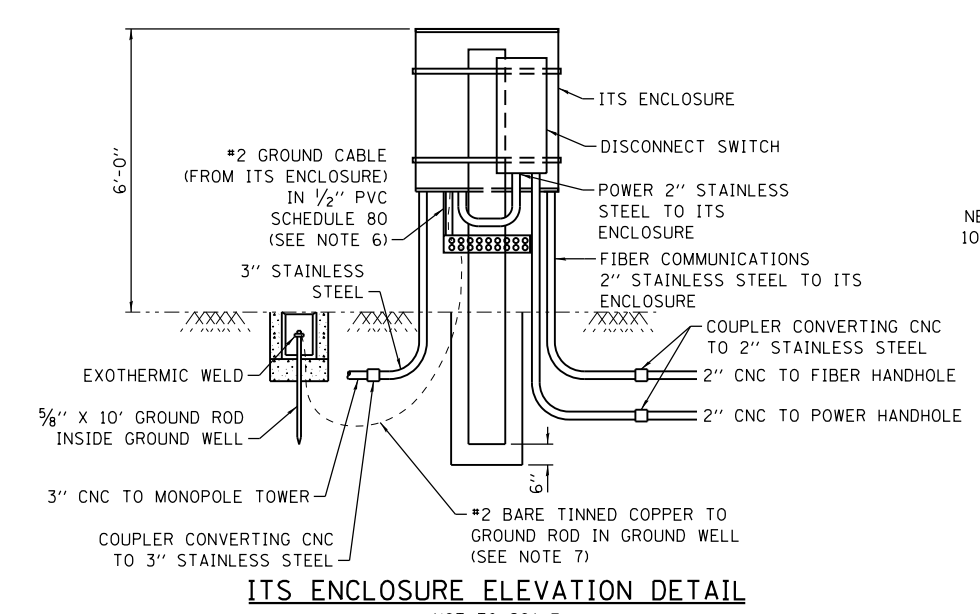
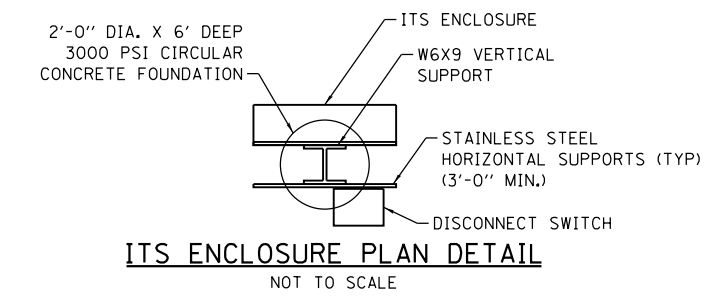
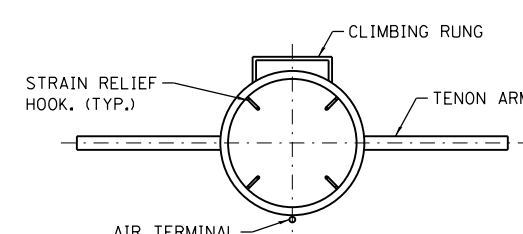
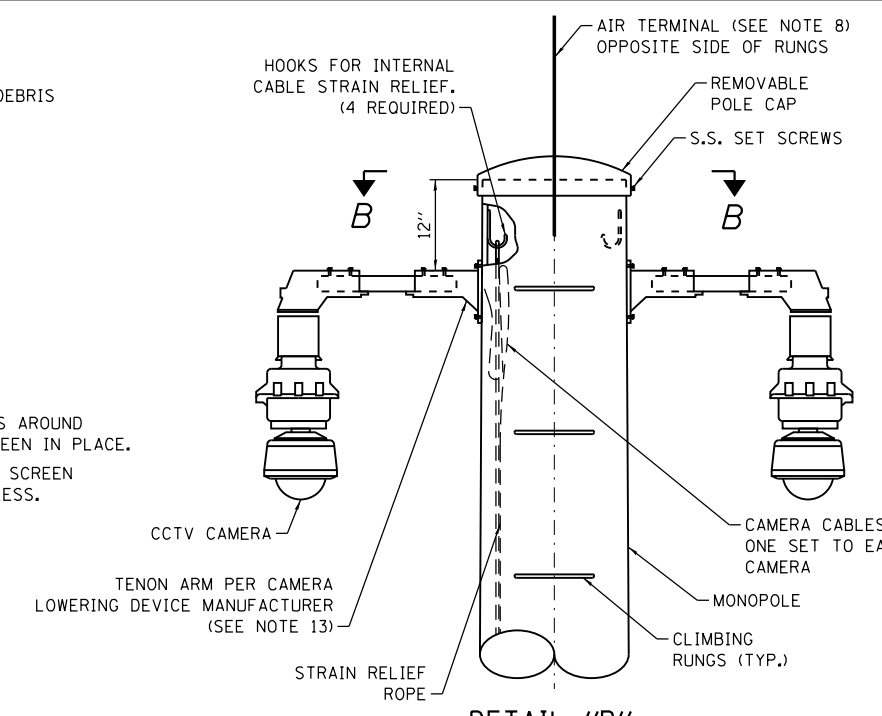
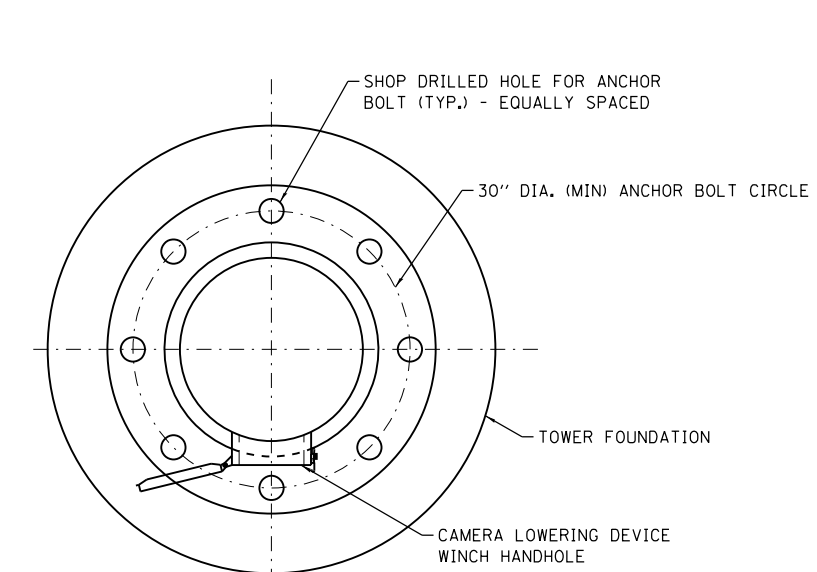
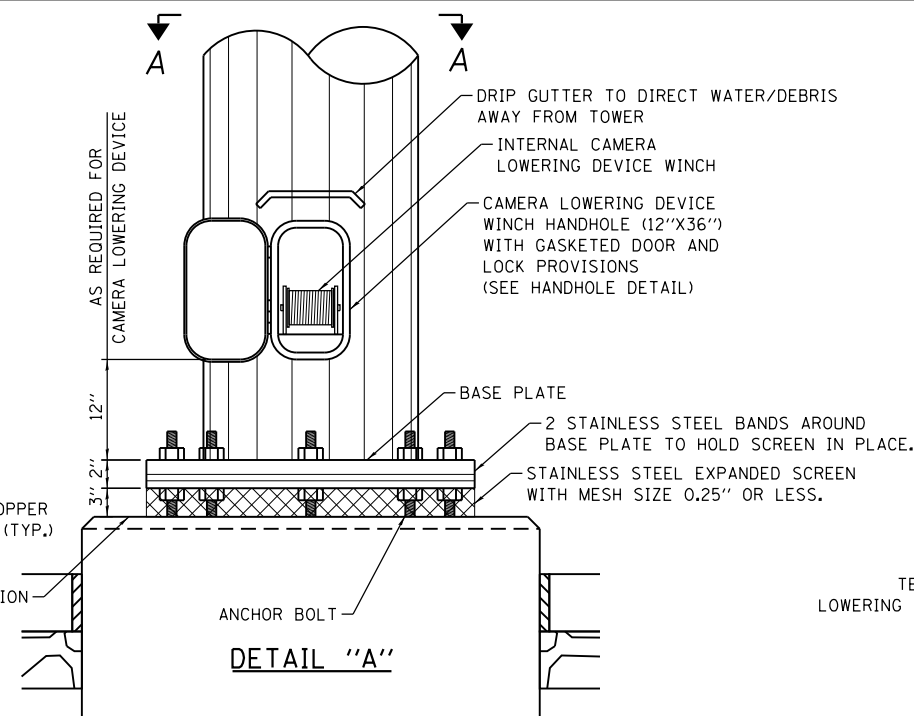
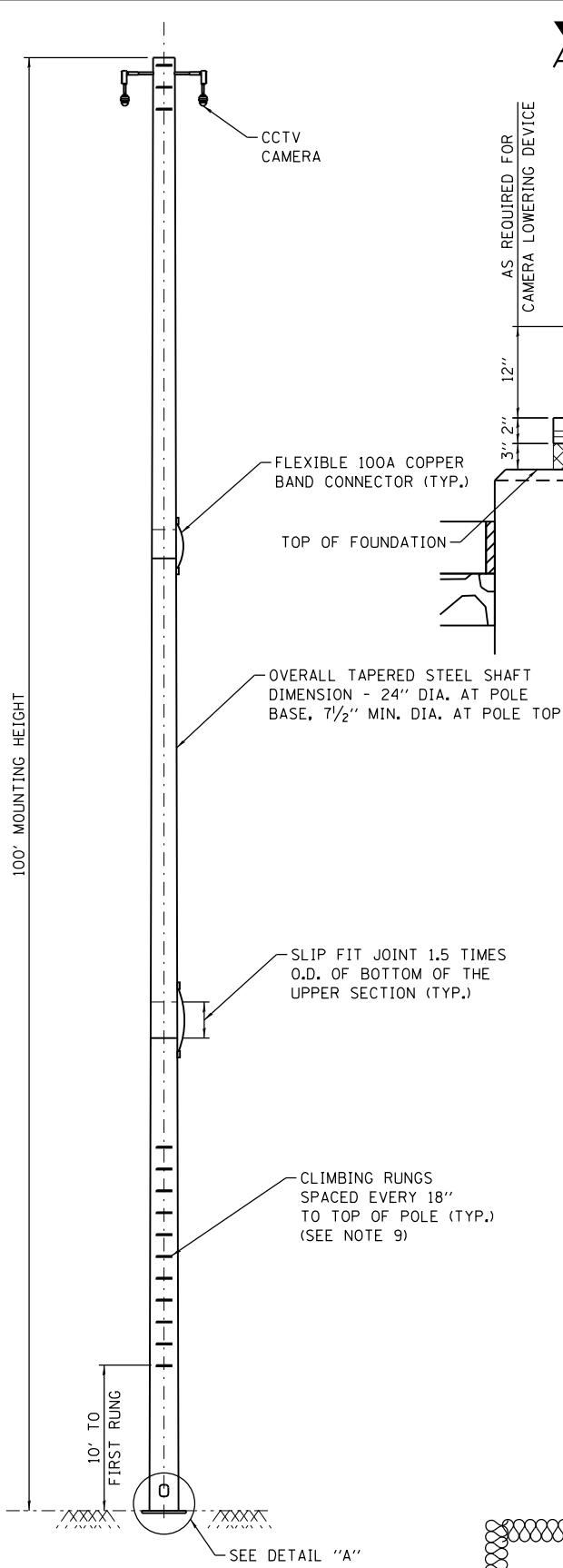


Illinois Tollway Base Sheet Revisions
--

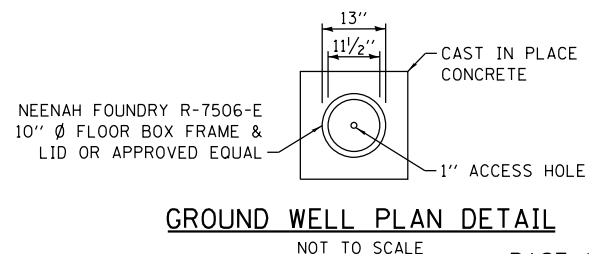
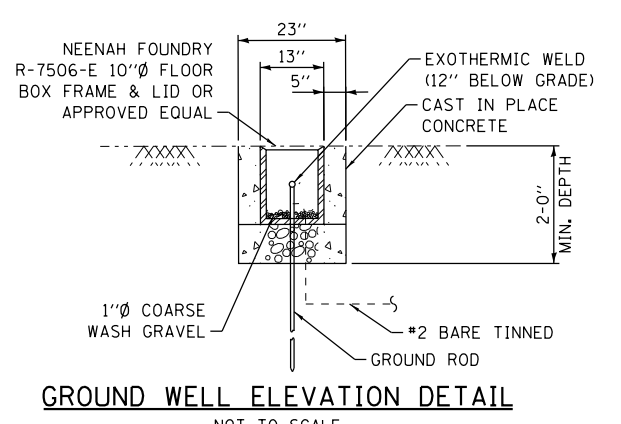
Section M	Base Sheet Drawings	
Drawing	Modification Summary	Effective: 2019-03-01
Pole Assembly (ITS)-Series 1000		
M-ITS-1000	Elevation Views Pole Mounted ITS Element Assembly Changed disconnect switch to unfused.	
M-ITS-1003	ITS Concrete Service Pad (2 sheets) New drawing with three types of service 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

X Retired Sheet



- NOTES**
1. THE MONOPOLE TOWER SHALL MEET CURRENT AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS".
 2. CAMERA WIRES SHALL EXTEND 24 INCHES LONGER THAN THEIR RESPECTIVE TENON ARM AND SHALL BE TRAINED BACK INTO THE ARM/POLE WHICH SHALL THEN BE CLOSED WITH A CAP AS SPECIFIED. ALL WIRES SHALL BE CAPPED WITH HEAT SHRINK INSULATING BOOTS. CRIMP CAPS ARE UNACCEPTABLE. ALL WIRES SHALL BE TAGGED WITH WIRE MARKERS AT BOTH ENDS. THE TENON ARMS SHALL BE TAGGED CORRESPONDING TO THE WIRING CONTAINED WITHIN.
 3. ALL MULTI-CONDUCTOR CABLES SHALL BE FITTED WITH A HEAT-SHRINK MULTI-LEG BOOT. THE BOOT SHALL MEET MILITARY SPECIFICATION MIL-I-81765/1.
 4. TENON ARM SHALL BE AS REQUIRED BY CAMERA LOWERING DEVICE MANUFACTURER.
 5. CAMERA MOUNTING HARDWARE SHALL BE WATERTIGHT.
 6. USE METAL BUSHING WHEN CONNECTING PVC TO CABINET. USE GROMMETS AT BOTH ENDS OF CONDUIT TO SEAL CONDUIT BUT ALLOW GROUND CABLE TO RUN THROUGH BOTH ENDS.
 7. GROUND ROD SHALL BE PLACED A MINIMUM OF 10' FROM THE FOUNDATION. A GROUND WELL SHALL BE INCLUDED TO PERMIT ACCESS TO THE GROUND ROD CONNECTION. CONNECTION TO THE GROUND BUS BAR AND THE GROUND ROD SHALL BE EXOTHERMIC WELD.
 8. AIR TERMINAL SHALL EXTEND A MINIMUM OF 3 FEET ABOVE TOP OF TOWER. AIR TERMINAL SHALL CONNECT TO TOWER USING STRAPS OR CLAMPS APPROVED BY THE ENGINEER. AIR TERMINAL SHALL BE EXOTHERMIC WELDED TO A #2/0 GROUNDING CONDUCTOR. GROUNDING CONDUCTOR SHALL BE STRAPPED TO MONOPOLE TOWER EVERY 10 FEET. GROUNDING CONDUCTOR SHALL EXTEND TO AND BE EXOTHERMIC WELDED TO THE NEAREST TOWER GROUND ROD.
 9. CLIMBING RUNGS SHALL BE ORIENTED 90° FROM TENON ARMS AND ON THE SIDE OF POLE FACING AWAY FROM TRAFFIC.
 10. FOUNDATION SHALL BE IN ACCORDANCE WITH SECTION 837 OF THE STANDARD SPECIFICATIONS AND PAID FOR AS LIGHT TOWER FOUNDATION, 48" DIAMETER (83700300).
 11. MONOPOLE, LOWERING DEVICE, AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISION "MONOPOLE CCTV CAMERA TOWER ASSEMBLY".
 12. THE MONOPOLE TOWER, ITS ENCLOSURE, AND FENCE GROUNDING SHALL BE IN ACCORDANCE WITH ILLINOIS TOLLWAY SPECIAL PROVISION "ITS ELEMENT SITE GROUNDING".
 13. TENON ARMS MAY OPTIONALLY BE "TOP-MOUNTED".




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 "CAD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER MUST ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES MUST BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.

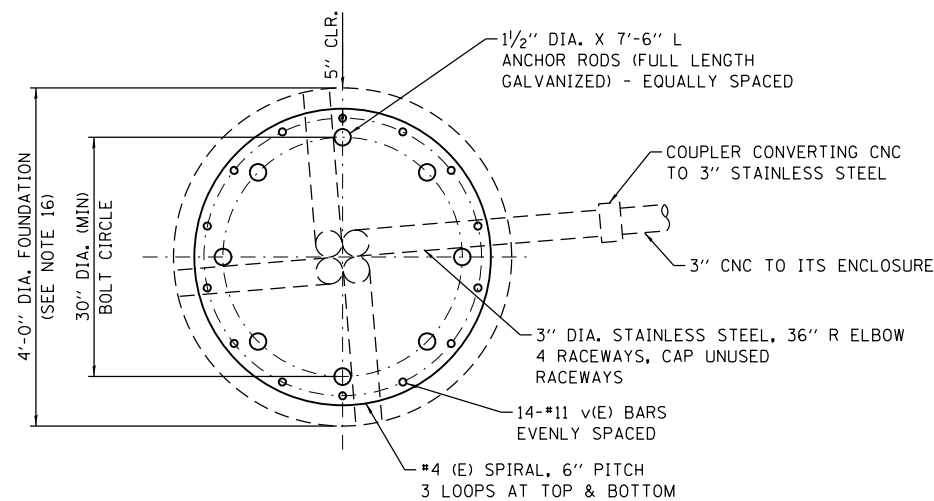
MONOPOLE TOWER

SHEET 1 OF 4
BASE SHEET M-ITS-2000



100 FT. MONOPOLE CLOSED CIRCUIT TELEVISION (CCTV) CAMERA TOWER

DATE
3-31-2017

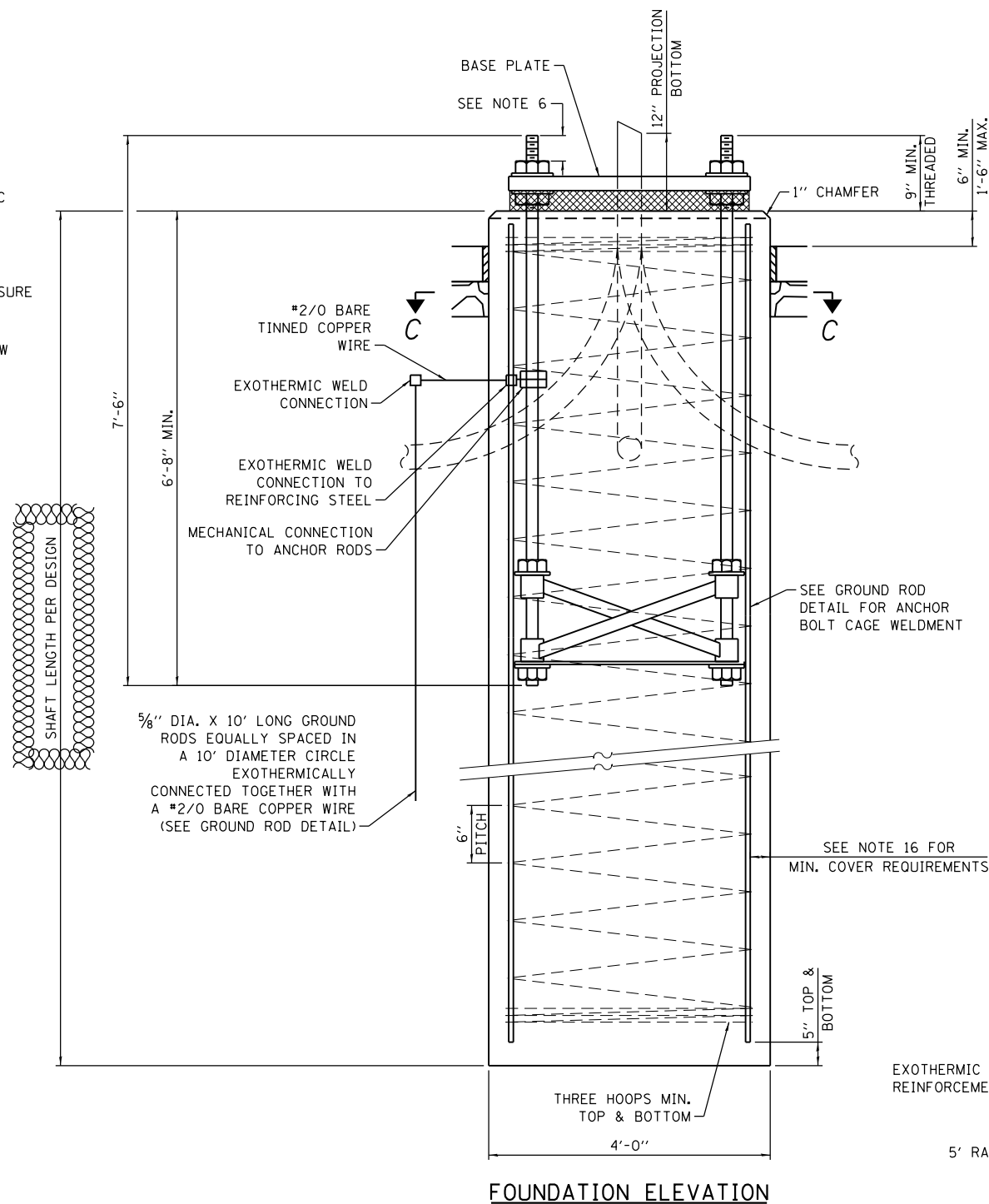


SECTION C-C

MONOPOLE FOUNDATION SCHEDULE

STATION	SHAFT LENGTH	BAR	NUMBER	SIZE	LENGTH	SHAPE
		v(E)	14	11	SHAFT LENGTH-10"	—
		#4 SPIRAL (E) - SEE FOUNDATION ELEVATION				
		v(E)	14	11	SHAFT LENGTH-10"	—
		#4 SPIRAL (E) - SEE FOUNDATION ELEVATION				
		v(E)	14	11	SHAFT LENGTH-10"	—
		#4 SPIRAL (E) - SEE FOUNDATION ELEVATION				

SHAFT LENGTH TABLE			
SOIL CONSISTENCY	AVERAGE STRENGTH		SHAFT LENGTH
	Ou in tsf		
Cohesive	SOFT	< 0.5	22'-6"
	MEDIUM	0.5 to 1	18'-6"
	STIFF	1 to 2	15'-6"
	VERY STIFF	2 to 4	13'-6"
	HARD	> 4	12'-0"
	N in BLOWS/FT.		
Granular	VERY LOOSE	< 5	18'-0"
	LOOSE	5 to 10	16'-6"
	MEDIUM	10 to 25	15'-6"
	DENSE	25 to 50	15'-0"
	VERY DENSE	> 50	14'-0"



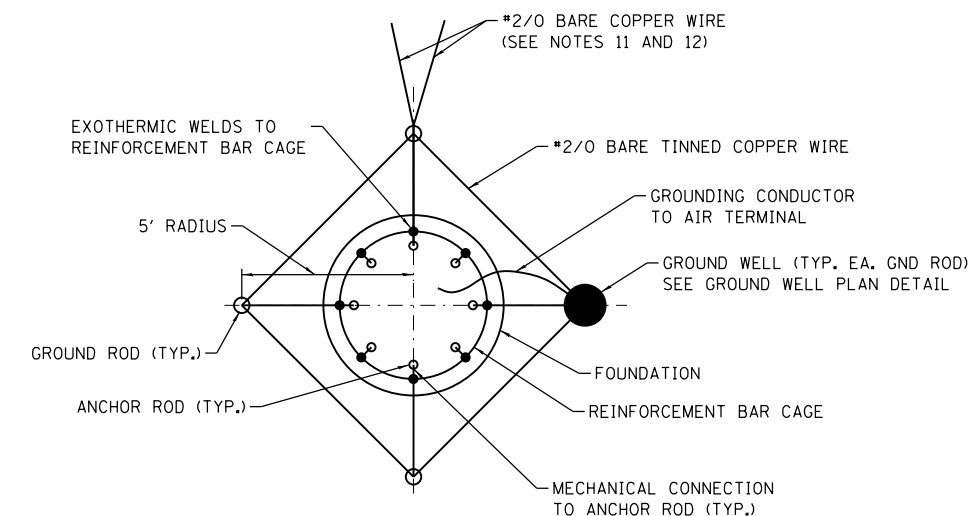
FOUNDATION ELEVATION

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 "CAD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER MUST ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES MUST BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET. THE SHAFT LENGTH CAN BE DETERMINED FROM THE "SHAFT LENGTH TABLE". THE DESIGN SECTION ENGINEER MUST CONDUCT A SUBSURFACE INVESTIGATION AT EACH FOUNDATION LOCATION TO DETERMINE THE ACTUAL SOIL PROPERTIES. SHOULD THE INVESTIGATION REVEAL THE PRESENCE OF SOILS OTHER THAN WHAT IS IN THE "SHAFT LENGTH TABLE", THE DESIGN SECTION ENGINEER SHALL DESIGN AND DETAIL THE DRILLED SHAFT FOUNDATION TO MEET THE ACTUAL SOIL CONDITIONS. THE SOIL BORING LOG(S) SHALL BE INCLUDED IN THE CONTRACT PLANS.

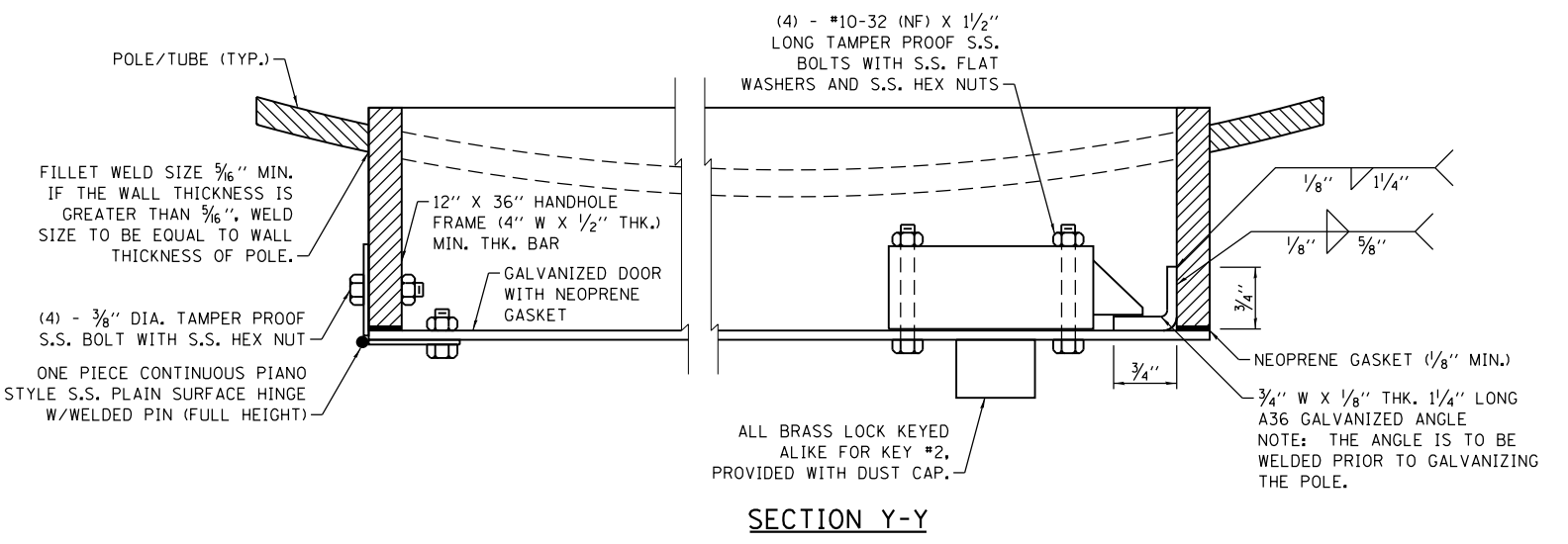
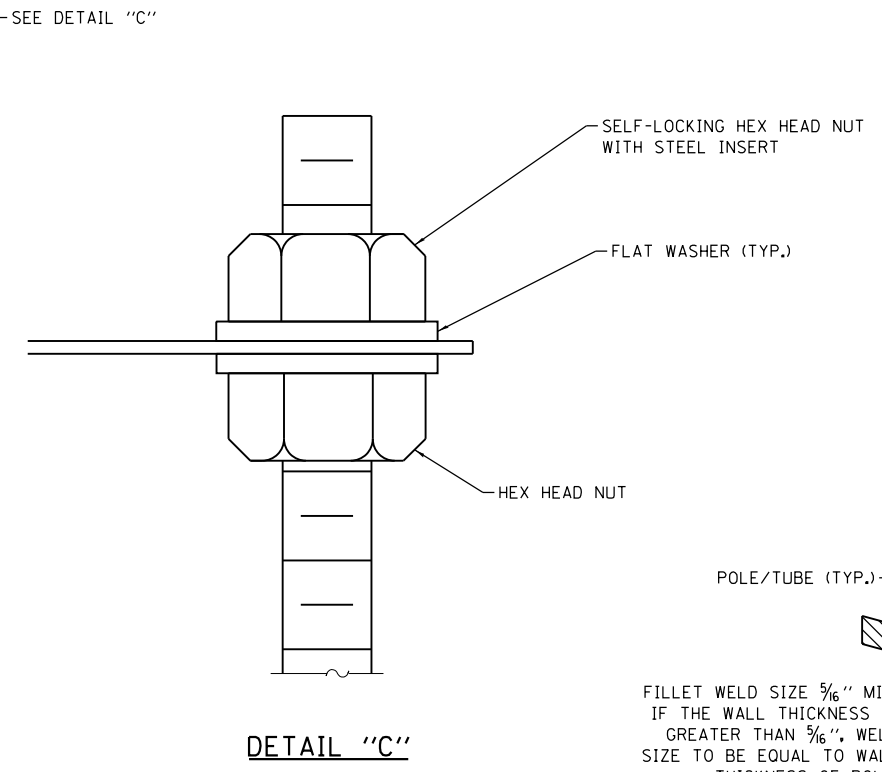
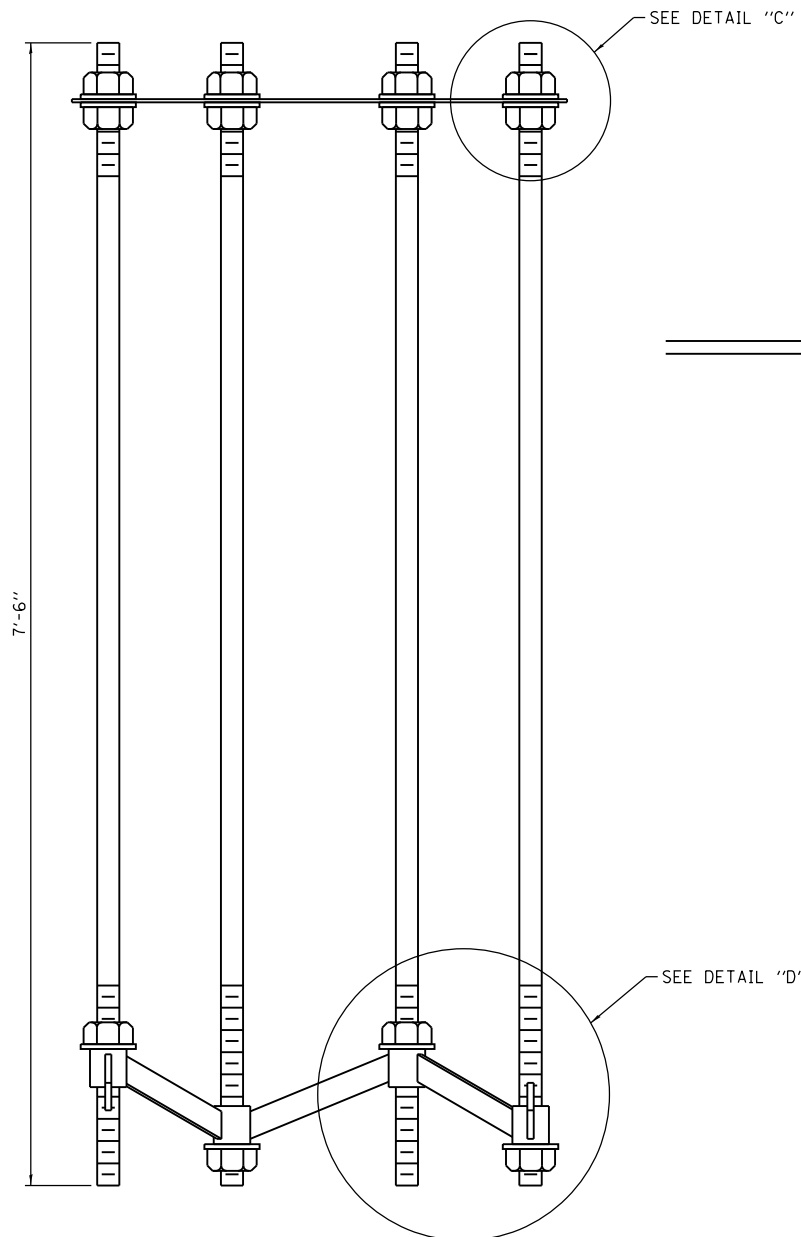
NOTES

- THE ANCHOR RODS SHALL BE VERTICAL. NO ADJUSTMENT SHALL BE ALLOWED AFTER THE FOUNDATION IS PLACED.
- THE TOP OF THE FOUNDATION TO 18" BELOW GRADE SHALL BE FORMED.
- SURFACE WATER WILL NOT BE PERMITTED TO ENTER THE HOLE AND ALL WATER WHICH MAY HAVE INFILTRATED INTO THE HOLE SHALL BE REMOVED BEFORE PLACING CONCRETE.
- TWO ANCHOR RODS OPPOSITE EACH OTHER SHALL HAVE ROD THREADS PEENED AFTER NUTS ARE INSTALLED.
- A MINIMUM OF THREE FULL THREADS SHALL REMAIN EXPOSED AFTER MONOPOLE TOWER IS INSTALLED.
- STEEL ANCHOR ROD FORMS SHALL NOT BE REMOVED FOR A MINIMUM OF 3 DAYS AFTER CONCRETE IS POURED. THE TOWER SHALL NOT BE SET UNTIL THE CONCRETE HAS BEEN CURED ACCORDING TO ART. 1020.13 OF THE STANDARD SPECIFICATIONS, OR AS APPROVED BY THE ENGINEER.
- ANCHOR ROD QUANTITY, DIAMETER, AND LENGTH SHALL BE DETERMINED BY THE TOWER MANUFACTURER AND APPROVED BY THE ENGINEER. EACH FOUNDATION SHALL HAVE A MINIMUM OF 8 ANCHOR RODS.
- COORDINATE THE ROD CIRCLE DIAMETER OF THE TOWER WITH THE DIAMETER OF THE ANCHOR ROD CAGE.
- THE FOUNDATION SHALL BE POURED MONOLITHICALLY AND SHALL HAVE NO CONSTRUCTION JOINTS.
- ALL GROUNDING INDICATED ON THE PLANS SHALL BE INCLUDED IN THE COST OF ITS ELEMENT SITE GROUNDING.
- FOUNDATION GROUNDING RING IS TO BE CONNECTED TO PLAZA BUILDING GROUNDING HALO, IF WITHIN 100 FEET OF ONE ANOTHER.
- FOUNDATION GROUNDING RING IS TO BE CONNECTED TO ITS ENCLOSURE GROUNDING.
- REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF DIFFERENT SOILS ARE FOUND DURING CONSTRUCTION THAN AS SHOWN IN THE SOIL BORINGS.
- THE DRILLED SHAFT FOUNDATION CONCRETE SHALL BE CLASS DS WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI. THE REINFORCEMENT BARS SHALL HAVE A MINIMUM FIELD STRENGTH OF 60,000 PSI.
- FOUNDATION DIAMETER BASED ON 5" CONCRETE COVER. THE MINIMUM COVER SHALL BE 3" IN DRY SHAFT EXCAVATION AND 4" IN A WET HOLE. WHEN ROCK IS ENCOUNTERED A 5" COVER AGAINST SOIL AND A 2" COVER AGAINST ROCK SHALL BE REQUIRED.



GROUND ROD DETAIL

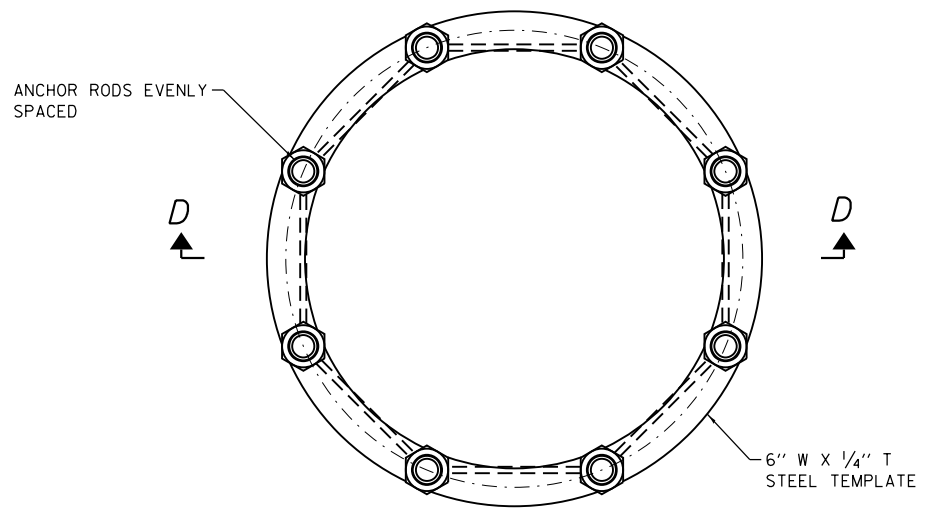




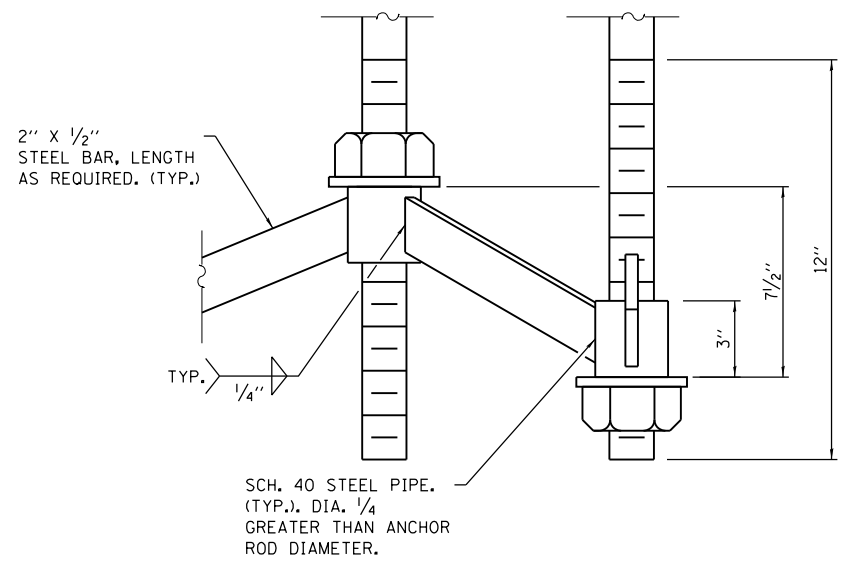
NOTE TO DESIGNER

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 "CAD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER MUST ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES MUST BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.

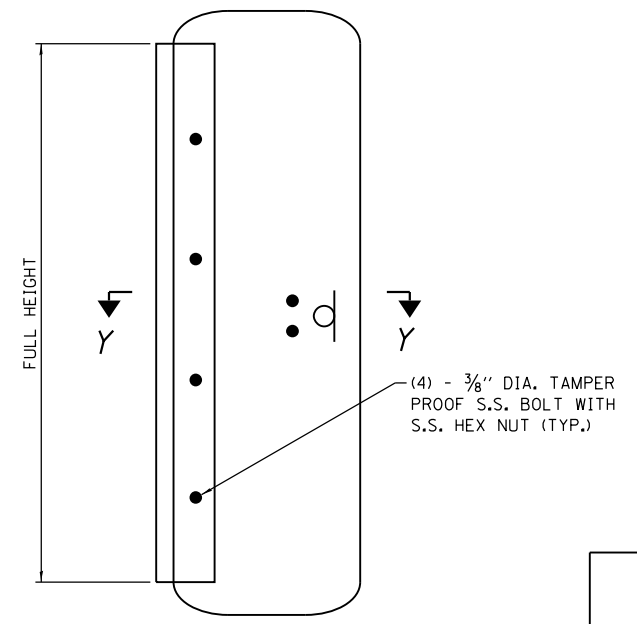
SECTION D-D



ANCHOR ROD CAGE (PLAN)

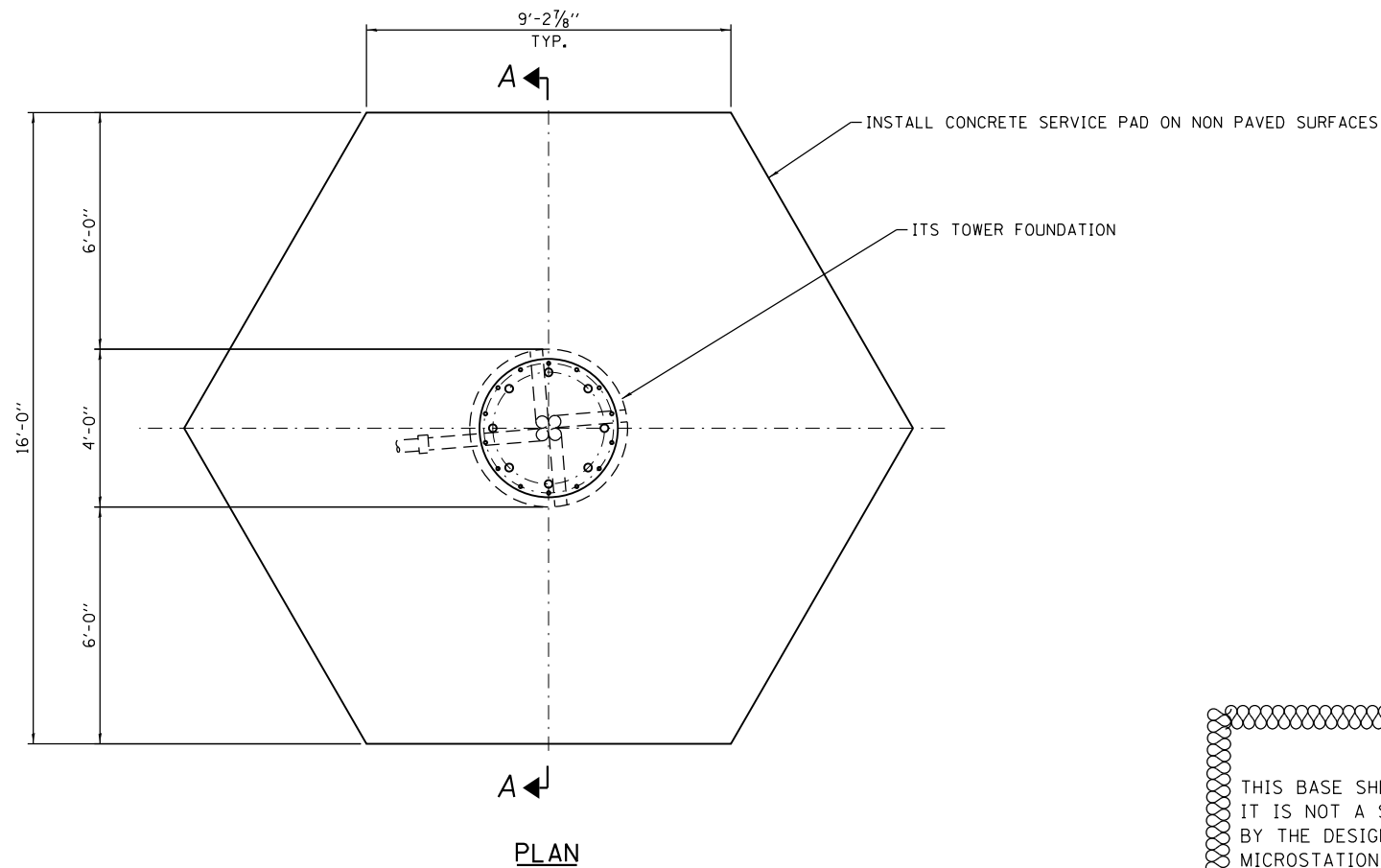


DETAIL "D"

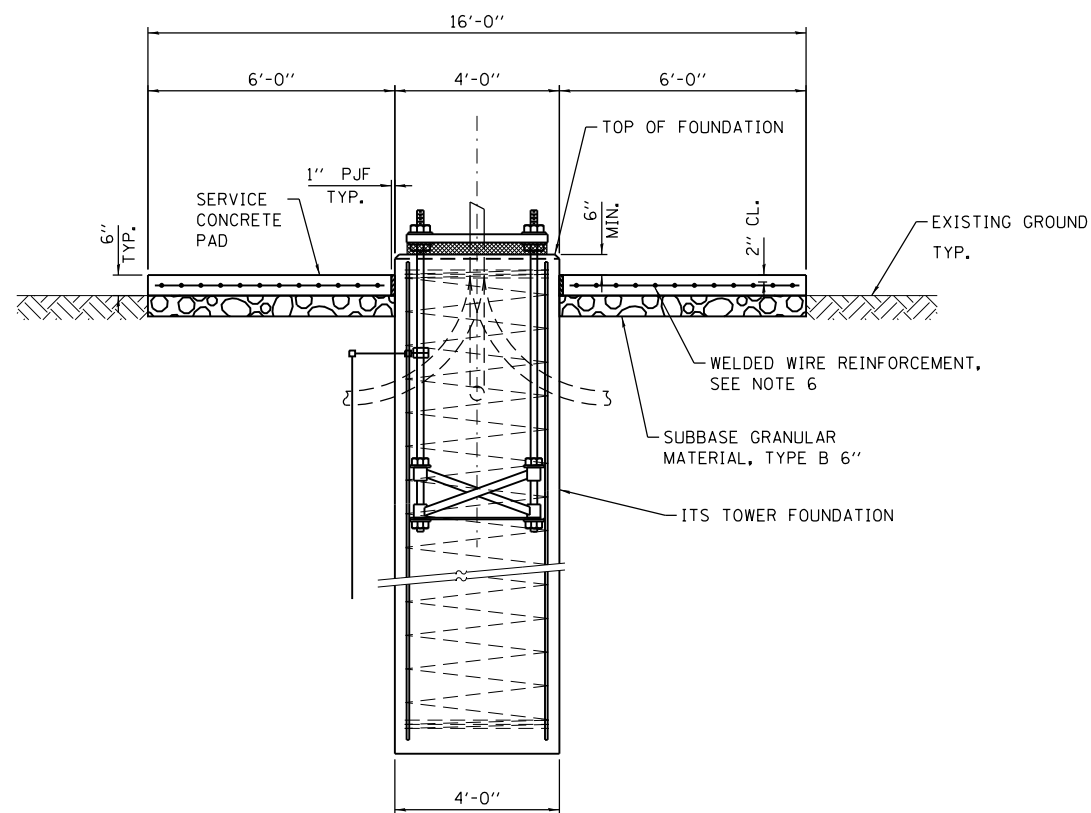


**HANDHOLE DETAIL
(FACTORY ASSEMBLED)**





PLAN



SECTION A-A

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 "CAD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER MUST ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES MUST BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.

NOTES

1. THE CONCRETE COMPRESSIVE STRENGTH SHALL BE F'C = 3,500 PSI. THE WELDED WIRE FABRIC GRADE SHALL BE FY = 65,000 PSI.
2. WELDED WIRE REINFORCEMENT SHALL HAVE A MINIMUM AREA OF 0.31 INCH IN EACH DIRECTION.
3. MIN. 3,000 PSF SOIL BEARING CAPACITY IS REQUIRED BELOW THE SERVICE PAD.

SHEET 4 OF 4
BASE SHEET M-ITS-2000



100 FT. MONOPOLE CLOSED
CIRCUIT TELEVISION
(CCTV) CAMERA TOWER

DATE
3-31-2019