

# SECTION I - BARRIER

SHEET NO.	NAME
B-L (2010)	– BARRIER LEGEND
B-1	– GUARDRAIL APPLICATIONS (TYPES 1-31, 2-31, AND 3-31)
	(2010) - 1 PLAN VIEWS
	(2010) - 2 ELEVATION VIEWS AND SPLICE DETAIL
	(2010) - 3 SECTION VIEWS
B-2	– GRADING FOR GUARDRAIL END TREATMENTS (TYPES 1, 2, AND 3)
	(2010) - 1 GUARDRAIL END TREATMENT, TYPE 1
	(2010) - 2 GUARDRAIL END TREATMENT, TYPE 2
	(2010) - 3 GUARDRAIL END TREATMENT, TYPE 3
B-3	– GUARDRAIL OVER CULVERTS (TYPES 1-31, 2-31, AND 3-31)
	(2010) - 1 GUARDRAIL OVER CULVERTS, TYPE 1-31
	(2010) - 2 GUARDRAIL OVER CULVERTS, TYPE 2-31
	(2010) - 3 GUARDRAIL OVER CULVERTS, TYPE 3-31
B-4 (2012)	– END ANCHORAGE, TYPE 31
B-5	– GUARDRAIL TO BARRIER CONNECTION (TYPES 1-31, 2-31, AND EXIT TYPE 31)
	(2010) - 1 GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 1-31
	(2010) - 2 GUARDRAIL TO BARRIER CONNECTION, TYPE 1 HARDWARE
	(2010) - 3 GUARDRAIL TO BARRIER CONNECTION, BENT PLATE RUB RAIL
	(2012) - 4 GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 2-31
	(2010) - 5 GUARDRAIL TO BARRIER CONNECTION, TYPE 2 HARDWARE
	(2010) - 6 GUARDRAIL TO BARRIER CONNECTION, EXIT TYPE 31
B-6	– BRIDGE RAIL RETROFIT (TYPES 1, 2, 3, AND 4)
	(2010) - 1 BRIDGE RAIL RETROFIT, ENTRANCE AND END APPLICATIONS
	(2010) - 2 BRIDGE RAIL RETROFIT, TYPES 1 AND 2
	(2010) - 3 BRIDGE RAIL RETROFIT, TYPE 2 HARDWARE
	(2010) - 4 BRIDGE RAIL RETROFIT, TYPE 3
	(2010) - 5 BRIDGE RAIL RETROFIT, TYPE 4
B-7 (2010)	– W-BEAM, TYPE 1-27 TO TYPE 1-31 TRANSITION SECTION
B-8	– RESERVED
B-9	– RESERVED
B-10	– RESERVED
B-11	– RESERVED
B-12	– RESERVED
B-13	– HARDWARE
	(2010) - 1 W-BEAM ELEVATION AND SECTION VIEWS
	(2010) - 2 W-BEAM STEEL POST AND OFFSET BLOCK
	(2010) - 3 W-BEAM TERMINAL CONNECTOR
	(2010) - 4 THRIE BEAM AND THRIE BEAM EXPANSION ELEMENT ELEVATION AND SECTION VIEWS
	(2010) - 5 THRIE BEAM STEEL POST AND OFFSET BLOCK
	(2010) - 6 ASYMMETRIC AND SYMMETRIC W-BEAM TO THRIE BEAM TRANSITION SECTION
	(2010) - 7 SHORT AND LONG WOOD BREAKAWAY POSTS, STEEL TUBE, SOIL PLATE, AND OFFSET BLOCKS
	(2012) - 8 SWAGED CABLE ASSEMBLAGE AND HARDWARE
	(2010) - 9 GUARDRAIL DELINEATOR AND W-BEAM BEARING PLATE
	(2010) - 10 GUARDRAIL MOUNTED RAIL
B-14	– CONCRETE SAFETY BARRIER (F SHAPE)
	(2012) - 1 32" (960) CONCRETE BARRIER, TYPICAL CAST-IN-PLACE OR SLIP-FORM ELEVATION AND SECTION VIEWS
	(2009) - 2 32" (960) CONCRETE BARRIER, TYPICAL PRE-CAST ELEVATION AND SECTION VIEWS
	(2009) - 3 42" (1050) CONCRETE BARRIER, TYPICAL CAST-IN-PLACE OR SLIP-FORM ELEVATION AND SECTION VIEWS
	(2009) - 4 SLOTTED PLATE CONNECTION DETAILS
B-15	– GUARDRAIL APPLICATIONS (TYPES 1-27, 2-27, AND 3-27)
	(2010) - 1 PLAN VIEWS
	(2010) - 2 ELEVATION VIEWS AND SPLICE DETAIL
	(2010) - 3 SECTION VIEWS



## SECTION I - BARRIER (CONT'D)

SHEET NO.	NAME
B-16	<ul style="list-style-type: none"> <li>- GUARDRAIL OVER CULVERTS (TYPES 1-27, 2-27, AND 3-27)</li> <li>(2010) - 1 GUARDRAIL OVER CULVERTS, TYPE 1-27</li> <li>(2010) - 2 GUARDRAIL OVER CULVERTS, TYPE 2-27</li> <li>(2010) - 3 GUARDRAIL OVER CULVERTS, TYPE 3-27</li> </ul>
B-17 (2010)	- GUARDRAIL END TREATMENT (TYPE 4-27)
B-18 (2010)	- CURVED GUARDRAIL SECTION
B-19 (2012)	- END ANCHORAGE, TYPE 27
B-20	<ul style="list-style-type: none"> <li>- BURIED END SECTION</li> <li>(2010) - 1 BURIED END SECTION - SINGLE RAIL</li> <li>(2010) - 2 BURIED END SECTION - DOUBLE RAIL</li> <li>(2010) - 3 POST, CONCRETE BLOCK, AND RUBRAIL DETAILS</li> </ul>
B-21	<ul style="list-style-type: none"> <li>- GUARDRAIL TO BARRIER CONNECTION (TYPES 1-27, 2-27, AND EXIT TYPE 27)</li> <li>(2010) - 1 GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 1-27</li> <li>(2010) - 2 GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 2-27</li> <li>(2010) - 3 GUARDRAIL TO BARRIER CONNECTION, EXIT TYPE 27</li> </ul>

## SECTION II - CURB & GUTTER

SHEET NO.	NAME
C-1	<ul style="list-style-type: none"> <li>- P.C.C. CURB AND INTEGRAL P.C.C. CURB &amp; GUTTER</li> <li>(2012) - 1 P.C.C. CURB, TYPICAL CURB SECTION, AND TYPICAL TAPER SECTION AT NOSE OF MEDIANS</li> <li>(2012) - 2 INTEGRAL P.C.C. CURB &amp; GUTTER</li> </ul>
C-2	<ul style="list-style-type: none"> <li>- CURB RAMPS</li> <li>(2012) - 1 TYPE 1</li> <li>(2012) - 2 TYPES 2, 3, AND 4</li> <li>(2012) - 3 TYPE 5</li> </ul>
C-3 (2012)	- ENTRANCES
C-4 (2012)	- CURB OPENING DETAILS
C-5 (2011)	- CURB OPENING WITH SIDEWALK DETAIL

## SECTION III - DRAINAGE

SHEET NO.	NAME
D-1	<ul style="list-style-type: none"> <li>- 6:1 SAFETY END STRUCTURE</li> <li>(2001) - 1 DETAIL VIEWS</li> <li>(2001) - 2 SCHEDULES</li> </ul>
D-2	<ul style="list-style-type: none"> <li>- 10:1 SAFETY END STRUCTURE</li> <li>(2001) - 1 DETAIL VIEWS</li> <li>(2001) - 2 SCHEDULES</li> </ul>
D-3	<ul style="list-style-type: none"> <li>- SAFETY GRATES</li> <li>(2005) - 1 SAFETY END STRUCTURE GRATE AND ASSEMBLY DETAIL</li> <li>(2007) - 2 PERSONNEL SAFETY GRATE FOR PIPE INLET DETAIL</li> </ul>
D-R (2012)	- DRAINAGE INLET REFERENCE SHEET
D-4 (2009)	- INLET BOX DETAILS
D-5	<ul style="list-style-type: none"> <li>- DRAINAGE INLET DETAILS</li> <li>(2010) - 1 DRAINAGE INLET ASSEMBLY</li> <li>(2010) - 2 DRAINAGE INLET FRAME AND GRATES</li> <li>(2012) - 3 DRAINAGE INLET TOP UNITS</li> <li>(2010) - 4 DRAINAGE INLET COVER SLAB DETAILS</li> <li>(2010) - 5 DOUBLE INLET COVER SLAB DETAILS</li> <li>(2012) - 6 34" x 24" DRAINAGE INLET AND COVER SLAB DETAILS</li> <li>(2010) - 7 34" x 18" DRAINAGE INLET DETAILS</li> <li>(2010) - 8 DRAINAGE INLET TOP UNIT, TYPE S</li> <li>(2010) - 9 DOGHOUSE INLET BOX</li> </ul>



## SECTION III - DRAINAGE (CONT'D)

SHEET NO.	NAME
D-6	– MAHOLE DETAILS
	(2009) - 1 BOX MANHOLE ASSEMBLY
	(2001) - 2 ROUND MANHOLE ASSEMBLY
	(2001) - 3 MANHOLE, TOP UNIT, FRAME AND COVER
	(2007) - 4 BOX MANHOLE COVER SLAB
D-7	– JUNCTION BOX DETAILS
	(2009) - 1 JUNCTION BOX ASSEMBLY
	(2007) - 2 JUNCTION BOX COVER SLAB
D-8 (2010)	– PIPE BEDDING
D-9 (2008)	– PERFORATED PIPE UNDERDRAIN
D-10 (2011)	– PIPE PLUGGING DETAIL

## SECTION IV - EROSION

SHEET NO.	NAME
E-1 (2001)	– INCREMENTAL STABILIZATION
E-2 (2006)	– SILT FENCE
E-3 (2005)	– DRAINAGE INLET SEDIMENT CONTROL
E-4	– RESERVED
E-5 (2006)	– STONE CHECK DAM
E-6 (2005)	– SEDIMENT TRAP
E-7 (2005)	– SEDIMENT TRAP, USING DRAINAGE INLET AS OUTLET
E-8	– RISER PIPE ASSEMBLY FOR SEDIMENT TRAP
	(2006) - 1 ELEVATION
	(2006) - 2 TRASH HOOD DETAILS
E-9 (2005)	– EROSION CONTROL BLANKET APPLICATIONS
E-10 (2005)	– RIPRAP DITCH
E-11 (2005)	– TEMPORARY SWALE
E-12 (2005)	– PERIMETER DIKE/SWALE
E-13 (2005)	– EARTH DIKE
E-14 (2005)	– TEMPORARY SLOPE DRAIN
E-15 (2005)	– STILLING WELL
E-16 (2005)	– SUMP PIT, TYPES 1 AND 2
E-17 (2005)	– DEWATERING BASIN
E-18 (2005)	– GEOTEXTILE-LINED CHANNEL DIVERSION
E-19 (2005)	– SANDBAG DIVERSION
E-20 (2005)	– SANDBAG DIKE
E-21 (2005)	– STABILIZED CONSTRUCTION ENTRANCE
E-22 (2012)	– SKIMMER DEWATERING DEVICE
E-23	– TURBIDITY CURTAIN
	(2005) - 1 FLOATING TURBIDITY CURTAIN
	(2005) - 2 STAKED TURBIDITY CURTAIN
E-24 (2005)	– PORTABLE SEDIMENT TANK
E-25 (2005)	– TURF REINFORCEMENT MAT APPLICATIONS
E-26 (2006)	– RIPRAP ENERGY DISSIPATOR DETAIL



## SECTION V - LANDSCAPING

SHEET NO.	NAME
<b>L-1</b>	<b>- PLANTING DETAILS</b>
(2006) - 1	ROADSIDE SHRUB PLANTING DETAIL
(2006) - 2	TREE PLANTING DETAIL
(2006) - 3	PERENNIAL/GROUND COVER PLANTING DETAIL

## SECTION VI - MISCELLANEOUS

SHEET NO.	NAME
<b>M-1 (2001)</b>	<b>- RIGHT-OF-WAY FENCE</b>
<b>M-2 (2011)</b>	<b>- RIGHT-OF-WAY MONUMENTATION</b>
<b>M-3 (2009)</b>	<b>- BOLLARD AND SHARED-USE PATH DETAILS</b>
<b>M-4 (2011)</b>	<b>- BIKE RACK LAYOUT DETAILS</b>
<b>M-5 (2004)</b>	<b>- WOOD RAIL FENCE</b>
<b>M-6 (2011)</b>	<b>- PATTERNED HOT-MIX OR CONCRETE &amp; BRICK PAVER DETAILS</b>
<b>M-7 (2006)</b>	<b>- CHAIN LINK FENCE DETAILS</b>
<b>M-8 (2007)</b>	<b>- P.C.C. PARKING BUMPER</b>

## SECTION VII - PAVEMENT

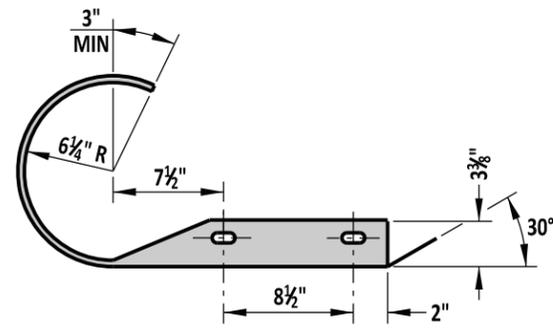
SHEET NO.	NAME
<b>P-1</b>	<b>- P.C.C. PAVEMENT</b>
(2001) - 1	SLAB PLAN (WITH DOWEL AND TIE LOCATIONS)
(2004) - 2	JOINT AND SEALANT DETAILS
(2001) - 3	W BOLT, HOOK BOLT, DOWEL AND TIE BAR DETAILS
(2001) - 4	DOWEL SUPPORT BASKET
(2001) - 5	DOWEL AND TIE BAR PLACEMENT TOLERANCES
<b>P-2</b>	<b>- P.C.C. PAVEMENT PATCHING</b>
(2008) - 1	FULL DEPTH PATCH, PLAN VIEW
(2008) - 2	FULL DEPTH PATCH, SECTION VIEWS
(2004) - 3	FULL DEPTH PATCH, SEALANT DETAILS, GROUT RETENTION DISK, AND DOWEL BAR
(2001) - 4	FULL DEPTH PATCH, DOWEL AND TIE BAR PLACEMENT TOLERANCES
(2001) - 5	PARTIAL DEPTH PATCH, PLAN AND SECTION VIEWS
<b>P-3 (2012)</b>	<b>- BUTT JOINTS</b>



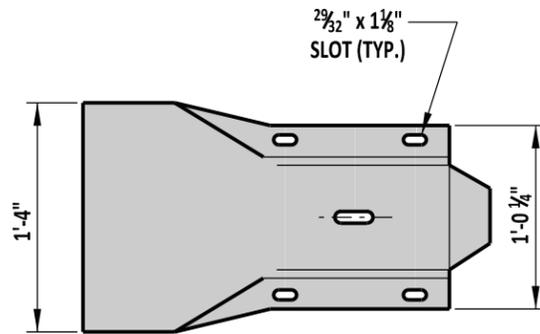
# SECTION VIII - TRAFFIC

SHEET NO.	NAME
T-1	<ul style="list-style-type: none"> <li>- CONDUIT JUNCTION WELLS</li> <li>(2012) - 1 TYPES 1, 2, &amp; 3</li> <li>(2012) - 2 TYPE 4</li> <li>(2012) - 3 TYPE 5</li> </ul>
T-2 (2011)	- JUNCTION WELL, GROUNDING & BONDING FOR STEEL FRAMES & LIDS
T-3	<ul style="list-style-type: none"> <li>- CONDUIT JUNCTION WELLS</li> <li>(2012) - 1 TYPE 11</li> <li>(2012) - 2 TYPE 14</li> <li>(2012) - 3 TYPE 15</li> </ul>
T-4	<ul style="list-style-type: none"> <li>- CABINET BASES</li> <li>(2012) - 1 TYPES M &amp; F</li> <li>(2012) - 2 TYPES P &amp; R</li> </ul>
T-5	<ul style="list-style-type: none"> <li>- POLE BASES</li> <li>(2012) - 1 ROUND BASE &amp; ROUND BASE WITH SQUARE FOUNDATION</li> <li>(2012) - 2 TYPICAL SECTION AND INSTALLATION (BASES 1, 2, 2A, 2B, 3, 3A, 3B, AND 7)</li> <li>(2012) - 3 TYPICAL SECTION (BASES 5 AND 6), TYPE 7 GROUND ROD DETAIL, AND POLE BASE DATA CHART</li> <li>(2012) - 4 TYPICAL SECTION (BASE 4) AND ANCHOR DETAIL</li> </ul>
T-6 (2011)	- SPECIAL POLE BASE
T-7 (2005)	- SIGN FOUNDATION
T-8 (2012)	- LOOP DETECTOR TO CONDUIT CONNECTION
T-9 (2012)	- LOOP DETECTOR INSTALLATION & SPLICE KIT DETAILS
T-10	- **DETAIL REMOVED IN 2012 REVISION**
T-11	<ul style="list-style-type: none"> <li>- INTERMEDIATE MESSENGER WIRE ATTACHMENT</li> <li>(2005) - 1 INTERMEDIATE MESSENGER WIRE ATTACHMENT ON WOOD POLES</li> <li>(2005) - 2 ANGULAR INTERMEDIATE MESSENGER WIRE ATTACHMENT</li> </ul>
T-12	<ul style="list-style-type: none"> <li>- MESSENGER WIRE ATTACHMENT</li> <li>(2005) - 1 SPAN WIRE ATTACHMENT BETWEEN POLES</li> <li>(2005) - 2 DEAD END MESSENGER WIRE ATTACHMENT</li> </ul>
T-13	<ul style="list-style-type: none"> <li>- CONDUIT JUNCTION WELLS</li> <li>(2005) - 1 TYPE 6</li> <li>(2006) - 2 TYPE 7</li> <li>(2006) - 3 TYPES 8 AND 10</li> </ul>
T-14	<ul style="list-style-type: none"> <li>- EMERGENCY PREEMPTION RECIEVER</li> <li>(2006) - 1 UPRIGHT MOUNT</li> <li>(2005) - 2 INVERTED MOUNT</li> </ul>
T-15 (2009)	- BREAKAWAY SIGN POST AND PIN ASSEMBLY DETAILS
T-16 (2010)	- WOOD BARRICADE DETAILS

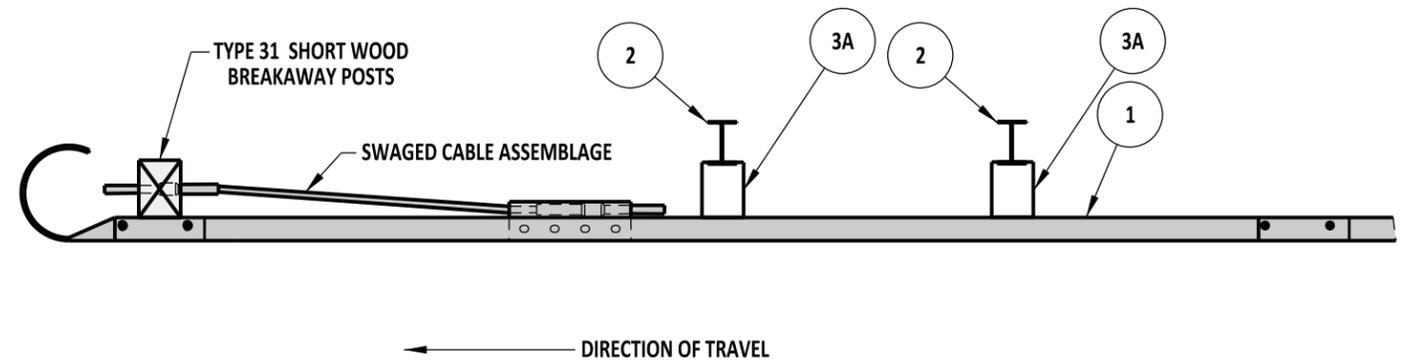




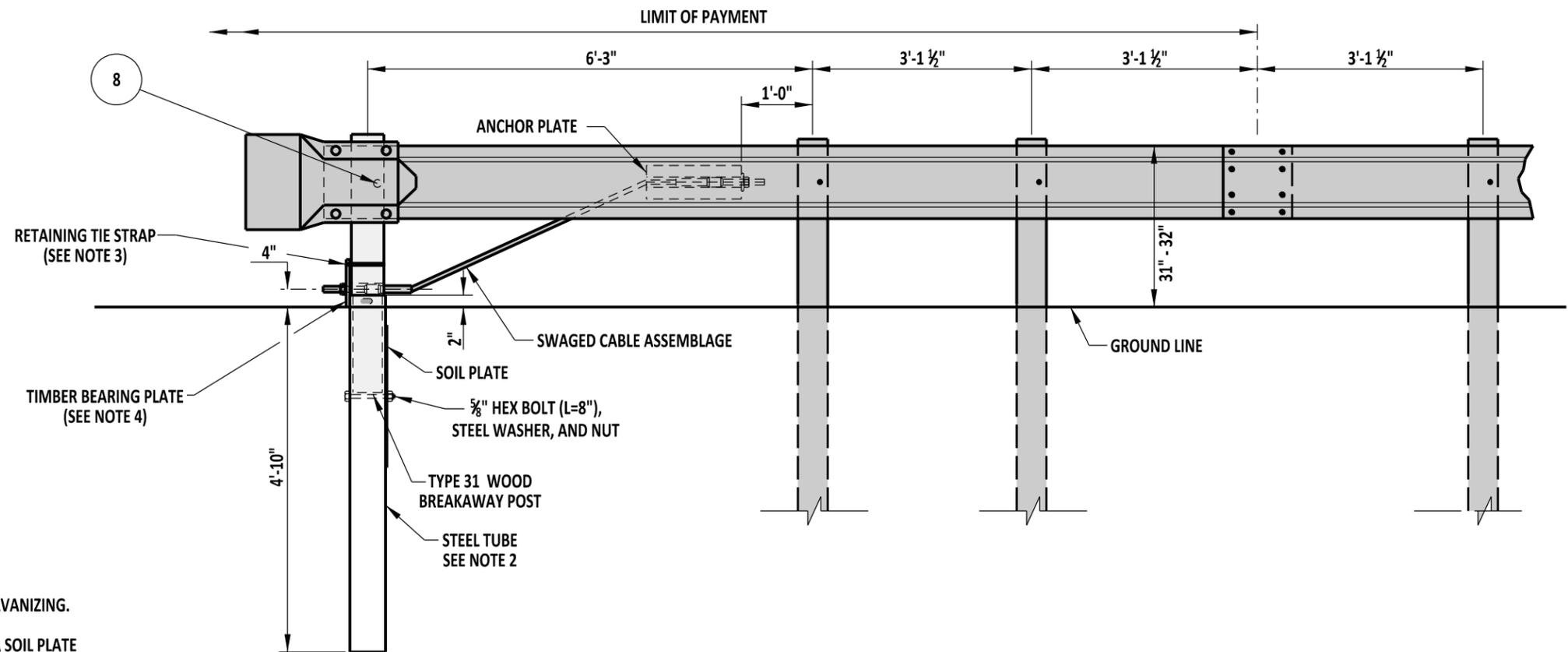
**END SECTION PLAN**



**END SECTION ELEVATION**



**PLAN**



**ELEVATION**

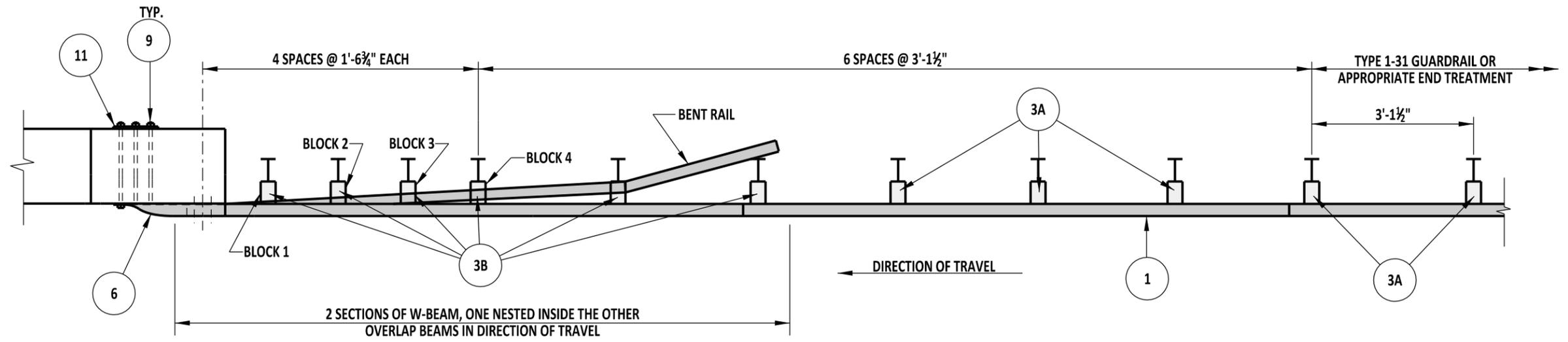
**NOTES:**

- 1). ADDITIONAL HOLES FOR ANCHOR PLATE SHALL BE DRILLED PRIOR TO GALVANIZING. (SEE STANDARD HARDWARE SHEET FOR HOLE SPACING INFORMATION).
- 2). CONTRACTOR HAS THE OPTION OF USING A 6'-0" STEEL TUBE WITHOUT A SOIL PLATE OR A 5'-0" STEEL TUBE WITH A SOIL PLATE.
- 3). PLACE A 1/2" WIDE PLASTIC RETAINING TIE STRAP AROUND THE SHORT TIMBER BREAKAWAY POST AND TIMBER BEARING PLATE TO ENSURE THE PROPER ORIENTATION OF THE TIMBER BEARING PLATE.
- 4). REFER TO DETAIL B-13, SHEET 8 OF 10 FOR PROPER TIMBER BEARING PLATE ORIENTATION.

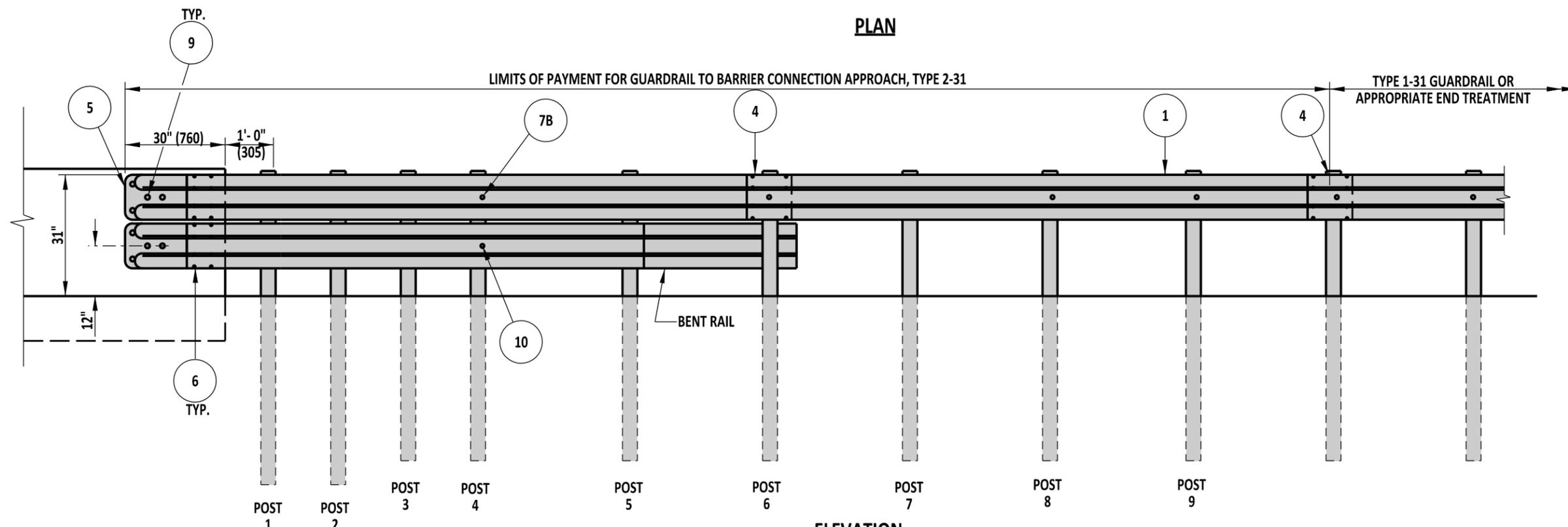


**DELAWARE**  
**DEPARTMENT OF TRANSPORTATION**

<b>END ANCHORAGE, TYPE 31</b>				<b>APPROVED</b>	<b>SIGNATURE ON FILE</b> <small>CHIEF ENGINEER</small>	<b>01/07/2013</b> <small>DATE</small>
STANDARD NO.	B-4 (2012)	SHT.	1 OF 1	<b>RECOMMENDED</b>	<b>SIGNATURE ON FILE</b> <small>DESIGN ENGINEER</small>	<b>12/20/2012</b> <small>DATE</small>



**PLAN**

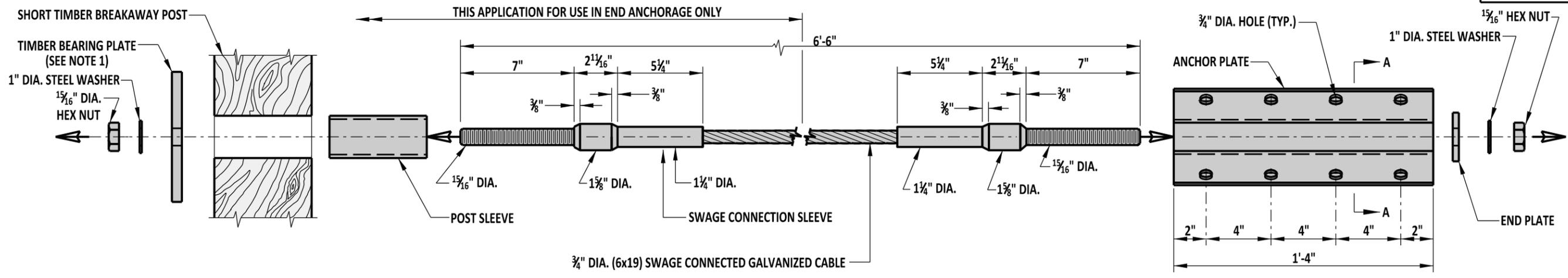


**ELEVATION**

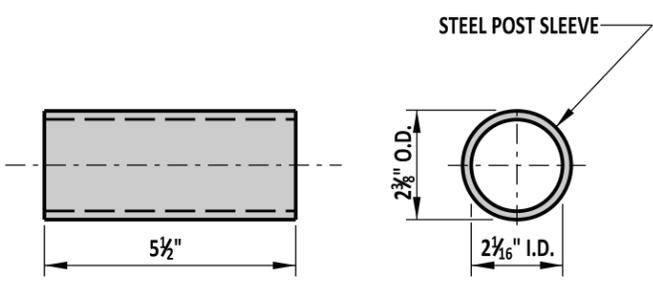
**NOTES :**

- 1). CURB SHALL NOT BE USED AT THE FACE OF RAIL WITHIN THE LIMITS OF THIS INSTALLATION.
- 2). POSTS 1, 2, 3, 4, AND 6 REQUIRE AN ADDITIONAL HOLE TO ATTACH OFFSET BLOCKS AND/OR BENT RAIL.
- 3). DO NOT ATTACH RAILS TO POSTS 1, 2, 3, 5, OR 7.
- 4). POSTS 1 AND 2 ARE W8x13, 7'-6" LONG. ALL OTHER POSTS IN TRANSITION ARE W6x9, 6'-0" LONG.
- 5). ALL HOLES SHALL BE DRILLED PRIOR TO GALVANIZING.
- 6). BENT RAIL MAY BE SHOP BENT TO FACILITATE INSTALLATION OR MAY BE FIELD BENT USING HEAT.
- 7). APPROVED CONCRETE INSERTS MAY BE USED IN NEW CONSTRUCTION TO ATTACH TERMINAL CONNECTORS TO PARAPET.
- 8). PLACE GUARDRAIL DELINEATORS AT THE INTERVALS SPECIFIED IN THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- 9). FOR INSTALLATIONS WHERE CURB EXISTS, IF THE EXISTING CURB IS 8" (200) OR HIGHER AND CANNOT BE REMOVED, THE BOTTOM RAIL CAN BE ELIMINATED.
- 10). A 6" x 8" x 14" OFFSET BLOCK IS USED AT POSTS 1 THROUGH 6 AND A 6" x 12" x 14" OFFSET BLOCK IS USED AT POSTS 7 THROUGH 9.

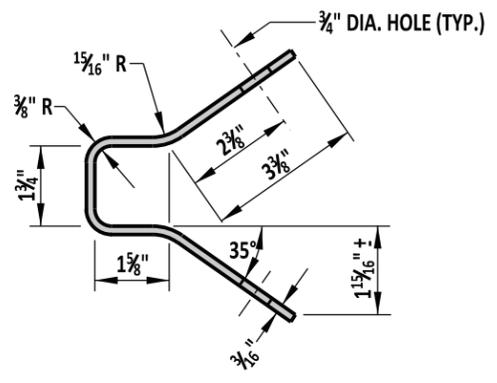
<p style="text-align: center;"><b>DELAWARE</b> DEPARTMENT OF TRANSPORTATION</p>	<b>GUARDRAIL TO BARRIER CONNECTION, APPROACH, TYPE 2-31</b>			<b>APPROVED</b>	SIGNATURE ON FILE <small>CHIEF ENGINEER</small>	01/07/2013 <small>DATE</small>
	STANDARD NO.    B-5 (2012)	SHT.    4                    OF    6	<b>RECOMMENDED</b>	SIGNATURE ON FILE <small>DESIGN ENGINEER</small>	12/20/2012 <small>DATE</small>	



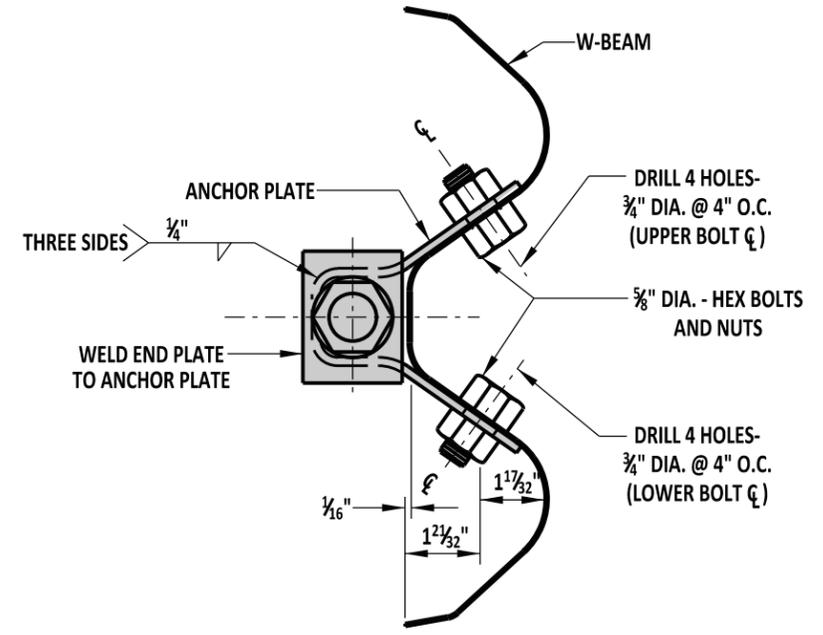
**SWAGED CABLE ASSEMBLY AND RELATED HARDWARE ASSEMBLY**



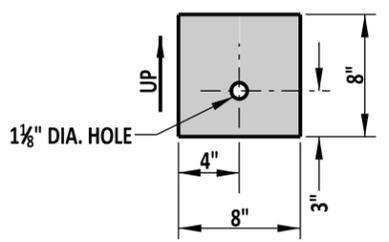
**POST SLEEVE**



**SECTION A-A**

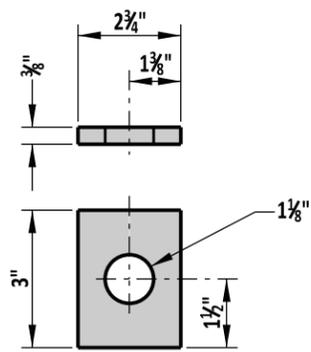


**ANCHOR PLATE TO W-BEAM CONNECTION DETAIL**



**TIMBER BEARING PLATE**

5/8" THICKNESS

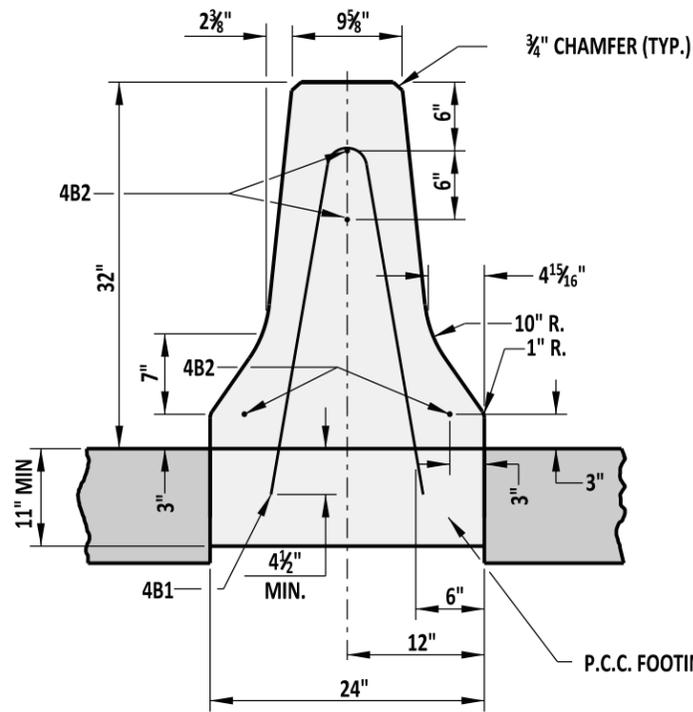


**END PLATE**

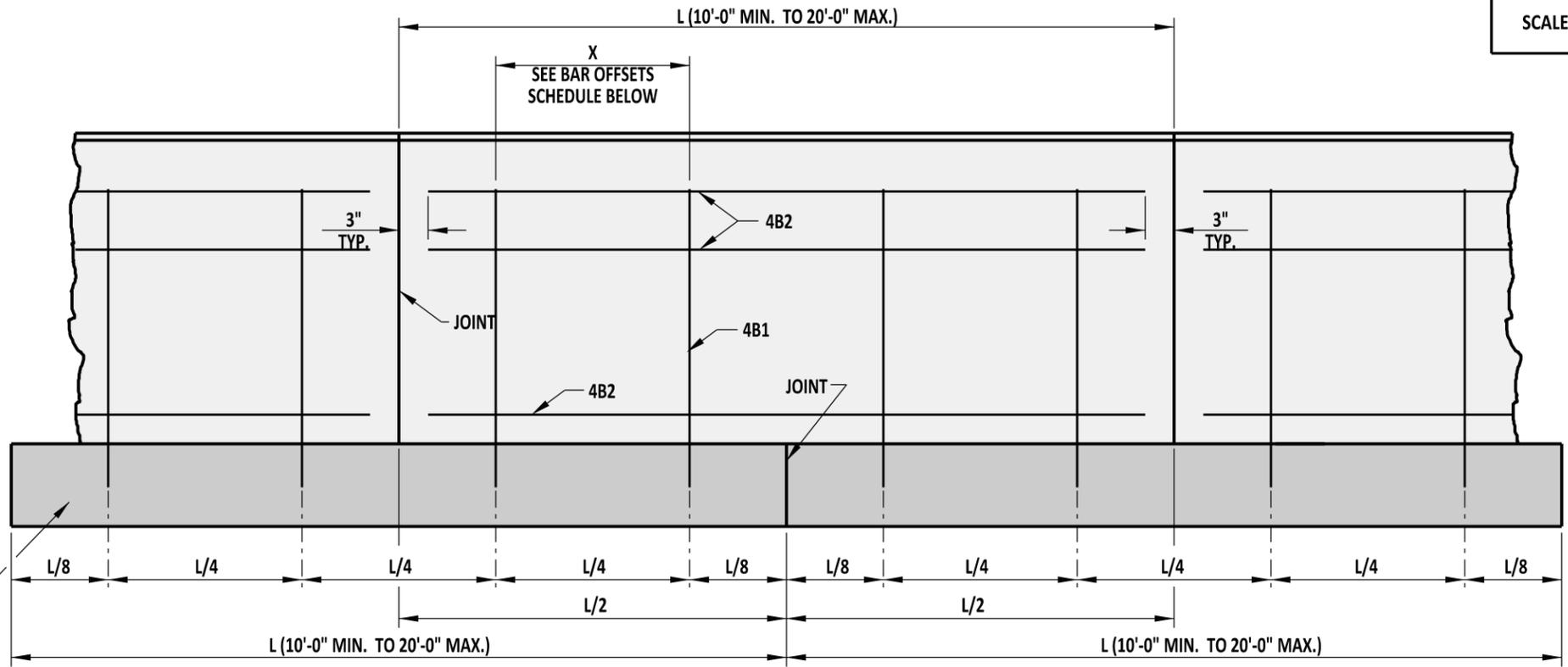
**NOTES:**

- 1). PLACE A 1/2" WIDE GALVANIZED RETAINING TIE STRAP AROUND THE SHORT TIMBER BREAKAWAY POST AND TIMBER BEARING PLATE TO ENSURE PROPER ORIENTATION OF THE TIMBER BEARING PLATE.
- 2). TIGHTEN ASSEMBLY UNTIL CABLE IS TAUGHT.
- 3). ALL HOLES SHALL BE DRILLED PRIOR TO GALVANIZING.

SCALE : NTS

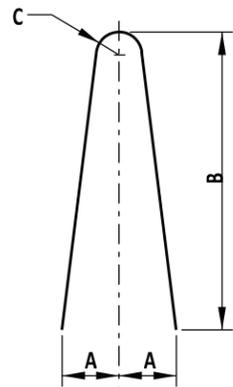


**SECTION**



**ELEVATION**

**TYPICAL CAST-IN-PLACE OR SLIP-FORM CONSTRUCTION**



**TYPE '1' BAR**

BAR OFFSETS		
NOMINAL LENGTH OF BARRIER SECTION (L)	X	NO. REQ'D FOR EACH BARRIER SECTION
20'-0"	5' - 0"	4
18'-0"	4' - 6"	4
16'-0"	4' - 0"	4
14'-0"	3' - 6"	4
12'-0"	3' - 0"	4
10'-0"	2' - 6"	4

BAR LIST							
MARK	SIZE	NUMBER IN EACH SECTION	LENGTH	TYPE	A	B	C
4B1	4	**	5'-4"	1	7"	30 1/2"	2"
4B2	4	4	*	STR.	N/A	N/A	N/A

\* THE LENGTH OF BAR 4B2 SHALL BE 6" SHORTER IN LENGTH THAN THE NOMINAL SIZE OF THE BARRIER IN WHICH IT IS USED.  
 \*\* SEE "BAR OFFSETS" CHART ON THIS SHEET FOR MORE INFORMATION.

**NOTES:**

- 1). CONCRETE CLEAR COVER FOR REINFORCING BARS SHALL BE 1 1/2" MIN.
- 2). FOR SLIP-FORM CONSTRUCTION, THE 4B2 BARS SHALL BE PLACED AS ONE CONTINUOUS PIECE. THE BARS SHALL OVERLAP A MINIMUM OF 12" IN THIS CASE.
- 3). FOR SLIP-FORM CONSTRUCTION, A JOINT SHALL BE CUT IN THE BARRIER EVERY 10'-0" AT A MAX DEPTH OF 1/2"



**DELAWARE DEPARTMENT OF TRANSPORTATION**

**32" CONCRETE SAFETY BARRIER (F SHAPE)**

STANDARD NO. B-14 (2012) SHT. 1 OF 4

APPROVED

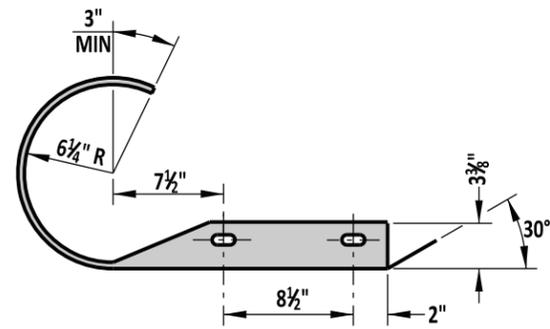
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CHIEF ENGINEER

01/07/2013  
DATE

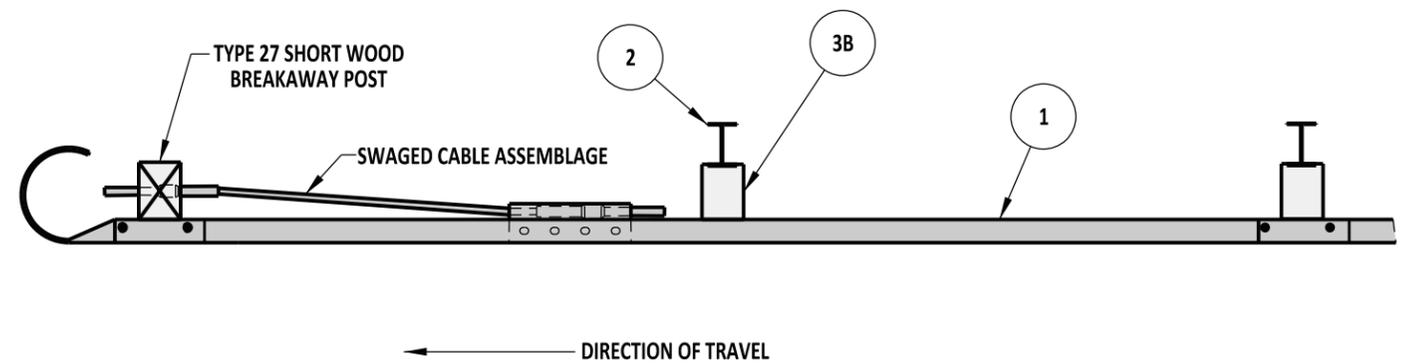
RECOMMENDED

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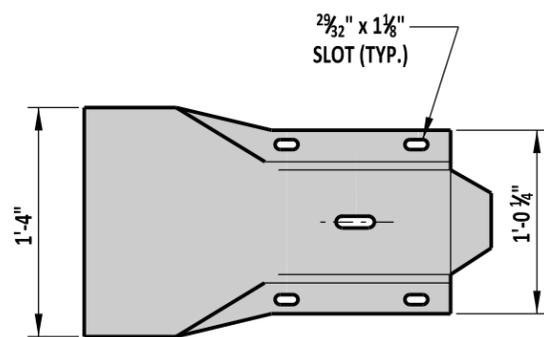
12/20/2012  
DATE



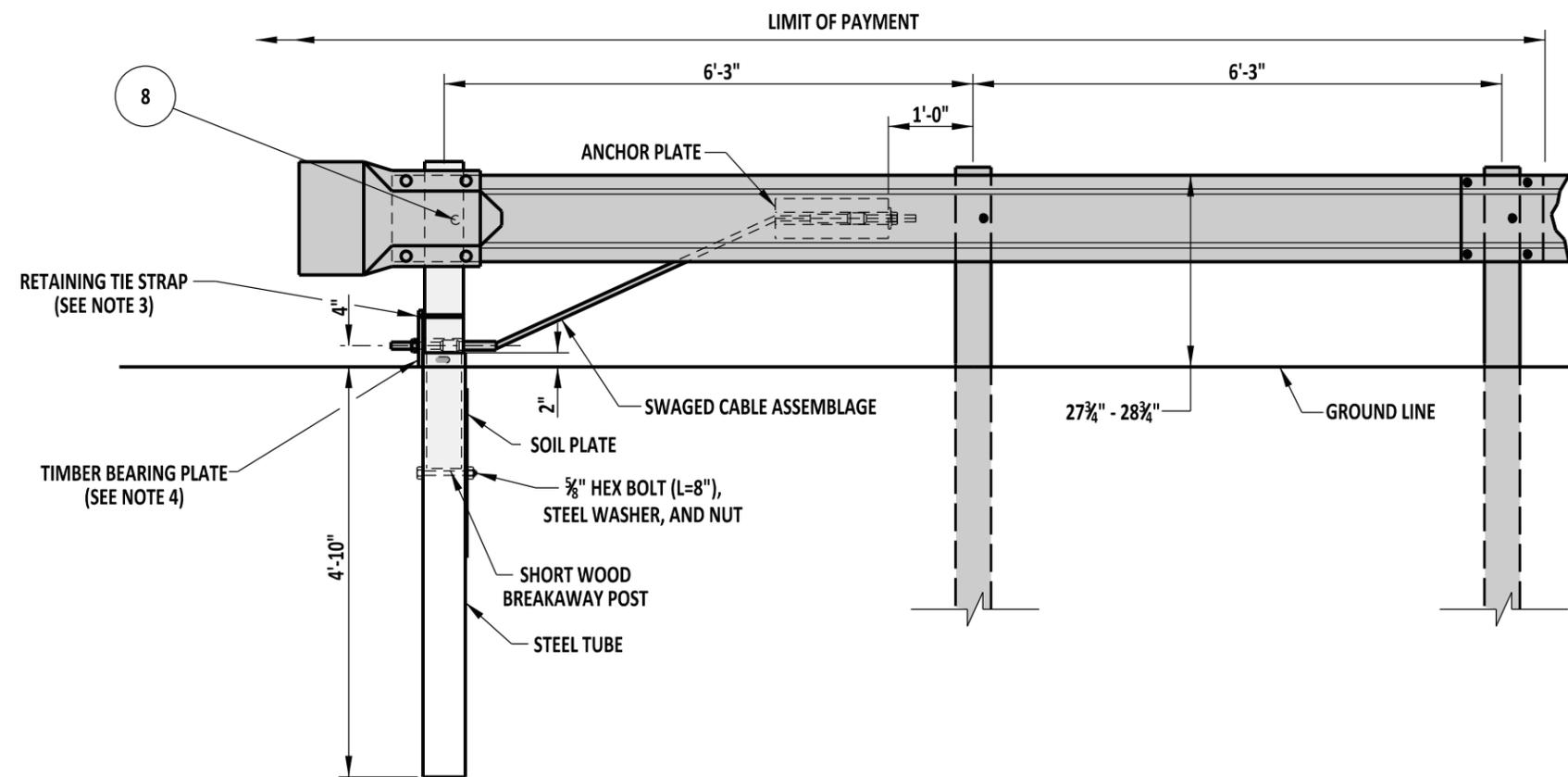
**END SECTION PLAN**



**PLAN**



**END SECTION ELEVATION**



**ELEVATION**

**NOTES:**

- 1). ADDITIONAL HOLES FOR ANCHOR PLATE SHALL BE DRILLED PRIOR TO GALVANIZING. (SEE STANDARD HARDWARE SHEET FOR HOLE SPACING INFORMATION).
- 2). CONTRACTOR HAS THE OPTION OF USING A 6'-0" STEEL TUBE WITHOUT A SOIL PLATE OR A 5'-0" STEEL TUBE WITH A SOIL PLATE.
- 3). PLACE A 1/2" WIDE PLASTIC RETAINING TIE STRAP AROUND THE SHORT TIMBER BREAKAWAY POST AND TIMBER BEARING PLATE TO ENSURE THE PROPER ORIENTATION OF THE TIMBER BEARING PLATE.
- 4). REFER TO DETAIL B-13, SHEET 8 OF 10 FOR PROPER TIMBER BEARING PLATE ORIENTATION.



**DELAWARE**  
**DEPARTMENT OF TRANSPORTATION**

**END ANCHORAGE, TYPE 27**

STANDARD NO. B-19 (2012) SHT. 1 OF 1

**APPROVED**

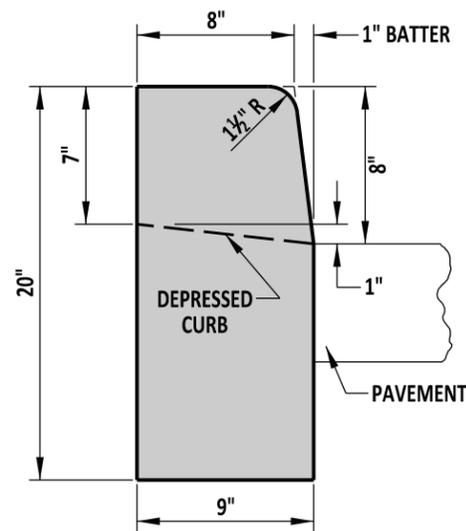
SIGNATURE ON FILE  
CHIEF ENGINEER

01/07/2013  
DATE

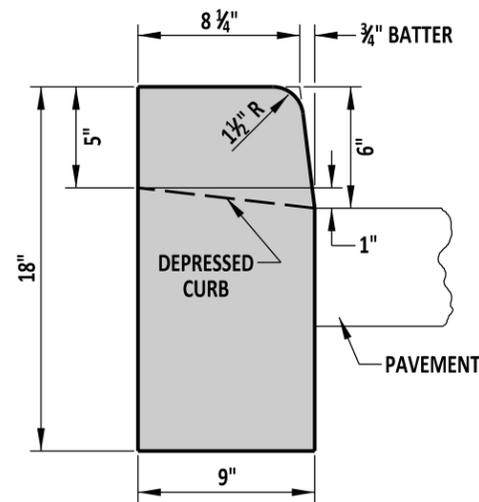
**RECOMMENDED**

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DESIGN ENGINEER

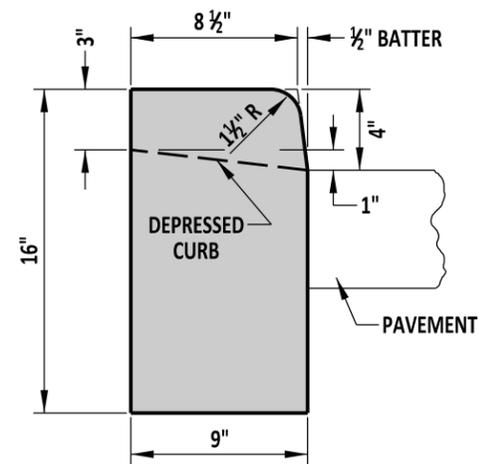
12/20/2012  
DATE



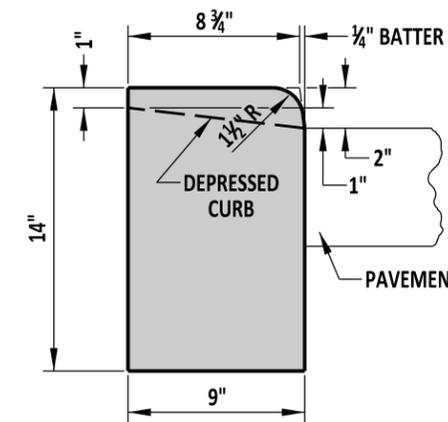
**P.C.C. CURB**  
TYPE 1-8



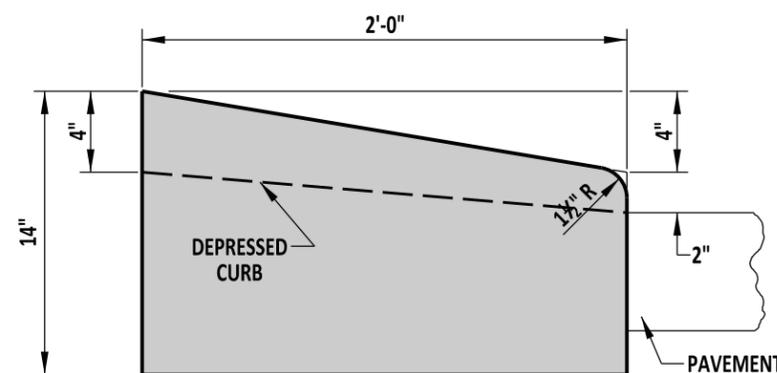
**P.C.C. CURB**  
TYPE 1-6



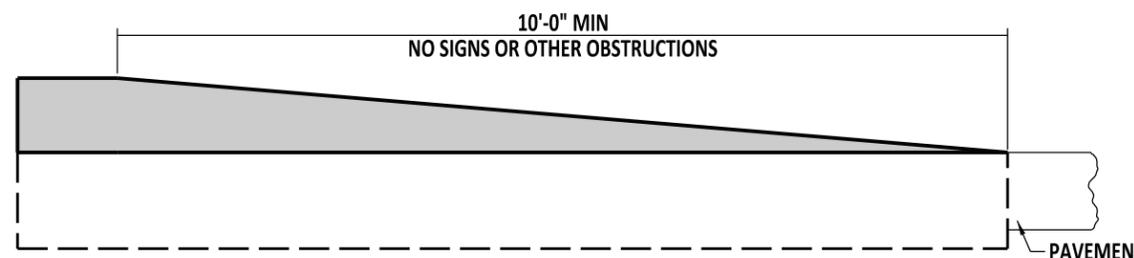
**P.C.C. CURB**  
TYPE 1-4



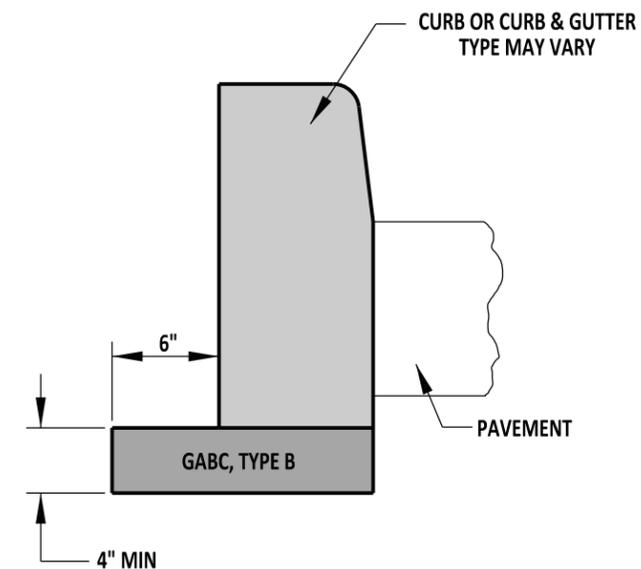
**P.C.C. CURB**  
TYPE 1-2



**P.C.C. CURB**  
TYPE 2



**TYPICAL TAPER SECTION**  
**AT NOSE OF MEDIANS**  
TYPE 1-8 CURB SHOWN



**TYPICAL CURB SECTION**

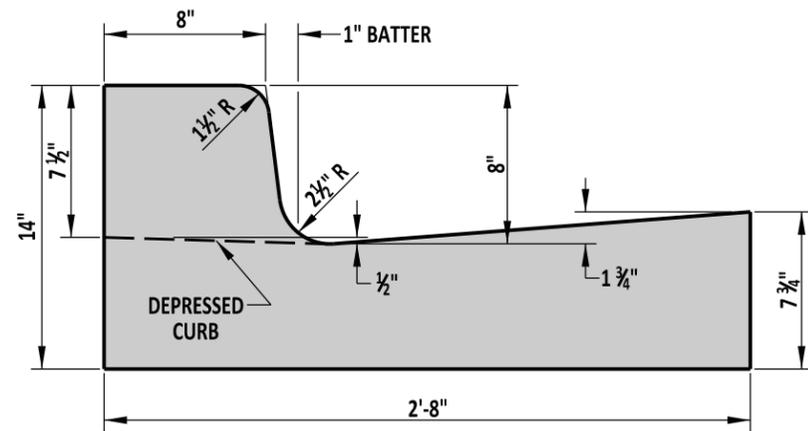
**NOTES:**

- 1). WHEN P.C.C. CURB OR INTEGRAL P.C.C. CURB AND GUTTER IS PLACED ADJACENT TO PORTLAND CEMENT CONCRETE PAVEMENT, CONSTRUCT THE JOINT AS PER THE LONGITUDINAL JOINT SEALANT DETAIL ON DETAIL P-2, SHEET 3 OF 5. USE APPROVED JOINT FILLER TO SEAL. WORK TO BE PAID UNDER RESPECTIVE CURB AND GUTTER ITEM.
- 2). DEPRESS CURB AT ENTRANCES AS DETAILED ON THIS SHEET.
- 3). DEPRESS CURB FLUSH WITH PAVEMENT AT CURB RAMPS. MAXIMUM SLOPE OF CURB AT CURB RAMPS IS 20:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL. SEE DETAIL C-2, SHEET 1 OF 4.
- 4). DEPRESS CURB FLUSH WITH PAVEMENT OR ADJACENT AREA AT LEADING EDGE OF TRIANGULAR ISLANDS, TAPERING BACK TO FULL HEIGHT AT A SLOPE OF 4:1.
- 5). DEPRESS END OF CURB RUNS NOT PART OF AN ISLAND OR MEDIAN FLUSH WITH PAVEMENT OR ADJACENT AREA AT A SLOPE OF 12:1.

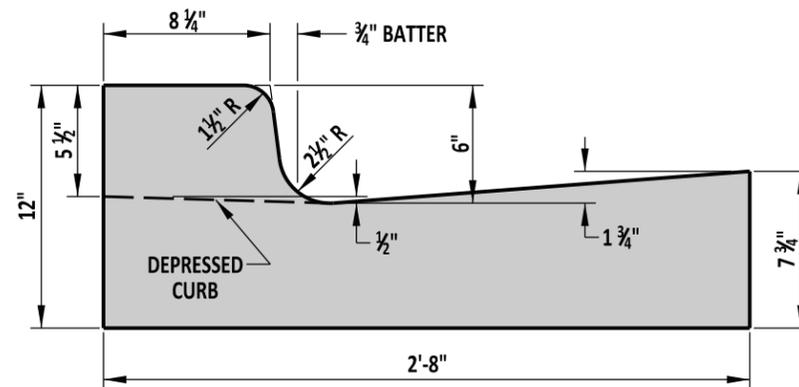


**DELAWARE**  
**DEPARTMENT OF TRANSPORTATION**

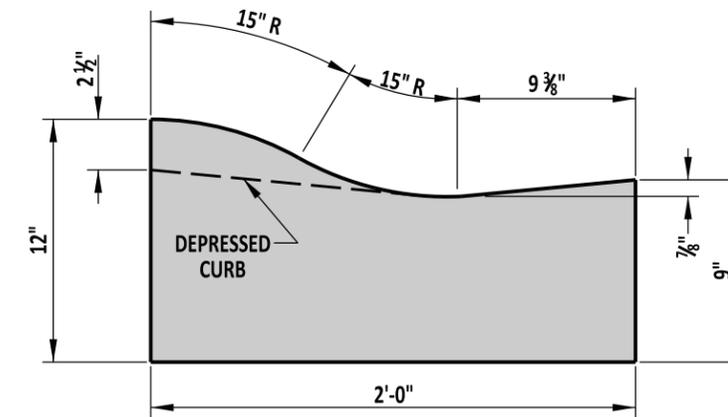
STANDARD NO. C-1 (2012)		P.C.C. CURB		APPROVED	SIGNATURE ON FILE	01/07/2013
		SHT. 1 OF 2		RECOMMENDED	SIGNATURE ON FILE	12/20/2012



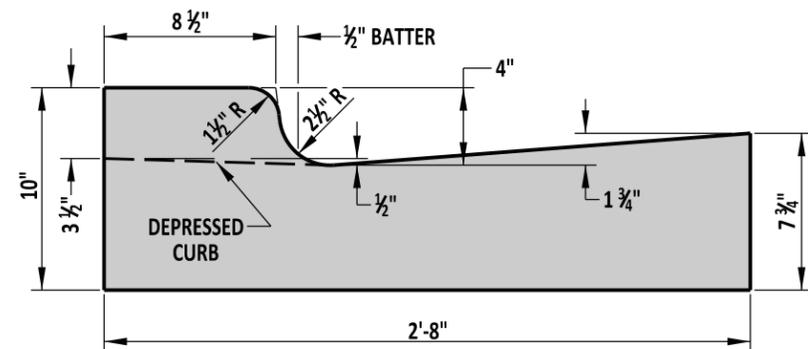
**INTEGRAL P.C.C. CURB AND GUTTER**  
TYPE 1-8



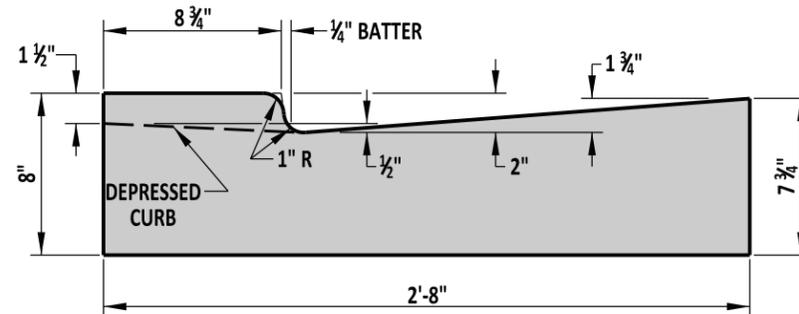
**INTEGRAL P.C.C. CURB AND GUTTER**  
TYPE 1-6



**INTEGRAL P.C.C. CURB AND GUTTER**  
TYPE 2



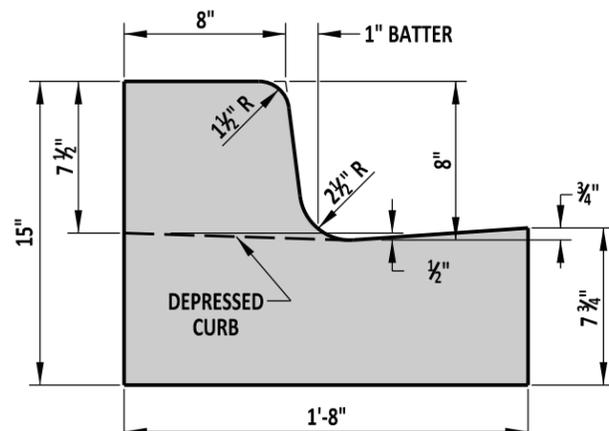
**INTEGRAL P.C.C. CURB AND GUTTER**  
TYPE 1-4



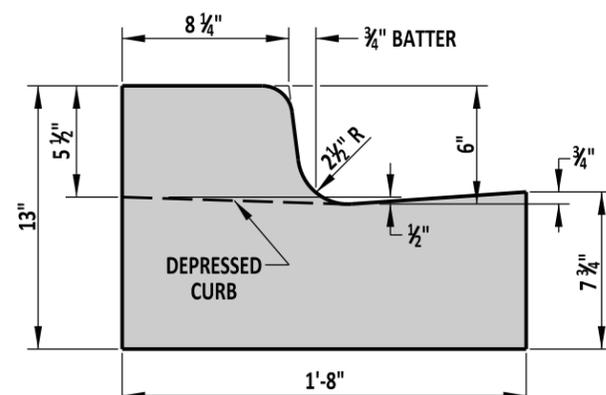
**INTEGRAL P.C.C. CURB AND GUTTER**  
TYPE 1-2

**NOTES:**

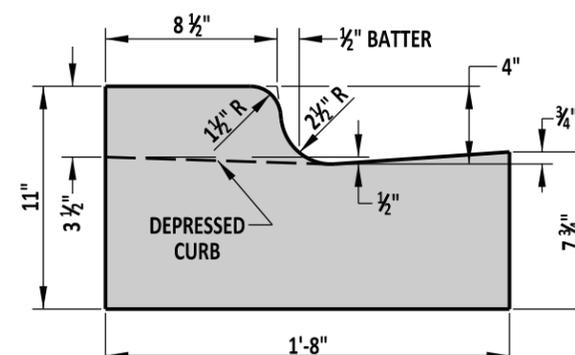
- 1). WHEN P.C.C. CURB OR INTEGRAL P.C.C. CURB AND GUTTER IS PLACED ADJACENT TO PORTLAND CEMENT CONCRETE PAVEMENT, CONSTRUCT THE JOINT AS PER THE LONGITUDINAL JOINT SEALANT DETAIL ON DETAIL P-2, SHEET 3 OF 5. USE APPROVED JOINT FILLER TO SEAL. WORK TO BE PAID UNDER RESPECTIVE CURB AND GUTTER ITEM.
- 2). DEPRESS CURB AT ENTRANCES AS DETAILED ON THIS SHEET.
- 3). DEPRESS CURB FLUSH WITH PAVEMENT AT CURB RAMPS. MAXIMUM SLOPE OF CURB AT CURB RAMPS IS 20:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL. SEE DETAIL C-2, SHEET 1 OF 4.
- 4). DEPRESS CURB FLUSH WITH PAVEMENT OR ADJACENT AREA AT LEADING EDGE OF TRIANGULAR ISLANDS, TAPERING BACK TO FULL HEIGHT AT A SLOPE OF 4:1. SEE DETAIL C-1, SHEET 1 OF 2 FOR TYPICAL SECTION OF TAPER AT NOSE OF MEDIAN ISLANDS.
- 5). 4" OF GABC, TYPE B SHALL BE PLACED UNDER ALL P.C.C. CURB AND P.C.C. CURB AND GUTTER. SEE DETAIL C-1, SHEET 1 OF 2 FOR TYPICAL SECTION.
- 6). DEPRESS END OF CURB RUNS NOT PART OF AN ISLAND OR MEDIAN FLUSH WITH PAVEMENT OR ADJACENT AREA AT A SLOPE OF 12:1.



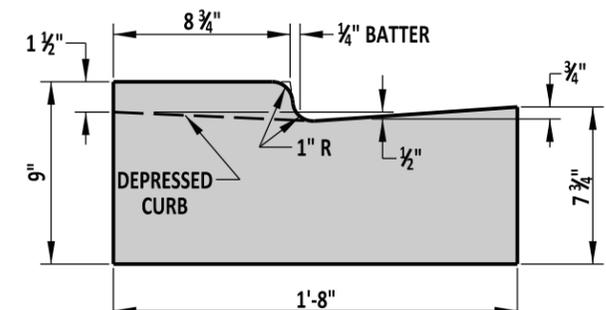
**INTEGRAL P.C.C. CURB AND GUTTER**  
TYPE 3-8



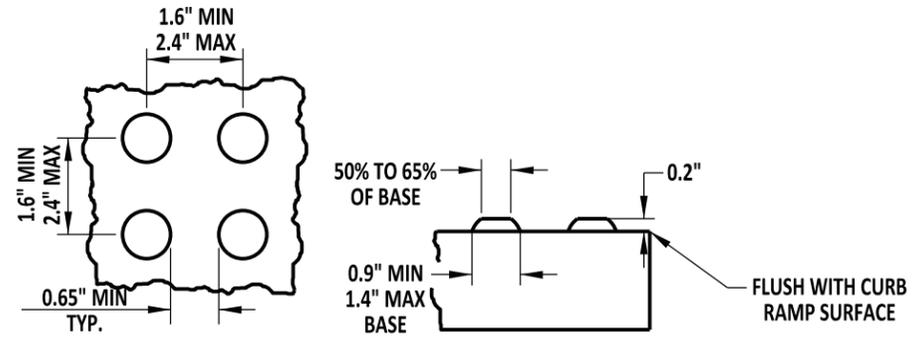
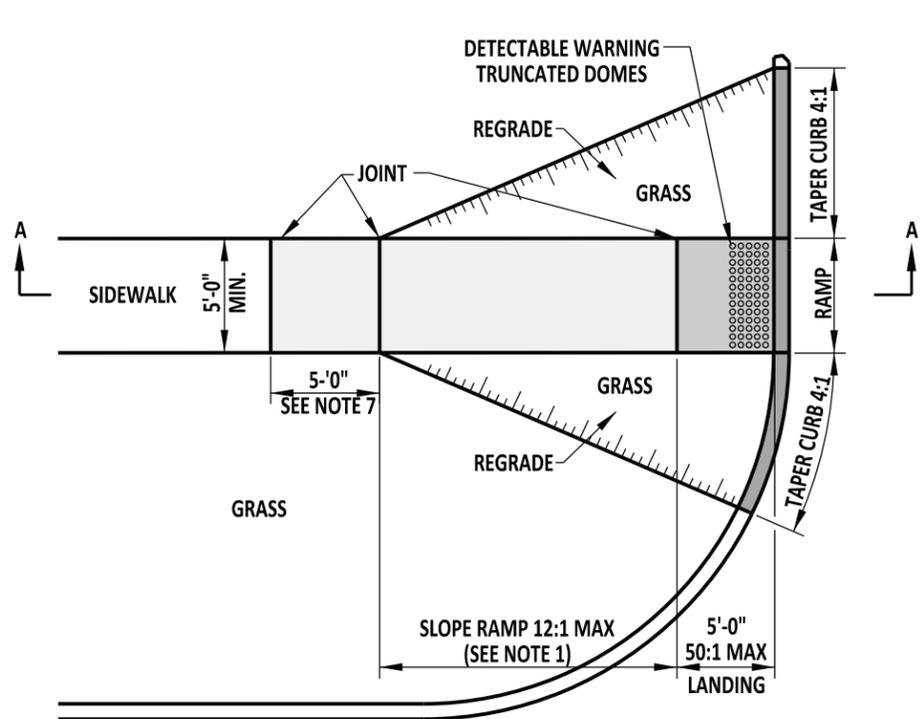
**INTEGRAL P.C.C. CURB AND GUTTER**  
TYPE 3-6



**INTEGRAL P.C.C. CURB AND GUTTER**  
TYPE 3-4

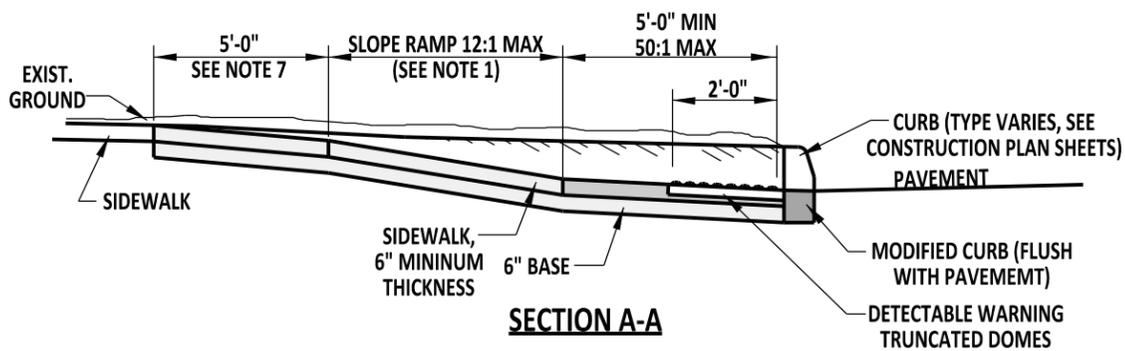
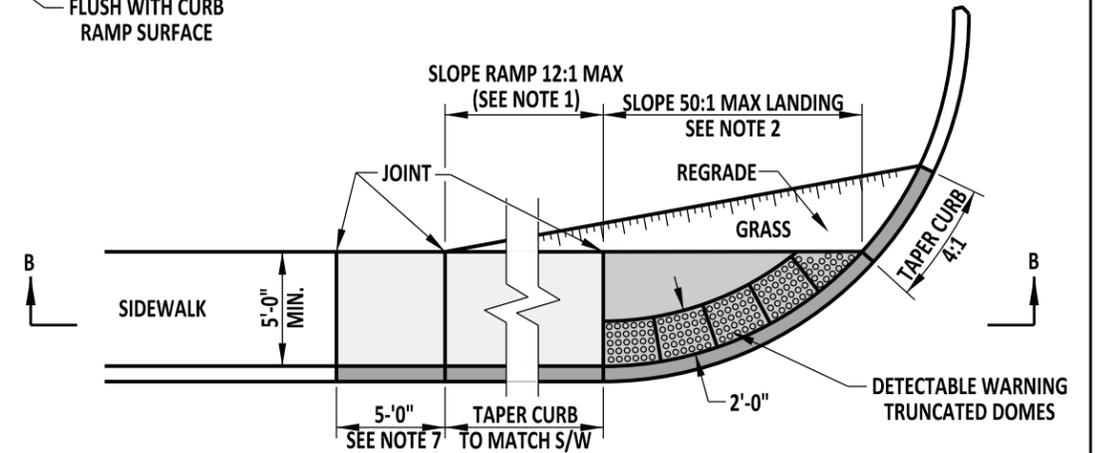


**INTEGRAL P.C.C. CURB AND GUTTER**  
TYPE 3-2

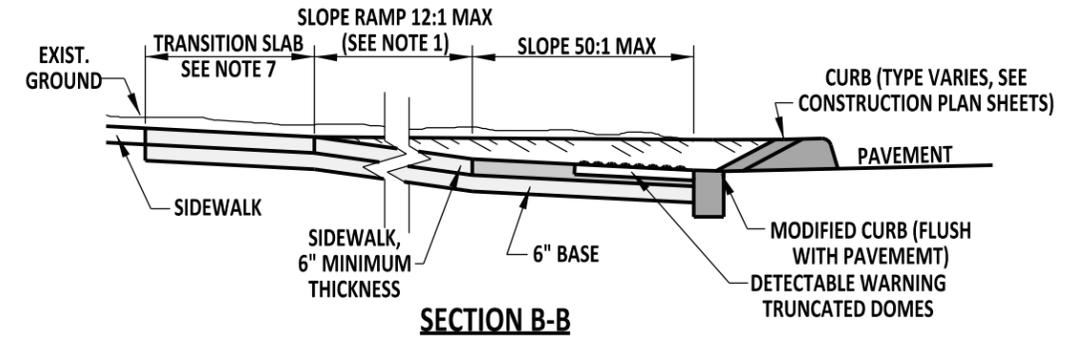


**DETECTABLE WARNING TRUNCATED DOME DETAILS**

- NOTES:  
 A). THE AREA OF DETECTABLE WARNING TRUNCATED DOMES SHALL BE 2'-0" LONG AND THE FULL WIDTH OF THE RAMP OR DEPRESSED CURB.  
 B). SEE SPECIFICATION FOR ADDITIONAL INFORMATION.



**SECTION A-A**

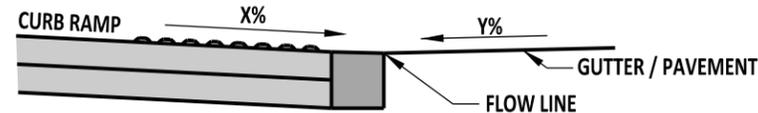


**SECTION B-B**

- NOTES:  
 1). FOR ALTERATIONS WITHOUT A GRASS STRIP OR WHERE THE EXISTING ROAD PROFILE IS STEEPER THAN 7% AND A 12:1 MAXIMUM SLOPE RAMP WILL NOT MEET THE SIDEWALK GRADE WITHIN A LENGTH OF 15'-0", THE RAMP LENGTH MAY BE LIMITED TO 15'-0" AT A CONSTANT SLOPE, AND ALLOWED TO EXCEED 12:1.  
 2). RAMP AND SIDEWALK CROSS SLOPE SHALL BE 50:1 (2%) MAXIMUM. FOR REHABILITATION WORK, THE RAMP CROSS SLOPE SHALL MATCH THE SLOPE OF THE ADJACENT ROADWAY.  
 3). IF GRADING WILL BE STEEPER THAN 6:1, THEN A TYPE 1-8 CURB OR RETAINING WALL SHOULD BE USED TO ELIMINATE THE NEED FOR THE STEEP SLOPE.  
 4). THE MAXIMUM DIFFERENCE IN GRADE BETWEEN THE CURB RAMP OR MODIFIED CURB AT THE FLOW LINE AND THE PAVEMENT SHALL BE 13%, HOWEVER 11% IS PREFERRED. SEE DETAIL ON THIS SHEET.  
 5). LANDING AREA SHALL BE EXTENDED 18" MIN BEYOND THE PEDESTRIAN PUSH BUTTON FOR ALL CURB RAMP TYPES. WHEN NO PEDESTRIAN PUSH BUTTON EXISTS, THE 18" EXTENSION CAN BE OMITTED.  
 6). LANDING AREA SHALL BE DELINEATED WITH JOINTS.  
 7). FOR REHABILITATION WORK, PLACE TRANSITION SLAB TO TRANSITION FROM THE NEW RAMP TO THE EXISTING SIDEWALK WHEN THE EXISTING SIDEWALK HAS A NON-CONFORMING RUNNING SLOPE, CROSS SLOPE, OR WIDTH. ADJACENT CURB TAPER SHOULD MATCH THE SLOPE OF THE TRANSITION SLAB.  
 8). REFER TO THE DELAWARE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES FOR DETAILS REGARDING THE LOCATION OF PEDESTRIAN PUSH BUTTONS.

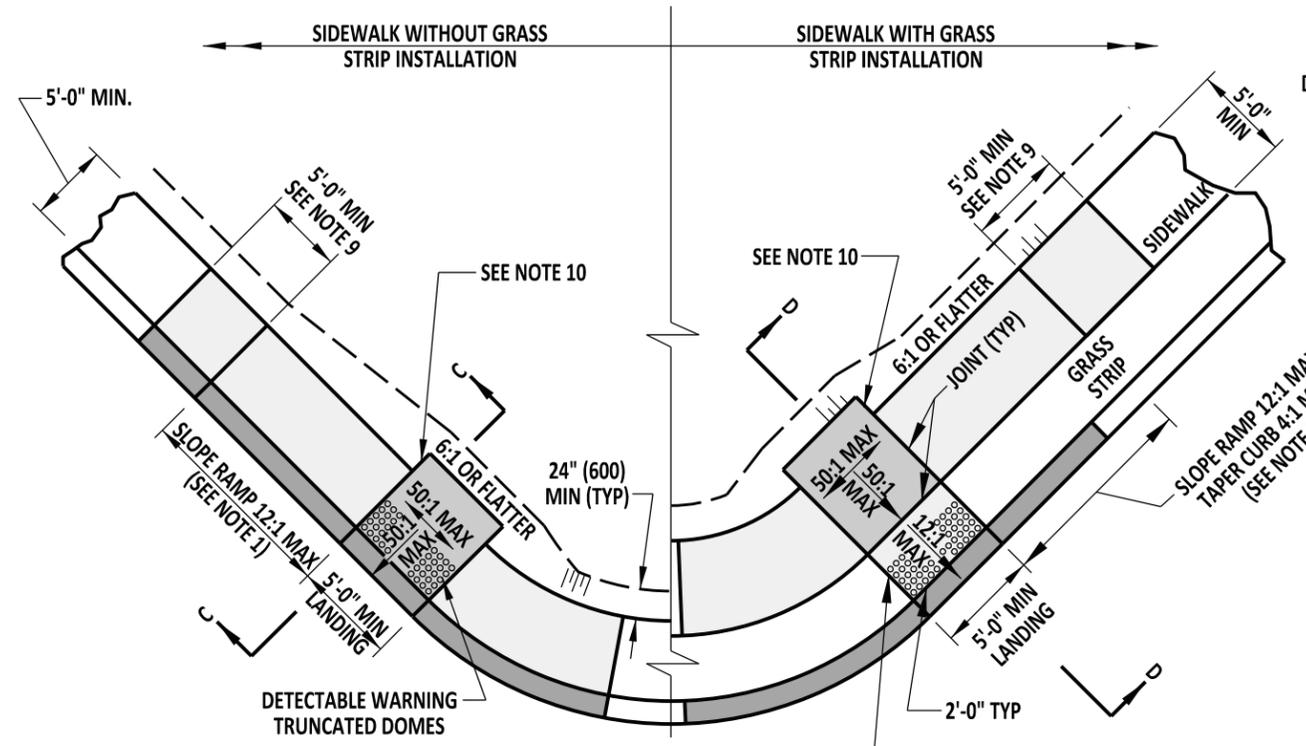
**MAXIMUM DIFFERENCE IN GRADE FOR ALL CURB RAMP TYPES**

FOR EXAMPLE, IF THE CURB RAMP AND DEPRESSED CURB SLOPE AT THE FLOW LINE (X) IS 8.1% AND THE PAVEMENT SLOPE (Y) IS 4.0%, THEN TO DETERMINE THE DIFFERENCE IN GRADE, ADD X + Y TO GET 12.1%, WHICH IS GREATER THAN THE 11% PREFERRED BUT LESS THAN THE 13% MAXIMUM.

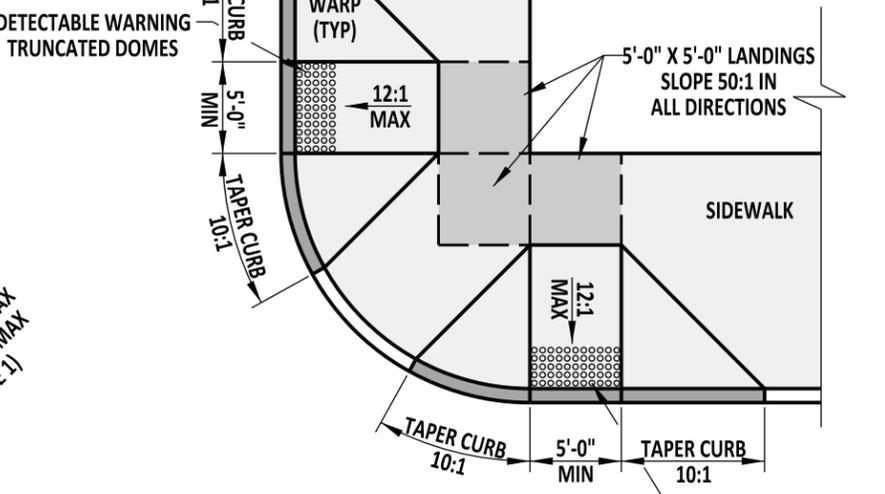


**CURB RAMP, TYPE 1  
 PERPENDICULAR CURB RAMP**

<p>DELAWARE DEPARTMENT OF TRANSPORTATION</p>	CURB RAMP, TYPE 1 AND SECTIONS			APPROVED	SIGNATURE ON FILE	03/07/2013
	STANDARD NO.	C-2 (2012)	SHT. 1 OF 3	RECOMMENDED	SIGNATURE ON FILE	03/07/2013

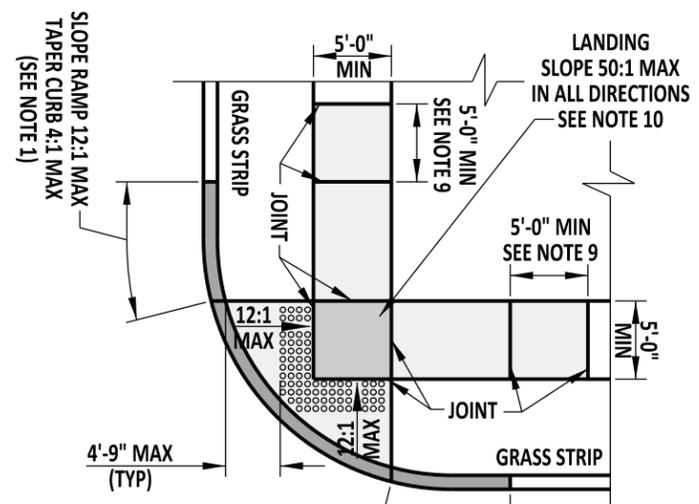


**CURB RAMP, TYPE 2**

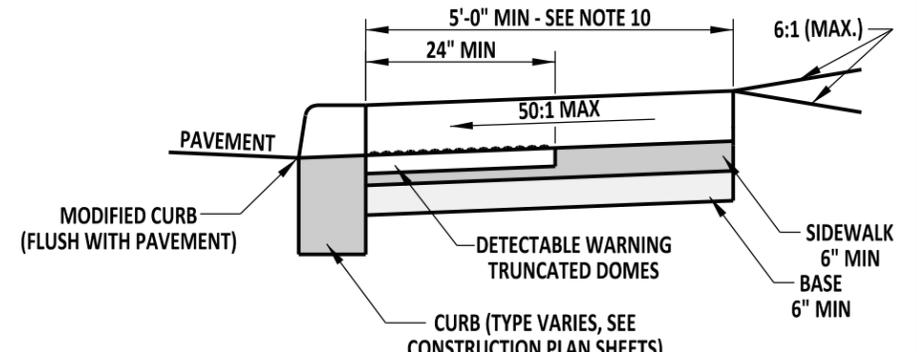


**CURB RAMP, TYPE 4**  
PERPENDICULAR CURB RAMP

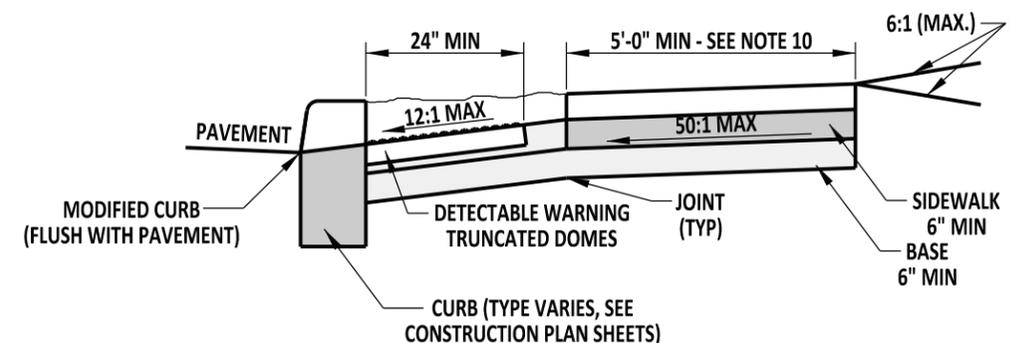
\*\* - DASHED LINES DO NOT INDICATE JOINTS



**CURB RAMP, TYPE 3**  
DIAGONAL CURB RAMP



**SECTION C-C**

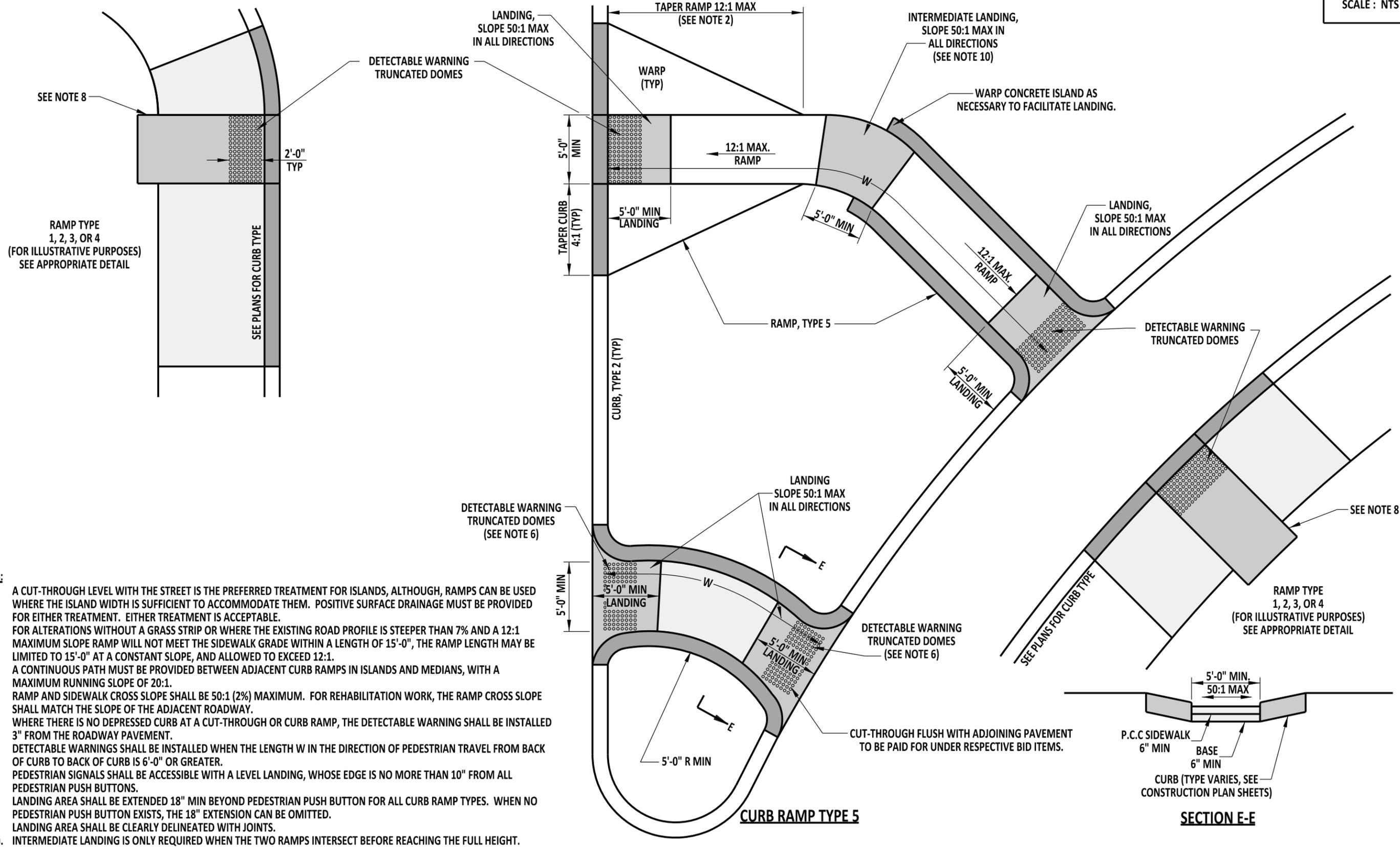


**SECTION D-D**

**NOTES:**

- 1). FOR ALTERATIONS WITHOUT A GRASS STRIP OR WHERE THE EXISTING ROAD PROFILE IS STEEPER THAN 7% AND A 12:1 MAXIMUM SLOPE RAMP WILL NOT MEET THE SIDEWALK GRADE WITHIN A LENGTH OF 15'-0", THE RAMP LENGTH MAY BE LIMITED TO 15'-0" AT A CONSTANT SLOPE, AND THE RAMP SLOPE ALLOWED TO EXCEED 12:1.
- 2). RAMP AND SIDEWALK CROSS SLOPE SHALL BE 50:1 (2%) MAXIMUM. FOR REHABILITATION WORK, THE RAMP CROSS SLOPE SHALL MATCH THE SLOPE OF THE ADJACENT ROADWAY
- 3). IF GRADING WILL BE STEEPER THAN 6:1 ADJACENT TO THE CURB RAMP OR SIDEWALK, THEN A TYPE 1-8 CURB OR RETAINING WALL SHOULD BE USED TO ELIMINATE THE NEED FOR THE STEEP SLOPE.
- 4). ENTIRE DEPRESSED AREA OF CURB SHALL HAVE DETECTABLE WARNING TRUNCATED DOMES.
- 5). THE MAXIMUM DIFFERENCE IN GRADE BETWEEN THE SIDEWALK OR CURB AND THE PAVEMENT SHALL BE 13%, HOWEVER 11% IS PREFERRED. SEE STANDARD NO. C-2, SHEET 1 OF 3.
- 6). REFER TO DELAWARE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES FOR DETAILS REGARDING THE LOCATION OF PEDESTRIAN PUSH BUTTONS.
- 7). LANDING AREA SHALL BE DELINEATED WITH JOINTS.
- 8). THE EDGE OF THE LANDING SHALL BE A MAXIMUM OF 10'-0" FROM THE FACE OF THE CURB.
- 9). FOR REHABILITATION WORK, PLACE TRANSITION SLAB TO TRANSITION FROM THE NEW RAMP TO THE EXISTING SIDEWALK WHEN THE EXISTING SIDEWALK HAS A NON-CONFORMING RUNNING SLOPE, CROSS SLOPE, OR WIDTH. ADJACENT CURB SHOULD MATCH THE SLOPE OF THE TRANSITION SLAB.
- 10). LANDING AREAS SHALL BE EXTENDED 18" MIN BEYOND THE PEDESTRIAN PUSH BUTTON FOR ALL CURB RAMP TYPES. WHEN NO PEDESTRIAN PUSH BUTTON EXISTS, THE 18" EXTENSION CAN BE OMITTED.

 <p><b>DELAWARE</b> DEPARTMENT OF TRANSPORTATION</p>	<b>CURB RAMPS, TYPES 2, 3, &amp; 4</b>			<b>APPROVED</b>	SIGNATURE ON FILE <small>CHIEF ENGINEER</small>	03/07/2013 <small>DATE</small>
	STANDARD NO.	C-2 (2012)	SHT. 2 OF 3	<b>RECOMMENDED</b>	SIGNATURE ON FILE <small>DESIGN ENGINEER</small>	03/07/2013 <small>DATE</small>



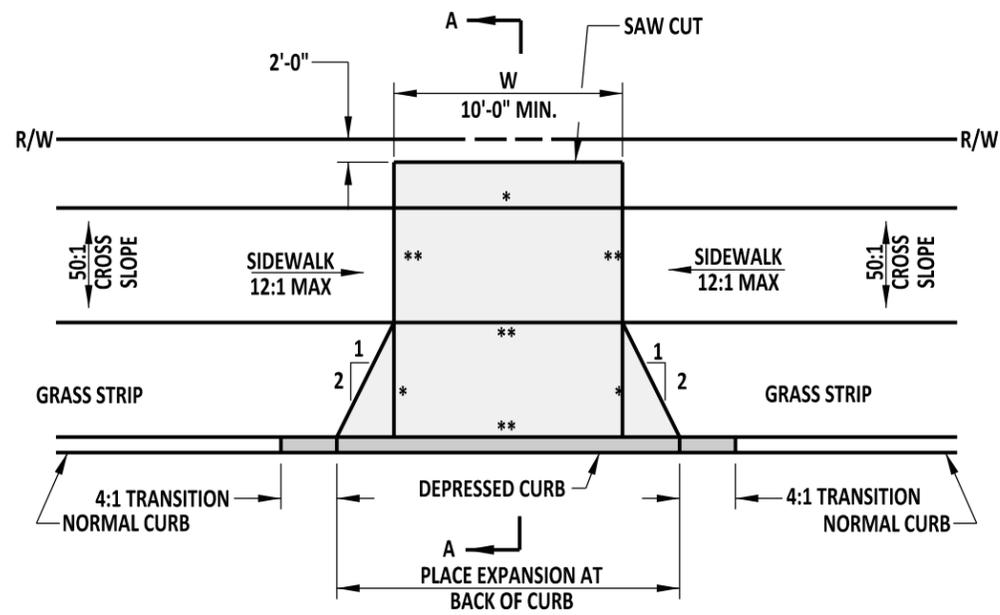
- NOTES:**
- 1). A CUT-THROUGH LEVEL WITH THE STREET IS THE PREFERRED TREATMENT FOR ISLANDS, ALTHOUGH, RAMPS CAN BE USED WHERE THE ISLAND WIDTH IS SUFFICIENT TO ACCOMMODATE THEM. POSITIVE SURFACE DRAINAGE MUST BE PROVIDED FOR EITHER TREATMENT. EITHER TREATMENT IS ACCEPTABLE.
  - 2). FOR ALTERATIONS WITHOUT A GRASS STRIP OR WHERE THE EXISTING ROAD PROFILE IS STEEPER THAN 7% AND A 12:1 MAXIMUM SLOPE RAMP WILL NOT MEET THE SIDEWALK GRADE WITHIN A LENGTH OF 15'-0", THE RAMP LENGTH MAY BE LIMITED TO 15'-0" AT A CONSTANT SLOPE, AND ALLOWED TO EXCEED 12:1.
  - 3). A CONTINUOUS PATH MUST BE PROVIDED BETWEEN ADJACENT CURB RAMPS IN ISLANDS AND MEDIANS, WITH A MAXIMUM RUNNING SLOPE OF 20:1.
  - 4). RAMP AND SIDEWALK CROSS SLOPE SHALL BE 50:1 (2%) MAXIMUM. FOR REHABILITATION WORK, THE RAMP CROSS SLOPE SHALL MATCH THE SLOPE OF THE ADJACENT ROADWAY.
  - 5). WHERE THERE IS NO DEPRESSED CURB AT A CUT-THROUGH OR CURB RAMP, THE DETECTABLE WARNING SHALL BE INSTALLED 3" FROM THE ROADWAY PAVEMENT.
  - 6). DETECTABLE WARNINGS SHALL BE INSTALLED WHEN THE LENGTH W IN THE DIRECTION OF PEDESTRIAN TRAVEL FROM BACK OF CURB TO BACK OF CURB IS 6'-0" OR GREATER.
  - 7). PEDESTRIAN SIGNALS SHALL BE ACCESSIBLE WITH A LEVEL LANDING, WHOSE EDGE IS NO MORE THAN 10" FROM ALL PEDESTRIAN PUSH BUTTONS.
  - 8). LANDING AREA SHALL BE EXTENDED 18" MIN BEYOND PEDESTRIAN PUSH BUTTON FOR ALL CURB RAMP TYPES. WHEN NO PEDESTRIAN PUSH BUTTON EXISTS, THE 18" EXTENSION CAN BE OMITTED.
  - 9). LANDING AREA SHALL BE CLEARLY DELINEATED WITH JOINTS.
  - 10). INTERMEDIATE LANDING IS ONLY REQUIRED WHEN THE TWO RAMPS INTERSECT BEFORE REACHING THE FULL HEIGHT.



**DELAWARE**  
DEPARTMENT OF TRANSPORTATION

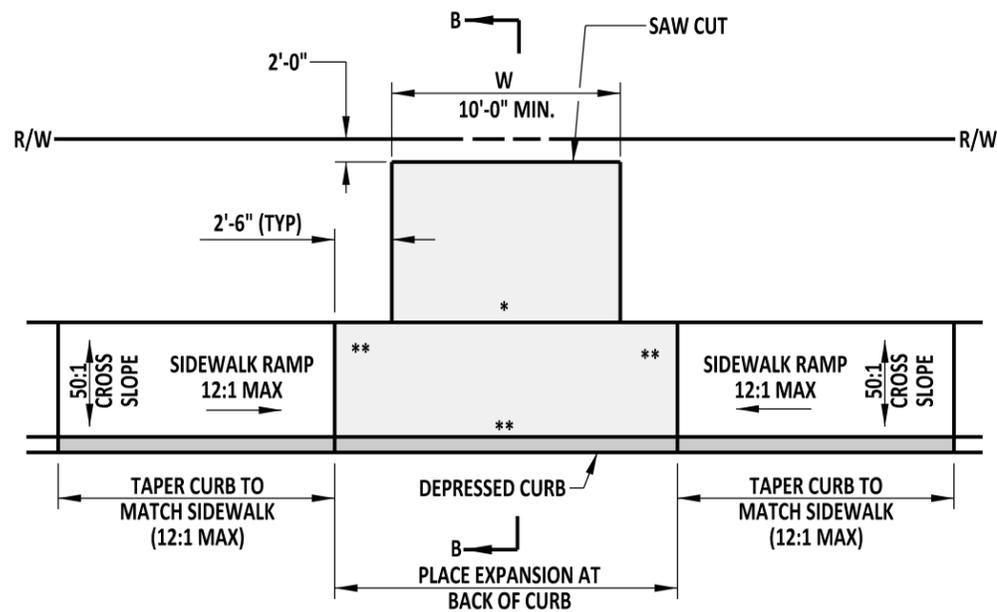
<b>CURB RAMP, TYPE 5 &amp; SECTIONS</b>			
STANDARD NO.	C-2 (2012)	SHT. 3	OF 3

APPROVED	SIGNATURE ON FILE <small>CHIEF ENGINEER</small>	03/07/2013 <small>DATE</small>
RECOMMENDED	SIGNATURE ON FILE <small>DESIGN ENGINEER</small>	03/07/2013 <small>DATE</small>



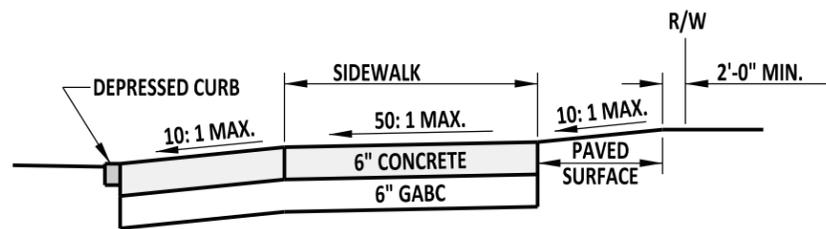
**ENTRANCE WITH SIDEWALK AND GRASS STRIP**

\* - JOINT  
\*\* - EXPANSION MATERIAL

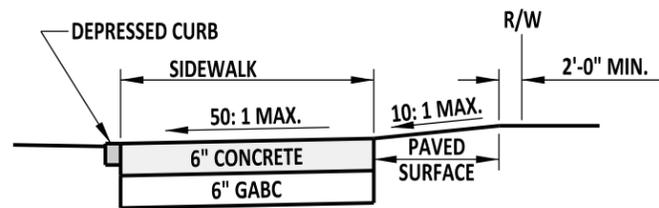


**ENTRANCE WITH SIDEWALK AND NO GRASS STRIP**

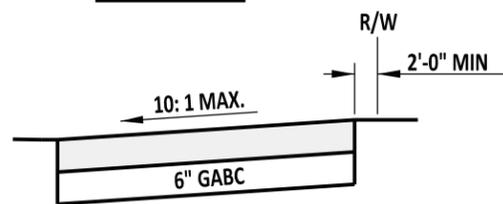
\* - JOINT  
\*\* - EXPANSION MATERIAL



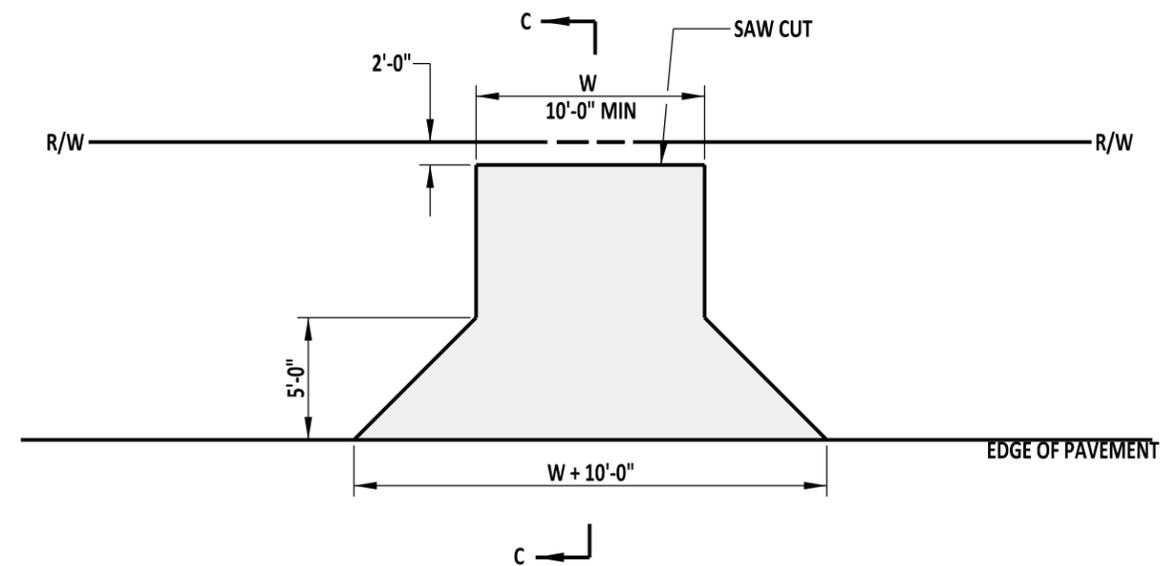
**SECTION A-A**



**SECTION B-B**



**SECTION C-C**



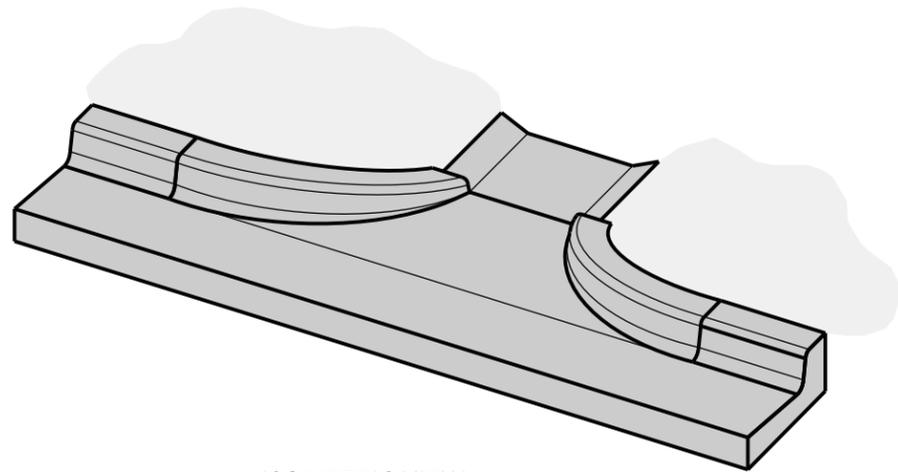
**ENTRANCE WITHOUT SIDEWALK**

**NOTE:**  
IF WIDTH OF DRIVEWAY IS 15'-0" OR GREATER, THE FLARE AND EXTENSIONS CAN BE OMITTED.



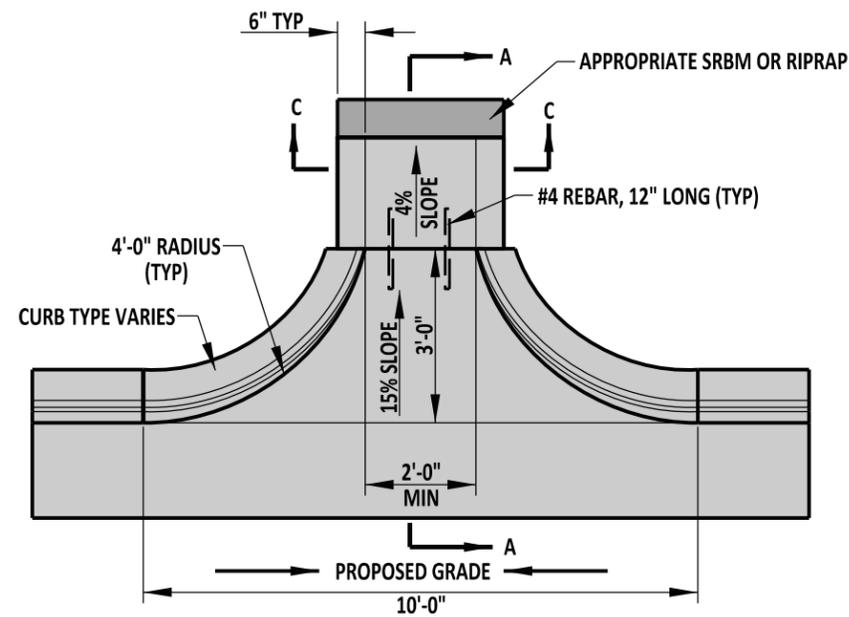
**DELAWARE DEPARTMENT OF TRANSPORTATION**

STANDARD NO. C-3 (2012)		ENTRANCES		APPROVED	SIGNATURE ON FILE	01/07/2013
		SHT. 1	OF 1	RECOMMENDED	SIGNATURE ON FILE	12/20/2012



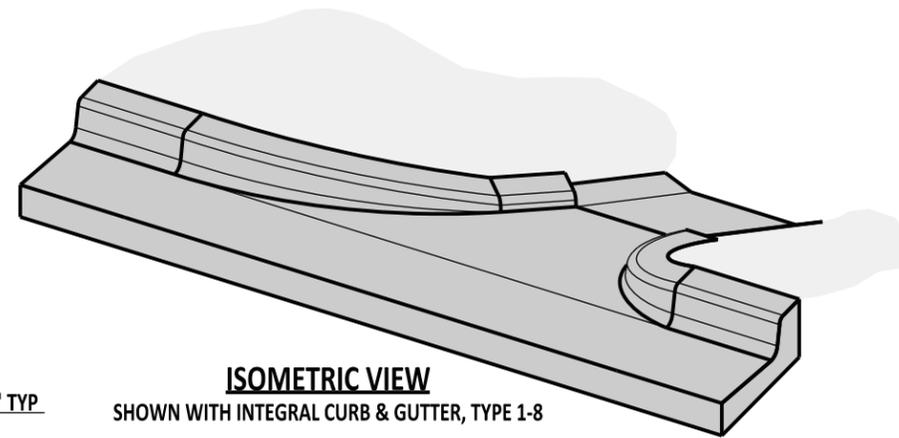
**ISOMETRIC VIEW**

SHOWN WITH INTEGRAL CURB & GUTTER, TYPE 1-8



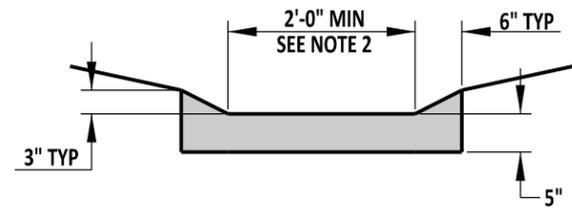
**PLAN VIEW**

**IN SUMP LOCATION**

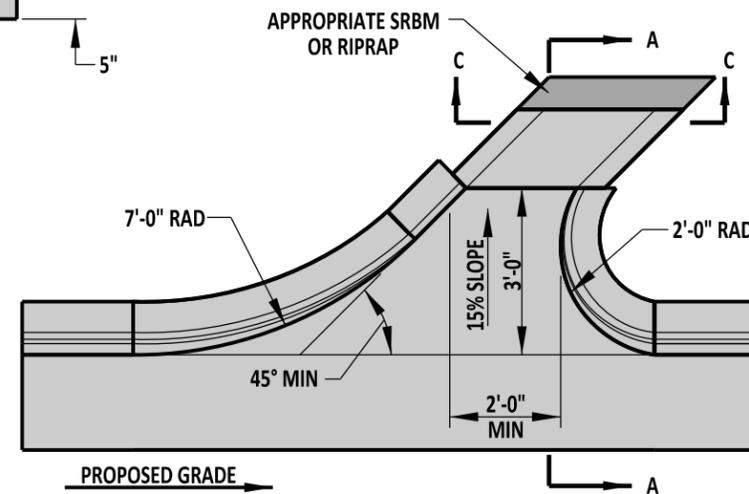


**ISOMETRIC VIEW**

SHOWN WITH INTEGRAL CURB & GUTTER, TYPE 1-8

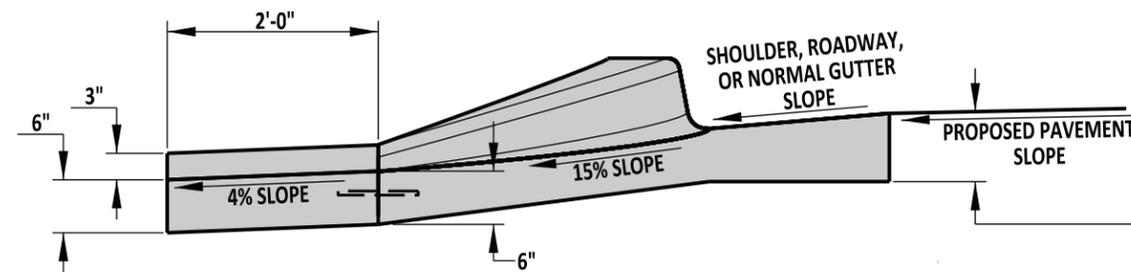


**SECTION C-C**



**PLAN VIEW**

**ON GRADE OR SLOPE**



**SECTION A-A**

**NOTES:**

- 1). DESIGNER SHALL ESTABLISH WIDTH OF OPENING BASED ON DRAINAGE CALCULATIONS.
- 2). THE WIDTH OF THE APRON (SHOWN IN SECTION C-C) SHALL MATCH THE WIDTH OF THE CURB OPENING (SHOWN IN PLAN VIEW).



**DELAWARE**  
**DEPARTMENT OF TRANSPORTATION**

**CURB OPENING DETAILS**

STANDARD NO. C-4 (2012) SHT. 1 OF 1

**APPROVED**

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CHIEF ENGINEER

01/07/2013  
DATE

**RECOMMENDED**

SIGNATURE ON FILE  
DESIGN ENGINEER

12/20/2012  
DATE

INLET BOX SIZE		COVER SLAB SIZE (L X W)	DRAINAGE INLET TOP UNIT	INLET TOP UNIT REBAR LENGTH	INLET TOP UNIT LIMIT OF PAYMENT	INLET TOP UNIT BAR BENDING DIAGRAM	FRAME & GRATE (FOUND ON DETAIL D-5, SHEET 2)	MAXIMUM PIPE SIZE (SEE NOTE 1)		MAXIMUM HEIGHT (TO TOP OF BOX)
L	W							L	W	
17 $\frac{5}{8}$ "	11 $\frac{5}{8}$ "	NO COVER SLAB	TYPE 5 (FRAME & GRATE COMBO)	N/A	N/A	N/A	TYPE 5 (FRAME & GRATE COMBO)	N/A	N/A	4'-0"
24"	24"	NO COVER SLAB	TYPE 6 (FRAME & GRATE COMBO)	N/A	N/A	N/A	TYPE 6 (FRAME & GRATE COMBO)	15"	15"	4'-0"
34"	18"	NO COVER SLAB	TYPES A, C, D, & E (DETAIL D-5, SHEET 7)	79"	82"	S504 (DETAIL D-5, SHEET 7)	TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME	24"	12"	11'-4"
34"	24"	NO COVER SLAB	TYPES A, B, C, D, & E (DETAIL D-5, SHEET 6)	79"	82"	S503 (DETAIL D-5, SHEET 6)	TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME	24"	15"	11'-4"
48"	30"	60" x 42" (DETAIL D-5, SHEET 4)	TYPES A, B, C, D, & E (DETAIL D-5, SHEET 3)	93"	96"	S501 (DETAIL D-5, SHEET 6)	TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME	36"	21"	11'-4"
48"	48"	60" x 60" (DETAIL D-5, SHEET 4)	TYPES A, B, C, D, & E (DETAIL D-5, SHEET 3)	93"	96"	S501 (DETAIL D-5, SHEET 3)	TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME	36"	36"	11'-4"
66"	30"	78" x 42" (DETAIL D-4, SHEET 4)	TYPES A, B, C, D, & E (DETAIL D-5, SHEET 3)	111"	114"	S501 (DETAIL D-5, SHEET 3)	TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME	48"	21"	11'-4"
66"	48"	78" x 60" (DETAIL D-5, SHEET 4)	TYPES A, B, C, D, & E (DETAIL D-5, SHEET 3)	111"	114"	S501 (DETAIL D-5, SHEET 3)	TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME	48"	36"	11'-4"
66"	66"	78" x 78" (DETAIL D-5, SHEET 4)	TYPES A, B, C, D, & E (DETAIL D-5, SHEET 3)	111"	114"	S501 (DETAIL D-5, SHEET 3)	TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME	48"	48"	11'-4"
72"	24"	84" x 36" DETAIL D-5, SHEET 5)	TYPES A, B, C, D, & E (DETAIL D-5, SHEET 3)	117"	120"	S502 (DETAIL D-5, SHEET 5)	TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME	54"	15"	11'-4"
72"	48"	84" x 60" (DETAIL D-5, SHEET 5)	TYPES A, B, C, D, & E (DETAIL D-5, SHEET 3)	117"	120"	S502 (DETAIL D-5, SHEET 5)	TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME	54"	36"	11'-4"
72"	72"	84" x 84" (DETAIL D-5, SHEET 5)	TYPES A, B, C, D, & E (DETAIL D-5, SHEET 3)	117"	120"	S502 (DETAIL D-5, SHEET 5)	TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME	54"	54"	11'-4"

**NOTES :**

- 1). MAXIMUM PIPE SIZES ARE CALCULATED USING REINFORCED CONCRETE PIPE PERPENDICULAR TO THE BOX WALL. FOR OTHER PIPE SIZES, TYPES AND SKEW ANGLES OTHER THAN PERPENDICULAR, SEE CHART ON DELDOT DESIGN RESOURCE CENTER.
- 2). STEPS ARE REQUIRED ON ALL BOXES WHOSE DEPTH IS GREATER THAN 4'-0" (1219).
- 3). SEE DETAIL D-4 OR APPROPRIATE DETAIL SHEET FOR ADDITIONAL NOTES.



**DELAWARE**  
**DEPARTMENT OF TRANSPORTATION**

**DRAINAGE INLET REFERENCE SHEET**

STANDARD NO. D-R (2012) SHT. 1 OF 1

**APPROVED**

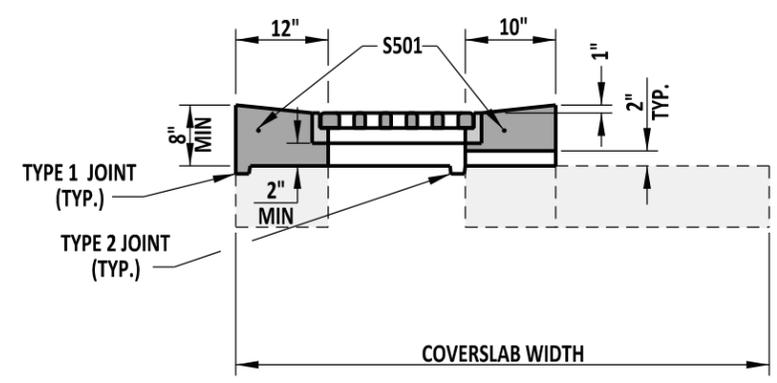
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01/07/2013  
DATE

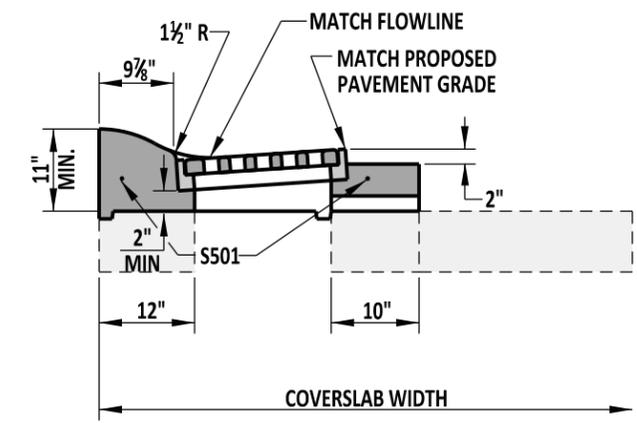
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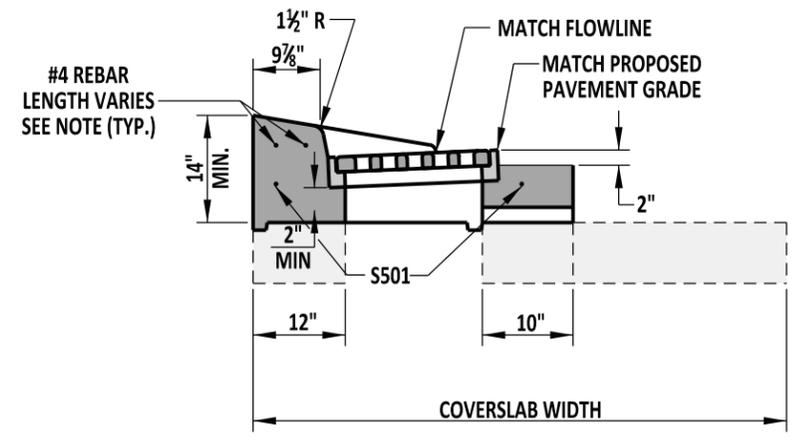
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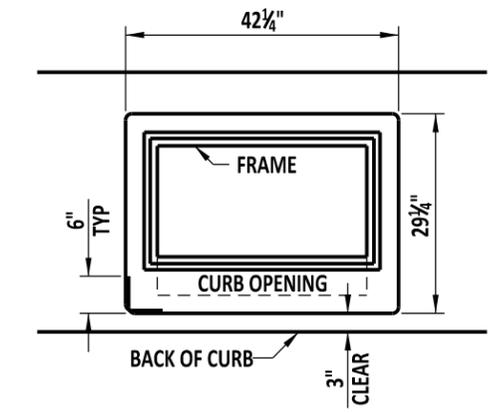
**TYPE A**



**TYPE D**

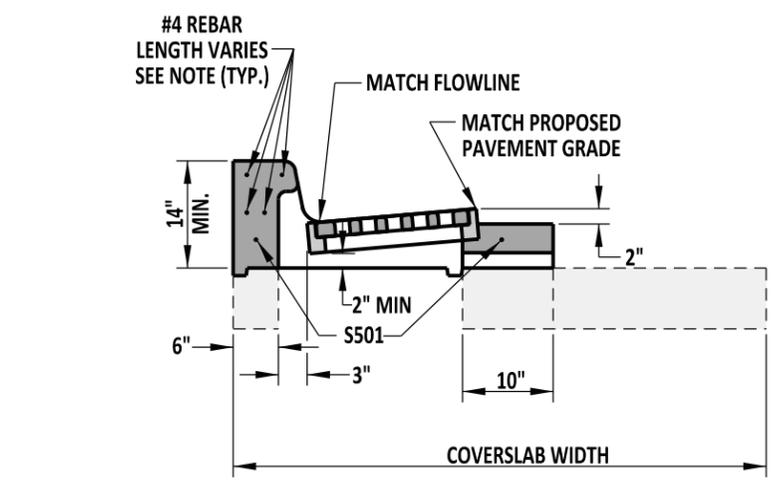


**TYPE E**



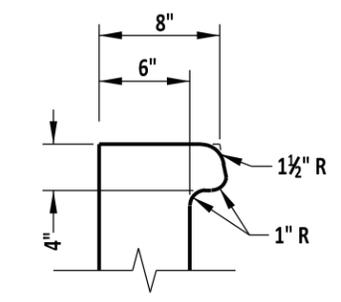
**S501 BENDING DIAGRAM**

S501 IS NOT REQUIRED TO BE ONE CONTINUOUS BAR. IF MORE THAN ONE BAR IS USED, THERE MUST BE A 12" OVERLAP BETWEEN BARS.



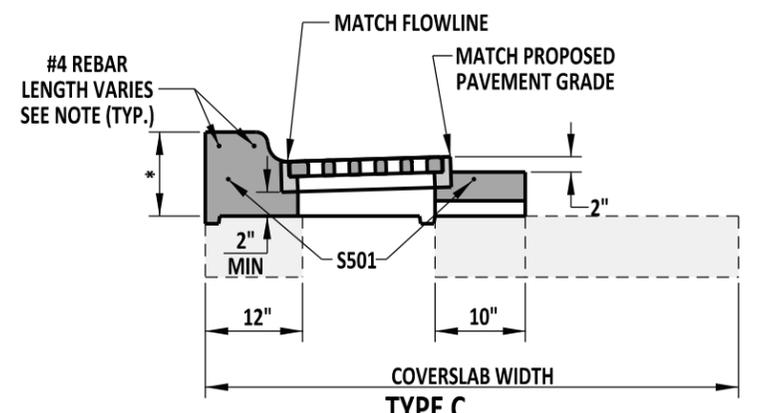
**TYPE B**

SEE CURB OPENING DETAIL ON THIS SHEET



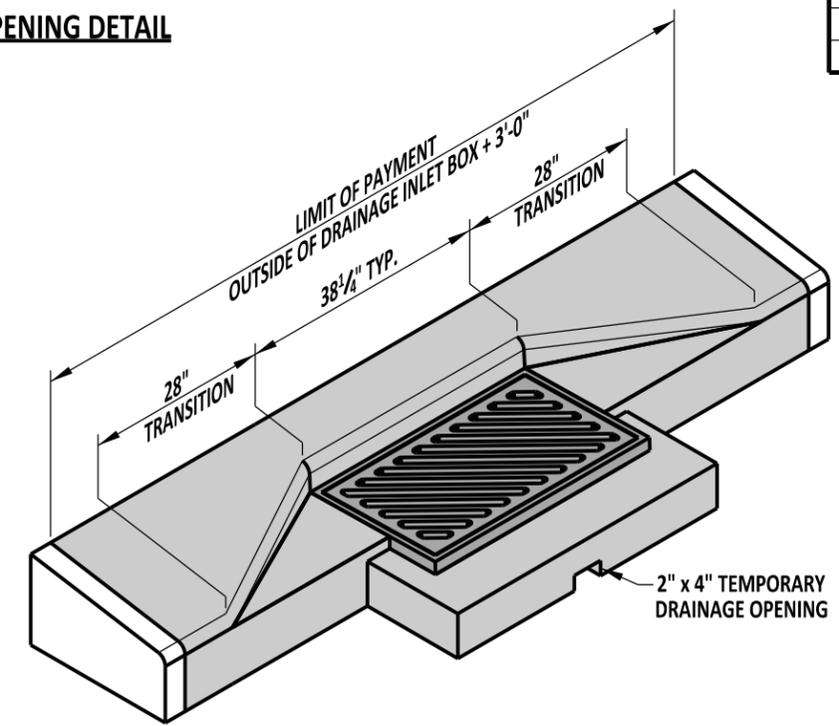
**CURB OPENING DETAIL**

INLET TOP UNIT APPLICATIONS	
TOP UNIT	CURB
TYPE A	USE IN DRAINAGE SWALE
TYPE B	INTEGRAL P.C.C. CURB & GUTTER, TYPE 1-8 & 3-8, PCC CURB TYPE 1-8
TYPE C	INTEGRAL P.C.C. CURB & GUTTER, TYPES 1-6, 3-6, 1-4, 3-4, 1-2 AND 3-2 AND PCC CURB TYPE 1-6, 1-4, AND 1-2.
TYPE D	INTEGRAL P.C.C. CURB & GUTTER, TYPE 2
TYPE E	PCC CURB TYPE 2

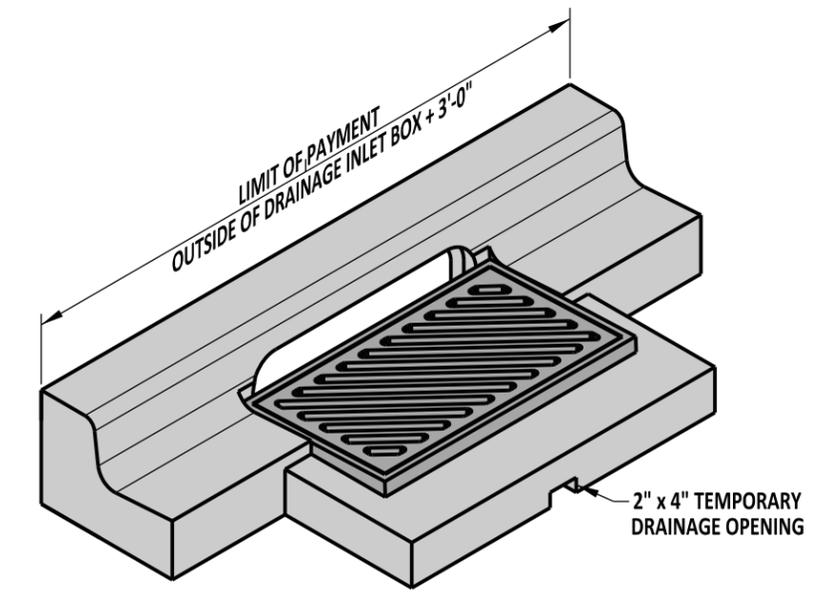


**TYPE C**

\* - THIS DIMENSION VARIES BASED ON THE HEIGHT OF THE CURB AND GUTTER OR CURB USED:  
 - INTEGRAL P.C.C. CURB AND GUTTER, TYPES 1-6 AND 3-6 & CURB, TYPE 1-6 - 12" MIN.  
 - INTEGRAL P.C.C. CURB AND GUTTER, TYPES 1-4 AND 3-4 & CURB, TYPE 1-4 - 10" MIN.  
 - INTEGRAL P.C.C. CURB AND GUTTER, TYPES 1-2 AND 3-2 & CURB, TYPE 1-2 - 8" MIN.



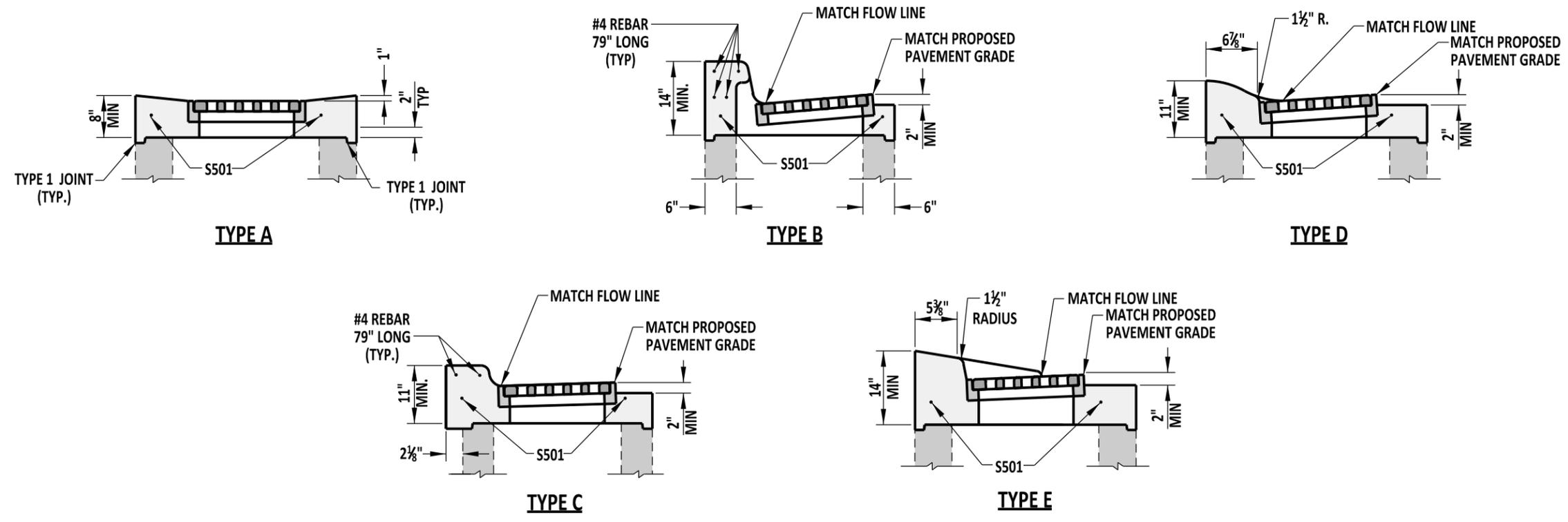
**ISOMETRIC VIEW**  
TYPE E UNIT SHOWN



**ISOMETRIC VIEW**  
TYPE B TOP UNIT SHOWN WITH INTEGRAL CURB & GUTTER TYPE 3

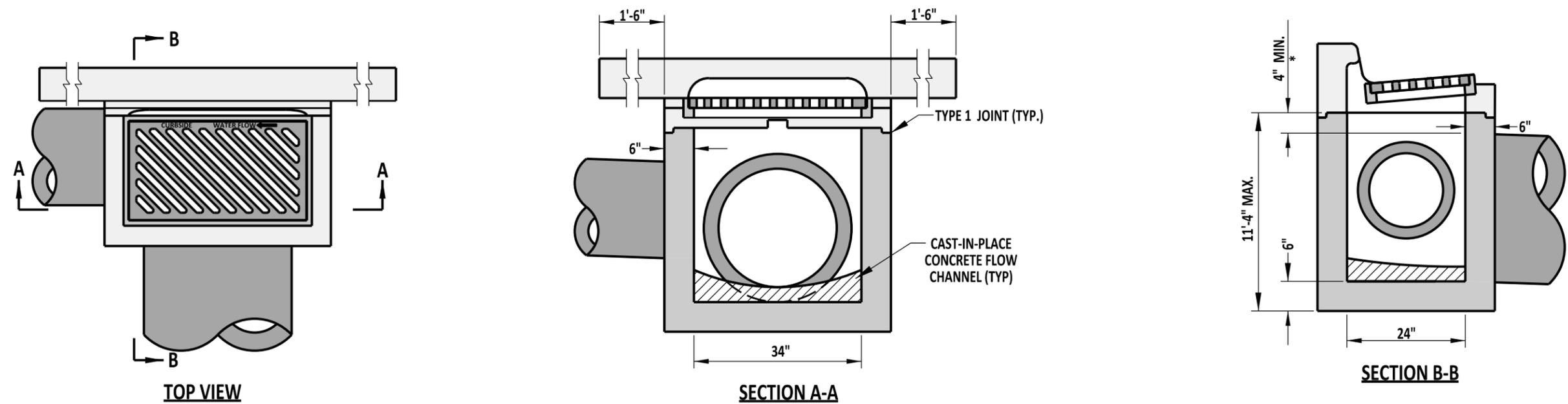
NOTE: LENGTH OF #4 REBAR SHALL BE THE OUTSIDE OF THE DRAINAGE INLET BOX PLUS 2'-9".

<p><b>DELAWARE</b> DEPARTMENT OF TRANSPORTATION</p>	<b>DRAINAGE INLET TOP UNITS</b>				<b>APPROVED</b>	SIGNATURE ON FILE <small>CHIEF ENGINEER</small>	01/07/2013 <small>DATE</small>
	STANDARD NO.	D-5 (2012)	SHT.	3 OF 9	<b>RECOMMENDED</b>	SIGNATURE ON FILE <small>DESIGN ENGINEER</small>	12/20/2012 <small>DATE</small>



**TOP UNIT DETAILS**

NOTE: SEE DETAIL D-5, SHEET 3 OF 9 FOR INLET TOP UNIT APPLICATIONS.



**SECTION A-A**

**DRAINAGE INLET DETAILS**

NOTE: REFER TO PREVIOUS SHEETS FOR REINFORCING REQUIREMENTS  
 \* - SEE OPTIONAL PIPE OPENING DETAIL ON STANDARD NO. D-4, SHEET 1 OF 1



**DELAWARE**  
**DEPARTMENT OF TRANSPORTATION**

**34" x 24" DRAINAGE INLET DETAILS**

STANDARD NO. D-5 (2012) SHT. 6 OF 9

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01/07/2013  
 DATE

RECOMMENDED

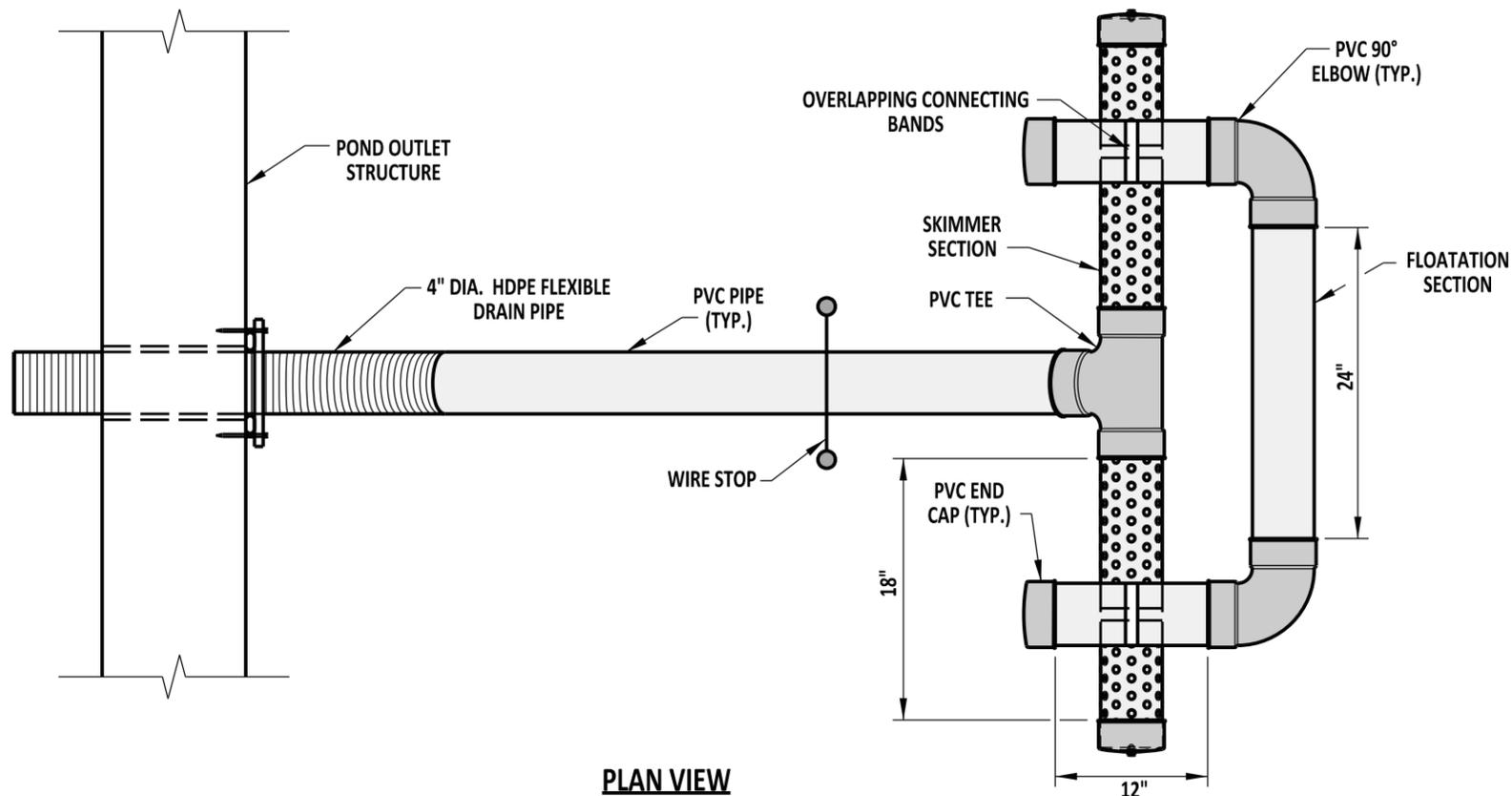
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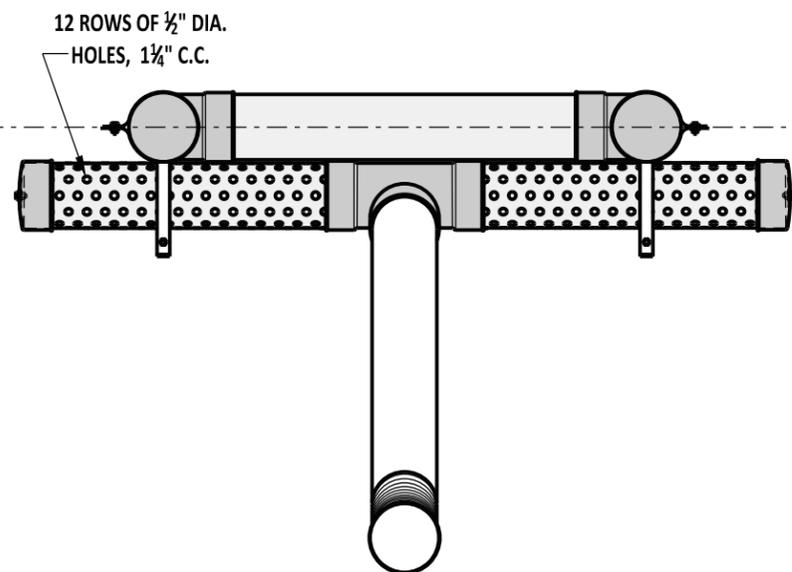
**NOTES:**

- 1). ALL P.V.C. PIPES ARE TO BE 4" I.D., SCHEDULE 40.
- 2). ALL JOINTS OF THE FLOATATION SECTION SHALL BE SOLVENT WELDED.
- 3). 4" HDPE FLEXIBLE DRAIN PIPE IS TO BE ATTACHED TO THE POND OUTLET STRUCTURE WITH WATER TIGHT CONNECTIONS

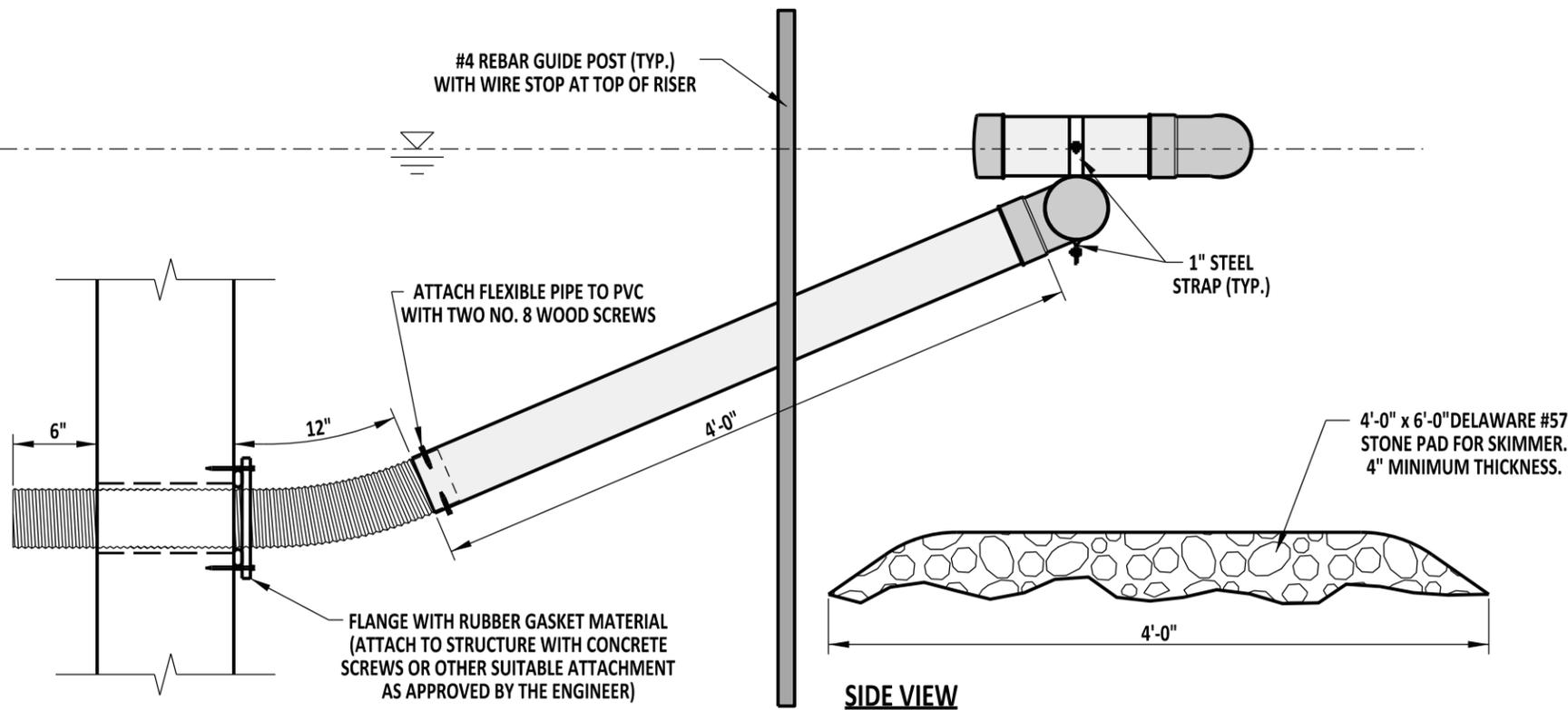
SCALE : NTS



**PLAN VIEW**



**FRONT VIEW**



**SIDE VIEW**



**DELAWARE**  
**DEPARTMENT OF TRANSPORTATION**

**SKIMMER DEWATERING DEVICE**

STANDARD NO. E-22 (2012) SHT. 1 OF 1

**APPROVED**

SIGNATURE ON FILE  
CHIEF ENGINEER

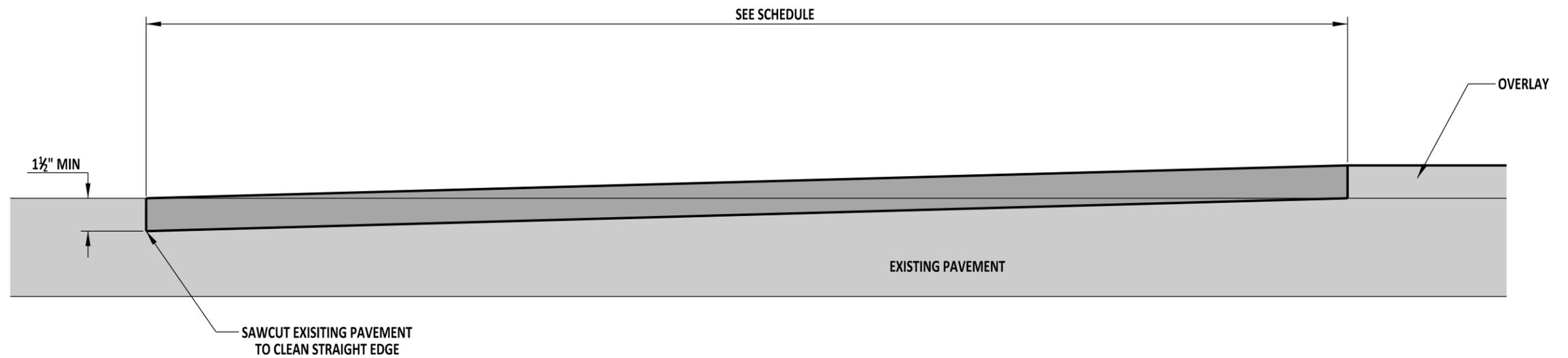
01/07/2013  
DATE

**RECOMMENDED**

SIGNATURE ON FILE  
DESIGN ENGINEER

12/20/2012  
DATE

SCALE : NTS



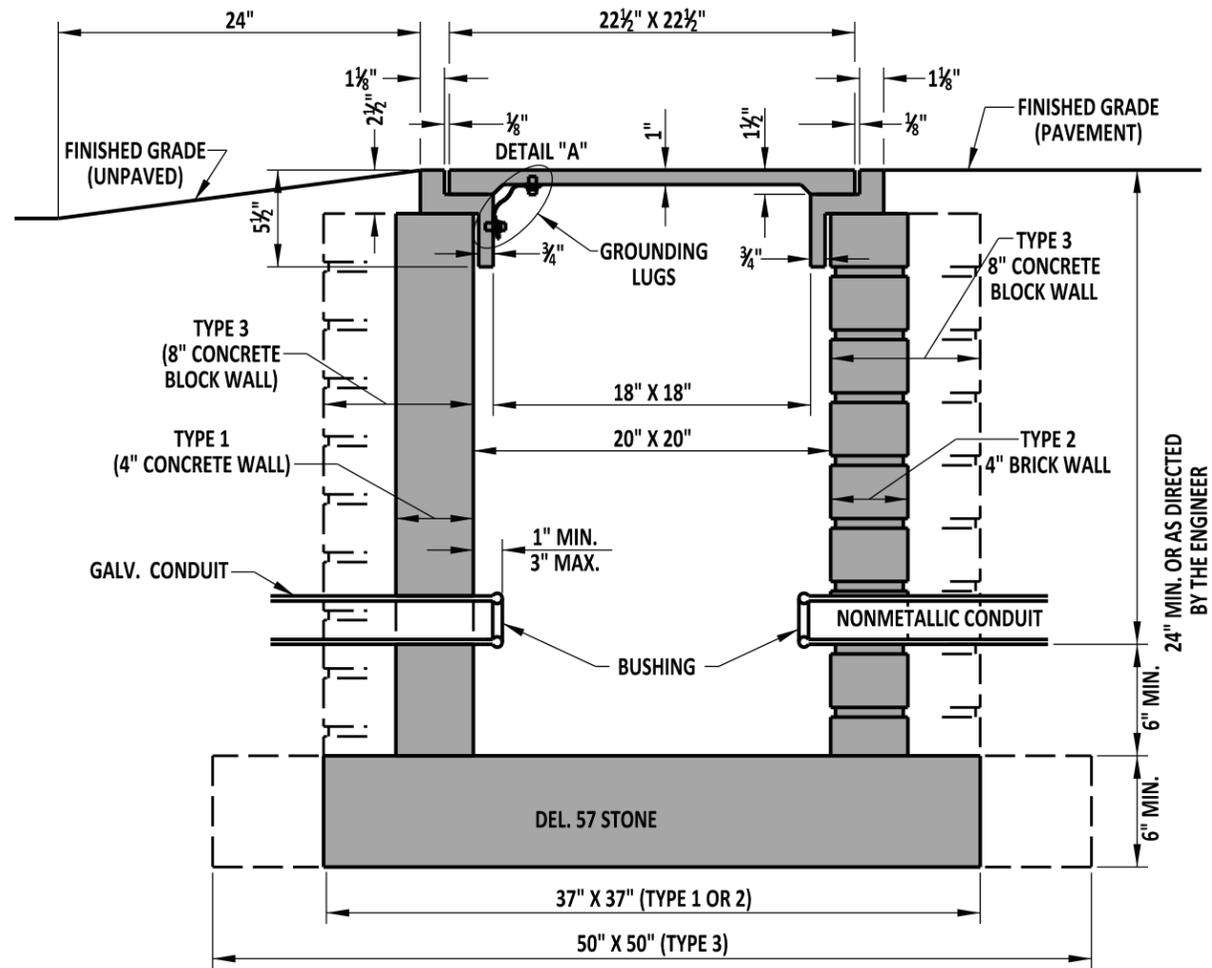
**NOTE:**  
THE PROFILE OF THE OVERLAY PAVING SHALL BE ADJUSTED TO ASSURE A SMOOTH TRANSITION THROUGH THE BUTT JOINT.

CONDITION	SLOPE
GREATER THAN OR EQUAL TO 55 MPH	40:1
LESS THAN 55MPH	30:1
STOP OR INTERSECTION	15:1

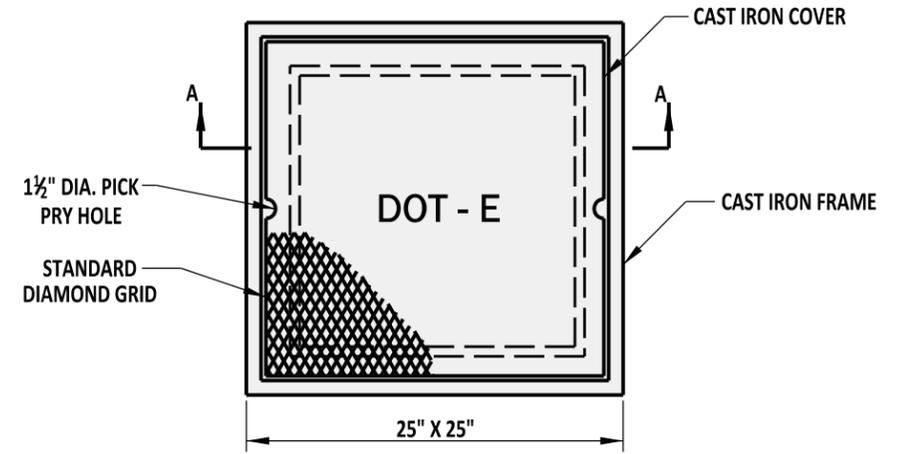


DELAWARE  
DEPARTMENT OF TRANSPORTATION

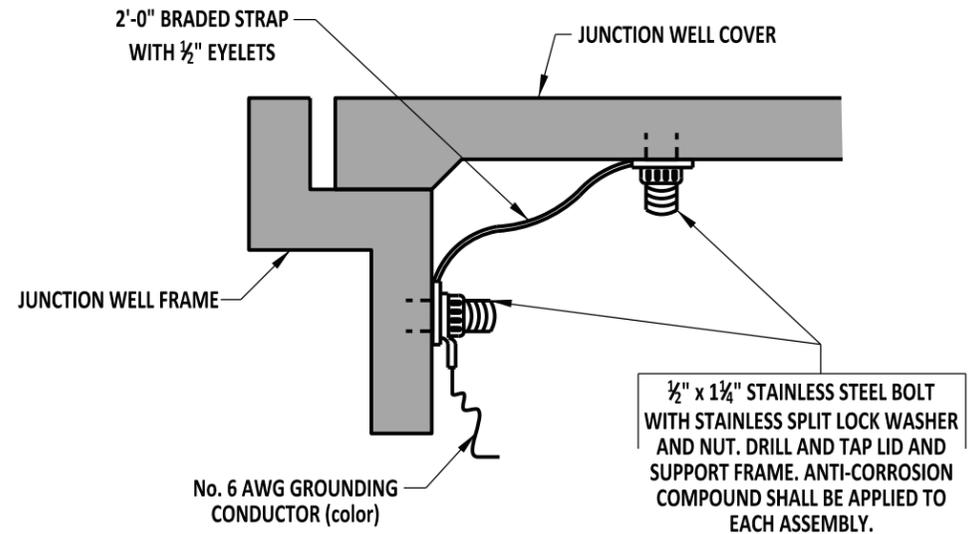
STANDARD NO. P-3 (2012)		BUTT JOINTS SHT. 1 OF 1		APPROVED	SIGNATURE ON FILE	01/07/2013
				RECOMMENDED	SIGNATURE ON FILE	12/20/2012



**SECTION A-A**



**PLAN VIEW**



**DETAIL "A"**

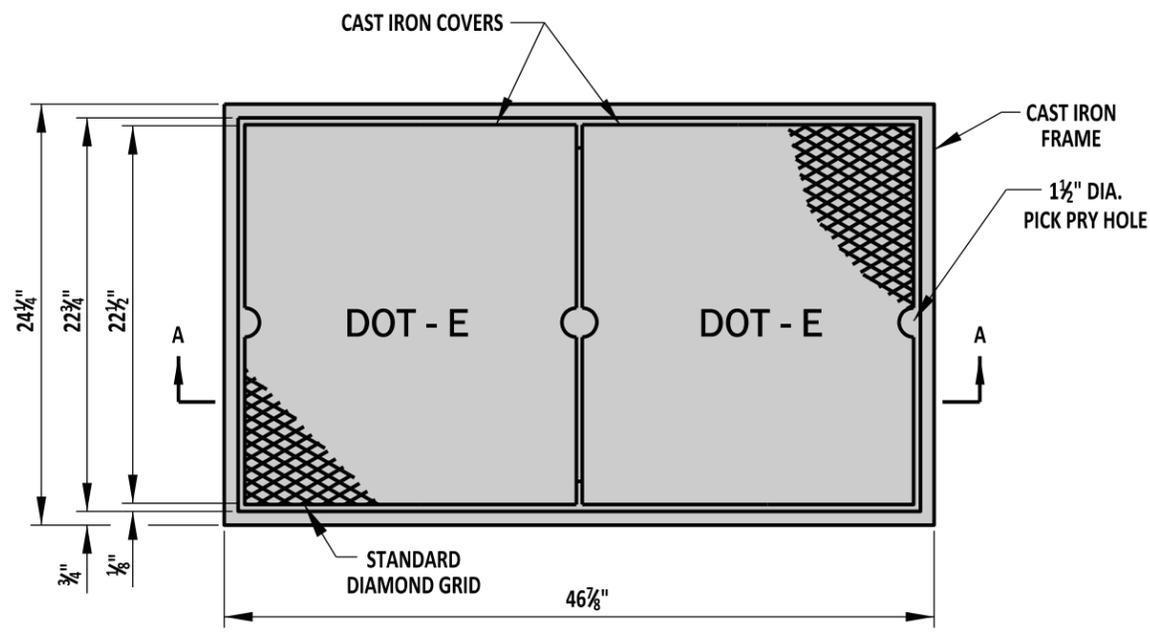
**NOTES:**

- 1). TYPE 1 CONDUIT JUNCTION WELL SHALL BE PRECAST CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 5" DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
- 2). TYPES 2 AND 3 CONDUIT JUNCTION WELLS SHALL BE BRICK AND WILL CONFORM TO STANDARD SPECIFICATIONS FOR BRICK MASONRY. JOINTS SHALL BE CONCAVE TYPE. TYPE 2 WALLS WILL BE A NOMINAL 4" THICK. TYPE 3 WALL WILL BE A NOMINAL 8" THICK.
- 3). JUNCTION WELLS SHALL NOT BE PLACED UNDER ANY TYPE OF PAVEMENT.
- 4). ALL CONDUIT JUNCTION WELLS SHALL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM CONDUIT JUNCTION WELL.
- 5). ALL CRACKS, GAPS, OR OPENINGS IN JUNCTION WELL WALL SHALL BE SEALED WITH CONCRETE.

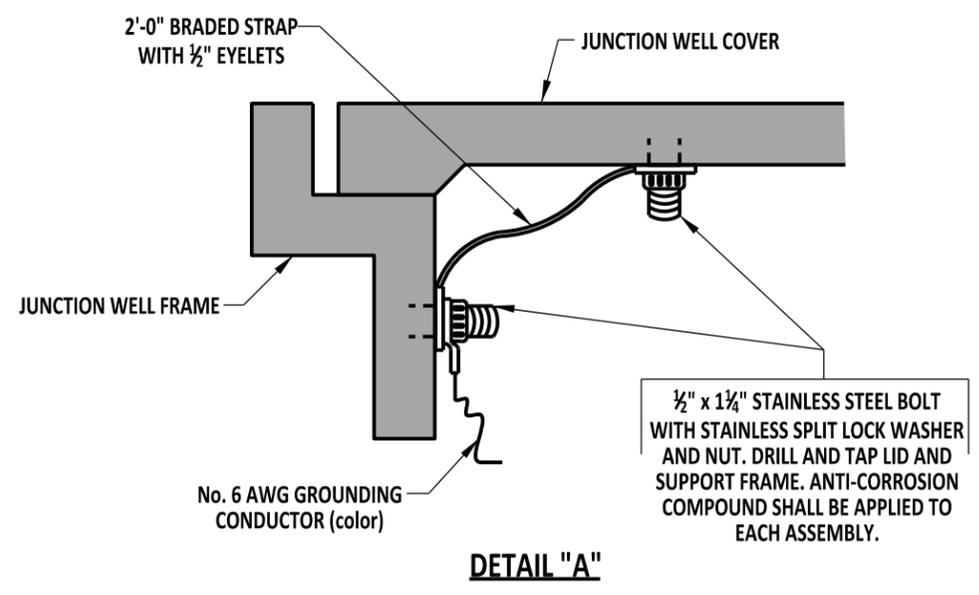
**DELAWARE**  
DEPARTMENT OF TRANSPORTATION

<b>CONDUIT JUNCTION WELL, TYPES 1, 2, AND 3</b>			
STANDARD NO.	T-1 (2012)	SHT. 1	OF 3

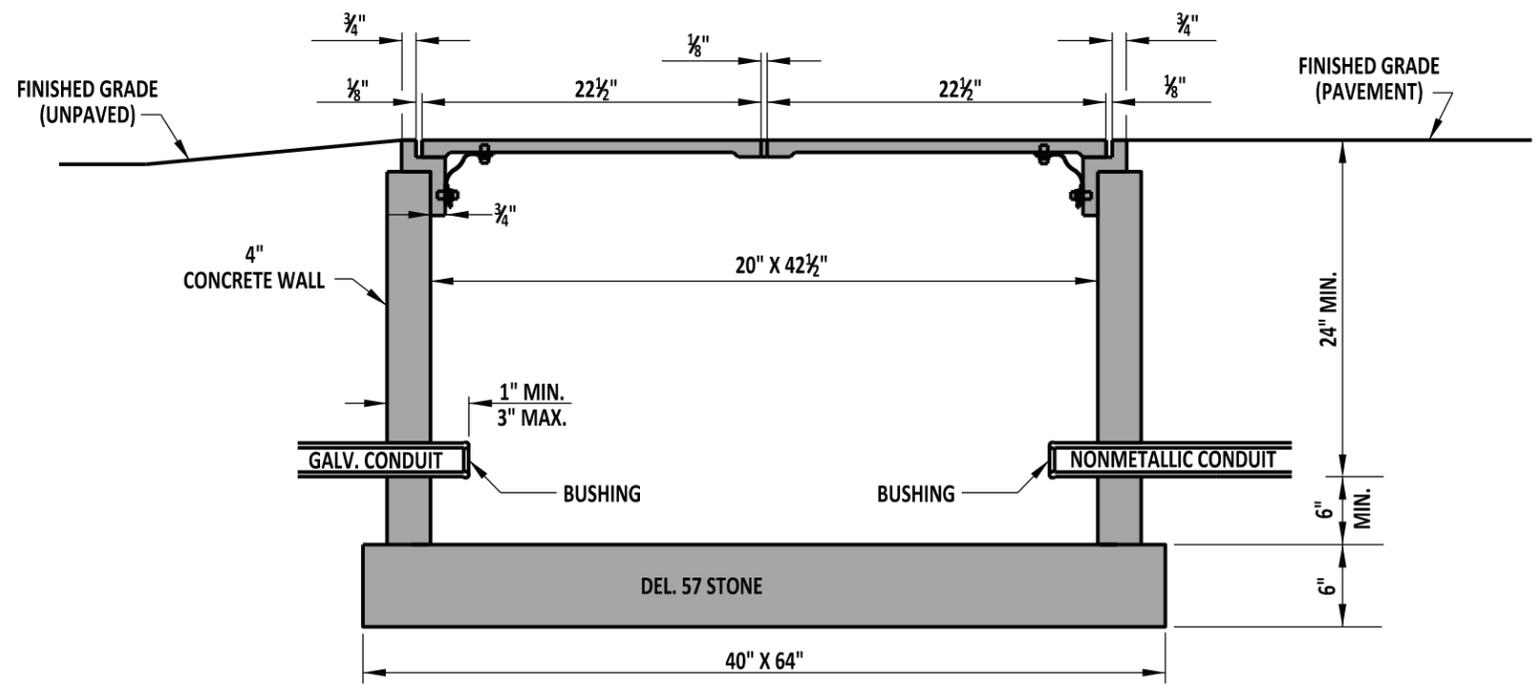
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<b>RECOMMENDED</b>	SIGNATURE ON FILE <small>DESIGN ENGINEER</small>	12/20/2012 <small>DATE</small>



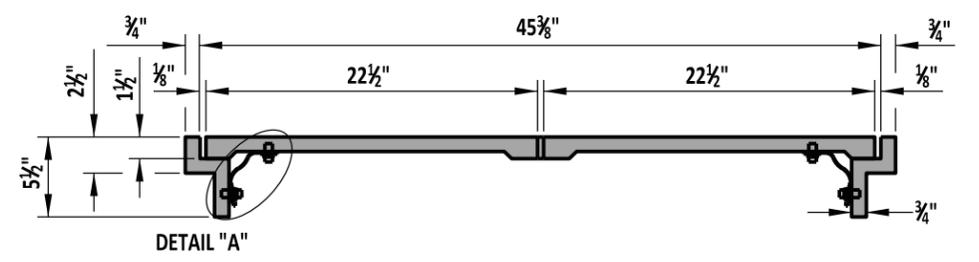
PLAN VIEW



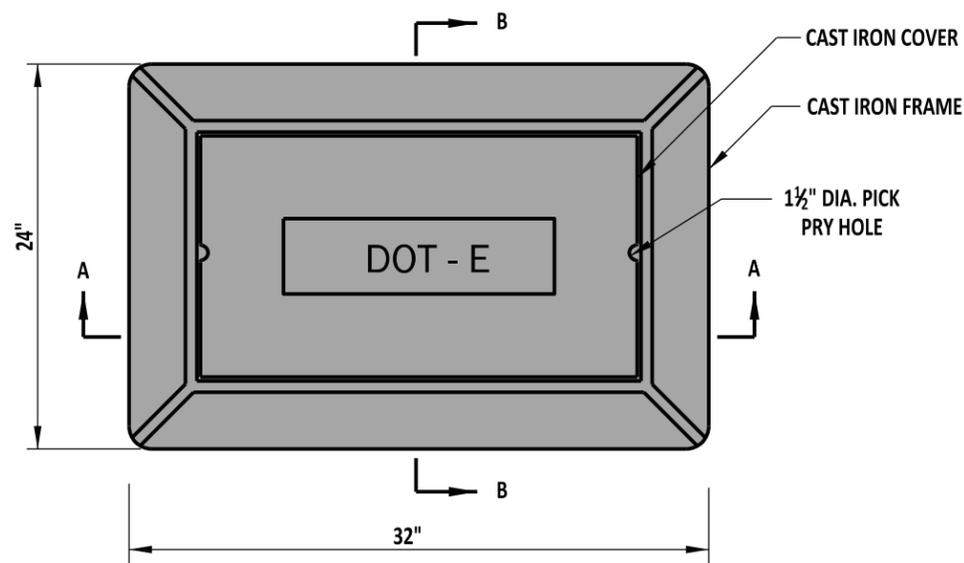
DETAIL "A"



SECTION A-A



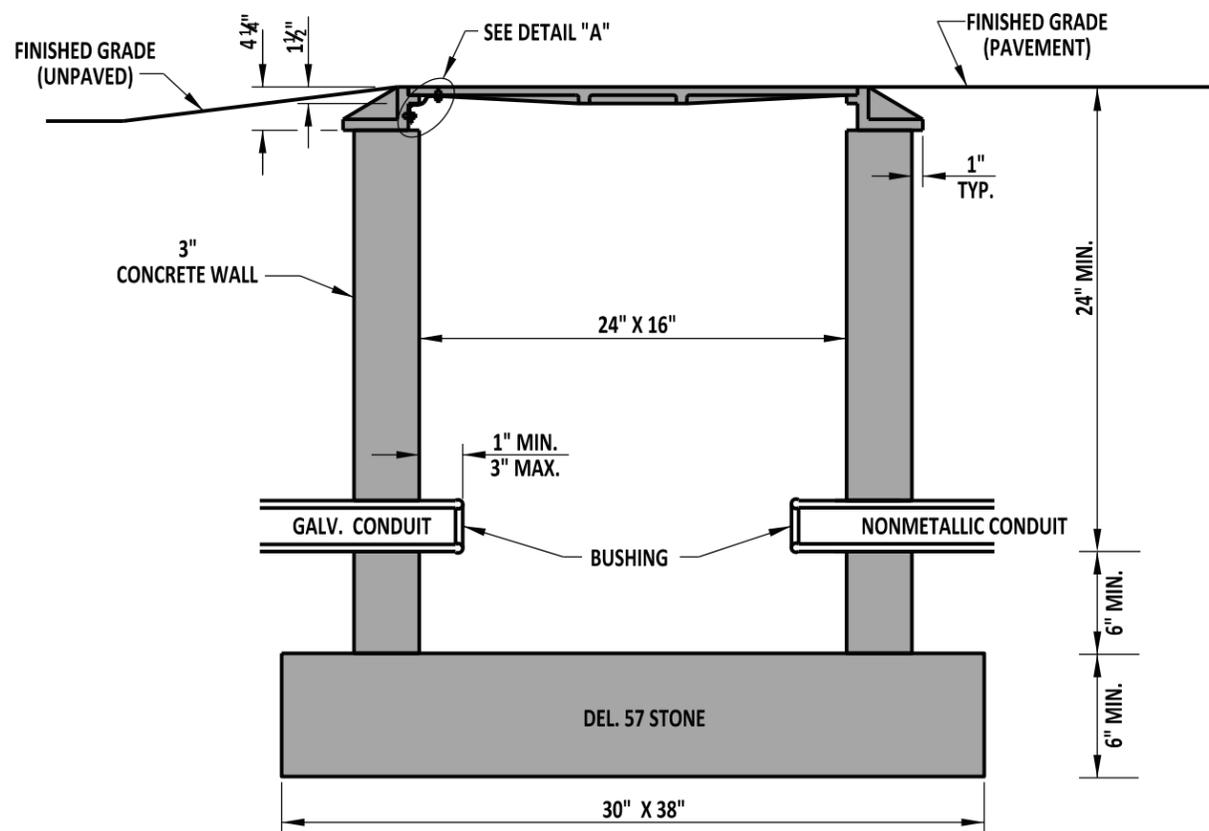
- NOTES:**
- 1). TYPE 4 CONDUIT JUNCTION WELL SHALL BE PRECAST CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 5" DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
  - 2). ALL CONDUIT JUNCTION WELLS CONSTRUCTED SHALL BE WITHIN CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM CONDUIT JUNCTION WELL.
  - 3). ALL CRACKS, GAPS, OR OPENINGS IN JUNCTION WELL WALL SHALL BE SEALED WITH CONCRETE.



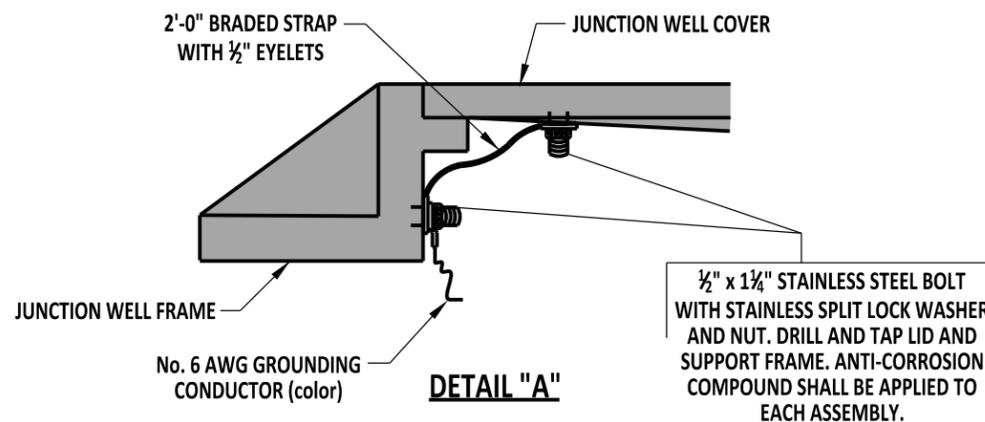
PLAN VIEW

**NOTES:**

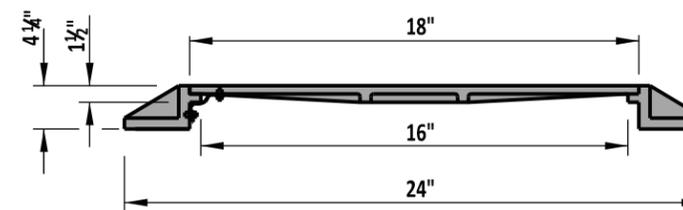
- 1). TYPE 5 CONDUIT JUNCTION WELL SHALL BE PRECAST CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 5" DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
- 2). ALL CONDUIT JUNCTION WELLS CONSTRUCTED SHALL BE WITHIN CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM CONDUIT JUNCTION WELL.
- 3). ALL CRACKS, GAPS, OR OPENINGS IN JUNCTION WELL WALL SHALL BE SEALED WITH CONCRETE.



SECTION A-A



DETAIL "A"



SECTION B-B



DELAWARE  
DEPARTMENT OF TRANSPORTATION

CONDUIT JUNCTION WELL, TYPE 5

STANDARD NO.

T-1 (2012)

SHT. 3

OF 3

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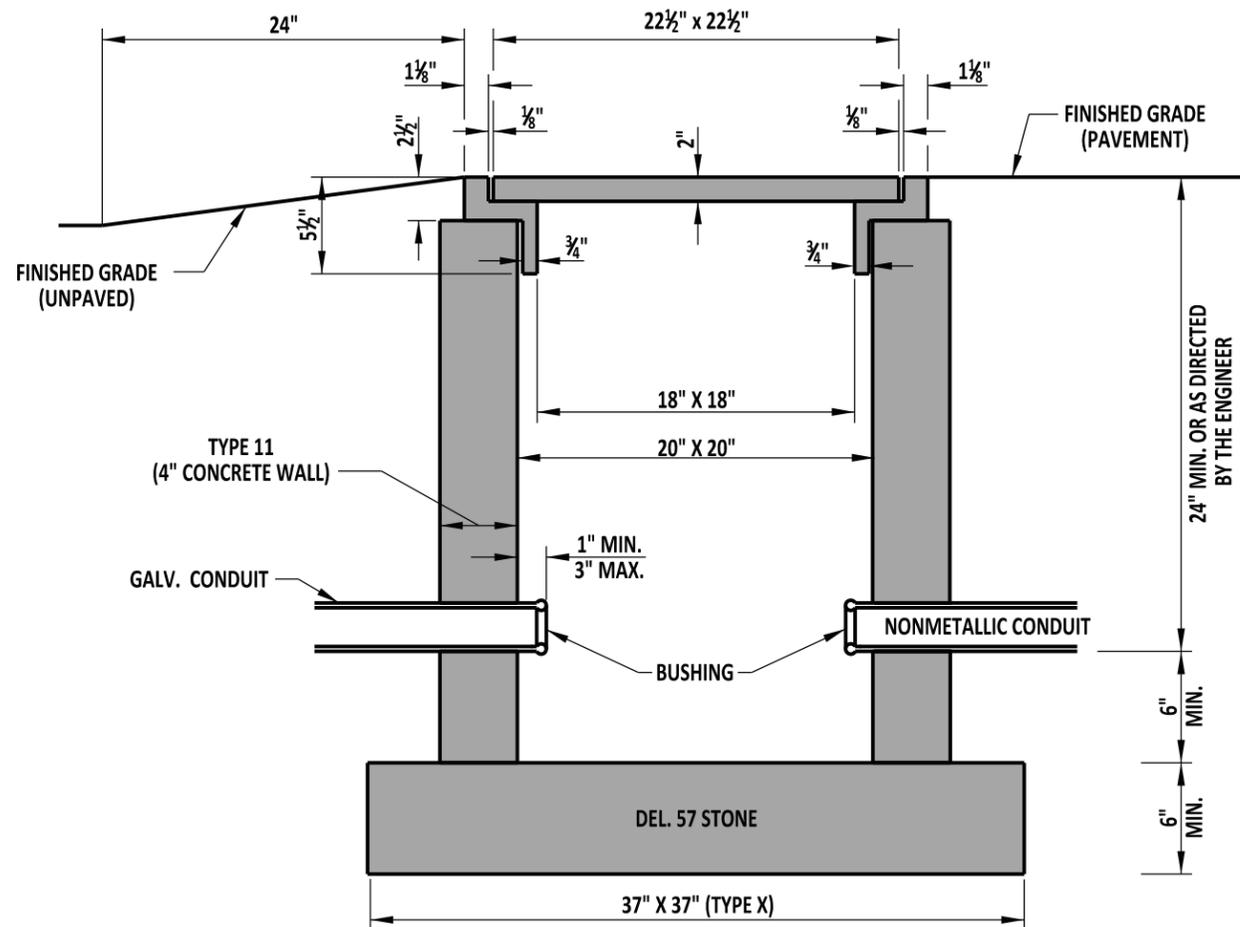
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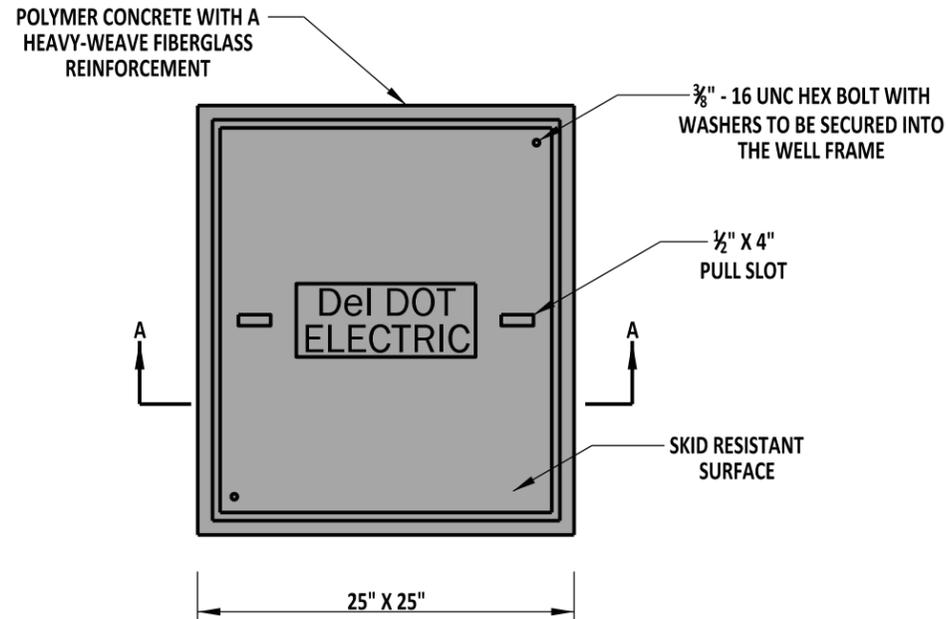
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12/20/2012  
DATE



**SECTION A-A**



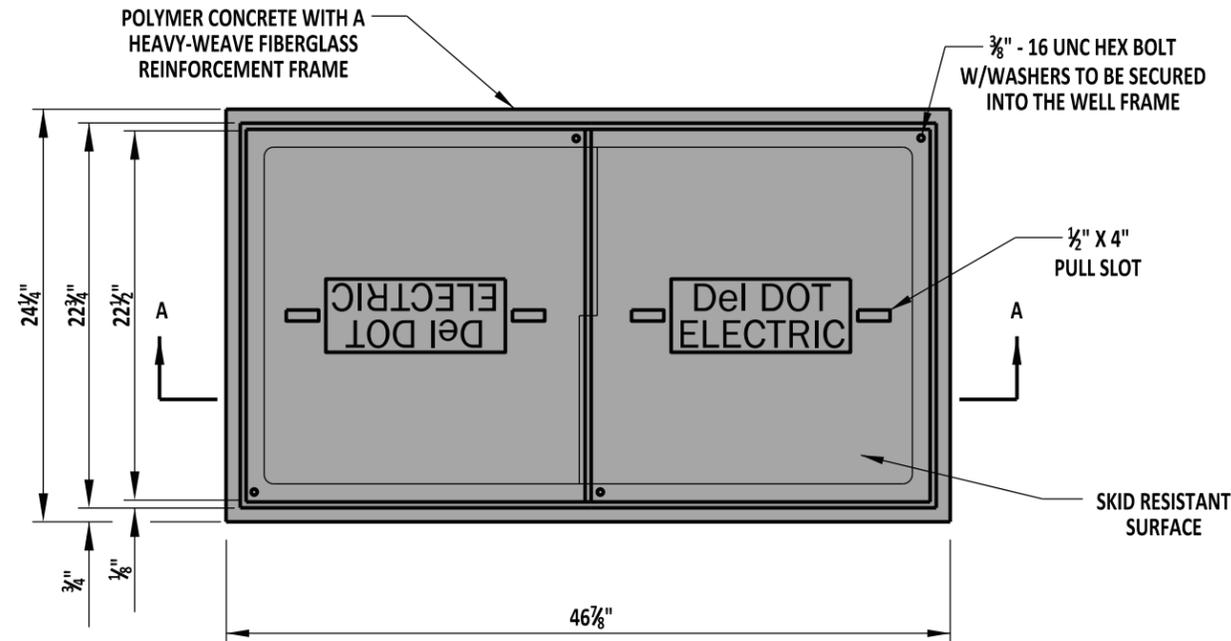
**PLAN VIEW**

- NOTES:**
- 1). TYPE 11 CONDUIT JUNCTION WELL LID SHALL BE PRECAST POLYMER CONCRETE WITH A HEAVY-WEAVE FIBERGLASS FRAME. INSTALLED ON A PRECAST CONCRETE WELL.
  - 2). TYPE 11 CONDUIT JUNCTION WELL BODY SHALL BE PRECAST CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 5" DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
  - 3). TYPE 11 CONDUIT JUNCTION WELLS SHALL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM THE CONDUIT JUNCTION WELL.
  - 4). ALL CRACKS, GAPS, OR OPENING IN JUNCTION WELL WALL SHALL BE SEALED WITH CONCRETE.



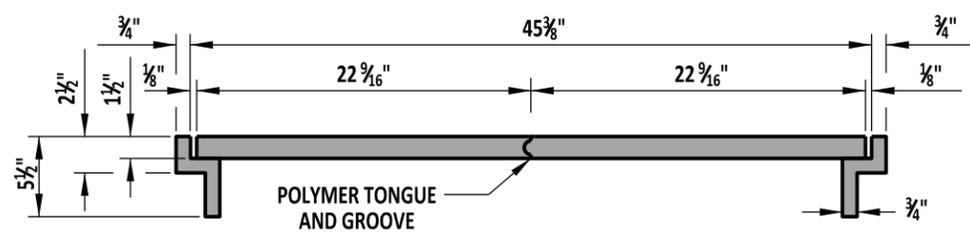
**DELAWARE**  
DEPARTMENT OF TRANSPORTATION

<b>CONDUIT JUNCTION WELL, TYPE 11</b>		<b>APPROVED</b>	<u>SIGNATURE ON FILE</u> <small>CHIEF ENGINEER</small>	<u>01/07/2013</u> <small>DATE</small>
STANDARD NO.	T-3 (2012)	SHT. 1 OF 3	<u>SIGNATURE ON FILE</u> <small>DESIGN ENGINEER</small>	<u>12/20/2012</u> <small>DATE</small>

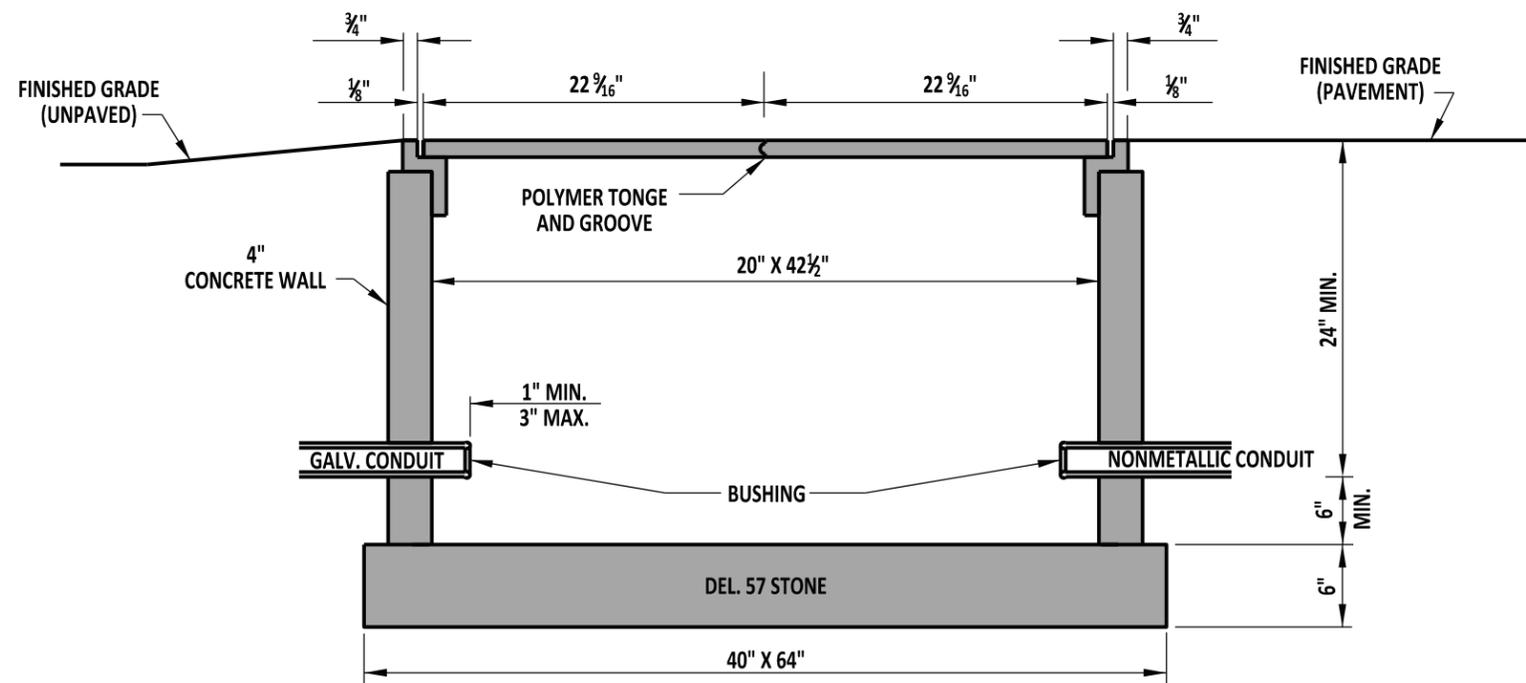


PLAN VIEW

- NOTES:**
- 1). TYPE 14 CONDUIT JUNCTION WELL LID SHALL BE PRECAST POLYMER CONCRETE WITH A HEAVY-WEAVE FIBERGLASS FRAME. INSTALLED ON A PRECAST CONCRETE WELL.
  - 2). TYPE 14 CONDUIT JUNCTION WELL BODY SHALL BE PRECAST CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 5" DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
  - 3). TYPE 14 CONDUIT JUNCTION WELLS SHALL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM THE CONDUIT JUNCTION WELL.
  - 4). ALL CRACKS, GAPS, OR OPENINGS IN JUNCTION WELL WALL SHALL BE SEALED WITH CONCRETE.



SECTION A-A



SECTION A-A



DELAWARE  
DEPARTMENT OF TRANSPORTATION

CONDUIT JUNCTION WELL, TYPE 14

STANDARD NO. T-3 (2012) SHT. 2 OF 3

APPROVED

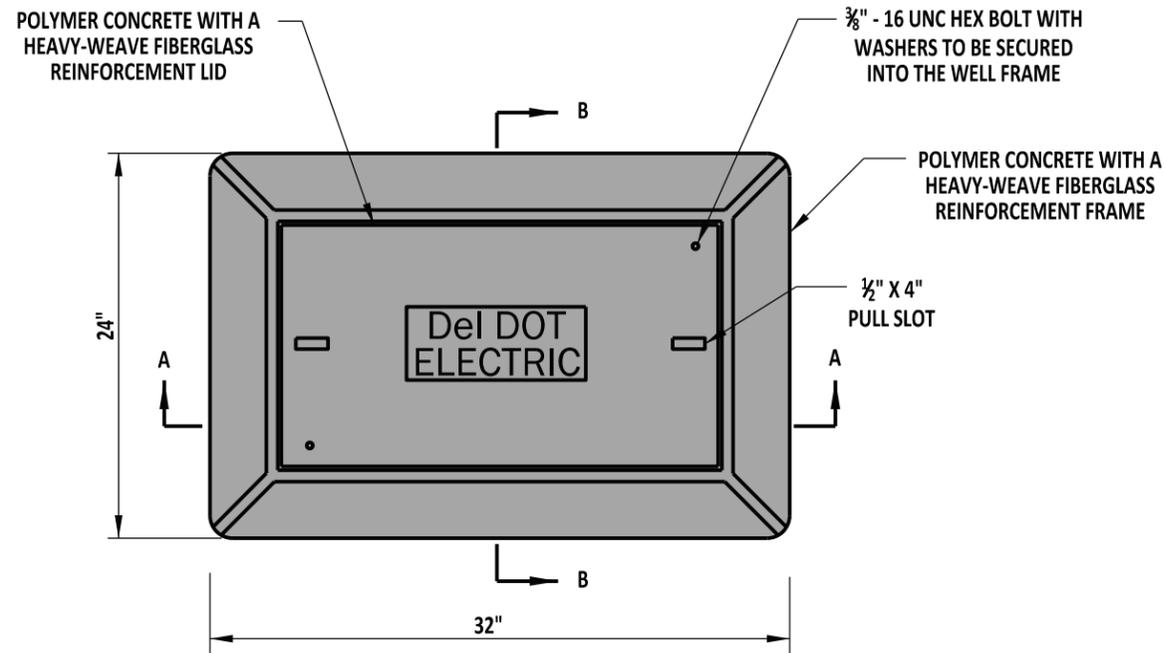
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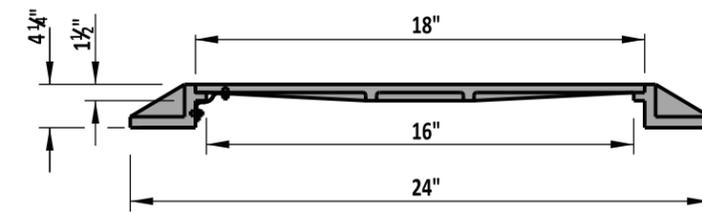
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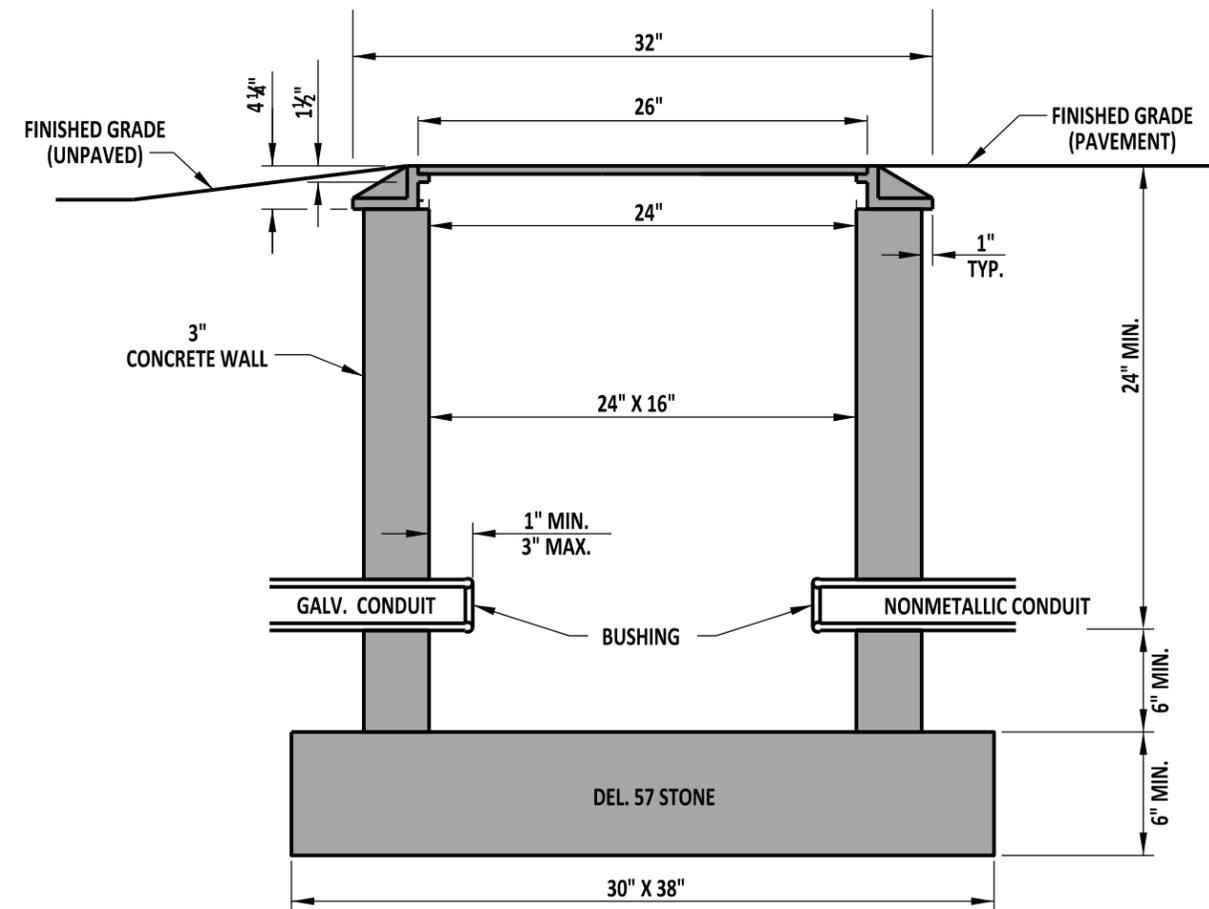
12/20/2012  
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**PLAN VIEW**



**SECTION B-B**



**SECTION A-A**

**NOTES:**

- 1). TYPE 15 CONDUIT JUNCTION WELL LID SHALL BE PRECAST POLYMER CONCRETE WITH A HEAVY-WEAVE FIBERGLASS FRAME. INSTALLED ON A PRECAST CONCRETE WELL.
- 2). TYPE 15 CONDUIT JUNCTION WELL BODY SHALL BE PRECAST CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 5" DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
- 3). TYPE 15 CONDUIT JUNCTION WELLS SHALL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM THE CONDUIT JUNCTION WELL.
- 4). ALL CRACKS, GAPS, OR OPENINGS IN JUNCTION WELL WALL SHALL BE SEALED WITH CONCRETE.



**DELAWARE**  
**DEPARTMENT OF TRANSPORTATION**

**CONDUIT JUNCTION WELL, TYPE 15**

STANDARD NO.

T-3 (2012)

SHT. 3

OF 3

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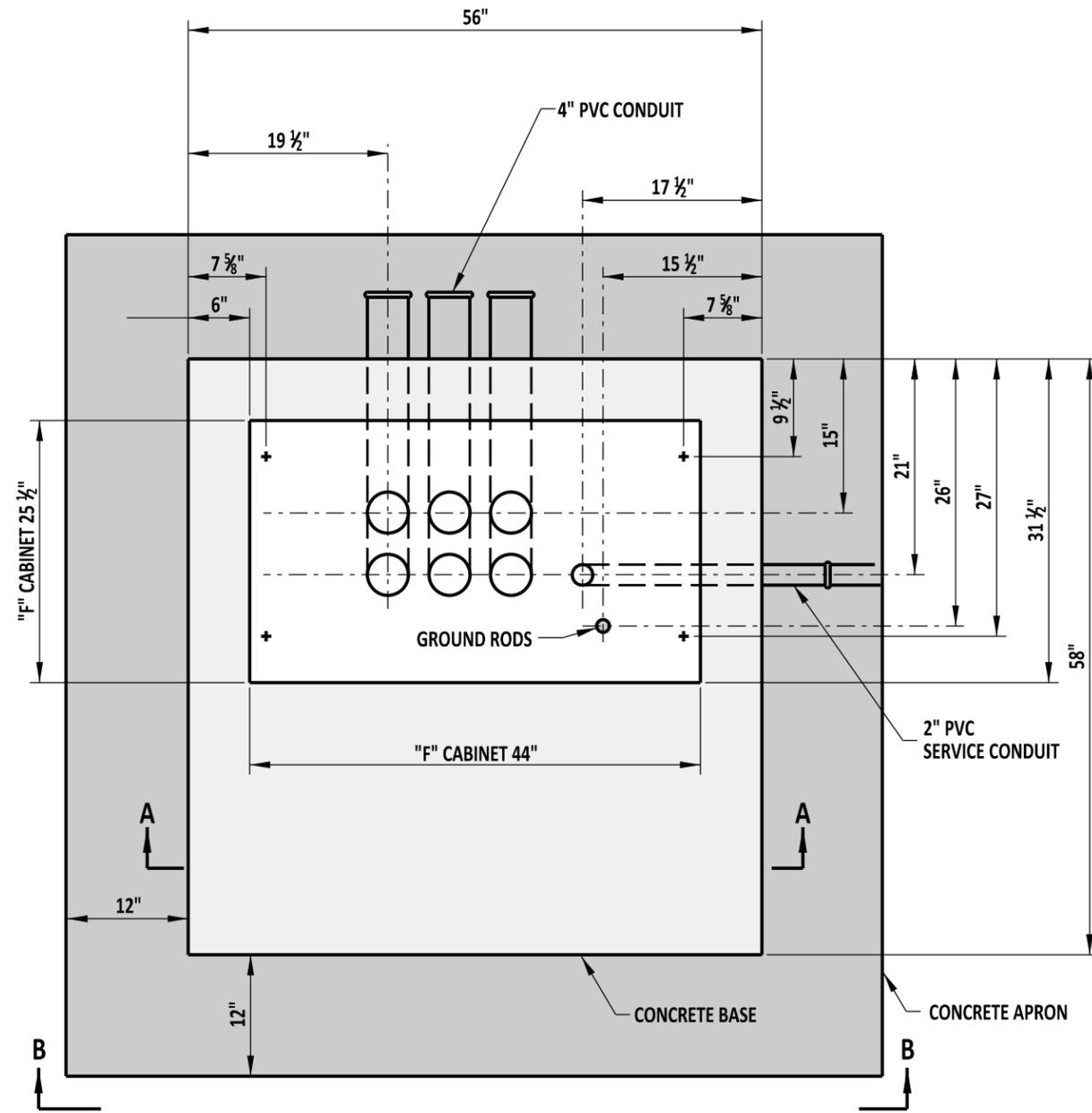
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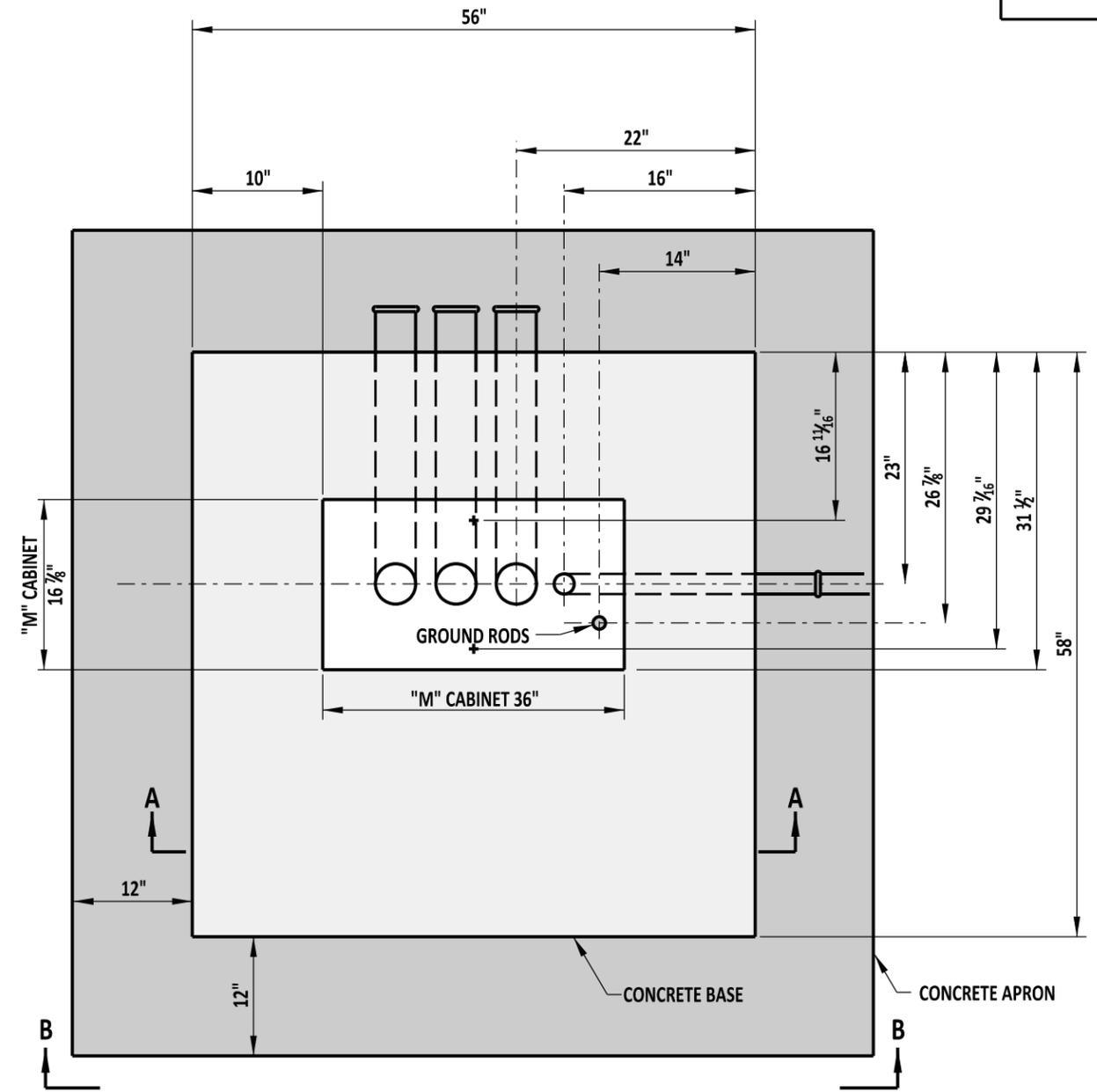
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DATE



**"F" CABINET  
PLAN VIEW**



**"M" CABINET  
PLAN VIEW**

**NOTE:**

- 1). CONCRETE APRON IS REQUIRED ONLY WHEN CABINET BASE IS INSTALLED IN EARTH AREAS OR AS DIRECTED ON PLAN.
- 2). CONDUITS SHALL BE EVENLY SPACED, WITH MINIMUM 2" WIDTH SPACING ESTABLISHED BETWEEN ALL CONDUITS.
- 3). FOR VIEW OF SECTION A-A AND SECTION B-B, SEE SHEET 2 OF 2 OF T-4(2011)



**DELAWARE  
DEPARTMENT OF TRANSPORTATION**

**CABINET BASES, TYPES M & F**

STANDARD NO. T-4 (2012)

SHT. 1 OF 2

**APPROVED**

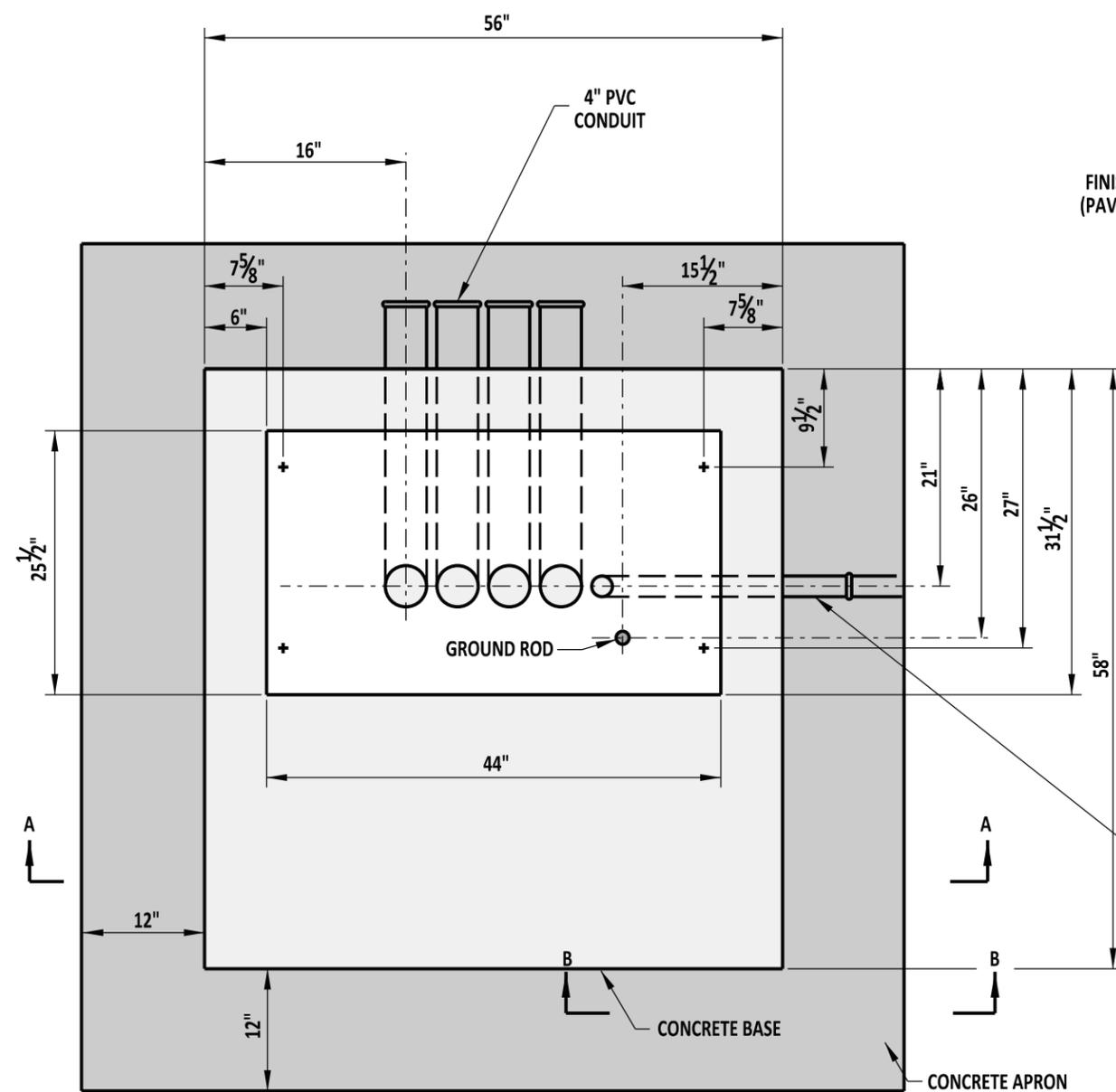
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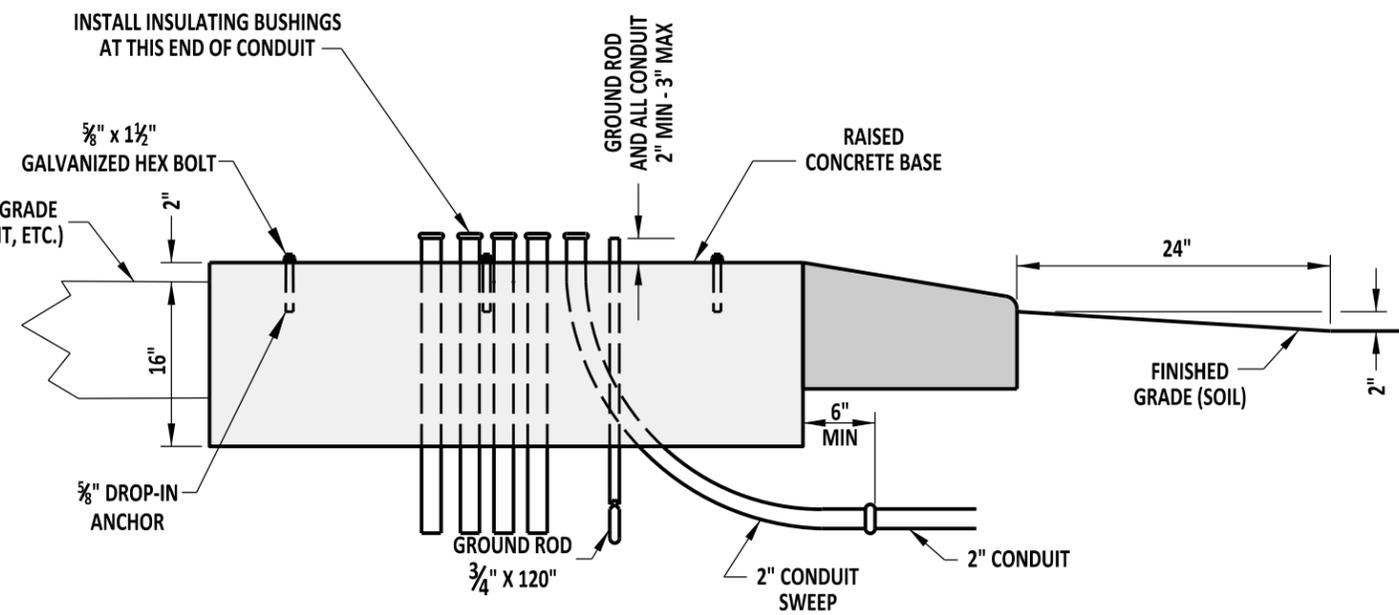
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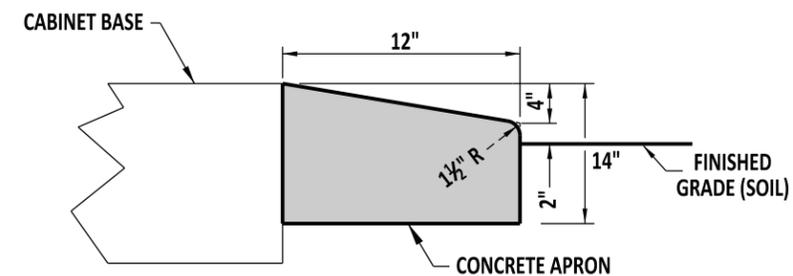
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**"P & R" CABINET  
PLAN VIEW**



**SECTION A-A**



**SECTION B-B**

**NOTE:**

- 1). CONCRETE APRON IS REQUIRED ONLY WHEN CABINET BASE IS INSTALLED IN EARTH AREAS OR AS DIRECTED ON PLAN.
- 2). CONDUITS SHALL BE EVENLY SPACED, WITH MINIMUM 2" WIDTH ESTABLISHED BETWEEN ALL CONDUITS.



**DELAWARE  
DEPARTMENT OF TRANSPORTATION**

**CABINET BASES, TYPES P & R**

STANDARD NO. T-4 (2012)

SHT. 2 OF 2

**APPROVED**

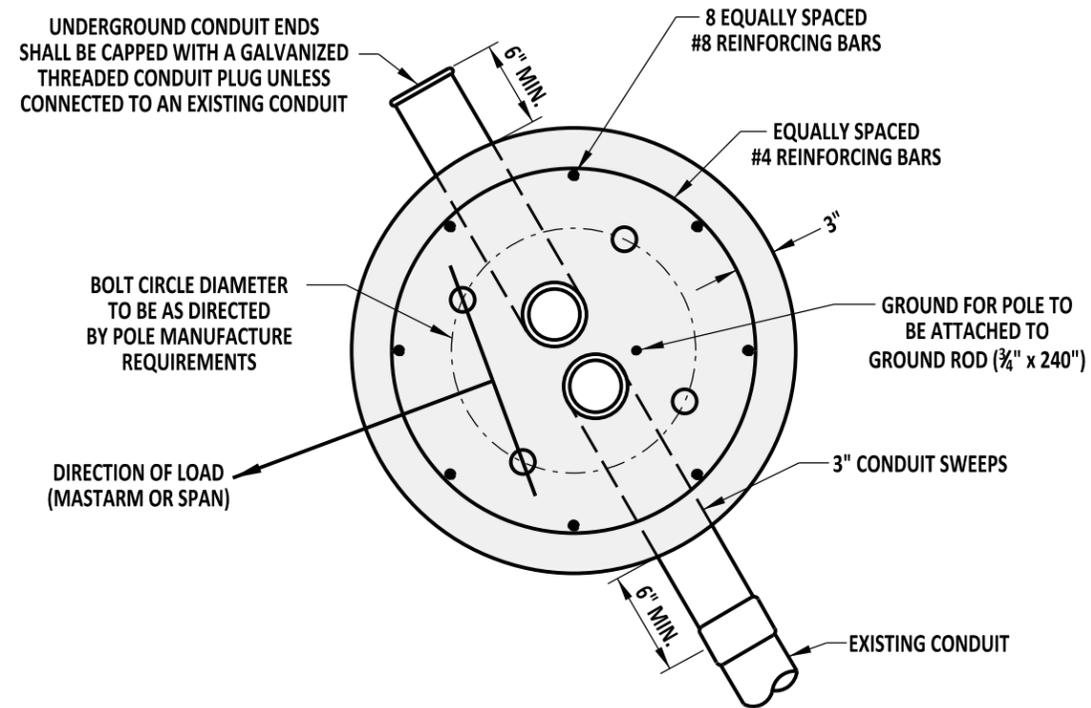
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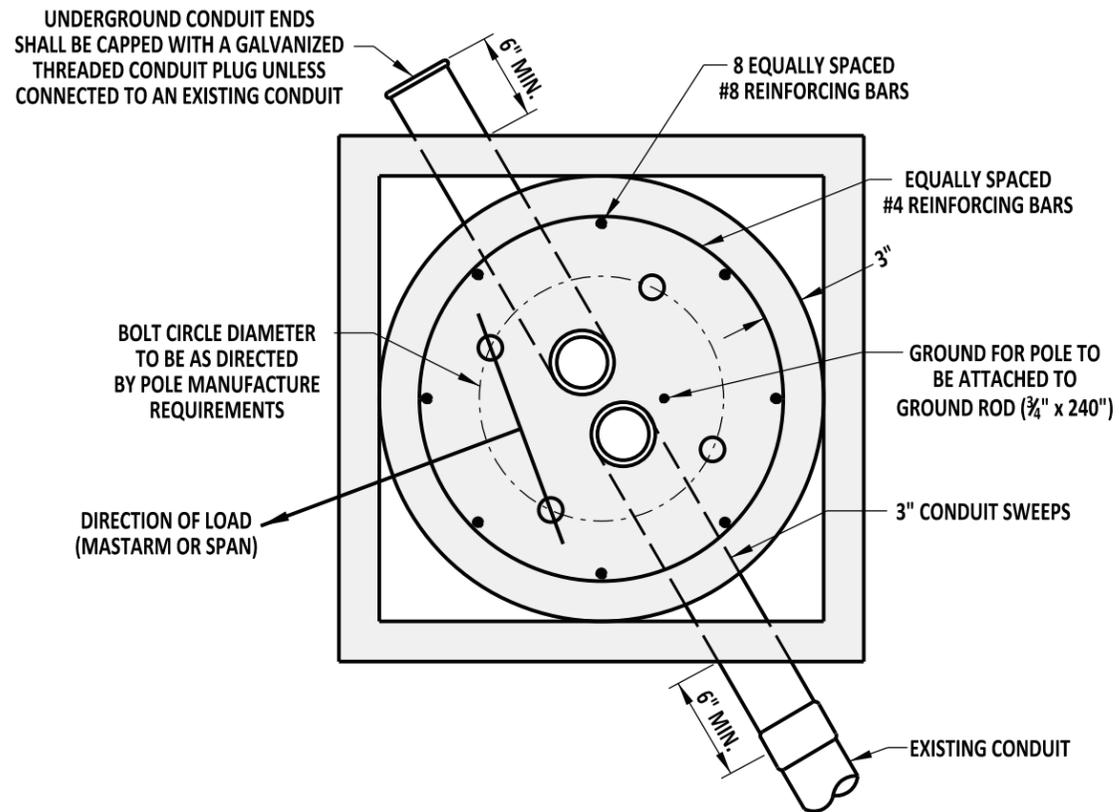
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DATE



**ROUND BASE**



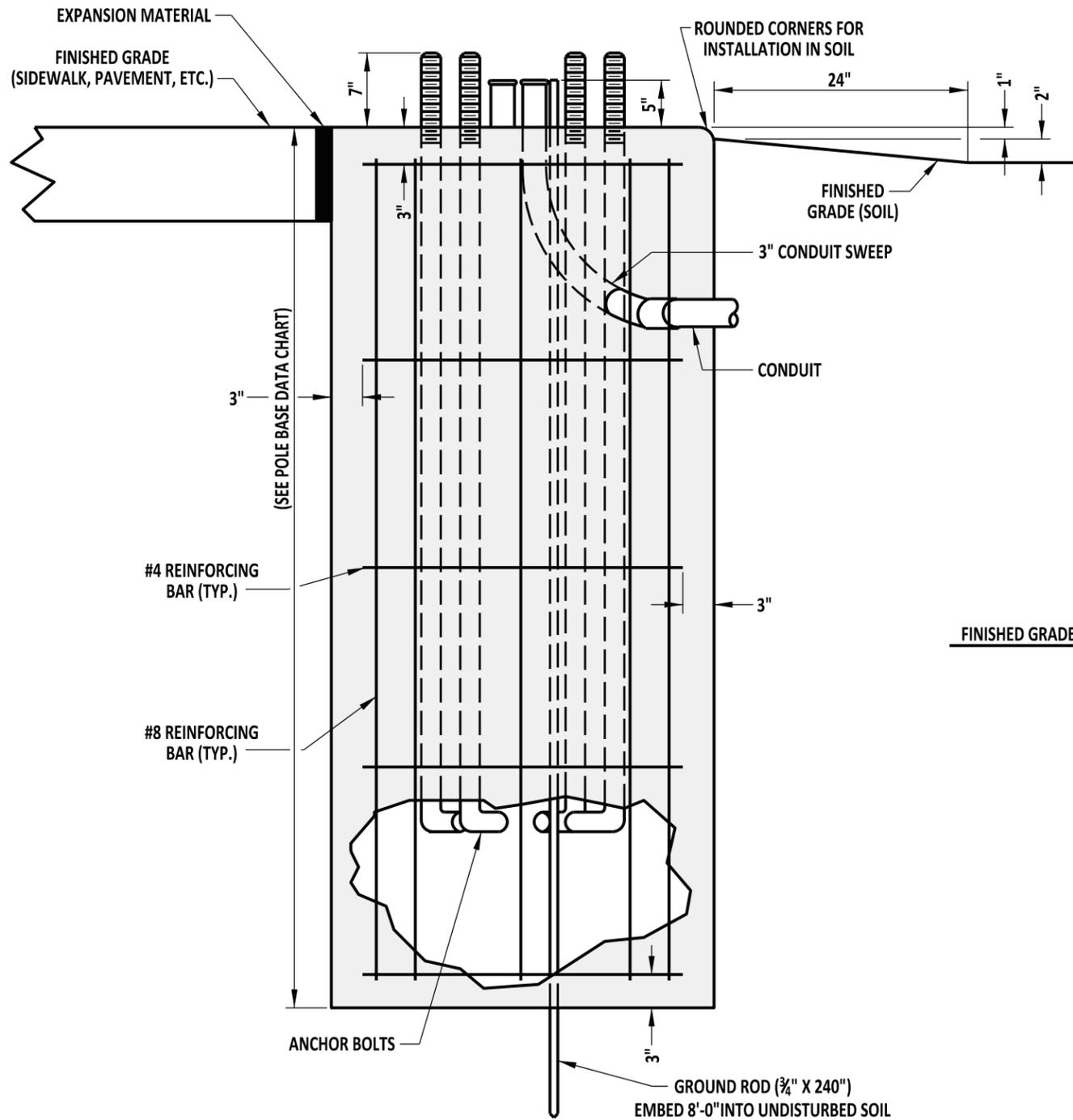
**ROUND BASE w/ SQUARE FOUNDATION HEADER**

**NOTE:**  
SQUARE FOUNDATION HEADER SHALL HAVE A 6" MINIMUM DEPTH.

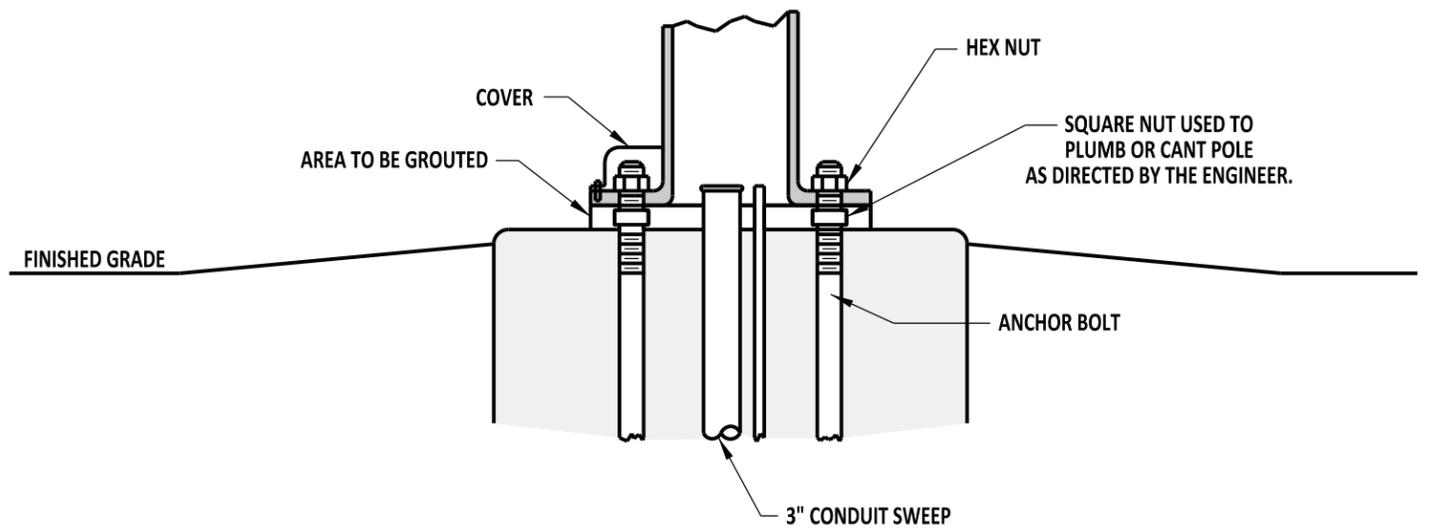


**DELAWARE**  
**DEPARTMENT OF TRANSPORTATION**

STANDARD NO. T-5 (2012)		POLE BASES		APPROVED	SIGNATURE ON FILE	01/07/2013
		SHT. 1	OF 4	RECOMMENDED	SIGNATURE ON FILE	12/20/2012



**TYPICAL SECTION (BASES 1,2,2A,2B,3,3A,3B, AND 7)**



**TYPICAL INSTALLATION (BASES 1,2,2A,2B,3,3A,3B, AND 7)**

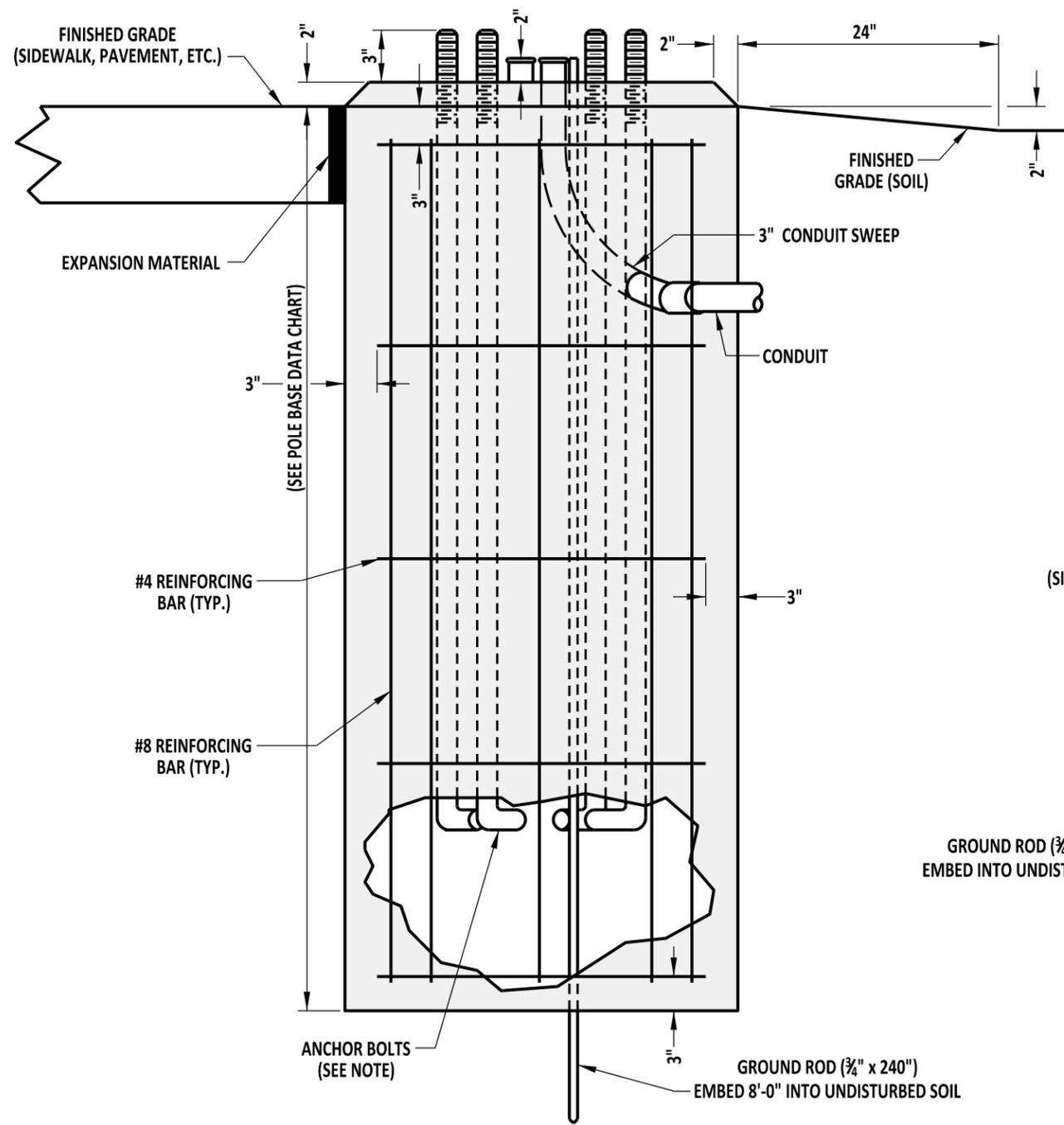
- NOTES:**
- 1). PLACE 2 EACH 6" LONG x 1/2" DIA. P.V.C., SCHEDULE 40 (TYP) VENTS IN THE GROUT AS DIRECTED IN THE FIELD BY ENGINEER.
  - 2). SEE POLE BASE DATA CHART FOR POLE BASE DIMENSIONS.
  - 3). ANCHOR BOLTS AND BOLT PATTERN TO BE PROVIDED BY DELDOT'S SIGNAL CONSTRUCTION INSPECTOR UNLESS OTHERWISE DENOTED.
  - 4). ANCHOR BOLTS AND BOLT PATTERN FOR TYPE 7 POLE BASES TO BE PROVIDED BY THE MANUFACTURER.



**DELAWARE**  
**DEPARTMENT OF TRANSPORTATION**

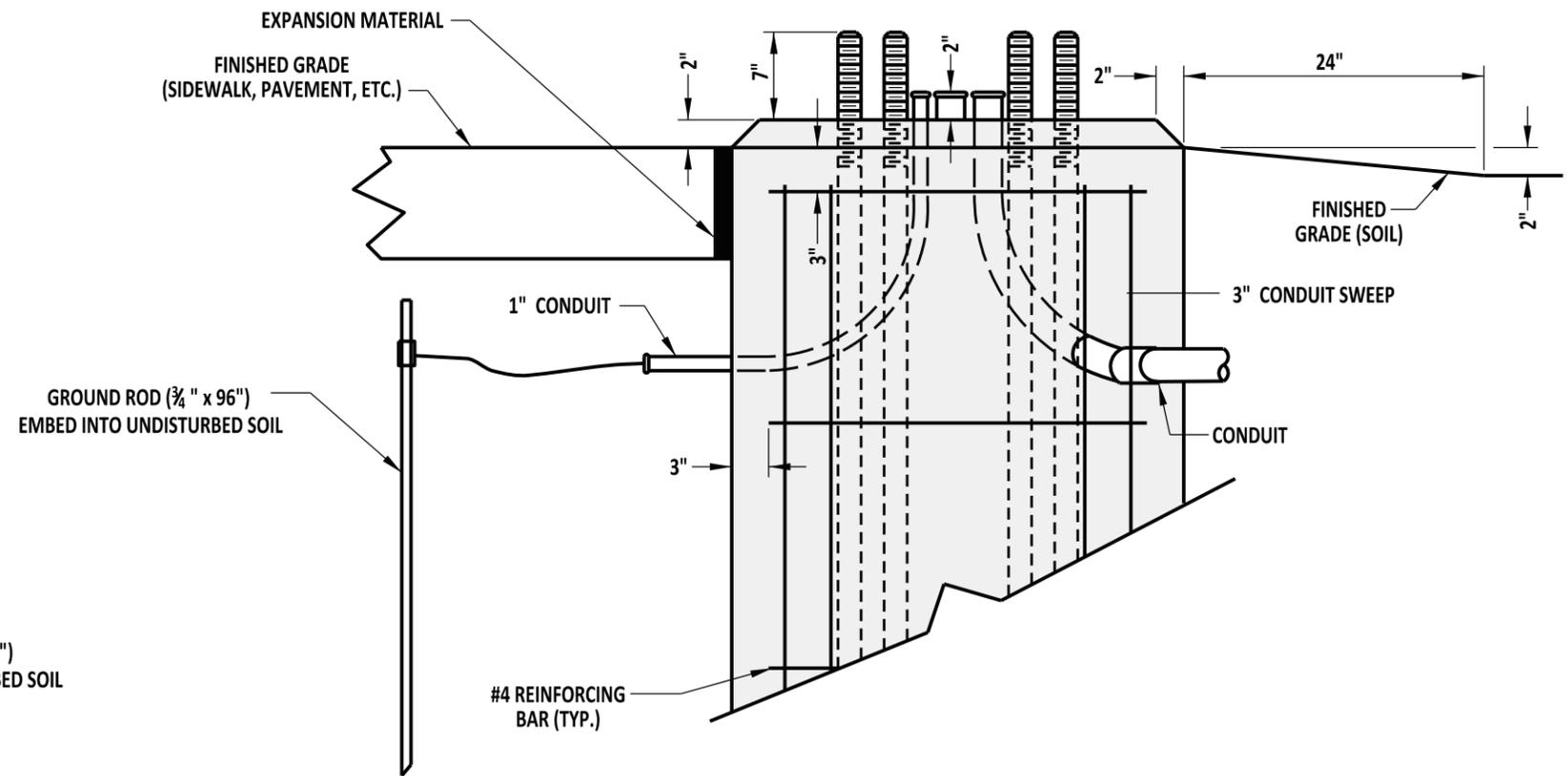
<b>POLE BASES</b>			
STANDARD NO.	T-5 (2012)	SHT.	2 OF 4

<b>APPROVED</b>	SIGNATURE ON FILE <small>CHIEF ENGINEER</small>	01/07/2013 <small>DATE</small>
<b>RECOMMENDED</b>	SIGNATURE ON FILE <small>DESIGN ENGINEER</small>	12/20/2012 <small>DATE</small>



**TYPICAL SECTION (BASES 5 AND 6)**

POLE BASE DATA CHART					
POLE BASE TYPE #	DIAMETER	DEPTH	#4 HORIZONTAL REINFORCING BARS	#8 VERTICAL REINFORCING BARS	CONDUITS
1	36"	7'-0"	5	8	2 - 3"
2	36"	10'-0"	6	8	2 - 3"
2A	48"	8'-0"	5	8	2 - 3"
2B	60"	7'-0"	5	8	2 - 3"
3	48"	10'-0"	6	8	2 - 3"
3A	60"	9'-0"	6	8	2 - 3"
3B	72"	7'-0"	5	8	2 - 3"
4	24"	2'-4"	NONE	NONE	1 - 2.5"
5	36"	4'-0"	NONE	NONE	2 - 3"
6	24"	6'-0"	4	8	2 - 3"
*7	48"	13'-4"	7	8	1 - 1", 2 - 3"



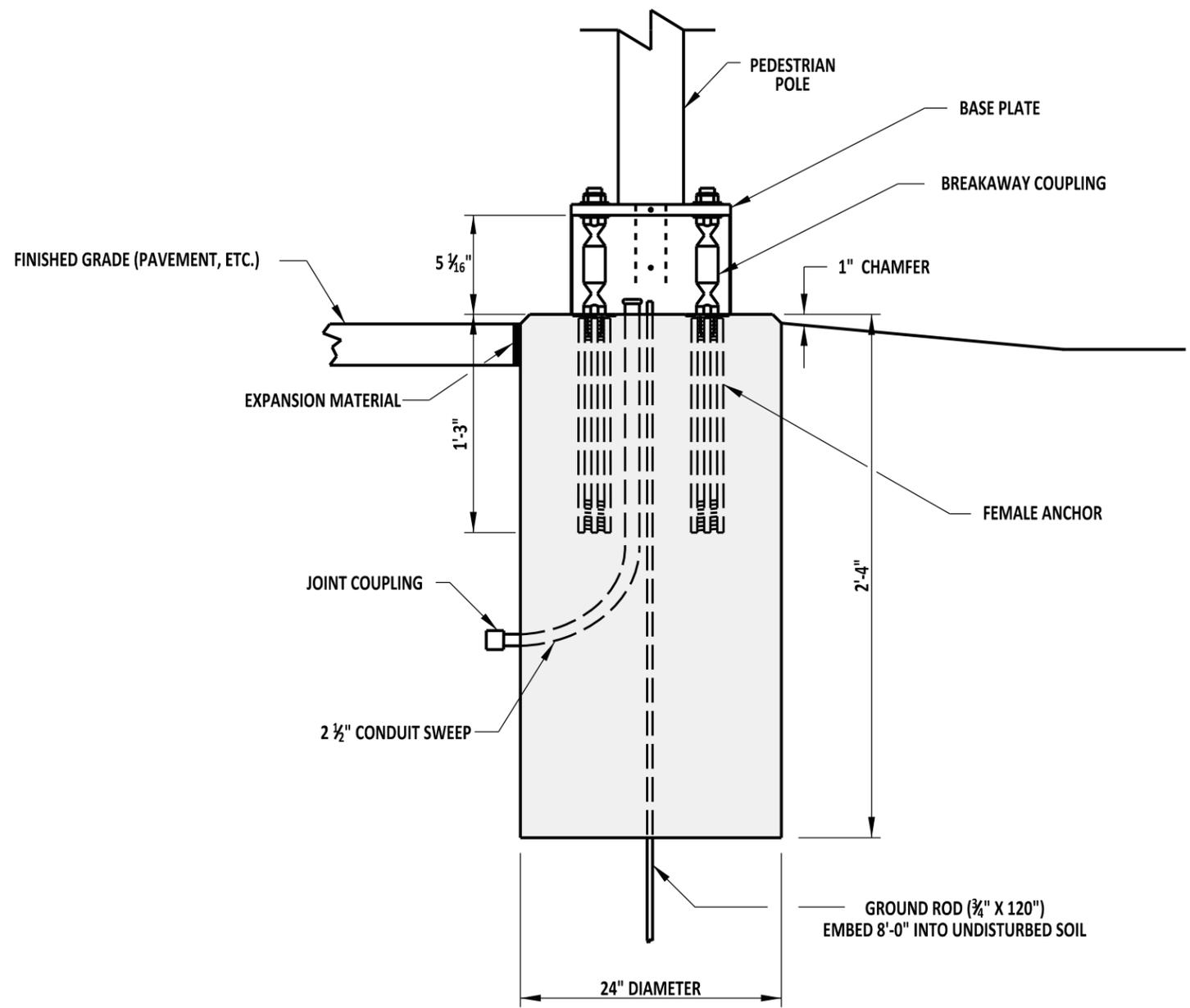
**TYPE 7 GROUND ROD TYPICAL**

**NOTE:**  
ANCHOR BOLTS AND BOLT PATTERN FOR TYPES 5, 6, & 7 POLE BASES TO BE PROVIDED BY THE MANUFACTURER.

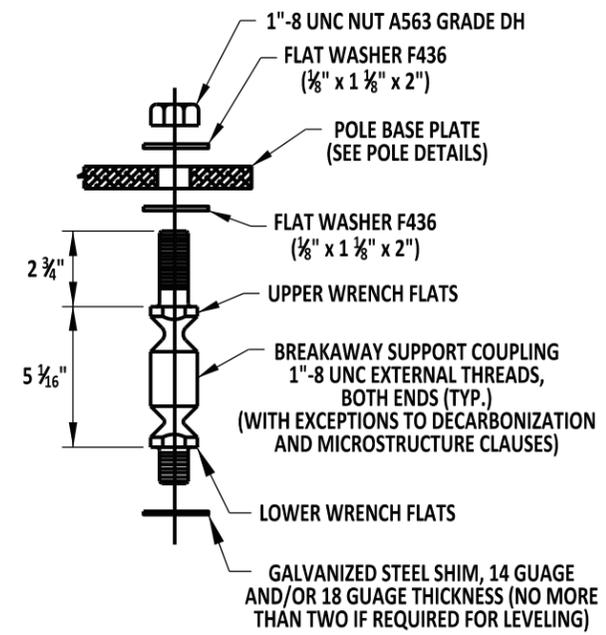


**DELAWARE**  
**DEPARTMENT OF TRANSPORTATION**

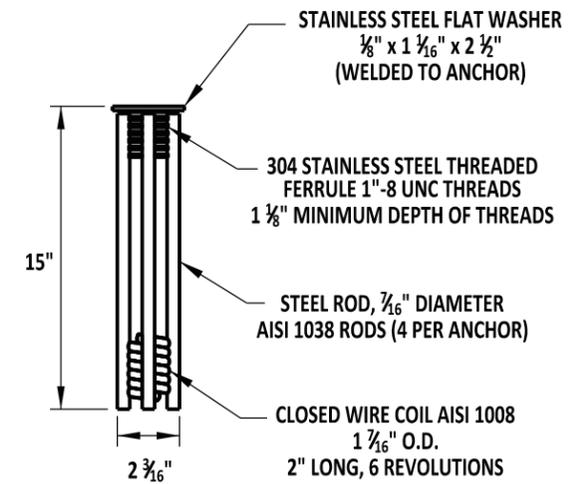
<b>POLE BASES</b>				<b>APPROVED</b>	<b>SIGNATURE ON FILE</b> <small>CHIEF ENGINEER</small>	<b>01/07/2013</b> <small>DATE</small>
STANDARD NO.	T-5 (2012)	SHT.	3 OF 4	<b>RECOMMENDED</b>	<b>SIGNATURE ON FILE</b> <small>DESIGN ENGINEER</small>	<b>12/20/2012</b> <small>DATE</small>



**TYPICAL SECTION (BASE 4)**

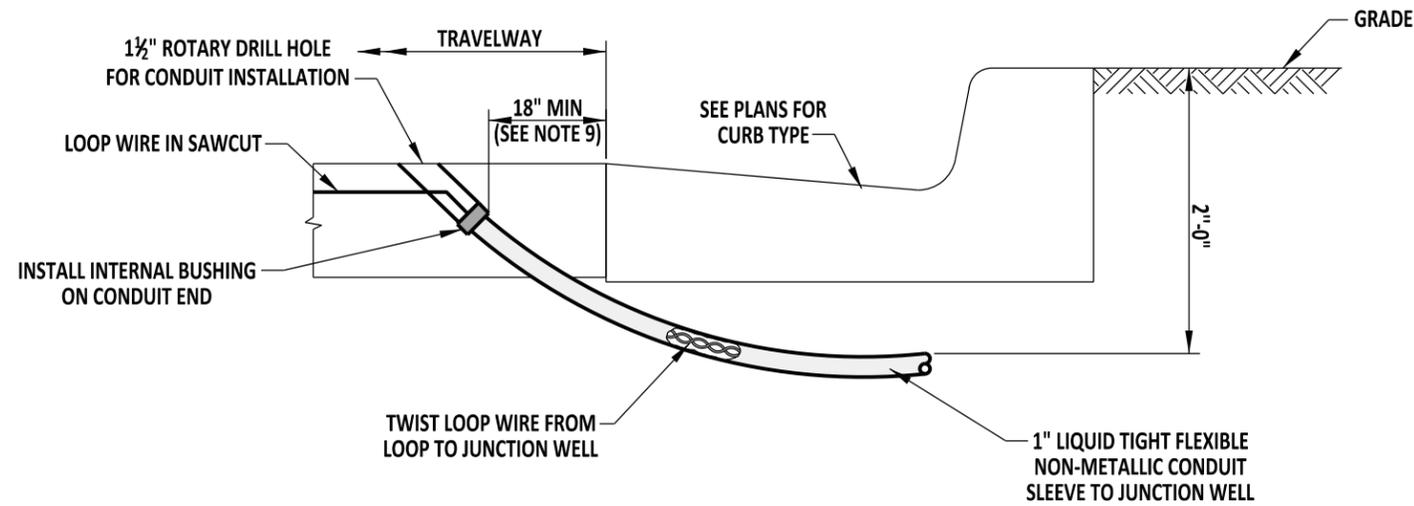


**BREAKAWAY COUPLING DETAIL**

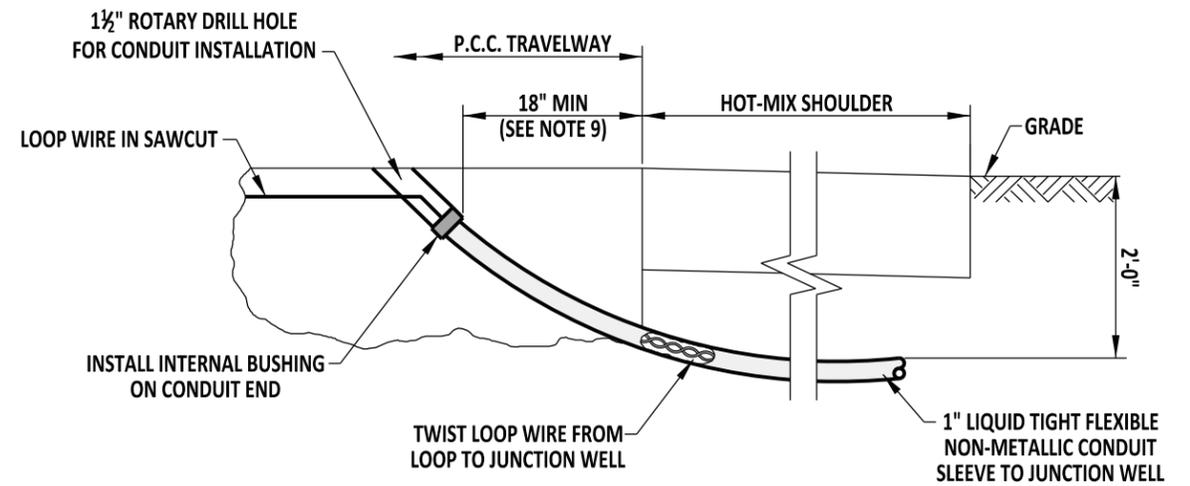


**ANCHOR DETAIL**

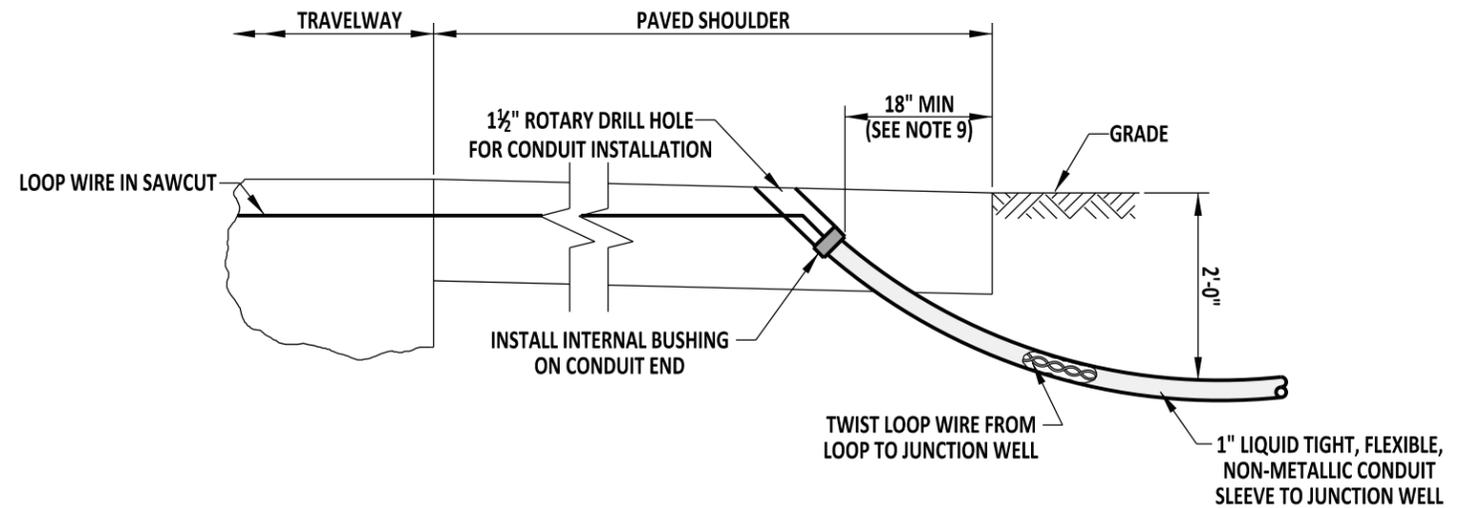
**NOTES:**  
ANCHOR BOLTS AND BOLT PATTERN TO BE PROVIDED BY DELDOT'S SIGNAL CONSTRUCTION INSPECTOR.



**DETECTOR LEAD PLACED IN TRAVELWAY WITH CURB OR CURB & GUTTER**  
 DETAIL SHOWN WITH CURB & GUTTER, TYPE 1-8, REFER TO PLANS FOR ACTUAL CURB OR CURB & GUTTER TYPE.



**DETECTOR LEAD PLACED IN PCC TRAVELWAY WITH HOT-MIX SHOULDER**  
 THIS DETAIL TO BE USED ONLY WHEN TRAVELWAY AND SHOULDER ARE DIFFERENT MATERIALS.



**DETECTOR LEAD PLACED IN PAVED SHOULDER**  
 THIS DETAIL TO BE USED ONLY WHEN TRAVELWAY AND SHOULDER ARE THE SAME MATERIAL.

**NOTES:**

- 1). THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE CONDUIT AGAINST ANY POSSIBLE DAMAGE DURING PAVING OPERATIONS.
- 2). THE WEATHERPROOF FITTING SHALL CONSIST OF A GALVANIZED 1 1/2" COUPLING CONTAINING A STEEL THREADED REDUCING BUSHING (1 1/2" TO 3/4") AND A 3/4" WATERTIGHT CONNECTOR FOR SERVICE ENTRANCE CABLE.
- 3). THE LEAD-IN WIRE SHALL BE RUN THROUGH THE RUBBER OF THE WEATHERPROOF FITTING.
- 4). LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT SHALL BE USED WHERE THE DISTANCE BETWEEN THE DRILLED HOLE FOR CONDUIT SLEEVE AND JUNCTION WELL IS 6'-0" OR LESS. ALL OTHER CONDUIT SLEEVES SHALL BE 1" RIGID, GALVANIZED STEEL UNLESS OTHERWISE SPECIFIED.
- 5). INSTALL DUCT SEAL IN BOTH ENDS OF CONDUIT SLEEVE.
- 6). SLEEVE AND SAWCUT SHALL NOT DAMAGE OR CONTACT CURB AND GUTTER.
- 7). SEPARATE 1" ELECTRICAL CONDUIT SLEEVES SHALL BE REQUIRED FOR EACH LOOP SPACED 1'-0" MINIMUM APART IN ROADWAY.
- 8). CONTRACTOR SHOULD AVOID WHEEL PATH IN THE ROADWAY WHILE DRILLING FOR CONDUIT INSTALLATION.
- 9). MAINTAIN 18" TO EDGE OF TRAVELWAY (MEASURED TO FRONT OF GUTTER PAN, FACE OF UPRIGHT CURB, OR FRONT EDGE OF SHOULDER) OR OUTER EDGE OF PAVEMENT IF LOOP DETECTOR CONNECTION IS MADE IN THE SHOULDER.
- 10). REFER TO DETAIL T-9, SHEET 1 OF 1 FOR LOOP DETECTOR INSTALLATION DETAILS.



**DELAWARE**  
**DEPARTMENT OF TRANSPORTATION**

**LOOP DETECTOR TO CONDUIT CONNECTION**

STANDARD NO. T-8 (2012) SHT. 1 OF 1

APPROVED

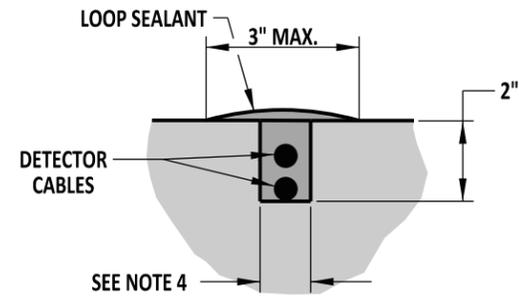
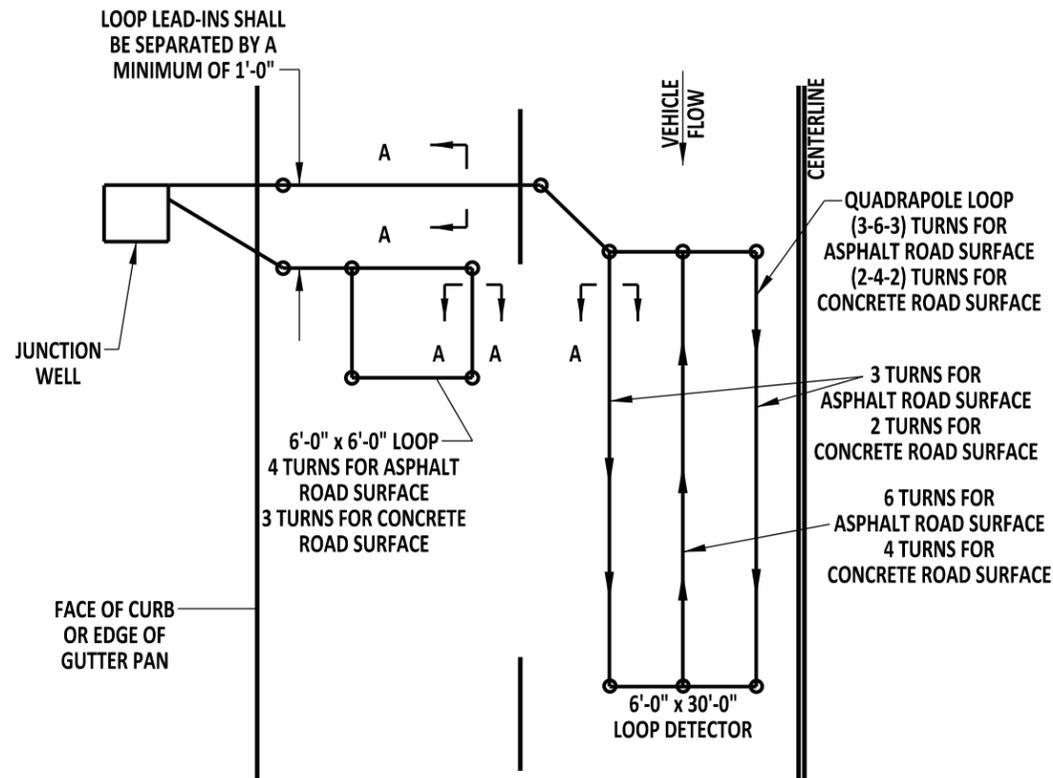
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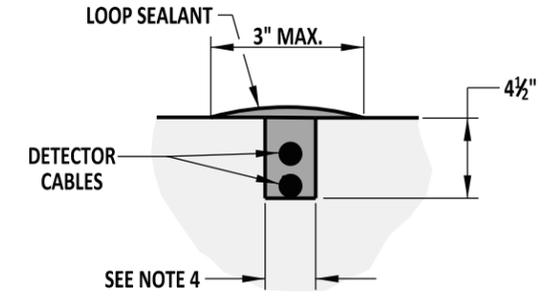
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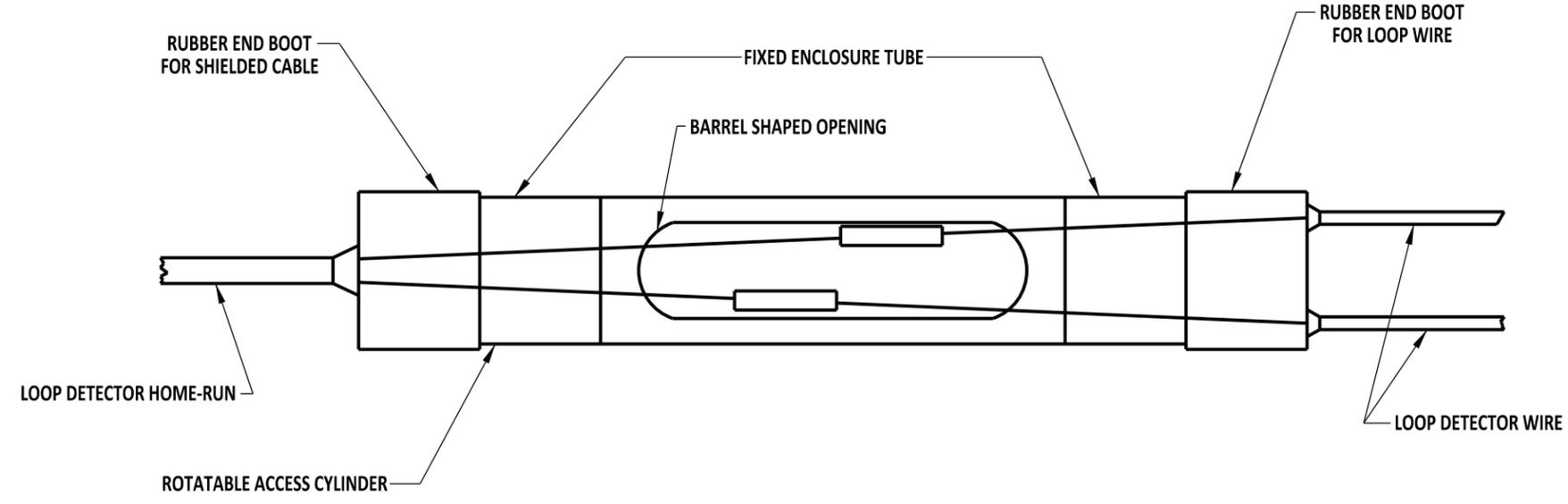


**SECTION A-A  
CONCRETE SURFACE**



**SECTION A-A  
HOT-MIX SURFACE**

**LOOP DETECTOR SAWCUT TYPICAL**  
REFER TO DETAIL T-8, SHEET 1 OF 1 FOR LOOP DETECTOR LEAD-IN INSTALLATION DETAILS.



**SPLICE KIT DETAIL**  
SEE NOTE 6

- NOTES:**
- 1). WHEN A PROPOSED LOOP DETECTOR SAWCUT CROSSES A LATERAL ROADWAY JOINT OR VALVE COVER (FOR EXAMPLE, MANHOLE, JUNCTION WELL, ETC.), LOOP DETECTOR INSTALLATION SHALL BE MODIFIED INTO TWO SEPARATE LOOP DETECTORS WHICH SHALL NOT TRAVERSE JOINTS OR VALVE COVERS.
  - 2). THE LOOPS SHALL BE PLACED IN THE CENTER OF THE LANE UNLESS OTHERWISE NOTED ON PLANS.
  - 3). PRESENCE LOOP DETECTORS ARE TO BE PLACED 12" BEHIND THE EXISTING OR PROPOSED STOP LINE.
  - 4). LOOP DETECTOR AND LEAD-IN SAWCUTS SHALL BE 5/8".
  - 5). 1 1/2" DRILL HOLES SHALL BE USED AT ALL CHANGES IN SAWCUT DIRECTIONS.
  - 6). BARREL SIZE SHALL BE 1" TO 1 1/2" DIAMETER AND 4" TO 6" LONG. ALL SPLICE KIT CONNECTIONS SHALL BE DONE IN JUNCTION WELLS ONLY.

 <b>DELAWARE</b> DEPARTMENT OF TRANSPORTATION	<b>LOOP DETECTOR INSTALLATION &amp; SPLICE KIT</b>				<b>APPROVED</b>	SIGNATURE ON FILE <small>CHIEF ENGINEER</small>	01/07/2013 <small>DATE</small>
	STANDARD NO.	T-9 (2012)	SHT.	1 OF 1	<b>RECOMMENDED</b>	SIGNATURE ON FILE <small>DESIGN ENGINEER</small>	12/20/2012 <small>DATE</small>