

Illinois Tollway Base Sheet Revisions

Section M	Base Sheet Drawings	
	Drawing	Modification Summary Effective: 2020-03-01
	Pole Assembly (ITS)-Series 1000	
M-ITS-1000	Elevation Views Pole Mounted ITS Element Assembly	
	Use 1 1/2" stainless conduits for power and fiber to ITS Enclosure instead of 2". Corrected the MVDS mounting height on elevation details Use 1 1/2" stainless conduit for ITS Disconnect switch	
M-ITS-1001	General Notes Pole Mounted ITS Assembly	
	Note added on placement of battery enclosure	
M-ITS-1002	ITS Standard Foundation	
	Note added to use 12 ft helix foundation for slopes over 1:6	
M-ITS-1003	ITS Concrete Service Pad	
	Shows option for back-to-back mounted ITS enclosures.	
M-ITS-1004	Cabinet Wiring Diagram - ITS Pole Mounted Enclosure (Solar Powered MVDS) (2 sheets)	
	Sheet 1: Revised layout to better accommodate future expansion.	
	Dynamic Message Sign (ITS)-Series 1100	
M-ITS-1100 to M- ITS-1108	DMS (Typical) Revised Type 1 nomenclature to Walk-in (Typical) Revised Type 2 nomenclature to Front Access	
M-ITS-1101	DMS Type 1 Site Grounding Plan	
	Revised to show paved median structure	
M-ITS-1108	DMS Cabinet Wiring Diagram	
	Clarified wiring diagram Updated switch model	
	Cabinet Wiring (ITS)-Series 1200	
M-ITS-1200 to M-ITS-1217	Cabinet Wiring Diagrams New Cat6 surge suppressor Axis T8061 for Axis PoE camera and Ditek for Cohu PoE camera Revised layout for Cisco 4000 switch, power supply, Cohu PoE injectors Revised 1214-1216 plan to remove Cisco switch Added Level 3 Cisco license (L-IE4000-RTU=) Modified gator patch model number	
	Roadway Weather Information System (ITS)-Series 1300	
M-ITS-1300	RWIS Pole, Sensor Mounting Detail	
	General note to have manufacturer to supervise installation and commissioning Revised to show option for co-located CCTV camera and ITS enclosure Clarified the mounting height measured from pavement surface Installed new ITS Enclosure back to back to the RPU enclosure Add ITS Disconnect switch within 50 feet from primary pole Show RWIS cabinet configuration for the 3 electrical services	
M-ITS-1301	RWIS Cabinet Wiring Diagram	
	Removed Cisco switch and gator patch from RPU enclosure	
M-ITS-1302	Typical RWIS Site Installation Plan	
	Proposed location of temperature sensors are site specific, final position to be determined by the Engineer in consultation with manufacturer. Correct sensor beam position to be in the wheel track for primary and secondary pole. Power cable from primary pole to secondary pole not to be spliced	
M-ITS-1303	RWIS Grounding Schematic	
	Corrections and additional detail to grounding diagram	

New Sheet

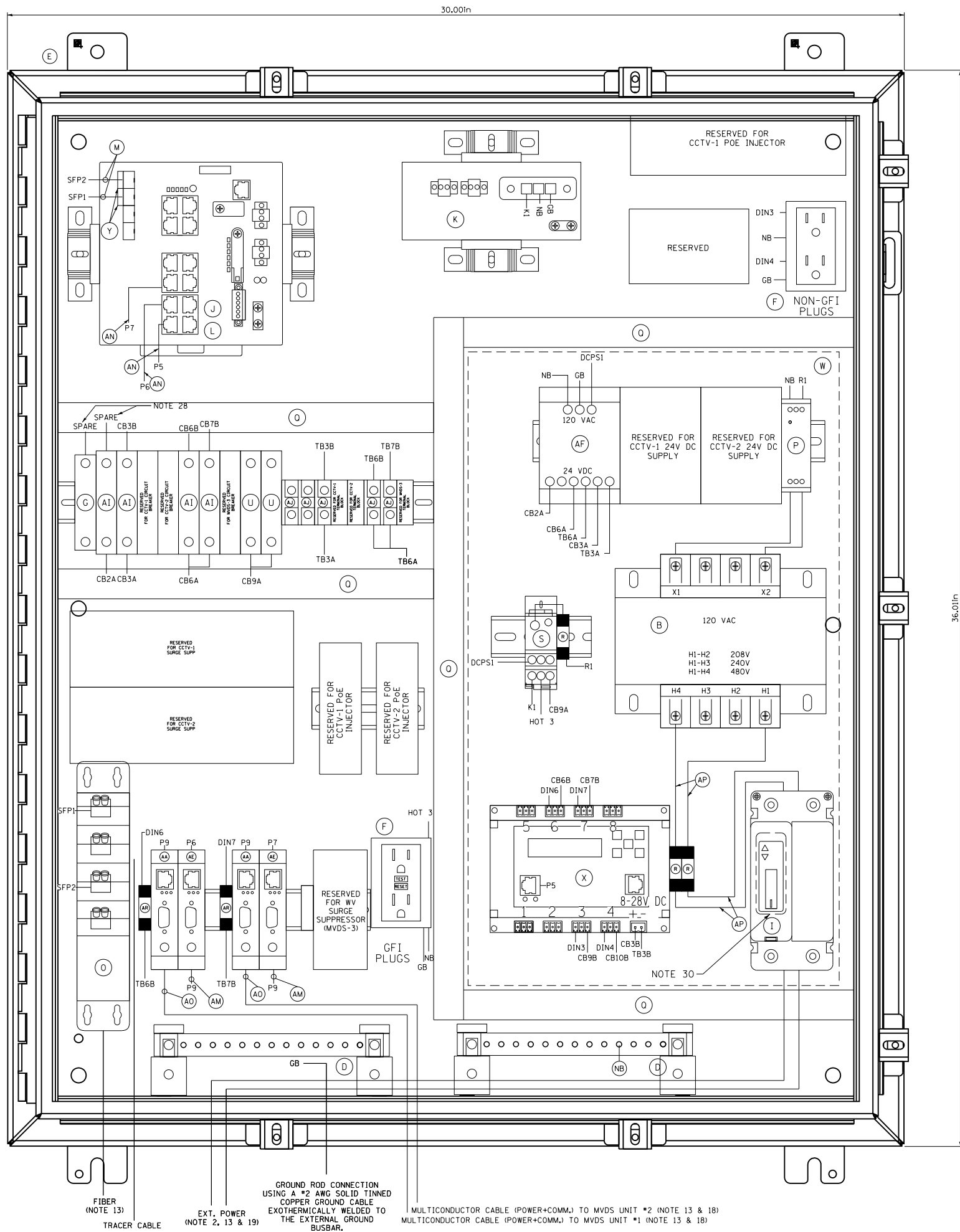
Retired Standard

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		Effective: 2020-03-01
	Solar Powered Generator (ITS)-Series 1400	
	M-ITS-1400	Solar Power Generator Details
		Enclosure changed to Nema 4X
	Tower Mounted CCTV (ITS)-Series 1500	
	M-ITS-1500	ITS Details Tower Mount Camera Details
		Vertical distance between the two cameras is 24 in min. Both cameras to be installed on same side of the tower structure
	M-ITS-1501	ITS Details Tower Mount Camera Details, 300' Cat6 or More
		Retired
	M-ITS-1502	ITS Details Tower Mount Camera Details, 300' Cat6 or Less
		Vertical distance between the two cameras is 24 in min. Both cameras to be installed on same side of the tower structure
	M-ITS-1503	Cabinet Wiring Diagram Tower Mounted CCTV ITS Assembly
		New Cat6 surge suppressor model
		Revised layout of Cisco switch, power supply and Cohu PoE injector
	Weigh-in-Motion (ITS)-Series 1600	
	M-ITS-1600	Weigh-In-Motion Cabinet and Foundation Details
		Show two permanent antennas installed on top of WIM cabinet
	M-ITS-1603	Weigh-In-Motion Detector Loop and Quartz Sensor Detail
		Show parking area for one vehicle for annual calibration
	M-ITS-1607	Weigh-In-Motion Height Detector
		Added detail for overheight detector
	Flashing Sign Beacon (ITS)-Series 1700	
M-ITS-1701	Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-CCTV and Flashing Sign Beacon)	
	Update enclosure layout	
IPDC Facility (ITS)-Series 1800		
M-ITS-1800	IPDC Facility	
	No change	
Conduit Details at Integral Abutment Bridge (ITS)-Series 1900		
M-ITS-1900	Conduit Details at Integral Abutment Bridge with MSE Wall (Sheet 3)	
	No change	
100 FT. Monopole (ITS)-Series 2000		
M-ITS-2000	100 FT. Monopole Closed Circuit Television (CCTV) Camera Tower	
	Pole cap to use hex head screws	
	Show revised grounding around service pad	

New Sheet

Retired Standard



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- 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 & 625B229G07
- J NETWORK SWITCH CISCO IE-4000-8T4G-E
- K CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
- L IP SERVICES LICENSE: L-IE4000-RTU=
- M 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- N NOT USED FOR THIS SHEET APPLICATION
- O SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G420U008LAN-XXX-0
- 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/FIX2LG6 WITH COVER-CILG6
- 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 AND USE DITEK DTK-MRJPOES FOR COHU 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.)
- 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, OK-35A
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
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- 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 INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG
- AQ PoE INJECTOR AXIS T8144 (ONLY REQUIRED FOR AXIS PoE CAMERAS)
- AR T-BUS CONNECTOR (WAVETRONIX)
- AS PoE INJECTOR COHU 7412007-003 (ONLY REQUIRED FOR COHU PoE CAMERAS)

- NOTES:
- 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.
 - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
 - SHEET SHOWS BOTH PoE INJECTOR OPTIONS USING A 120VAC SUPPLY AND 24VDC SUPPLY. DEVICES REQUIRED FOR THE 120VAC SUPPLY ARE DENOTED WITH A DASHED LINE.
 - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
 - 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.
 - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
 - WIFI COMMUNICATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
 - 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.
 - ALL BREAKERS SHALL BE LABELED (E.G. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THE HANDHOLE.
 - POWER FEED TO THE CISCO IE4000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
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 - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
 - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE ENCLOSURE INTO THE GROUND BUS.
 - 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.
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 - SPARE BREAKER RESERVED.
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 - PROVIDE WINDOW IN PMMA SHIELD FOR ACCESS TO BREAKER. MOUNT BREAKER FLUSH WITH PMMA SHIELD USING MOUNTING BRACKET.

NOTE TO DESIGNER

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M-ITS-1201
SHEET 1 OF 1

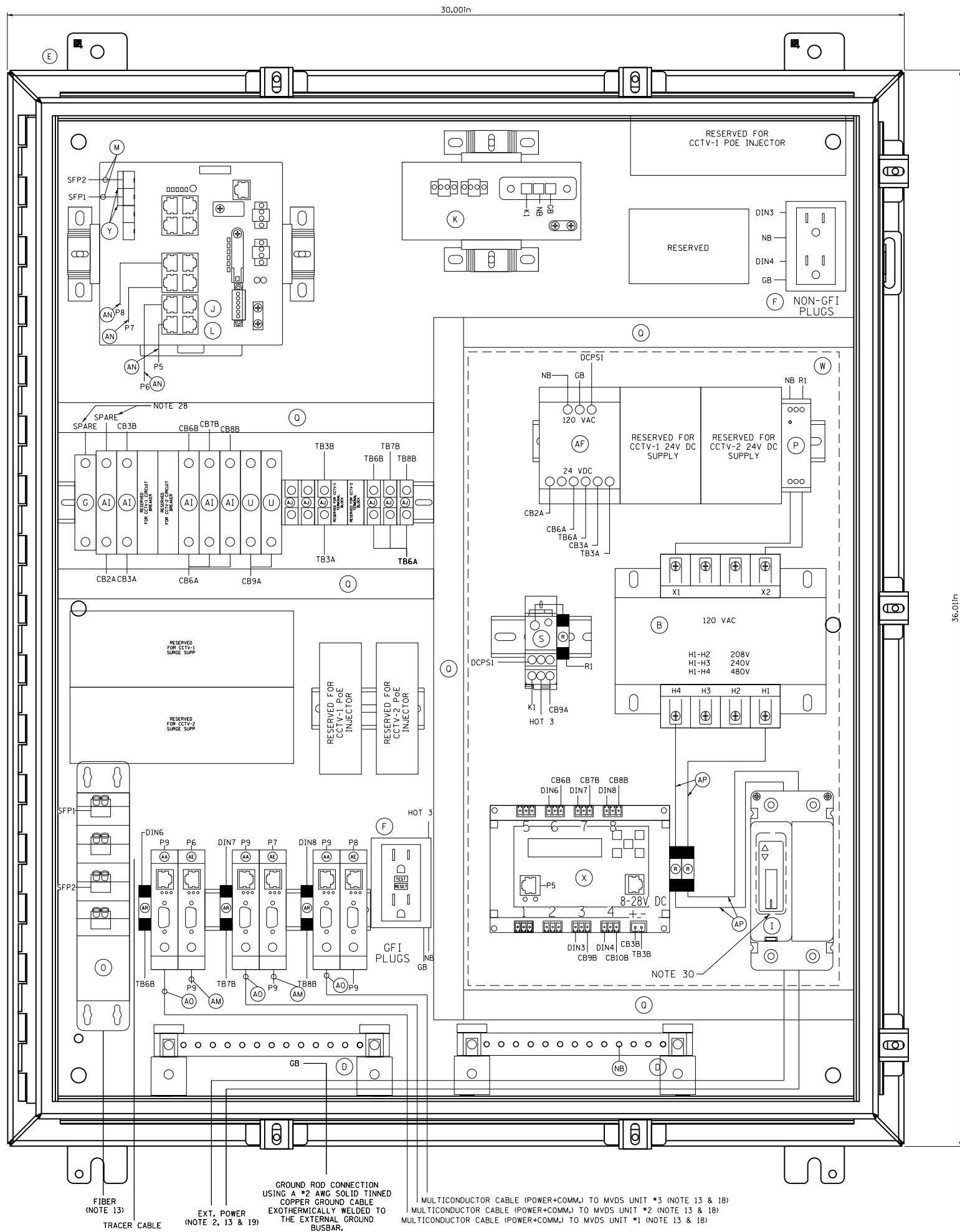


CABINET LAYOUT AND WIRING
ITS POLE MOUNTED ENCLOSURE
(2-MVDS)

DATE

3-01-2020

0 2" 4"
HORIZONTAL 1"=2" SCALES IN INCHES



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E	NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
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K	CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
L	IP SERVICES LICENSE: L-IE4000-RTU=
M	2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
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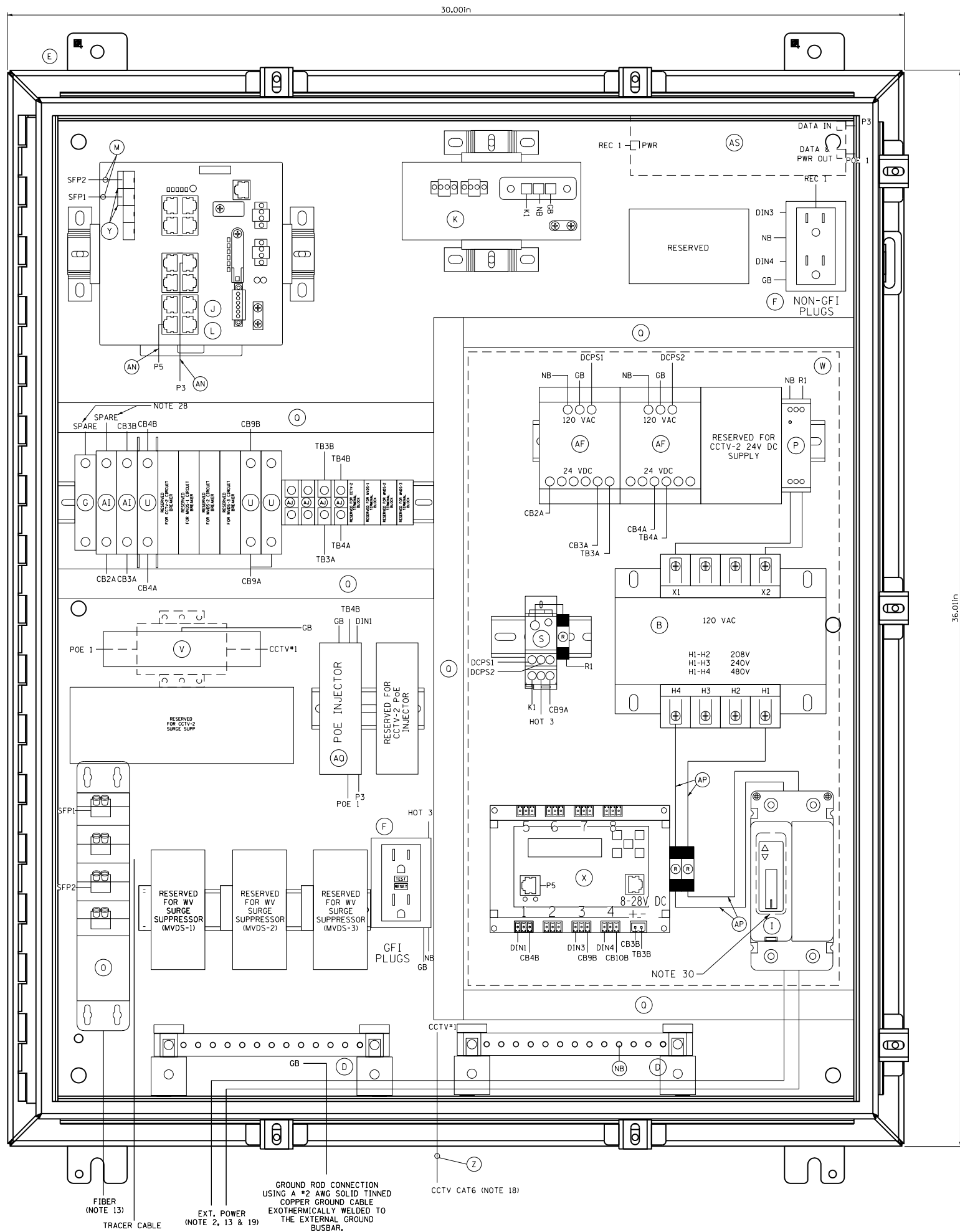
M-ITS-1202
SHEET 1 OF 1



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

DATE
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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 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	INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
AO	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG
AQ	PoE INJECTOR AXIS T8144 (ONLY REQUIRED FOR AXIS PoE CAMERAS)
AR	T-BUS CONNECTOR (WAVETRONIX)
AS	PoE INJECTOR COHU 7412007-003 (ONLY REQUIRED FOR COHU PoE CAMERAS)

- NOTES:
- 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.
 - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
 - SHEET SHOWS BOTH POE INJECTOR OPTIONS USING A 120VAC SUPPLY AND 24VDC SUPPLY. DEVICES REQUIRED FOR THE 120VAC SUPPLY ARE DENOTED WITH A DASHED LINE.
 - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
 - 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.
 - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
 - WIFI COMMUNICATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
 - 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.
 - ALL BREAKERS SHALL BE LABELED (E.G. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THE HANDHOLE.
 - POWER FEED TO THE CISCO IE4000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
 - CABLES TO BE ROUTED THROUGH POLE.
 - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
 - NOT USED FOR THIS SHEET APPLICATION
 - NOT USED FOR THIS SHEET APPLICATION
 - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
 - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE ENCLOSURE INTO THE GROUND BUS.
 - 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.
 - ITEM AL SHALL BE PLACED ON ITEM B.
 - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED.
 - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.
 - SPARE BREAKER RESERVED.
 - 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.
 - PROVIDE WINDOW IN PMMA SHIELD FOR ACCESS TO BREAKER. MOUNT BREAKER FLUSH WITH PMMA SHIELD USING MOUNTING BRACKET.

NOTE TO DESIGNER

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.

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

M-ITS-1203
SHEET 1 OF 1

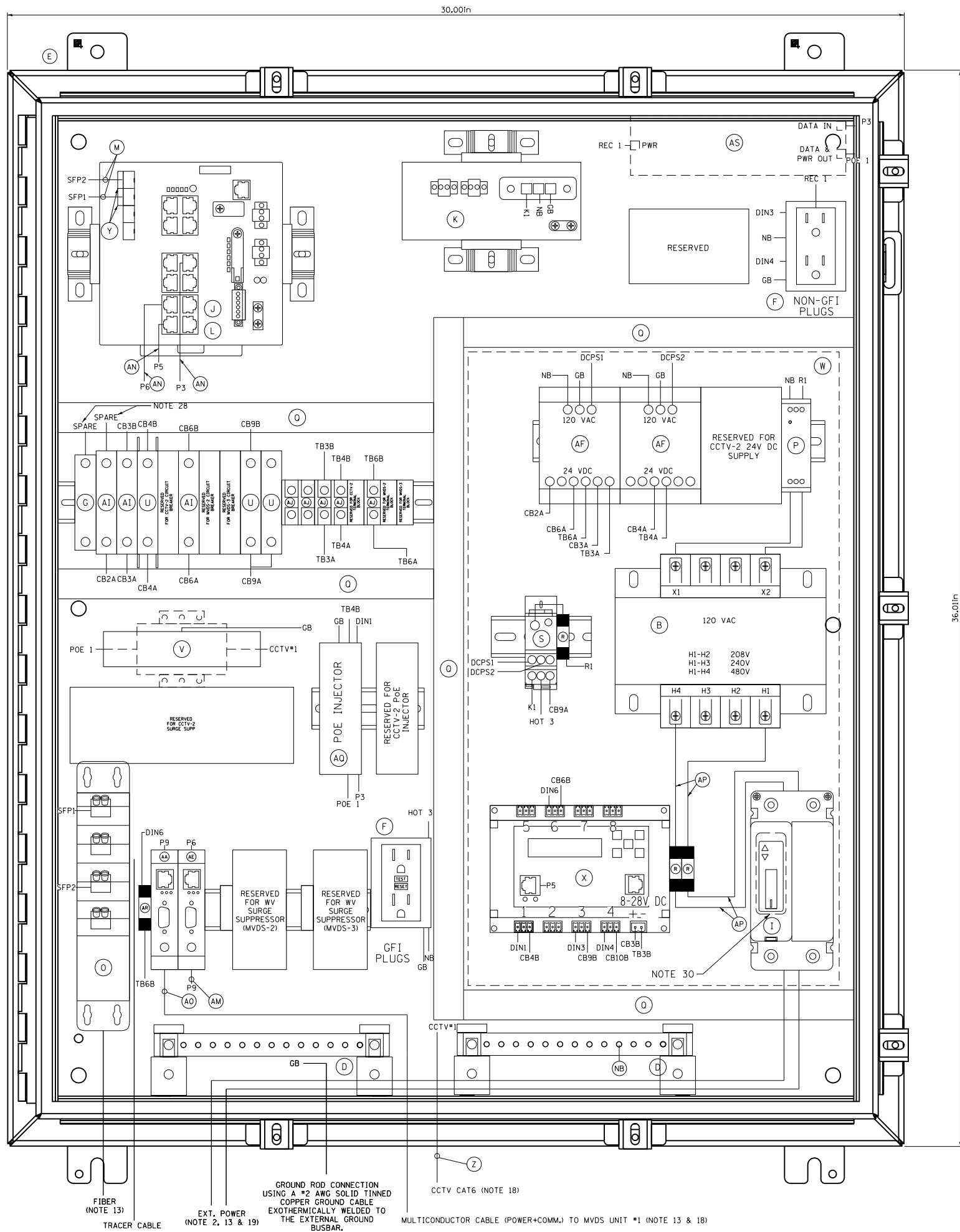


CABINET LAYOUT AND WIRING
ITS POLE MOUNTED ENCLOSURE
(1-CCTV CAMERA)

DATE

3-01-2020

0 2" 4"
HORIZONTAL 1"=2" SCALES IN INCHES



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-4000-8T4G-E
K	CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
L	IP SERVICES LICENSE: L-IE4000-RTU=
M	2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
N	NOT USED FOR THIS SHEET APPLICATION
O	SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G420U008LAN-XXX-0
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/FIX2LG6 WITH COVER-CILG6
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 AND USE DITEK DTK-MRJPOES FOR COHU PoE CAMERA.
W	CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & 1. (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	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, OK-35A
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 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	INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
AO	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG
AQ	PoE INJECTOR AXIS T8144 (ONLY REQUIRED FOR AXIS PoE CAMERAS)
AR	T-BUS CONNECTOR (WAVETRONIX)
AS	PoE INJECTOR COHU 7412007-003 (ONLY REQUIRED FOR COHU PoE CAMERAS)

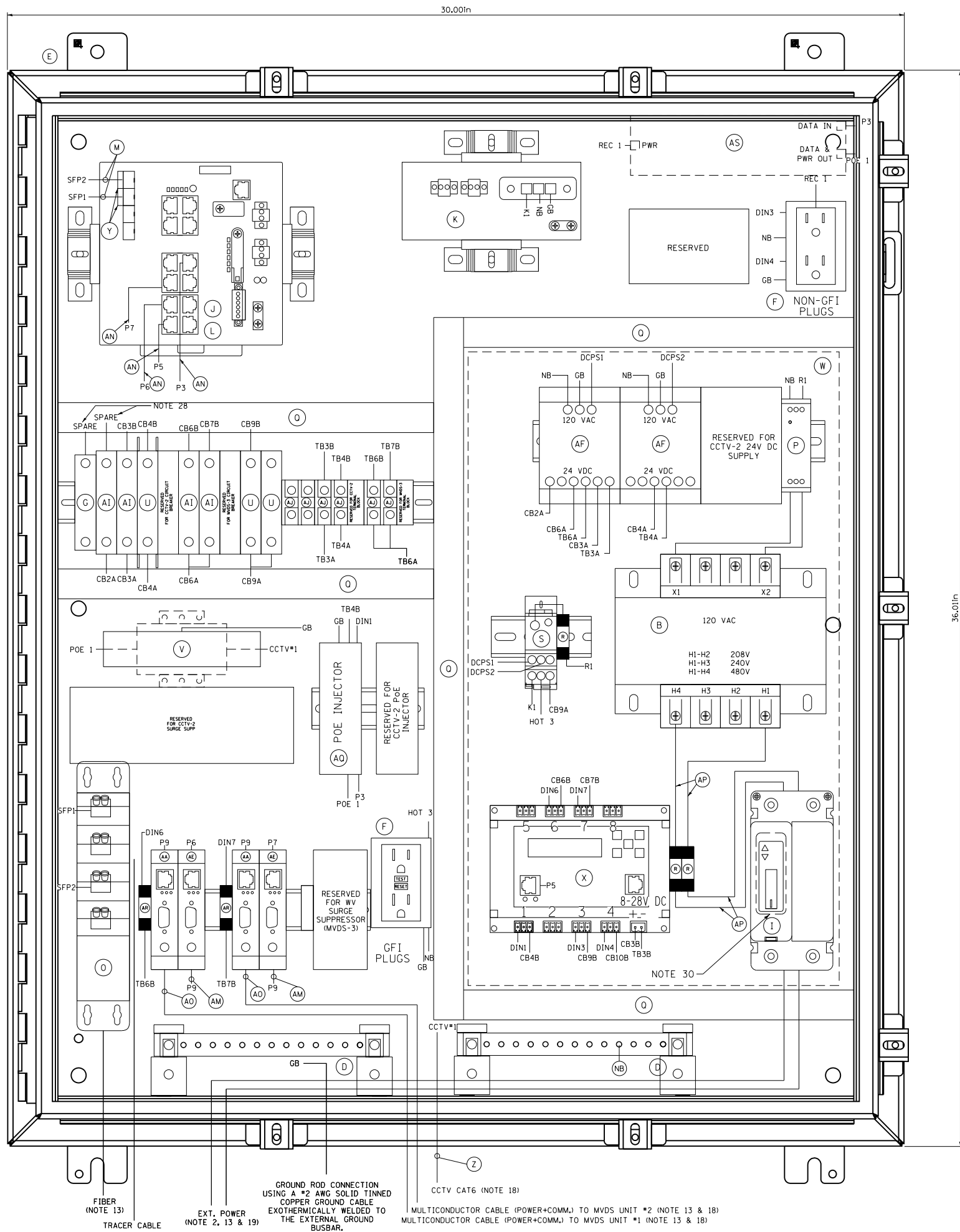
- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
 - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
 - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
 - SHEET SHOWS BOTH PoE INJECTOR OPTIONS USING A 120VAC SUPPLY AND 24VDC SUPPLY. DEVICES REQUIRED FOR THE 120VAC SUPPLY ARE DENOTED WITH A DASHED LINE.
 - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
 - 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.
 - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
 - WIFI COMMUNICATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
 - 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.
 - ALL BREAKERS SHALL BE LABELED (E.G. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THE HANDHOLE.
 - POWER FEED TO THE CISCO IE4000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
 - CABLES TO BE ROUTED THROUGH POLE.
 - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
 - NOT USED FOR THIS SHEET APPLICATION
 - NOT USED FOR THIS SHEET APPLICATION
 - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
 - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE ENCLOSURE INTO THE GROUND BUS.
 - 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.
 - ITEM AL SHALL BE PLACED ON ITEM B.
 - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED.
 - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.
 - SPARE BREAKER RESERVED.
 - 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.
 - PROVIDE WINDOW IN PMMA SHIELD FOR ACCESS TO BREAKER. MOUNT BREAKER FLUSH WITH PMMA SHIELD USING MOUNTING BRACKET.

NOTE TO DESIGNER

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.

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

M-ITS-1204
SHEET 1 OF 1



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-4000-8T4G-E
K	CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
L	IP SERVICES LICENSE: L-IE4000-RTU=
M	2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
N	NOT USED FOR THIS SHEET APPLICATION
O	SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G420U008LAN-XXX-0
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/FIX2LG6 WITH COVER-CILG6
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 AND USE DITEK DTK-MRJPOES FOR COHU PoE CAMERA.
W	CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & 1. (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	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, OK-35A
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 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	INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
AO	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG
AQ	PoE INJECTOR AXIS T8144 (ONLY REQUIRED FOR AXIS PoE CAMERAS)
AR	T-BUS CONNECTOR (WAVETRONIX)
AS	PoE INJECTOR COHU 7412007-003 (ONLY REQUIRED FOR COHU PoE CAMERAS)

- NOTES:
- 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.
 - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
 - SHEET SHOWS BOTH PoE INJECTOR OPTIONS USING A 120VAC SUPPLY AND 24VDC SUPPLY. DEVICES REQUIRED FOR THE 120VAC SUPPLY ARE DENOTED WITH A DASHED LINE.
 - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
 - 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.
 - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
 - WIFI COMMUNICATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
 - 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.
 - ALL BREAKERS SHALL BE LABELED (E.G. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THE HANDHOLE.
 - POWER FEED TO THE CISCO IE4000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
 - CABLES TO BE ROUTED THROUGH POLE.
 - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
 - NOT USED FOR THIS SHEET APPLICATION
 - NOT USED FOR THIS SHEET APPLICATION
 - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
 - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE ENCLOSURE INTO THE GROUND BUS.
 - 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.
 - ITEM AL SHALL BE PLACED ON ITEM B.
 - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED.
 - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.
 - SPARE BREAKER RESERVED.
 - 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.
 - PROVIDE WINDOW IN PMMA SHIELD FOR ACCESS TO BREAKER. MOUNT BREAKER FLUSH WITH PMMA SHIELD USING MOUNTING BRACKET.

NOTE TO DESIGNER

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

M-ITS-1205
SHEET 1 OF 1

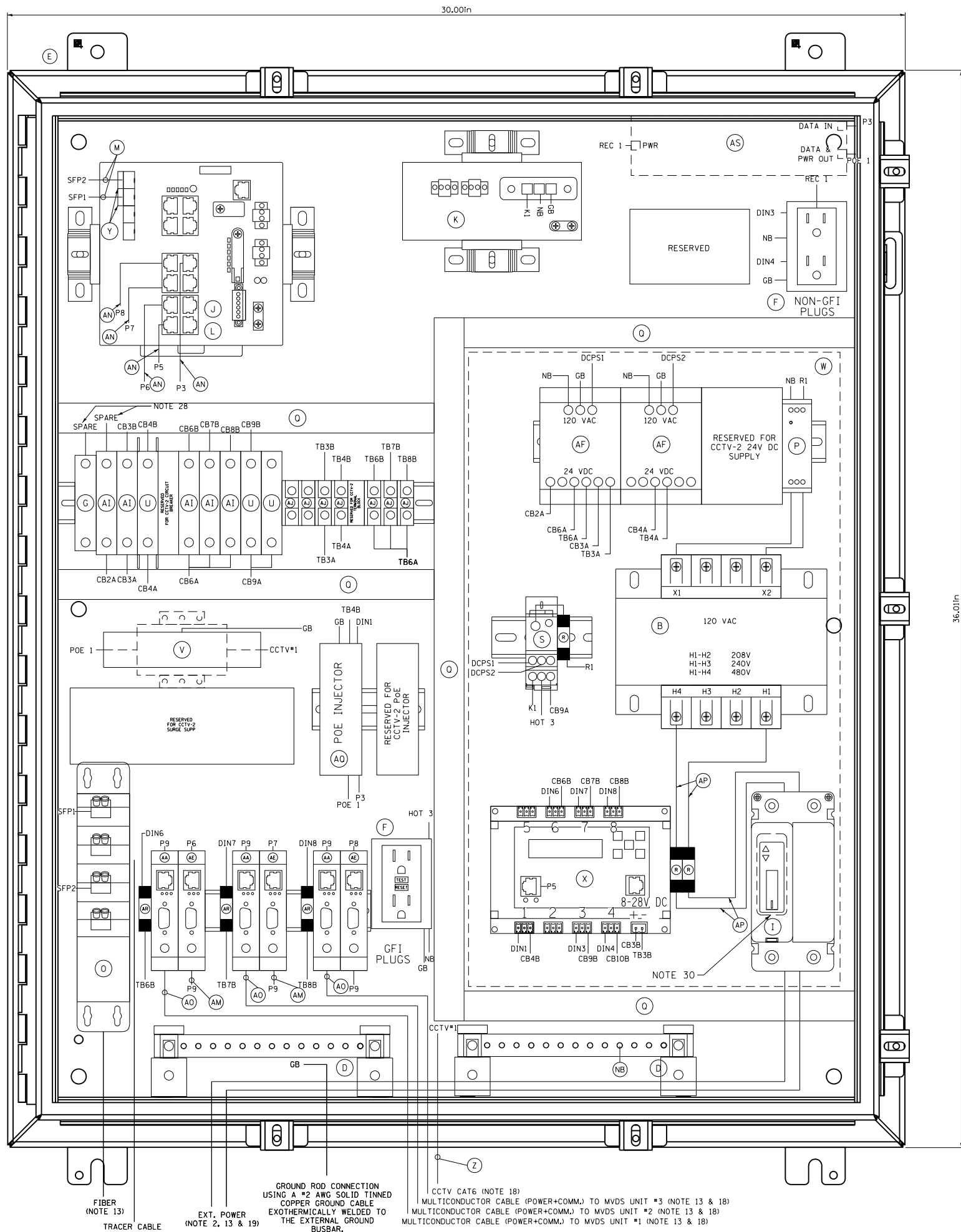


CABINET LAYOUT AND WIRING
ITS POLE MOUNTED ENCLOSURE
(1-CCTV CAMERA AND 2-MVDS)

DATE

3-01-2020

0 2" 4"
HORIZONTAL 1"=2" SCALES IN INCHES



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-4000-8T4G-E
K	CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
L	IP SERVICES LICENSE: L-IE4000-RTU=
M	2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
N	NOT USED FOR THIS SHEET APPLICATION
O	SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G420U008LAN-XXX-0
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/FIX2LG6 WITH COVER-CILG6
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 AND USE DITEK DTK-MRJPOES FOR COHU PoE CAMERA.
W	CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & 1. (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	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, OK-35A
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 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	INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
AO	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG
AQ	PoE INJECTOR AXIS T8144 (ONLY REQUIRED FOR AXIS PoE CAMERAS)
AR	T-BUS CONNECTOR (WAVETRONIX)
AS	PoE INJECTOR COHU 7412007-003 (ONLY REQUIRED FOR COHU PoE CAMERAS)

- NOTES:
- 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.
 - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
 - SHEET SHOWS BOTH PoE INJECTOR OPTIONS USING A 120VAC SUPPLY AND 24VDC SUPPLY. DEVICES REQUIRED FOR THE 120VAC SUPPLY ARE DENOTED WITH A DASHED LINE.
 - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
 - 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.
 - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
 - WIFI COMMUNICATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
 - 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.
 - ALL BREAKERS SHALL BE LABELED (E.G. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THE HANDHOLE.
 - POWER FEED TO THE CISCO IE4000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
 - CABLES TO BE ROUTED THROUGH POLE.
 - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
 - NOT USED FOR THIS SHEET APPLICATION
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 - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
 - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE ENCLOSURE INTO THE GROUND BUS.
 - 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.
 - ITEM AL SHALL BE PLACED ON ITEM B.
 - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED.
 - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.
 - SPARE BREAKER RESERVED.
 - 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.
 - PROVIDE WINDOW IN PMMA SHIELD FOR ACCESS TO BREAKER. MOUNT BREAKER FLUSH WITH PMMA SHIELD USING MOUNTING BRACKET.

NOTE TO DESIGNER

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

M-ITS-1206
SHEET 1 OF 1

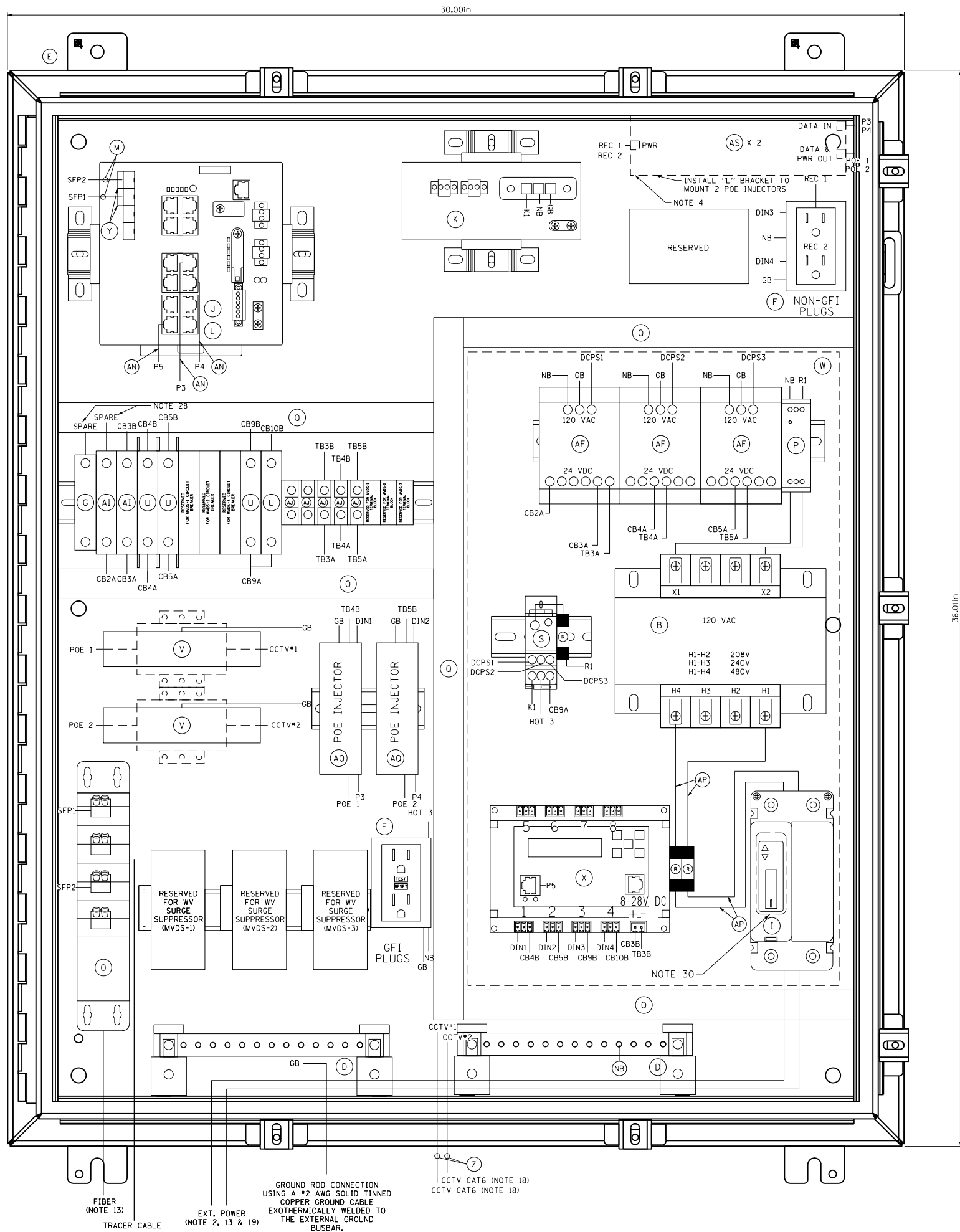


CABINET LAYOUT AND WIRING
ITS POLE MOUNTED ENCLOSURE
(1-CCTV CAMERA AND 3-MVDS)

DATE

3-01-2020

0 2" 4"
HORIZONTAL 1"=2" SCALES IN INCHES



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-4000-8T4G-E
K	CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
L	IP SERVICES LICENSE: L-IE4000-RTU=
M	2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
N	NOT USED FOR THIS SHEET APPLICATION
O	SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G420U008LAN-XXX-0
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/FIX2LG6 WITH COVER-CILG6
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 AND USE DITEK DTK-MRJPOES FOR COHU PoE CAMERA.
W	CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & 1. (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	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, OK-35A
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 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	INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
AO	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG
AQ	PoE INJECTOR AXIS T8144 (ONLY REQUIRED FOR AXIS PoE CAMERAS)
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 - SHEET SHOWS BOTH PoE INJECTOR OPTIONS USING A 120VAC SUPPLY AND 24VDC SUPPLY. DEVICES REQUIRED FOR THE 120VAC SUPPLY ARE DENOTED WITH A DASHED LINE.
 - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
 - 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.
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 - ALL BREAKERS SHALL BE LABELED (E.G. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THE HANDHOLE.
 - POWER FEED TO THE CISCO IE4000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
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 - CABLES TO BE ROUTED THROUGH POLE.
 - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
 - NOT USED FOR THIS SHEET APPLICATION
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 - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
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 - 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.
 - ITEM AL SHALL BE PLACED ON ITEM B.
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 - SPARE BREAKER RESERVED.
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 - PROVIDE WINDOW IN PMMA SHIELD FOR ACCESS TO BREAKER. MOUNT BREAKER FLUSH WITH PMMA SHIELD USING MOUNTING BRACKET.

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M-ITS-1207
SHEET 1 OF 1

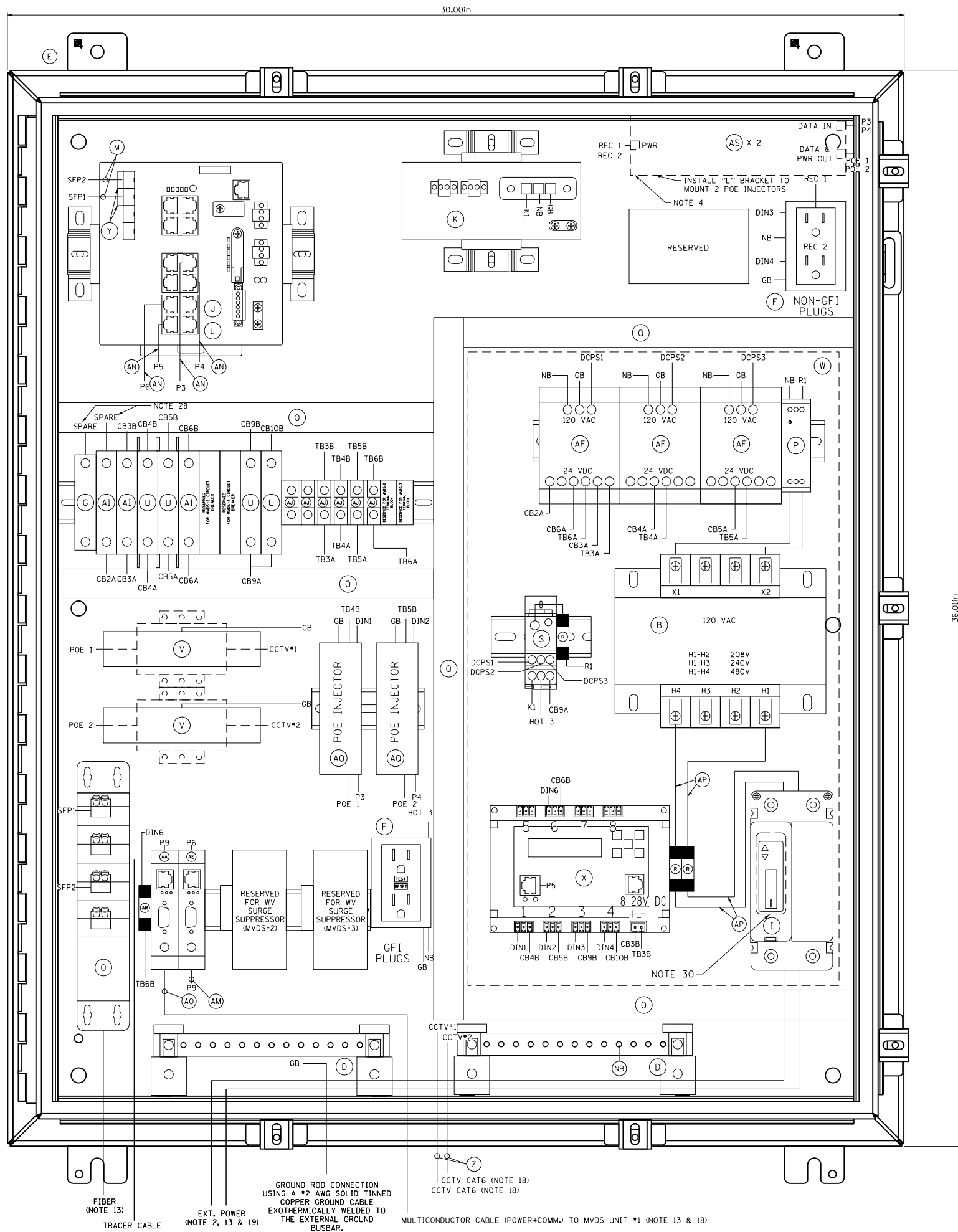


CABINET LAYOUT AND WIRING
ITS POLE MOUNTED ENCLOSURE
(2-CCTV CAMERAS)

DATE

3-01-2020

0 2" 4"
HORIZONTAL 1"=2" SCALES IN INCHES



- | 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-4000-8T4G-E |
| K | CISCO POWER SUPPLY, PWR-IE170W-PC-AC= |
| L | IP SERVICES LICENSE: L-IE4000-RTU= |
| M | 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M |
| N | NOT USED FOR THIS SHEET APPLICATION |
| O | SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G420U008LAN-XXX-0 |
| 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/FIX2LG6 WITH COVER-CILG6 |
| 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 AND USE DITEK DTK-MRJPOES FOR COHU PoE CAMERA. |
| W | CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & 1. (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 | 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, OK-35A |
| 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 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 | INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET |
| AO | MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60 |
| AP | #10 AWG |
| AQ | PoE INJECTOR AXIS T8144 (ONLY REQUIRED FOR AXIS PoE CAMERAS) |
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 - PROVIDE WINDOW IN PMMA SHIELD FOR ACCESS TO BREAKER. MOUNT BREAKER FLUSH WITH PMMA SHIELD USING MOUNTING BRACKET.

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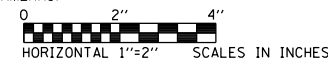
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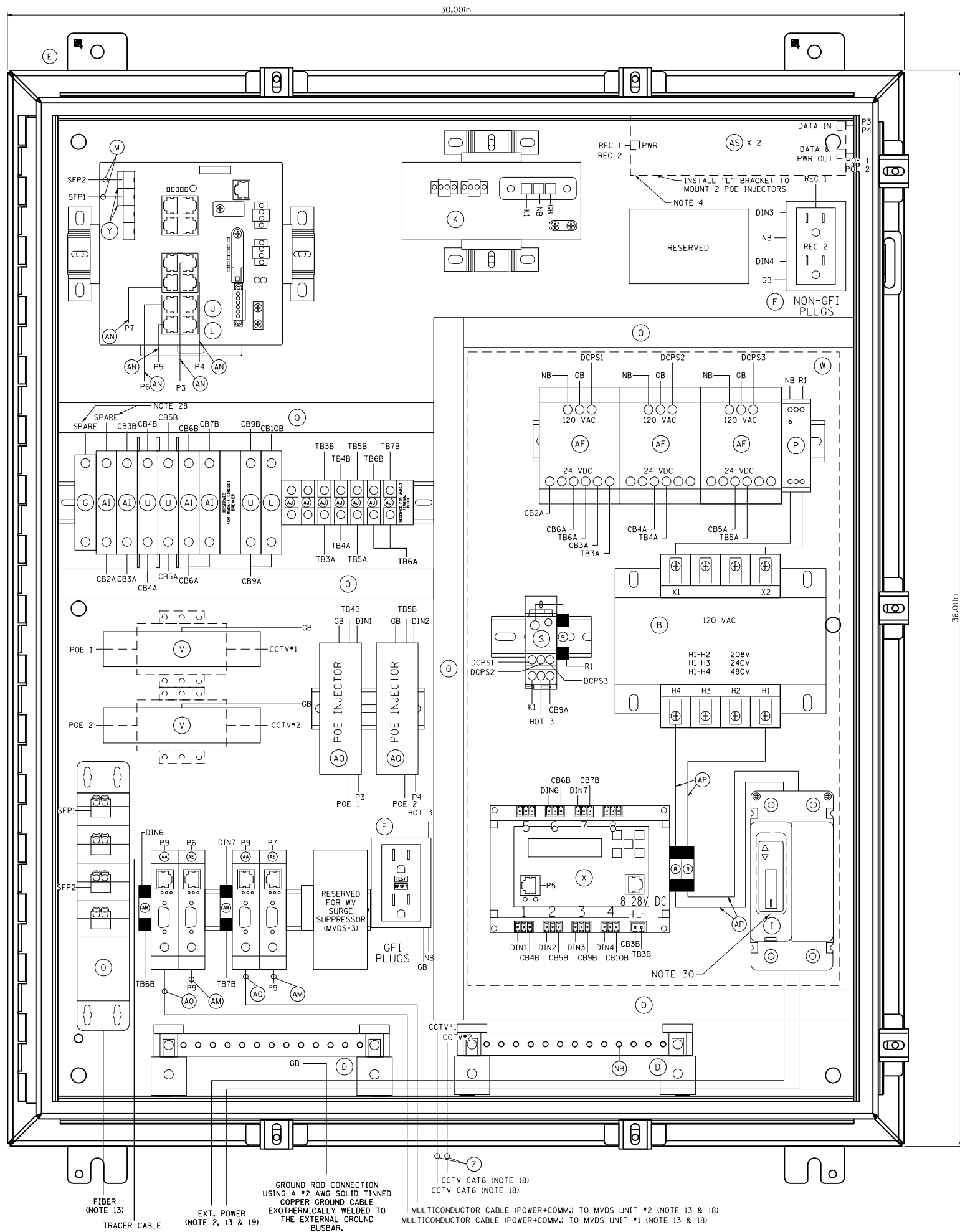
USE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (Q) TO INCLUDE THIS LENGTH.

M-ITS-1208
SHEET 1 OF 1

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

DATE
3-01-2020





- | 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-4000-8T4G-E |
| K | CISCO POWER SUPPLY, PWR-IE170W-PC-AC= |
| L | IP SERVICES LICENSE: L-IE4000-RTU= |
| M | 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M |
| N | NOT USED FOR THIS SHEET APPLICATION |
| O | SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G420U008LAN-XXX-0 |
| 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/FIX2LG6 WITH COVER-CILG6 |
| 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 AND USE DITEK DTK-MRJP0ES FOR COHU PoE CAMERA. |
| W | CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & 1. (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 | 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, OK-35A |
| 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 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 | INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET |
| AO | MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60 |
| AP | #10 AWG |
| AQ | PoE INJECTOR AXIS T8144 (ONLY REQUIRED FOR AXIS PoE CAMERAS) |
| AR | T-BUS CONNECTOR (WAVETRONIX) |
| AS | PoE INJECTOR COHU 7412007-003 (ONLY REQUIRED FOR COHU PoE CAMERAS) |

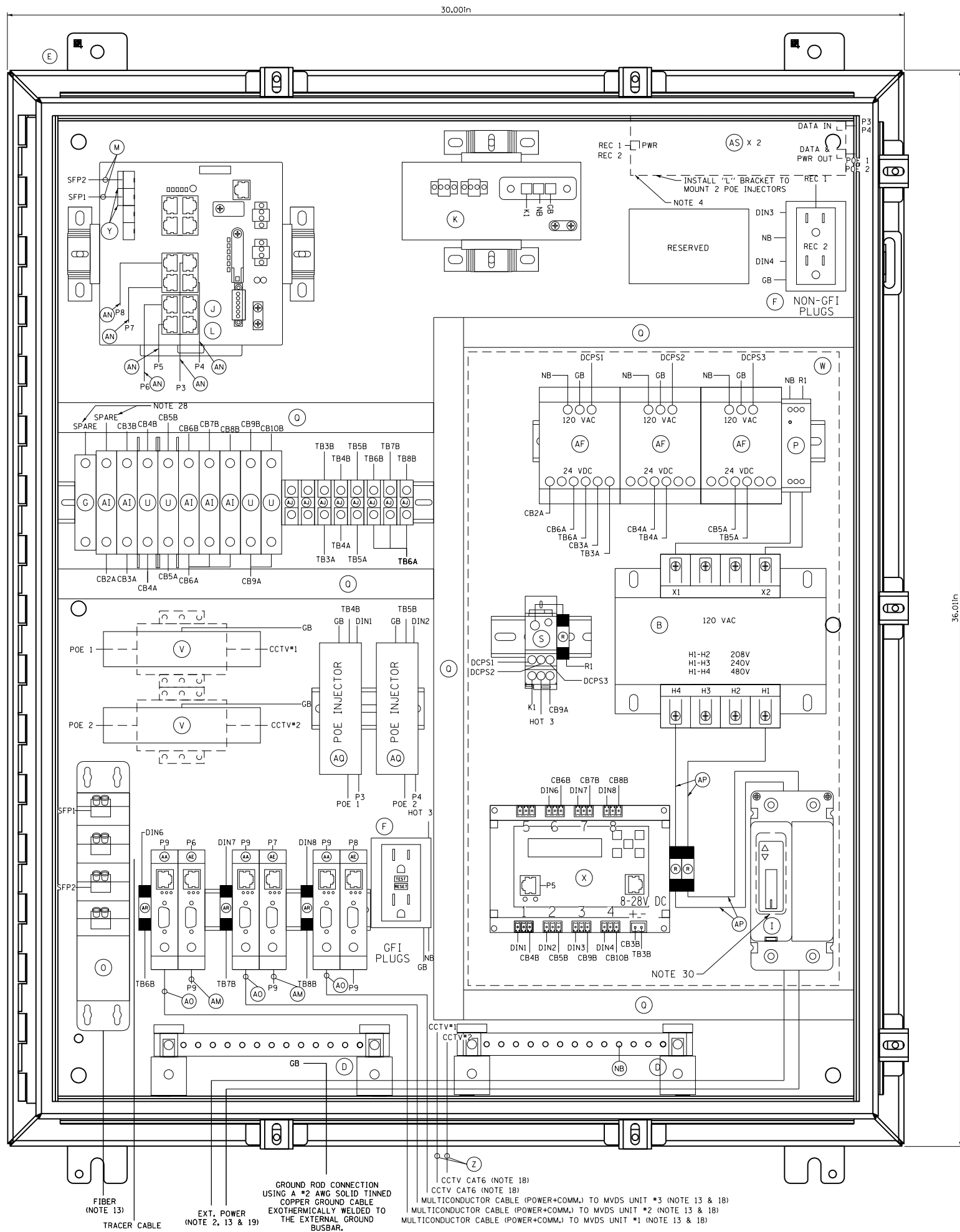
- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
 - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
 - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
 - SHEET SHOWS BOTH PoE INJECTOR OPTIONS USING A 120VAC SUPPLY AND 24VDC SUPPLY. DEVICES REQUIRED FOR THE 120VAC SUPPLY ARE DENOTED WITH A DASHED LINE.
 - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
 - 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.
 - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
 - WIFI COMMUNICATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
 - 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.
 - ALL BREAKERS SHALL BE LABELED (E.G. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THE HANDHOLE.
 - POWER FEED TO THE CISCO IE4000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
 - CABLES TO BE ROUTED THROUGH POLE.
 - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
 - NOT USED FOR THIS SHEET APPLICATION
 - NOT USED FOR THIS SHEET APPLICATION
 - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
 - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE ENCLOSURE INTO THE GROUND BUS.
 - 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.
 - ITEM AL SHALL BE PLACED ON ITEM B.
 - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED.
 - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.
 - SPARE BREAKER RESERVED.
 - 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.
 - PROVIDE WINDOW IN PMMA SHIELD FOR ACCESS TO BREAKER. MOUNT BREAKER FLUSH WITH PMMA SHIELD USING MOUNTING BRACKET.

NOTE TO DESIGNER

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

M-ITS-1209
SHEET 1 OF 1



- 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-4000-8T4G-E
- K CISCO POWER SUPPLY, PWR-IE170W-PC-AC=
- L IP SERVICES LICENSE: L-IE4000-RTU=
- M 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- N NOT USED FOR THIS SHEET APPLICATION
- O SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G420U00BLAN-XXX-0
- 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/FIX2LG6 WITH COVER-CILG6
- 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 AND USE DITEK DTK-MRJP0ES FOR COHU PoE CAMERA.
- W CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & 1. (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 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, OK-35A
- 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 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 INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG
- AQ PoE INJECTOR AXIS T8144 (ONLY REQUIRED FOR AXIS PoE CAMERAS)
- AR T-BUS CONNECTOR (WAVETRONIX)
- AS PoE INJECTOR COHU 7412007-003 (ONLY REQUIRED FOR COHU PoE CAMERAS)

- NOTES:
- 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.
 - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
 - SHEET SHOWS BOTH POE INJECTOR OPTIONS USING A 120VAC SUPPLY AND 24VDC SUPPLY. DEVICES REQUIRED FOR THE 120VAC SUPPLY ARE DENOTED WITH A DASHED LINE.
 - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
 - 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.
 - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
 - WIFI COMMUNICATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
 - 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.
 - ALL BREAKERS SHALL BE LABELED (E.G. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THE HANDHOLE.
 - POWER FEED TO THE CISCO IE4000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
 - CABLES TO BE ROUTED THROUGH POLE.
 - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
 - NOT USED FOR THIS SHEET APPLICATION
 - NOT USED FOR THIS SHEET APPLICATION
 - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
 - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE ENCLOSURE INTO THE GROUND BUS.
 - 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.
 - ITEM AL SHALL BE PLACED ON ITEM B.
 - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED.
 - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.
 - SPARE BREAKER RESERVED.
 - 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.
 - PROVIDE WINDOW IN PMMA SHIELD FOR ACCESS TO BREAKER. MOUNT BREAKER FLUSH WITH PMMA SHIELD USING MOUNTING BRACKET.

NOTE TO DESIGNER

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

M-ITS-1210
SHEET 1 OF 1

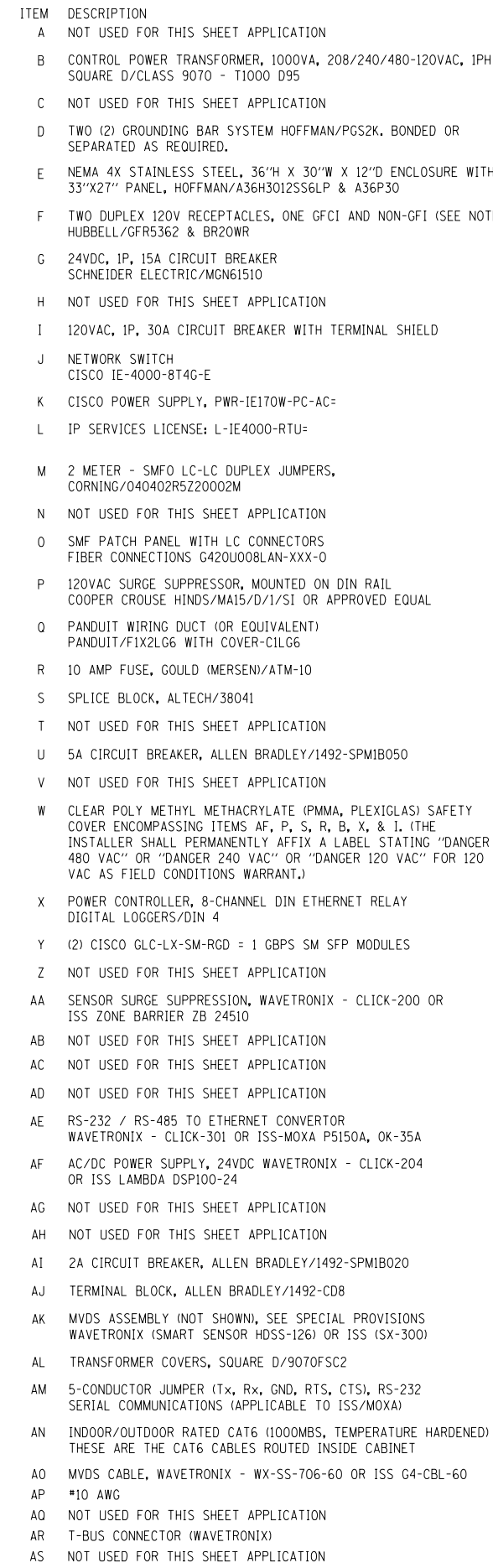


CABINET LAYOUT AND WIRING
ITS POLE MOUNTED ENCLOSURE
(2-CCTV CAMERAS AND 3-MVDS)

DATE

3-01-2020

0 2" 4"
HORIZONTAL 1"=2" SCALES IN INCHES



- 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. 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. 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.

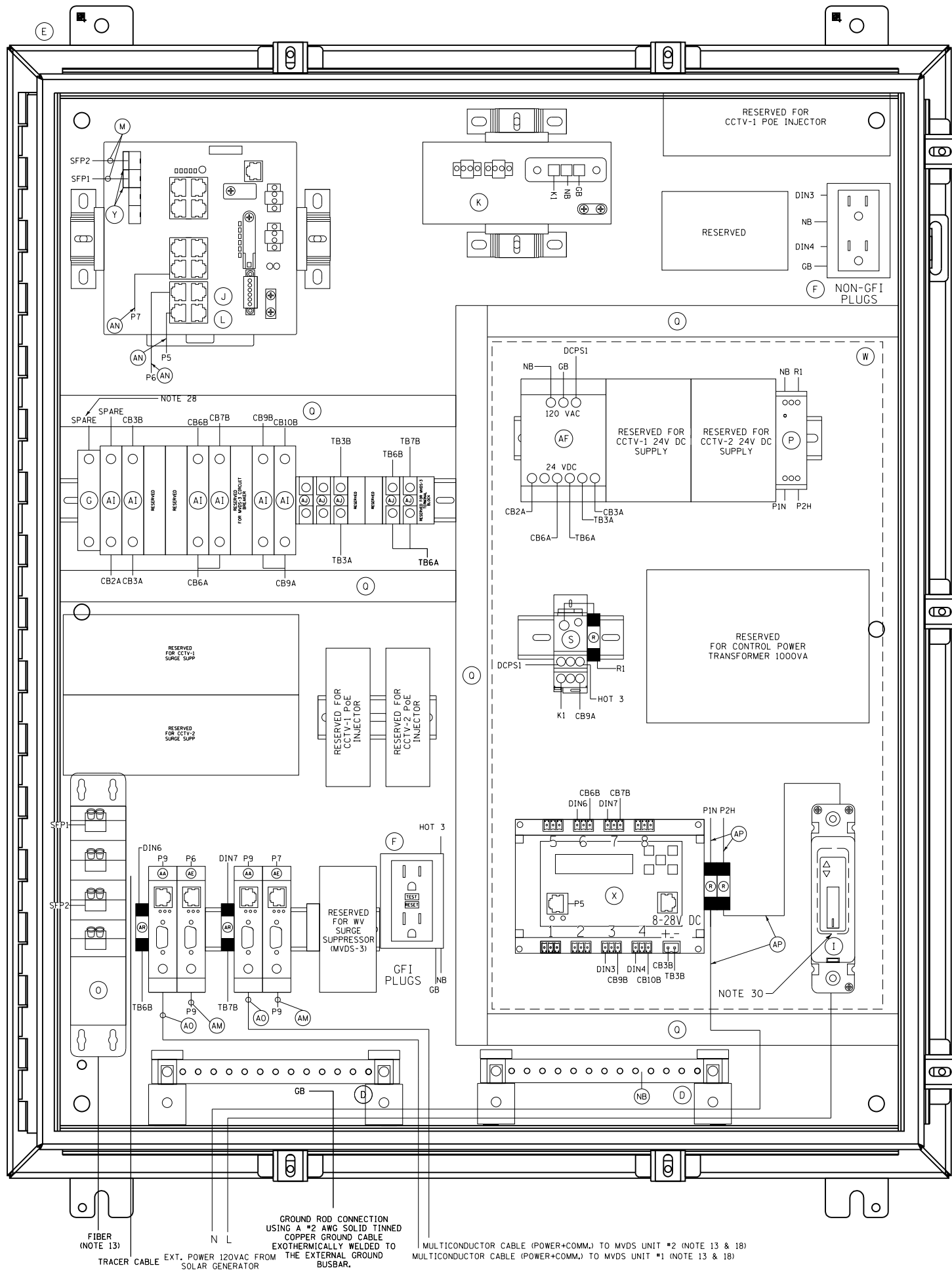
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DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE ITEM (Q) TO INCLUDE THIS LENGTH.



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

DATE
3-01-2020



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	NETWORK SWITCH CISCO IE-4000-8T4G-E
K	CISCO POWER SUPPLY, PWR-IE170W-PC-A=
L	IP SERVICES LICENSE: L-IE4000-RTU=
M	2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
N	NOT USED FOR THIS SHEET APPLICATION
O	SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G420U008LAN-XXX-0
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/FIX2LG6 WITH COVER-CILG6
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	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, OK-35A
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 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	INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
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:
- 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.
 - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
 - NOT USED FOR THIS SHEET APPLICATION.
 - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
 - 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.
 - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
 - WIFI COMMUNICATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
 - 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.
 - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THE HANDHOLE.
 - POWER FEED TO THE CISCO IE4000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
 - NOT USED FOR THIS SHEET APPLICATION
 - 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.
 - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
 - CABLES TO BE ROUTED THROUGH POLE.
 - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
 - NOT USED FOR THIS SHEET APPLICATION
 - NOT USED FOR THIS SHEET APPLICATION
 - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
 - TIE THE ENCLOSURE INTO THE GROUND BUS.
 - 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.
 - ITEM AL SHALL BE PLACED ON ITEM B.
 - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED.
 - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.
 - SPARE BREAKER RESERVED.
 - 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.
 - PROVIDE WINDOW IN PMMA SHIELD FOR ACCESS TO BREAKER, MOUNT BREAKER FLUSH WITH PMMA SHIELD USING MOUNTING BRACKET.

NOTE TO DESIGNER

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.

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

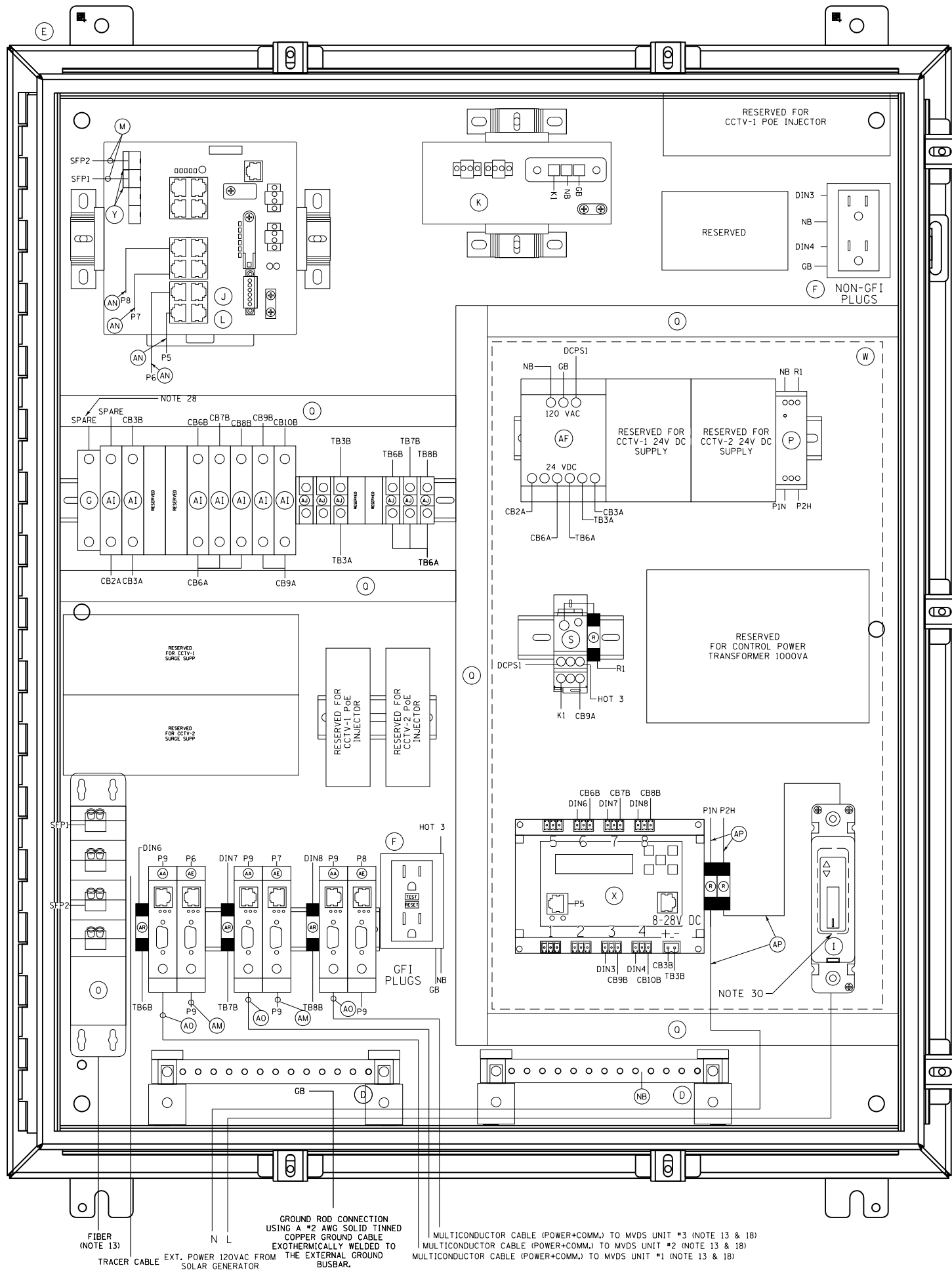
M-ITS-1212
SHEET 1 OF 1



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

DATE
3-01-2020

0 2" 4"
HORIZONTAL 1"=2" SCALES IN INCHES



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	NETWORK SWITCH CISCO IE-4000-8T4G-E
K	CISCO POWER SUPPLY, PWR-IE170W-PC-A=
L	IP SERVICES LICENSE: L-IE4000-RTU=
M	2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
N	NOT USED FOR THIS SHEET APPLICATION
O	SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G420U008LAN-XXX-0
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/FIX2LG6 WITH COVER-CILG6
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M-ITS-1213
SHEET 1 OF 1



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

DATE
3-01-2020

0 2" 4"
HORIZONTAL 1"=2" SCALES IN INCHES

NOTE TO DESIGNER

NOTE TO DESIGNER

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

M-ITS-1214
SHEET 1 OF 1



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

DATE

3-01-2020

NOTE TO DESIGNER

NOTE TO DESIGNER

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

M-ITS-1215
SHEET 1 OF 1



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

DATE

3-01-2020

NOTE TO DESIGNER

NOTE TO DESIGNER

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

M-ITS-1216
SHEET 1 OF 1



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

DATE
3-01-2020

