

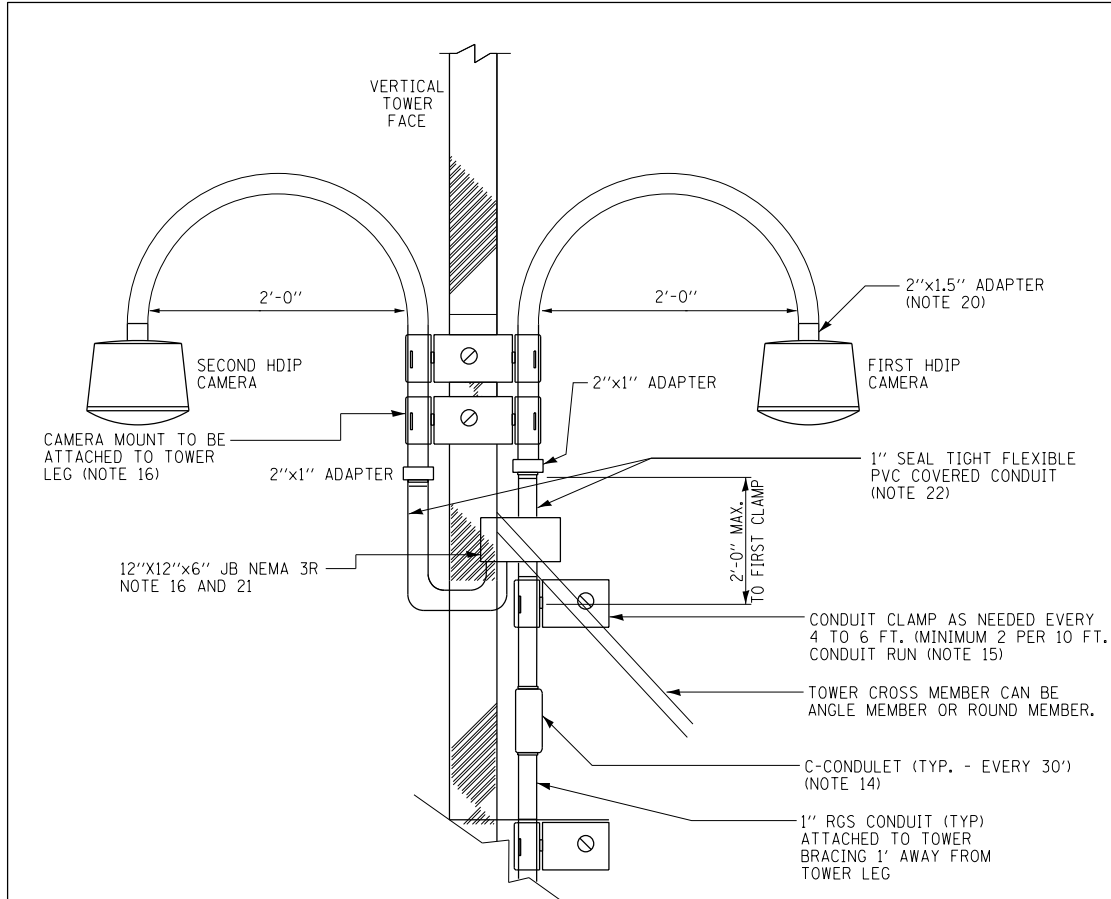
Illinois Tollway Base Sheet Revisions

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 dxv 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.		
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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		

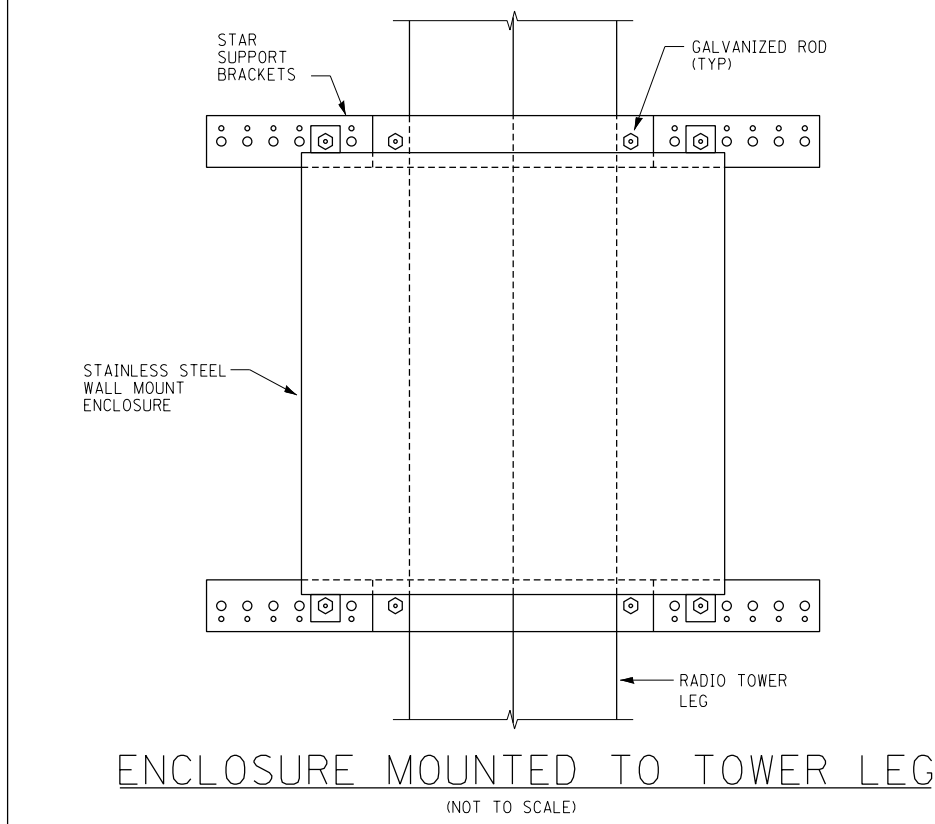
Tollway Base Sheet Revisions		
Section M	Base Sheet Drawings	
	Drawing	Modification Summary Effective: 03-31-2016
	Maintenance of Traffic (MOT)-Series 700	
	M-MOT-700	Temporary Concrete Barrier "Y" Connector Segment
		Revised Barrier Details Notes.
		Changed barrier edges chamfered from 1/2" to 1" on 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



CCTV EQUIPMENT MOUNTING SCHEME  
LATTICED TOWER  
(NOT TO SCALE)

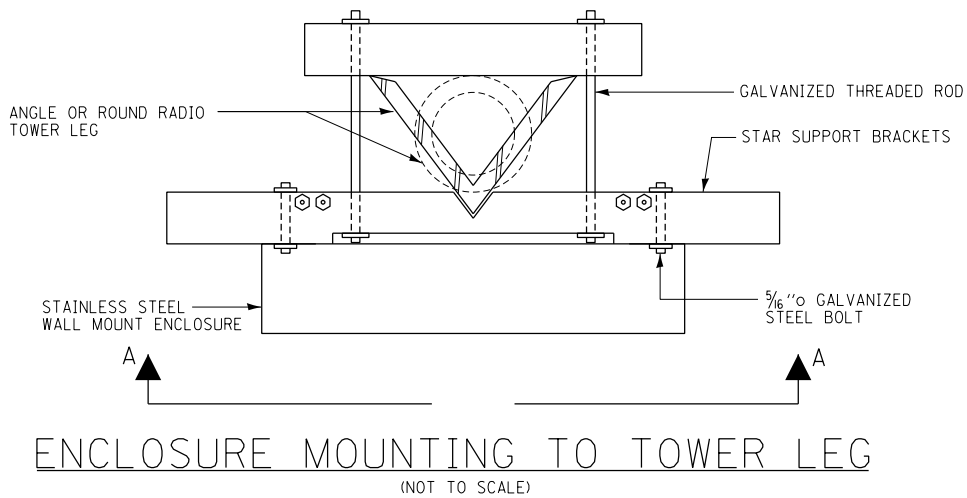


ENCLOSURE MOUNTED TO TOWER LEG  
(NOT TO SCALE)

**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.



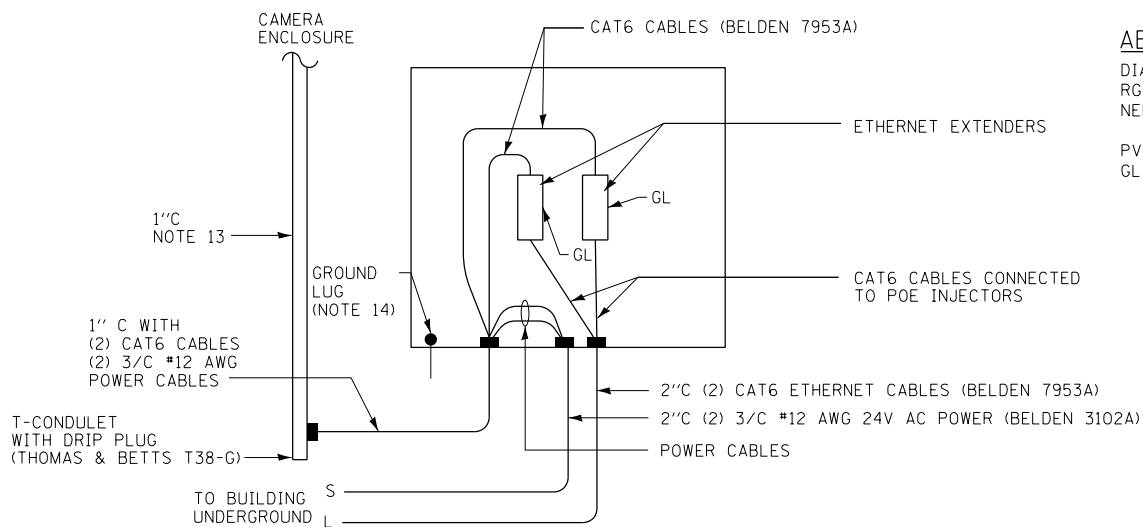
ENCLOSURE MOUNTING TO TOWER LEG  
(NOT TO SCALE)

**ABBREVIATIONS:**

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

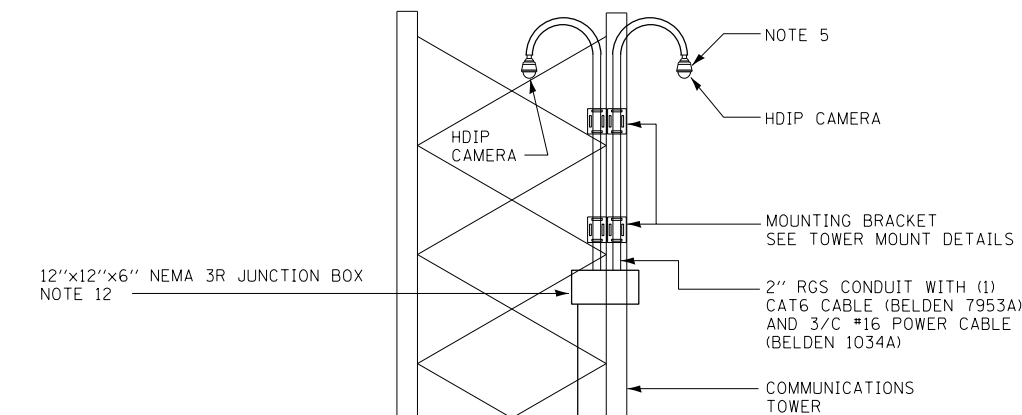
- GENERAL NOTES:**
- CONTRACTOR IS RESPONSIBLE FOR FINAL ATTACHMENT DETAILS BASED ON THE DRAWINGS AND PRE-INSTALLATION MEETING WITH ILLINOIS TOLLWAY.
  - APPLICABLE DESIGN CRITERIA SHALL BE PER THE LATEST EDITION OF AISC MANUAL, ASCE 7-05, TIA-222-G, AND APPLICABLE NATIONAL, STATE, AND OR LOCAL BUILDING CODES.
  - EQUIPMENT MOUNTING SHALL ALSO MEET REQUIREMENTS LISTED IN SPECIAL PROVISIONS.
  - DESIGN LOADS SHALL BE AS FOLLOWS:
    - 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.
    - DESIGN SEISMIC ACCELERATION AND WIND SPEED SHOULD BE DETERMINED FROM APPLICABLE BUILDING CODES AND DESIGN STANDARDS.
    - 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.
  - 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.
  - 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.
  - 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%).
  - NOT USED.
  - CONTRACTOR IS RESPONSIBLE FOR THEIR QUALITY CONTROL AND PROVIDING DOCUMENTATION THAT ALL BOLTS ARE TORQUED AND HARDWARE TIGHTENED TO MANUFACTURER'S ESTABLISHED REQUIREMENTS.
  - 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.
  - COMMUNICATIONS EQUIPMENT ENCLOSURE SHALL BE MOUNTED TO TOWER LEG.
  - 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.
  - 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.
  - 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.
  - 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.
  - 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.
  - 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.
  - NOT USED.
  - ALL CONNECTIONS SHALL BE SEALED WITH TAPE AS PER ILLINOIS TOLLWAY TOWER CREW INSTRUCTIONS.
  - ONCE CABLES ARE PULLED, CONTRACTOR TO FILL ADAPTER WITH ELECTRICAL PUTTY AS TO PREVENT ANY CONDENSATION TO SEEP INTO CAMERA HOUSING.
  - TRANSITION ETHERNET AND POWER CABLES.
  - ALL CONDUITS MUST CONNECT TO BOTTOM OF 12"x12"x6" NEMA 4X ENCLOSURE.

M-ITS-1500



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

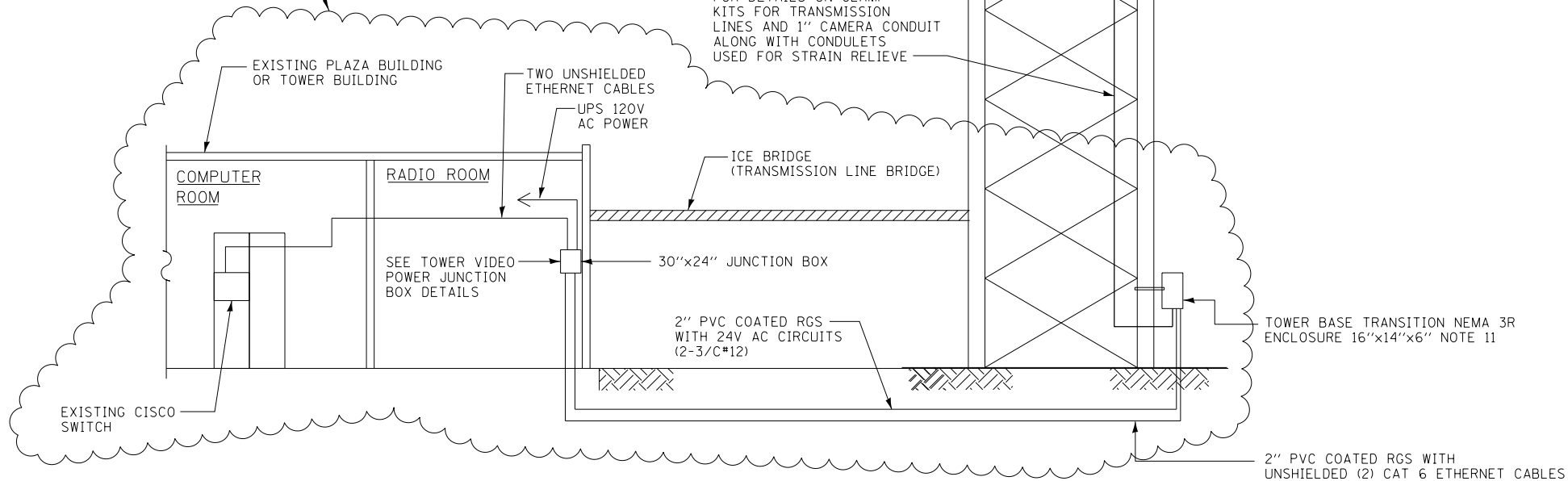
TOWER BASE TRANSITION NEMA 3R ENCLOSURE  
(NOT TO SCALE)



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:

- NOT USED.
- CAMERA MUST BE GROUNDED IN HOUSING.
- 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.
- CONTRACTOR TO PROVIDE ALL POWER AND GROUND WIRING REQUIRED FOR SYSTEM OPERATION INCLUDING ETHERNET CONNECTIONS FROM THE CAMERAS TO THE CISCO SWITCH.
- CONTRACTOR TO SEAL CONDUIT WITH ELECTRICAL PUTTY AS IT ENTERS THE CAMERA HOUSING. THIS WILL PREVENT ANY MOISTURE ENTERING THE CAMERA.
- ALL CONNECTIONS SHALL BE SEALED WITH TAPE PER ILLINOIS TOLLWAY TOWER CREW INSTRUCTIONS.
- 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).
- ALL BOM PARTS ARE TO BE CONSIDERED "OR EQUIVALENT".
- SEE VIDEO POWER JUNCTION BOX DETAIL ON SHEET M-ITS-1255.
- 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.
- 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.
- CAMERA TRANSITION NEMA 3R ENCLOSURE IS USED TO TRANSITION TO THE 2 CAMERAS. ENCLOSURE MUST MOUNT TO TOWER AT TWO POINTS.
- LOOP A MINIMUM OF 3FT OF POWER CABLE AND CAT 6 INSIDE TOWER BASE TRANSITION ENCLOSURE.
- CONNECT TOWER BASE ENCLOSURE TO THE TOWER VIA #6 GROUND CABLE CADWELDED TO THE TOWER.

## 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.

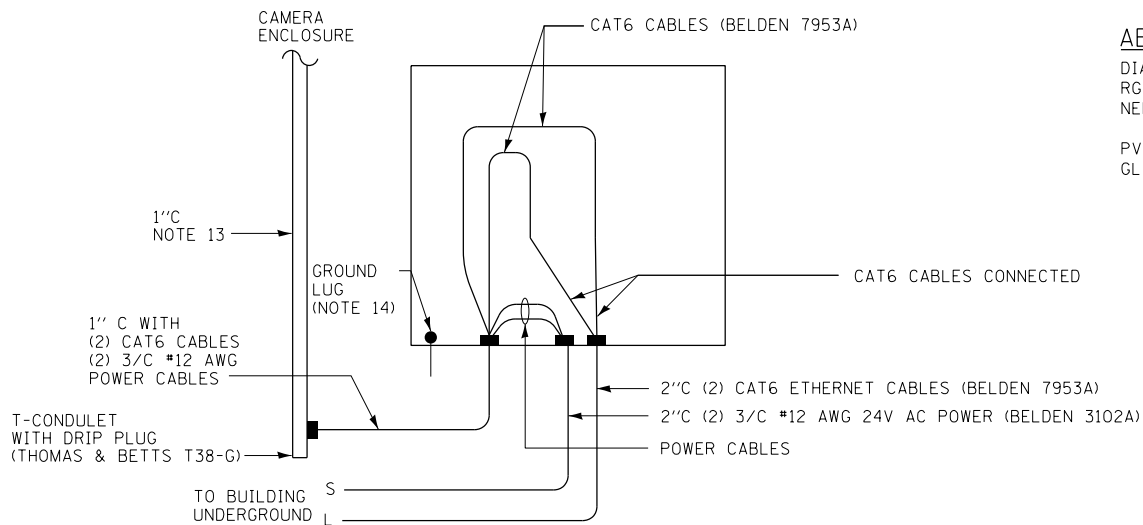
M-ITS-1501



ITS DETAILS  
TOWER MOUNT CAMERA ASSEMBLY  
300' CAT6 OR MORE

DATE  
3-1-2016

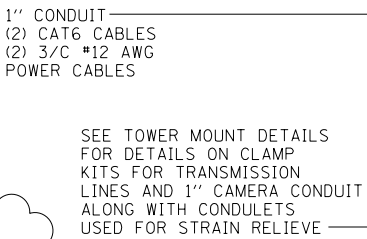
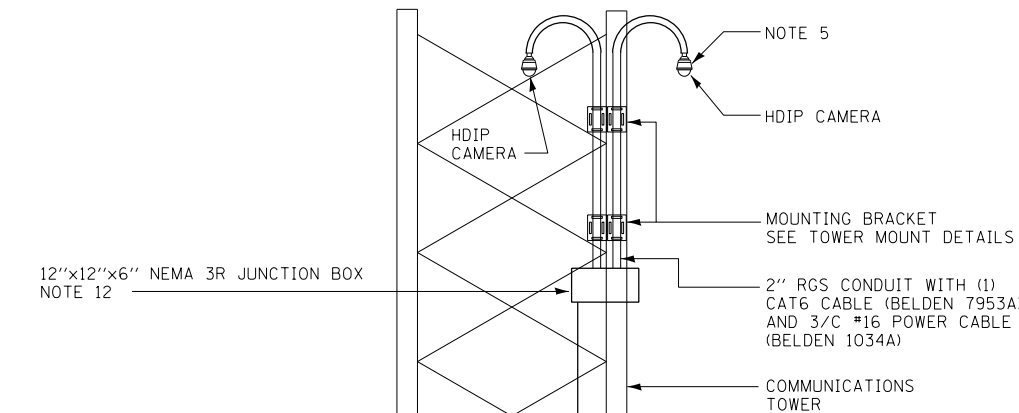




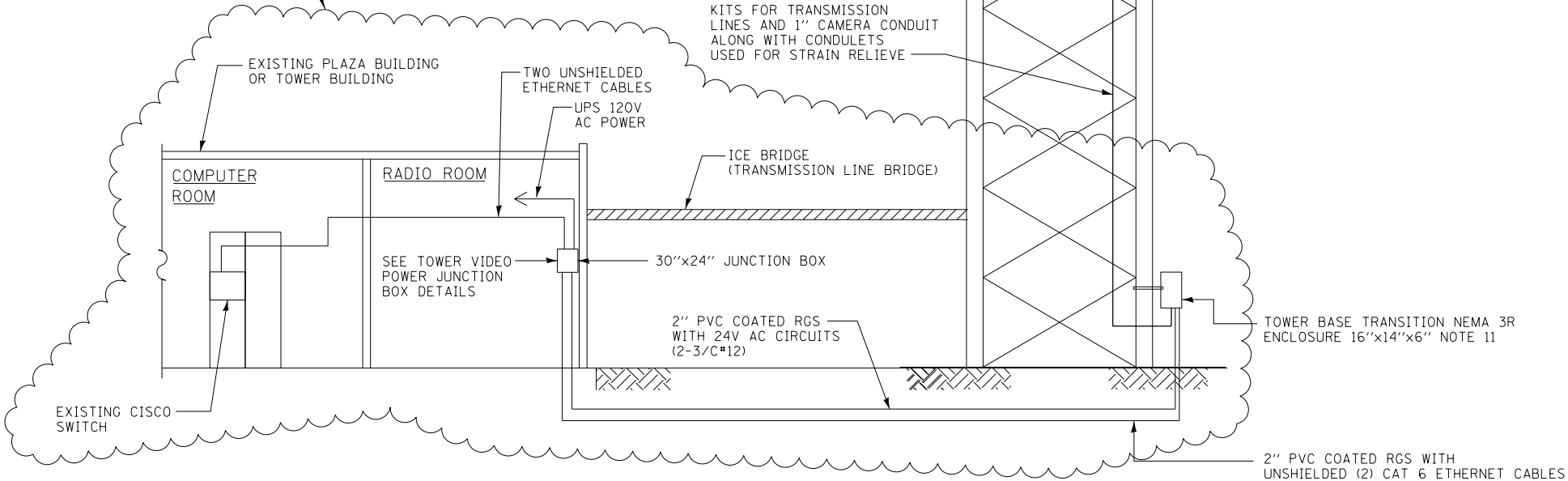
**TOWER BASE TRANSITION NEMA 3R ENCLOSURE**  
(NOT TO SCALE)

**ABBREVIATIONS:**

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



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-1256.
  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.

**NOTE TO DESIGNER**

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M-ITS-1502



ITS DETAILS  
TOWER MOUNT CAMERA ASSEMBLY  
300' CAT6 OR LESS

DATE  
3-1-2016