Illinois Tollway Base Sheet Revisions

	Deea Chaot D		
	Drowing	Advings	
-	Drawing	modification Summary Effective: 2018-03-01	
_		Role Accombly (ITS) Series 1000	
-		Pole Assembly (115)-Series 1000	
-	M-115-1000	Elevation views Pole Mounted ITS Element Assembly	
-		Added disconnect switch detail sheet.	
-		ivinor editorial changes.	
-			
-		Dynamic Message Sign (ITS)-Series 1100	
-	WI-115-1100	DMS Type 1 Electrical Plan	
-		ININOF Editorial changes.	
-	M-115-1101	DMS Type 1 Site Grounding Plan	
-	M ITC 4402	Minor editorial changes.	
-	WI-115-1102	Dins Type T Typical Site wiring Detail	
ŀ	M ITS 1102	Minor editorial changes	
F	WI-113-1103	Dins Type 2-Califiever Electrical Fian Minor editorial changes	
_	M-ITS-1104	INITION Editorial changes.	
ŀ	WI-IT 3-1104	Dinor editorial changes	
ŀ	M-ITS-1105	ININOI editorial changes	
F	M-110-1103	Clarified coarse wash gravel specifications	
-		Cialmed Coalse wash gravel specifications.	
-	M-ITS-1106	ININOI Editorial changes.	
┢		Minor editorial changes	
┝	M-ITS-1107	DMS Cabinet Lavout Detail	
┝	M-110-1107	Minor editorial changes	
┝		DMS Cabinet Wiring Diagram	
┝	M-110-1100	Minor editorial changes	
⊢			
		Cabinet Wiring (ITS)-Series 1200	
F	M-ITS-1200 to		
	M-ITS-1255		
		Revised DIN3 IP relay to DIN4.	
ſ	M-ITS-1200 to		
	M-ITS-1207,	Cabinet Wiring Diagrams	
	M-ITS-1210,		
┝	M-ITS-1255		
┝	M ITS 1200 to	Added single mode fiber patch panel.	
	M-ITS-1200 to		
	M-ITS-1223 to	Cabinet Wiring Diagrams	
	M-ITS-1254		
F		Added power over ethernet injector(s).	
F	M-ITS-1200	ITS Pole Mounted Enclosure (CCTV and MVDS)	
Γ		Added second sheet showing scale layout.	
Γ	M-ITS-1203 to		
	M-ITS-1205,		
	M-ITS-1211 to	Cabinet Wiring Diagrams	
1	M-ITS-1222, M-		
	115-1231 to M-		
┝	115-1254		
┝	MITCATES	Tower Mounted CCTV ITS Assembly 300' CATE or Less	
\mathbf{F}	11-1-1-1-20	Retired	
┢			
╞		Roadway Weather Information System (ITS)-Series 1300	
-	M-ITS-1300	RWIS Pole, Sensor Mounting Detail	
F		Sheet redrawn with new pole-mounted RWIS design	
	M-ITS-1301	RWIS Cabinet Wiring Diagram	
		Sheet redrawn with new pole-mounted RWIS design.	
F		RWIS connected to fiber.	
	M-ITS-1302	Typical RWIS Site Installation Plan	
ſ		Sheet redrawn with new pole-mounted RWIS design.	
F		Added non-intrusive pavement sensor.	
ſ	M-178-4303	RWIS Road Surface Sensor Pole	
٢		Retired.	
		Tower Mounted CCTV (ITS)-Series 1500	
	M-ITS-1502	ITS Details Tower Mount Camera Assembly	
		Reference to M-ITS-1256 changed to M-ITS-1255 to reflect changes in 1200 series.	
		Plaza Electrical (Business System)-Series 2500	
	M-BUS-2501	Legend, Symbol List, Abbreviations and Equipment Schedules	
		Minor editorial changes.	
	M-BUS-2525	I-Pass Only (IPO) Lane Island Plan and Details 12 Foot Wide Lane	
L	M BUG 67	Minor editorial changes.	
┝	M-BUS-2526	I OII Equipment Wiring Diagram ACM and IPO Lanes	
┝		Ivinor editorial changes.	
╞	WI-BUS-2558	vco wash oystem ouggested Condult Routing	
┝		ivinor editorial changes.	







- MTL INSTRUMENTS/ZB24580 U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050 MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL DIGITAL LOGGERS/DIN 4 (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

C NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR2OWR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

EATON/HFD2030L & 625B229G07

SQUARE D/CLASS 9070-T250D13

M 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M

N NOT USED FOR THIS SHEET APPLICATION

SMF PATCH PANEL WITH LC CONNECTORS

FIBER CONNECTIONS G620U012LAB-100-0

PANDUIT WIRING DUCT (OR EQUIVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

10 AMP FUSE, GOULD (MERSEN)/ATM-10

SPLICE BLOCK, ALTECH/38041

CISCO MODEL CISCO/IE-3000-8TC-E

NOT USED FOR THIS SHEET APPLICATION

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

Α

В

D

G

I

.1

0

0

S

- CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B.P. X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- NOT USED FOR THIS SHEET APPLICATION AA
- AB 1-3/C #14 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/9495A OR APPROVED EQUAL
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- AE NOT USED FOR THIS SHEET APPLICATION
- AC/DC POWER SUPPLY, 24VDC AF
- WAVETRONIX CLICK-204
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 AI
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- NOT USED FOR THIS SHEET APPLICATION ΔK
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET AN
- AO NOT USED FOR THIS SHEET APPLICATION
- POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE AQ SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.





TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)



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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY 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.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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 PLEXICLASS 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 ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CATE 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.

~80000000000000000000000000000000000000	X.
8 <u>NOTE TO DESIGNER</u>	Ø
THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO	×
MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS	\bigotimes
COMPLETION AND INSERTION INTO A CONTRACT, ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE DRAWING INTO THE PLAN SET.	\bigotimes
***************************************	ý X

M-ITS-1200 SHEET 2 OF 2



CABINET SCALE LAYOUT ITS POLE MOUNTED ENCLOSURE (CCTV AND MVDS)



AP AQ POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY
- W B, P, X & AF. (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.)

CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL

- DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE 7
- BELDEN/7953A

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

C NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

NOT USED FOR THIS SHEET APPLICATION

SCHNEIDER ELECTRIC/MGN61510

EATON/HFD2030L & 625B229G07

SOUARE D/CLASS 9070-T250D13

CORNING/040402R5Z20002M

M 2 METER - SMFO LC-LC DUPLEX JUMPERS,

NOT USED FOR THIS SHEET APPLICATION

SMF PATCH PANEL WITH LC CONNECTORS

FIBER CONNECTIONS G620U012LAB-100-0

PANDUIT WIRING DUCT (OR EQUIVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

10 AMP FUSE, GOULD (MERSEN)/ATM-10

SPLICE BLOCK, ALTECH/38041

MTL INSTRUMENTS/ZB24580

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL

CISCO MODEL CISCO/IE-3000-8TC-E

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

Α

В

D

G

I

.1

N

0

0

- NOT USED FOR THIS SHEET APPLICATION AA
- 1-3/C #14 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/9495A OR APPROVED EQUAL
- NOT USED FOR THIS SHEET APPLICATION AC
- AD NOT USED FOR THIS SHEET APPLICATION
- AE NOT USED FOR THIS SHEET APPLICATION
- AC/DC POWER SUPPLY, 24VDC ΔF
- WAVETRONIX CLICK-204
- AG NOT USED FOR THIS SHEET APPLICATION
- ΔH NOT USED FOR THIS SHEET APPLICATION
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 ΑI
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AJ
- AK NOT USED FOR THIS SHEET APPLICATION
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- АМ NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO NOT USED FOR THIS SHEET APPLICATION
- #10 AWG

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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 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 ITEMS B AND L.
- 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.

AND ANY DC VOLTAGE POWER FEEDS USE *16 AWG CABLE. 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.





- AQ POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)
- #10 AWG
- AO NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET AN
- ΑМ NOT USED FOR THIS SHEET APPLICATION
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- NOT USED FOR THIS SHEET APPLICATION AK
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- AH NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AG
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF
- NOT USED FOR THIS SHEET APPLICATION AE
- NOT USED FOR THIS SHEET APPLICATION AD
- AC NOT USED FOR THIS SHEET APPLICATION
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL
- AB

- AA NOT USED FOR THIS SHEET APPLICATION
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A Ζ
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L. R. S. B. P. X & AF. (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.)
- MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- SPLICE BLOCK, ALTECH/38041

S

Х

AP

- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6 0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- SME PATCH PANEL WITH LC CONNECTORS 0 FIBER CONNECTIONS G620U012LAB-100-0
- NOT USED FOR THIS SHEET APPLICATION
- M 2 METER SMF0 LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD EATON/HFD2030L & 625B229G07
- H NOT USED FOR THIS SHEET APPLICATION
- 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED. D
- NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 T1000 D95 В
- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α

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
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT). ALL
- 4. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY 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.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 OROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. WIFI COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

ANU ANT UL VULIAGE PUWER FEEDS USE "IG AWG CABLE. NOTE TO DESIGNER THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING, IT REDUIRES 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.

M-ITS-1202



CABINET WIRING DIAGRAM DUAL CCTV CAMERA ITS ASSEMBLY DATE



CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95 NOT USED FOR THIS SHEET APPLICATION TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.

NOT USED FOR THIS SHEET APPLICATION

А

В

D

- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07
- .1
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION N
- SMF PATCH PANEL WITH LC CONNECTORS 0 FIBER CONNECTIONS G620U012LAB-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) 0 PANDUIT/FIX1LG6 WITH COVER-C1LG6
- 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION V
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A W LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Ζ NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB24510 AA
- NOT USED FOR THIS SHEET APPLICATION AB
- NOT USED FOR THIS SHEET APPLICATION AC
- NOT USED FOR THIS SHEET APPLICATION ΔD
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE
- WAVETRONIX CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AH
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300) AK
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL ΑМ COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CATG (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CATG CABLES ROUTED INSIDE CABINET AN
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG
- AQ 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.
- 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.
- MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN 6. RAIL 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 COMMUNCATION 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.
- 14. POWER FEED TO THE CISCO IE3000 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. 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 PLEXICLASS 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 ITEMS B AND L.
- 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.

NOTE TO DESIGNER HIS 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 XXXXXXXXX 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.



M-ITS-1203



- NOT USED FOR THIS SHEET APPLICATION CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95 C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510

А

В

- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1 CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) Q PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK. ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- 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
- NOT USED FOR THIS SHEET APPLICATION AC
- NOT USED FOR THIS SHEET APPLICATION AD
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF 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
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- 5-CONDUCTOR JUMPER (T×, R×, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA) AM 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

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.
- 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. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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. NOT USED FOR THIS SHEET APPLICATION
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. 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 ITEMS B AND L.
- 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.

Samman and a second sec NOTE TO DESIGNER HIS 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 XXXXXXXXX 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. \$......





CABINET WIRING DIAGRAM DUAL MVDS ITS ASSEMBLY

DATE 3-01-2018



- NOT USED FOR THIS SHEET APPLICATION Α CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95 C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07

- 8 FLECTRICAL PORT AND TWO FOC PORT SWITCH .1

- CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION N
- SMF PATCH PANEL WITH LC CONNECTORS 0 FIBER CONNECTIONS G620U012LAB-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDULT WIRING DUCT (OR FOULVALENT) 0 PANDUIT/FIX1LG6 WITH COVER-C1LG6
- 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION V
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Ζ NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION. WAVETRONIX CLICK-200 OR ΔΔ ISS ZONE BARRIER ZB 24510
- NOT USED FOR THIS SHEET APPLICATION
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR ΔF WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 ΔF OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 AI
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL AM COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- 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

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.
- MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN 6. RAIL 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 COMMUNCATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
- THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. 9. 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.
- 14. POWER FEED TO THE CISCO IE3000 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. 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 ITEMS B AND L.
- 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.

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 XXXXXXXXX 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.



M-ITS-1205



- AQ NOT USED FOR THIS SHEET APPLICATION

- #10 AWG
- AO NOT USED FOR THIS SHEET APPLICATION

AM NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

C NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR2OWR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

EATON/HFD2030L & 625B229G07

SQUARE D/CLASS 9070-T250D13

M 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M

NOT USED FOR THIS SHEET APPLICATION

SMF PATCH PANEL WITH LC CONNECTORS

FIBER CONNECTIONS G620U012LAB-100-0 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

PANDULT WIRING DUCT (OR FOULVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

10 AMP FUSE, GOULD (MERSEN)/ATM-10

NOT USED FOR THIS SHEET APPLICATION

AC/DC POWER SUPPLY, 24VDC

AG NOT USED FOR THIS SHEET APPLICATION

AH NOT USED FOR THIS SHEET APPLICATION

TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 NOT USED FOR THIS SHEET APPLICATION

TRANSFORMER COVERS, SQUARE D/9070FSC2

2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020

INDOOR/OUTDOOR RATED CATE (1000MBS, TEMPERATURE HARDENED)

THESE ARE THE CATE CABLES ROUTED INSIDE CABINET

WAVETRONIX - CLICK-204

SPLICE BLOCK, ALTECH/38041

MTL INSTRUMENTS/ZB24580

DIGITAL LOGGERS/DIN 4

CISCO MODEL CISCO/IE-3000-8TC-E

NOT USED FOR THIS SHEET APPLICATION

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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.)

U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES

Α

В

D

G

I

.1

N

0

0

V

Ζ

AA

AB

AC

ΔD

AE

AF

ΑI

A.L

AK

AL

AN

- AP

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.
- 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.
- MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN 6. RAIL 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 COMMUNCATION 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.
- 14. POWER FEED TO THE CISCO IE3000 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. A STANDALONE MVDS WILL UTILIZE A 24VDC SOLAR POWER CABINET AND SOLAR PANELS THAT ARE ATTACHED TO THE SAME POLE AS THE MVDS. SEE PLAN SHEET.
- 21. WHEN POWERED BY A 24VDC INPUT, THE POWER CABLES SHALL BE DIRECTLY TERMINATED ON THE IE3000 BASE UNIT AND THE POWER CLIP SHALL BE DISCONNECTED. THE POWER CLIP SHALL BE RETURNED TO THE ILLINOIS TOLLWAY AFTER A/C POWER IS SWITCHED TO DC POWER. THE DC CABLE SHALL BE CONNECTED TO ITEM AI & AJ.
- 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. 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 ITEMS B AND L.
- 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.

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" BALL BE REMOVED PRIOR TO INSERTION OF THE DRAWING INTO THE PLAN SET.

M-ITS-1206



CABINET WIRING DIAGRAM CO-LOCATED SOLAR GENERATOR POWERED ASSEMBLY DATE



- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC= Κ
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAB-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK. ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W
- B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- NOT USED FOR THIS SHEET APPLICATION 7
- NOT USED FOR THIS SHEET APPLICATION ΔΔ
- NOT USED FOR THIS SHEET APPLICATION AB
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- AF NOT USED FOR THIS SHEET APPLICATION
- AC/DC POWER SUPPLY, 24VDC AF WAVETRONIX - CLICK-204
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- ΑI
- A.J TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK NOT USED FOR THIS SHEET APPLICATION
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- NOT USED FOR THIS SHEET APPLICATION AM
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO
- NOT USED FOR THIS SHEET APPLICATION

- AQ NOT USED FOR THIS SHEET APPLICATION
- AP #10 AWG

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.
- 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. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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.
- 14. POWER FEED TO THE CISCO IE3000 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 ITEMS B AND L.
- 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.







CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95 C NOT USED FOR THIS SHEET APPLICATION TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D

NOT USED FOR THIS SHEET APPLICATION

ITEM DESCRIPTION

Α

- SEPARATED AS REQUIRED. NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH
- 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30 TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)
- HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION н
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1
- CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- 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
- NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) Q PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z NOT USED FOR THIS SHEET APPLICATION
- AA NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AB
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- NOT USED FOR THIS SHEET APPLICATION AD
- AF NOT USED FOR THIS SHEET APPLICATION
- AC/DC POWER SUPPLY, 24VDC ΔF WAVETRONIX - CLICK-204
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS ΔH PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 ΑI
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 A.J
- NOT USED FOR THIS SHEET APPLICATION AK
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- NOT USED FOR THIS SHEET APPLICATION AM
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO NOT USED FOR THIS SHEET APPLICATION
- ΔP #10 AWG
- AQ 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.
- 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. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
- THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. 9. 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. 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 PLEXICLASS 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 ITEMS B AND L.
- 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.







- AQ NOT USED FOR THIS SHEET APPLICATION
- AP #10 AWG

ITEM DESCRIPTION

Α

В

D

G

I

.1

0

Ρ

0

R

S

w

AB

AC

ΔF

AF

AI

AJ

ΔK

AL

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

C NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR2OWR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

EATON/HFD2030L & 625B229G07

SQUARE D/CLASS 9070-T250D13

CORNING/040402R5Z20002M

M 2 METER - SMFO LC-LC DUPLEX JUMPERS,

NOT USED FOR THIS SHEET APPLICATION

SME PATCH PANEL WITH LC CONNECTORS

FIBER CONNECTIONS G620U012LAN-100-0

PANDUIT WIRING DUCT (OR EQUIVALENT)

NOT USED FOR THIS SHEET APPLICATION

Z NOT USED FOR THIS SHEET APPLICATION

AA NOT USED FOR THIS SHEET APPLICATION

AD NOT USED FOR THIS SHEET APPLICATION

AG NOT USED FOR THIS SHEET APPLICATION

AH NOT USED FOR THIS SHEET APPLICATION

AC/DC POWER SUPPLY, 24VDC

WAVETRONIX - CLICK-204

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

PANDUIT/FIX1LG6 WITH COVER-C1LG6

10 AMP FUSE. GOULD (MERSEN)/ATM-10

SPLICE BLOCK, ALTECH/38041

MTL INSTRUMENTS/ZB24580

DIGITAL LOGGERS/DIN 4

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

(2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S,

'DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)

B, P, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR

CISCO MODEL CISCO/IE-3000-8TC-E

NOT USED FOR THIS SHEET APPLICATION

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

- AO NOT USED FOR THIS SHEET APPLICATION

- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED)

NOT USED FOR THIS SHEET APPLICATION

- NOT USED FOR THIS SHEET APPLICATION

- THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AN

2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020

- AM
- TRANSFORMER COVERS, SQUARE D/9070FSC2

TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8

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.
- 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. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
- THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. 9. 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.
- 14. POWER FEED TO THE CISCO IE3000 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. 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 ITEMS B AND L.
- 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.







CABINET WIRING DIAGRAM IBER OPTIC COMMUNICATIONS ITS ASSEMBLY DATE



- TRANSFORMER COVERS, SQUARE D/9070FSC2 NOT USED FOR THIS SHEET APPLICATION
- AM
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET

- AO
- NOT USED FOR THIS SHEET APPLICATION
- ΔP #10 AWG
- AQ NOT USED FOR THIS SHEET APPLICATION

- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510

.1

Q

Х

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

M NOT USED FOR THIS SHEET APPLICATION

N NOT USED FOR THIS SHEET APPLICATION

0 NOT USED FOR THIS SHEET APPLICATION

PANDUIT WIRING DUCT (OR EQUIVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

R 10 AMP FUSE, GOULD (MERSEN)/ATM-10

S SPLICE BLOCK. ALTECH/38041

DIGITAL LOGGERS/DIN 4

SENSYS AP POE+ INJECTOR

AC/DC POWER SUPPLY, 24VDC

WAVETRONIX - CLICK-204

Z NOT USED FOR THIS SHEET APPLICATION

TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8

NOT USED FOR THIS SHEET APPLICATION

2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020

MTL INSTRUMENTS/ZB24580

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A

"DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)

LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR

U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL

POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES

- NOT USED FOR THIS SHEET APPLICATION

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

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.
- 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. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

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 SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE DRAWING INTO THE PLAN SET.

M-ITS-1210



CABINET WIRING DIAGRAM SENSYS AP POE AND INJECTOR ITS ASSEMBLY DATE



- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07
- .1
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH
- CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- SME PATCH PANEL WITH LC CONNECTORS 0 FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- 0 PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE. GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- AB NOT USED FOR THIS SHEET APPLICATION
- AC NOT USED FOR THIS SHEET APPLICATION
- ΔD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- ΑI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS ΔK WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL ΔM COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CATE (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 AWC

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.
- 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.
- MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN 6. RAIL 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 COMMUNCATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
- THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. 9. 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.
- 14. POWER FEED TO THE CISCO IE3000 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. THE ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED THE THE PLEXICLESS 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 ITEMS B AND L.
- 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.

NOTE TO DESIGNER HIS 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 COMPETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE DRAWING INTO THE PLAN SET.





- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07
- .1
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH
- CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) Q PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK. ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY
- DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- NOT USED FOR THIS SHEET APPLICATION AB
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE
- WAVETRONIX CLICK-301 OR ISS-MOXA P5150A, OK-35A AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
- OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 ΔĪ
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AI
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) ΔN THESE ARE THE CATE CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- ΔP #10 AWG

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.
- 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.
- MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN 6. RAIL 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 COMMUNCATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
- THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. 9. 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. 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 ITEMS B AND L.
- 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.

NOTE TO DESIGNER HIS 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.



M-ITS-1212



CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95 C NOT USED FOR THIS SHEET APPLICATION TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.

NOT USED FOR THIS SHEET APPLICATION

- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510

ITEM DESCRIPTION

Α

В

D

- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD EATON/HFD2030L & 625B229G07
- I

- .1
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION Ν
- 0
- SME PATCH PANEL WITH LC CONNECTORS
- FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY Х DIGITAL LOGGERS/DIN 4
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- NOT USED FOR THIS SHEET APPLICATION
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AF WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 ΔF OR ISS LAMBDA DSP100-24
- NOT USED FOR THIS SHEET APPLICATION AG
- AH NOT USED FOR THIS SHEET APPLICATION
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- ΔK MVDS ASSEMBLY (NOT SHOWN). SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL AM 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
- ΔP #10 AWG

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.
- 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.
- MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN 6. RAIL 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 COMMUNCATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
- THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. 9. 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.
- 14. POWER FEED TO THE CISCO IE3000 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. A STANDALONE MVDS WILL UTILIZE A 24VDC SOLAR POWER CABINET AND SOLAR PANELS THAT ARE ATTACHED TO THE SAME POLE AS THE MVDS. SEE PLAN SHEET.
- WHEN POWERED BY A 24VDC INPUT, THE POWER CABLES SHALL BE DIRECTLY TERMINATED ON THE IE3000 BASE UNIT AND THE POWER CLIP SHALL BE DISCONNECTED. THE POWER CLIP SHALL BE RETURNED TO THE ILLINOIS TOLLWAY AFTER A/C POWER IS SWITCHED TO 21. DC POWER. THE DC CABLE SHALL BE CONNECTED TO ITEM AI & AJ.
- 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. 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 ITEMS B AND L.
- 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.







ITEM DESCRIPTION Α

- NOT USED FOR THIS SHEET APPLICATION CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1 CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- NOT USED FOR THIS SHEET APPLICATION AB
- CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK) AC
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500 AG
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 A.J
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL AM COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) ΔN THESE ARE THE CATE CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG

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.
- 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.
- MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN 6. RAIL 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 COMMUNCATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
- THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. 9. 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. A STANDALONE MVDS WILL UTILIZE A 24VDC SOLAR POWER CABINET AND SOLAR PANELS THAT ARE ATTACHED TO THE SAME POLE AS THE MVDS. SEE PLAN SHEET.
- WHEN POWERED BY A 24VDC INPUT, THE POWER CABLES SHALL BE DIRECTLY TERMINATED 21. ON THE IE3000 BASE UNIT AND THE POWER CLIP SHALL BE DISCONNECTED. THE POWER CLIP SHALL BE RETURNED TO THE ILLINOIS TOLLWAY AFTER A/C POWER IS SWITCHED TO DC POWER. THE DC CABLE SHALL BE CONNECTED TO ITEM AI & AJ.
- 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. THE ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED INE. 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 ITEMS B AND L.
- 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.

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.





CABINET WIRING DIAGRAM MVDS CO-LOCATED DC SOLAR AND WIRELESS ITS ASSEMBLY DATE 3-01-2018



- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07

- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1
- CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- SME PATCH PANEL WITH LC CONNECTORS 0 FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- 0 PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE. GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR A۵ ISS ZONE BARRIER ZB 24510
- NOT USED FOR THIS SHEET APPLICATION AB
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- ΔF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- NOT USED FOR THIS SHEET APPLICATION AG
- NOT USED FOR THIS SHEET APPLICATION ΔH
- ΔĪ 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- 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

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.
- 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.
- MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN 6. RAIL 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 COMMUNCATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
- THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. 9. 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.
- 14. POWER FEED TO THE CISCO IE3000 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. THE ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED THE THE PLEXICLESS 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 ITEMS B AND L.
- 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.

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.





ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α

- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1 CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RATI Ρ COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-CILG6
- 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR W
- "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.) 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
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AΑ ISS ZONE BARRIER ZB 24510
- NOT USED FOR THIS SHEET APPLICATION AB
- CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK) AC
- NOT USED FOR THIS SHEET APPLICATION AD
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 AI
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL AM COMMUNICATIONS (APPLICABLE TO ISS/MOXA) INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN
- THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG

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.
- 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.
- MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN 6. RAIL 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 COMMUNCATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
- THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. 9. 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. 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 ITEMS B AND L.
- 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.

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 INFORMATION, IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INFORMATION 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 SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE DRAWING INTO THE PLAN SET.

- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC= CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13 M 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M NOT USED FOR THIS SHEET APPLICATION
- SME PATCH PANEL WITH LC CONNECTORS 0
- FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY Х DIGITAL LOGGERS/DIN 4
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA 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
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE 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
- NOT USED FOR THIS SHEET APPLICATION AH
- Aĭ 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CATE CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG

- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В 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.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)
- HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510

.1

- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I

- NOT USED FOR THIS SHEET APPLICATION
- EATON/HFD2030L & 625B229G07

CISCO MODEL CISCO/IE-3000-8TC-E

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

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.
- 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.
- MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN 6. RAIL 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 COMMUNCATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
- THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. 9. 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.
- 14. POWER FEED TO THE CISCO IE3000 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. A STANDALONE MVDS WILL UTILIZE A 24VDC SOLAR POWER CABINET AND SOLAR PANELS THAT ARE ATTACHED TO THE SAME POLE AS THE MVDS. SEE PLAN SHEET.
- WHEN POWERED BY A 24VDC INPUT, THE POWER CABLES SHALL BE DIRECTLY TERMINATED ON THE IE3000 BASE UNIT AND THE POWER CLIP SHALL BE DISCONNECTED. THE POWER CLIP SHALL BE RETURNED TO THE ILLINOIS TOLLWAY AFTER A/C POWER IS SWITCHED TO 21. DC POWER. THE DC CABLE SHALL BE CONNECTED TO ITEM AI & AJ.
- 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. 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 ITEMS B AND L.
- 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.

DATE ITS ASSEMBLY

- ITEM DESCRIPTION A NOT USED FOR THIS SHEET APPLICATION
- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SOUARE 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 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- 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
- 0 NOT USED FOR THIS SHEET APPLICATION
- P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EOUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V NOT USED FOR THIS SHEET APPLICATION
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L. R. S. B. P. X & AF. (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 CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- 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 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 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

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.
- 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. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. A STANDALONE MVDS WILL UTILIZE A 24VDC SOLAR POWER CABINET AND SOLAR PANELS THAT ARE ATTACHED TO THE SAME POLE AS THE MVDS. SEE PLAN SHEET.
- 21. WHEN POWERED BY A 24VDC INPUT, THE POWER CABLES SHALL BE DIRECTLY TERMINATED ON THE IE3000 BASE UNIT AND THE POWER CLIP SHALL BE DISCONNECTED. THE POWER CLIP SHALL BE RETURNED TO THE ILLINOIS TOLLWAY AFTER A/C POWER IS SWITCHED TO DC POWER. THE DC CABLE SHALL BE CONNECTED TO ITEM AI & AJ.
- 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. THE 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 ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CATE 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.

CABINET WIRING DIAGRAM DUAL MVDS CO-LOCATED DC SOLAR AND WIRELESS DATE ITS ASSEMBLY

- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07
- .1
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH
- CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- SME PATCH PANEL WITH LC CONNECTORS 0 FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- 0 PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE. GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- NOT USED FOR THIS SHEET APPLICATION AB
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- ΔF 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
- Δĭ 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300) AK
- 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

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.
- 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.
- MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN 6. RAIL 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 COMMUNCATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
- THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. 9. 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.
- 14. POWER FEED TO THE CISCO IE3000 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. THE ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED THE THE PLEXICLESS 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 ITEMS B AND L.
- 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.

NOTE TO DESIGNER HIS 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.

ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α

- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1 CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-CILG6
- 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, w B, P, X & AF. (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.)
- 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
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- NOT USED FOR THIS SHEET APPLICATION AB
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- NOT USED FOR THIS SHEET APPLICATION AD
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- AH WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- MVDS ASSEMBLY (NOT SHOWN). SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL AM COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 ΔP
- #10 AWG

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.
- 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.
- MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN 6. RAIL 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 COMMUNCATION 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE 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 ITEMS B AND L.
- 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.

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. \$00000000000000000000000000000000000

M-ITS-1220

Illinois Tollway

3-01-2018

CABINET WIRING DIAGRAM THREE MVDS AC AND WIRELESS DATE ITS ASSEMBLY

- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- NOT USED FOR THIS SHEET APPLICATION
- 0 SMF PATCH PANEL WITH LC CONNECTOR FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V NOT USED FOR THIS SHEET APPLICATION
- CIFAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY Х DIGITAL LOGGERS/DIN 4
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- AB NOT USED FOR THIS SHEET APPLICATION
- AC NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AD
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- ΔF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- ΔH NOT USED FOR THIS SHEET APPLICATION
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 ΑI
- A.J TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300) AK
- TRANSFORMER COVERS. SQUARE D/9070FSC2
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL AM COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CATE CABLES ROUTED INSIDE CABINET AO MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
- ΔP #10 AWG

- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION
- Α CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D
- SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH
- SQUARE D/CLASS 9070-T250D13 М
- 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M

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.
- 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.
- MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN 6. RAIL 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 COMMUNCATION 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.
- 14. POWER FEED TO THE CISCO IE3000 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 ITEMS B AND L.
- 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.

- 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 REOUIRED.
- 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 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- K CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SOUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-CILG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- T 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- 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 CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- 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 WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- AH WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RC58/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)
- 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
- A0 MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AP #10 AWG

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.
- 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. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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 ITEMS B AND L.
- 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.

NOTE TO DESIGNER THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BUT IT IS NOT A 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.

- AP #10 AWG
- AO NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CATE CABLES ROUTED INSIDE CABINET
- AM NOT USED FOR THIS SHEET APPLICATION
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- AL
- NOT USED FOR THIS SHEET APPLICATION
- AK

- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

C NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR2OWR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

EATON/HFD2030L & 625B229G07

SQUARE D/CLASS 9070-T250D13

M 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M

NOT USED FOR THIS SHEET APPLICATION

SME PATCH PANEL WITH LC CONNECTORS

FIBER CONNECTIONS G620U012LAN-100-0

PANDUIT WIRING DUCT (OR EQUIVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

10 AMP FUSE. GOULD (MERSEN)/ATM-10

SPLICE BLOCK, ALTECH/38041

MTL INSTRUMENTS/ZB24580

DIGITAL LOGGERS/DIN 4

AA NOT USED FOR THIS SHEET APPLICATION

BELDEN/1034A OR APPROVED EQUAL

AC NOT USED FOR THIS SHEET APPLICATION

AE NOT USED FOR THIS SHEET APPLICATION

AC/DC POWER SUPPLY, 24VDC

WAVETRONIX - CLICK-204

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020

BELDEN/7953A

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL

B, P, X & AF. (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.)

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S,

5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES

CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE

1 - 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE

MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL

CISCO MODEL CISCO/IE-3000-8TC-E

NOT USED FOR THIS SHEET APPLICATION

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

Α

В

D

G

I

.1

0

Ρ

0

R

Ζ

AB

AD

ΔF

AG

ΔH

AI

AJ

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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

- 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 REOUIRED.
- 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 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- 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
- 0 NOT USED FOR THIS SHEET APPLICATION
- P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 7 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- J 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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.)
- 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, 23AWG, OUTDOOR RATED CABLE
- BELDEN/7953A
- AA NOT USED FOR THIS SHEET APPLICATION
- AB 1-3/C #14 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/9495A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- AE NOT USED FOR THIS SHEET APPLICATION
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
- AG 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 NOT USED FOR THIS SHEET APPLICATION
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO NOT USED FOR THIS SHEET APPLICATION
- AP #10 AWG
- A0 POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY 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.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

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 manulat" 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.

AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 NOT USED FOR THIS SHEET APPLICATION TRANSFORMER COVERS, SQUARE D/9070FSC2 AL NOT USED FOR THIS SHEET APPLICATION AN

- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- NOT USED FOR THIS SHEET APPLICATION
- ΔP #10 AWG
- POF INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE AQ SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL V MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, w B, P, X & AF. (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
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE
- BELDEN/7953A
- AA NOT USED FOR THIS SHEET APPLICATION
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AE
- AC/DC POWER SUPPLY, 24VDC AF
- WAVETRONIX CLICK-204
- AG NOT USED FOR THIS SHEET APPLICATION
- ΔН NOT USED FOR THIS SHEET APPLICATION
- ΑI
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AK
- AM
- AO

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. THE 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 ITEMS B AND L.
- 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.

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.

MANNA

- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- O NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL Ρ COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) Q PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK. ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B. P. X & AF. (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.)
- 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, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA NOT USED FOR THIS SHEET APPLICATION
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- NOT USED FOR THIS SHEET APPLICATION AD
- NOT USED FOR THIS SHEET APPLICATION AE
- AC/DC POWER SUPPLY, 24VDC AF WAVETRONIX - CLICK-204
- WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500 AG
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH
- PCTEL/PROFLEX PLUS 195-RG58/U
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- A.L TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK NOT USED FOR THIS SHEET APPLICATION
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- AM NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET AN
- AO NOT USED FOR THIS SHEET APPLICATION
- ΔP #10 AWG
- POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE AQ SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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 ITEMS B AND L.
- 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.

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 XXXXXXXX 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.

M-ITS-1226

Illinois Tollway

AQ POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4 Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- AA NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

C NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR2OWR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

EATON/HFD2030L & 625B229G07

SQUARE D/CLASS 9070-T250D13

CORNING/040402R5Z20002M

M 2 METER - SMFO LC-LC DUPLEX JUMPERS,

NOT USED FOR THIS SHEET APPLICATION

SME PATCH PANEL WITH LC CONNECTORS

FIBER CONNECTIONS G620U012LAN-100-0

PANDUIT WIRING DUCT (OR EQUIVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

10 AMP FUSE. GOULD (MERSEN)/ATM-10

SPLICE BLOCK, ALTECH/38041

MTL INSTRUMENTS/ZB24580

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL

B, P, X & AF. (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.)

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S,

5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL

CISCO MODEL CISCO/IE-3000-8TC-E

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

Α

В

D

G

I

.1

0

0

R

S

- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AE
- AC/DC POWER SUPPLY, 24VDC ΔF
- WAVETRONIX CLICK-204
- AG NOT USED FOR THIS SHEET APPLICATION
- AΗ NOT USED FOR THIS SHEET APPLICATION
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- NOT USED FOR THIS SHEET APPLICATION AK
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CATE CABLES ROUTED INSIDE CABINET
- NOT USED FOR THIS SHEET APPLICATION A0
- ΔP #10 AWG

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

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 XXXXXXXX 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.

- 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 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- 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
- 0 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/FIXILG6 WITH COVER-CILG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- T 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- J 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CATE PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L. R. S. B. P. X & AF. (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.)
- 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, 23AWG, OUTDOOR RATED CABLE
- BELDEN/7953A AA NOT USED FOR THIS SHEET APPLICATION
- AB 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- AE NOT USED FOR THIS SHEET APPLICATION
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
- AG 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 NOT USED FOR THIS SHEET APPLICATION
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO NOT USED FOR THIS SHEET APPLICATION
- AP #10 AWG
- AQ POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY 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.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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, THE 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 ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CATE 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.

NOTE TO DESIGNER THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BUT HE 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 UPPON 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.

M-ITS-1228

BELDEN/1034A OR APPROVED EQUAL AC NOT USED FOR THIS SHEET APPLICATION AD NOT USED FOR THIS SHEET APPLICATION NOT USED FOR THIS SHEET APPLICATION AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 AG NOT USED FOR THIS SHEET APPLICATION NOT USED FOR THIS SHEET APPLICATION 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020

- ΔН

- ΑI

- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- NOT USED FOR THIS SHEET APPLICATION AK

- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- AM NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET AN
- NOT USED FOR THIS SHEET APPLICATION AO
- ΔP #10 AWG

AQ

POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

- ITEM DESCRIPTION
- NOT USED FOR THIS SHEET APPLICATION Α CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В 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.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М
- CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041

V

w

AB

AE

AF

- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL
- MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S,
- B, P, X & AF. (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.) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY Х
- DIGITAL LOGGERS/DIN 4

1 - 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE

- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES

AA NOT USED FOR THIS SHEET APPLICATION

BELDEN/7953A

- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ

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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. THE 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 PLEXICLASS 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 ITEMS B AND L.
- 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.

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 XXXXXXXXX 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.

Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

M-ITS-1229

- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION N
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) Q PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK. ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B. P. X & AF. (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.)
- 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, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA NOT USED FOR THIS SHEET APPLICATION
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- NOT USED FOR THIS SHEET APPLICATION AD
- NOT USED FOR THIS SHEET APPLICATION AE
- AC/DC POWER SUPPLY, 24VDC AF WAVETRONIX - CLICK-204
- AG
- WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- A.L TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK NOT USED FOR THIS SHEET APPLICATION
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- AM NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET AN
- AO NOT USED FOR THIS SHEET APPLICATION
- ΔP #10 AWG
- POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE AQ SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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 ITEMS B AND L.
- 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.

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 XXXXXXXX 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.

M-ITS-1230

CABINET WIRING DIAGRAM DUAL CCTV SOLAR GENERATOR AND WIRELESS ITS ASSEMBLY DATE

M 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M NOT USED FOR THIS SHEET APPLICATION SME PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6 10 AMP FUSE. GOULD (MERSEN)/ATM-10

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

C NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR2OWR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

EATON/HFD2030L & 625B229G07

SQUARE D/CLASS 9070-T250D13

CISCO MODEL CISCO/IE-3000-8TC-E

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

Α

В

D

G

I

.1

0

0

R

- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- SENSOR SURGE SUPPRESSION. WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AH
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- ΔK NOT USED FOR THIS SHEET APPLICATION
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- AN 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- MVDS CABLE, WAVETRONIX-WX-SS-706-60 OR ISS G4-CBL-60 A0
- ΔP #10 AWG
- AQ POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

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 XXXXXXXXX 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.

M-ITS-1231

- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α
 - CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
 - NOT USED FOR THIS SHEET APPLICATION
 - TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
 - NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
 - TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
 - 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
 - NOT USED FOR THIS SHEET APPLICATION
 - 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07
 - 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1 CISCO MODEL CISCO/IE-3000-8TC-E
 - CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
 - CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
 - M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
 - NOT USED FOR THIS SHEET APPLICATION
 - 0 NOT USED FOR THIS SHEET APPLICATION
 - 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL Ρ COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
 - PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-CILG6
 - 10 AMP FUSE, GOULD (MERSEN)/ATM-10
 - S SPLICE BLOCK, ALTECH/38041
 - 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
 - 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
 - CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL V MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
 - CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.)
 - POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
 - (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
 - Z CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE
- WAVETRONIX CLICK-301 OR ISS-MOXA P5150A, OK-35A AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 AT
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300) AK
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL AM COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN 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 AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

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.

- NOT USED FOR THIS SHEET APPLICATION CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95 NOT USED FOR THIS SHEET APPLICATION TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510

Α

В

D

- H NOT USED FOR THIS SHEET APPLICATION
- 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL V MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ
- BELDEN/7953A SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR AA
- ISS ZONE BARRIER ZB 24510 1 - 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AD
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE
- WAVETRONIX CLICK-301 OR ISS-MOXA P5150A, OK-35A AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 ΔF OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AH
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- MVDS ASSEMBLY (NOT SHOWN). SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL AM 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 AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. THE 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 PLEXICLASS 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 ITEMS B AND L.
- 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.

Sammer and a second sec 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.

M-ITS-1233

CABINET WIRING DIAGRAM CCTV AND MVDS SOLAR GENERATOR AND FOC ITS ASSEMBLY DATE 3-01-2018

- ITEM DESCRIPTION A NOT USED FOR THIS SHEET APPLICATION
- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SOUARE 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 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- K CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL
- COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK. ALTECH/38041
- T 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510
- AB 1 3/C *16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- 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 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 INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED)
- THESE ARE THE CATE CABLES ROUTED INSIDE CABINET
- A0 MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AP #10 AWG
- AO POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY 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.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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 ITEMS B AND L.
- 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.

NOTE TO DESIGNER

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.

M-ITS-1234

CABINET WIRING DIAGRAM CCTV AND MVDS SOLAR GENERATOR AND WIRELESS ITS ASSEMBLY

- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07

- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1
- CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- SME PATCH PANEL WITH LC CONNECTORS 0 FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- 0 PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE. GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Ζ CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- ΔA SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- 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
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION ΔH
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AJ MVDS ASSEMBLY (NOT SHOWN). SEE SPECIAL PROVISIONS
- WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300) TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL
- COMMUNICATIONS (APPLICABLE TO ISS/MOXA) INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN
- THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET AO MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AW
- POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL AQ PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

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.

M-ITS-1235

MMMMM

SQUARE D/CLASS 9070 - T1000 D95 NOT USED FOR THIS SHEET APPLICATION TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED. NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30 TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510 NOT USED FOR THIS SHEET APPLICATION 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

ITEM DESCRIPTION

Α

В

- CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- 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
- 0 NOT USED FOR THIS SHEET APPLICATION
- P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-CILG6
- 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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.)
- 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, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510
- AB 1 3/C *16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- 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 DSPI00-24
- AG 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 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
- AO POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY 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.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

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.

M-ITS-1236 CABINET WIRING DIAGRAM CCTV AND DUAL MVDS AC AND WIRELESS ITS ASSEMBLY DATE 3-01-2018

- 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 REOUIRED.
- 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 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- K CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SOUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAB-100-0
- 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/FIXILG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CATE PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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.)
- 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, 23AWG, OUTDOOR RATED CABLE
- BELDEN/7953A SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR
- AA ISS ZONE BARRIER ZB 24510 AB 1 - 3/C #14 CCTV POWER CABLE, OUTDOOR RATED CABLE
- BELDEN/1034A OR APPROVED EQUAL 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)
- _ TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- N 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 AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY 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.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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 OUAD 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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 PLEXICLASS 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 ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CATE 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.

NOTE TO DESIGNER THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BUT IT IS NOT A 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 AD INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE DRAWING INTO THE PLAN SET.

- ITEM DESCRIPTION A NOT USED FOR THIS SHEET APPLICATION
- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, IPH 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 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- K CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SOUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-CILG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- T 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CATE POE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510
- AB 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- 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 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 INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- A0 MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS C4-CBL-60 AP *10 AWG
- AQ POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY 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.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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 ITEMS B AND L.
- 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.

NOTE TO DESIGNER THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BUT IT IS NOT A 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.

M-ITS-1238

CABINET WIRING DIAGRAM CCTV AND DUAL MVDS SOLAR GENERATOR AND WIRELESS ITS ASSEMBLY

- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13 M 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M NOT USED FOR THIS SHEET APPLICATION SME PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- 0 PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR2OWR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

EATON/HFD2030L & 625B229G07

CISCO MODEL CISCO/IE-3000-8TC-E

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

Α

В

D

G

I

.1

0

- R 10 AMP FUSE. GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- ΔA SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- NOT USED FOR THIS SHEET APPLICATION AC
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION ΔH
- ΔĪ 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN). SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AO
- AP #10 AWG
- POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL AQ PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

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.

M-ITS-1239

AC AND FOC ITS ASSEMBLY

DATE 3-01-2018

- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07

- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1

- CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION N
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) 0 PANDUIT/FIX1LG6 WITH COVER-C1LG6
- 10 AMP FUSE, GOULD (MERSEN)/ATM-10 R
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S,
- B, P, X & AF. (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.) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE 7
- BELDEN/7953A SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR A۵ ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL AB
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 AT
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300) AK
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL AM COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) ΔN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AP #10 AWG
- POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL AQ PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

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.

ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95

NOT USED FOR THIS SHEET APPLICATION

Α

В

- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 SMF PATCH PANEL WITH LC CONNECTOR FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL V MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ
- BELDEN/7953A SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR AA
- ISS ZONE BARRIER ZB 24510 1 - 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 ΔF OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- ΔН NOT USED FOR THIS SHEET APPLICATION
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL AM COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET AN
- AO MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
- ΔP #10 AWG POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL
- AQ PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. THE 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 PLEXICLASS 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 ITEMS B AND L.
- 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.

Sammer and a second sec 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.

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13 2 METER - SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M NOT USED FOR THIS SHEET APPLICATION N 0 NOT USED FOR THIS SHEET APPLICATION 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL PANDUIT WIRING DUCT (OR EQUIVALENT) Q PANDUIT/FIX1LG6 WITH COVER-C1LG6 R 10 AMP FUSE, GOULD (MERSEN)/ATM-10 S SPLICE BLOCK. ALTECH/38041 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580 U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR2OWR

24VDC, 1P, 15A CIRCUIT BREAKER

NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=

Α

В

D

G

I

J

- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B. P. X & AF. (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.)
- 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, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE. OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK) AC
- NOT USED FOR THIS SHEET APPLICATION AD
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- MVDS ASSEMBLY (NOT SHOWN). SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL ΑМ COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CATE CABLES ROUTED INSIDE CABINET
- A0 MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60 AP #10 AWG AQ
- POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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 ITEMS B AND L.
- 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.

Sammer and a second sec 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.

M-ITS-1242

CCTV AND THREE MVDS SOLAR GENERATOR AND WIRELESS ITS ASSEMBLY

DATE 3-01-2018

HUBBELL/GFR5362 & BR2OWR 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510 NOT USED FOR THIS SHEET APPLICATION I EATON/HFD2030L & 625B229G07 8 FLECTRICAL PORT AND TWO FOC PORT SWITCH .1 CISCO MODEL CISCO/IE-3000-8TC-E CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC= CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13 M 2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M NOT USED FOR THIS SHEET APPLICATION SME PATCH PANEL WITH LC CONNECTORS 0 FIBER CONNECTIONS G620U012LAN-100-0 Р 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL 0 PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6 R 10 AMP FUSE. GOULD (MERSEN)/ATM-10 SPLICE BLOCK, ALTECH/38041 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050 CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL W

- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- NOT USED FOR THIS SHEET APPLICATION AC
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A. OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- NOT USED FOR THIS SHEET APPLICATION ΔG
- NOT USED FOR THIS SHEET APPLICATION AH
- ΔI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK. ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL AM COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CATE CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
 - ΔP #10 AWG
 - PoE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS AQ (ONLY REQUIRED FOR POE CAMERAS)

ITEM DESCRIPTION

- NOT USED FOR THIS SHEET APPLICATION Α
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION D
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

NOTE TO DESIGNER HIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO XXXXXXXXX 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.

M-ITS-1243

ITS ASSEMBLY

DATE 3-01-2018

- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1
- CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-CILG6
- 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL V MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Ζ CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- NOT USED FOR THIS SHEET APPLICATION AD
- RS-232 / RS-485 TO ETHERNET CONVERTOR AF WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 ΔF OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS ΔH PCTEL/PROFLEX PLUS 195-RG58/U
- ΔĪ 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CATE (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CATE CABLES ROUTED INSIDE CABINET AN
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
 - #10 AWG

ΔP

AQ POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

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.

> Illinois Tollway CABINET WIRING DIAGRAM DUAL CCTV AND MVDS AC AND WIRELESS ITS ASSEMBLY DATE 3-01-2018

M-ITS-1244

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 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- K CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- 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
- 0 SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0
- 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/FIXILG6 WITH COVER-CILG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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.)
- 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, 23AWG, OUTDOOR RATED CABLE
- BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510
- AB 1 3/C *16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL
- 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 DSPI00-24
- 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 AO POF INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPEC
- POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY 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.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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 OUAD 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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 ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CATE 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.

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 "CADDO 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.

M-ITS-1245

CABINET WIRING DIAGRAM DUAL CCTV AND MVDS SOLAR GENERATOR AND FOC ITS ASSEMBLY

ITEM DESCRIPTION Α NOT USED FOR THIS SHEET APPLICATION

- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- O NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL Ρ COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) 0 PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- NOT USED FOR THIS SHEET APPLICATION AD
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 AI
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS ΔK WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA) ΔМ
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CATE CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG
- AQ POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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 ITEMS B AND L.
- 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.

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.

M-ITS-1246

DUAL CCTV AND MVDS SOLAR GENERATOR AND WIRELESS ITS ASSEMBLY DATE

WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300) TRANSFORMER COVERS, SQUARE D/9070FSC2 AM 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)

MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS

- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG
- POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL AQ PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

- ITEM DESCRIPTION Α NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G

.1

0

0

R

W

Ζ

AA

AB

AE

ΔF

AG

ΔH

ΔĪ

AJ

AK

- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07
- SCHNEIDER ELECTRIC/MGN61510

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

CORNING/040402R5Z20002M

M 2 METER - SMFO LC-LC DUPLEX JUMPERS,

NOT USED FOR THIS SHEET APPLICATION

SME PATCH PANEL WITH LC CONNECTORS

FIBER CONNECTIONS G620U012LAN-100-0

PANDUIT WIRING DUCT (OR EQUIVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

10 AMP FUSE. GOULD (MERSEN)/ATM-10

SPLICE BLOCK, ALTECH/38041

MTL INSTRUMENTS/ZB24580

DIGITAL LOGGERS/DIN 4

ISS ZONE BARRIER ZB 24510

WAVETRONIX - CLICK-301

OR ISS LAMBDA DSP100-24

BELDEN/1034A OR APPROVED EQUAL

AC NOT USED FOR THIS SHEET APPLICATION

AD NOT USED FOR THIS SHEET APPLICATION

RS-232 / RS-485 TO ETHERNET CONVERTOR

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8

BELDEN/7953A

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

(2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES

CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE

SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR

- 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE

AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204

2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020

MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL

CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL

B, P, X & AF. (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.)

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S,

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

- NOT USED FOR THIS SHEET APPLICATION

8 FLECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

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 XXXXXXXX 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.

- ITEM DESCRIPTION Α NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07

- .1

- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH
- CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION N
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) 0 PANDUIT/FIX1LG6 WITH COVER-C1LG6
- 10 AMP FUSE, GOULD (MERSEN)/ATM-10 R
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL
- MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- W
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S,
- B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE 7
- BELDEN/7953A SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR AΑ
- ISS ZONE BARRIER ZB 24510 1 - 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL AB
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- NOT USED FOR THIS SHEET APPLICATION AD
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR
- WAVETRONIX CLICK-301 OR ISS-MOXA P5150A, OK-35A AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 ΔF
- OR ISS LAMBDA DSP100-24
- WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500 AG
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AI AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS. SQUARE D/9070FSC2 ΔI

PROVISIONS FOR SPECIFIC MODEL NUMBERS

(ONLY REQUIRED FOR POE CAMERAS)

- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL AM COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- A0 MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60

POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL

AP #10 AWG

AO

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

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 UPPON 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.

- NOT USED FOR THIS SHEET APPLICATION TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300) TRANSFORMER COVERS, SQUARE D/9070FSC2
- COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS

- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION Α
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 SMF PATCH PANEL WITH LC CONNECTOR FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL V MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, X & AF. (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.) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ
- BELDEN/7953A SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR AA
- ISS ZONE BARRIER ZB 24510 1 - 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AD
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE
- WAVETRONIX CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 ΔF OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- ΔH
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ
- AK
- AM 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET AN
- AO AP #10 AWG AQ
 - (ONLY REQUIRED FOR PoE CAMERAS)

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. THE 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 PLEXICLASS 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 ITEMS B AND L.
- 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.

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.

M-ITS-1249

CABINET WIRING DIAGRAM DUAL CCTV AND DUAL MVDS SOLAR GENERATOR AND FOC ITS ASSEMBLY DATE

- ITEM DESCRIPTION Α NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- O NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL Ρ COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) 0 PANDUIT/FIX1LG6 WITH COVER-C1LG6
- 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ΔΔ ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AF WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 ΔF OR ISS LAMBDA DSP100-24
- WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS ΔH PCTEL/PROFLEX PLUS 195-RG58/U
- ΔĪ 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CATE CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG
- POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL AQ PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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 ITEMS B AND L.
- 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.

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.

Illinois Tollway CABINET WIRING DIAGRAM DUAL CCTV AND DUAL MVDS SOLAR GENERATOR AND WIRELESS ITS ASSEMBLY DATE 3-01-2018

M-ITS-1250

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6 10 AMP FUSE. GOULD (MERSEN)/ATM-10 SPLICE BLOCK, ALTECH/38041 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

ITEM DESCRIPTION

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR2OWR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

EATON/HFD2030L & 625B229G07

SQUARE D/CLASS 9070-T250D13

CORNING/040402R5Z20002M

M 2 METER - SMFO LC-LC DUPLEX JUMPERS,

NOT USED FOR THIS SHEET APPLICATION

SME PATCH PANEL WITH LC CONNECTORS

FIBER CONNECTIONS G620U012LAN-100-0

CISCO MODEL CISCO/IE-3000-8TC-E

NOT USED FOR THIS SHEET APPLICATION

8 FLECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

Α

В

D

G

I

.1

0

0

- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- ΔΔ SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- NOT USED FOR THIS SHEET APPLICATION AC
- NOT USED FOR THIS SHEET APPLICATION AD
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE
- 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
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 AI
- Α.Ι TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL AM COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CATE (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG
- POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL AQ PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

NOTE TO DESIGNER THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BUT TO DI 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.

Α NOT USED FOR THIS SHEET APPLICATION CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95 NOT USED FOR THIS SHEET APPLICATION TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED. NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I EATON/HFD2030L & 625B229G07

- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1

- CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION 0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) 0 PANDUIT/FIX1LG6 WITH COVER-C1LG6
- 10 AMP FUSE, GOULD (MERSEN)/ATM-10 R
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE 7 BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AΑ ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK) AC
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 ΔF OR ISS LAMBDA DSP100-24
- WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500 AG
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS ΔH PCTEL/PROFLEX PLUS 195-RG58/U
- ΔĬ 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS. SQUARE D/9070FSC2 ΔI
- AM 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG
- POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL AO PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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. 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 ITEMS B AND L.
- 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.

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 SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE DRAWING INTO THE PLAN SET.

M-ITS-1252

CABINET WIRING DIAGRAM DUAL CCTV AND THREE MVDS AC AND WIRELESS ITS ASSEMBLY DATE

24VDC, IP, ISA CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN6I5IO NOT USED FOR THIS SHEET APPLICATION 120VAC, IP, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR2OWR

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

- NOT USED FOR THIS SHEET APPLICATION
- 0 SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0

ITEM DESCRIPTION

Α

В

D

G

I

J

- 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/FIXILG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CATE PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- V CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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.)
- 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, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510
- AB 1 3/C *16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL
- 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)
- L 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
- A0 POE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY 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.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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 OUAD 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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 PLEXICLASS 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 ITEMS B AND L.
- 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.

NOTE TO DESIGNER 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.

M-ITS-1253

CABINET WIRING DIAGRAM DUAL CCTV AND THREE MVDS SOLAR GENERATOR AND FOC DATE ITS ASSEMBLY

ITEM DESCRIPTION Α NOT USED FOR THIS SHEET APPLICATION

- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR2OWR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL
- COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) Q PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK. ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24597 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, X & AF. (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.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 ΔF OR ISS LAMBDA DSP100-24
- WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500 AG
- WIRFLESS MODEM ANTENNA CABLE. WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 ΑI
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS ΔK WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- 5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL ΑМ COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET AN
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG
- AO POF INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR POE CAMERAS)

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.
- 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 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL 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 COMMUNCATION 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. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 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.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED 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. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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 ITEMS B AND L.
- 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.

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.

M-ITS-1254

- 1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
- 2. NOT USED FOR THIS SHEET APPLICATION
- 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. SHEET SHOWS BOTH 24VAC AND POE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F & L) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. NOT USED FOR THIS SHEET APPLICATION
- 7. ALL CABLES INSTALLED EXTERNAL TO THE BUILDING SHALL BE OUTDOOR RATED.
- 8. WIFI COMMUNCATION 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 SCHEMATIC FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM
- 14. NOT USED FOR THIS SHEET APPLICATION
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. NOT USED FOR THIS SHEET APPLICATION
- 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 TO TOWER BASE ENCLOSURE.
- 19. NOT LISED FOR THIS SHEET APPLICATION
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
- 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 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 L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED.
- 27. NOT USED FOR THIS SHEET APPLICATION
- 28. VIDEO JUNCTION BOX SHALL BE WIRED TO ACCOMODATE POWER TO TOWER MOUNTED TRANSITION ENCLOSURE (24V AC).
- 29. LABEL JUNCTION BOX, TERMINAL STRIPS AND ALL WIRE AND CABLES. CONTRACTOR SHALL LABEL NEUTRAL BUS AS 24V AC NEUTRAL.
- 30. ALL ELECTRICAL CABLES TO CAMERAS SHALL HAVE SURGE PROTECTION (INCLUDES POWER AND CAT6).
- 31. ITEM AM WILL PLUG INTO QUAD OUTLET. MOUNT ITEM AM TO BACKBOARD.
- 32. IP RELAY WIRING SCHEMATIC ILLUSTRATES ITEM X WIRED IN OUAD BOX (120V AC) CIRCUITS TO CONTROL POWER TO ITEM AM.

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.

M-ITS-1255

CABINET WIRING DIAGRAM TOWER MOUNTED CCTV ITS ASSEMBLY

DATE 3-01-2018