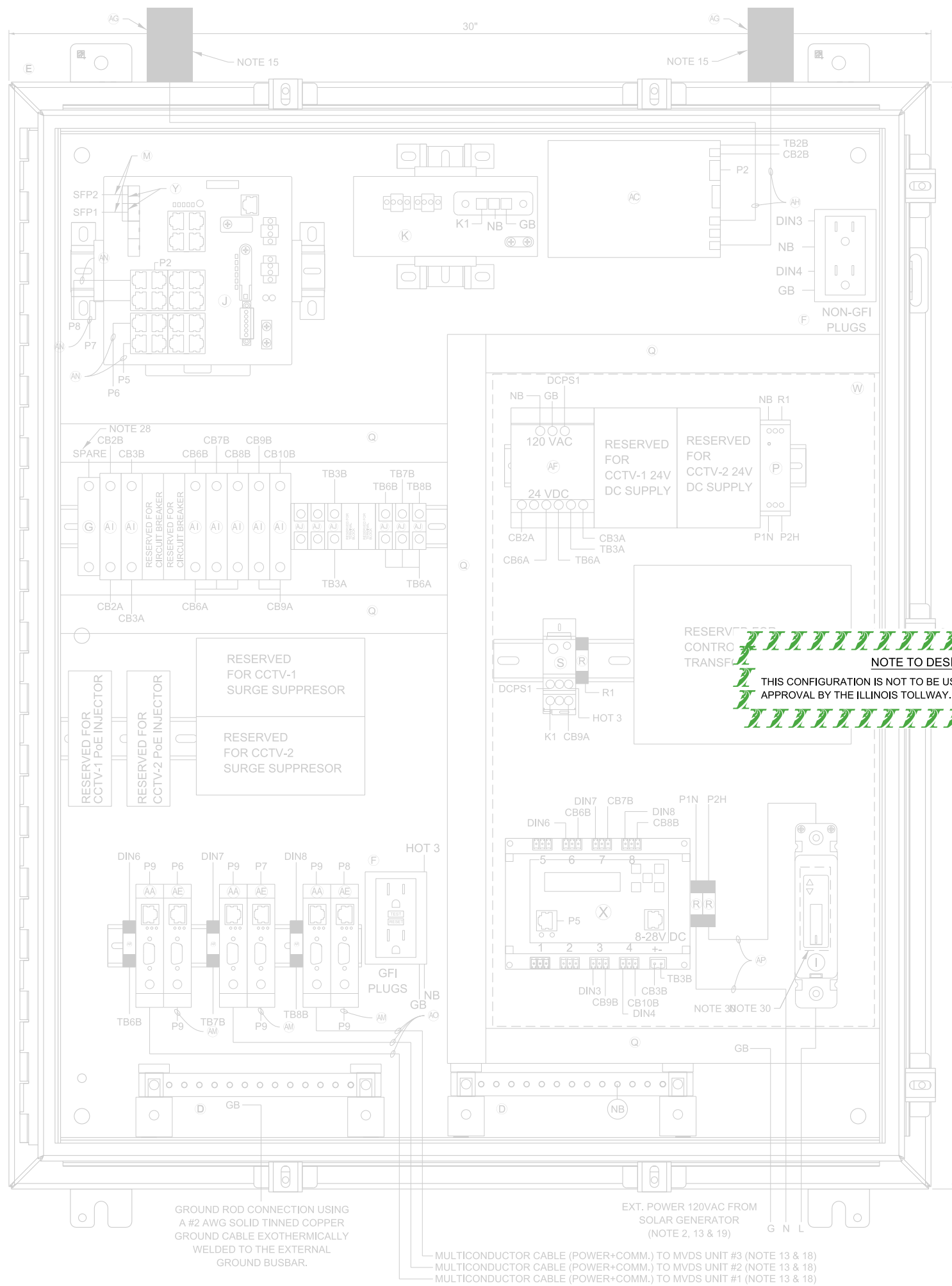
THIS CONFIGURATION IS NOT TO BE USED WITHOUT PRIOR APPROVAL BY THE ILLINOIS TOLLWAY. SEE SHEET M-ITS-1004.

THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE DRAWING INTO THE PLAN SET.

DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (O) TO INCLUDE THIS LENGTH.



**CABINET LAYOUT AND WIRING ITS POLE MOUNTED ENCLOSURE (2-MVDS) SOLAR GENERATOR AND WIRELESS**



**ITEM DESCRIPTION**

- (A) NOT USED FOR THIS SHEET APPLICATION
- (B) CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- (C) NOT USED FOR THIS SHEET APPLICATION
- (D) TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
- (E) NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"x27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- (F) TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)
- (G) HUBBELL/GFR5362 & BR20WR
- (H) 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- (I) NOT USED FOR THIS SHEET APPLICATION
- (J) 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- (K) NOT USED FOR THIS SHEET APPLICATION
- (L) NOT USED FOR THIS SHEET APPLICATION
- (M) CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- (N) 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- (O) NOT USED FOR THIS SHEET APPLICATION
- (P) NOT USED FOR THIS SHEET APPLICATION
- (Q) 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- (R) PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1LG6
- (S) 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- (T) SPLICE BLOCK, ALTECH/38041
- (U) NOT USED FOR THIS SHEET APPLICATION
- (V) 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- (W) NOT USED FOR THIS SHEET APPLICATION
- (X) CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- (Y) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (Z) (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- (AA) NOT USED FOR THIS SHEET APPLICATION
- (AB) SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
- (AC) NOT USED FOR THIS SHEET APPLICATION
- (AD) CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- (AE) NOT USED FOR THIS SHEET APPLICATION
- (AF) ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA
- (AG) 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- (AH) ANTENNAS, PCTEL/BMLPVD700/2500
- (AI) ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX
- (AJ) R, ALLEN BRADLEY/1492-SPM1B020
- (AK) TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- (AL) MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- (AM) TRANSFORMER COVERS, SQUARE D/9070FSC2
- (AN) 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- (AO) NOT USED FOR THIS SHEET APPLICATION
- (AP) MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
- (AQ) #10 AWG
- (AR) NOT USED FOR THIS SHEET APPLICATION
- (AS) T-BUS CONNECTOR (WAVETRONIX)
- (AT) NOT USED FOR THIS SHEET APPLICATION

**NOTES:**

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
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).
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 GFIS 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. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED WITH HIGH DENSITY NEOPRENE GASKETS RATED FOR HIGH TEMPERATURE TO PREVENT WATER PENETRATION INTO THE CABINET.
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.
18. CABLES TO BE ROUTED THROUGH POLE.
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. 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.

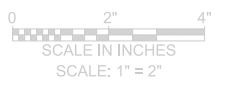
**NOTE TO DESIGNER**  
 THIS CONFIGURATION IS NOT TO BE USED WITHOUT PRIOR APPROVAL BY THE ILLINOIS TOLLWAY. SEE SHEET M-ITS-1004.

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DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (O) TO INCLUDE THIS LENGTH.





**CABINET LAYOUT AND WIRING ITS POLE MOUNTED ENCLOSURE (3-MVDS) SOLAR GENERATOR AND WIRELESS**

VERSION: 2022-03	BASE SHEET: M-ITS-1216	SHEET: 1 OF 1
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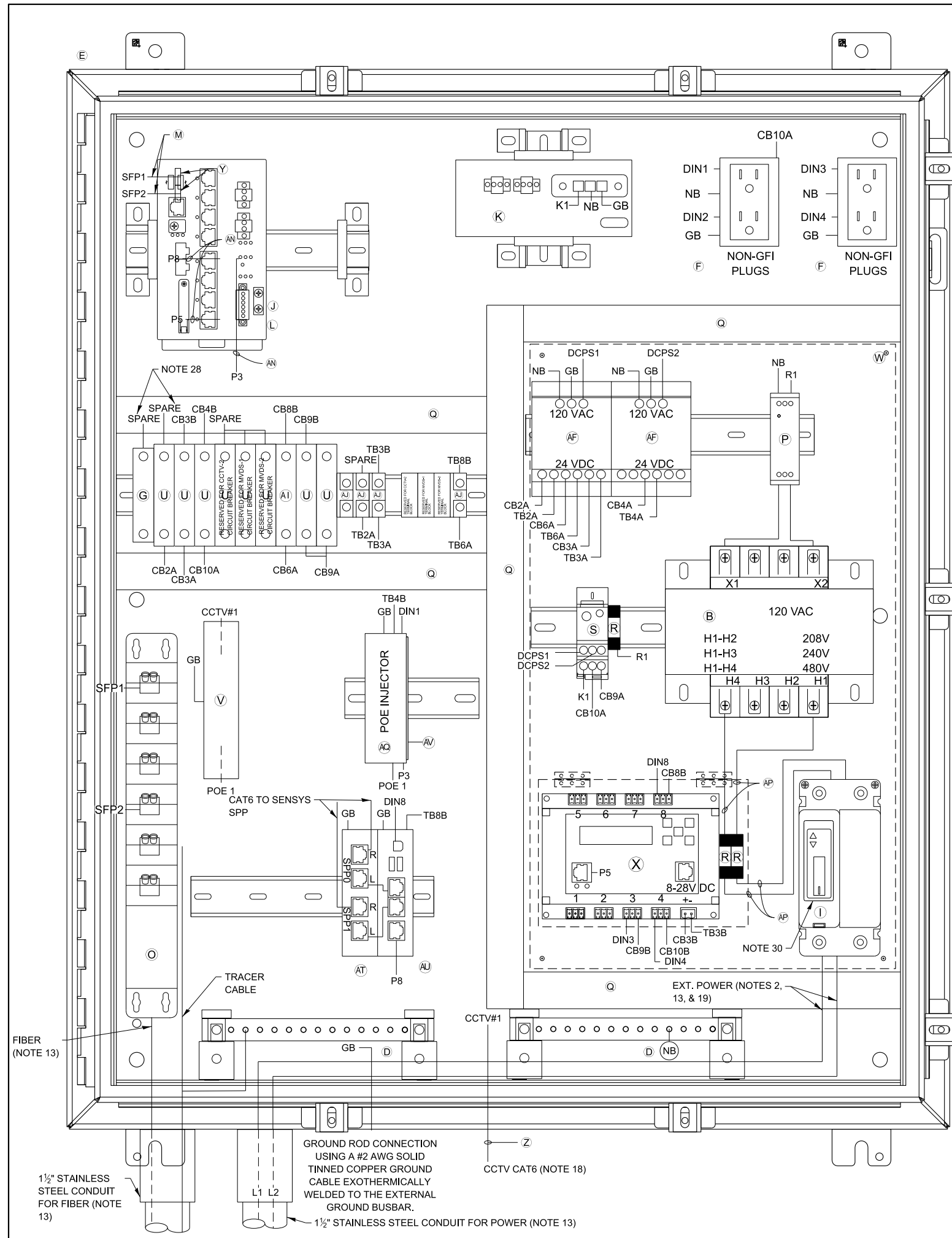
GROUND ROD CONNECTION USING A #2 AWG SOLID TINNED COPPER GROUND CABLE EXOTHERMICALLY WELDED TO THE EXTERNAL GROUND BUSBAR.

EXT. POWER 120VAC FROM SOLAR GENERATOR (NOTE 2, 13 & 19)

MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #3 (NOTE 13 & 18)

MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #2 (NOTE 13 & 18)

MULTICONDUCTOR CABLE (POWER+COMM.) TO MVDS UNIT #1 (NOTE 13 & 18)



**ITEM DESCRIPTION**

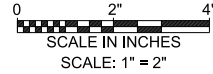
- A NOT USED FOR THIS SHEET APPLICATION
- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- D TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
- E NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD EATON/HFD2030L & 625B229G07
- J NETWORK SWITCH CISCO IE-3300-8T2S-E
- K CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
- L IP SERVICES LICENSE: IE3300-DNS-A-3Y
- M 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- N NOT USED FOR THIS SHEET APPLICATION
- O SMF PATCH PANEL WITH LC CONNECTORS
- P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- T NOT USED FOR THIS SHEET APPLICATION
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CAT6 PoE+ SURGE SUPPRESSOR: USE AXIS T8061 FOR AXIS PoE CAMERA.
- W CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.) COMES WITH ACCESS DOOR FOR IP RELAY. REFER TO ITEM X.
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z CATEGORY 6 CABLE, 23 AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB24510
- AB NOT USED FOR THIS SHEET APPLICATION
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A-T, DK-035T
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE
- AP #10 AWG
- AQ PoE INJECTOR AXIS TU8003 90W MIDSPAN 120VAC
- AR T-BUS CONNECTOR (WAVETRONIX)
- AS NOT USED FOR THIS SHEET APPLICATION
- AT SENSYS FLEX ISOLATOR
- AU SENSYS FLEX-CTRL-M-E
- AV AXIS T91A03 DIN RAIL CLIP B

**NOTES:**

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
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).
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 GFIS 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. THE FIBER CABLE SHALL RUN STRAIGHT DOWN FROM THE FIBER PATCH PANEL THROUGH THE LEFT MOST CONDUIT. THE POWER CABLE SHALL BE PULLED THROUGH THE CONDUIT TO THE RIGHT OF THE FIBER CONDUIT. NO SLACK SHALL BE PLACED IN THE CABINET. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THEIR RESPECTIVE HANDHOLES.
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.
18. CABLES TO BE ROUTED THROUGH POLE.
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.
31. PoE POWER CABLE SHALL BE FREE STANDING FROM PoE TO POWER OUTLET.

**NOTE TO DESIGNER**

THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.



**NOTE TO DESIGNER**

DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (O) TO INCLUDE THIS LENGTH.

**CABINET WIRING DIAGRAM IN PAVEMENT DETECTION SYSTEM AP. POE. AND INJECTOR ITS ASSEMBLY**

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1 1/2" STAINLESS STEEL CONDUIT FOR FIBER (NOTE 13)

GROUND ROD CONNECTION USING A #2 AWG SOLID TINNED COPPER GROUND CABLE EXOTHERMICALLY WELDED TO THE EXTERNAL GROUND BUSBAR.

CCTV CAT6 (NOTE 18)

1 1/2" STAINLESS STEEL CONDUIT FOR POWER (NOTE 13)