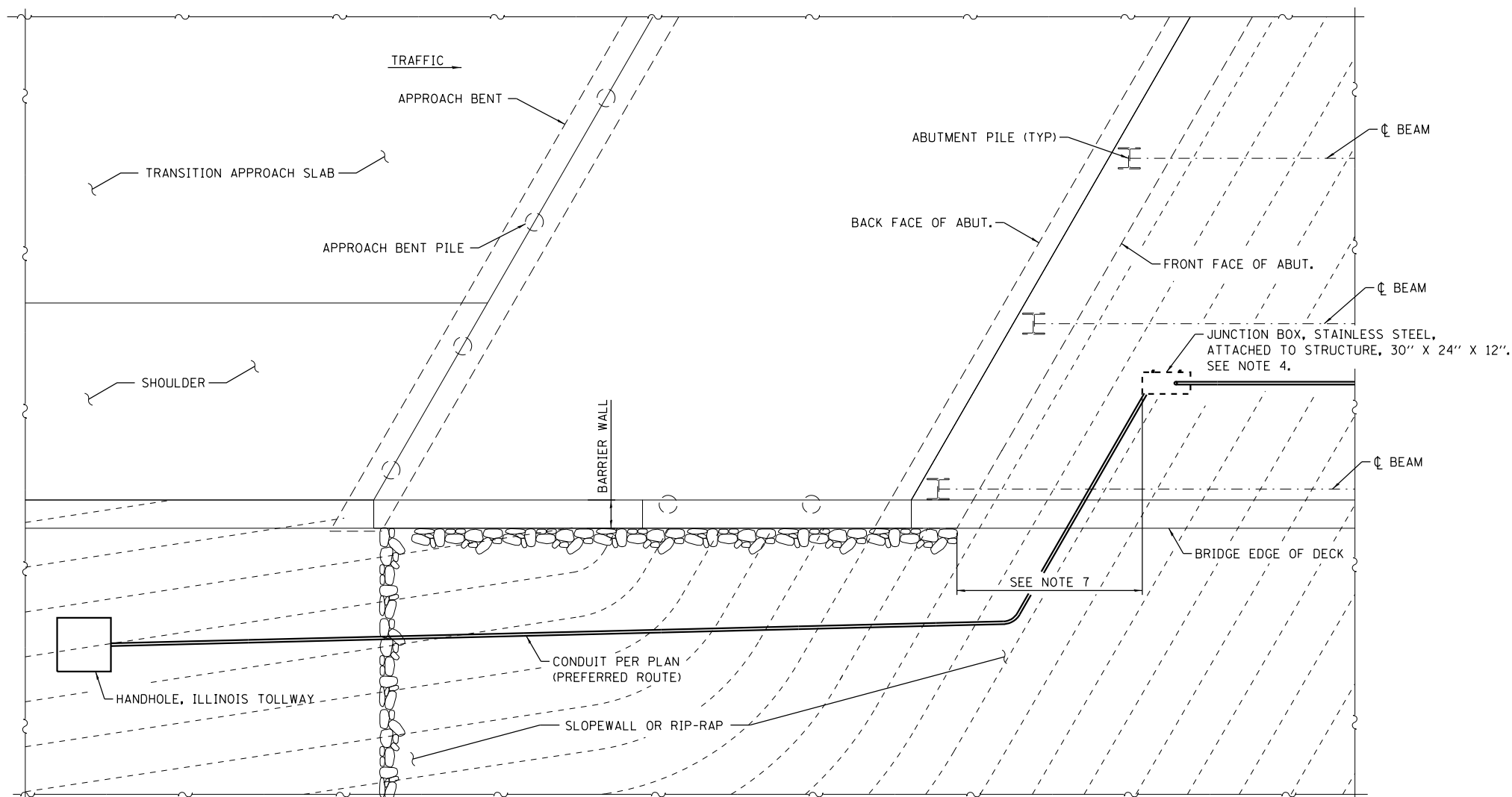


## Illinois Tollway M-ITS Base Sheet Revisions

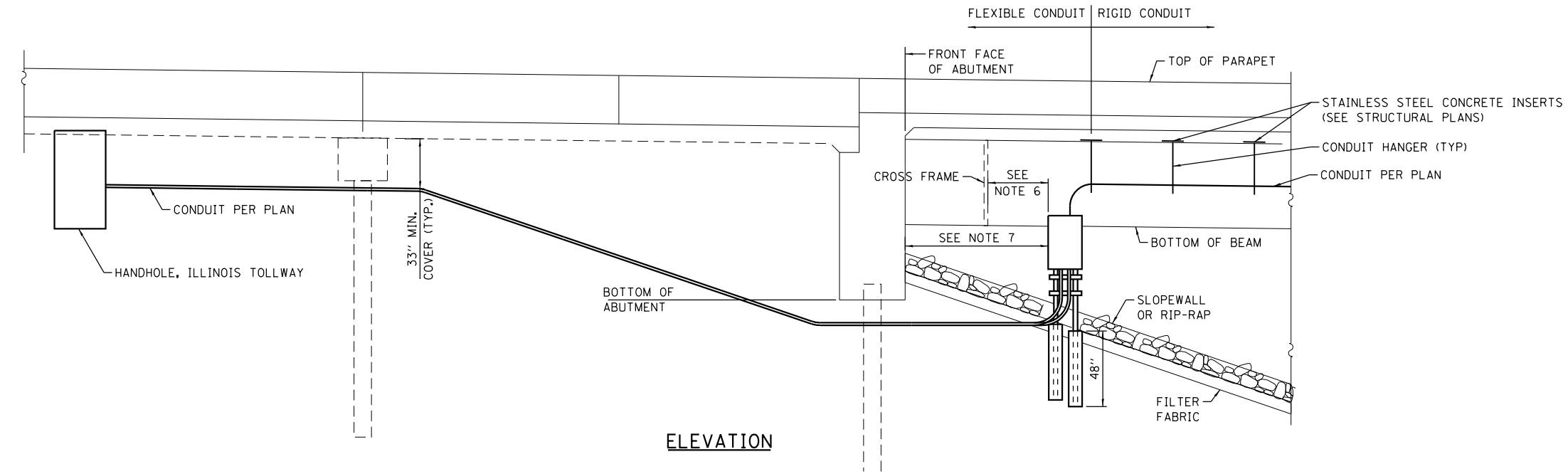
Section M Base Sheet Drawings		
Drawing	Modification Summary	Effective: 2021-03-01
	New Sheet  Retired Standard	
<b>Pole Assembly (ITS)-Series 1000</b>		
<b>M-ITS-1000</b>	<b>Elevation Views Pole Mounted ITS Element Assembly</b>	
	<ul style="list-style-type: none"> <li>. Sheet 1of3: Added title for one section detail; Added note on wires from solar panels to battery box then to ITS enclosure then Cat6 cables to ITS devices installed on the ITS pole</li> <li>. Sheet 2of3: Added title for ITS Disconnect Switch Cast-in place</li> <li>. Sheet 3of3: Added new assembly detail for ITS Disconnect Switch Pre-cast (simplified installation)</li> </ul>	
<b>M-ITS-1001</b>	<b>General Notes Pole Mounted ITS Element Assembly</b>	
	<ul style="list-style-type: none"> <li>. Added Note 22.: Cables shall enter poles through a gromet. Gromet size shall be chosen so that the center hole forms a water tight seal around the cables</li> </ul>	
<b>Dynamic Message Sign (ITS)-Series 1100</b>		
<b>M-ITS-1103</b>	<b>DMS Front Access-Cantilever Electrical Plan</b>	
	<ul style="list-style-type: none"> <li>. Revised assembly details for DMS Type 2 Cantilever pushed further away so the edge of the DMS clears Lane 1</li> </ul>	
<b>M-ITS-1104</b>	<b>DMS Front Access-Butterfly Electrical Plan</b>	
	<ul style="list-style-type: none"> <li>. Revised assembly details for DMS Butterfly Type 2 Front Access pushed further away to the edge of the DMS clears Lane 1</li> </ul>	
<b>Cabinet Wiring (ITS)-Series 1200</b>		
<b>M-ITS-1200 to M-ITS-1213</b>	<p><b>M-ITS-1200: Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-MVDS)</b>  <b>M-ITS-1201: Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-MVDS)</b>  <b>M-ITS-1202: Cabinet Layout and Wiring ITS Pole Mounted Enclosure (3-MVDS)</b>  <b>M-ITS-1203: Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-CCTV camera)</b>  <b>M-ITS-1204: Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-CCTV and 1-MVDS)</b>  <b>M-ITS-1205: Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-CCTV camera and 2-MVDS)</b>  <b>M-ITS-1206: Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-CCTV and 3-MVDS)</b>  <b>M-ITS-1207: Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-CCTV cameras)</b>  <b>M-ITS-1208: Caninet Layout and Wiring ITS Pole Mounted Enclosure (2-CCTV Cameras and 1-MVDS)</b>  <b>M-ITS-1209: Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-CCTV cameras and 2-MVDS)</b>  <b>M-ITS-1210: Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-CCTV cameras and 3-MVDS)</b>  <b>M-ITS-1211: Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-MVDS) Solar Generator and FOC</b>  <b>M-ITS-1212: Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-MVDS) Solar Generator and FOC</b>  <b>M-ITS-1213: Cabinet Layout and Wiring ITS Pole Mounted Enclosure (3-MVDS) Solar Generator and FOC</b></p>	
	<ul style="list-style-type: none"> <li>. Revised to show the fiber optic conduit and power conduit interface with the ITS Enclosure for location and size</li> <li>. Added Note 13: Fiber cable shall run straight down from the Gator patch through the left most conduit. Power cable shall be pulled through the conduit to the right of the fiber conduit. No slack shall be placed in the cabinet, slack shall be put in power and fiber optic handholes</li> <li>. Revised layout to remove Cohu Surge Suppressor Part AS</li> <li>. Revised details for Part V to remove dash line for DITEK surge suppressor</li> <li>. Revised description for Item V to remove Cohu camera</li> <li>. Revised Item AQ to remove reference to Cohu PoE power injector</li> <li>. Remove Item AS for Cohu PoE injector not required anymore</li> <li>. Revised Note 4: to say Not used</li> </ul>	
<b>M-ITS-1217</b>	Cabinet Wiring Diagram In Pavement Detection System AP, PoE and Injector ITS Assembly	
	<ul style="list-style-type: none"> <li>. Revised to show the fiber optic conduit and power conduit interface with the ITS Enclosure for location and size</li> <li>. Added Note 13: Fiber cable shall run straight down from the Gator patch through the left most conduit. Power cable shall be pulled through the conduit to the right of the fiber conduit. No slack shall be placed in the cabinet, slack shall be put in power and fiber optic handholes</li> <li>. Added Note to Designer: The DSE shall specify the Gator Patch length per site</li> </ul>	
<b>Roadway Weather Information System (ITS)-Series 1300</b>		
<b>M-ITS-1300</b>	<b>RWIS Pole, Sensor Mounting Detail</b>	
	<ul style="list-style-type: none"> <li>. Added Note 8: Wind sensor can be installed on the secondary pole if primary pole is close to tree line</li> <li>. Added Note 9: All cables installed in a pole shall use a grommet to connect to ITS device installed on the pole</li> </ul>	
<b>M-ITS-1302</b>	<b>Typical RWIS Site Installation Plan</b>	
	<ul style="list-style-type: none"> <li>. Added Note 5: Note to Designer: In the event the Primary and Secondary poles cannot be installed within the 40 foot maximum radius of the bridge deck, the DSE shall consult with the Tollway and GEC on an alternate placement solution</li> <li>. Added Note 6: Note to Designer: Installation of the Primary and Secondary pole for bridge installation: pole to be installed near immediate entrance of the bridge so non-invasive laser temperature sensor can monitor bridge deck temperature and bridge approach temperature</li> </ul>	

<b>Illinois Tollway Base Sheet Revisions</b>
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<b>Section M Base Sheet Drawings</b>	
<b>Drawing</b>	<b>Modification Summary</b>
<b>Effective: 2020-03-01</b>	
<b>Solar Powered Generator (ITS)-Series 1400</b>	
<b>M-ITS-1400</b>	<b>Solar Power Generator Details</b>
	. Added Note to Designer: The simplified solar power arrangement shall only be used for a maximum of 3 MVDS. For all other arrangements use the 1400 Series
<b>Tower Mounted CCTV (ITS)-Series 1500</b>	
<b>M-ITS-1500</b>	<b>ITS Details Tower Mount Camera Details</b>
	. Added note to Designer: The 2 CCTV shall be placed on the leg facing the roadway with a clear field of view . Added Note 23: The CCTV cameras shall be mounted on the same tower leg with an Axis T92B62 mounting arm with T94A01D pendant kit, or equivalent as approved by the engineer. There will be 24in vertical spacing between the cameras
<b>M-ITS-1503</b>	. Removed details for Part AS: removed PoE power injector . Remove Item AS: removed reference to Cohu PoE injector
<b>Flashing Sign Beacon (ITS)-Series 1700</b>	
<b>M-ITS-1700</b>	<b>Flashing Sign Beacon Installation Breakaway Electrical Detail</b>
	. Added details for power cable disconnect box Breakaway . Added details for the 4 flashing lights installed on the static sign with flashing sequence and light mounting details onto the sign . Added Note 1: see plans for required conductor sizes . Added Note 2: All three conductors shall be in one harness . Added Note 3: As an alternative to the conduit body on fondation, use thermoplastic junction boxes . Added Note 4: Slack in line side cable shall be provided in handhole . Added Note to Designer: Install new CCTV within 500 feet upstream of the static beacon sign . Added note to Designer: If an existing ITS enclosure lies within the immediate proximity of the flashing sign then power can be connected to that enclosure, otherwise install a new ITS enclosure near the flashing sign
<b>M-ITS-1701</b>	<b>Cabinet Layout and Wiring ITS Pole Mounted Enclosure</b>
	. Added wires for second pair of flashing lights and connection to the circuit breakers . Added Item AT: ELTEC FS-4 DC Flasher . Added Item AU: 9 PIN Harness for FS-4 . Rved dashline for DITEK surge supressor for Cohu camera . Revised Item V: removed reference to DITEK for Cohu camera . Revised Item AS to say N/A
<b>IPDC Facility (ITS)-Series 1800</b>	
<b>M-ITS-1815</b>	<b>IPDC and Combination Plaza/IPDC Concrete Foundation</b>
	. Added new sheet for IPDC and Combination Plaza/IPDC Concrete Foundation details
<b>Conduit Details at Integral Abutment Bridge (ITS)-Series 1900</b>	
<b>M-ITS-1900</b>	<b>Conduit Details at Integral Abutment Bridge with MSE Wall (Sheet 3)</b>
	. Added material type for ITS conduit attached to bridge: PVC coated steel or FRE conduit per plan
<b>100 FT. Monopole (ITS)-Series 2000</b>	
<b>M-ITS-2000</b>	<b>100 FT. Monopole Closed Circuit Television (CCTV) Camera Tower</b>
	. Sheet 1of4: Added details for ITS and support for ITS Enclosure foundation: 16" Dia. X 4' @ 3000PSI Circular Concrete Foundation . Sheet 4of4: Added details to install the ITS Enclosure and ITS Disconnect Switch onto the concrete slab of 100 foot monotube
<b>Video Power Junction Box (ITS)-Series 2100</b>	
<b>M-ITS-2100</b>	<b>Video Power Junction Box Model A: 4 PoE CCTV arrangment without communication switch</b>
	. New drawing created to standardize Video Power Junction Box arrangment - Without Cisco switch when the box is installed and can use Cat 6 cables when distance is less than 300 feet from Plaza Communication room
<b>M-ITS-2101</b>	<b>Video Power Junction Box Model B: 4 PoE CCTV arrangment Cosco 4000 switch</b>
	. New drawing created to standardize Video Power Junction Box arrangment - With Cisco 4000 switch when the box is installed at a distance greater than 300 feet from the Cisco switch in the Plaza Communication Room



PLAN



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 "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 SHEET INTO THE PLAN SET.

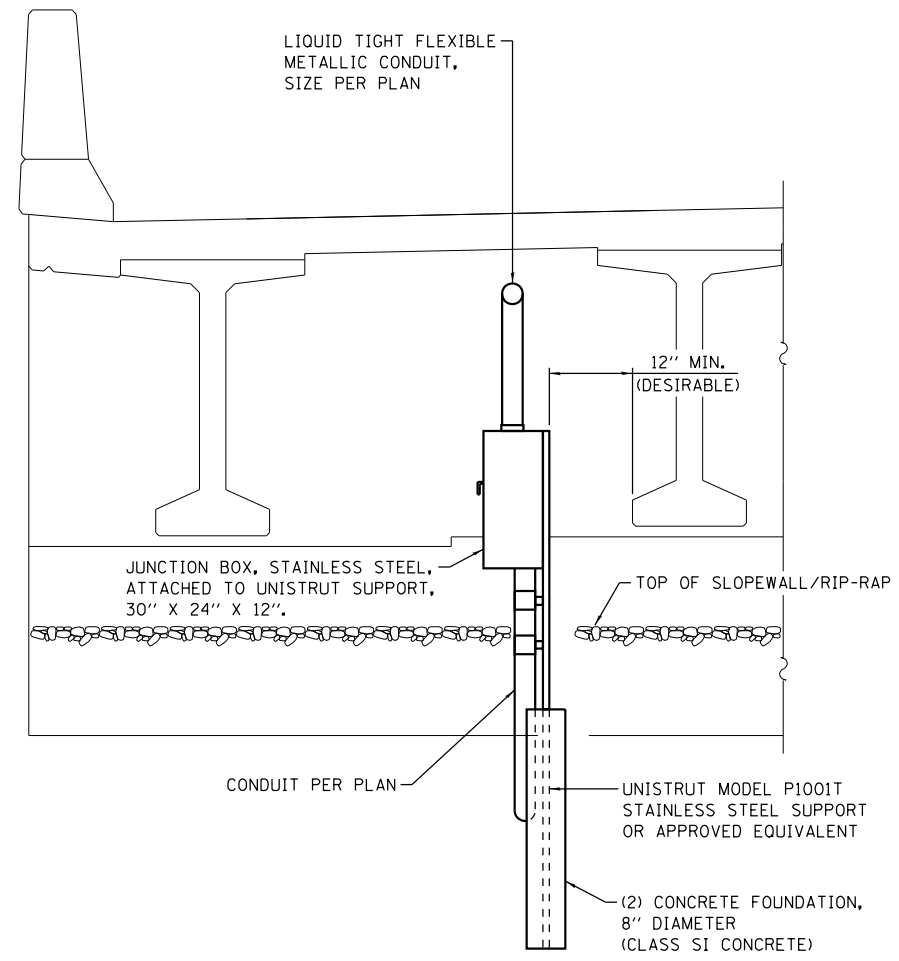
**NOTES:**

1. THE CONTRACTOR SHALL FURNISH & INSTALL A PULL TAPE THROUGH ALL CONDUITS INSTALLED AS PART OF THIS WORK.
2. ALL HARDWARE SHALL BE STAINLESS STEEL IN ACCORDANCE WITH ARTICLE 1006.31 OF THE STANDARD SPECIFICATIONS.
3. CONDUIT SHALL BE SUPPORTED AT A MAXIMUM INTERVAL OF 5' AND WITHIN 2.5' OF ANY JUNCTION BOX, COUPLING/FITTING, OR CHANGE IN DIRECTION.
4. THE JUNCTION BOX SHALL MEET THE REQUIREMENTS OF ARTICLE 1088.04 OF THE STANDARD SPECIFICATIONS. A HINGED DOOR AND PROVISIONS FOR 3-POINT LOCK OR A PAD-LOCK ARE REQUIRED.
5. FLEXIBLE CONDUIT SHALL BE LIMITED TO A MAXIMUM LENGTH OF 5'.
6. JUNCTION BOX SHALL BE LOCATED AT LEAST 24" FROM CROSS FRAMES.
7. PROVIDE DIMENSION FROM ABUTMENT.

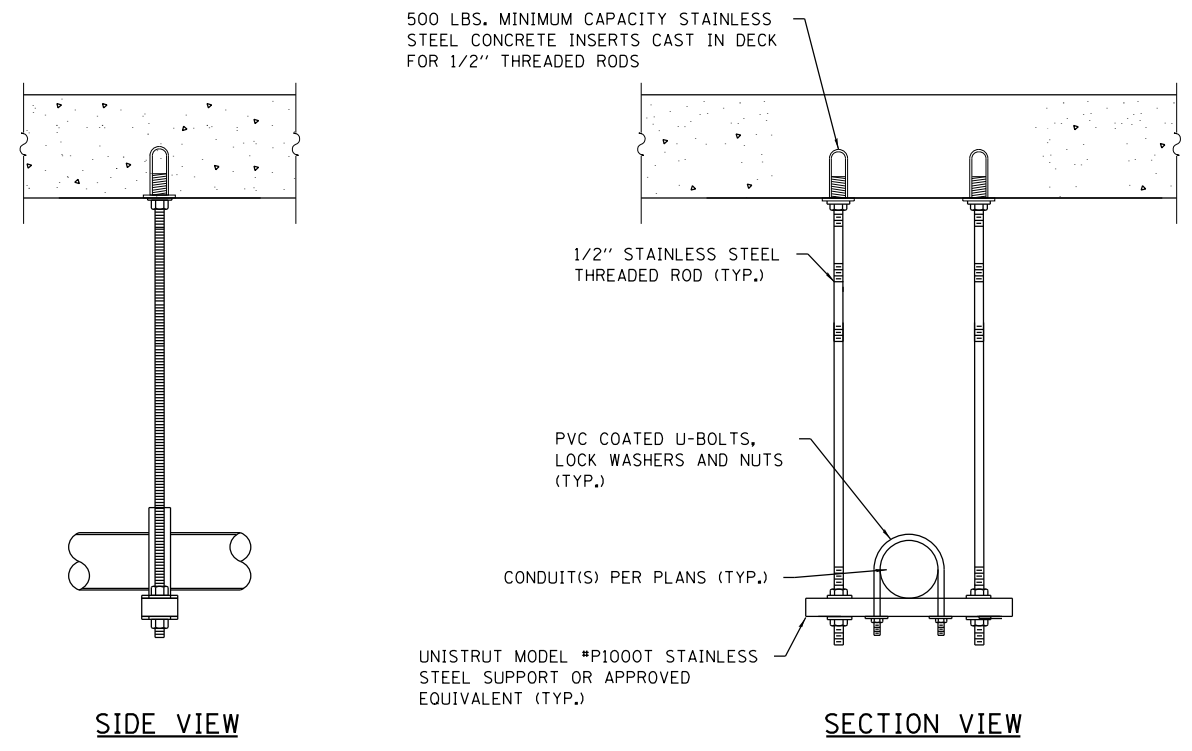


CONDUIT DETAILS AT  
INTEGRAL ABUTMENT BRIDGE  
STANDARD SLOPE WALL

DATE  
3-31-2016



**VIEW AT ABUTMENT - GROUND MOUNTED JUNCTION BOX**

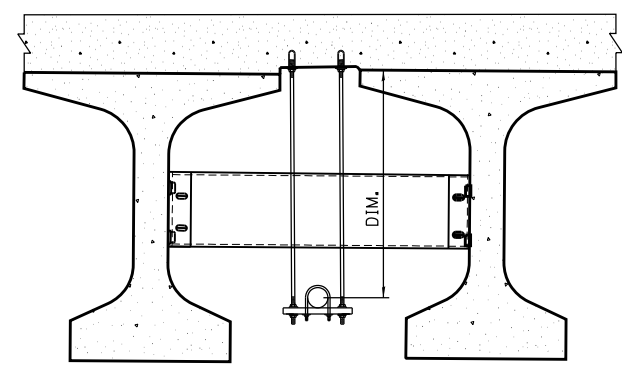


**SIDE VIEW**

**SECTION VIEW**

**CONDUIT HANGER ASSEMBLY DETAIL**

- NOTES:**
1. CONDUIT SHALL BE SUPPORTED AT A MAXIMUM INTERVAL OF 5' AND WITHIN 2.5' OF ANY JUNCTION BOX, COUPLING/FITTING, OR CHANGE IN DIRECTION.
  2. ALL HARDWARE SHALL BE STAINLESS STEEL IN ACCORDANCE WITH ARTICLE 1006.31 OF THE STANDARD SPECIFICATIONS.
  3. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF THE CONCRETE INSERTS WITH THE BRIDGE CONTRACTOR.
  4. THE COST OF THE CONCRETE INSERTS SHALL BE INCLUDED IN THE COST OF CONDUIT ATTACHED TO STRUCTURE.
  5. CONDUIT SHALL BE CENTERED BETWEEN THE BEAMS.
  6. CONDUIT SHALL NOT COME INTO CONTACT WITH ANY BRACING OR OTHER STRUCTURAL MEMBERS.
  7. PROVIDE 1" MINIMUM CLEARANCE TO ALL STRUCTURAL MEMBERS.



**CONDUIT ROUTING AT DIAPHRAGM**

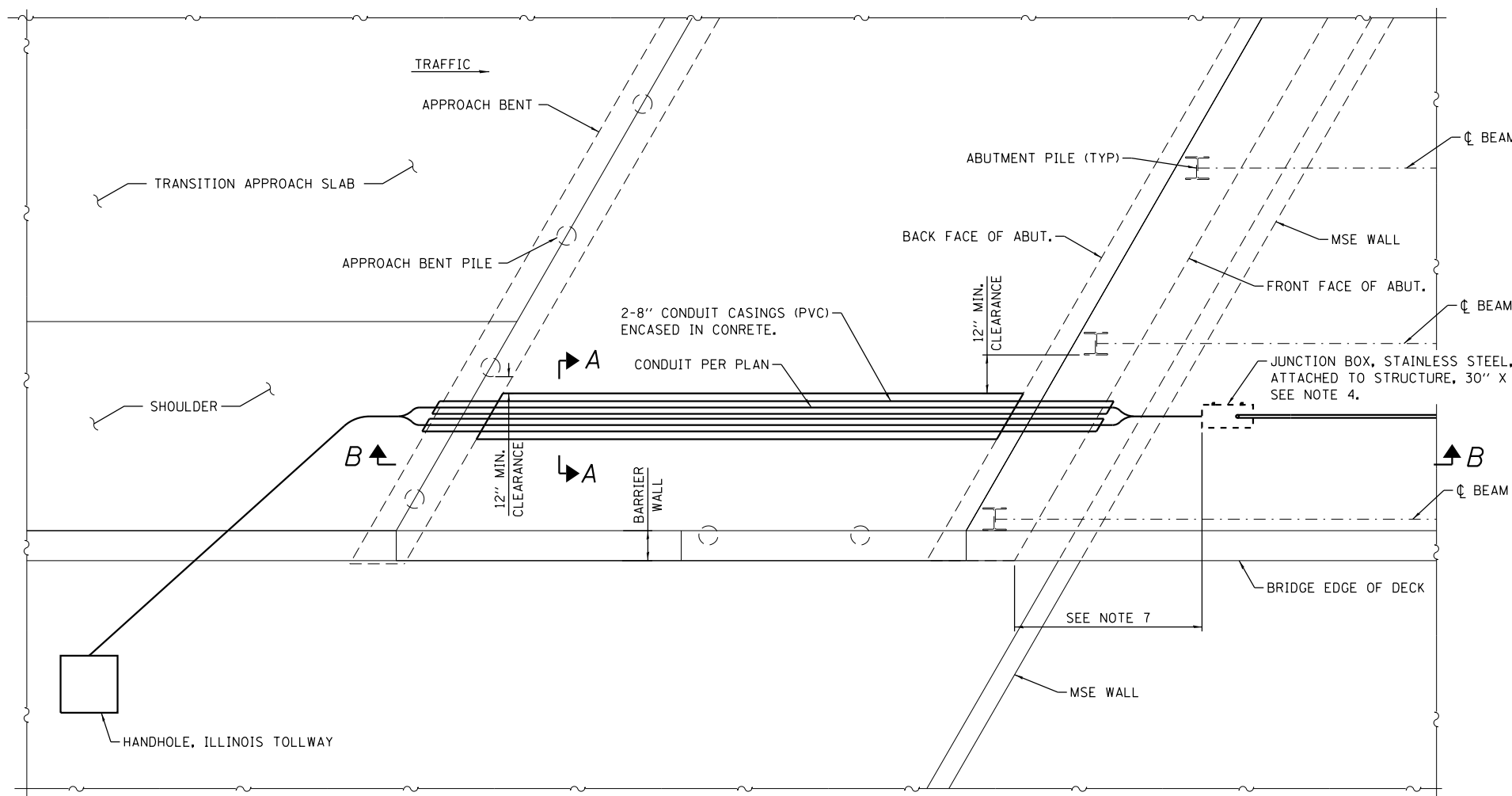
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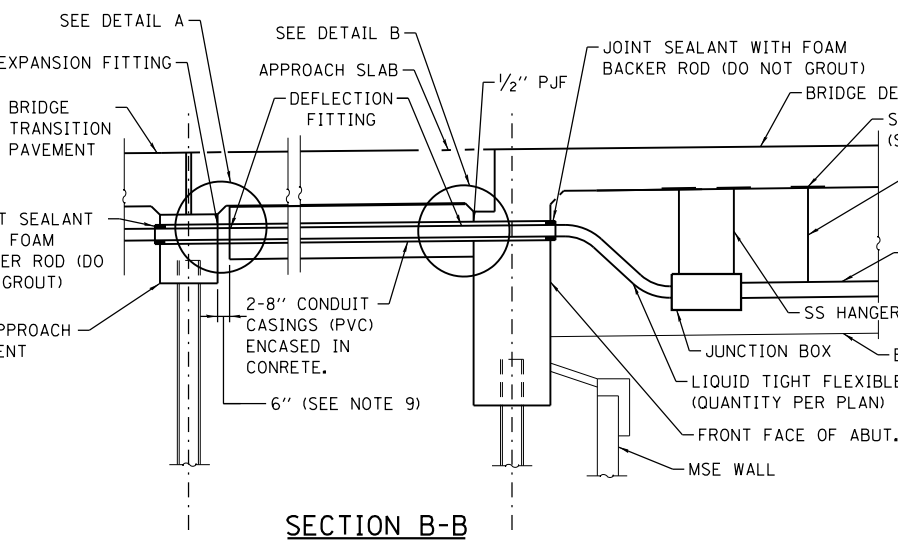


CONDUIT DETAILS AT  
INTEGRAL ABUTMENT BRIDGE  
STANDARD SLOPE WALL

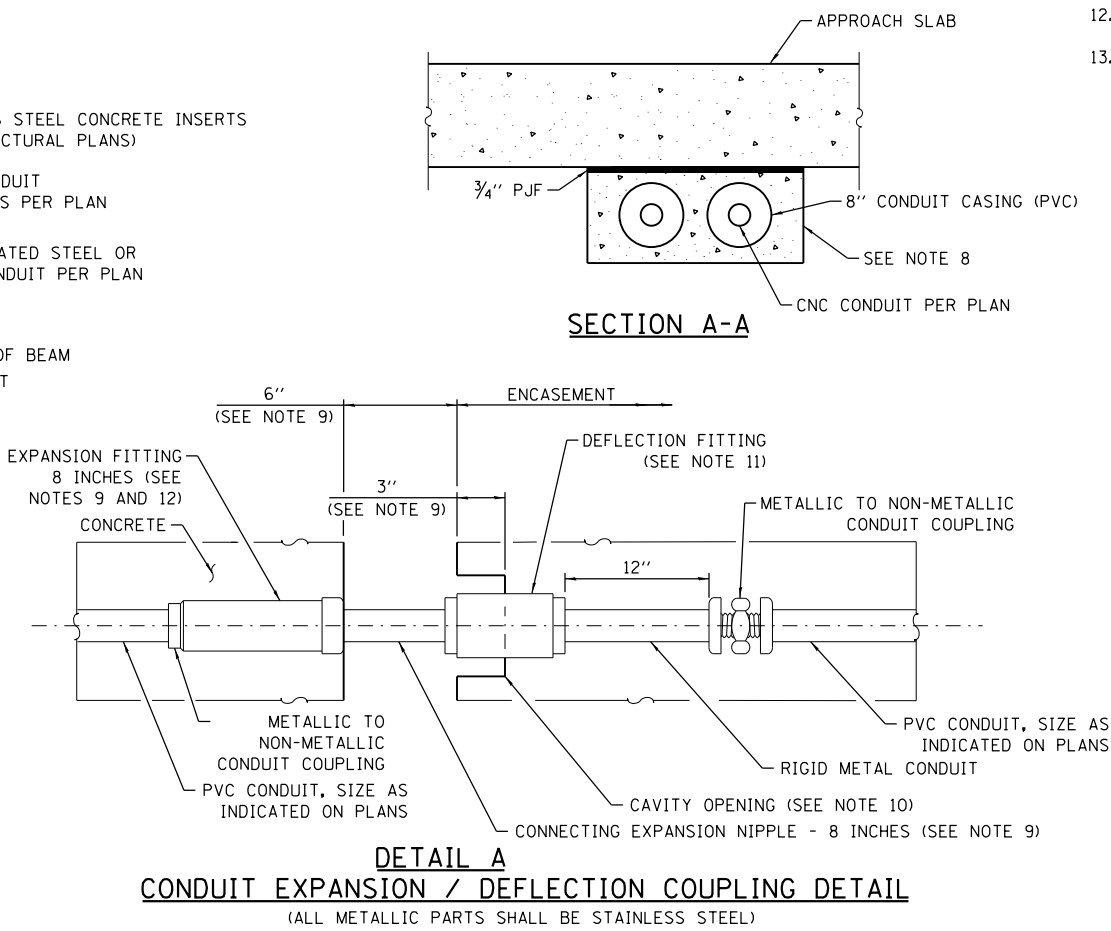
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**PLAN**



**SECTION B-B**



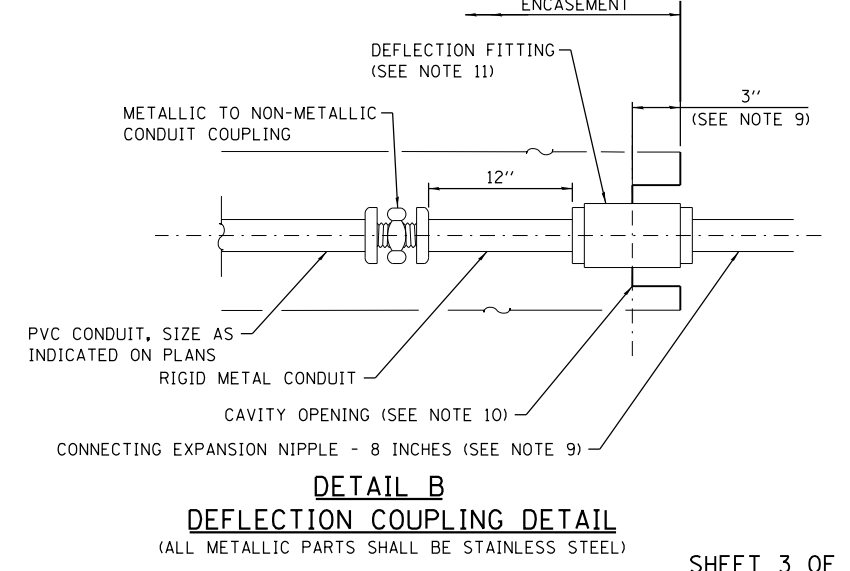
**DETAIL A  
CONDUIT EXPANSION / DEFLECTION COUPLING DETAIL**  
(ALL METALLIC PARTS SHALL BE STAINLESS STEEL)

**NOTE TO DESIGNER**

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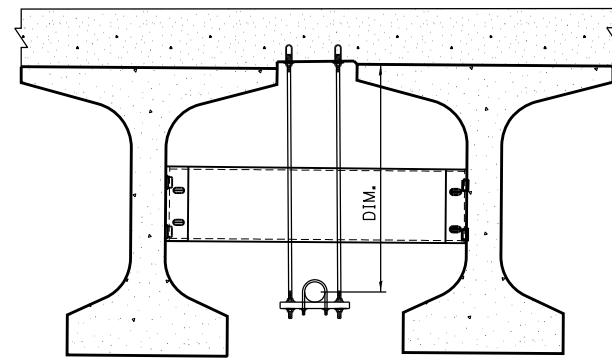
**NOTES:**

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4. THE JUNCTION BOX SHALL MEET THE REQUIREMENTS OF ARTICLE 1088.04 OF THE STANDARD SPECIFICATIONS.
5. FLEXIBLE CONDUIT SHALL BE LIMITED TO A MAXIMUM LENGTH OF 5'.
6. JUNCTION BOX SHALL BE LOCATED AT LEAST 24" FROM CROSS FRAMES.
7. PROVIDE DIMENSION FROM ABUTMENT.
8. PROVIDE A MINIMUM OF 3" CONCRETE ENCASEMENT AROUND CONDUIT.
9. DIMENSION SHOWN WILL VARY TO MEET THE REQUIREMENTS OF THE SPECIFIC PROJECT.
10. A CAVITY OPENING SHALL BE 3 IN. LARGER IN DIAMETER THAN THE DEFLECTION SLEEVE LENGTH.
11. THE DEFLECTION FITTING SHALL BE CENTERED IN THE OPENING AND EMBEDDED IN THE CONCRETE ONLY UP TO THE DEFLECTION FITTING CENTER.
12. THE BARREL OF THE FITTING SHALL BE FULLY EMBEDDED IN THE CONCRETE.
13. COUPLING MUST BE PROPERLY INSTALLED TO ACHIEVE ACCEPTABLE PERFORMANCE ENCASEMENT

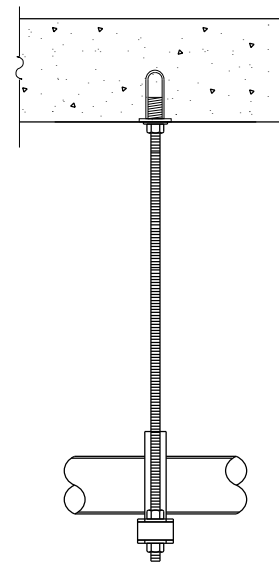


**DETAIL B  
DEFLECTION COUPLING DETAIL**  
(ALL METALLIC PARTS SHALL BE STAINLESS STEEL)

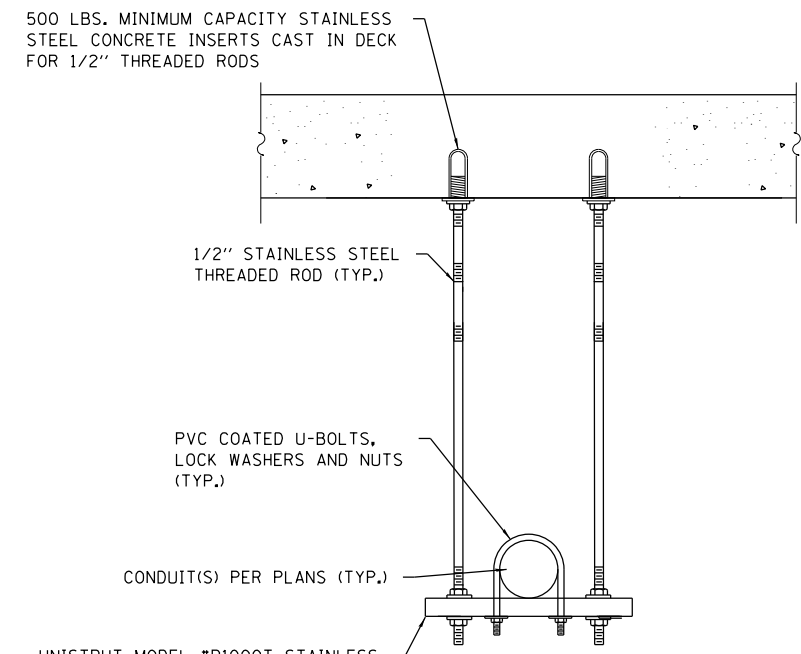




CONDUIT ROUTING AT DIAPHRAGM



SIDE VIEW



SECTION VIEW

**CONDUIT HANGER ASSEMBLY DETAIL**

**NOTES:**

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