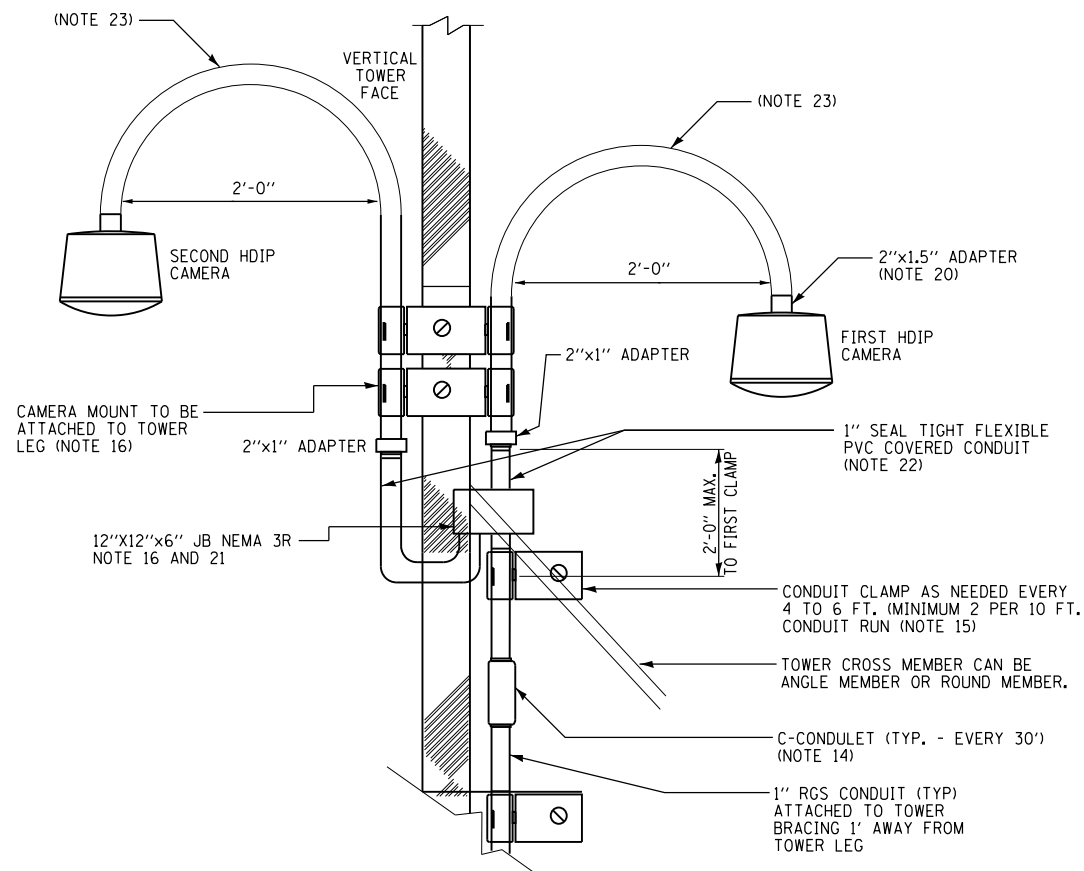


Illinois Tollway Base Sheet Revisions
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Section M Base Sheet Drawings		Effective: 2019-03-01
Drawing	Modification Summary	
Pole Assembly (ITS)-Series 1000		
M-ITS-1000	Elevation Views Pole Mounted ITS Element Assembly Changed disconnect switch to unfused.	
M-ITS-1003	ITS Concrete Service Pad (2 sheets) New drawing with three types of service pads for ITS poles for flat and slope installation.	
M-ITS-1004	Cabinet Wiring Diagram - ITS Pole Mounted Enclosure (Solar Powered MVDS) (2 sheets) New cabinet layout separating ITS enclosure and dedicated co-located solar generator/battery cabinet with four 6 V batteries.	
Dynamic Message Sign (ITS)-Series 1100		
M-ITS-1108	DMS Cabinet Wiring Diagram Changed to Cisco 4000 series switch. Changed IP Relay to DIN IV.	
Cabinet Wiring (ITS)-Series 1200		
M-ITS-1200 to M-ITS-1217	Cabinet Wiring Diagrams 18 new ITS enclosure drawings replace old 56 ITS enclosure drawings for clarification. Drawings 1200 to 1217 have been redone completely. Consolidated equipment configurations. Standardized to-scale equipment layout. Changed to Cisco 4000 series switch. Eliminated 24 VAC transformer and 24 VAC CCTVs. Additional 24 VDC power supply. Cat6 Ethernet surge protectors revised to PoE++ compatible models.	
M-ITS-12018 to M-ITS-1255	Cabinet Wiring Diagrams Retired due to consolidation.	
Roadway Weather Information System (ITS)-Series 1300		
M-ITS-1300	RWIS Pole, Sensor Mounting Detail Pole height changed to 50 feet as standard pole for ITS with 17.5 inch bolt circle.	
M-ITS-1301	RWIS Cabinet Wiring Diagram Changed to Cisco 4000 series switch. Not connected to RWIS controller, for future use. Added IP Relay. Disconnected, for future use. Added secondary sensor pole cabinet wiring diagram. Cabinet is part of the design but was omitted in last year release.	
M-ITS-1303	Typical RWIS Grounding Schematic New drawing showing RWIS grounding system with grounding cable.	
Solar Powered Generator (ITS)-Series 1400		
M-ITS-1402	Pole Mounted Solar MVDS Assembly Co-located solar generator cabinet redesigned as M-ITS-1004.	
Tower Mounted CCTV (ITS)-Series 1500		
M-ITS-1500	Tower Mount Camera Details Cameras shown at offset height to avoid view obstruction. Pole mounting arm revised to Axis Q6155-E IP camera.	
M-ITS-1503	Cabinet Wiring Diagram - Tower Mounted CCTV Revised to show 24 VDC power supply, drawing drawn to scale.	
Flashing Beacon (ITS)-Series 1700		
M-ITS-1701	Flashing Sign Beacon Installation Wiring Diagram Revised to show full cabinet layout accomodating flasher beacon. Re-drawn to scale. Added flashing beacon, new surge suppressor.	
IPDC Facility (ITS)-Series 1800		
M-ITS-1802, 1803, 1805, 1806, 1809, 1810	IPDC Facility Building modified to accommodate larger generator room door, door stoppers. Additional exterior CCTV cameras. Added bird deterrant. Added exterior GFCI outlets.	
M-ITS-1802	Note 2: Seal door opening and protrusion/access against rodent and bugs. Note 3: Install removable stainless bollards per Illinois Tollway Maintenance.	
M-ITS-1803	Added 240 V service power outlet outside side wall.	
Conduit Details at Integral Abutment Bridge (ITS)-Series 1900		
M-ITS-1900	Conduit Details at Integral Abutment Bridge with MSE Wall (Sheet 3) Removed note stating concrete encasement to be placed monolithic with the approach slab. Added 0.5" PJF at the back of the abutment and approach bent. Added 0.75" PJF between the approach slab and encasement. Added detail for deflection and expansion fittings at the encasement and pile bent. Added detail for deflection fitting at encasement and abutment.	
100 FT. Monopole (ITS)-Series 2000		
M-ITS-2000 Sheet 4	100 FT. Monopole Closed Circuit Television (CCTV) Camera Tower Added sheet 4 of 4 showing hexagonal service pad.	

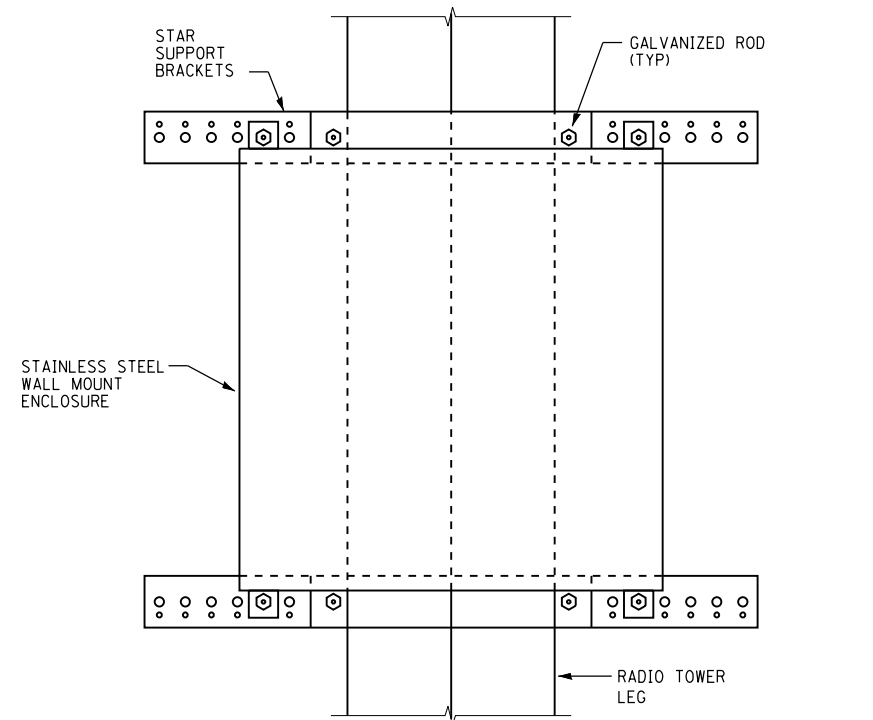
 New Sheet

 Retired Sheet



**CCTV EQUIPMENT MOUNTING SCHEME
LATTICED TOWER**

(NOT TO SCALE)



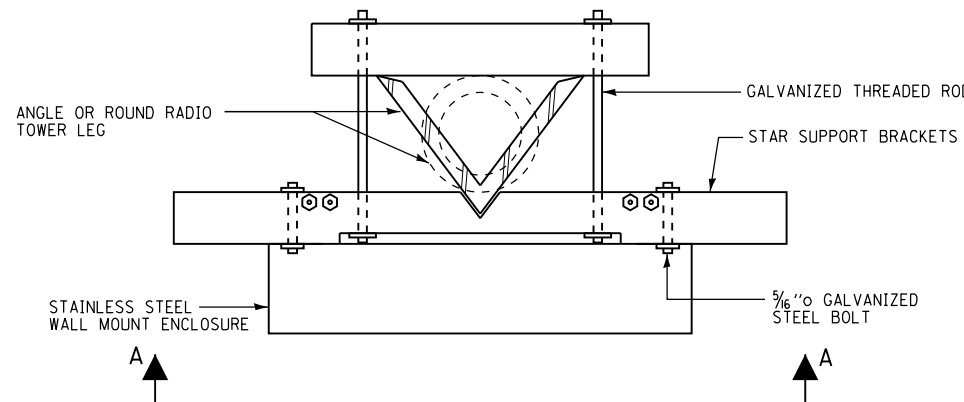
ENCLOSURE MOUNTED TO TOWER LEG

(NOT TO SCALE)

NOTE TO DESIGNER

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ROUTING OF CONDUIT AND CABLES TO PLAZA/TOWER BUILDING SHALL BE SHOWN FOR EACH INSTALLATION OCCURRENCE DEPICTING ACTUAL CONDITIONS. INSTALLATION AND ROUTING OF EQUIPMENT AND CABLES SHALL BE SHOWN IN PLAN VIEW FORMAT AS WELL AS DESCRIBE THE LOCATION AND POSITION OF WALL MOUNT, RACK MOUNT AND CABLE TRAY POSITIONS WITHIN THE PLAZA/TOWER BUILDING. CISCO SWITCH PORTS TO BE USED SHALL BE IDENTIFIED.



ENCLOSURE MOUNTING TO TOWER LEG

(NOT TO SCALE)

ABBREVIATIONS:

AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
TIA	TELECOMMUNICATION INDUSTRY ASSOCIATION
RGS	RIGID GALVANIZED STEEL
JB	JUNCTION BOX

GENERAL NOTES:

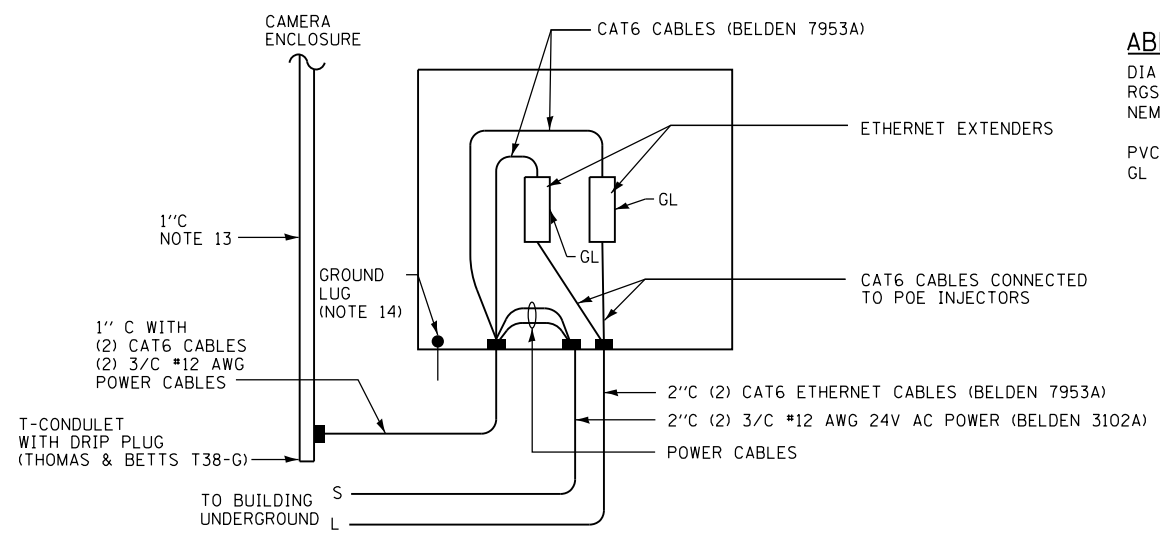
1. CONTRACTOR IS RESPONSIBLE FOR FINAL ATTACHMENT DETAILS BASED ON THE DRAWINGS AND PRE-INSTALLATION MEETING WITH ILLINOIS TOLLWAY.
2. APPLICABLE DESIGN CRITERIA SHALL BE PER THE LATEST EDITION OF AISC MANUAL, ASCE 7-05, TIA-222-G, AND APPLICABLE NATIONAL, STATE, AND OR LOCAL BUILDING CODES.
3. EQUIPMENT MOUNTING SHALL ALSO MEET REQUIREMENTS LISTED IN SPECIAL PROVISIONS.
4. DESIGN LOADS SHALL BE AS FOLLOWS:
 - A. DEAD LOADS SHALL INCLUDE ALL EQUIPMENT LOADS, INCLUDING CONDUIT AND MOUNTING LOADS SHALL BE CONSIDERED IN THE DESIGN. PTZ HDIP CAMERA WEIGHT SHALL BE ASSUMED TO WEIGH MINIMUM 10.14 LBS. ACTUAL LOAD SHALL BE VERIFIED FOR THE SPECIFIED MODEL FROM VENDOR.
 - B. DESIGN SEISMIC ACCELERATION AND WIND SPEED SHOULD BE DETERMINED FROM APPLICABLE BUILDING CODES AND DESIGN STANDARDS.
 - C. DESIGN LOAD COMBINATIONS SHOULD BE DETERMINED FROM APPLICABLE BUILDING CODES AND DESIGN STANDARDS. DESIGN SHALL BE BASED ON ALLOWABLE STRESS DESIGN (A.S.D.) METHOD.
5. MOUNTING HEIGHTS FOR CAMERA WILL BE AS CLOSE TO TOWER TOP AS PRACTICAL, UNLESS ILLINOIS TOLLWAY OR ENGINEER SPECIFIES OTHERWISE. THE PLAN LOCATION SHALL BE COORDINATED WITH THE ILLINOIS TOLLWAY AND ENGINEER.
6. NO HOLES CAN BE DRILLED AND NO WELDING IS ALLOWED INTO TOWER MEMBERS. DO NOT MOUNT RIGID CONDUIT TO TRANSMISSION LINE LADDER. CAMERA AND ANTENNA SHALL BE MOUNTED ON TOWER VERTICAL LEGS ONLY AT A MINIMUM OF 1'-0" AWAY FROM TOWER LEG.
7. CONDUIT HANGERS AND MANUFACTURER SHOWN IN DRAWINGS ARE REPRESENTATIVE ONLY. CONTRACTOR SHALL ONLY CHOOSE MANUFACTURED HARDWARE THAT HAS A RATED "DESIGN LOAD" FROM THE VENDOR AND IS CAPABLE OF RESISTING ALL APPLIED LOADS. A MINIMUM FACTOR OF SAFETY OF 5 SHALL BE ENSURED. VENDOR SPECIFIED "DESIGN LOAD" BASED ON F.S. < 5 SHALL BE PROPORTIONATELY DERATED (E.G. IF DESIGN LOAD IS BASED ON F.S. OF 3, IT SHALL BE DERATED TO 60%).
8. NOT USED.
9. CONTRACTOR IS RESPONSIBLE FOR THEIR QUALITY CONTROL AND PROVIDING DOCUMENTATION THAT ALL BOLTS ARE TORQUED AND HARDWARE TIGHTENED TO MANUFACTURER'S ESTABLISHED REQUIREMENTS.
10. CONTRACTOR, THROUGH THE ENGINEER, SHALL COORDINATE CAMERA AND ANTENNA MOUNTING WITH ILLINOIS TOLLWAY'S TOWER CREW, AT LEAST ONE WEEK BEFORE PROPOSED INSTALLATION. CONTRACTOR SHALL PROVIDE ALL MATERIALS, TOOLS AND EQUIPMENT FOR COMPLETE INSTALLATION OF CAMERA AND ANTENNAS AT EACH PLAZA.
11. COMMUNICATIONS EQUIPMENT ENCLOSURE SHALL BE MOUNTED TO TOWER LEG.
12. UNLESS THESE ARE PART OF MANUFACTURED ASSEMBLY, THREADED RODS AND U-BOLTS SHALL BE HOT-DIPPED GALVANIZED STEEL. IN SOME CASES DUE TO MANUFACTURED PART AVAILABILITY, THREADED RODS AND U-BOLTS MAY BE STAINLESS STEEL. IN THIS CASE, THEY MUST CONFORM TO ASTM A193, CLASS 1, GRADE B8 (AISI TYPE 304). WASHERS SHALL CONFORM TO ASTM A240, TYPE 302. NUTS SHALL CONFORM TO ASTM A194 (AASHTO M292), GRADE 8F (AISI TYPE 303). ALL THREADED RODS AND U-BOLTS TO BE DOUBLE NUTTED. MATERIAL FOR STRUCTURAL STEEL, ANGLES, ETC. SHALL BE A36 AND SHALL BE HOT-DIPPED GALVANIZED ACCORDING TO ASTM 4123.
13. CONDUIT OUTLET BODY WITH COVER SHALL BE MALLEABLE IRON WITH TRIPLE COAT FINISH OR EPOXY POWDER COATED ALUMINUM. OUTLET BODY SHALL BE SEALED TIGHT WITH NEOPRENE GASKETS.
14. CABLE STRAIN RELIEF STARTS AT THE 12"x12"x6" JUNCTION BOX. FROM THAT POINT DOWN, C-CONDULETS SHALL BE UTILIZED EVERY 30'-0". THE CONTRACTOR IS RESPONSIBLE FOR UTILIZING STRAIN RELIEVE TECHNIQUES IN THE CONDULETS AND JUNCTION BOX. FOR EXAMPLE CHINESE FINGER TRAPS CAN BE UTILIZED OR WEDGES. THE CONTRACTOR WILL COORDINATE THIS EFFORT WITH THE ENGINEER AND THE ILLINOIS TOLLWAY TOWER CREW. JUNCTION BOX SHALL HAVE WEEP HOLES IN BOTTOM TO ALLOW MOISTURE TO BLEED OFF. JB SHALL HAVE A NON-CORROSIVE TERMINAL STRIP SO IT CAN BE USED AS A TRANSITION POINT FOR CABLING. THE CONTRACTOR SHALL SPOOL UP APPROXIMATELY 1'-0" OF CABLE AS TO ALLOW MAINTENANCE OF THE CAMERA.
15. ALL NECESSARY MOUNTING HARDWARE AND BRACKETS NECESSARY TO ATTACH THE EQUIPMENT, RACEWAYS AND PULL BOXES TO THE TOWER SHALL BE PRE-MANUFACTURED AND NOT BE BUILT IN THE FIELD WITH INDIVIDUAL COMPONENTS.
16. CAMERA ATTACHMENTS TO TOWER LEG SHALL BE AT MINIMUM OF 2 LOCATIONS UTILIZING UNIVERSAL SADDLE MOUNTS OR WELDED PIPE TO PIPE CLAMPS DEPENDING ON THE TOWER TYPE. CONTRACTOR TO DETERMINE PROPER SIZE. U-BOLTS WILL BE REQUIRED. THE GOOSE NECK MOUNT TO THE TOWER SHALL BE SET PLUMB SO AS TO PROVIDE A PLUMB CAMERA INSTALLATION.
17. ALL WORK WILL REQUIRE CLOSE COORDINATION WITH ILLINOIS TOLLWAY STAFF AND THE ENGINEER. THIS INCLUDES A PRE-INSTALLATION MEETING WITH ILLINOIS TOLLWAY STAFF AND ENGINEER.
18. NOT USED.
19. ALL CONNECTIONS SHALL BE SEALED WITH TAPE AS PER ILLINOIS TOLLWAY TOWER CREW INSTRUCTIONS.
20. ONCE CABLES ARE PULLED, CONTRACTOR TO FILL ADAPTER WITH ELECTRICAL PUTTY AS TO PREVENT ANY CONDENSATION TO SEEP INTO CAMERA HOUSING.
21. TRANSITION ETHERNET AND POWER CABLES.
22. ALL CONDUITS MUST CONNECT TO BOTTOM OF 12"x12"x6" NEMA 4X ENCLOSURE.
23. THE CCTV CAMERA SHALL BE POLE MOUNTED WITH AN AXIS T92B62 MOUNTING ARM WITH T94A01D PENDANT KIT, OR EQUIVALENT AS APPROVED BY THE ILLINOIS TOLLWAY ITS UNIT.

M-ITS-1500



ITS DETAILS
TOWER MOUNT CAMERA DETAILS

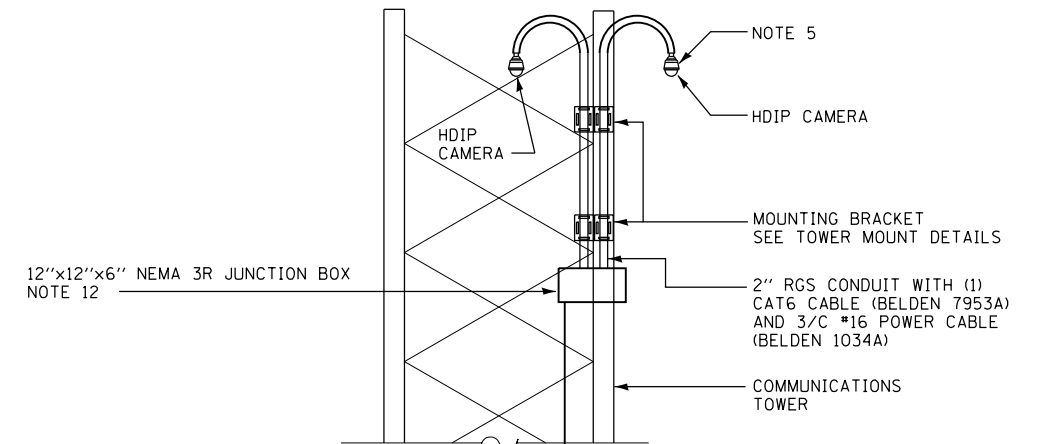
DATE
3-1-2019



TOWER BASE TRANSITION NEMA 3R ENCLOSURE
(NOT TO SCALE)

ABBREVIATIONS:

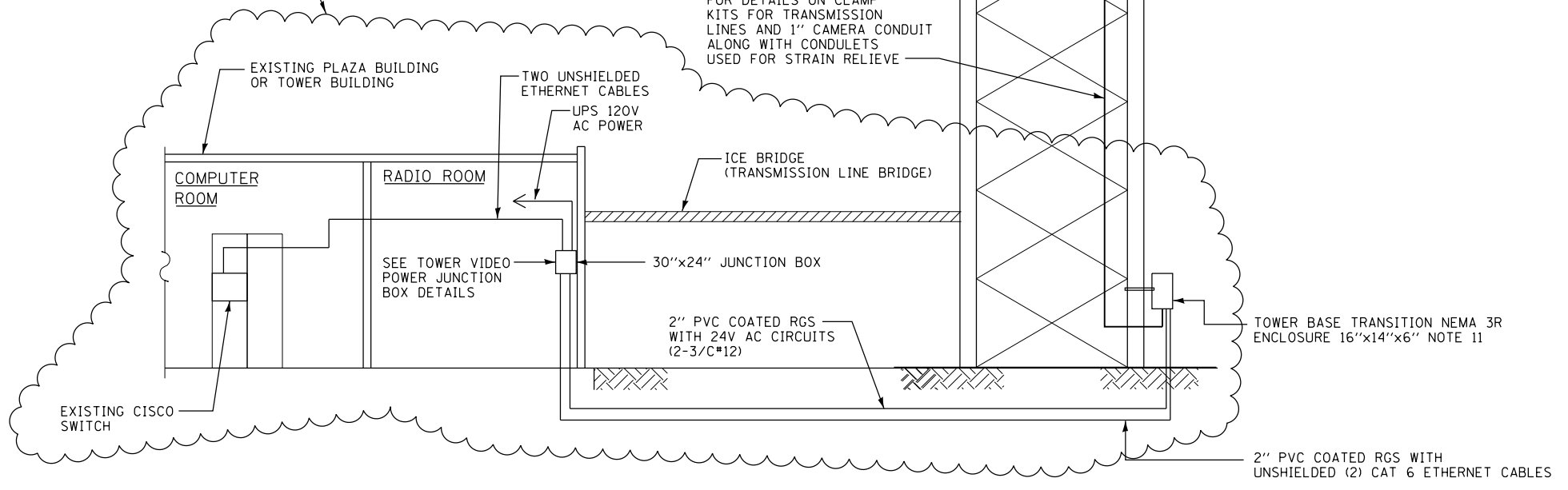
DIA	DIAMETER
RGS	RIGID GALVANIZED STEEL
NEMA	NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION
PVC	POLYVINYL CHLORIDE
GL	GROUND LUG



1" CONDUIT
(2) CAT6 CABLES
(2) 3/C #12 AWG
POWER CABLES

SEE TOWER MOUNT DETAILS FOR DETAILS ON CLAMP KITS FOR TRANSMISSION LINES AND 1" CAMERA CONDUIT ALONG WITH CONDULETS USED FOR STRAIN RELIEVE

SEE NOTE TO DESIGNER



TOWER MOUNT CAMERA ASSEMBLY
(NOT TO SCALE)

NOTES:

1. NOT USED.
2. CAMERA MUST BE GROUNDED IN HOUSING.
3. ALL EQUIPMENT MUST BE CONNECTED TO A COMMON GROUND. CONNECT A #2 AWG GROUND CABLE FROM THE TOWER TO THE GROUND BAR IN THE COMMUNICATIONS ENCLOSURE. USE A #8 AWG FOR THIS GROUND. GROUND CABLES SHALL BE GREEN INSULATED TYPE RHW CONDUCTORS. ANY GROUND CONDUCTORS THAT ARE BURIED SHALL BE SOLID COPPER TINNED.
4. CONTRACTOR TO PROVIDE ALL POWER AND GROUND WIRING REQUIRED FOR SYSTEM OPERATION INCLUDING ETHERNET CONNECTIONS FROM THE CAMERAS TO THE CISCO SWITCH.
5. CONTRACTOR TO SEAL CONDUIT WITH ELECTRICAL PUTTY AS IT ENTERS THE CAMERA HOUSING. THIS WILL PREVENT ANY MOISTURE ENTERING THE CAMERA.
6. ALL CONNECTIONS SHALL BE SEALED WITH TAPE PER ILLINOIS TOLLWAY TOWER CREW INSTRUCTIONS.
7. CONDUIT TO BE RUN UNDERGROUND FOR CAT 6 ETHERNET CABLE AND POWER CABLES CORE HOLE INTO BUILDING TO RUN CONDUIT (DO NOT USE TRANSMISSION LINE PORT HOLES).
8. ALL BOM PARTS ARE TO BE CONSIDERED "OR EQUIVALENT".
9. SEE VIDEO POWER JUNCTION BOX DETAIL ON SHEET M-ITS-1255.
10. HD IP CAMERA WILL USE A SINGLE CAT6 CABLE TO EACH CAMERA. EACH CAMERA WILL REQUIRE 24V AC POWER. THE 24V AC POWER WILL BE ROUTED THRU 3/C #12 AWG CABLES AND WILL TRANSITION NEAR THE CAMERA TO 3/C #16 AWG CABLE.
11. TOWER BASE TRANSITION NEMA 3R ENCLOSURE SHALL BE USED TO HOUSE ETHERNET EXTENDERS AND TRANSITION FROM (2) CONDUITS TO (1) CONDUIT UP TO THE CAMERAS.
12. CAMERA TRANSITION NEMA 3R ENCLOSURE IS USED TO TRANSITION TO THE 2 CAMERAS. ENCLOSURE MUST MOUNT TO TOWER AT TWO POINTS.
13. LOOP A MINIMUM OF 3FT OF POWER CABLE AND CAT 6 INSIDE TOWER BASE TRANSITION ENCLOSURE.
14. CONNECT TOWER BASE ENCLOSURE TO THE TOWER VIA #6 GROUND CABLE CADWELDED TO THE TOWER.

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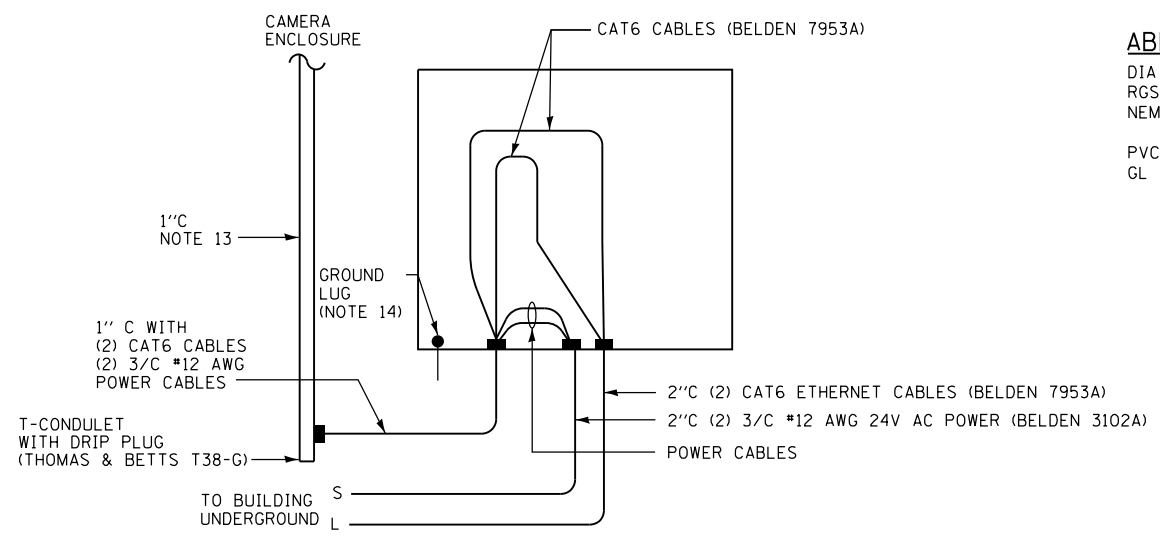
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M-ITS-1501



ITS DETAILS
TOWER MOUNT CAMERA ASSEMBLY
300' CAT6 OR MORE

DATE
3-1-2016



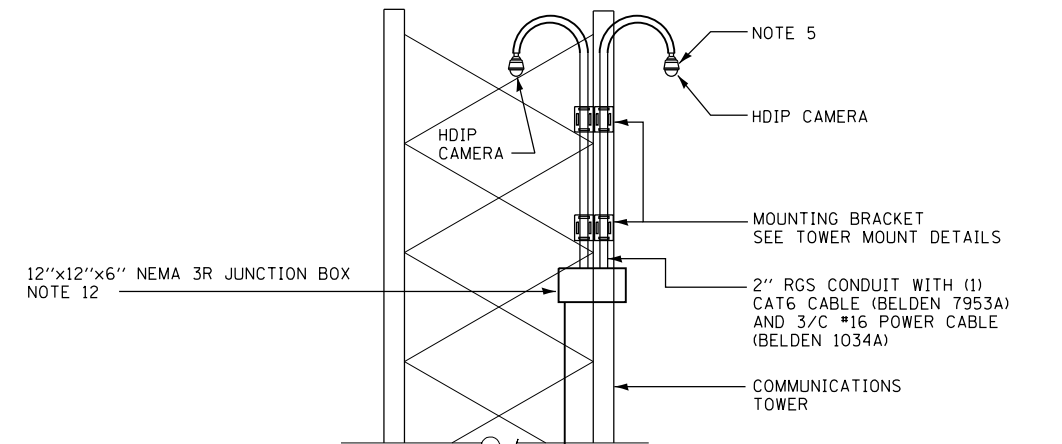
TOWER BASE TRANSITION NEMA 3R ENCLOSURE
(NOT TO SCALE)

ABBREVIATIONS:

DIA	DIAMETER
RGS	RIGID GALVANIZED STEEL
NEMA	NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION
PVC	POLYVINYL CHLORIDE
GL	GROUND LUG

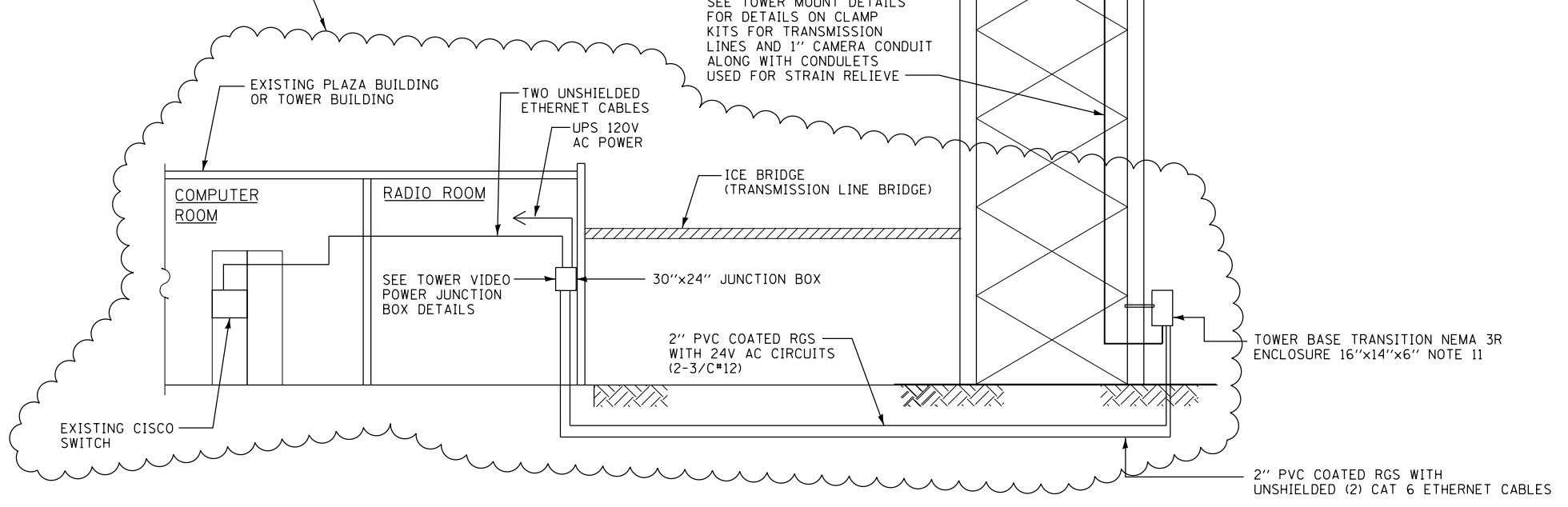
NOTES:

1. NOT USED.
2. CAMERA MUST BE GROUNDED IN HOUSING.
3. ALL EQUIPMENT MUST BE CONNECTED TO A COMMON GROUND. CONNECT A #2 AWG GROUND CABLE FROM THE TOWER TO THE GROUND BAR IN THE COMMUNICATIONS ENCLOSURE. USE A #8 AWG FOR THIS GROUND. GROUND CABLES SHALL BE GREEN INSULATED TYPE RHW CONDUCTORS. ANY GROUND CONDUCTORS THAT ARE BURIED SHALL BE SOLID COPPER TINNED.
4. CONTRACTOR TO PROVIDE ALL POWER AND GROUND WIRING REQUIRED FOR SYSTEM OPERATION INCLUDING ETHERNET CONNECTIONS FROM THE CAMERAS TO THE CISCO SWITCH.
5. CONTRACTOR TO SEAL CONDUIT WITH ELECTRICAL PUTTY AS IT ENTERS THE CAMERA HOUSING. THIS WILL PREVENT ANY MOISTURE ENTERING THE CAMERA.
6. ALL CONNECTIONS SHALL BE SEALED WITH TAPE PER ILLINOIS TOLLWAY TOWER CREW INSTRUCTIONS
7. CONDUIT TO BE RUN UNDERGROUND FOR CAT 6 ETHERNET CABLE AND POWER CABLES CORE HOLE INTO BUILDING TO RUN CONDUIT (DO NOT USE TRANSMISSION LINE PORT HOLES).
8. ALL BOM PARTS ARE TO BE CONSIDERED "OR EQUIVALENT".
9. SEE VIDEO POWER JUNCTION BOX DETAIL ON SHEET M-ITS-1255.
10. HD IP CAMERA WILL USE A SINGLE CAT6 CABLE TO EACH CAMERA. EACH CAMERA WILL REQUIRE 24V AC POWER. THE 24V AC POWER WILL BE ROUTED THRU 3/C #12 AWG CABLES AND WILL TRANSITION NEAR THE CAMERA TO 3/C #16 AWG CABLE.
11. TOWER BASE TRANSITION NEMA 3R ENCLOSURE SHALL BE USED TO HOUSE ETHERNET EXTENDERS AND TRANSITION FROM (2) CONDUITS TO (1) CONDUIT UP TO THE CAMERAS.
12. CAMERA TRANSITION NEMA 3R ENCLOSURE IS USED TO TRANSITION TO THE 2 CAMERAS. ENCLOSURE MUST MOUNT TO TOWER AT TWO POINTS.
13. LOOP A MINIMUM OF 3FT OF POWER CABLE AND CAT 6 INSIDE TOWER BASE TRANSITION ENCLOSURE.
14. CONNECT TOWER BASE ENCLOSURE TO THE TOWER VIA #6 GROUND CABLE CADWELDED TO THE TOWER.



12"x12"x6" NEMA 3R JUNCTION BOX
NOTE 12

SEE NOTE TO DESIGNER



TOWER MOUNT CAMERA ASSEMBLY
(NOT TO SCALE)

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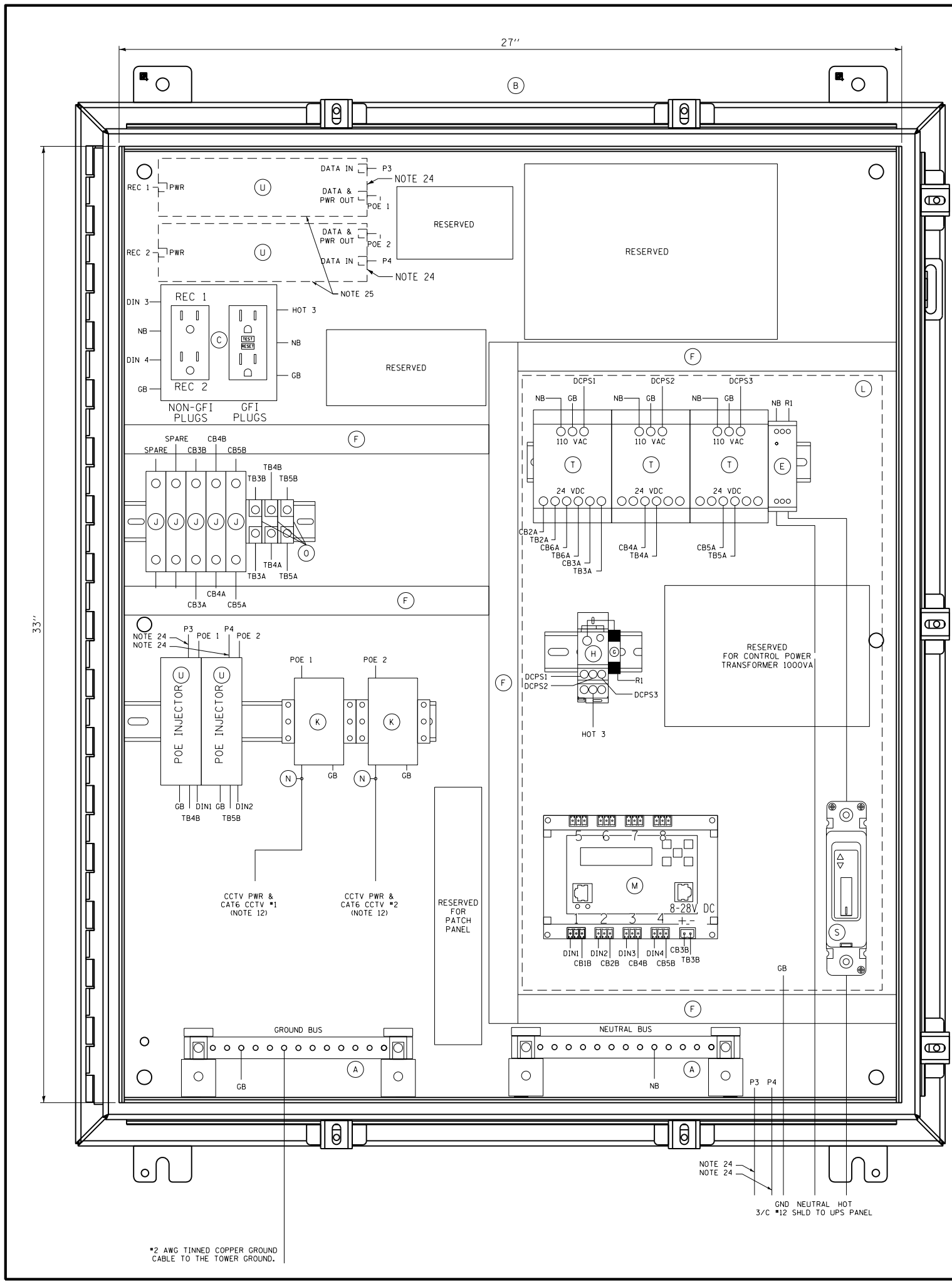
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M-ITS-1502

Illinois Tollway

ITS DETAILS
TOWER MOUNT CAMERA ASSEMBLY
300' CAT6 OR LESS

DATE
3-1-2018



- ITEM DESCRIPTION
- A TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K, BONDED OR SEPARATED AS REQUIRED.
 - B NEMA 4X STAINLESS STEEL, 36" X 30" W X 12" D ENCLOSURE WITH 33" X 27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
 - C TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFCI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
 - D NOT USED FOR THIS SHEET APPLICATION
 - E 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
 - F PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-FIX2LGG
 - G 10 AMP FUSE, GOULD (MERSEN)/ATM-10
 - H SPLICE BLOCK, ALTECH/38041
 - I NOT USED FOR THIS SHEET APPLICATION
 - J 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPMIB020
 - K CAT6 PoE+ SURGE SUPPRESSOR, DITEK SURGE PROTECTION/DTK-MRJOES
 - L CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS T, E, R, H, D, M, & S. (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.)
 - M POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
 - N CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
 - O TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
 - P TRANSFORMER COVERS, SQUARE D/9070FSC2
 - Q INDOOR/OUTDOOR RATED CAT6 (10000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
 - R 1 -3/C #12 CCTV POWER CABLE, OUTDOOR RATED CABLE, BELDEN 3102A OR APPROVED EQUAL
 - S 120V, 1P, 20A CIRCUIT BREAKER WITH TERMINAL SHIELD, CUTLER HAMMER/FD1020L & 625B225G06
 - T AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
 - U PoE INJECTOR AS APPROVED BY CAMERA MANUFACTURER SEE SPECIAL PROVISIONS FOR SPECIFIC MODEL NUMBERS (ONLY REQUIRED FOR PoE CAMERAS)

- NOTES:
1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
 2. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
 3. SHEET SHOWS BOTH 24VAC AND PoE OPTIONS. CONNECTIONS REQUIRED FOR 24VAC OPTION ONLY ARE DENOTED WITH A DASHED LINE.
 4. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM C) SHALL BE FED FROM A SEPARATE INPUT LINE.
 5. ALL CABLES INSTALLED EXTERNAL TO THE BUILDING SHALL BE OUTDOOR RATED.
 6. WIFI COMMUNICATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
 7. 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.
 8. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
 9. 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.
 10. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM. ALL CABLE SLACK SHALL BE PLACED IN THE HANDHOLE.
 11. ITEM M IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM M SHALL BE PROTECTED.
 12. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THE HANDHOLE.
 13. CUT AND STRIP MANUFACTURER-SUPPLIED POWER CORD AS REQUIRED TO MAKE TERMINATIONS.
 14. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
 15. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE ENCLOSURE INTO THE GROUND BUS.
 16. ITEM L 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.
 17. NOT USED FOR THIS SHEET APPLICATION
 18. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED.
 19. VIDEO JUNCTION BOX SHALL BE WIRED TO ACCOMMODATE POWER TO TOWER MOUNTED TRANSITION ENCLOSURE (24V AC).
 20. LABEL JUNCTION BOX, TERMINAL STRIPS AND ALL WIRE AND CABLES. CONTRACTOR SHALL LABEL NEUTRAL BUS AS 24V AC NEUTRAL.
 21. ALL ELECTRICAL CABLES TO CAMERAS SHALL HAVE SURGE PROTECTION (INCLUDES POWER AND CAT6).
 22. ITEM U (DASHED) WILL PLUG INTO QUAD OUTLET. MOUNT ITEM AM TO BACKBOARD.
 23. IP RELAY WIRING SCHEMATIC ILLUSTRATES ITEM M WIRED IN QUAD BOX (120V AC) CIRCUITS TO CONTROL POWER TO ITEM U (DASHED).
 24. CAT6 CABLE CONNECTED TO NETWORK SWITCH INSIDE THE COMMUNICATION BUILDING. MAXIMUM CABLE LENGTH BETWEEN THE NETWORK SWITCH AND CCTV CAMERA CANNOT EXCEED 300 FEET.
 25. SHEET SHOWS BOTH POE INJECTOR OPTIONS USING A 120VAC SUPPLY AND 24VDC SUPPLY. DEVICES REQUIRED FOR THE 120VAC SUPPLY ARE DENOTED WITH A DASHED LINE.

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-1503



CABINET WIRING DIAGRAM
TOWER MOUNTED CCTV
ITS ASSEMBLY

DATE
3-01-2019

#2 AWG TINNED COPPER GROUND CABLE TO THE TOWER GROUND.

NOTE 24
NOTE 24
GND NEUTRAL HOT
3/C #12 SHLD TO UPS PANEL