Illinois Tollway Base Sheet Revisions

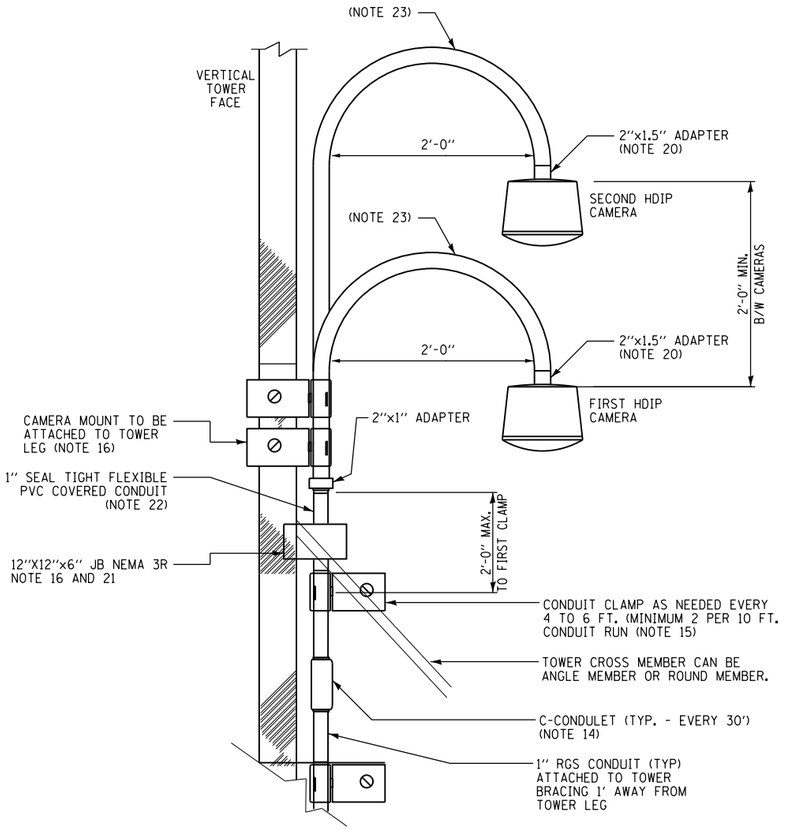
Section M	Base Sheet Drawings	
	Drawing	**Modification Summary** **Effective: 2020-03-01**
	Pole Assembly (ITS)-Series 1000	
	M-ITS-1000	**Elevation Views Pole Mounted ITS Element Assembly**
		Use 1 1/2" stainless conduits for power and fiber to ITS Enclosure instead of 2". Corrected the MVDS mounting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

New Sheet Retired Standard

Illinois Tollway Base Sheet Revisions

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

New Sheet ~~Retired Standard~~



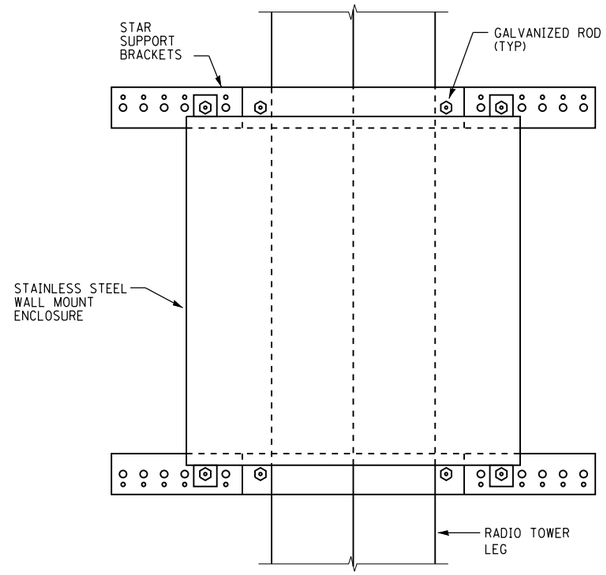
CCTV EQUIPMENT MOUNTING SCHEME LATTICED TOWER

(NOT TO SCALE)

NOTE TO DESIGNER

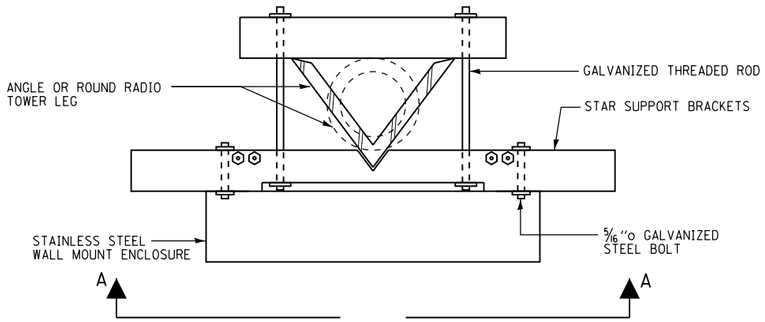
THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF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

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 MOUNTED TO TOWER LEG

(NOT TO SCALE)



ENCLOSURE MOUNTING TO TOWER LEG

(NOT TO SCALE)

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, A WEAVED STRAIN RELIEF GRIP 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 CAMERAS SHALL BE POLE MOUNTED ON THE SAME POLE WITH AN AXIS T92B62 MOUNTING ARM WITH T94A01D PENDANT KIT, OR EQUIVALENT AS APPROVED BY THE ILLINOIS TOLLWAY ITS UNIT. THERE WILL BE 24" VERTICAL SPACING BETWEEN THE CAMERAS.

ABBREVIATIONS:

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

M-ITS-1500

Illinois Tollway

ITS DETAILS
TOWER MOUNT CAMERA DETAILS

DATE
3-01-2020

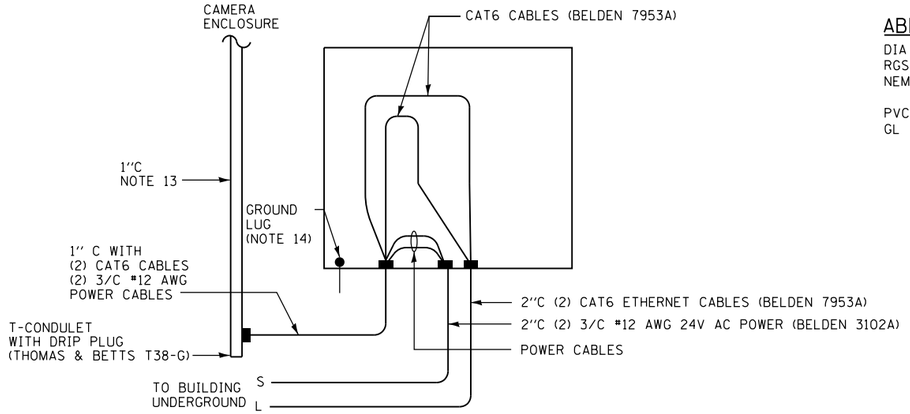
RESERVED

M-ITS-1501

Illinois Tollway

ITS DETAILS
TOWER MOUNT CAMERA ASSEMBLY
300' CAT6 OR MORE

DATE
3-01-2020



TOWER BASE TRANSITION NEMA 3R ENCLOSURE

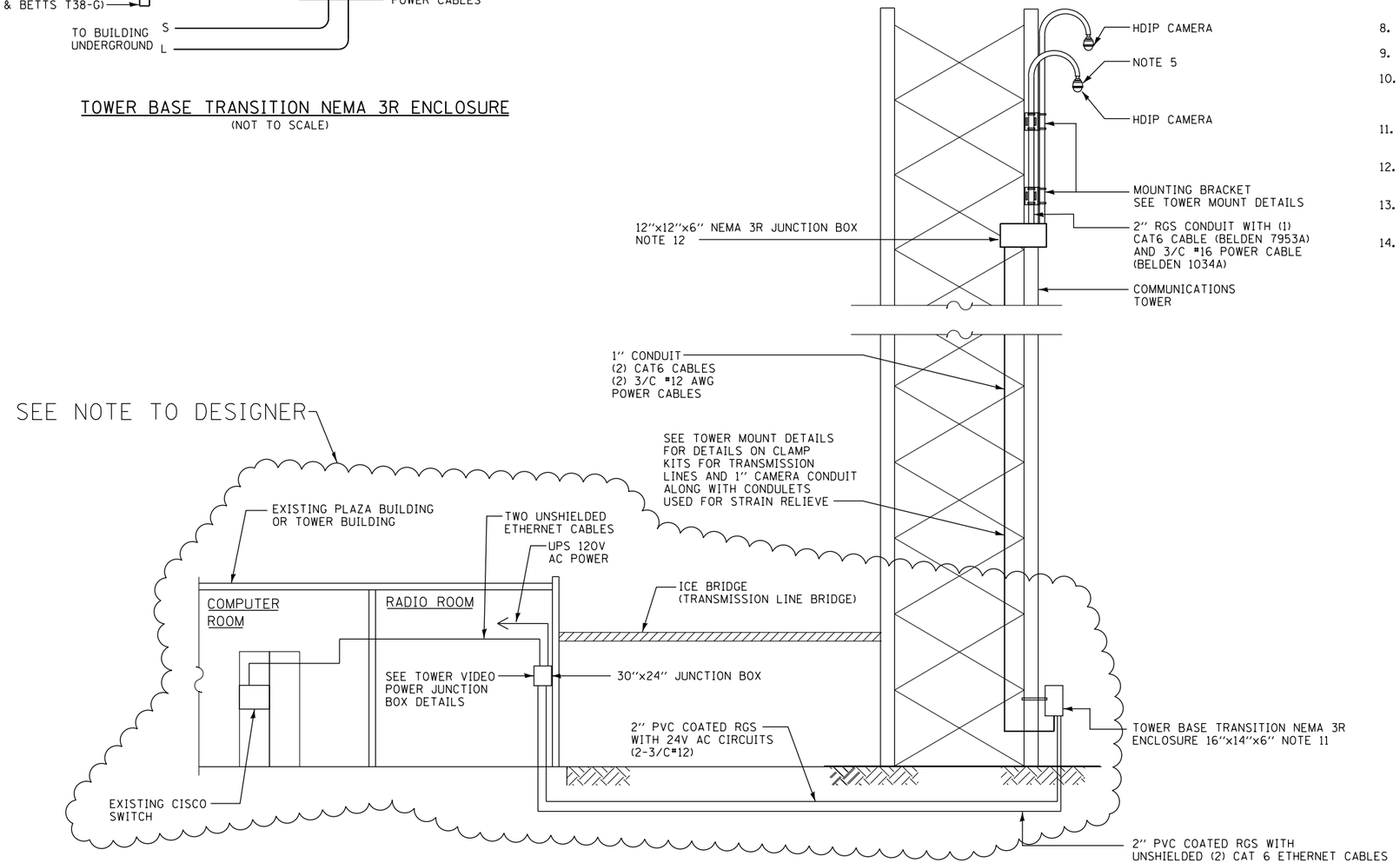
(NOT TO SCALE)

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 CADWELD TO THE TOWER.



TOWER MOUNT CAMERA ASSEMBLY

(NOT TO SCALE)

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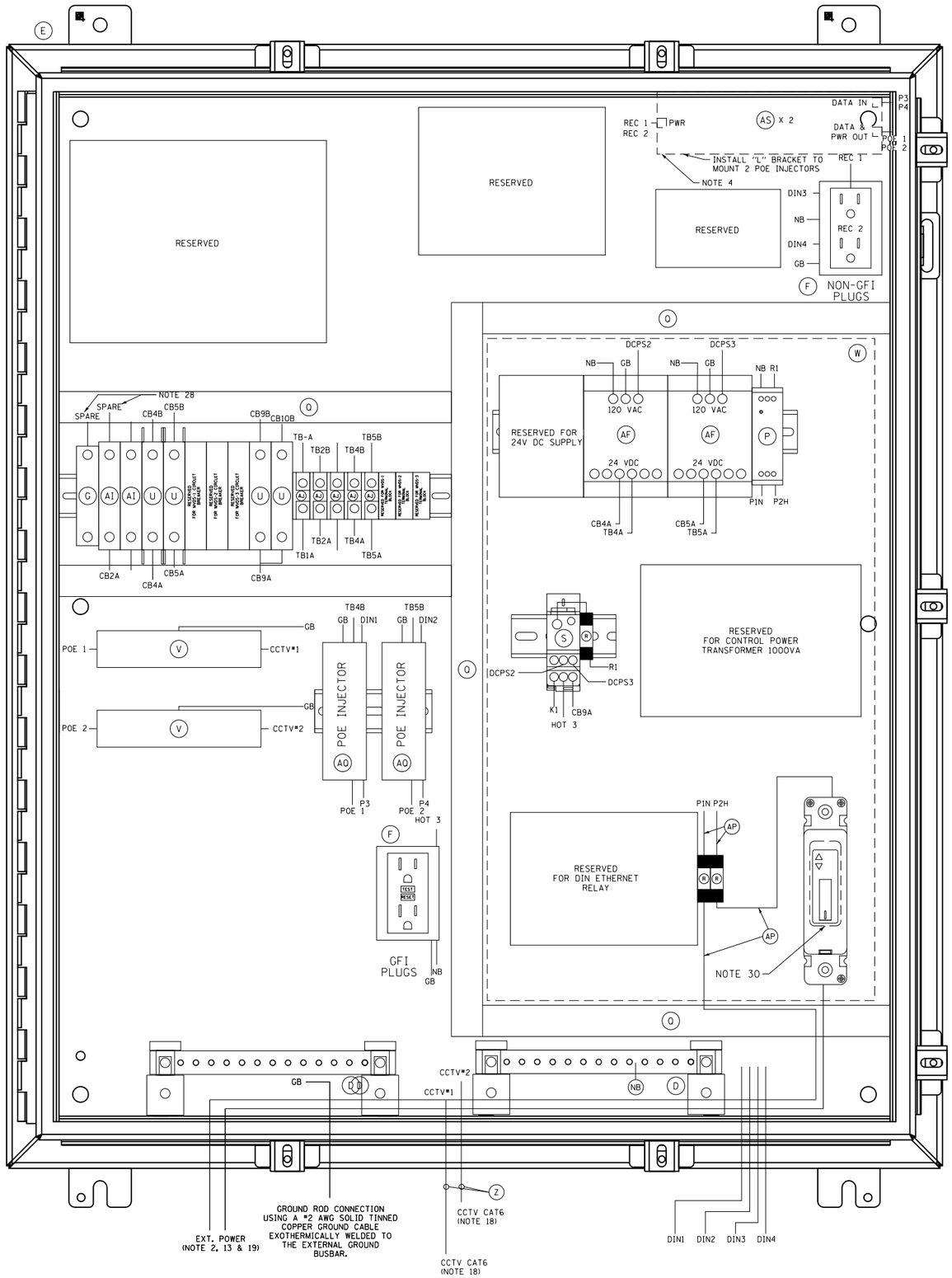
MAXIMUM OF 300' LENGTH FOR CAT 6 CABLE TO CAMERA. IF LENGTH IS EXCEEDED, REDUCE MOUNTING HEIGHT.

M-ITS-1502

Illinois Tollway

ITS DETAILS
TOWER MOUNT CAMERA ASSEMBLY
300' CAT6 OR LESS

DATE
3-01-2020



ITEM	DESCRIPTION
A	NOT USED FOR THIS SHEET APPLICATION
B	CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
C	NOT USED FOR THIS SHEET APPLICATION
D	TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
E	NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
F	TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
G	24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
H	NOT USED FOR THIS SHEET APPLICATION
I	120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
J	NOT USED FOR THIS SHEET APPLICATION
K	NOT USED FOR THIS SHEET APPLICATION
L	NOT USED FOR THIS SHEET APPLICATION
M	2 METER - SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
N	NOT USED FOR THIS SHEET APPLICATION
O	NOT USED FOR THIS SHEET APPLICATION
P	120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
Q	PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/F1X2LG6 WITH COVER-C1LG6
R	10 AMP FUSE, GOULD (MERSEN)/ATM-10
S	SPLICE BLOCK, ALTECH/38041
T	NOT USED FOR THIS SHEET APPLICATION
U	5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
V	CAT6 PoE+ SURGE SUPRESSOR, AXIS T8061
W	CLEAR POLY METHYL METHACRYLATE (PMMA, PLEXIGLAS) SAFETY COVER ENCOMPASSING ITEMS AF, P, S, R, B, X, & I. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
X	POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 4
Y	NOT USED FOR THIS SHEET APPLICATION
Z	CATEGORY 6 CABLE, 23 AWG, OUTDOOR RATED CABLE BELDEN/7953A
AA	SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB24510
AB	NOT USED FOR THIS SHEET APPLICATION
AC	NOT USED FOR THIS SHEET APPLICATION
AD	NOT USED FOR THIS SHEET APPLICATION
AE	RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
AF	AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
AG	NOT USED FOR THIS SHEET APPLICATION
AH	NOT USED FOR THIS SHEET APPLICATION
AI	2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
AJ	TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
AK	MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) OR ISS (SX-300)
AL	TRANSFORMER COVERS, SQUARE D/9070FSC2
AM	5-CONDUCTOR JUMPER (Tx, Rx, GND, RTS, CTS), RS-232 SERIAL COMMUNICATIONS (APPLICABLE TO ISS/MOXA)
AN	INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
AO	MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
AP	#10 AWG
AQ	PoE INJECTOR AXIS T8144 (ONLY REQUIRED FOR PoE CAMERAS)
AR	T-BUS CONNECTOR (WAVETRONIX)
AS	PoE INJECTOR COHU 7412007-003 (ONLY REQUIRED FOR PoE CAMERAS)

NOTES:

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
4. SHEET SHOWS BOTH POE INJECTOR OPTIONS USING A 120VAC SUPPLY AND 24VDC SUPPLY. DEVICES REQUIRED FOR THE 120VAC SUPPLY ARE DENOTED WITH A DASHED LINE.
5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, & AF) SHALL BE FED FROM A SEPARATE INPUT LINE.
6. THE DIN RAIL(S) FOR ITEMS J & K SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
8. WIFI COMMUNCATION SHALL BE DISABLED ON DIN ETHERNET RELAY.
9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
10. ALL BREAKERS SHALL BE LABELED (E.G. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
11. NOT USED FOR THIS SHEET APPLICATION
12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THE HANDHOLE.
14. POWER FEED TO THE CISCO IE4000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
15. NOT USED FOR THIS SHEET APPLICATION
16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
18. CABLES TO BE ROUTED THROUGH POLE.
19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
20. NOT USED FOR THIS SHEET APPLICATION
21. NOT USED FOR THIS SHEET APPLICATION
22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE ENCLOSURE INTO THE GROUND BUS.
24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
25. ITEM AL SHALL BE PLACED ON ITEM B.
26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED.
27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.
28. SPARE BREAKER RESERVED.
29. ALL CONDUIT EXITING THE BOTTOM OF THE CABINET SHALL BE INSTALL IN-LINE WITH THE EQUIPMENT IT IS CONNECTED TO. THE CABLES SHALL BE INSTALLED IN A NEAT AND PROFESSIONAL MANNER.
30. PROVIDE WINDOW IN PMMA SHIELD FOR ACCESS TO BREAKER. MOUNT BREAKER FLUSH WITH PMMA SHIELD USING MOUNTING BRACKET.

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.

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

NOTE TO DESIGNER

THIS CONFIGURATION IS FOR USE WHERE THE POWER FROM THE COMMUNICATION BUILDING IS 120V AND THE DISTANCE FROM THE SWITCH INSIDE THE BUILDING TO THE CAMERA IS LESS THAN 300'. THIS CONFIGURATION REQUIRES THE ETHERNET RELAY TO BE INSTALLED INSIDE THE COMMUNICATION BUILDING.

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

M-ITS-1503

Illinois Tollway

CABINET WIRING DIAGRAM
TOWER MOUNTED CCTV
ITS ASSEMBLY

DATE
3-01-2020