

Illinois Tollway Base Sheet Revisions			
Section M	Base Sheet Drawings		
	Drawing	Modification Summary	Effective: 03-31-2016
	All	The electronic (pdf) version of the Standard Drawing are now made searchable (text).	
Erosion Sediment Control (ESC)-Series 200			
M-ESC-205	Sediment Basin Dewatering Device		
	Revised Note 7, removed proprietary name from skimmer device.		
Roadway (RDY)-Series 400			
M-RDY-408	Approach Slab, Mainline		
All	Changed Transverse Reinforcement size and spacing in the bottom mat of the bridge approach slab and transition approach shoulder slabs from #6@9" to #8@4" to be in conformance with IDOT ABD Memo 15.8.		
All	Changed Transverse Reinforcement size and spacing in the top mat of the bridge approach slab and transition approach shoulder slabs from #5@12" to #5@6" to be in conformance with IDOT ABD Memo 15.8.		
All	Changed Longitudinal Reinforcement size and spacing in the top mat of the bridge approach slab and transition approach shoulder slabs from #4@15" to #5@6" to be in conformance with IDOT ABD Memo 15.8.		
All	Added note *** to clarify that base sheet reinforcement is for approach slabs not located on retaining walls. If approach slab is placed on retaining wall, reinforcement shall be designed for TL-5 crash loading.		
All	Changed spacing and shape of both dx vertical bars in the barrier on the bridge approach slab and transition approach shoulder slab to match the vertical bars in the bridge parapet and moment slab barrier.		
All	Changed top mat reinforcement cover to 2.25" to be consistent with deck and moment slab clearances.		
Sheets 1,2	Updated Note to Designer for Drainage Structures. Designer to determine size, type and location.		
Sheets 1,2	Changed approach slab shoulder width requirements to match Structures Design Manual.		
Sheet 3	Added option of using subgrade aggregate, special under the transition approach slab.		
Sheet 3	Added additional Approach Slab Barrier Elevation to distinguish between non-integral and integral/semi-integral abutments.		
Sheet 3	Eliminated Optional Longitudinal Joint Within a Traffic Lane detail.		
Sheet 4	Changed Neoprene Sheet to Elastomeric Sheet to keep call out generic and not specific.		
Sheet 5	Revised Bill of Material to clarify Pay Items and Pay Item Numbers to be included.		
Sheet 5	Added note to Typical Barrier Transition Detail to clarify where the 1'-9" dimension should be measured.		
M-RDY-409	Approach Slab, Ramp		
All	Changed Transverse Reinforcement size and spacing in the bottom mat of the bridge approach slab and transition approach shoulder slabs from #6@9" to #8@4" to be in conformance with IDOT ABD Memo 15.8.		
All	Changed Transverse Reinforcement size and spacing in the top mat of the bridge approach slab and transition approach shoulder slabs from #5@12" to #5@6" to be in conformance with IDOT ABD Memo 15.8.		
All	Changed Longitudinal Reinforcement size and spacing in the top mat of the bridge approach slab and transition approach shoulder slabs from #4@15" to #5@6" to be in conformance with IDOT ABD Memo 15.8.		
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M-RDY-410	Reserved		
M-RDY-411	Emergency Turnaround Median Width ≥ 35 Ft		
Bridge (BRG)-Series 500			
M-BRG-506	Expansion Joint Repair		
	Base Sheet was removed since details did not match Special Provision.		
M-BRG-507	Crash Wall Modifications Median Piers		
	Note 4 - Changed Reinforcing bars to Reinforcement Bars.		
M-BRG-508	Crash Wall Modifications Shoulder Piers		
	Note 4 - Changed Reinforcing bars to Reinforcement Bars.		
M-BRG-525	Slopedwall Details		
Drainage (DRN)-Series 600			
M-DRN-601	Slope Drain		
	Revised storm sewer to "Class B, 12".		
M-DRN-602	Bioswale		

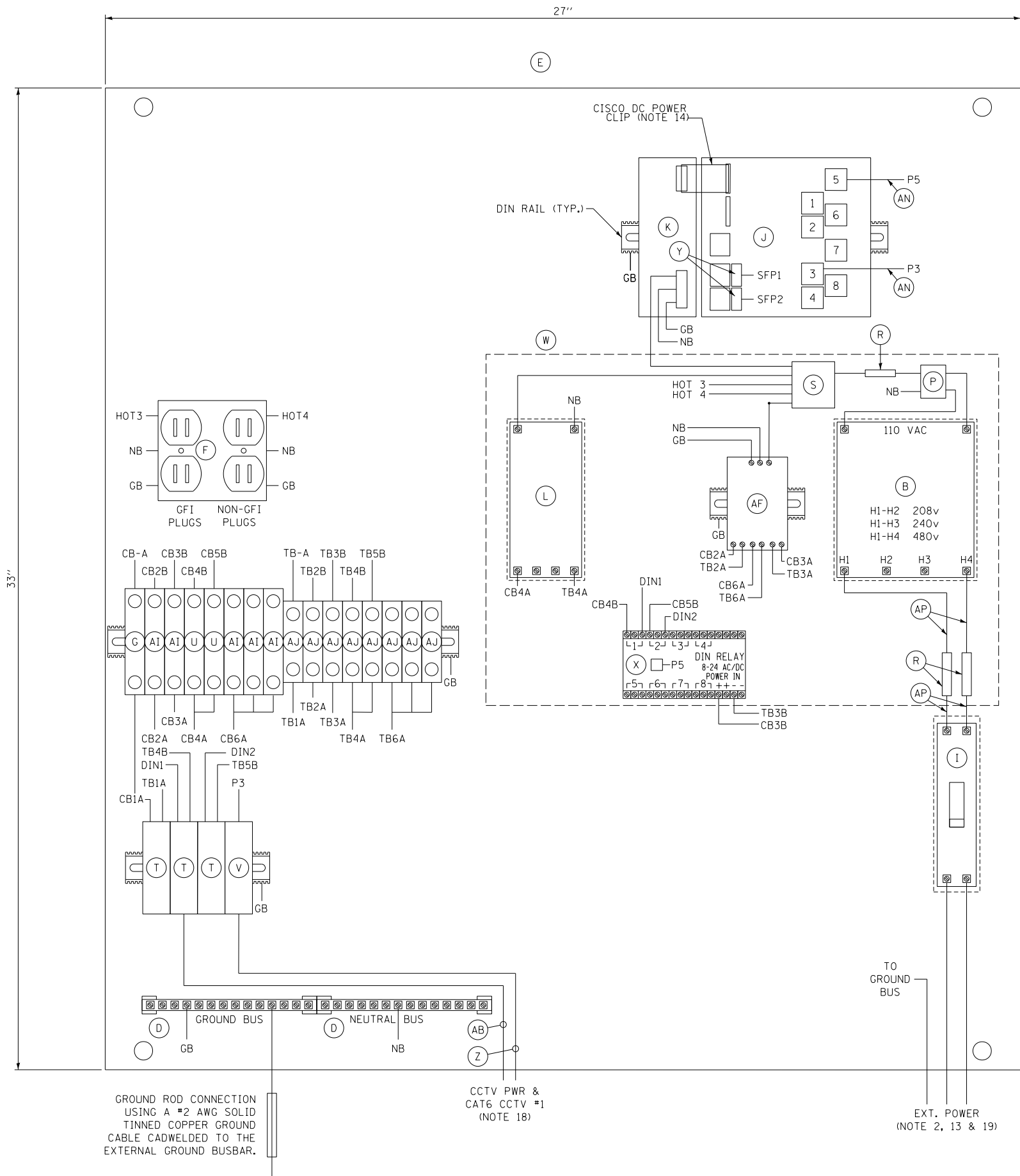
Tollway Base Sheet Revisions		
Section M	Base Sheet Drawings	
	Drawing	Modification Summary Effective: 03-31-2016
	Maintenance of Traffic (MOT)-Series 700	
	M-MOT-700	Temporary Concrete Barrier "Y" Connector Segment
		Revised Barrier Details Notes.
		Changed barrier edges chamfered from 1/2" to 1" on all edges (optional).
	Overhead Sign (OHS)-Series 720	
	M-OHS-720	Overhead Sign Structure Span Type Summary and Total Bill of Material
		Added Protective Coat (SQ YD) to Summary Table
		Clarified Class SI and Class DS Concrete are included in Foundation For Overhead Sign Structure.
	M-OHS-721	Overhead Sign Structure Cantilever Type Summary and Total Bill of Material
		Added Protective Coat (SQ YD) to Summary Table
		Clarified Class SI and Class DS Concrete are included in Foundation For Overhead Sign Structure.
	M-OHS-722	Overhead Sign Structure Entrance Monotube Type (Steel) Mainline Summary and Total Bill of Material
		Added Protective Coat (SQ YD) to Summary Table
		Clarified Class SI and Class DS Concrete are included in Foundation For Overhead Sign Structure.
		Clarified Concrete Structures is for Single Face Barrier and included in Summary Table and Total Bill of Material.
	M-OHS-723	Overhead Sign Structure Exit Monotube Type (Steel) Mainline Summary and Total Bill of Material
		Added Protective Coat (SQ YD) to Summary Table
		Clarified Class SI and Class DS Concrete are included in Foundation For Overhead Sign Structure.
		Clarified Concrete Structures is for Single Face Barrier and included in Summary Table and Total Bill of Material.
	M-OHS-724	Overhead Sign Structure Butterfly Type (Steel) Summary and Total Bill of Material
		Added Protective Coat (SQ YD) to Summary Table
		Clarified Class SI and Class DS Concrete are included in Foundation For Overhead Sign Structure.
		Removed Truss Extension for Mounting Walkway detail and references
		Added "L" column and removed TGL and TGL1 from the Summary Table
	M-OHS-725	Overhead Sign Structure Entrance Monotube Type (Steel) AET Ramp Summary and Total Bill of Material
		Added Protective Coat (SQ YD) to Summary Table
		Clarified Class SI and Class DS Concrete are included in Foundation For Overhead Sign Structure.
		Clarified Concrete Structures is for Single Face Barrier and included in Summary Table.
	M-OHS-726	Overhead Sign Structure Exit Monotube Type (Steel) AET Ramp Summary and Total Bill of Material
		Added Protective Coat (SQ YD) to Summary Table
		Clarified Class SI and Class DS Concrete are included in Foundation For Overhead Sign Structure.
		Clarified Concrete Structures is for Single Face Barrier and included in Summary Table.
	M-OHS-727	Overhead Sign Structure Exit Monotube Type (Steel) Cash-IPO Ramp Summary and Total Bill of Material
		Added Protective Coat (SQ YD) to Summary Table
		Clarified Class SI and Class DS Concrete are included in Foundation For Overhead Sign Structure.
		Clarified Concrete Structures is for Single Face Barrier and included in Summary Table.
	M-OHS-728	Overhead Sign Structure Span Type (Steel) Summary and Total Bill of Material
		Added Protective Coat (SQ YD) to Summary Table
		Clarified Class SI and Class DS Concrete are included in Foundation For Overhead Sign Structure.
	M-OHS-729	Overhead Sign Structure ITS Gantry Frame (Steel) Single Span Structure Details
	Sheet 1	Revised Material Specification Table to specify ASTM A500 Gr C & B for Frame & Mounting Beam HSS, respectively.
	Sheet 4	Removed Note 6, referring to ASTM requirements of HSS members.
	Sheet 5	Revised Note 1 to clarify requirements for Contractor when soil conditions are not met in the field.
	Sheet 5	Removed Protective Coat quantity since not required to be applied to shoulder foundation.
	Sheet 5	Updated anchor bolt note to allow ASTM F1554 bolts.
	Sheet 6	Revised Note 1 to clarify requirements for Contractor when soil conditions are not met in the field.
	Sheet 6	Removed Protective Coat quantity since not required to be applied to shoulder foundation.
	Sheet 7	Added note 5 to clarify limits of protective coat and revised protective coat quantity in Median Foundation Schedule.
	M-OHS-730	Overhead Sign Structure ITS Gantry Frame (Steel) Two-Span Structure Details
	Sheet 1	Revised Material Specification Table to specify ASTM A500 Gr C & B for Frame & Mounting Beam HSS, respectively.
	Sheet 4	Removed Note 6, referring to ASTM requirements of HSS members.
	Sheet 6	Revised Note 1 to clarify requirements for Contractor when soil conditions are not met in the field.
	Sheet 6	Removed Protective Coat quantity since not required to be applied to shoulder foundation.
	Sheet 6	Updated anchor bolt note to allow ASTM F1554 bolts.
	Sheet 7	Revised Note 1 to clarify requirements for Contractor when soil conditions are not met in the field.
	Sheet 7	Removed Protective Coat quantity since not required to be applied to shoulder foundation.
	Sheet 8	Added note 5 to clarify limits of protective coat and revised protective coat quantity in Median Foundation Schedule.
	Pole Assembly-Series 1000	
	M-ITS-1000	ELEVATION VIEWS POLE MOUNTED ITS ELEMENT ASSEMBLY
		Added 30A-2P NEMA 4X DISC MTD ON SUPPORT DETAIL.
	M-ITS-1001	GENERAL NOTES POLE MOUNTED ITS ELEMENT ASSEMBLY
		Added Note 16 regarding disconnect switch usage.
	M-ITS-1002	ITS STANDARD FOUNDATION: New Sheet
	Dynamic Message Sign (ITS) - Series 1100	
	M-ITS-1100	Revised conduit call-outs
	M-ITS-1103	Revised 30A-2P NEMA 4X DISC MTD ON SUPPORT DETAIL. Removed pad mounted transformer.
	M-ITS-1104	Revised 30A-2P NEMA 4X DISC MTD ON SUPPORT DETAIL. Revised Note 2 to eliminate 120/208V and pad mount.
	Cabinet Wiring-Series 1200	
	M-ITS-1200	Cabinet Wiring
	All	Added HOT3, NB, and GB to Duplex Receptacle.
	M-ITS-1255	Added HOT5 to Duplex Receptacle.
	M-ITS-1256	Deleted HOT5 from Video Distribution Panel.

Base Sheet Drawings		
Drawing	Modification Summary	Effective: 03-31-2016
Tollway Base Sheet Revisions		
	Weigh-In-Motion - Series 1600	
Section M	M-WIM-1600	WEIGH-IN-MOTION CABINET AND FOUNDATION DETAILS
	M-WIM-1601	WEIGH-IN-MOTION IP CAMERA DETAILS
	M-WIM-1602	WEIGH-IN-MOTION LOOP DETECTOR DETAILS
	M-WIM-1603	WEIGH-IN-MOTION DETECTOR LOOP AND QUARTZ SENSOR DETAIL
	M-WIM-1604	INSTALLATION DETAIL DETECTOR HOUSING & DETECTOR HOUSING ADAPTER
	M-WIM-1605	WEIGH-IN-MOTION DETECTOR HOUSING DETAIL
	Flashing Sign Beacon - Series 1700	
	M-ITS-1700	FLASHING SIGN BEACON INSTALLATION BREAKAWAY ELECTRICAL DETAIL
	M-ITS-1701	FLASHING SIGN BEACON INSTALLATION WIRING DIAGRAM
	Conduit Details at Integral Abutment-Series 1900	
	M-ITS-1900	CONDUIT DETAILS AT INTEGRAL ABUTMENT BRIDGE STANDARD SLOPE WALL
	Business Systems (BUS)- Series 2500	
	M-BUS-2500	CABLE CONDUIT SCHEDULE AND GENERAL NOTES
	M-BUS-2501	LEGEND SYMBOL LIST, ABBREVIATIONS AND EQUIPMENT SCHEDULES
	M-BUS-2502	SINGLE LINE DIAGRAM AND UTILITY POWER CABLE/CONDUIT SCHEDULE
	M-BUS-2503	CONTROL BUILDING LIGHTING PLAN AND MISCELLANEOUS DETAILS - MAIN PLAZA
	M-BUS-2504	CONTROL BUILDING LIGHTING PLAN AND MISCELLANEOUS DETAILS - REMOTE PLAZA
	M-BUS-2505	CONTROL BUILDING GROUNDING DETAILS - MAIN PLAZA
	M-BUS-2506	CONTROL BUILDING GROUNDING DETAILS - REMOTE PLAZA
	M-BUS-2507	GROUNDING SCHEMATIC
	M-BUS-2508	CONTROL BUILDING MISCELLANEOUS DETAILS
	M-BUS-2509	UPS SINGLE LINE AND WIRING DIAGRAM
	M-BUS-2510	MISCELLANEOUS SCHEMATIC DIAGRAMS
	M-BUS-2511	VIDEO POWER JUNCTION BOX DETAIL - MAIN PLAZA
	M-BUS-2512	VIDEO POWER JUNCTION BOX DETAIL - REMOTE PLAZA
	M-BUS-2513	VIDEO WATCHDOG CAMERA DETAILS
	M-BUS-2514	RAMP PLAZA MONOTUBE DETAILS ACM AND IPO LANES
	M-BUS-2515	LOOP JUNCTION BOX DETAIL
	M-BUS-2516	CONTROL BUILDING LIGHTING AND RECEPTACLE PLAN - MAIN PLAZA
	M-BUS-2517	CONTROL BUILDING LIGHTING AND RECEPTACLE PLAN -REMOTE PLAZA
	M-BUS-2518	MISCELLANEOUS CROSS SECTION DETAILS
	M-BUS-2519	COMED TRANSFORMER PAD DETAIL
	M-BUS-2520	ELECTRICAL SITE PLAN - ACM AND IPO LANES
	M-BUS-2521	UNDERGROUND ELECTRICAL PLAN - ACM AND IPO LANES - MAIN PLAZA
	M-BUS-2522	PLAZA I-PASS PLANS - ACM AND IPO LANES
	M-BUS-2523	UNDERGROUND ELECTRICAL PLAN - ACM AND IPO LANES - REMOTE PLAZA
	M-BUS-2524	AUTOMATIC LANE ISLAND PLAN AND DETAILS 12 FOOT WIDE LANE
	M-BUS-2525	IPASS ONLY (IPO) LANE ISLAND PLAN AND DETAILS 12 FOOT WIDE LANE
	M-BUS-2526	TOLL EQUIPMENT WIRING DIAGRAM - ACM AND IPO LANES
	M-BUS-2527	LOOP AND TREADLE INSTALLATION DETAILS - ACM AND IPO LANES
	M-BUS-2528	CONTROL BUILDING TSIC - ACM AND IPO LANES - MAIN PLAZA
	M-BUS-2529	CONTROL BUILDING TSIC - ACM AND IPO LANES - REMOTE PLAZA
	M-BUS-2530	TSIC TERMINAL BLOCK LAYOUT - ACM AND IPO LANES
	M-BUS-2531	CONTROL BUILDING EQUIPMENT LAYOUT - ACM AND IPO LANES - MAIN PLAZA
	M-BUS-2532	CONTROL BUILDING EQUIPMENT LAYOUT - ACM AND IPO LANES - REMOTE PLAZA
	M-BUS-2533	CONTROL BUILDING R3 RACK - MAIN PLAZA
	M-BUS-2534	CONTROL BUILDING R3 RACK - REMOTE PLAZA
	M-BUS-2535	MISCELLANEOUS DETAILS -ACM AND IPO LANES
	M-BUS-2536	PANELBOARD SCHEDULES FOR TP1 AND TP2 - ACM AND IPO LANES
	M-BUS-2537	PANELBOARD SCHEDULES FOR MDP AND UPS UNITS - ACM AND IPO LANES
	M-BUS-2538	FIBER INTERCONNECTIONS BETWEEN MAIN AND REMOTE PLAZAS - ACM AND IPO LANES
	M-BUS-2539	PLAZA LANE CONTROL SIGNAL - ACM AND IPO LANES
	M-BUS-2540	TRAFFIC LIGHT DETAILS - ACM LANES
	M-BUS-2541	TRAFFIC LIGHT DETAILS - IPO LANES
	M-BUS-2542	ELECTRICAL SITE PLAN AET LANES
	M-BUS-2543	UNDERGROUND CONDUIT PLAN - MAIN PLAZA
	M-BUS-2544	UNDERGROUND CONDUIT PLAN - MAIN PLAZA PLAN - REMOTE PLAZA
	M-BUS-2545	CONTROL BUILDING EQUIPMENT LAYOUT - REMOTE PLAZA
	M-BUS-2546	CONTROL BUILDING EQUIPMENT LAYOUT - MAIN PLAZA
	M-BUS-2547	CONTROL BUILDING TSIC - MAIN AND REMOTE PLAZAS - AET LANES
	M-BUS-2548	TSIC TERMINAL BLOCK LAYOUT - ACM AND IPO LANES REMOTE PLAZAS - AET LANES
	M-BUS-2549	PANELBOARD SCHEDULES - MAIN PLAZA AET LANES
	M-BUS-2550	PANELBOARD SCHEDULES - REMOTE PLAZA AET LANES
	M-BUS-2551	WIRING DIAGRAM - AET 1-LANE LAYOUT
	M-BUS-2552	WIRING DIAGRAM - AET 3-LANE LAYOUT
	M-BUS-2553	LOOP PLAN - AET 1-LANE LAYOUT
	M-BUS-2554	LOOP PLAN - AET 3-LANE LAYOUT
	M-BUS-2555	VES WASH SYSTEM ENCLOSURE DETAIL
	M-BUS-2556	VES WASH SYSTEM PANEL DETAIL
	M-BUS-2557	VES WASH SYSTEM FLOW DIAGRAM AND MECHANICAL DETAIL
	M-BUS-2558	VES WASH SYSTEM SUGGESTED CONDUIT ROUTING
	M-BUS-2559	VES WASH SYSTEM MISCELLANEOUS POWER WIRING DIAGRAM
	M-BUS-2560	VES WASH SYSTEM CONTROL SWITCH SCHEMATIC

New Sheet







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 CUTLER HAMMER/HFD2030L & 625B229607
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	NOT USED FOR THIS SHEET APPLICATION
N	NOT USED FOR THIS SHEET APPLICATION
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 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-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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	NOT USED FOR THIS SHEET APPLICATION
AD	NOT USED FOR THIS SHEET APPLICATION
AE	NOT USED FOR THIS SHEET APPLICATION
AF	AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
AG	NOT USED FOR THIS SHEET APPLICATION
AH	NOT USED FOR THIS SHEET APPLICATION
AI	2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
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

- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
  - NOT USED FOR THIS SHEET APPLICATION
  - THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - NOT USED FOR THIS SHEET APPLICATION
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - NOT USED FOR THIS SHEET APPLICATION
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
  - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

### NOTE TO DESIGNER

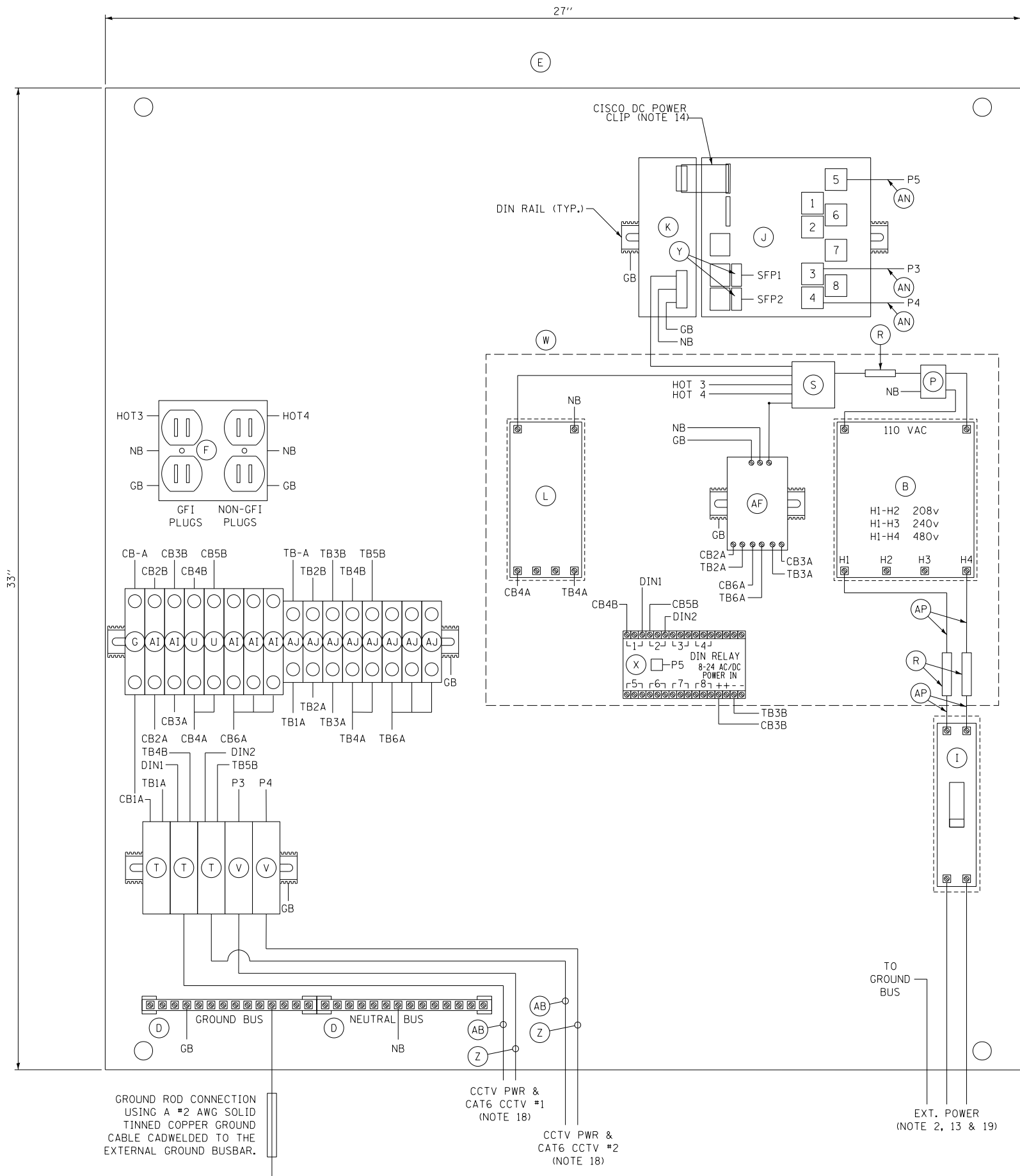
THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF 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-1201



CABINET WIRING DIAGRAM  
CCTV CAMERA  
ITS ASSEMBLY

DATE  
3-31-2016



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 CUTLER HAMMER/HFD2030L & 625B229G07
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	NOT USED FOR THIS SHEET APPLICATION
N	NOT USED FOR THIS SHEET APPLICATION
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D1/1/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-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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	NOT USED FOR THIS SHEET APPLICATION
AD	NOT USED FOR THIS SHEET APPLICATION
AE	NOT USED FOR THIS SHEET APPLICATION
AF	AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
AG	NOT USED FOR THIS SHEET APPLICATION
AH	NOT USED FOR THIS SHEET APPLICATION
AI	2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
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

- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
  - NOT USED FOR THIS SHEET APPLICATION
  - THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - NOT USED FOR THIS SHEET APPLICATION
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

NOTE TO DESIGNER

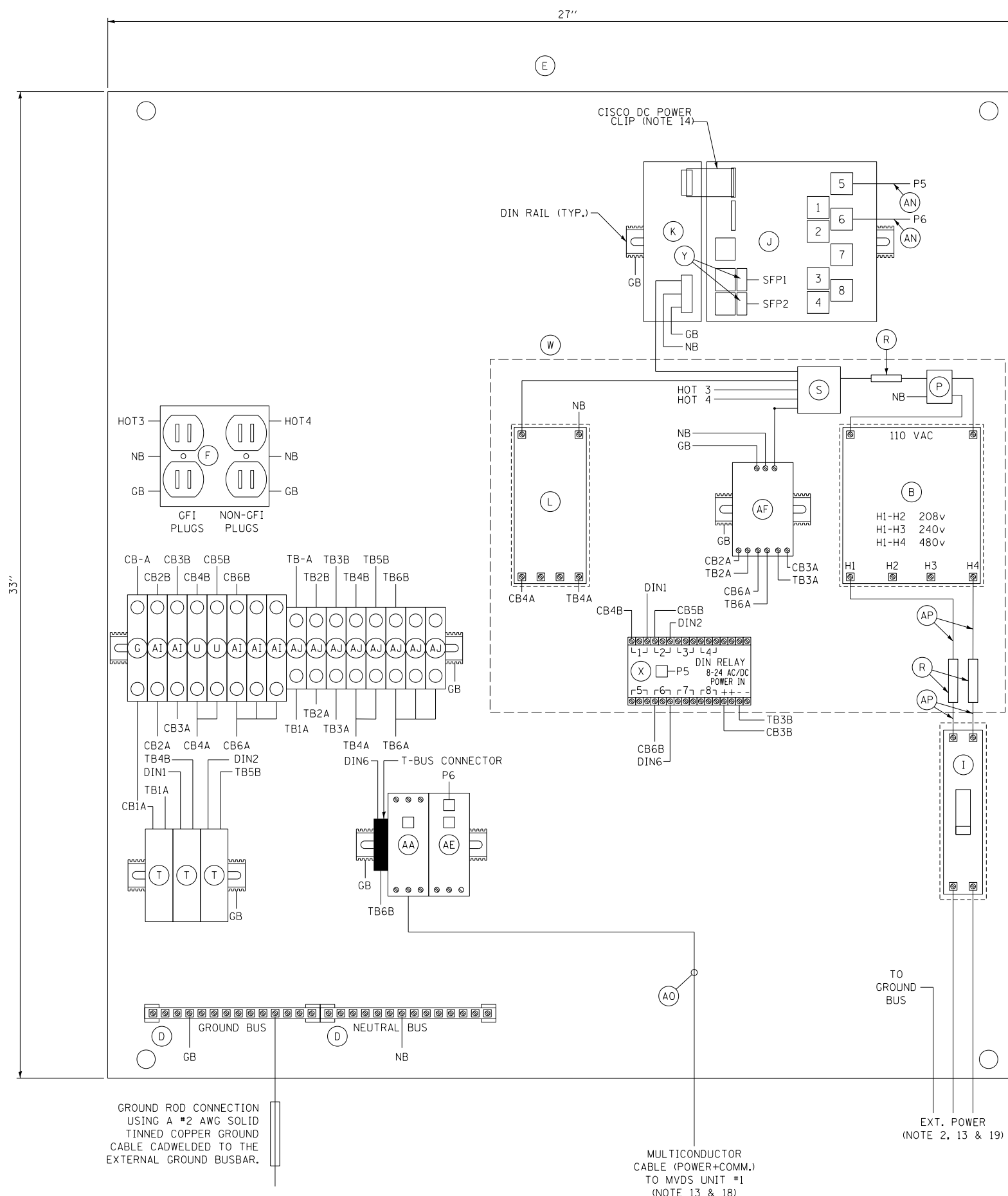
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M-ITS-1202



CABINET WIRING DIAGRAM  
DUAL CCTV CAMERA  
ITS ASSEMBLY

DATE  
3-31-2016

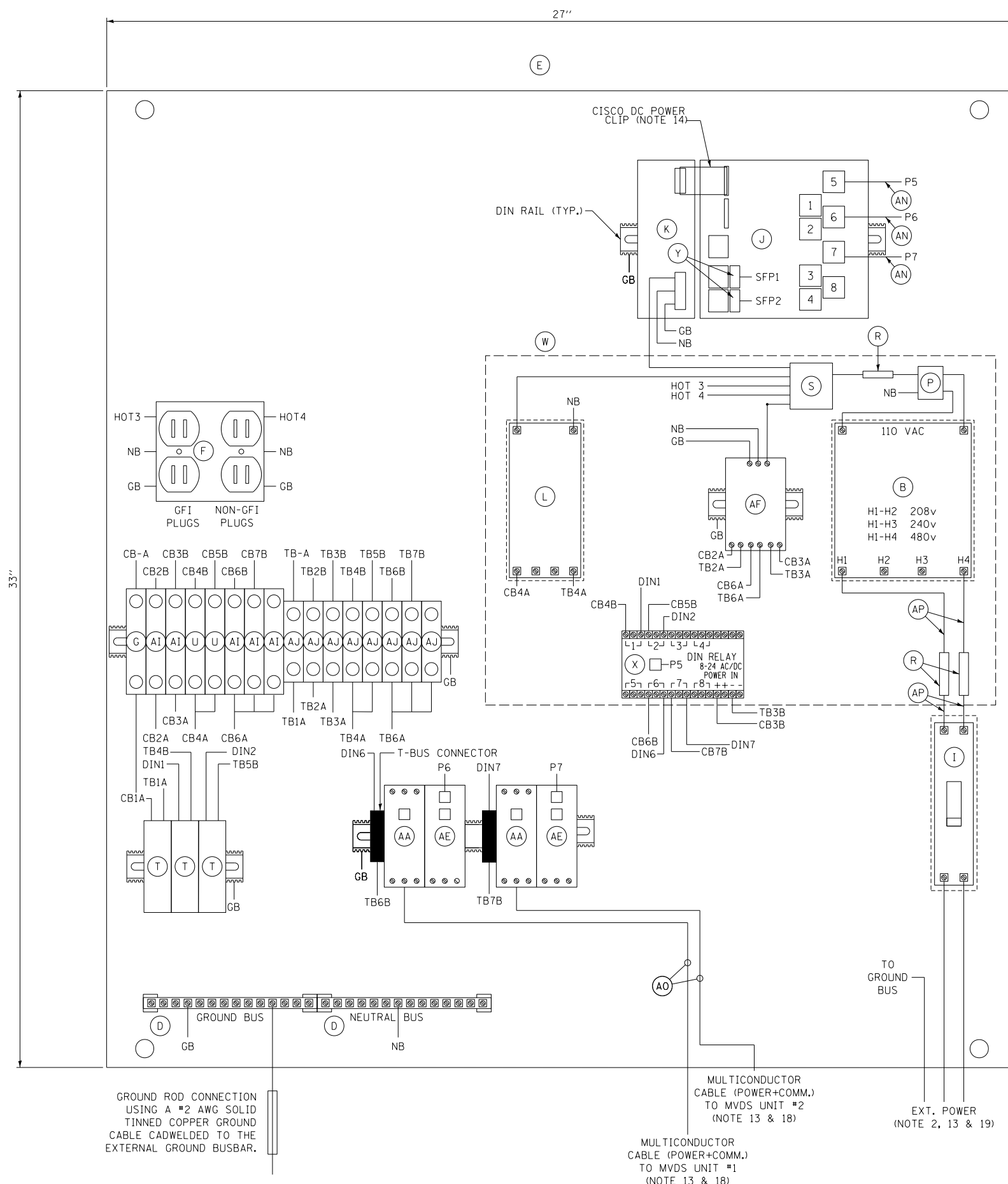


ITEM	DESCRIPTION
A	NOT USED FOR THIS SHEET APPLICATION
B	CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
C	NOT USED FOR THIS SHEET APPLICATION
D	TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
E	NEMA 4X STAINLESS STEEL, 36"H X 30"W 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 CUTLER HAMMER/HFD2030L & 625B229G07
J	8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-BTC-E
K	CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
L	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
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/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-SPMIB050
V	NOT USED FOR THIS SHEET APPLICATION
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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 ZB24510
AB	NOT USED FOR THIS SHEET APPLICATION
AC	NOT USED FOR THIS SHEET APPLICATION
AD	NOT USED FOR THIS SHEET APPLICATION
AE	RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, 0K-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-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG

- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
  - NOT USED FOR THIS SHEET APPLICATION
  - THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
  - ALL BREAKERS SHALL BE LABELED (E.G. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - NOT USED FOR THIS SHEET APPLICATION
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - NOT USED FOR THIS SHEET APPLICATION
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - 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
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 CUTLER HAMMER/HFD2030L & 625B229G07
J	8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-BTC-E
K	CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
L	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
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/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-SPMIB050
V	NOT USED FOR THIS SHEET APPLICATION
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
Y	(2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
Z	NOT USED FOR THIS SHEET APPLICATION
AA	SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
AB	NOT USED FOR THIS SHEET APPLICATION
AC	NOT USED FOR THIS SHEET APPLICATION
AD	NOT USED FOR THIS SHEET APPLICATION
AE	RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, 0K-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-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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
A0	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.
  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 & N) 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 GROUNDING.
  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 GROUNDING TO THE GROUND BUS.
  23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND 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 AND INCIDENTAL TO THE CONTRACT.
  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

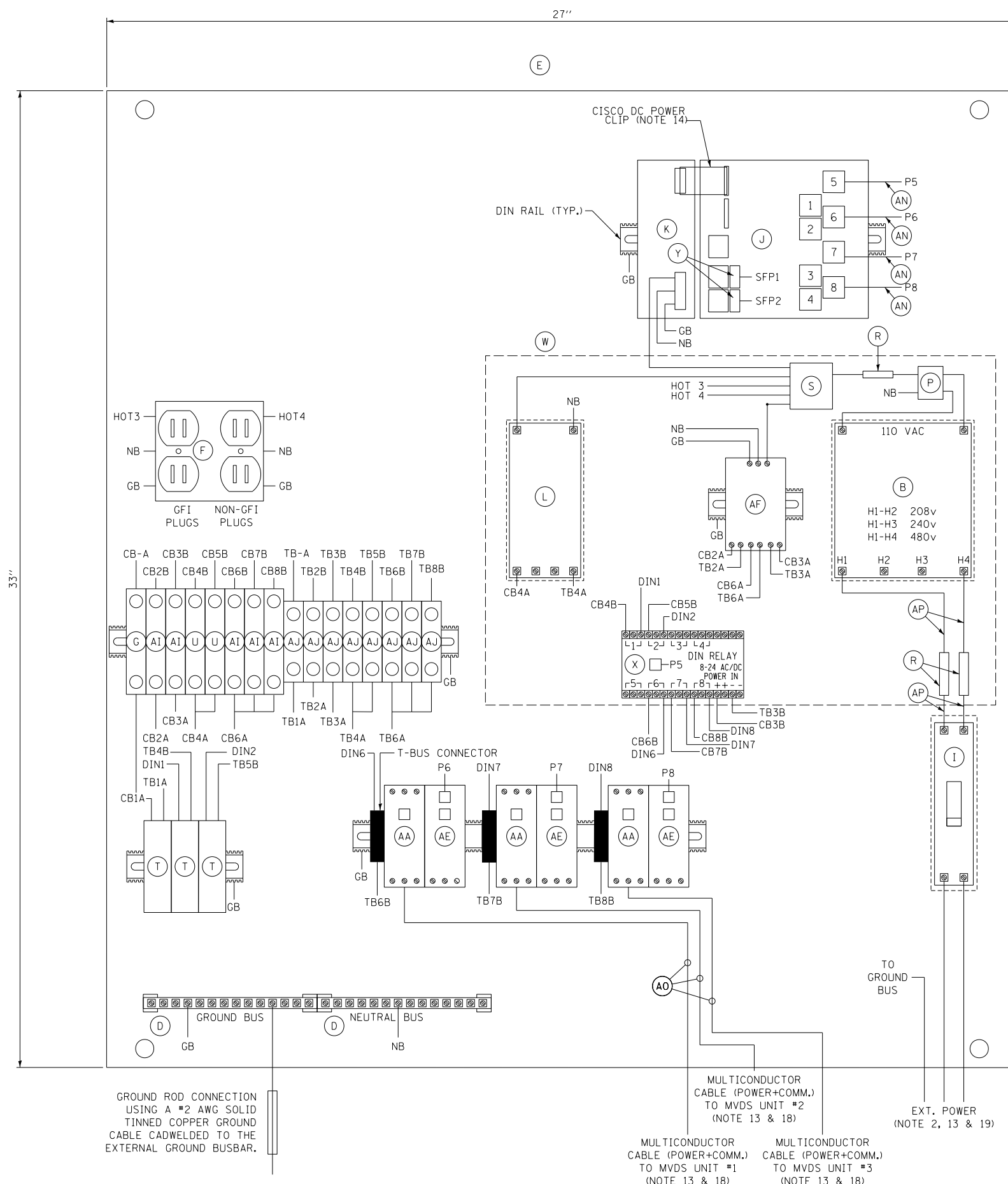
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M-ITS-1204

CABINET WIRING DIAGRAM  
DUAL MVDS  
ITS ASSEMBLY

DATE  
3-31-2016





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 CUTLER HAMMER/HFD2030L & 625B229G07
J	8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-BTC-E
K	CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
L	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
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/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-SPMIB050
V	NOT USED FOR THIS SHEET APPLICATION
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
Y	(2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
Z	NOT USED FOR THIS SHEET APPLICATION
AA	SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
AB	NOT USED FOR THIS SHEET APPLICATION
AC	NOT USED FOR THIS SHEET APPLICATION
AD	NOT USED FOR THIS SHEET APPLICATION
AE	RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, 0K-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-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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
A0	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG

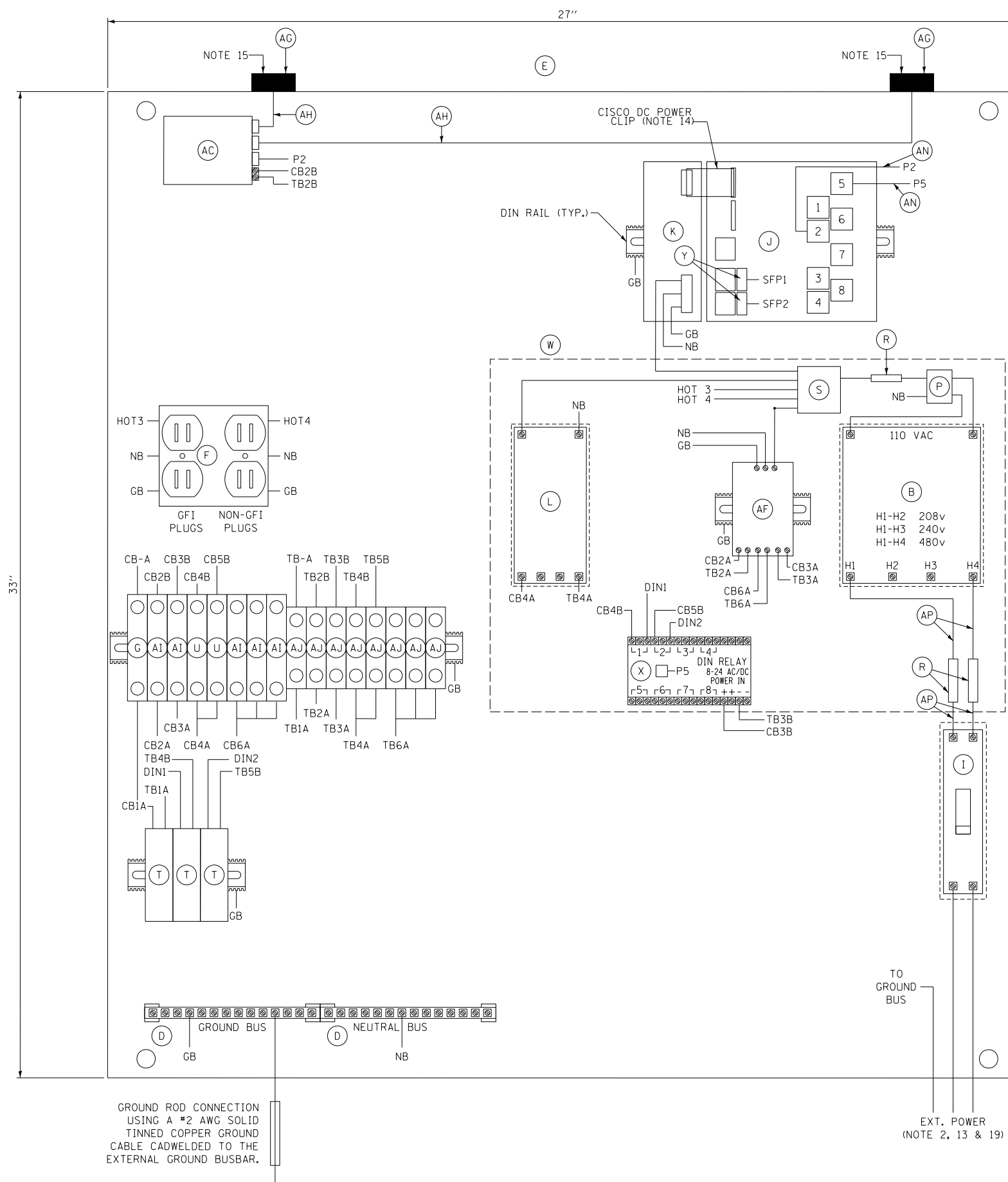
- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
  - NOT USED FOR THIS SHEET APPLICATION
  - THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - NOT USED FOR THIS SHEET APPLICATION
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - NOT USED FOR THIS SHEET APPLICATION
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
  - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

NOTE TO DESIGNER

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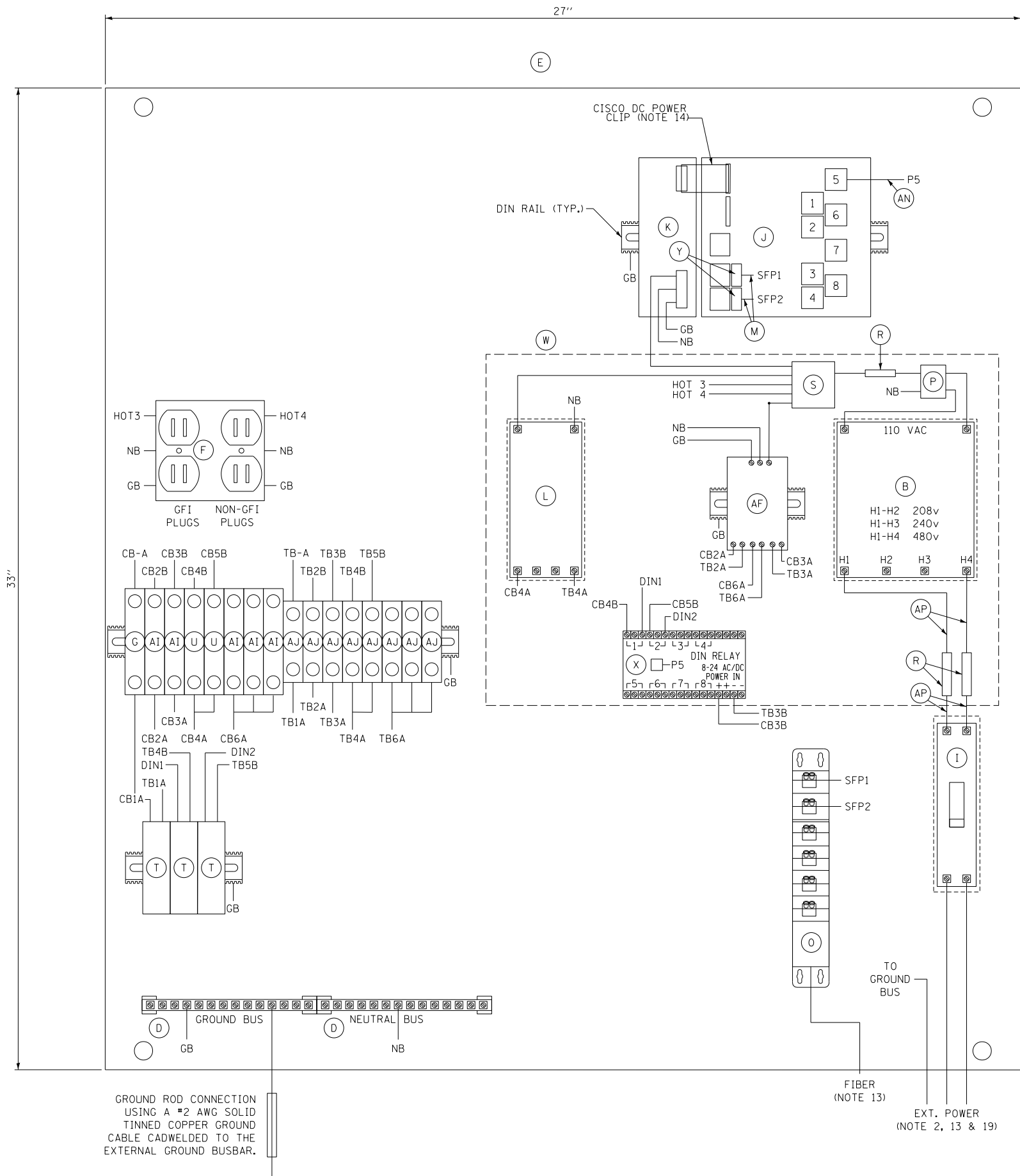


ITEM	DESCRIPTION
A	NOT USED FOR THIS SHEET APPLICATION
B	CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
C	NOT USED FOR THIS SHEET APPLICATION
D	TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
E	NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
F	TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
G	24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
H	NOT USED FOR THIS SHEET APPLICATION
I	480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD CUTLER HAMMER/HFD2030L & 625B229G07
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	NOT USED FOR THIS SHEET APPLICATION
N	NOT USED FOR THIS SHEET APPLICATION
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/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-SPMIB050
V	NOT USED FOR THIS SHEET APPLICATION
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
Y	(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
AB	NOT USED FOR THIS SHEET APPLICATION
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/BMLPVB700/2500
AH	WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
AI	2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
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

- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
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  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
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  - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
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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 CUTLER HAMMER/HFD2030L & 625B229G07
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
O	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/FIX1LG6 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-SPMIB050
V	NOT USED FOR THIS SHEET APPLICATION
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
Y	(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
AB	NOT USED FOR THIS SHEET APPLICATION
AC	NOT USED FOR THIS SHEET APPLICATION
AD	NOT USED FOR THIS SHEET APPLICATION
AE	NOT USED FOR THIS SHEET APPLICATION
AF	AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
AG	NOT USED FOR THIS SHEET APPLICATION
AH	NOT USED FOR THIS SHEET APPLICATION
AI	2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
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

- NOTES:
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  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUND.
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  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - NOT USED FOR THIS SHEET APPLICATION
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
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  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
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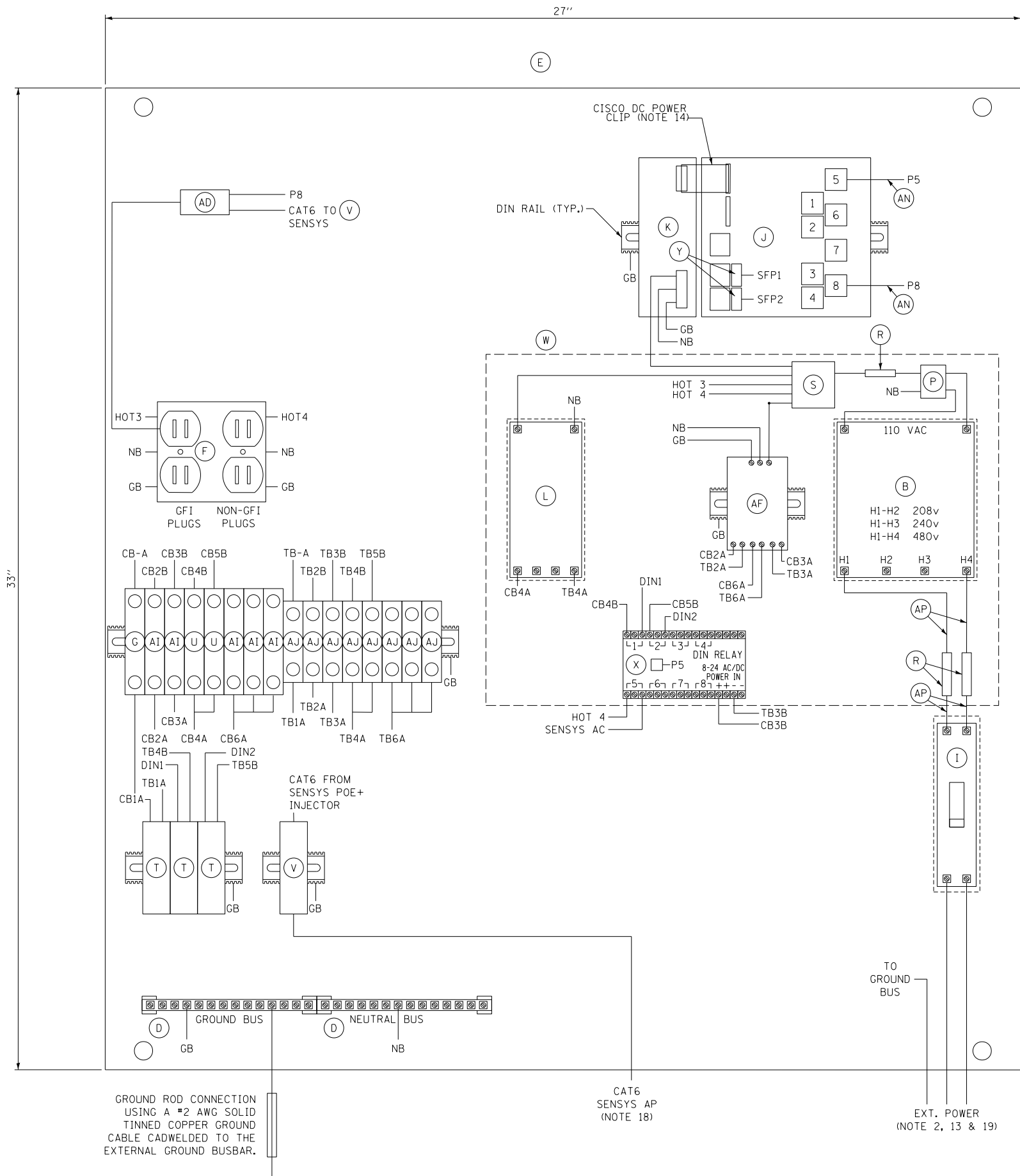
M-ITS-1209



CABINET WIRING DIAGRAM  
FIBER OPTIC COMMUNICATIONS  
ITS ASSEMBLY

DATE  
3-31-2016





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 CUTLER HAMMER/HFD2030L & 625B229G07
J	8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-BTC-E
K	CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
L	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
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/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-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
Y	(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
AB	NOT USED FOR THIS SHEET APPLICATION
AC	NOT USED FOR THIS SHEET APPLICATION
AD	SENSYS AP POE+ INJECTOR
AE	NOT USED FOR THIS SHEET APPLICATION
AF	AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
AG	NOT USED FOR THIS SHEET APPLICATION
AH	NOT USED FOR THIS SHEET APPLICATION
AI	2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
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AM	NOT USED FOR THIS SHEET APPLICATION
AN	INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
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  2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
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  7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
  8. THESE ELEMENTS ARE ILLUSTRATED FOR FUTURE USAGE. THEY ARE THE SURGE SUPPRESSOR AND POWER OVER ETHERNET DEVICES FOR AN ACCESS POINT ELEMENT UTILIZED FOR RAMP QUEUE DETECTION.
  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.
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  21. NOT USED FOR THIS SHEET APPLICATION
  22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND 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 AND INCIDENTAL TO THE CONTRACT.
  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

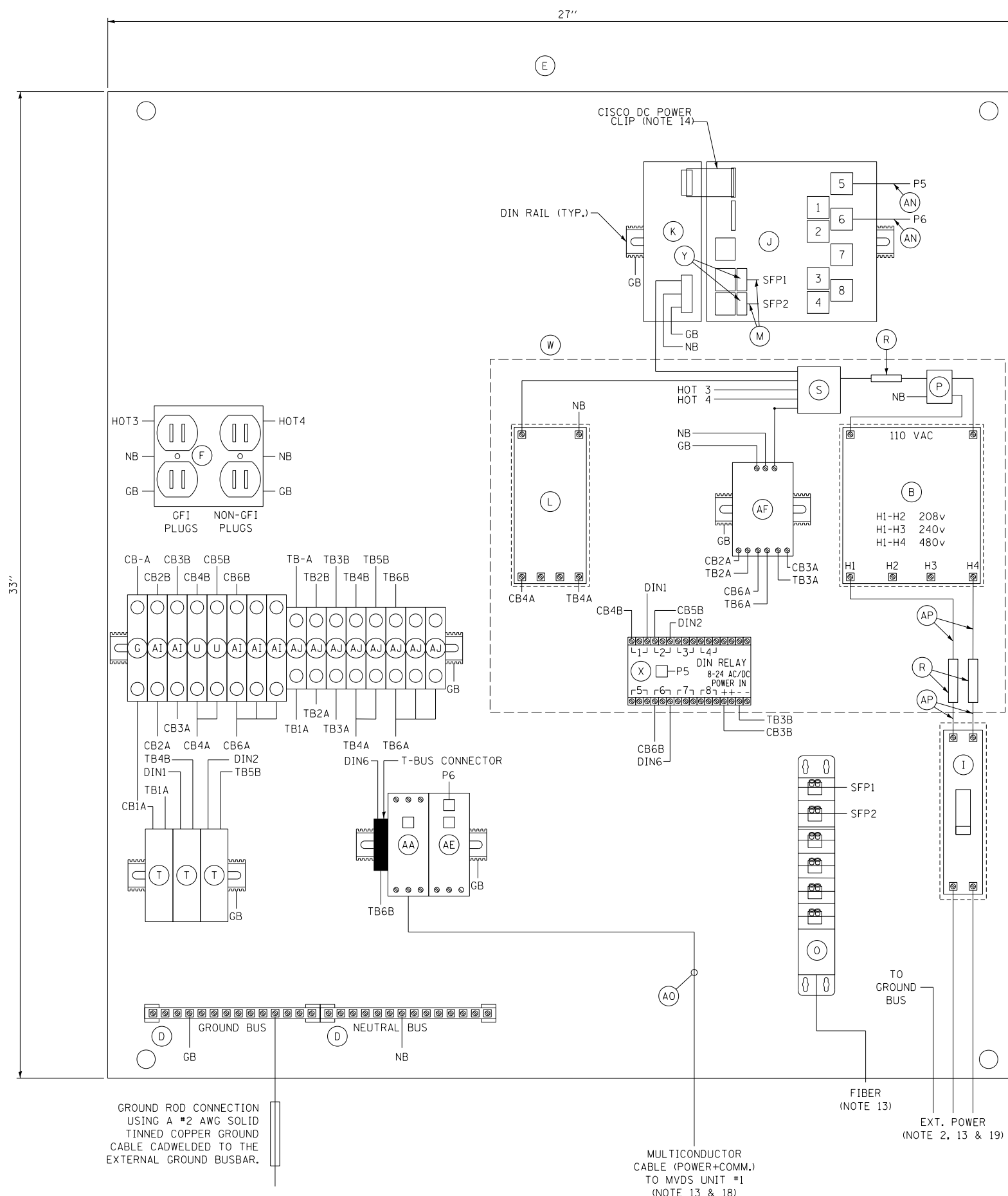
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M-ITS-1210



CABINET WIRING DIAGRAM  
SENSYS AP POE+INJECTOR  
ITS ASSEMBLY

DATE  
3-31-2016

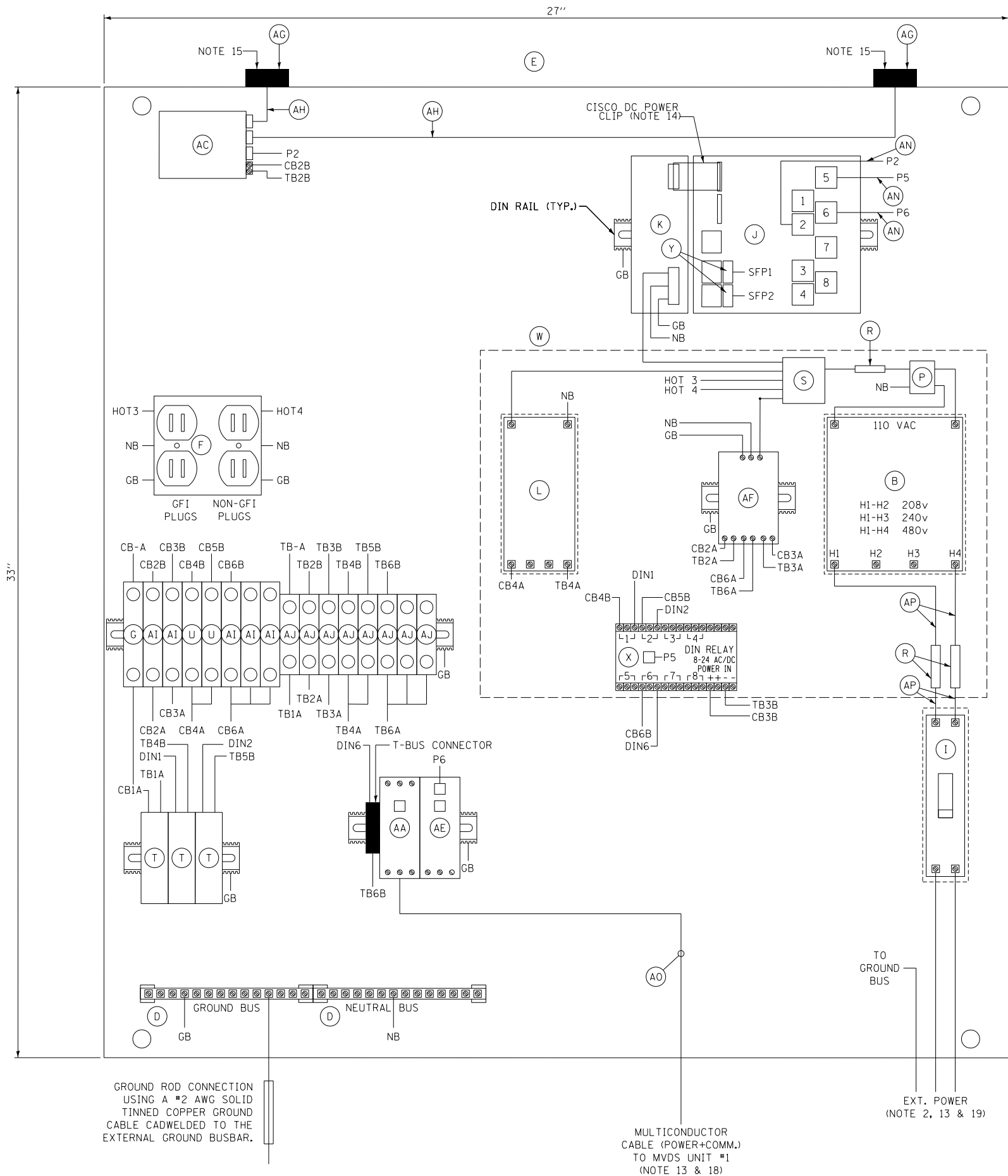


ITEM	DESCRIPTION
A	NOT USED FOR THIS SHEET APPLICATION
B	CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
C	NOT USED FOR THIS SHEET APPLICATION
D	TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
E	NEMA 4X STAINLESS STEEL, 36"H X 30"W 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 CUTLER HAMMER/HFD2030L & 625B229G07
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
O	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
T	24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
U	5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB050
V	NOT USED FOR THIS SHEET APPLICATION
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
Y	(2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
Z	NOT USED FOR THIS SHEET APPLICATION
AA	SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
AB	NOT USED FOR THIS SHEET APPLICATION
AC	NOT USED FOR THIS SHEET APPLICATION
AD	NOT USED FOR THIS SHEET APPLICATION
AE	RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, 0K-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-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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
A0	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.
  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 & N) 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 GROUNDING.
  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
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  22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND 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 AND INCIDENTAL TO THE CONTRACT.
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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 CUTLER HAMMER/HFD2030L & 625B229G07
J	8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-BTC-E
K	CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
L	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
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LC6 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-SPMIB050
V	NOT USED FOR THIS SHEET APPLICATION
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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, 0K-35A
AF	AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
AG	WIRELESS MODEM ANTENNAS, PCTEL/BMLPVD8700/2500
AH	WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
AI	2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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AN	INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
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AP	#10 AWG

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  - 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 GROUNDING.
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  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
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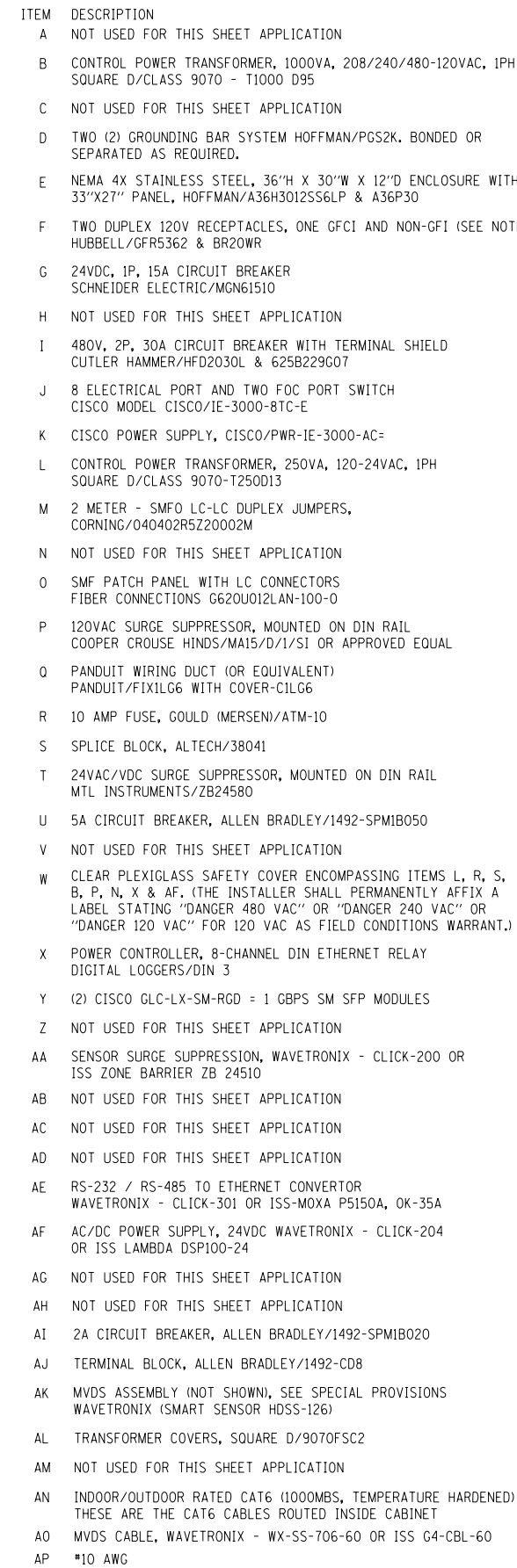
M-ITS-1212



CABINET WIRING DIAGRAM  
MVDS  
AC AND WIRELESS  
ITS ASSEMBLY

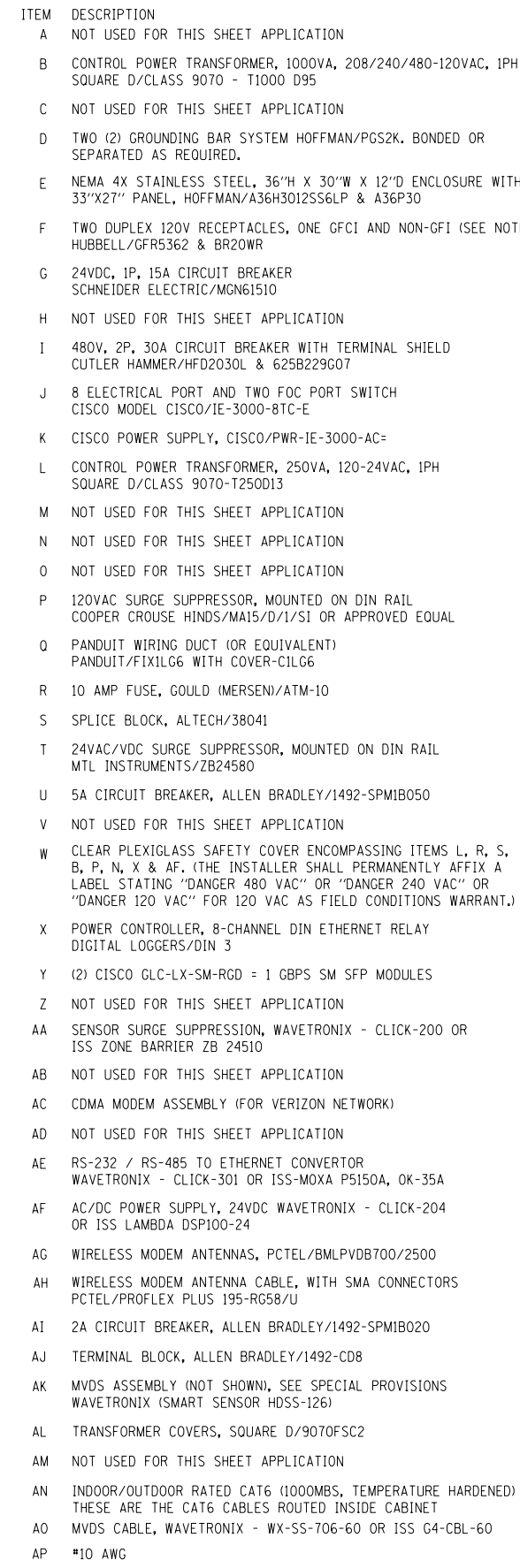
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  4. NOT USED FOR THIS SHEET APPLICATION.
  5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED 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.
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  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.
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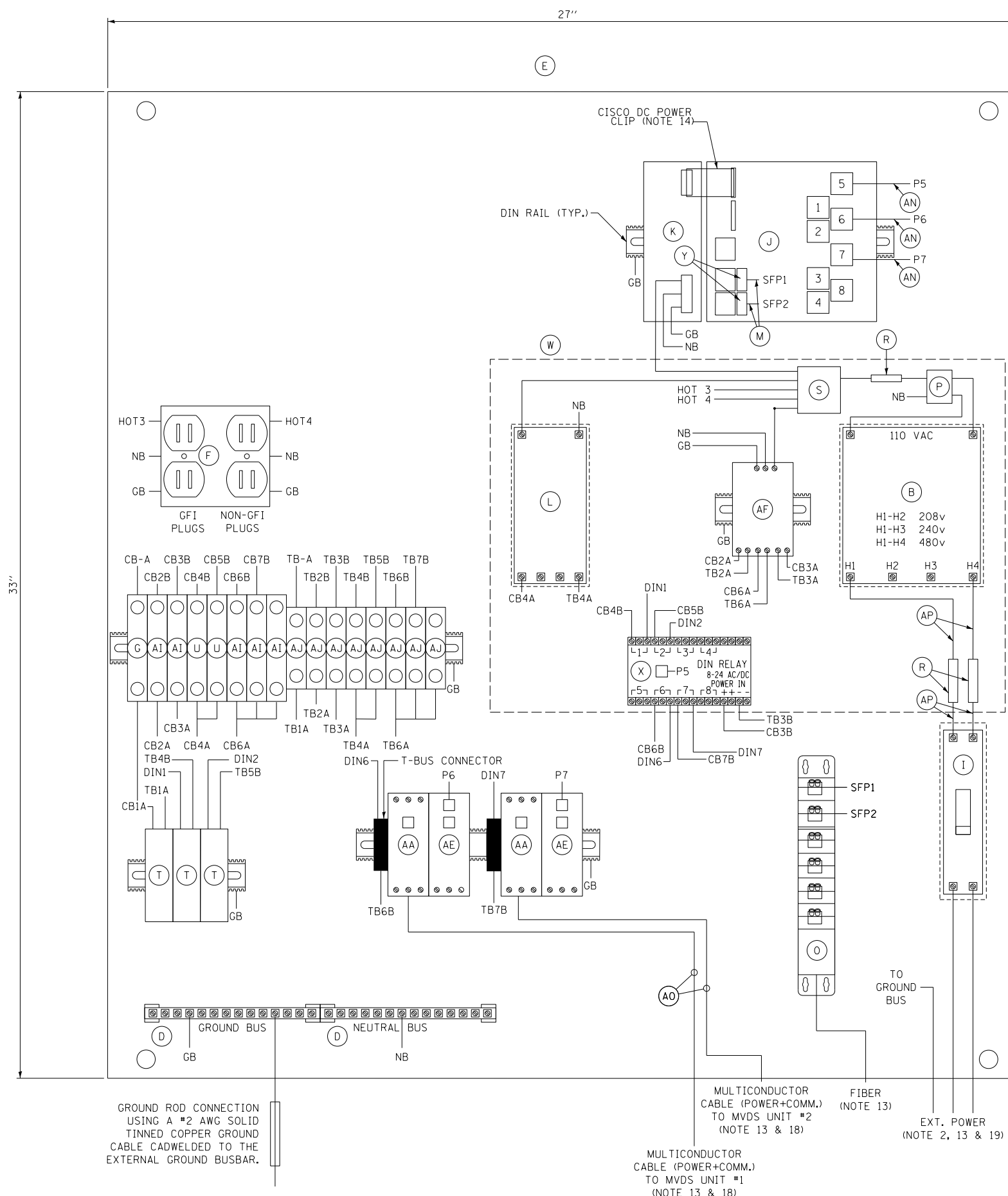
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  20. A STANDALONE MVDS WILL UTILIZE A 24VDC SOLAR POWER CABINET AND SOLAR PANELS THAT ARE ATTACHED TO THE SAME POLE AS THE MVDS. SEE PLAN SHEET.
  21. WHEN POWERED BY A 24VDC INPUT, THE POWER CABLES SHALL BE DIRECTLY TERMINATED ON THE IE3000 BASE 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. TIE THE CABINET AND 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 AND INCIDENTAL TO THE CONTRACT.
  27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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ITEM	DESCRIPTION
A	NOT USED FOR THIS SHEET APPLICATION
B	CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
C	NOT USED FOR THIS SHEET APPLICATION
D	TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
E	NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
F	TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
G	24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
H	NOT USED FOR THIS SHEET APPLICATION
I	480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD CUTLER HAMMER/HFD2030L & 625B229G07
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
O	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
T	24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
U	5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB050
V	NOT USED FOR THIS SHEET APPLICATION
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
Y	(2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
Z	NOT USED FOR THIS SHEET APPLICATION
AA	SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
AB	NOT USED FOR THIS SHEET APPLICATION
AC	NOT USED FOR THIS SHEET APPLICATION
AD	NOT USED FOR THIS SHEET APPLICATION
AE	RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, 0K-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-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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
A0	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.
  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 & N) 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 GROUNDING.
  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 GROUNDING TO THE GROUND BUS.
  23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND 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 AND INCIDENTAL TO THE CONTRACT.
  27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

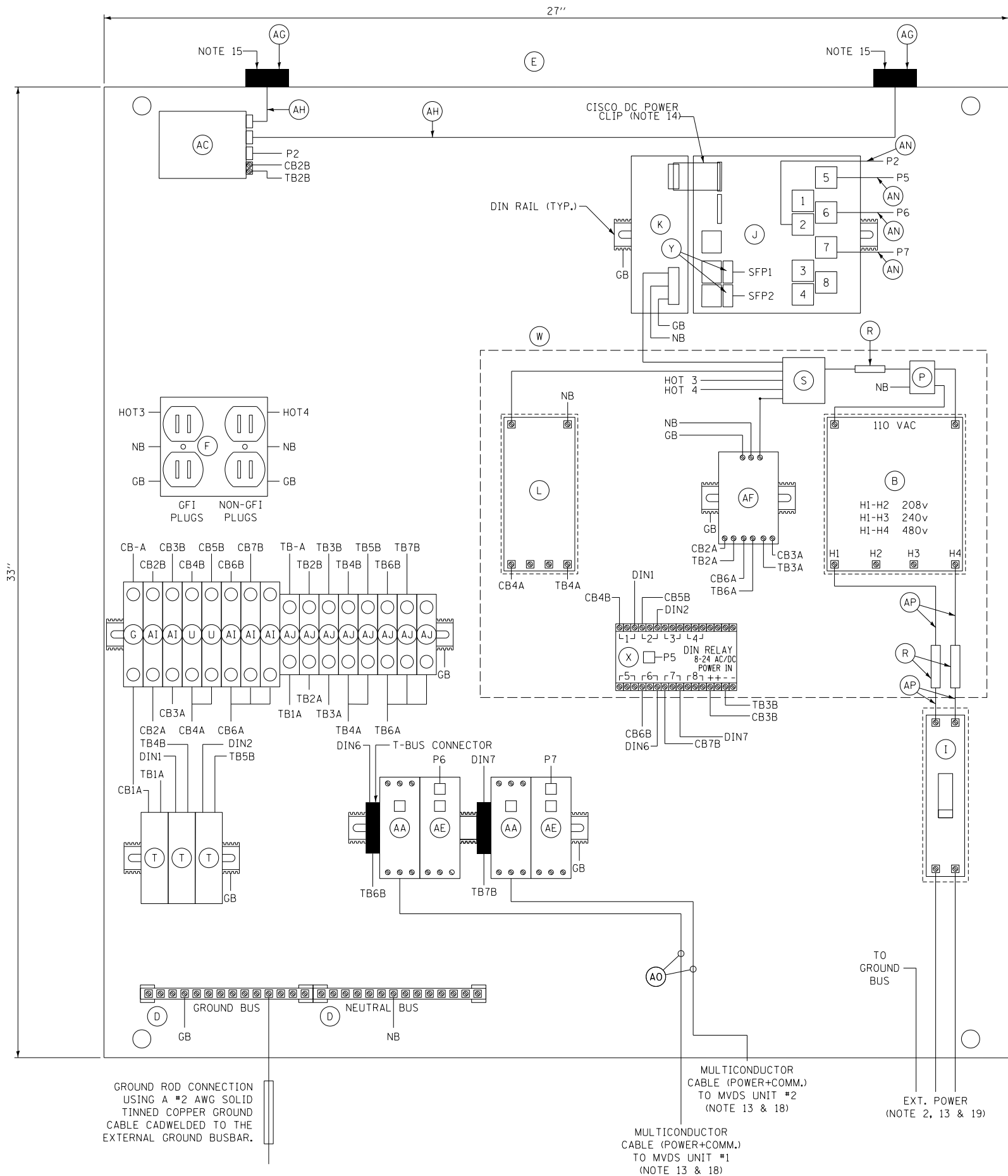
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M-ITS-1215

CABINET WIRING DIAGRAM  
DUAL MVDS  
AC AND FOC  
ITS ASSEMBLY

DATE  
3-31-2016



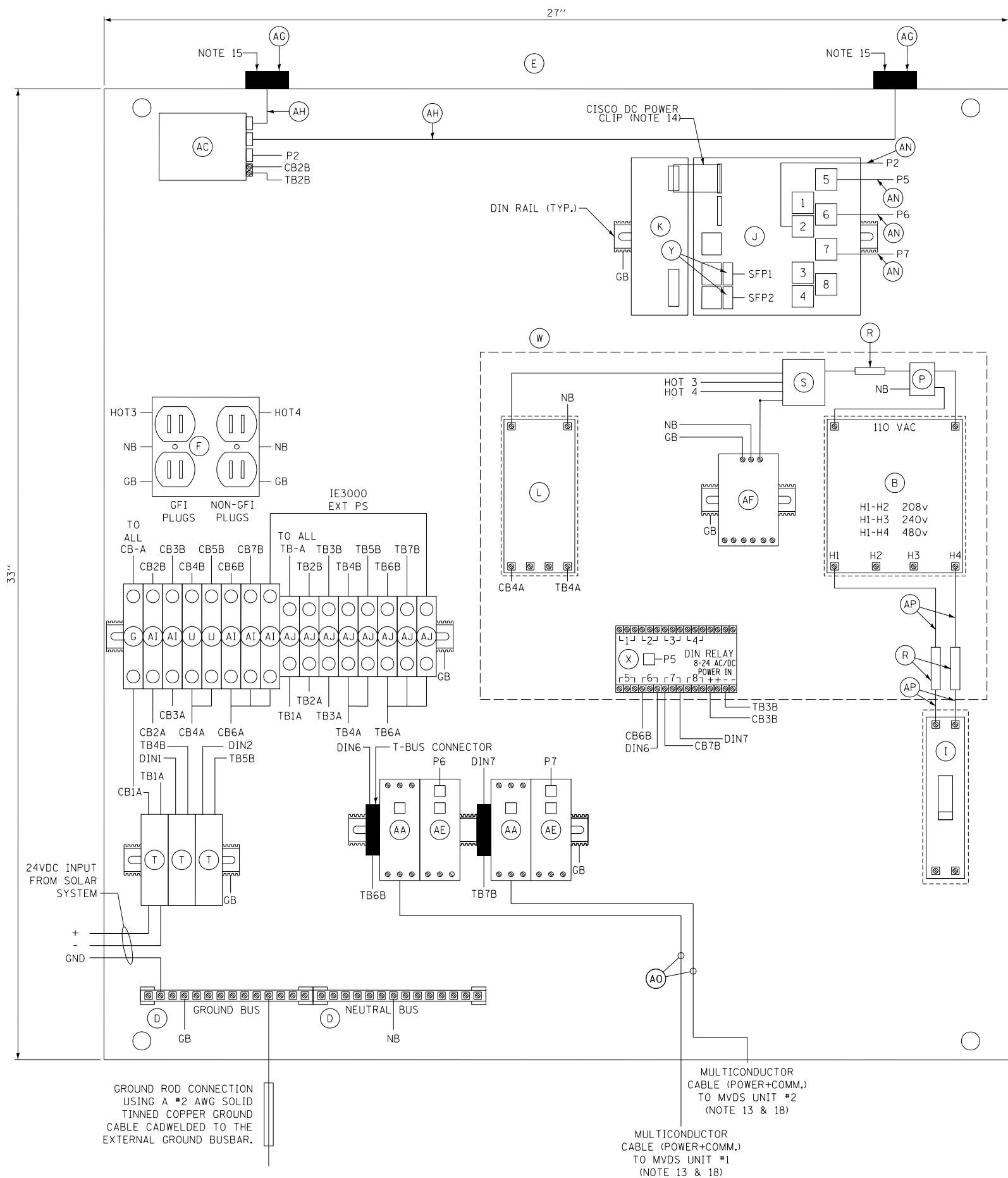
ITEM	DESCRIPTION
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B	CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
C	NOT USED FOR THIS SHEET APPLICATION
D	TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
E	NEMA 4X STAINLESS STEEL, 36"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 CUTLER HAMMER/HFD2030L & 625B229G07
J	8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-BTC-E
K	CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
L	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
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LC6 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-SPMIB050
V	NOT USED FOR THIS SHEET APPLICATION
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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/BMLPVD8700/2500
AH	WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
AI	2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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
A0	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG

- NOTES:
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  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 & N) 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 GROUNDING.
  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.
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  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.
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B	CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
C	NOT USED FOR THIS SHEET APPLICATION
D	TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
E	NEMA 4X STAINLESS STEEL, 36"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
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K	CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
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M	NOT USED FOR THIS SHEET APPLICATION
N	NOT USED FOR THIS SHEET APPLICATION
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/S1 OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 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-SPMIB050
V	NOT USED FOR THIS SHEET APPLICATION
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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  - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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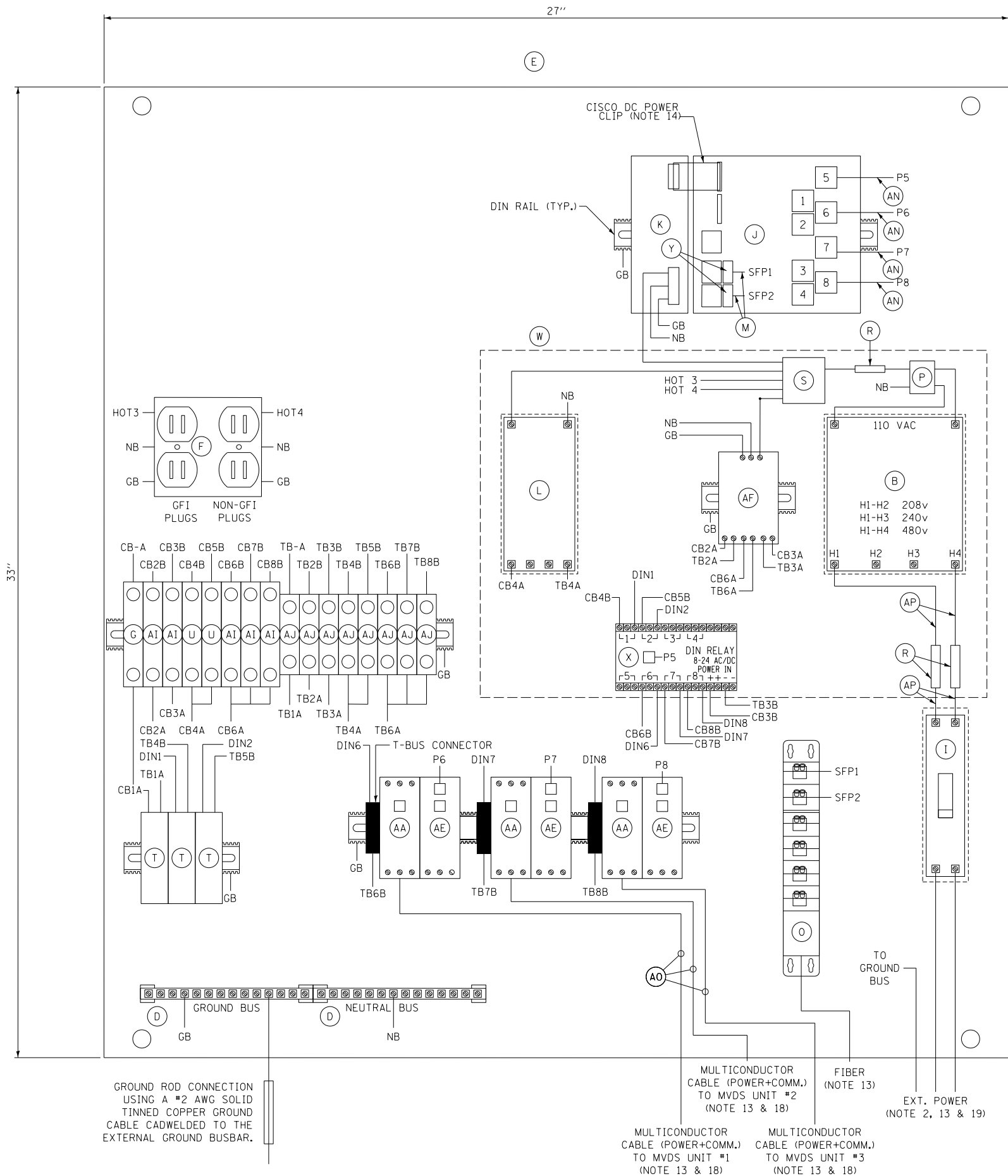
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M-ITS-1218



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

DATE  
3-31-2016



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 CUTLER HAMMER/HFD2030L & 625B229G07
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
O	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
T	24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
U	5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB050
V	NOT USED FOR THIS SHEET APPLICATION
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
Y	(2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
Z	NOT USED FOR THIS SHEET APPLICATION
AA	SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
AB	NOT USED FOR THIS SHEET APPLICATION
AC	NOT USED FOR THIS SHEET APPLICATION
AD	NOT USED FOR THIS SHEET APPLICATION
AE	RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, 0K-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-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN, SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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
A0	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG

- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
  - NOT USED FOR THIS SHEET APPLICATION
  - THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - NOT USED FOR THIS SHEET APPLICATION
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - NOT USED FOR THIS SHEET APPLICATION
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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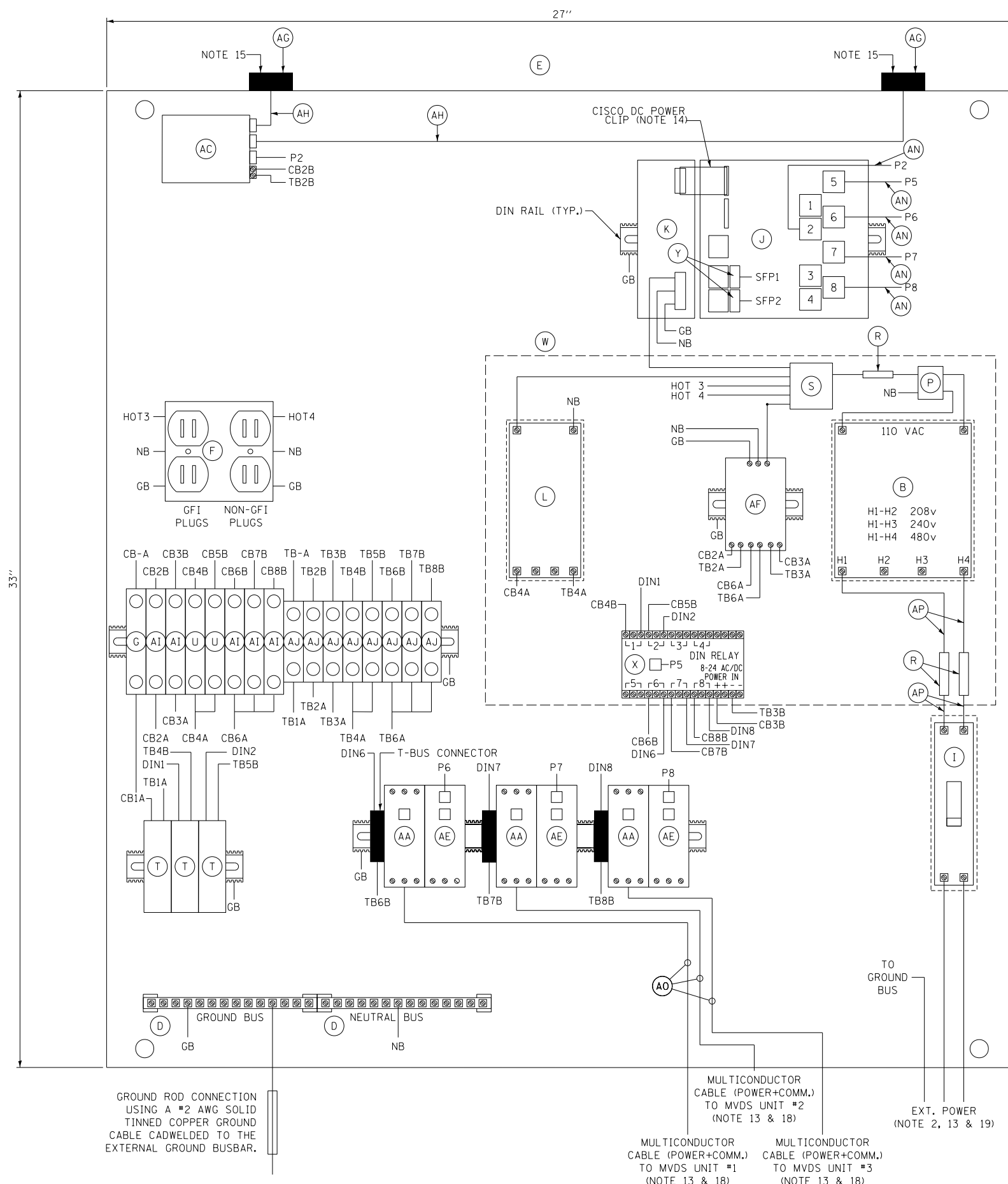
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M-ITS-1219

CABINET WIRING DIAGRAM  
THREE MVDS  
AC AND FOC  
ITS ASSEMBLY

DATE  
3-31-2016



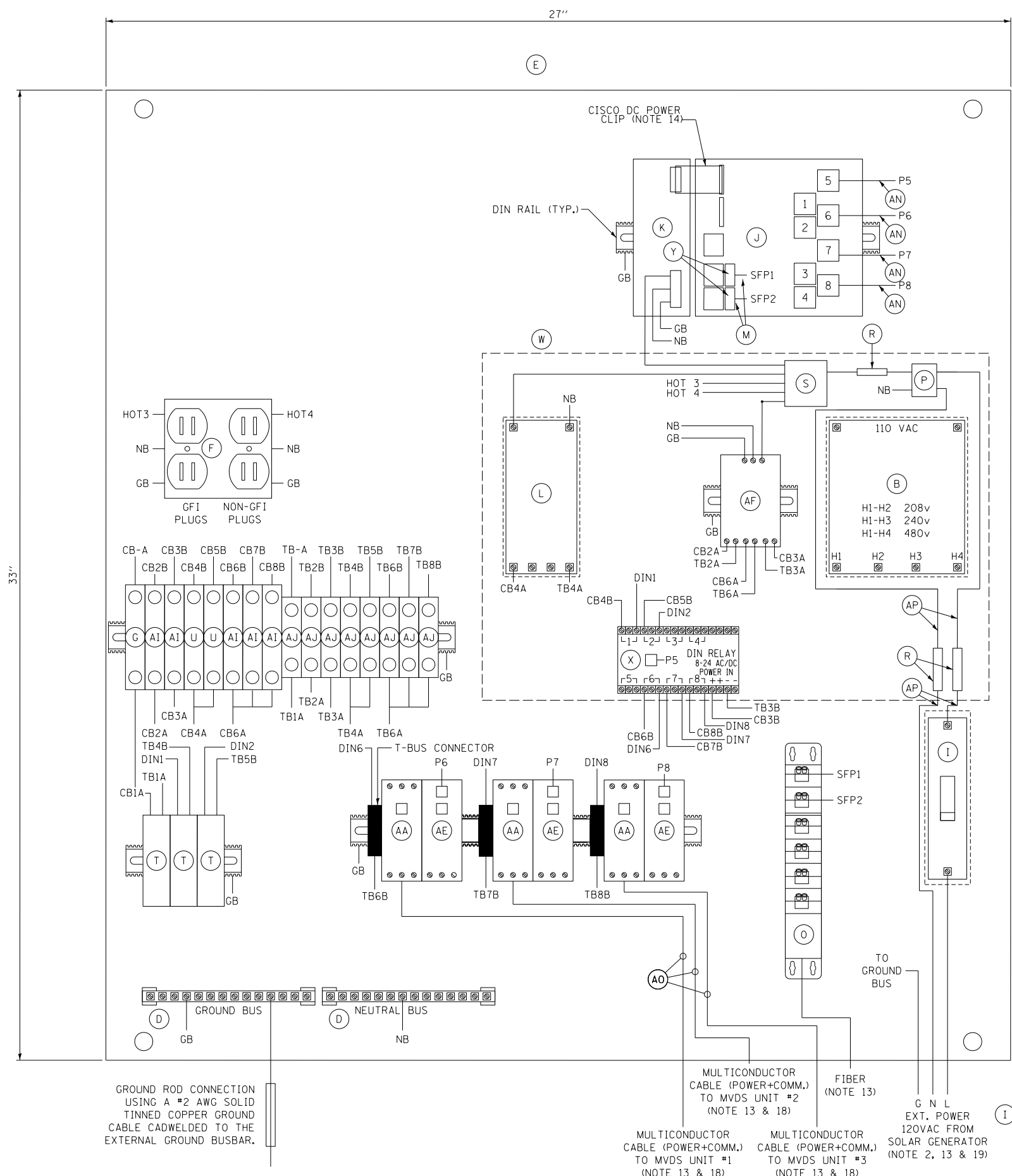


ITEM	DESCRIPTION
A	NOT USED FOR THIS SHEET APPLICATION
B	CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
C	NOT USED FOR THIS SHEET APPLICATION
D	TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
E	NEMA 4X STAINLESS STEEL, 36"H X 30"W 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 CUTLER HAMMER/HFD2030L & 625B229G07
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	NOT USED FOR THIS SHEET APPLICATION
N	NOT USED FOR THIS SHEET APPLICATION
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 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-SPMIB050
V	NOT USED FOR THIS SHEET APPLICATION
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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, 0K-35A
AF	AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
AG	WIRELESS MODEM ANTENNAS, PCTEL/BMLPVB700/2500
AH	WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
AI	2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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
A0	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG

- NOTES:
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  4. NOT USED FOR THIS SHEET APPLICATION.
  5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) 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 GROUNDING.
  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. 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
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  22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND 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 AND INCIDENTAL TO THE CONTRACT.
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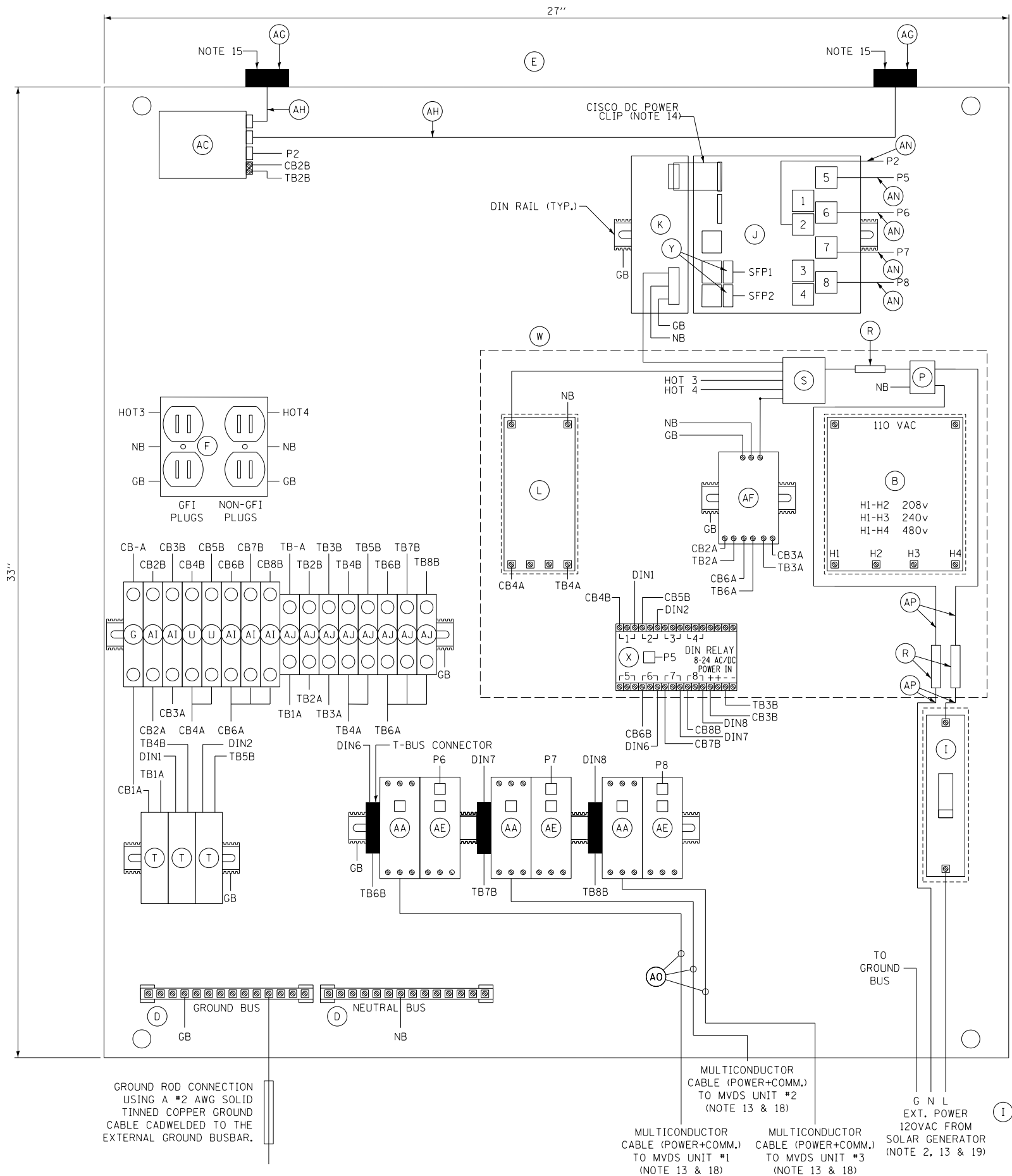


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F	TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
G	24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
H	NOT USED FOR THIS SHEET APPLICATION
I	120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
J	8 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
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O	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/S1 OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 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-SPMIB050
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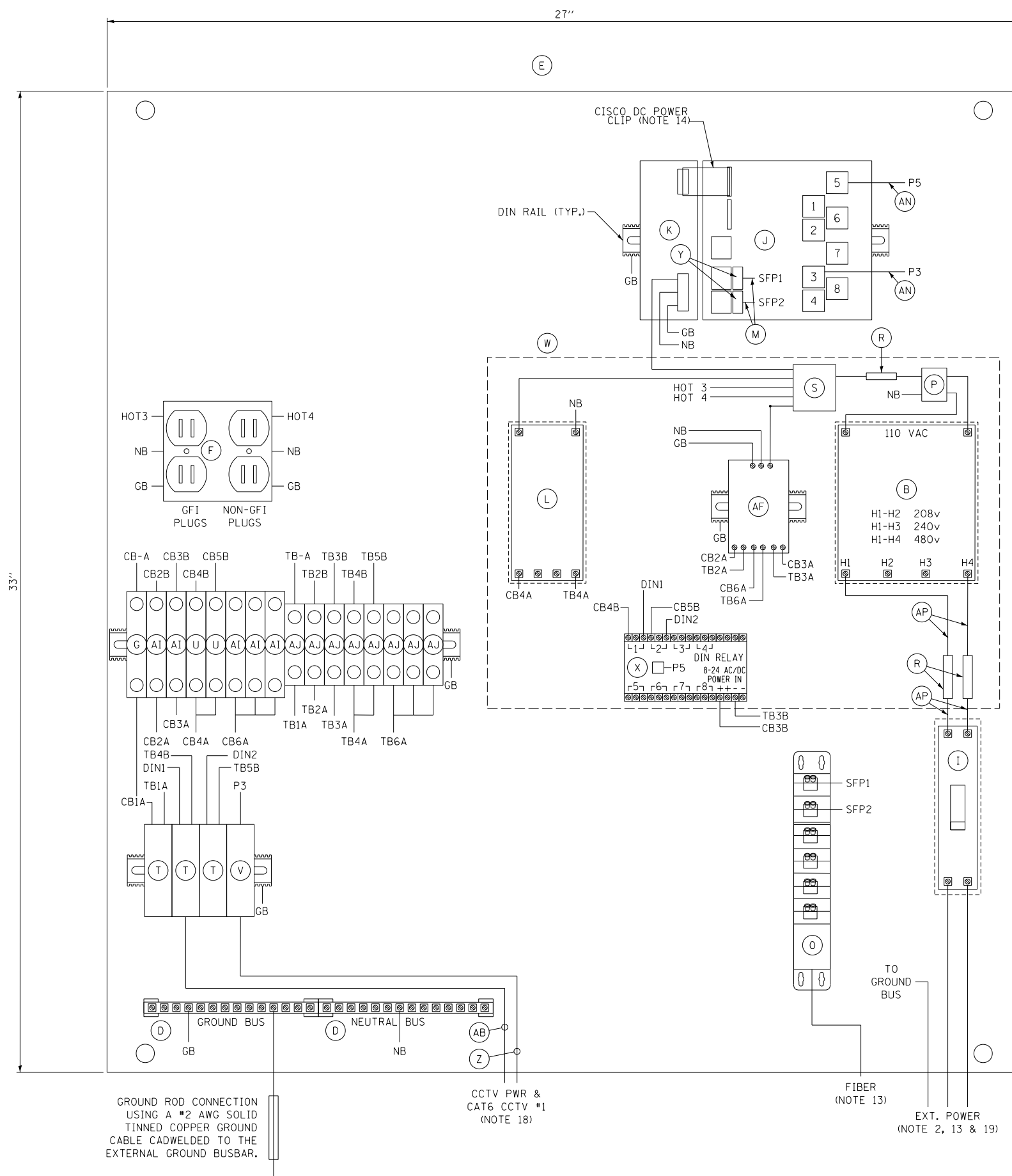


ITEM	DESCRIPTION
A	NOT USED FOR THIS SHEET APPLICATION
B	CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
C	NOT USED FOR THIS SHEET APPLICATION
D	TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
E	NEMA 4X STAINLESS STEEL, 36\"H X 30\"W X 12\"D ENCLOSURE WITH 33\"X27\" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
F	TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
G	24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
H	NOT USED FOR THIS SHEET APPLICATION
I	120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
J	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	NOT USED FOR THIS SHEET APPLICATION
N	NOT USED FOR THIS SHEET APPLICATION
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D11/S1 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
T	24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
U	5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB050
V	NOT USED FOR THIS SHEET APPLICATION
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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, 0K-35A
AF	AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
AG	WIRELESS MODEM ANTENNAS, PCTEL/BMLPVD8700/2500
AH	WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
AI	2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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
A0	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG

- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
  - NOT USED FOR THIS SHEET APPLICATION
  - THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - NOT USED FOR THIS SHEET APPLICATION
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
  - TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - 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
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 CUTLER HAMMER/HFD2030L & 625B229G07
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
O	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
T	24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
U	5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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	NOT USED FOR THIS SHEET APPLICATION
AD	NOT USED FOR THIS SHEET APPLICATION
AE	NOT USED FOR THIS SHEET APPLICATION
AF	AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
AG	NOT USED FOR THIS SHEET APPLICATION
AH	NOT USED FOR THIS SHEET APPLICATION
AI	2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
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

- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
  - NOT USED FOR THIS SHEET APPLICATION
  - THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - NOT USED FOR THIS SHEET APPLICATION
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
  - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

### NOTE TO DESIGNER

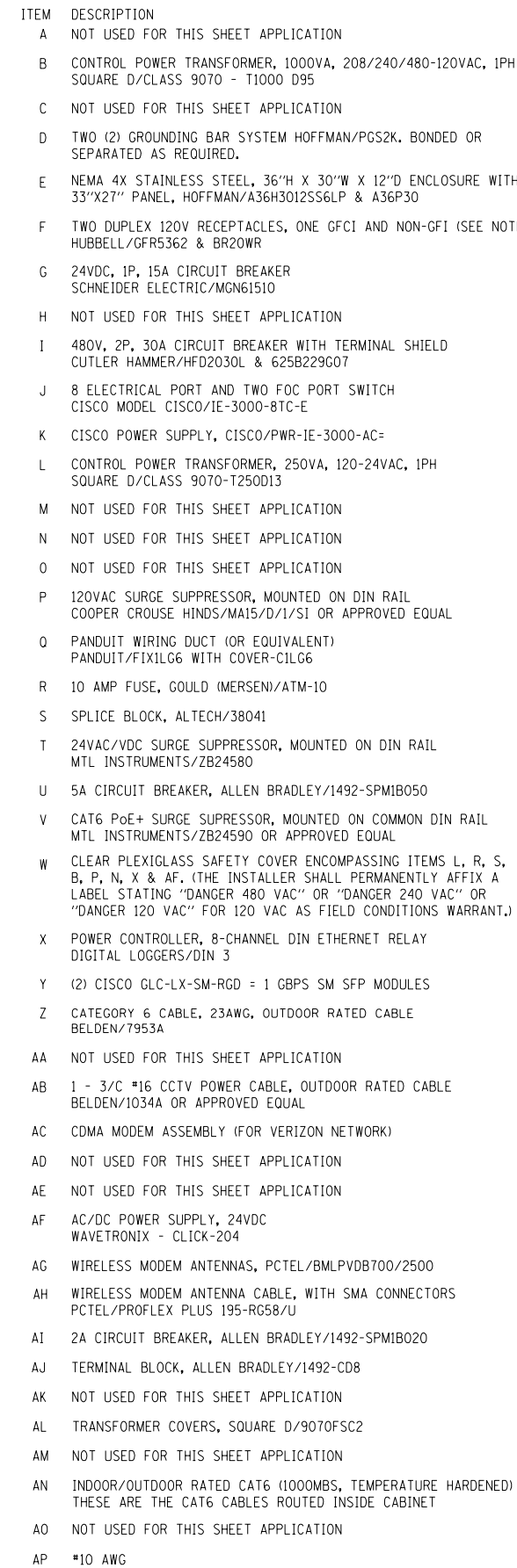
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M-ITS-1223



### CABINET WIRING DIAGRAM CCTV AC AND FOC ITS ASSEMBLY

DATE  
3-31-2016



- NOTES:
1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  4. NOT USED FOR THIS SHEET APPLICATION.
  5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) 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. 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. 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 CABINET AND 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 AND INCIDENTAL TO THE CONTRACT.
  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.

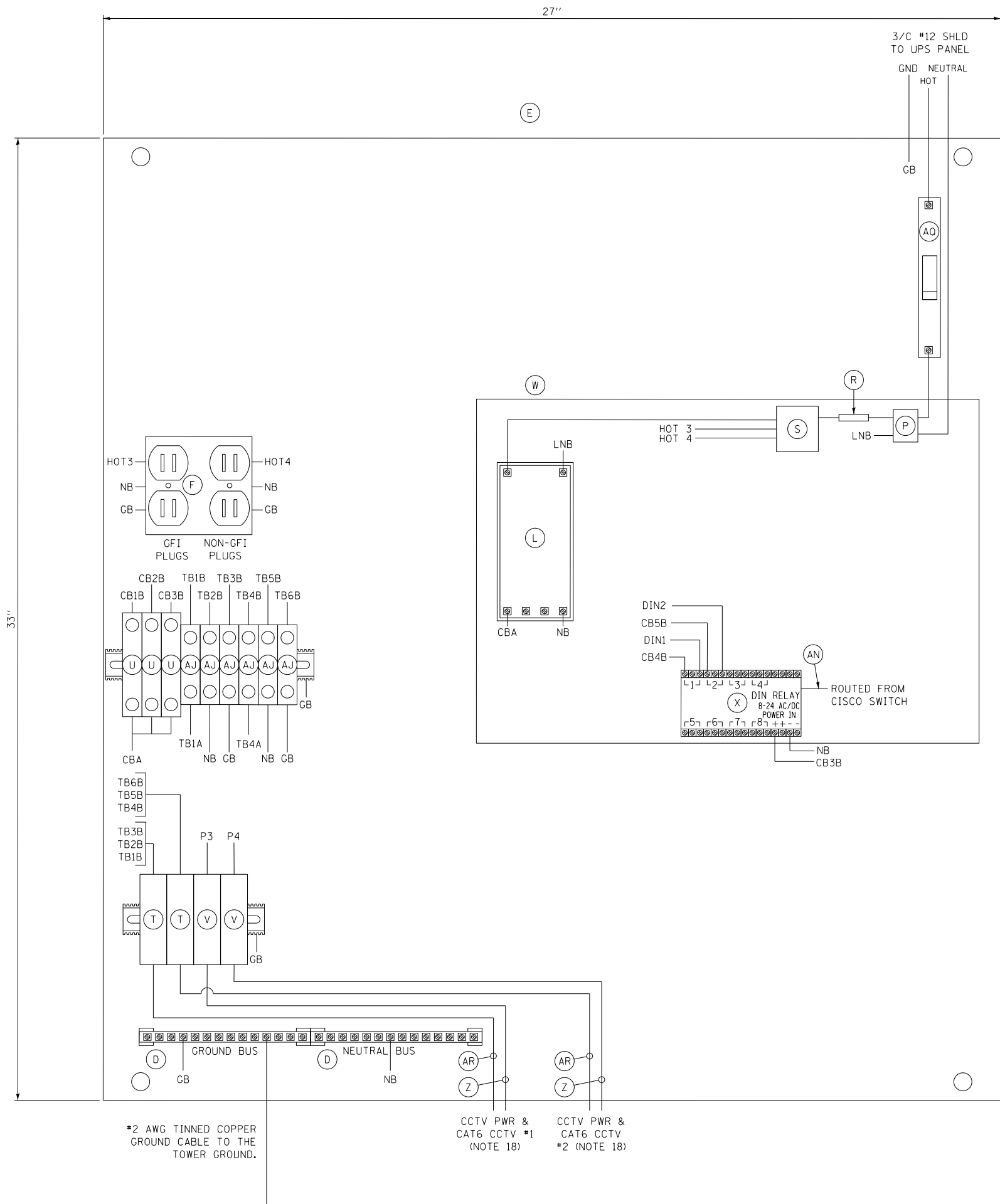


CABINET WIRING DIAGRAM  
CCTV  
AC AND WIRELESS  
ITS ASSEMBLY

DATE  
3-31-2016







ITEM	DESCRIPTION
A	NOT USED FOR THIS SHEET APPLICATION
B	NOT USED FOR THIS SHEET APPLICATION
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	NOT USED FOR THIS SHEET APPLICATION
H	NOT USED FOR THIS SHEET APPLICATION
I	NOT USED FOR THIS SHEET APPLICATION
J	NOT USED FOR THIS SHEET APPLICATION
K	NOT USED FOR THIS SHEET APPLICATION
L	CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
M	NOT USED FOR THIS SHEET APPLICATION
N	NOT USED FOR THIS SHEET APPLICATION
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/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-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
Y	NOT USED FOR THIS SHEET APPLICATION
Z	CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
AA	NOT USED FOR THIS SHEET APPLICATION
AB	NOT USED FOR THIS SHEET APPLICATION
AC	NOT USED FOR THIS SHEET APPLICATION
AD	NOT USED FOR THIS SHEET APPLICATION
AE	NOT USED FOR THIS SHEET APPLICATION
AF	NOT USED FOR THIS SHEET APPLICATION
AG	NOT USED FOR THIS SHEET APPLICATION
AH	NOT USED FOR THIS SHEET APPLICATION
AI	NOT USED FOR THIS SHEET APPLICATION
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	NOT USED FOR THIS SHEET APPLICATION
AL	TRANSFORMER COVERS, SQUARE D/9070FSC2
AM	CCTV POE INJECTOR
AN	INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
AO	NOT USED FOR THIS SHEET APPLICATION
AP	NOT USED FOR THIS SHEET APPLICATION
AQ	120V, 1P, 20A CIRCUIT BREAKER WITH TERMINAL SHIELD, CUTLER HAMMER/FD1020L & 625B225G06
AR	1 -3/C #12 CCTV PWER CABLE, OUTDOOR RATED CABLE, BELDEN 3102A OR APPROVED EQUAL

- NOTES:
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. NOT USED FOR THIS SHEET APPLICATION.
  5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) 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. 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 SCHEMATIC FOR WIRING DETAILS.
  13. NOT USED FOR THIS SHEET APPLICATION
  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 USED FOR THIS SHEET APPLICATION
  20. NOT USED FOR THIS SHEET APPLICATION
  21. NOT USED FOR THIS SHEET APPLICATION
  22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
  23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND 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 ITEMS B AND L.
  26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  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 QUAD BOX (120V AC) CIRCUITS TO CONTROL POWER TO ITEM AM.

#### NOTE TO DESIGNER 1

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.

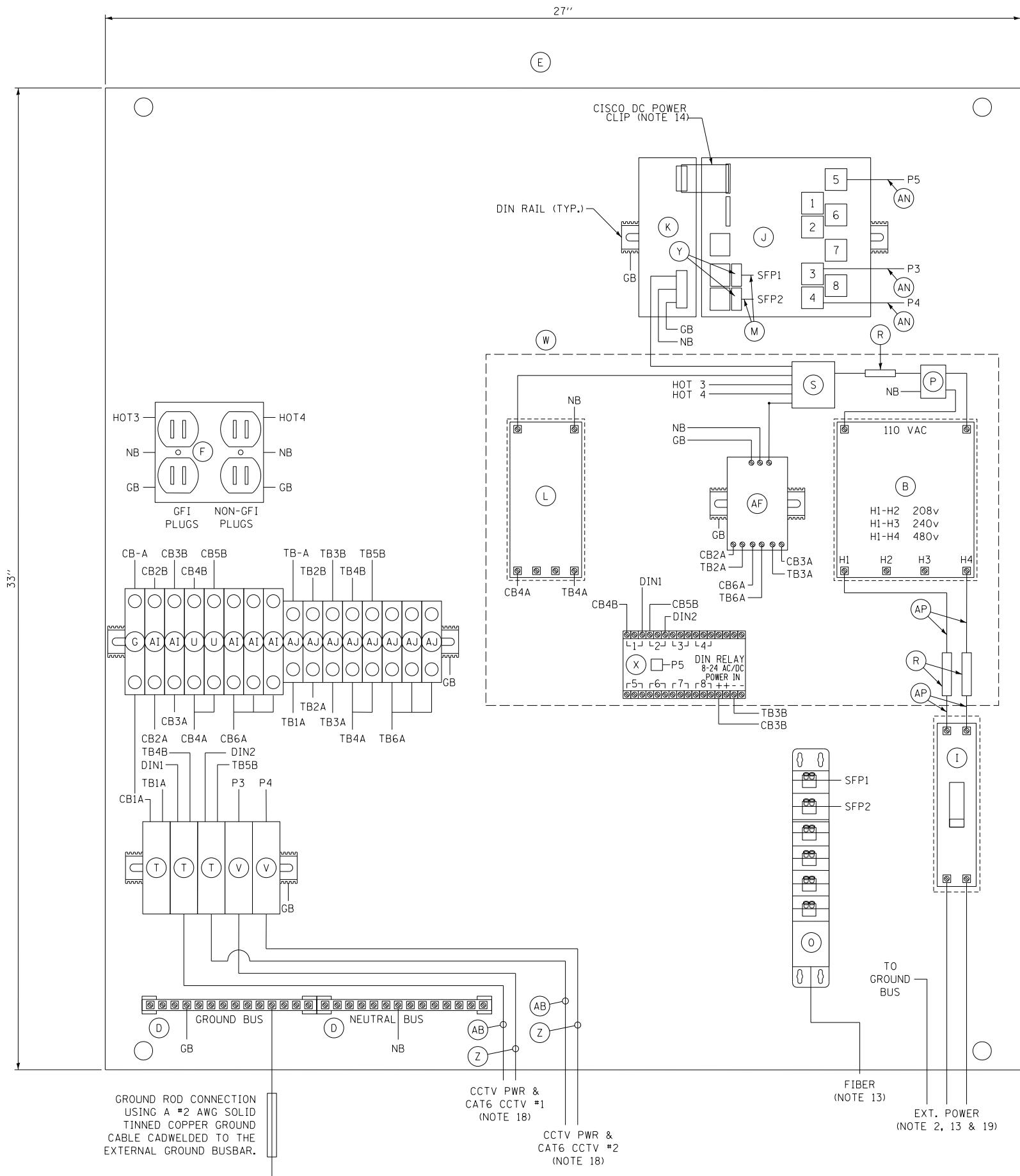
M-ITS-1256



CABINET WIRING DIAGRAM  
TOWER MOUNTED CCTV  
ITS ASSEMBLY  
300' CAT6 OR LESS

DATE

3-31-2016



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 CUTLER HAMMER/HFD2030L & 625B229G07
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
O	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
T	24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
U	5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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	NOT USED FOR THIS SHEET APPLICATION
AD	NOT USED FOR THIS SHEET APPLICATION
AE	NOT USED FOR THIS SHEET APPLICATION
AF	AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
AG	NOT USED FOR THIS SHEET APPLICATION
AH	NOT USED FOR THIS SHEET APPLICATION
AI	2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
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

- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
  - NOT USED FOR THIS SHEET APPLICATION
  - THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - NOT USED FOR THIS SHEET APPLICATION
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

**NOTE TO DESIGNER**

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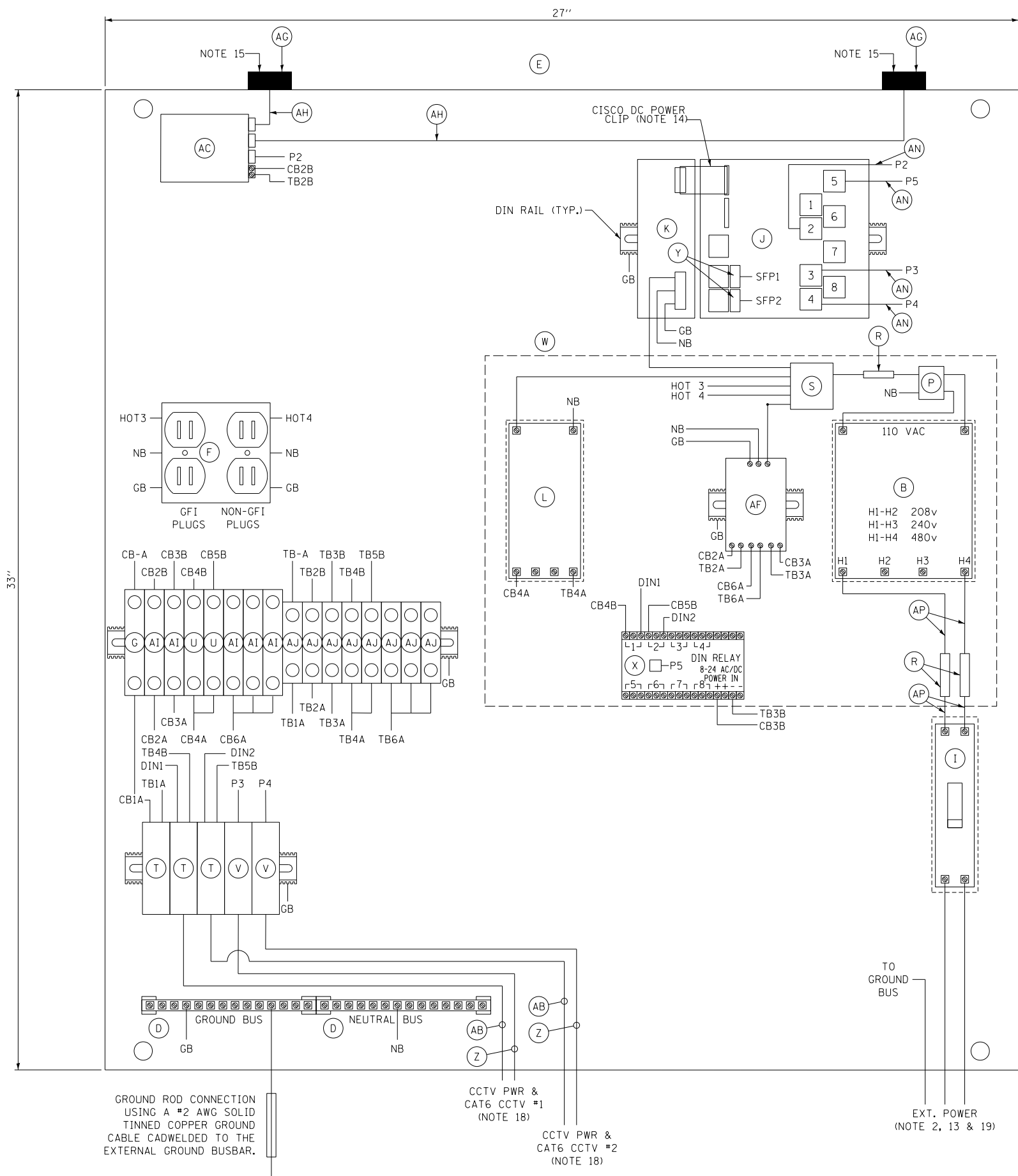
M-ITS-1227



CABINET WIRING DIAGRAM  
DUAL CCTV  
AC AND FOC  
ITS ASSEMBLY

DATE

3-31-2016



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 CUTLER HAMMER/HFD2030L & 625B229G07
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	NOT USED FOR THIS SHEET APPLICATION
N	NOT USED FOR THIS SHEET APPLICATION
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LC6 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	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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/BMLPVB700/2500
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

- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
  - NOT USED FOR THIS SHEET APPLICATION
  - THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

#### NOTE TO DESIGNER

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M-ITS-1228

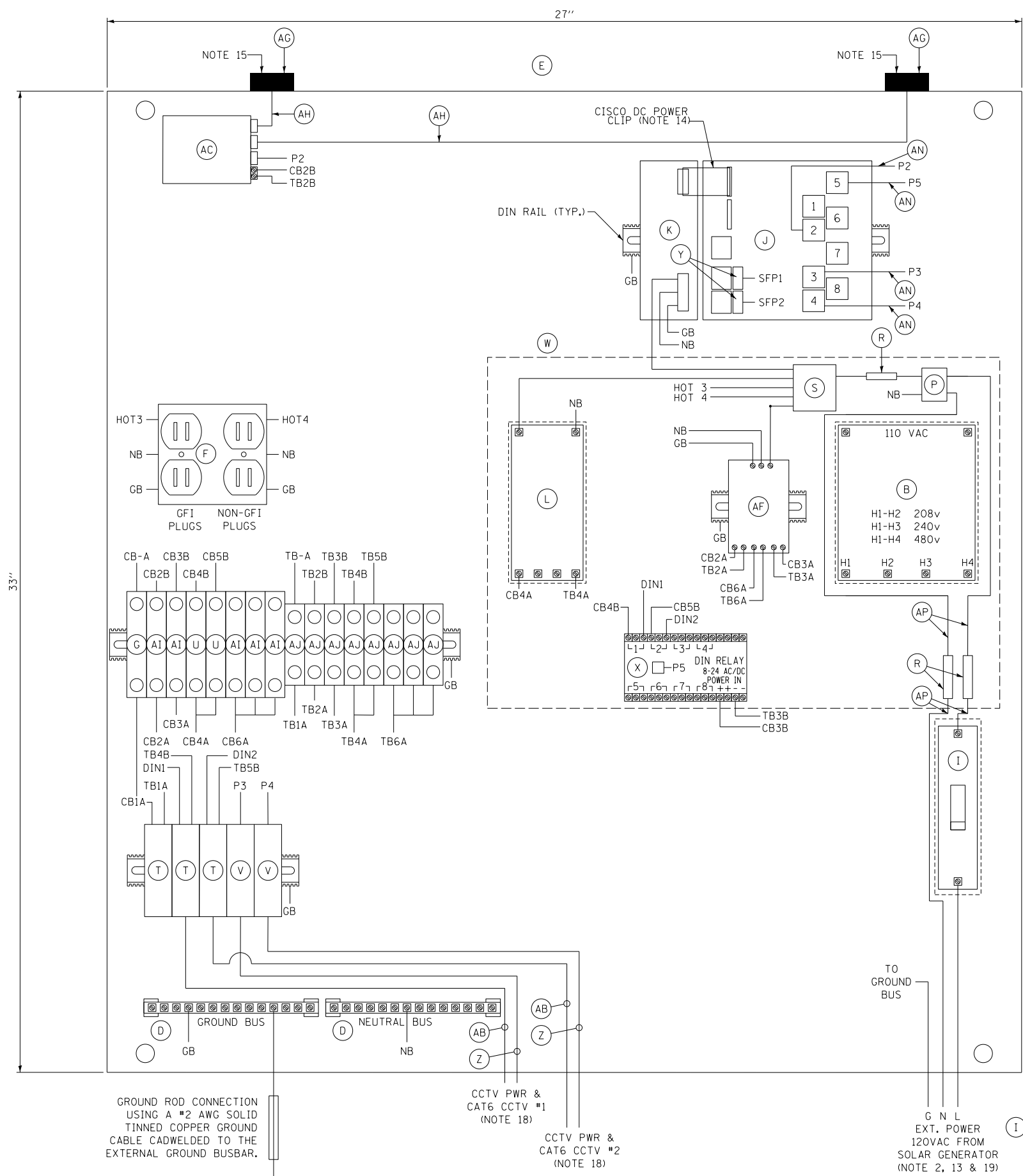


CABINET WIRING DIAGRAM  
DUAL CCTV  
AC AND WIRELESS  
ITS ASSEMBLY

DATE

3-31-2016





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-BTC-E
K	CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
L	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
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/S1 OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 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	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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/BMLPVB700/2500
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
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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

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  - THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
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  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  - TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
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NOTE TO DESIGNER

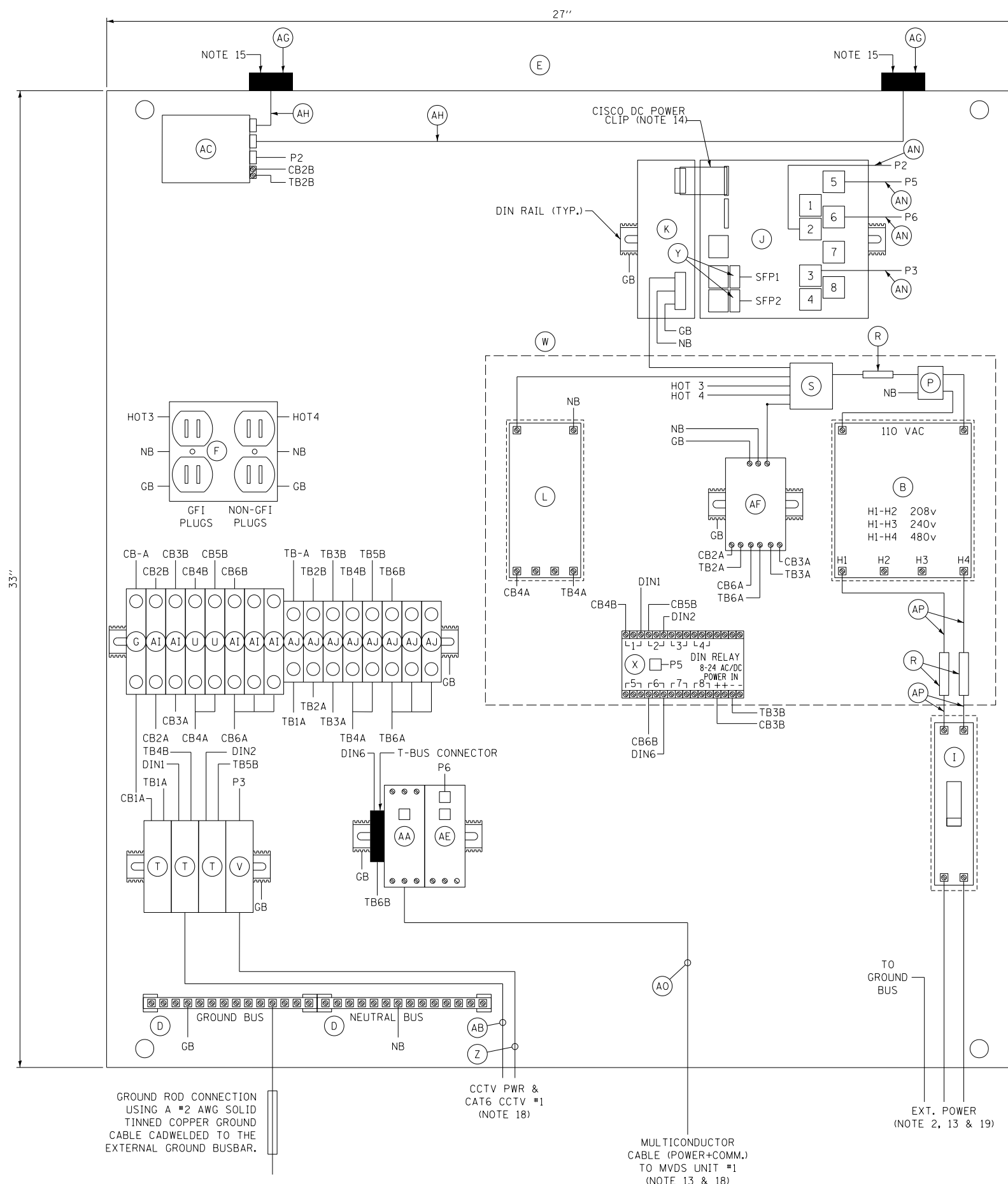
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M-ITS-1230

CABINET WIRING DIAGRAM  
DUAL CCTV  
SOLAR GENERATOR AND  
WIRELESS ITS ASSEMBLY  
DATE  
3-31-2016





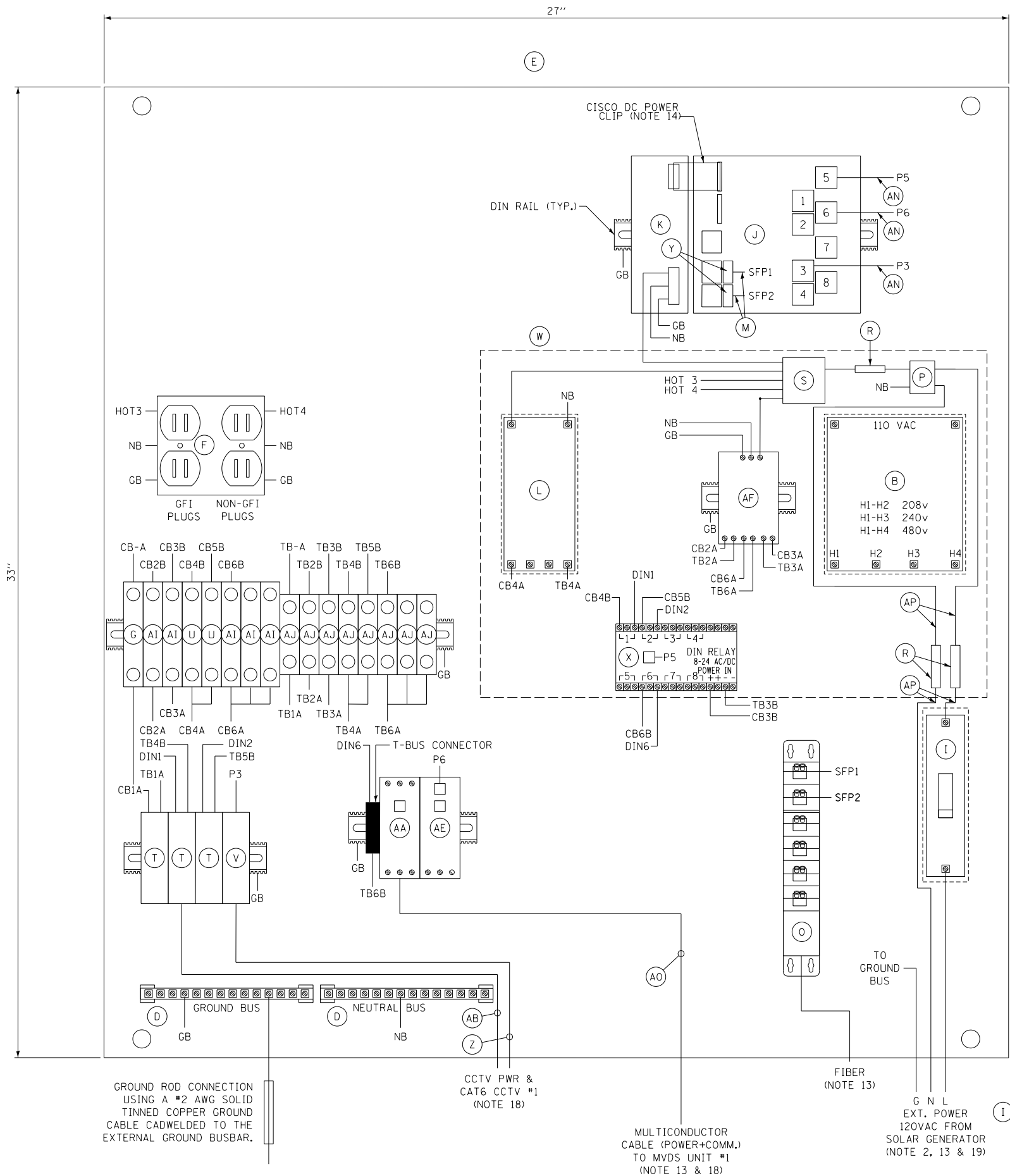


ITEM	DESCRIPTION
A	NOT USED FOR THIS SHEET APPLICATION
B	CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
C	NOT USED FOR THIS SHEET APPLICATION
D	TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
E	NEMA 4X STAINLESS STEEL, 36"H X 30"W 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 CUTLER HAMMER/HFD2030L & 625B229G07
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	NOT USED FOR THIS SHEET APPLICATION
N	NOT USED FOR THIS SHEET APPLICATION
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 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-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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, 0K-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-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG

- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
  - NOT USED FOR THIS SHEET APPLICATION
  - THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
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  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

NOTE TO DESIGNER

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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
O	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/FIX1LG6 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
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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
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AE	RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, 0K-35A
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AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CDB
AK	MVDS ASSEMBLY (NOT SHOWN, SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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M-ITS-1233

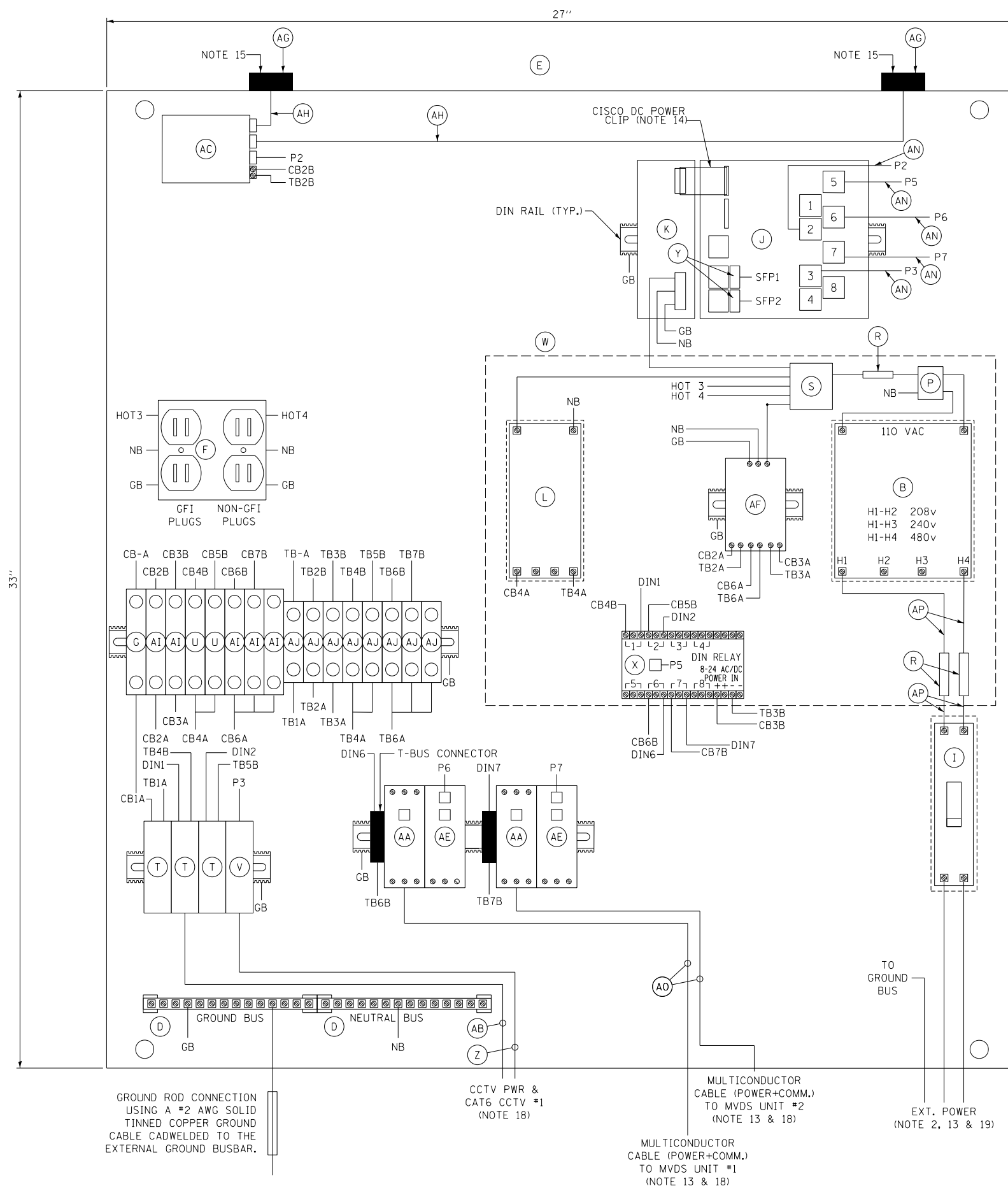


CABINET WIRING DIAGRAM  
CCTV AND MVDS  
SOLAR GENERATOR AND FOC  
ITS ASSEMBLY

DATE  
3-31-2016

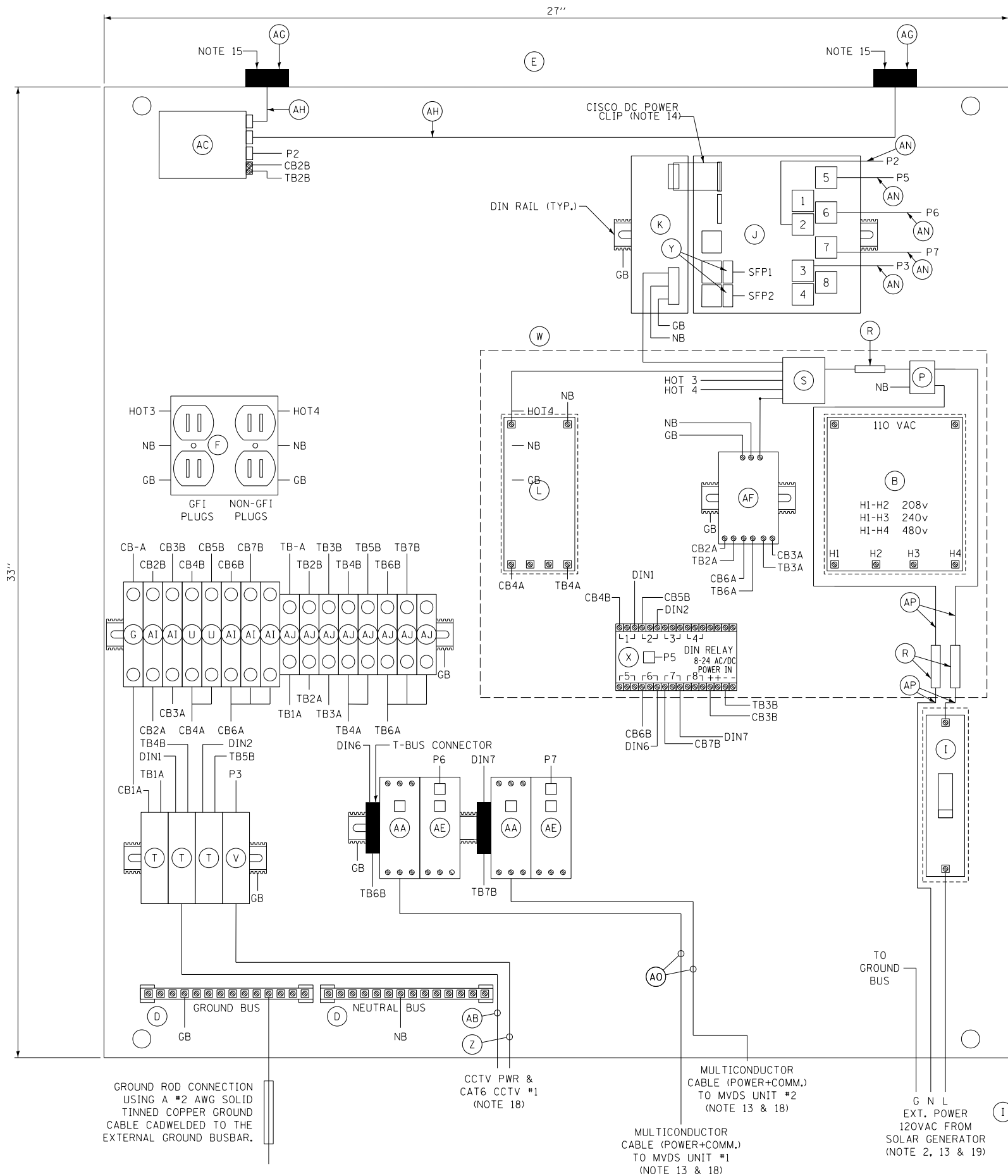






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G	24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
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J	8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
K	CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
L	CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
M	NOT USED FOR THIS SHEET APPLICATION
N	NOT USED FOR THIS SHEET APPLICATION
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-CILG6
R	10 AMP FUSE, GOULD (MERSEN)/ATM-10
S	SPLICE BLOCK, ALTECH/38041
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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
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  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
  - NOT USED FOR THIS SHEET APPLICATION
  - THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
  - TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - 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-1238

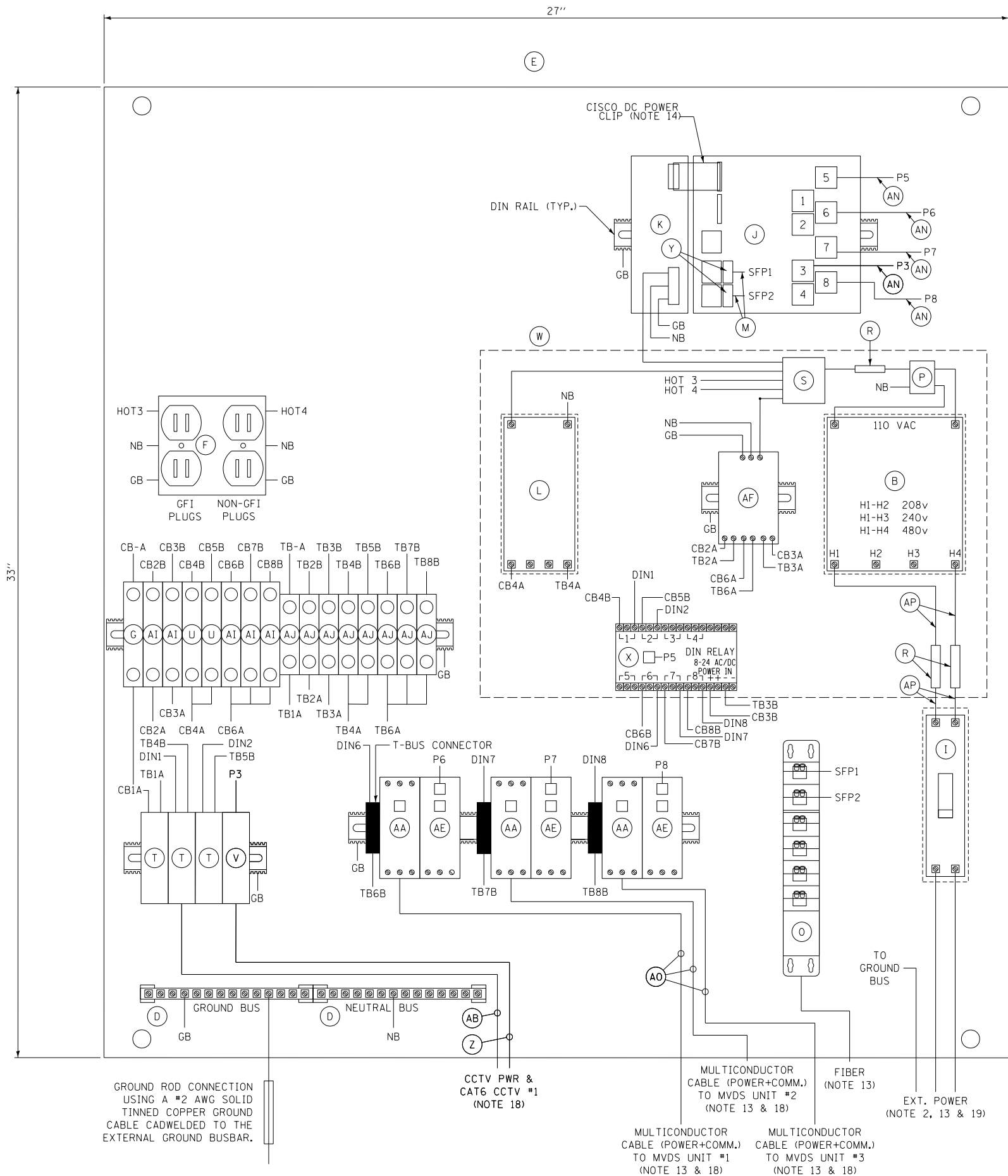


CABINET WIRING DIAGRAM  
CCTV AND DUAL MVDS  
SOLAR GENERATOR AND  
WIRELESS ITS ASSEMBLY

DATE

3-31-2016





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 CUTLER HAMMER/HFD2030L & 625B229G07
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
O	SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D1/S1 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-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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, 0K-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-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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
A0	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG

- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
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  - THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFIS ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - NOT USED FOR THIS SHEET APPLICATION
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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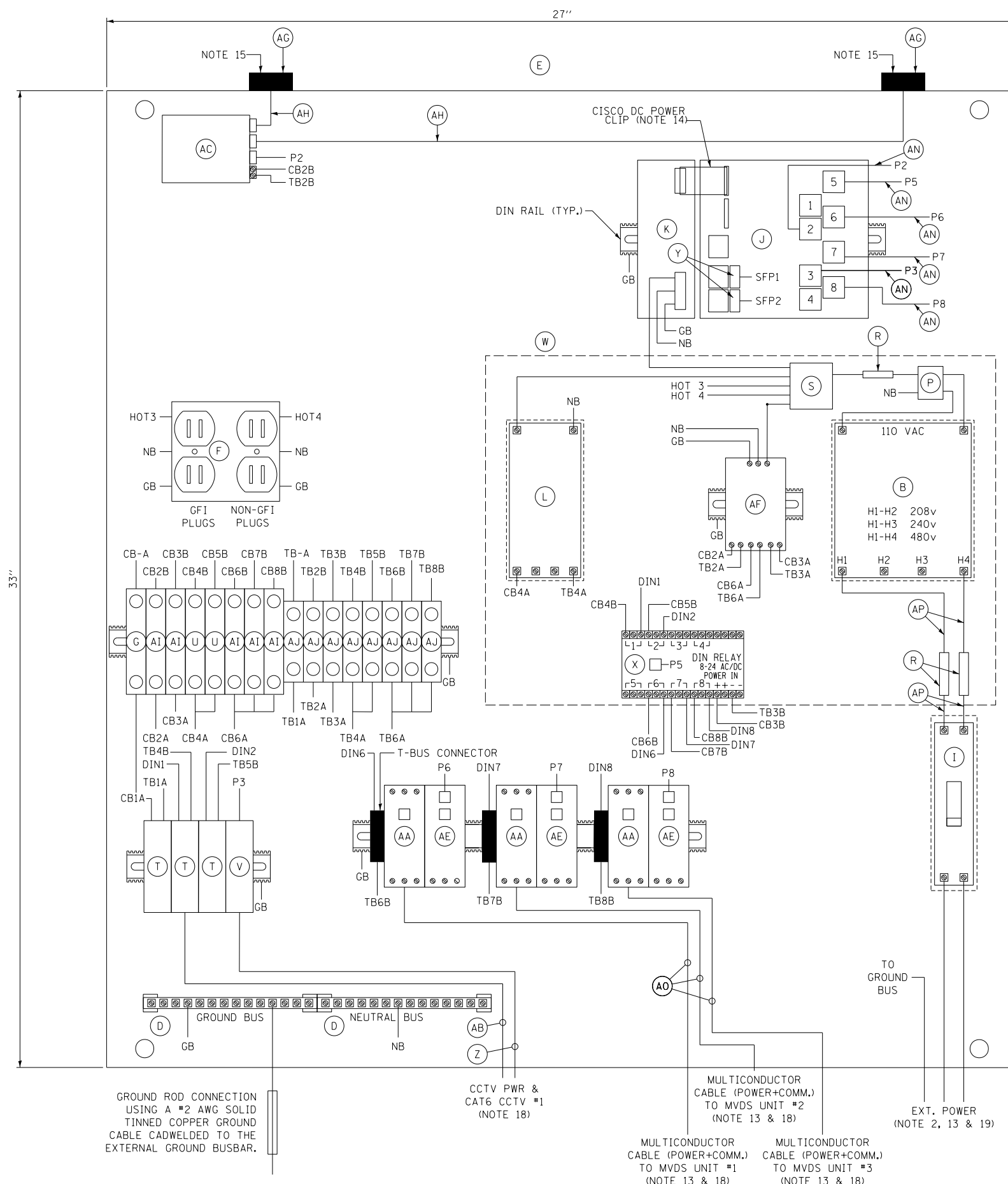
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M-ITS-1239



CABINET WIRING DIAGRAM  
CCTV AND THREE MVDS  
AC AND FOC  
ITS ASSEMBLY

DATE  
3-31-2016

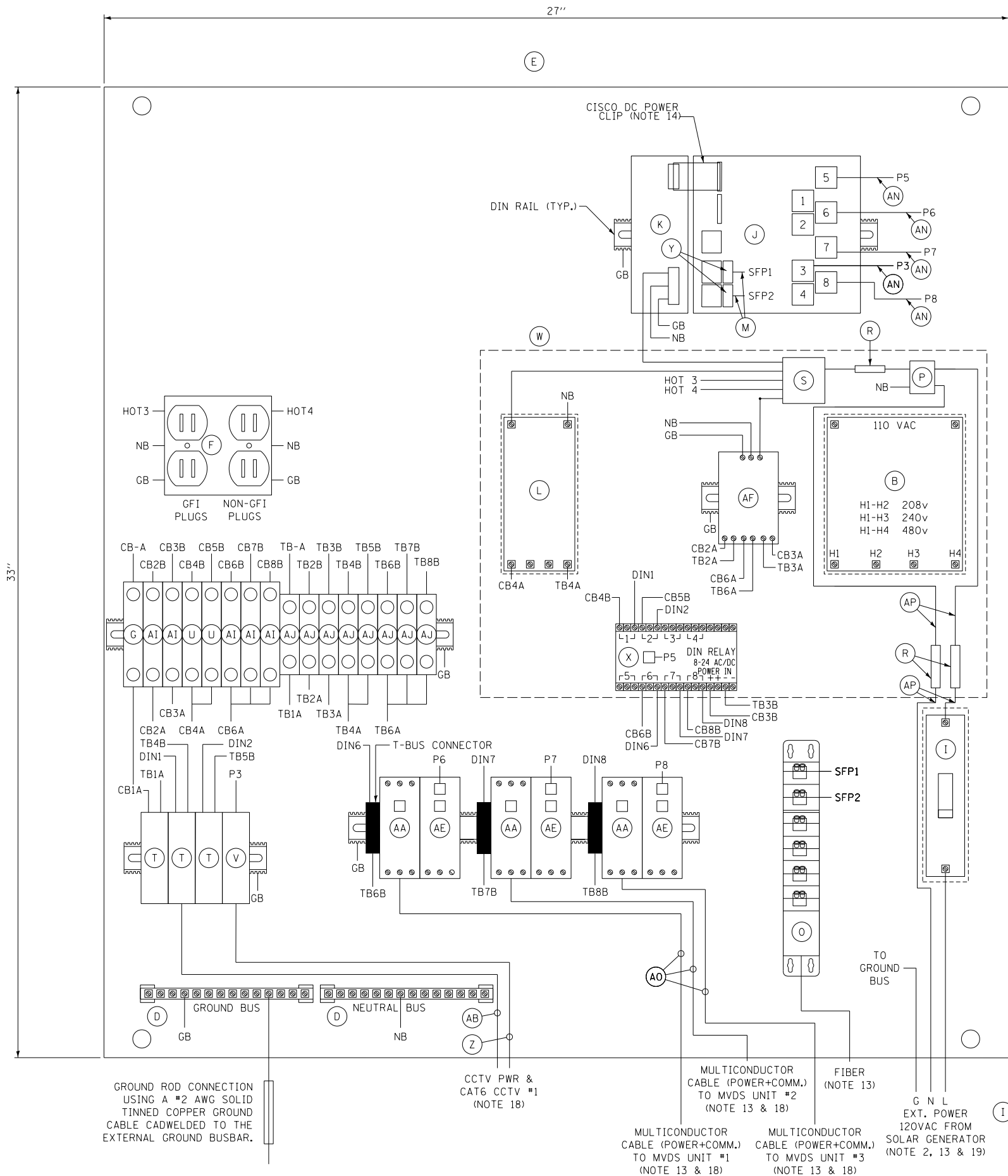


ITEM	DESCRIPTION
A	NOT USED FOR THIS SHEET APPLICATION
B	CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
C	NOT USED FOR THIS SHEET APPLICATION
D	TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
E	NEMA 4X STAINLESS STEEL, 36"H X 30"W 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 CUTLER HAMMER/HFD2030L & 625B229G07
J	8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-BTC-E
K	CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
L	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
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/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-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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, 0K-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-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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
A0	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG

- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
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  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
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  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
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ITEM	DESCRIPTION
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B	CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
C	NOT USED FOR THIS SHEET APPLICATION
D	TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
E	NEMA 4X STAINLESS STEEL, 36"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
O	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/FIX1LG6 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-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
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X	POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
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, 0K-35A
AF	AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
AG	NOT USED FOR THIS SHEET APPLICATION
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AI	2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - NOT USED FOR THIS SHEET APPLICATION
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  - TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

### NOTE TO DESIGNER

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M-ITS-1241

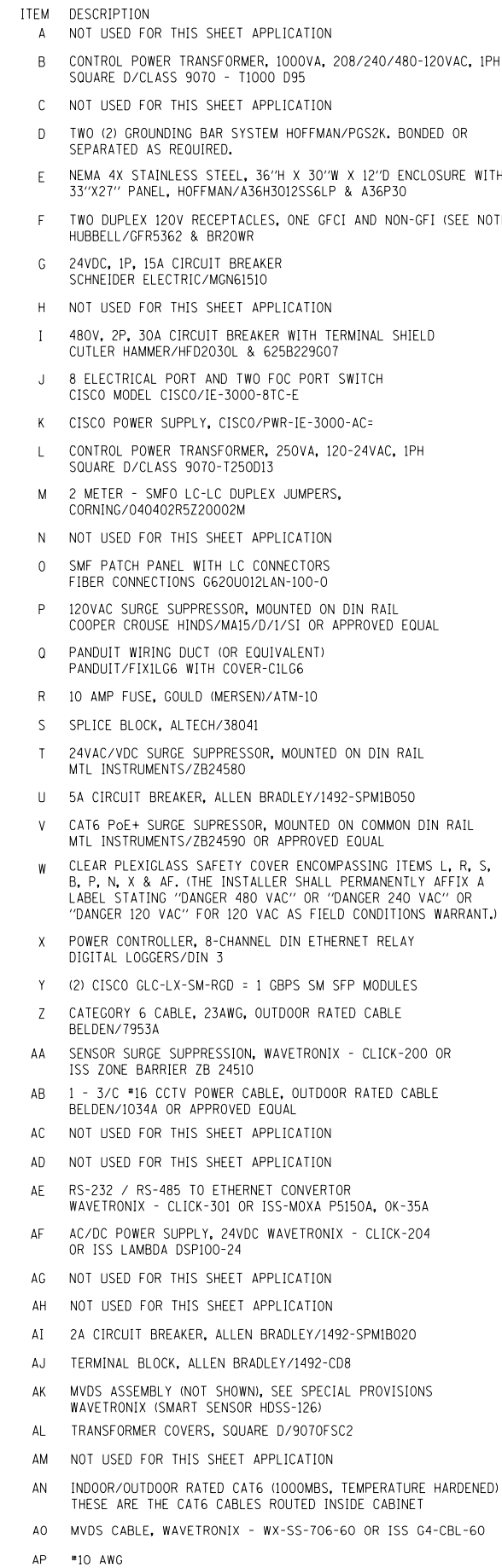


CABINET WIRING DIAGRAM  
CCTV AND THREE MVDS  
SOLAR GENERATOR AND FOC  
ITS ASSEMBLY

DATE

3-31-2016





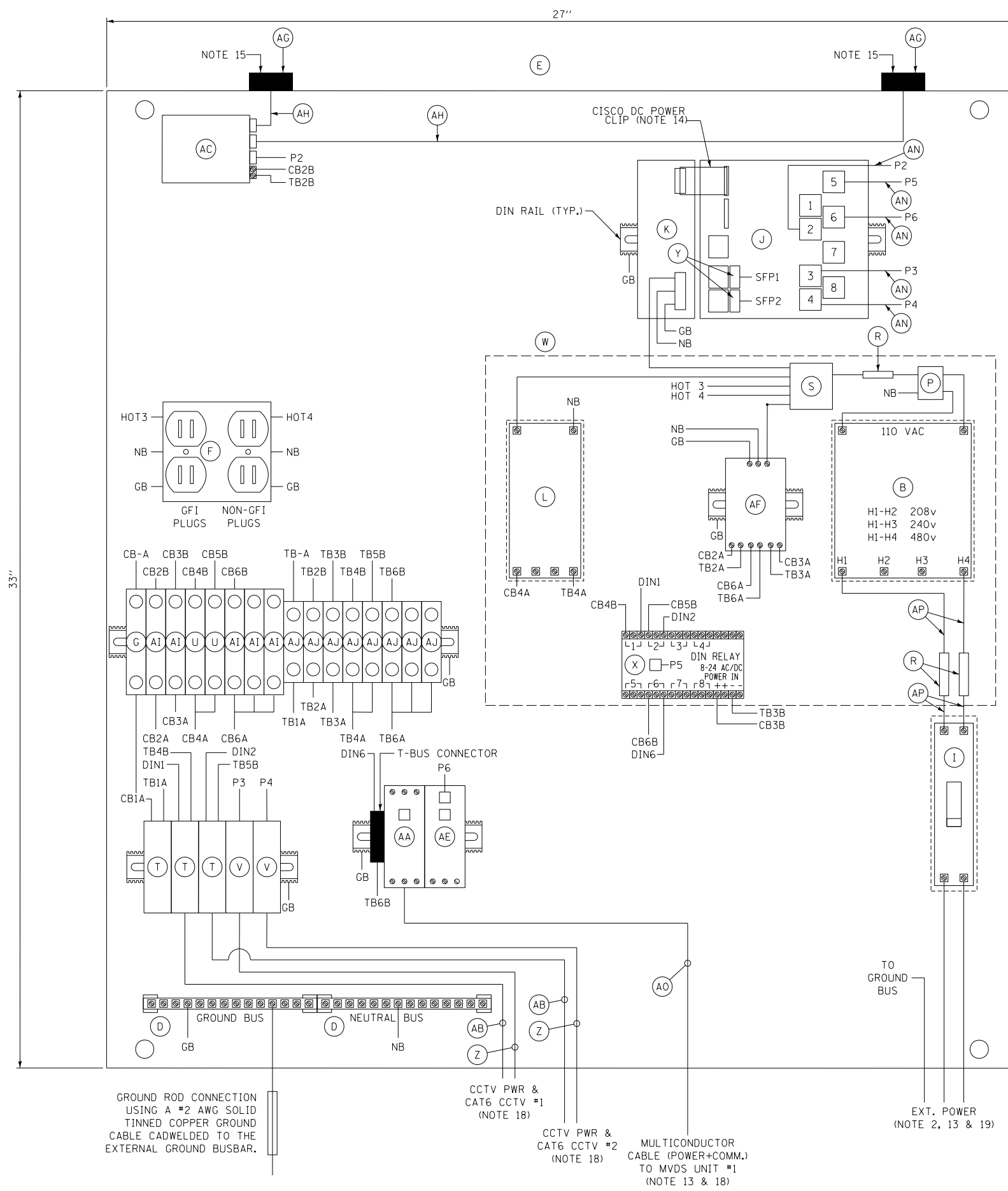
- NOTES:
1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
4. NOT USED FOR THIS SHEET APPLICATION.
5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) 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. 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. 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 CABINET AND 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 AND INCIDENTAL TO THE CONTRACT.
27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE \*16 AWG CABLE.

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  
DUAL CCTV AND MVDS  
AC AND FOC  
ITS ASSEMBLY

DATE  
3-31-2016



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 CUTLER HAMMER/HFD2030L & 625B229G07
J	8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-BTC-E
K	CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
L	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
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/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-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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, 0K-35A
AF	AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
AG	WIRELESS MODEM ANTENNAS, PCTEL/BMLPVB0700/2500
AH	WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
AI	2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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	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.
  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 & N) 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 GROUNDING.
  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. 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. NOT USED FOR THIS SHEET APPLICATION
  22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND 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 AND INCIDENTAL TO THE CONTRACT.
  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

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M-ITS-1244

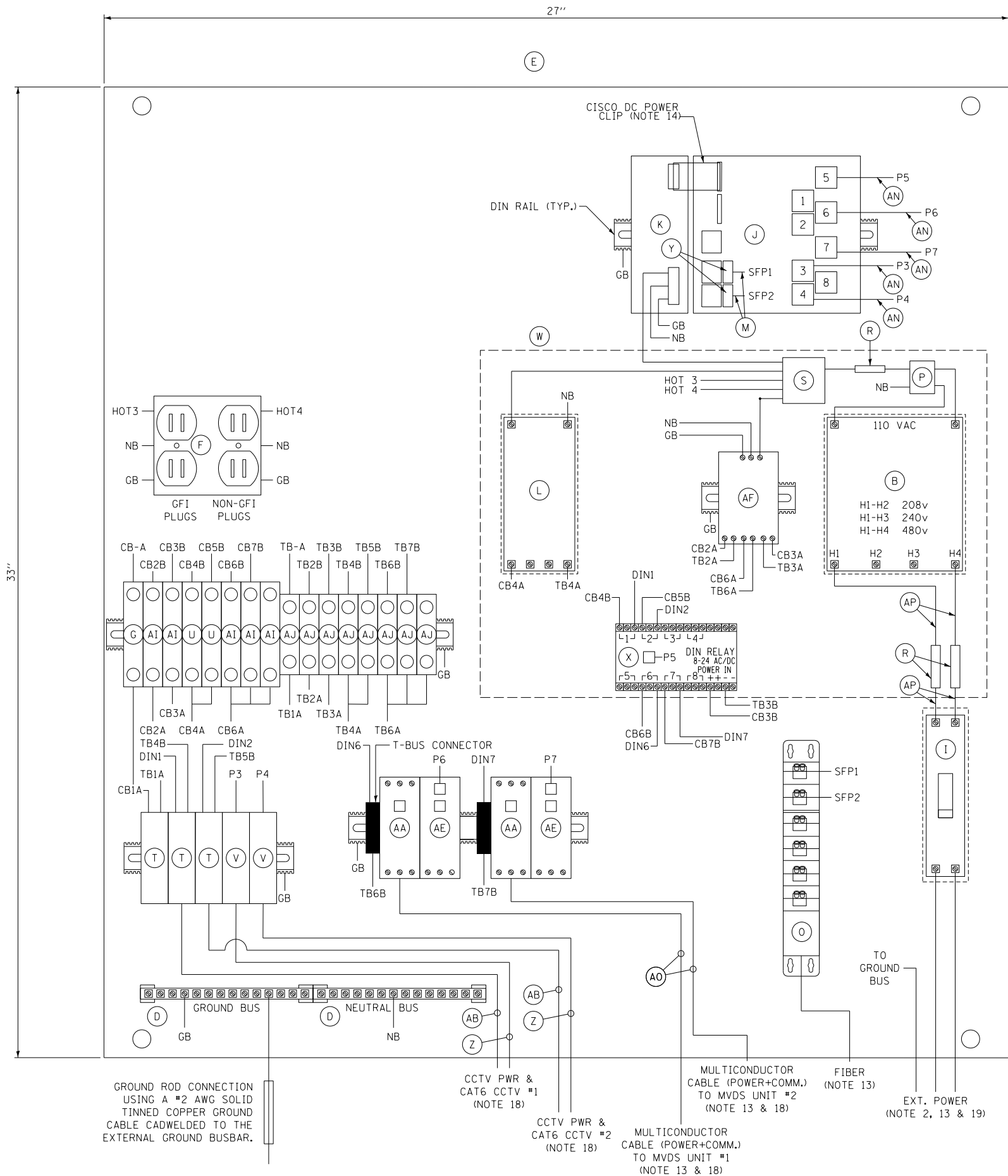
CABINET WIRING DIAGRAM  
DUAL CCTV AND MVDS  
AC AND WIRELESS  
ITS ASSEMBLY

DATE  
3-31-2016










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 CUTLER HAMMER/HFD2030L & 625B229G07
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
O	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
T	24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
U	5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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
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-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG

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- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
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  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
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  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  - BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
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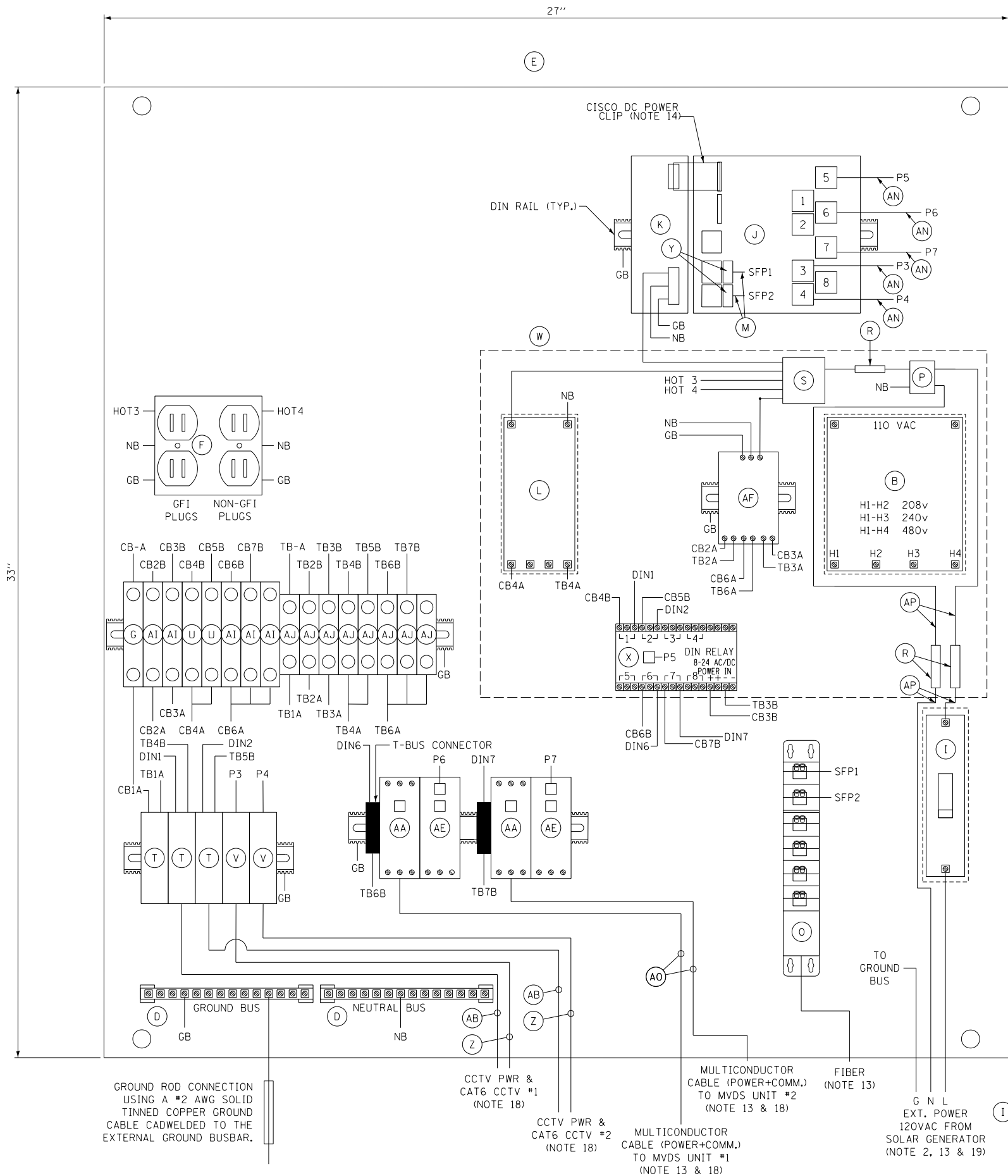
M-ITS-1247



CABINET WIRING DIAGRAM  
DUAL CCTV AND DUAL MVDS  
AC AND FOC  
ITS ASSEMBLY

DATE  
3-31-2016





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
O	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/FIX1LG6 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-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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, 0K-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-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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
A0	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG

- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
  - NOT USED FOR THIS SHEET APPLICATION
  - THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - NOT USED FOR THIS SHEET APPLICATION
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  - TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

**NOTE TO DESIGNER**

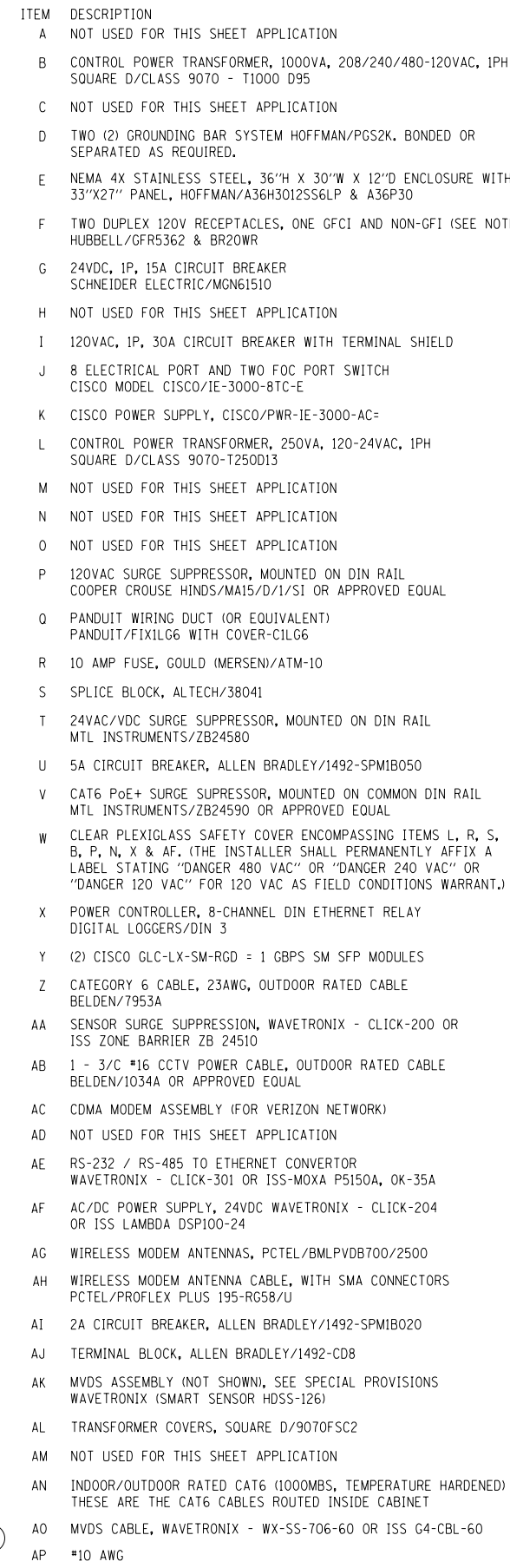
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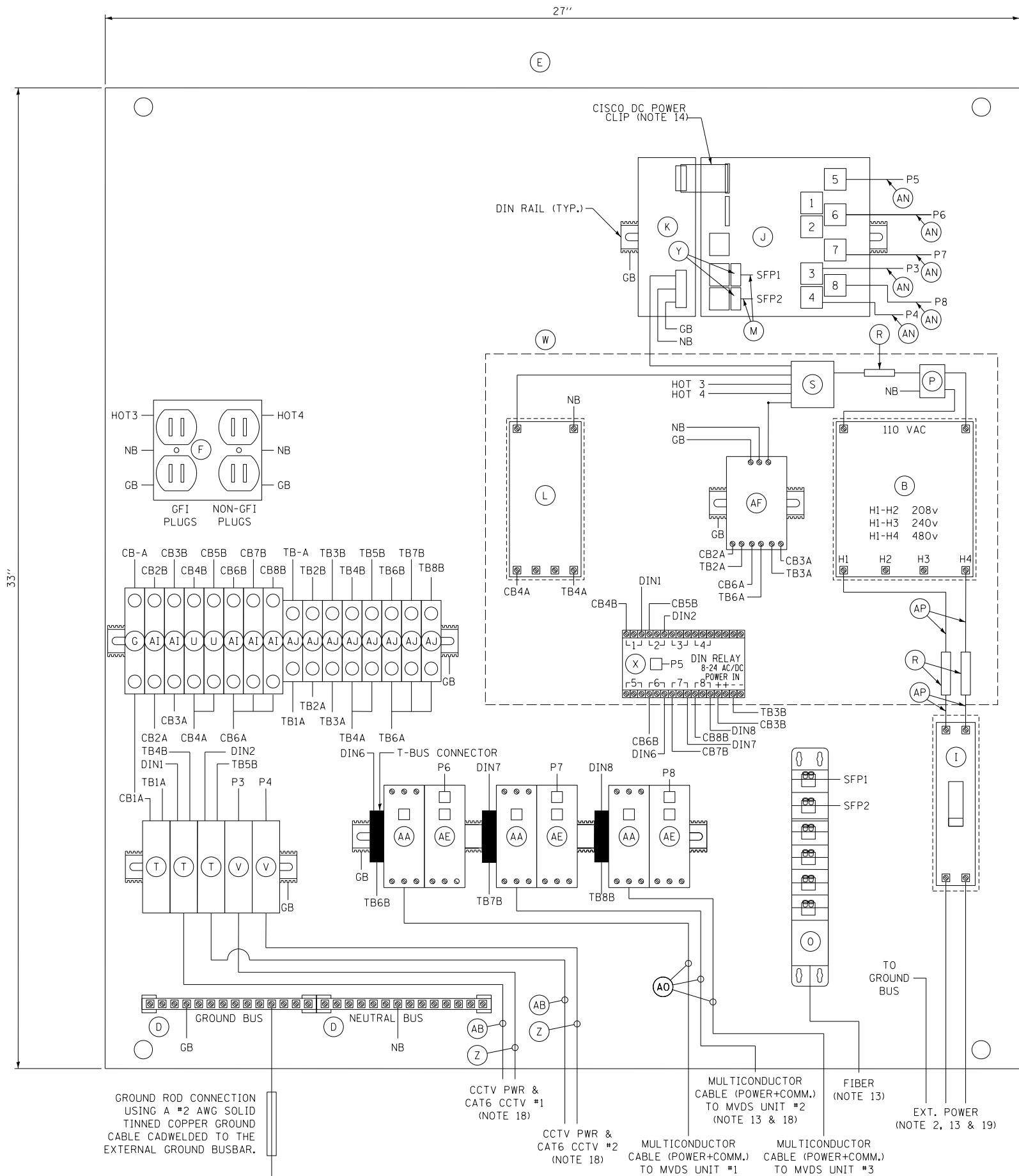
CABINET WIRING DIAGRAM  
DUAL CCTV AND DUAL MVDS  
SOLAR GENERATOR AND FOC  
ITS ASSEMBLY

DATE  
3-31-2016



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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 & N) 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 GFIS ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
11. 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. 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 CABINET AND 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 AND INCIDENTAL TO THE CONTRACT.
27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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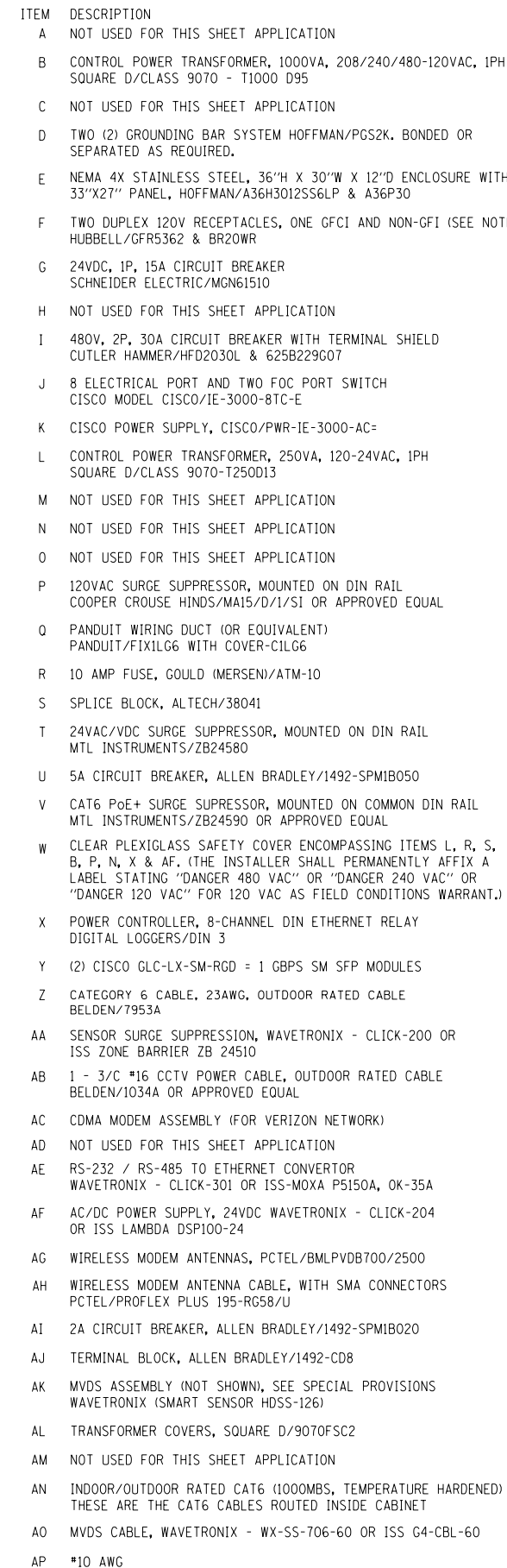


ITEM	DESCRIPTION
A	NOT USED FOR THIS SHEET APPLICATION
B	CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
C	NOT USED FOR THIS SHEET APPLICATION
D	TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
E	NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
F	TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
G	24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
H	NOT USED FOR THIS SHEET APPLICATION
I	480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD CUTLER HAMMER/HFD2030L & 625B229G07
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
O	SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D1/S1 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-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG

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  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
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  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
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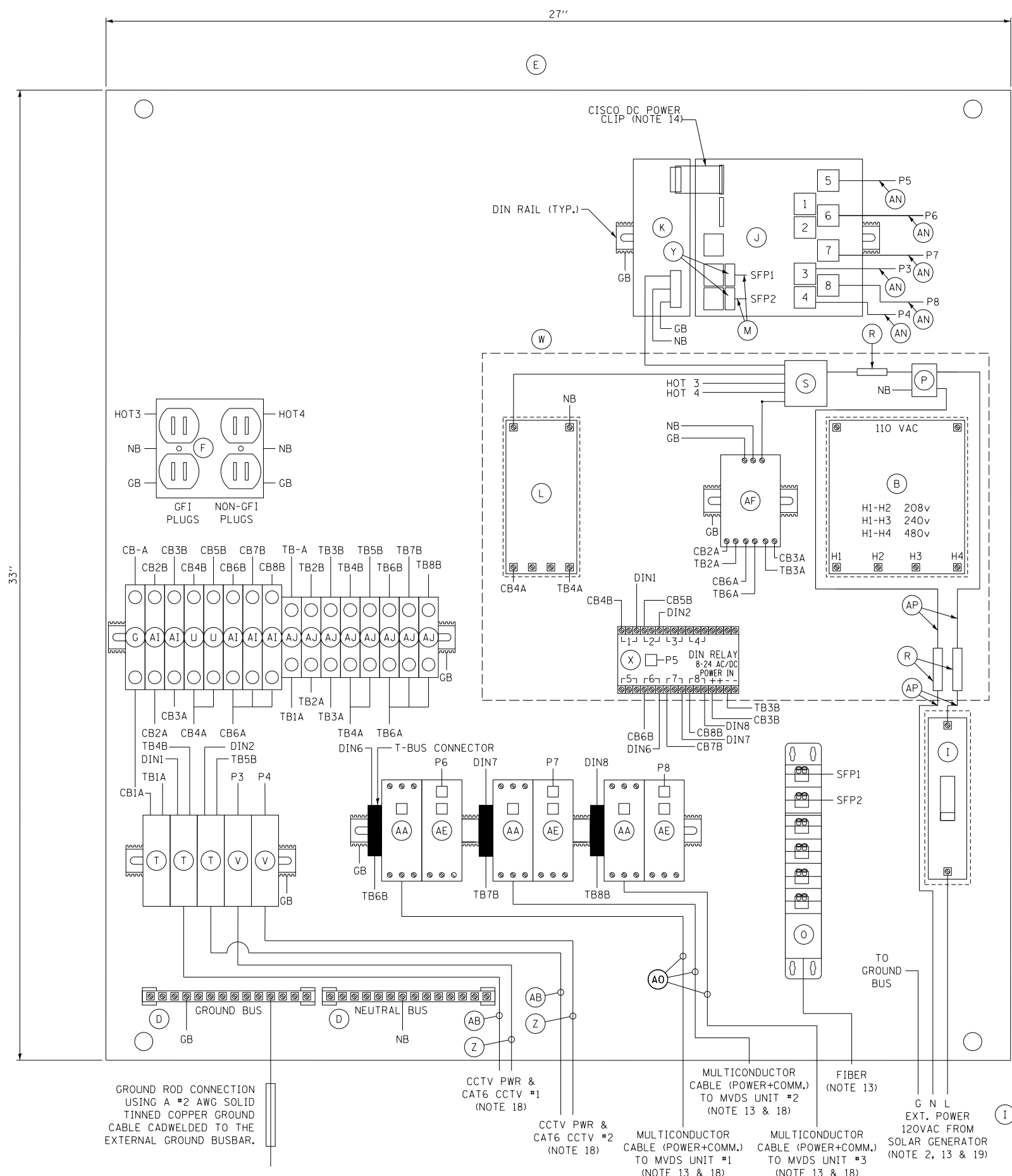
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CABINET WIRING DIAGRAM  
DUAL CCTV AND THREE MVDS  
AC AND WIRELESS  
ITS ASSEMBLY

DATE 3-31-2016






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-BTC-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
O	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/S1 OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 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-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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, 0K-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-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG

- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
  - NOT USED FOR THIS SHEET APPLICATION
  - THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - NOT USED FOR THIS SHEET APPLICATION
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDING TO THE GROUND BUS.
  - TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

**NOTE TO DESIGNER**

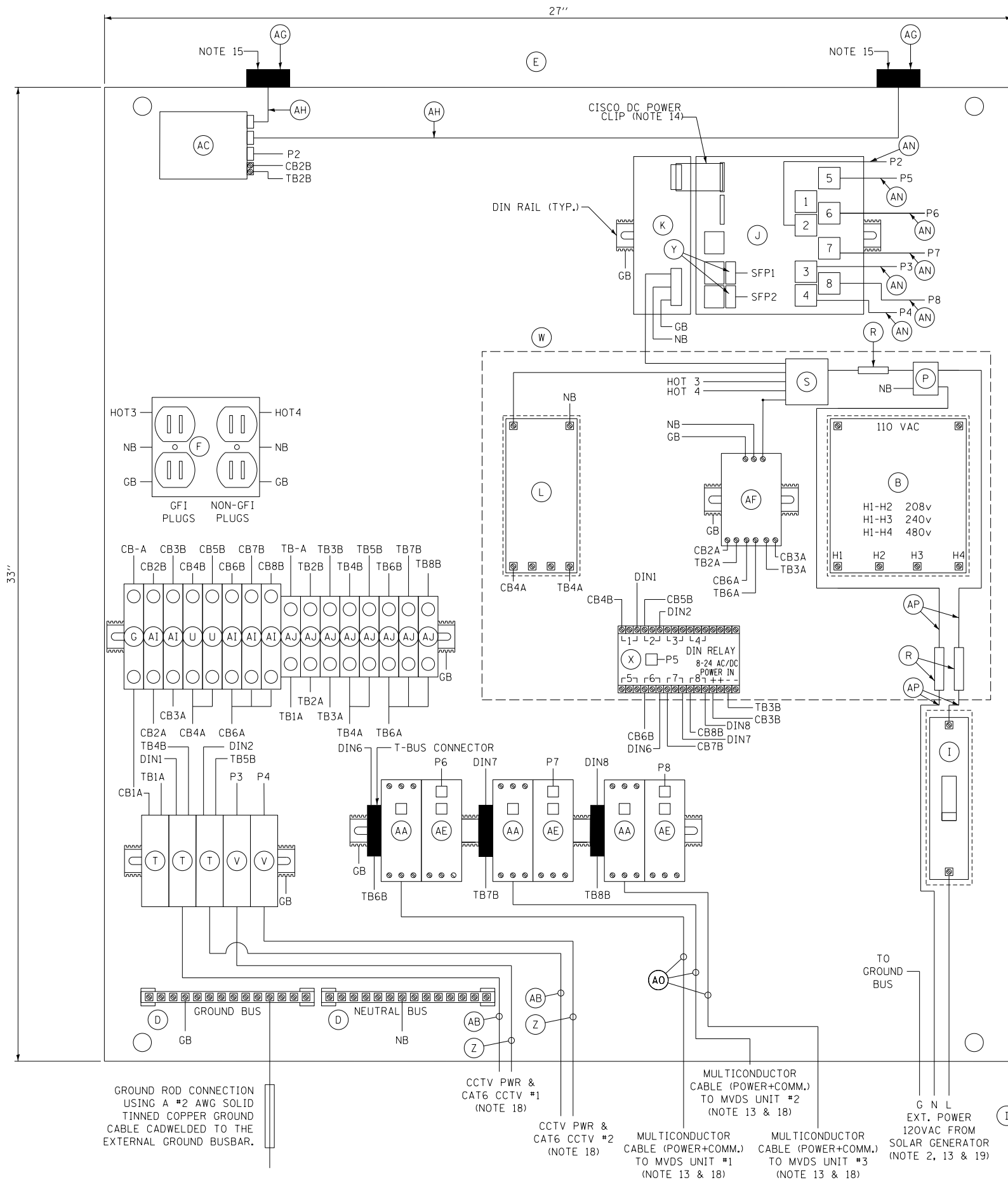
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M-ITS-1253



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

DATE  
3-31-2016

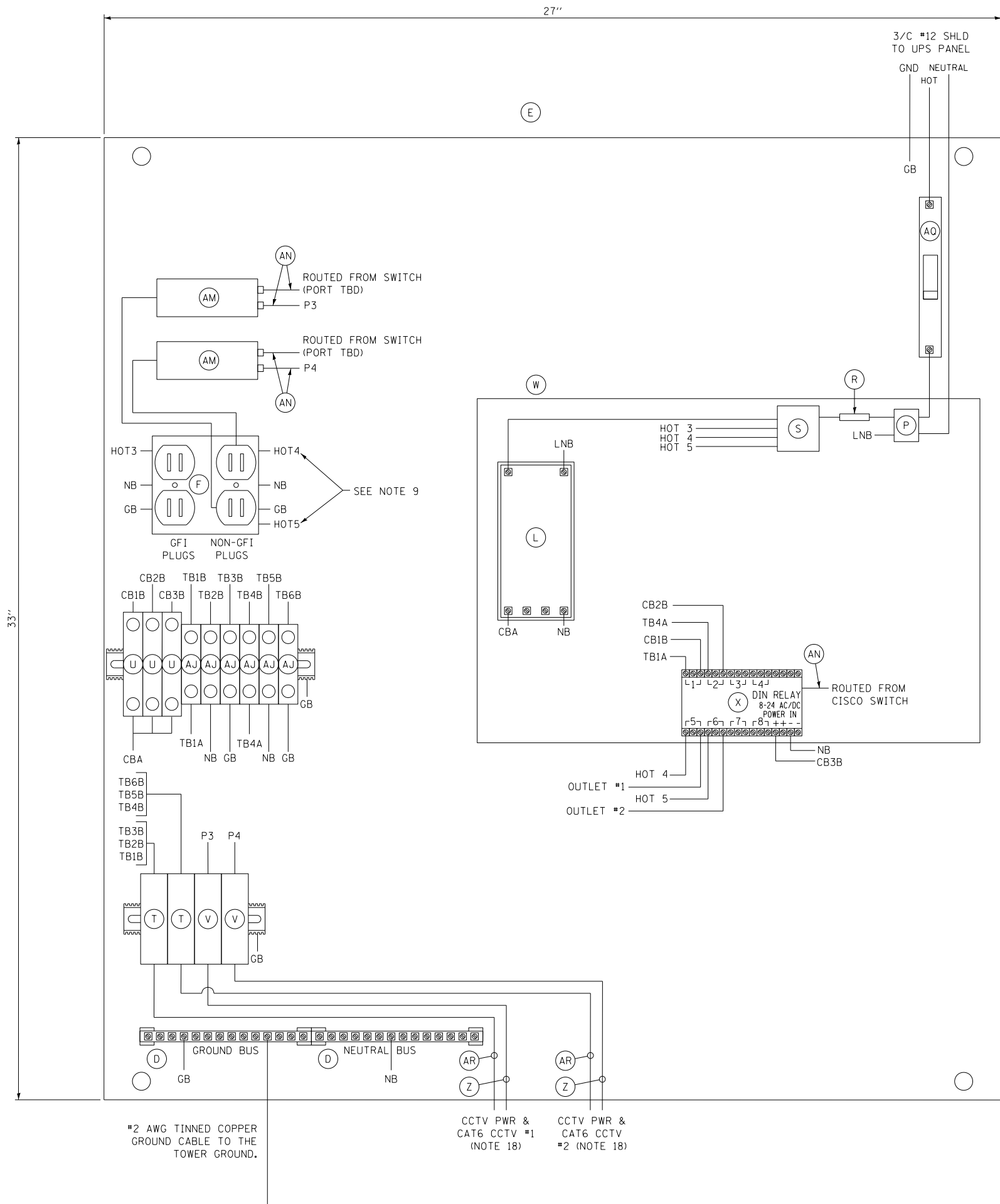


ITEM	DESCRIPTION
A	NOT USED FOR THIS SHEET APPLICATION
B	CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
C	NOT USED FOR THIS SHEET APPLICATION
D	TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
E	NEMA 4X STAINLESS STEEL, 36"H X 30"W 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-BTC-E
K	CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
L	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
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D1/S1 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-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
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/BMLPVBDB700/2500
AH	WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
AI	2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
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	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG

- NOTES:
- ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
  - CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
  - ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
  - NOT USED FOR THIS SHEET APPLICATION.
  - EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
  - 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 GROUNDING.
  - ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
  - NOT USED FOR THIS SHEET APPLICATION
  - THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
  - ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
  - THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
  - USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
  - ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
  - POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
  - THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
  - IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
  - ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
  - CABLES TO BE ROUTED THROUGH POLE.
  - WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
  - NOT USED FOR THIS SHEET APPLICATION
  - NOT USED FOR THIS SHEET APPLICATION
  - DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
  - TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
  - ITEM AL SHALL BE PLACED ON ITEMS B AND L.
  - ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  - ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

### NOTE TO DESIGNER

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ITEM	DESCRIPTION
A	NOT USED FOR THIS SHEET APPLICATION
B	NOT USED FOR THIS SHEET APPLICATION
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	NOT USED FOR THIS SHEET APPLICATION
H	NOT USED FOR THIS SHEET APPLICATION
I	NOT USED FOR THIS SHEET APPLICATION
J	NOT USED FOR THIS SHEET APPLICATION
K	NOT USED FOR THIS SHEET APPLICATION
L	CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
M	NOT USED FOR THIS SHEET APPLICATION
N	NOT USED FOR THIS SHEET APPLICATION
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 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-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
Y	NOT USED FOR THIS SHEET APPLICATION
Z	CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
AA	NOT USED FOR THIS SHEET APPLICATION
AB	NOT USED FOR THIS SHEET APPLICATION
AC	NOT USED FOR THIS SHEET APPLICATION
AD	NOT USED FOR THIS SHEET APPLICATION
AE	NOT USED FOR THIS SHEET APPLICATION
AF	NOT USED FOR THIS SHEET APPLICATION
AG	NOT USED FOR THIS SHEET APPLICATION
AH	NOT USED FOR THIS SHEET APPLICATION
AI	NOT USED FOR THIS SHEET APPLICATION
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	NOT USED FOR THIS SHEET APPLICATION
AL	TRANSFORMER COVERS, SQUARE D/9070FSC2
AM	CCTV POE INJECTOR
AN	INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
AO	NOT USED FOR THIS SHEET APPLICATION
AP	NOT USED FOR THIS SHEET APPLICATION
AQ	120V, 1P, 20A CIRCUIT BREAKER WITH TERMINAL SHIELD, CUTLER HAMMER/FD1020L & 625B225G06
AR	1 -3/C #12 CCTV PWER CABLE, OUTDOOR RATED CABLE, BELDEN 3102A OR APPROVED EQUAL

- NOTES:
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. NOT USED FOR THIS SHEET APPLICATION.
  5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) 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. 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 SCHEMATIC FOR WIRING DETAILS.
  13. NOT USED FOR THIS SHEET APPLICATION
  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 USED FOR THIS SHEET APPLICATION
  20. NOT USED FOR THIS SHEET APPLICATION
  21. NOT USED FOR THIS SHEET APPLICATION
  22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
  23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND 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 ITEMS B AND L.
  26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  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 QUAD BOX (120V AC) CIRCUITS TO CONTROL POWER TO ITEM AM.

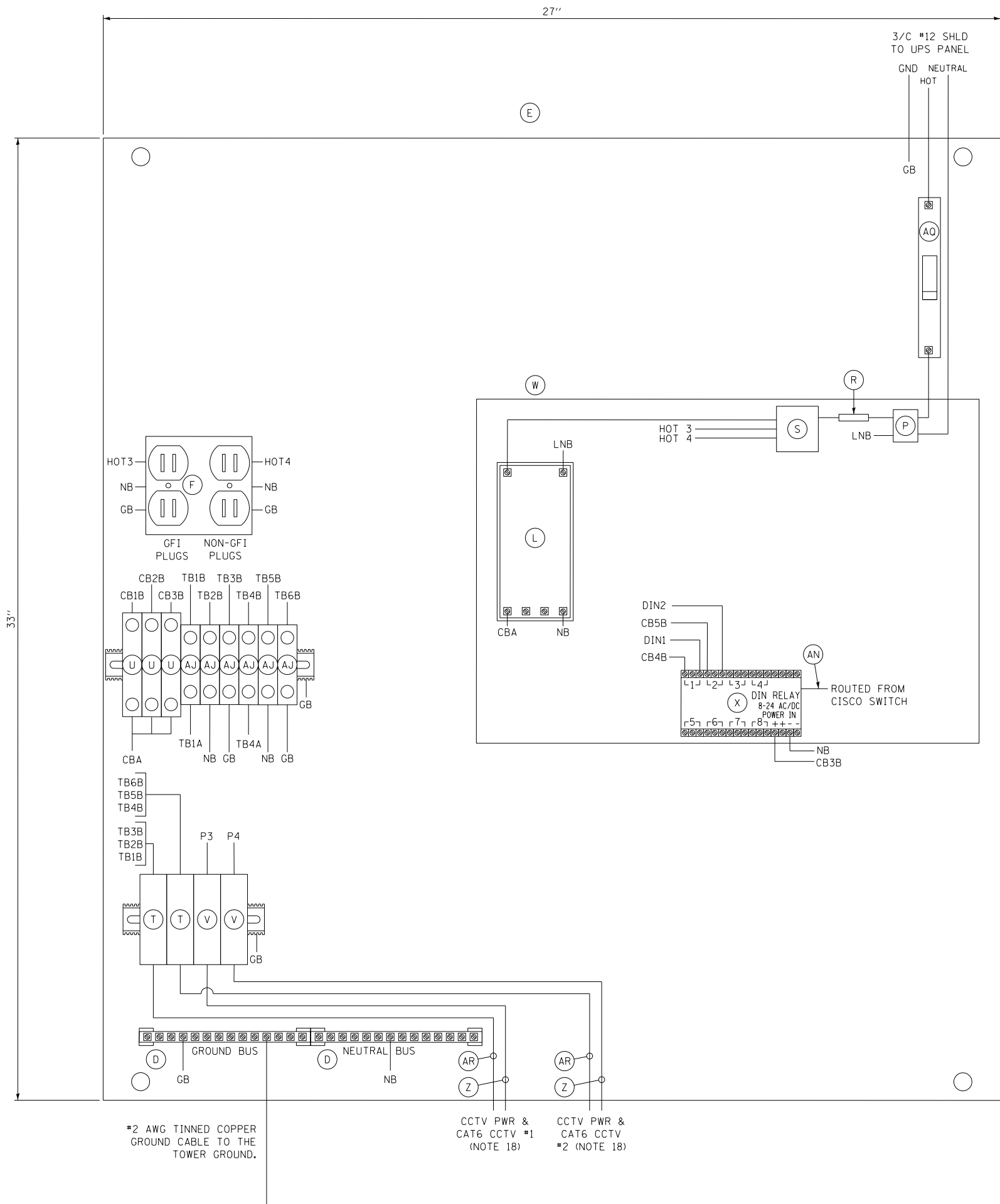
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M-ITS-1255

CABINET WIRING DIAGRAM  
TOWER MOUNTED CCTV  
ITS ASSEMBLY

DATE  
3-31-2016



ITEM	DESCRIPTION
A	NOT USED FOR THIS SHEET APPLICATION
B	NOT USED FOR THIS SHEET APPLICATION
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	NOT USED FOR THIS SHEET APPLICATION
H	NOT USED FOR THIS SHEET APPLICATION
I	NOT USED FOR THIS SHEET APPLICATION
J	NOT USED FOR THIS SHEET APPLICATION
K	NOT USED FOR THIS SHEET APPLICATION
L	CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
M	NOT USED FOR THIS SHEET APPLICATION
N	NOT USED FOR THIS SHEET APPLICATION
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/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-SPMIB050
V	CAT6 PoE+ SURGE SUPPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
W	CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, 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 3
Y	NOT USED FOR THIS SHEET APPLICATION
Z	CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
AA	NOT USED FOR THIS SHEET APPLICATION
AB	NOT USED FOR THIS SHEET APPLICATION
AC	NOT USED FOR THIS SHEET APPLICATION
AD	NOT USED FOR THIS SHEET APPLICATION
AE	NOT USED FOR THIS SHEET APPLICATION
AF	NOT USED FOR THIS SHEET APPLICATION
AG	NOT USED FOR THIS SHEET APPLICATION
AH	NOT USED FOR THIS SHEET APPLICATION
AI	NOT USED FOR THIS SHEET APPLICATION
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	NOT USED FOR THIS SHEET APPLICATION
AL	TRANSFORMER COVERS, SQUARE D/9070FSC2
AM	CCTV POE INJECTOR
AN	INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
AO	NOT USED FOR THIS SHEET APPLICATION
AP	NOT USED FOR THIS SHEET APPLICATION
AQ	120V, 1P, 20A CIRCUIT BREAKER WITH TERMINAL SHIELD, CUTLER HAMMER/FD1020L & 625B225G06
AR	1 -3/C #12 CCTV PWER CABLE, OUTDOOR RATED CABLE, BELDEN 3102A OR APPROVED EQUAL

- NOTES:
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. NOT USED FOR THIS SHEET APPLICATION.
  5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) 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. 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 SCHEMATIC FOR WIRING DETAILS.
  13. NOT USED FOR THIS SHEET APPLICATION
  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 USED FOR THIS SHEET APPLICATION
  20. NOT USED FOR THIS SHEET APPLICATION
  21. NOT USED FOR THIS SHEET APPLICATION
  22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
  23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND 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 ITEMS B AND L.
  26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
  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 QUAD BOX (120V AC) CIRCUITS TO CONTROL POWER TO ITEM AM.

#### NOTE TO DESIGNER 1

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-1256



CABINET WIRING DIAGRAM  
TOWER MOUNTED CCTV  
ITS ASSEMBLY  
300' CAT6 OR LESS

DATE

3-31-2016