

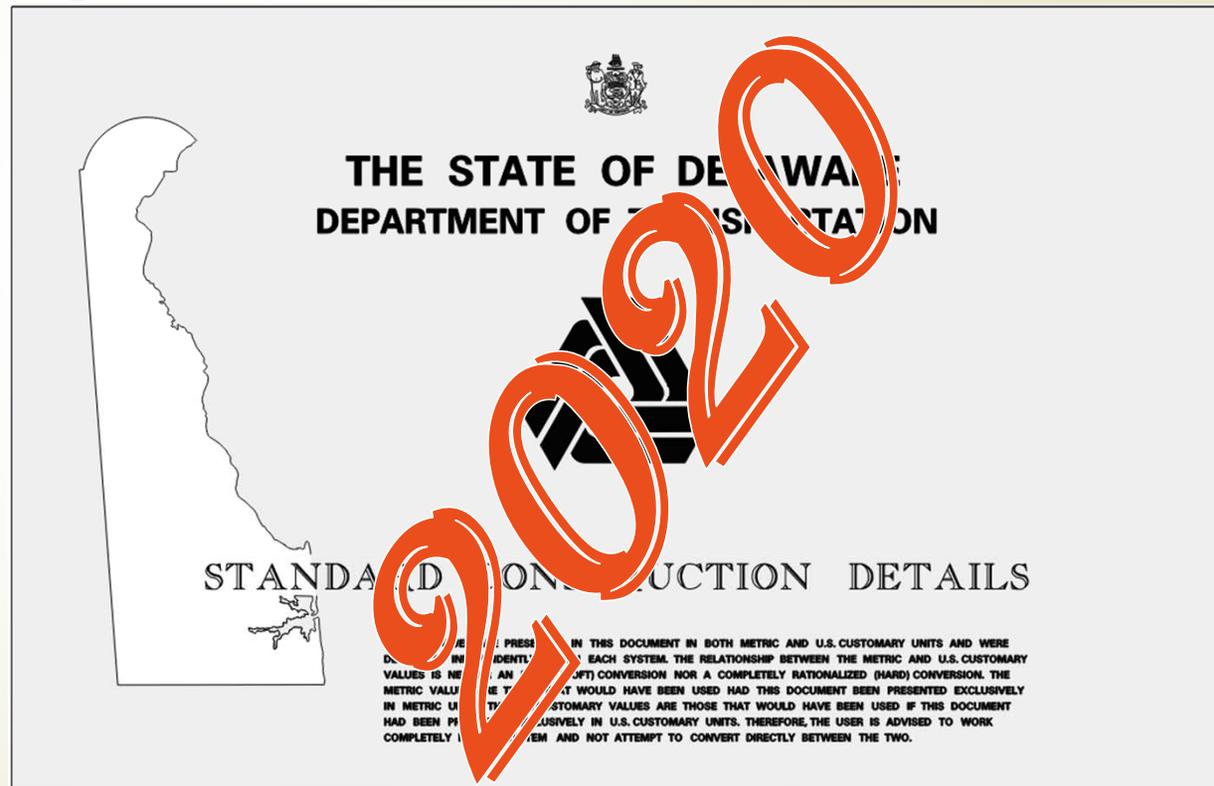
# 2020

# DETAILS

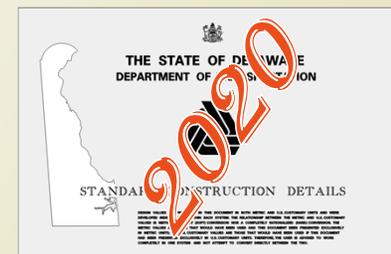
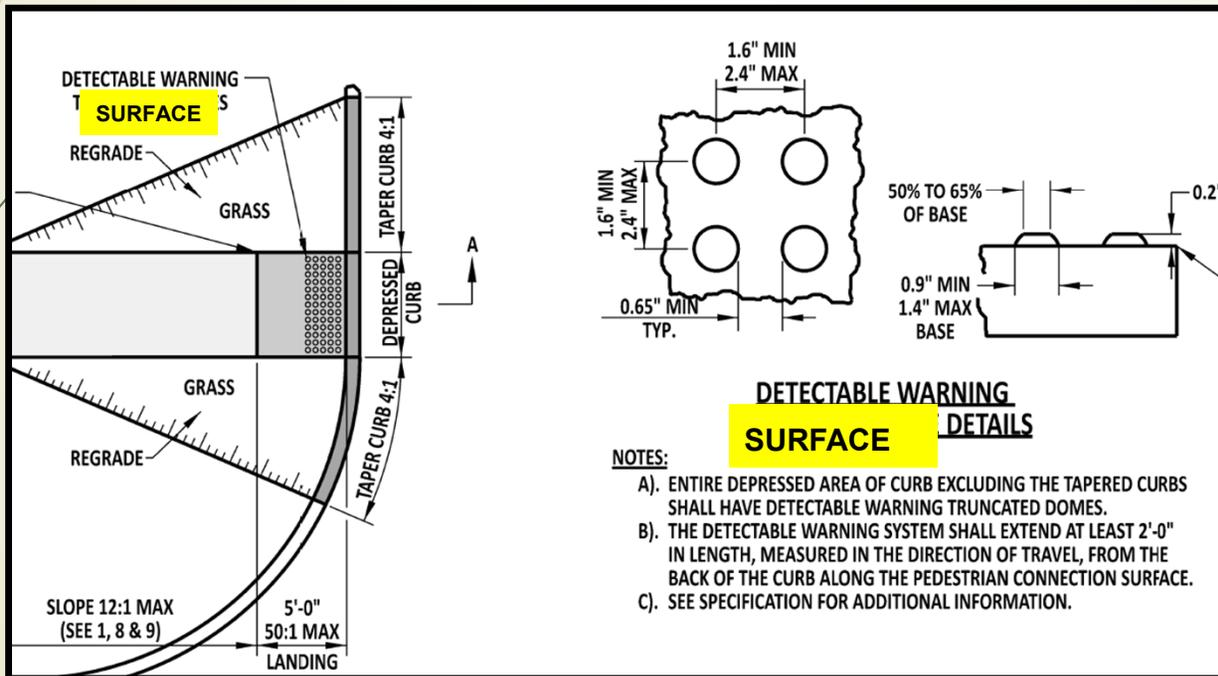


# Updates

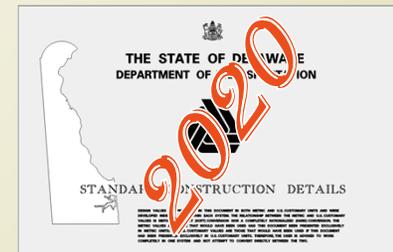
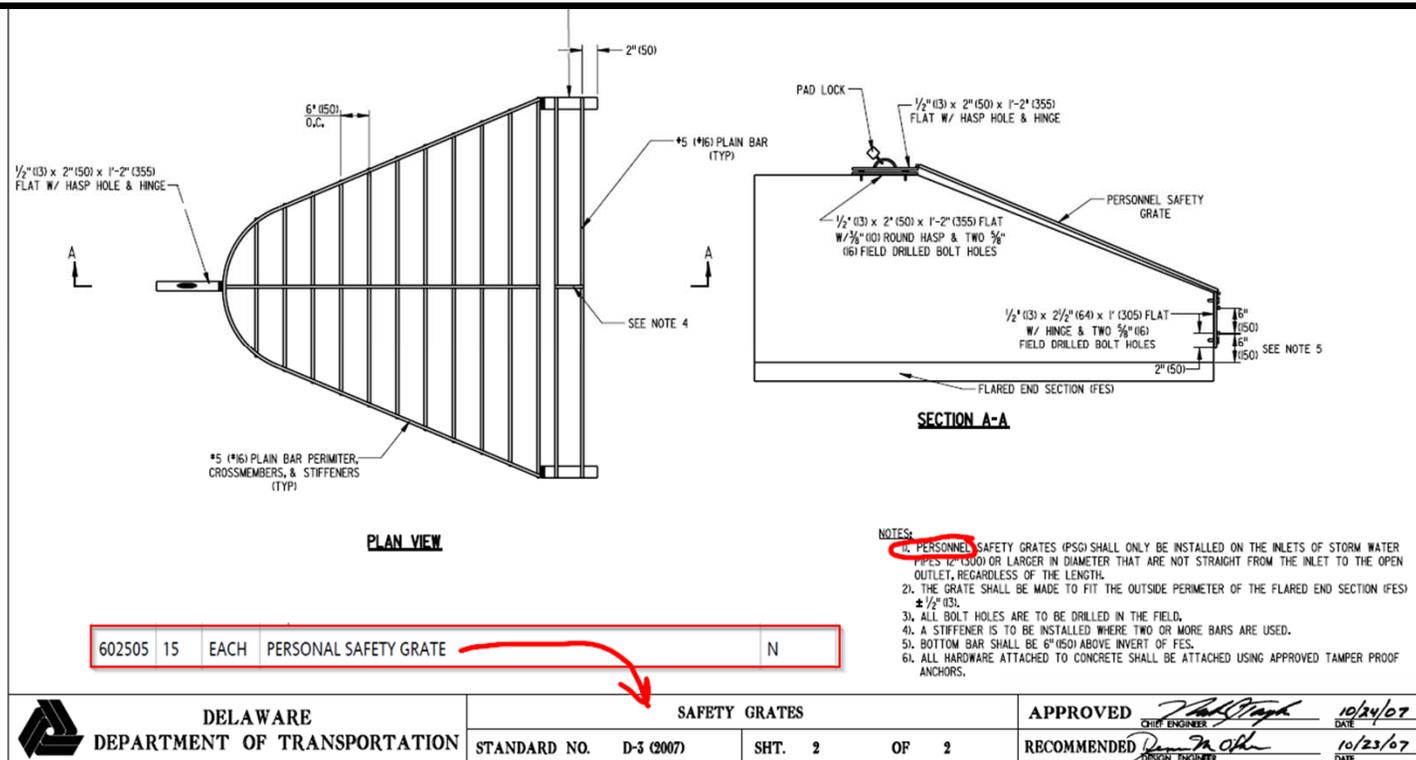
# STANDARD



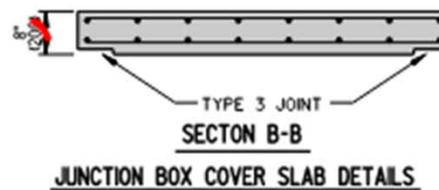
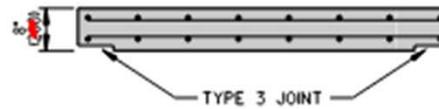
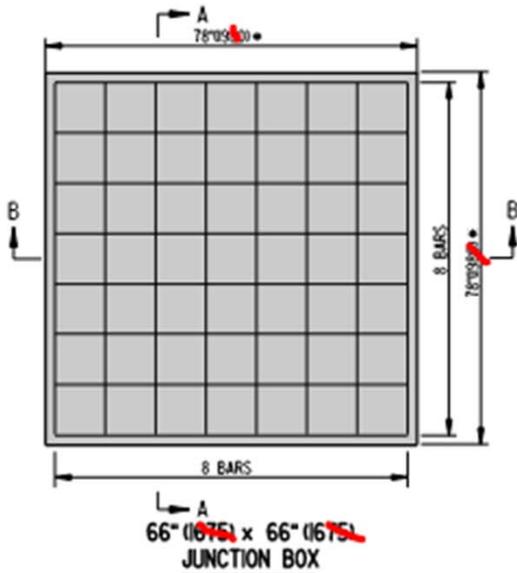
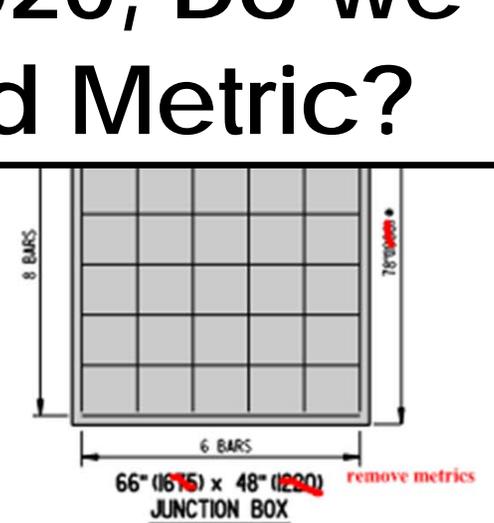
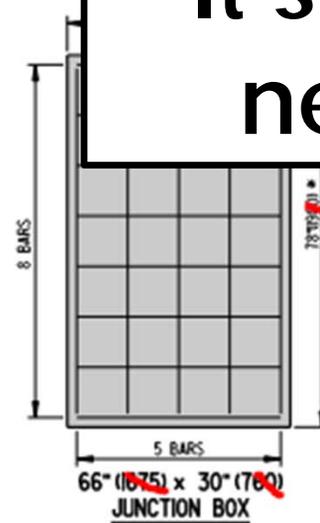
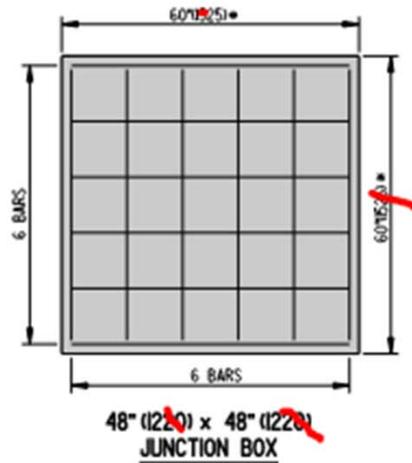
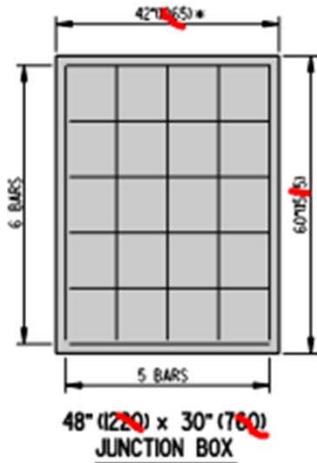
# Ensure consistency with the 2020 Standard Specifications



# Ensure consistency with the 2020 Standard Specifications



# It's 2020, Do we need Metric?



- NOTES:
1. COVER SLABS ARE TO BE PRE-CAST.
  2. ALL BARS ARE TO BE #5 (16) SPACED @ 12" (305) \* UNLESS NOTED OTHERWISE.
  3. MINIMUM BAR COVER = 1 1/2" (38) \*
- \* - DIMENSIONS TO MATCH OUTSIDE TO OUTSIDE DIMENSIONS OF BOX.



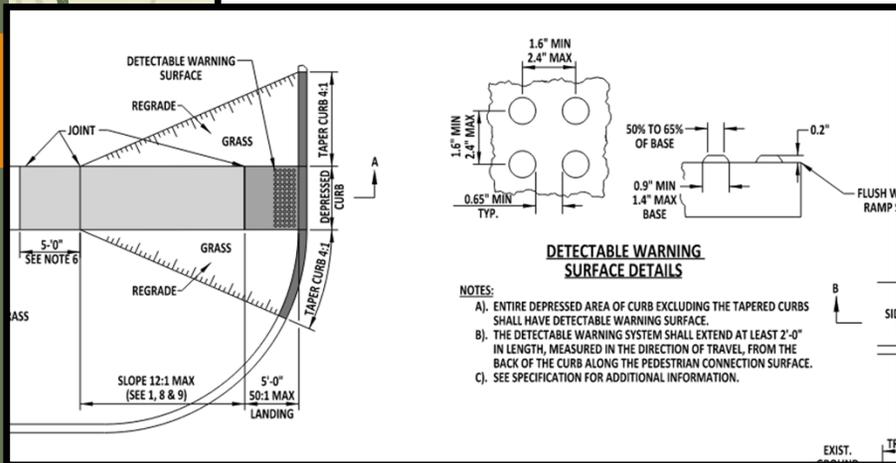
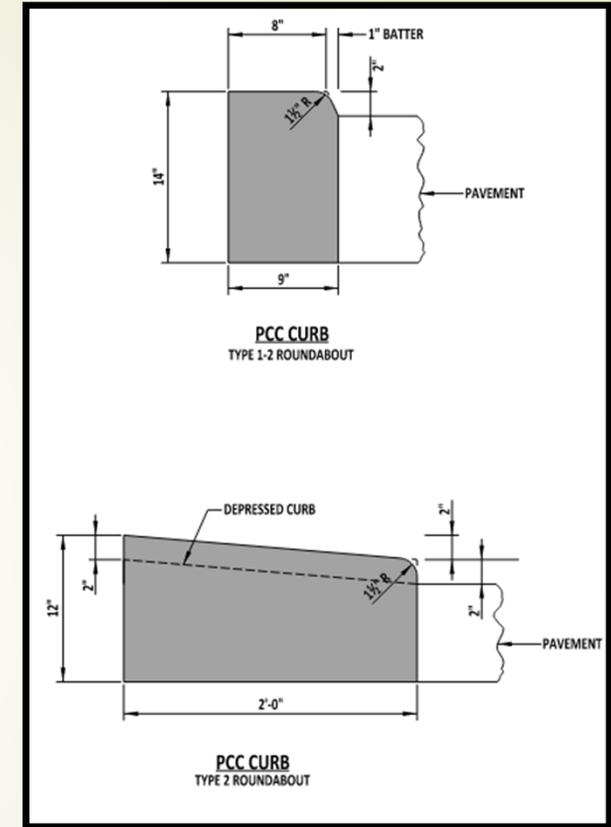
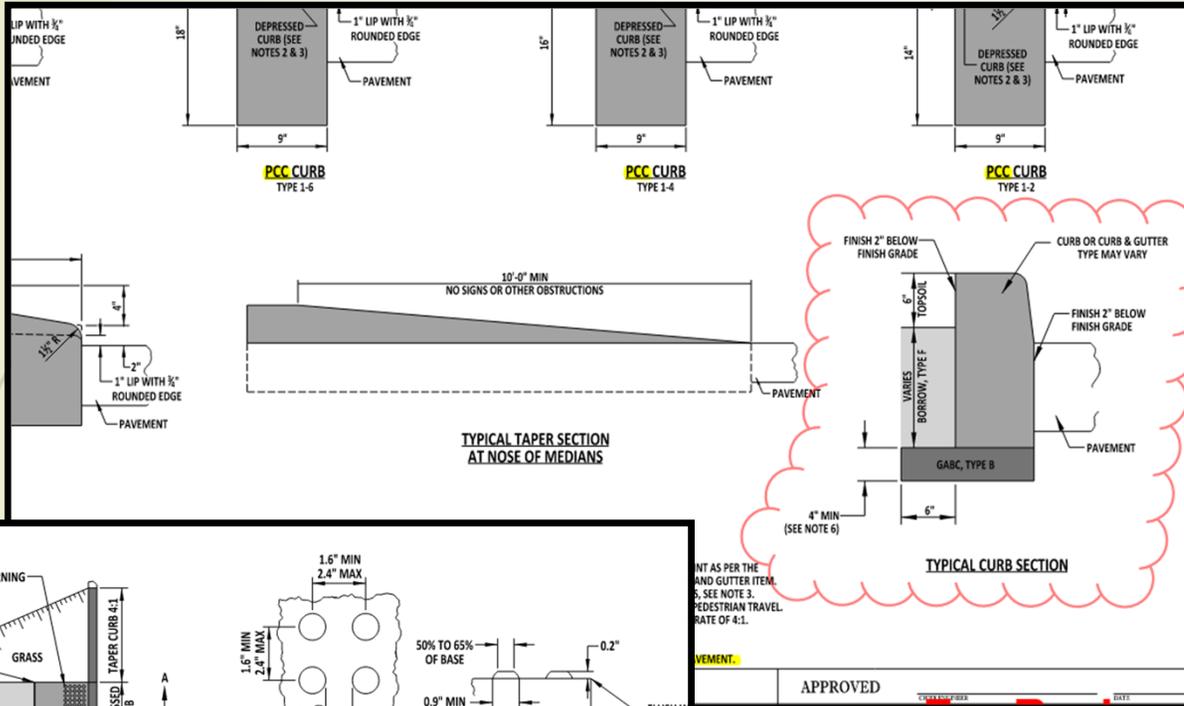
T.S.

# BARRIER section to meet the 2016 edition of MASH

SHEET NO.	NAME
B-1 (2010)	- BARRIER LEGEND
B-1	- GUARDRAIL APPLICATION
	(2016) - 1 PLAN VIEWS
	(2017) - 2 ELEVATION VIEWS AND SECTION VIEWS
	(2018) - 3 SECTION VIEWS
B-2	- GRADING FOR GUARDRAIL
	(2013) - 1 GUARDRAIL END TREATMENT
	(2013) - 2 GUARDRAIL END TREATMENT
	(2010) - 3 GUARDRAIL END TREATMENT
B-3	- GUARDRAIL OVER CULVERT
	(2013) - 1 GUARDRAIL OVER CULVERT
	(2013) - 2 GUARDRAIL OVER CULVERT
	(2013) - 3 GUARDRAIL OVER CULVERT
B-4 (2012)	- END ANCHORAGE, TYPE 5
B-5	- GUARDRAIL TO BARRIER
	(2010) - 1 GUARDRAIL TO BARRIER
	(2010) - 2 GUARDRAIL TO BARRIER
	(2010) - 3 GUARDRAIL TO BARRIER
	(2012) - 4 GUARDRAIL TO BARRIER
	(2010) - 5 GUARDRAIL TO BARRIER
	(2010) - 6 GUARDRAIL TO BARRIER
B-6	- BRIDGE RAIL RETROFIT
	(2013) - 1 BRIDGE RAIL RETROFIT, END
	(2010) - 2 BRIDGE RAIL RETROFIT, TYPE
	(2010) - 3 BRIDGE RAIL RETROFIT, TYPE
	(2010) - 4 BRIDGE RAIL RETROFIT, TYPE
	(2010) - 5 BRIDGE RAIL RETROFIT, TYPE
B-7 (2010)	- W-BEAM, TYPE 1-27 TO TYPE
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
	(2010) - 2 W-BEAM STEEL POST AND TERMINAL
	(2010) - 3 W-BEAM TERMINAL CONNECTION
	(2010) - 4 THREE BEAM AND THREE BEAM
	(2010) - 5 THREE BEAM STEEL POST AND TERMINAL
	(2010) - 6 ASYMMETRIC AND SYMMETRIC
	(2010) - 7 SHORT AND LONG WOOD
	(2012) - 8 SWAGED CABLE ASSEMBLY
	(2010) - 9 GUARDRAIL DELINEATOR
	(2010) - 10 GUARDRAIL MOUNTED BARRIER
B-14	- CONCRETE SAFETY BARRIER
	(2012) - 1 32" (1960) CONCRETE BARRIER
	(2009) - 2 32" (1960) CONCRETE BARRIER
	(2009) - 3 42" (1050) CONCRETE BARRIER
	(2009) - 4 SLOTTED PLATE CONNECTOR
B-15	- GUARDRAIL APPLICATION
	(2010) - 1 PLAN VIEWS
	(2010) - 2 ELEVATION VIEWS AND SECTION VIEWS
	(2010) - 3 SECTION VIEWS



# CURB & GUTTER



AS PER THE AND GUTTER ITEM. SEE NOTE 3. PEDESTRIAN TRAVEL RATE OF 4:1.

**APPROVED**



# DRAINAGE

## D-4 sheet 1 of 1

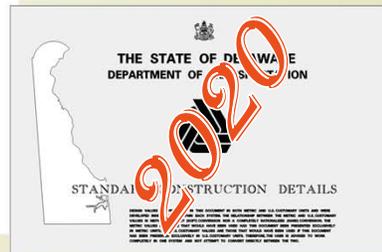
INLET BOX SCHEDULE		
L	W	FABRICATION TOLERANCE
17 $\frac{5}{8}$ "	11 $\frac{5}{8}$ "	+1"
24"	24"	+1"
34"	18"	-1"
34"	24"	-1"
48"	30"	+6"
48"	48"	+6"
66"	30"	+6"
66"	48"	+6"
66"	66"	+6"
72"	24"	-1"
72"	48"	-1"
72"	72"	-1"

\*  
\*  
\*\*

WALL REINFORCEMENT SCHEDULE		
INTERIOR WALL DIMENSION	AREA OF HORIZONTAL REINFORCEMENT PER FOOT <sup>2</sup>	AREA OF VERTICAL REINFORCEMENT PER FOOT <sup>2</sup>
	IN <sup>2</sup>	IN <sup>2</sup>
LESS THAN 4'	0.132	0.132
4' TO 4.5'	0.163	0.132
4.5' TO 5'	0.198	0.132
5' TO 5.5'	0.239	0.132
5.5' TO 6'	0.284	0.132

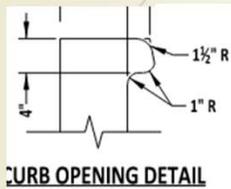
\* - THESE BOXES ARE TO BE USED FOR LAWN INLETS AND ARE NOT INTENDED TO BE USED IN THE TRAVELWAY. THE MAX DEPTH FOR THESE BOXES IS 4'. SEE NOTE 8 FOR REINFORCEMENT.

\*\* THE MAX DEPTH FOR THIS BOX IS 4'.

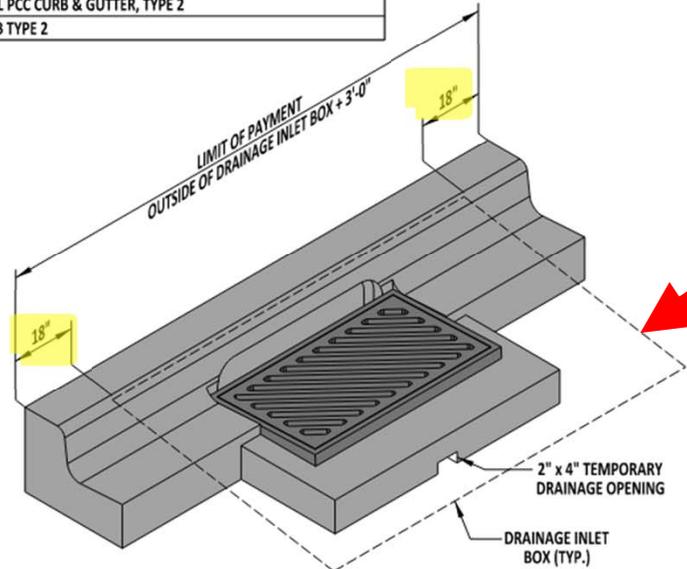
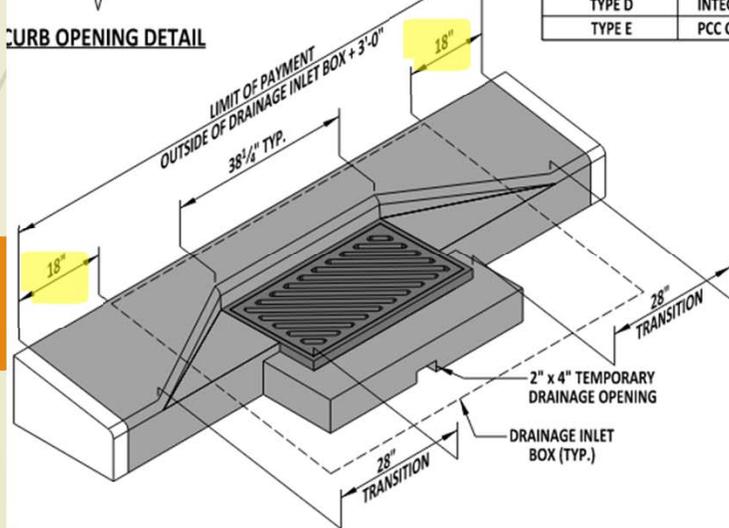


# DRAINAGE

## D-5 sheet 3 of 9



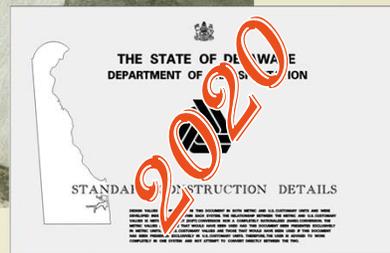
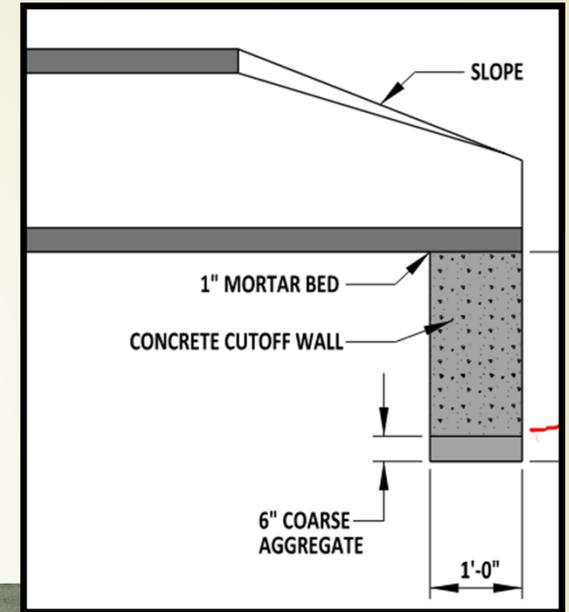
TOP UNIT	CURB
TYPE A	USE IN NON CURBED
TYPE B	INTEGRAL PCC CURB & GUTTER, TYPE 1-8 & 3-8, PCC CURB TYPE 1-8
TYPE C	INTEGRAL PCC CURB & GUTTER, TYPES 1-6, 3-6, 1-4, 3-4, 1-2 AND 3-2 AND PCC CURB TYPE 1-6, 1-4, AND 1-2.
TYPE D	INTEGRAL PCC CURB & GUTTER, TYPE 2
TYPE E	PCC CURB TYPE 2



# DRAINAGE

# CHANGES AHEAD

- DOGBOX INLET BOX
- MANHOLE DETAILS
- FLARED END SUPPORT



# EROSION

Updates for:

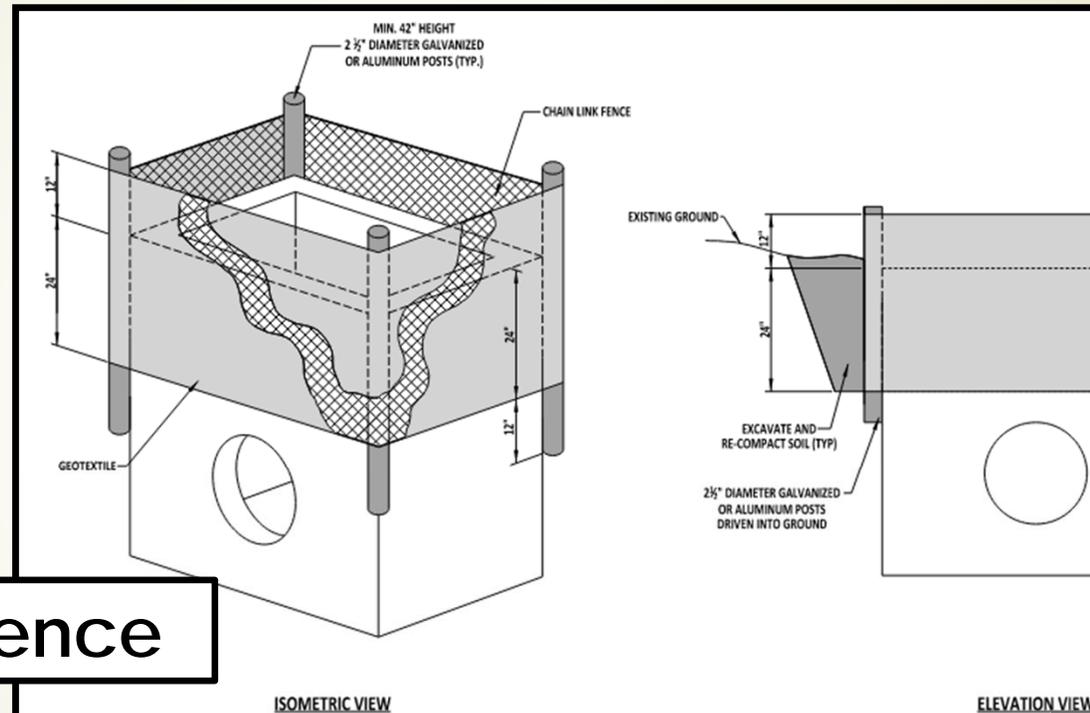
- STANDARD SPECIFICATIONS
- DNREC
- FIELD APPLICATIONS

SILT FENCE uniformity



# EROSION

Use post and fence

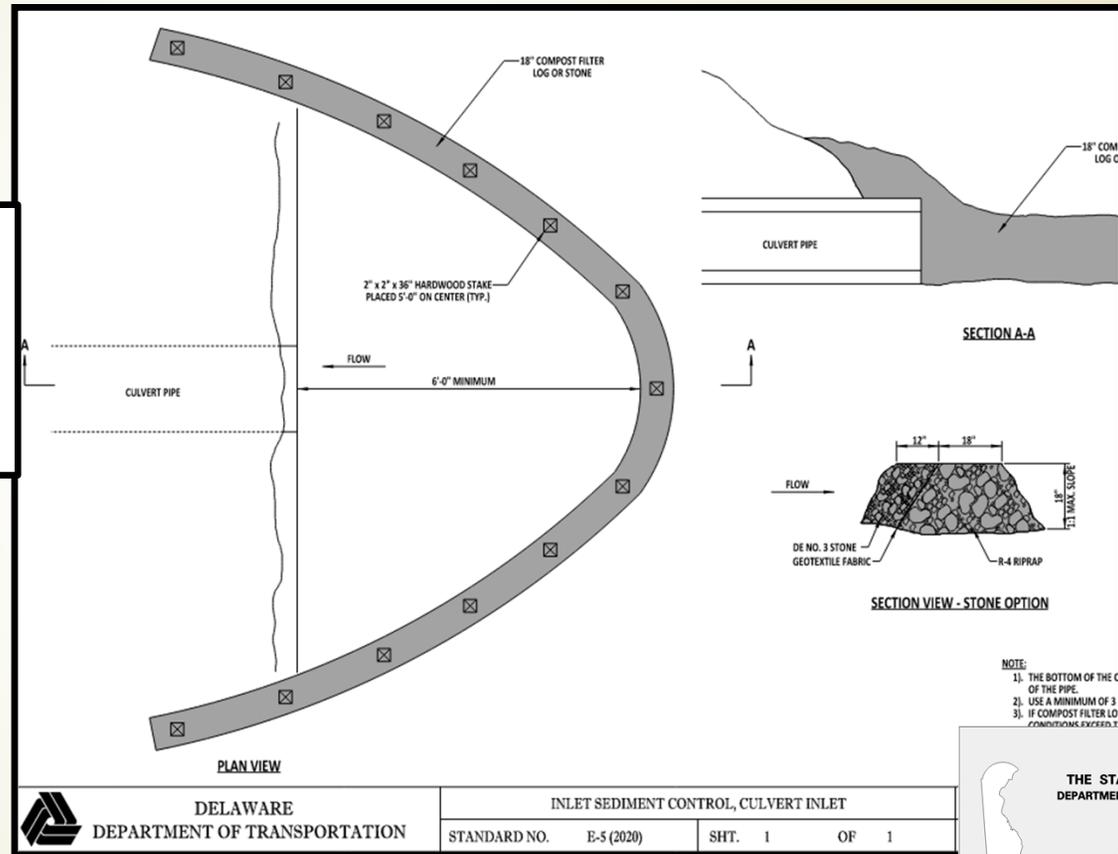


 DELAWARE DEPARTMENT OF TRANSPORTATION	INLET SEDIMENT CONTROL, DRAINAGE INLET		
	STANDARD NO.	E-4 (2020)	SHT. 1 OF


 THE STATE OF DELAWARE  
DEPARTMENT OF TRANSPORTATION  
 2020  
 STANDARD CONSTRUCTION DETAILS

# EROSION

COMPOST FILTER LOG & STONE IS THE OPTION



DELAWARE DEPARTMENT OF TRANSPORTATION

INLET SEDIMENT CONTROL, CULVERT INLET  
STANDARD NO. E-5 (2020) SHT. 1 OF 1

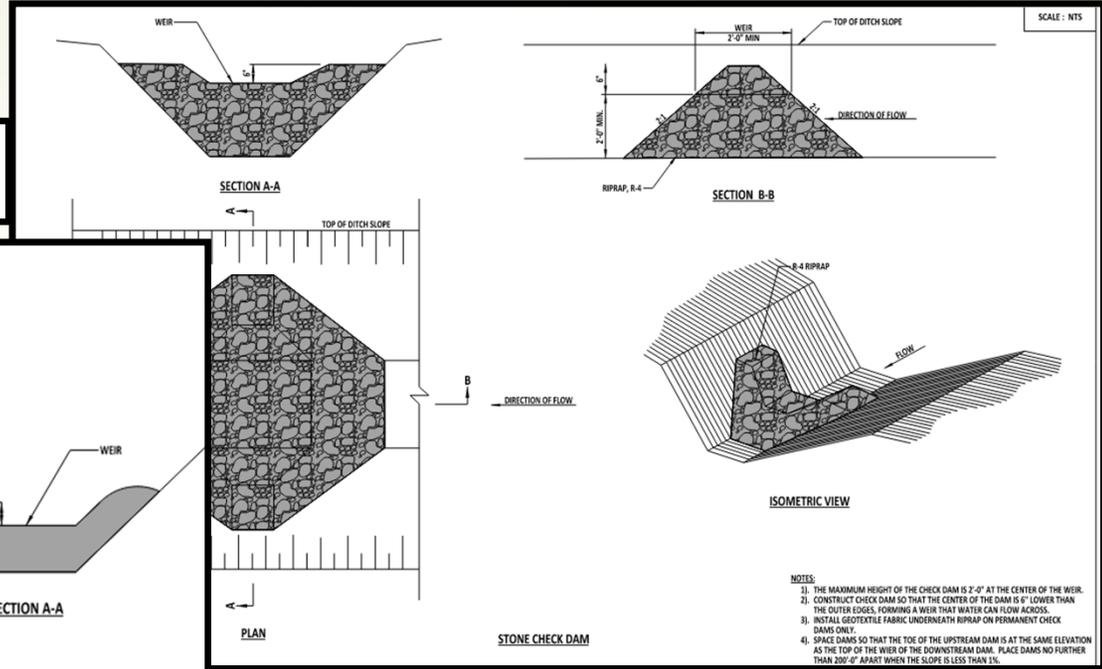
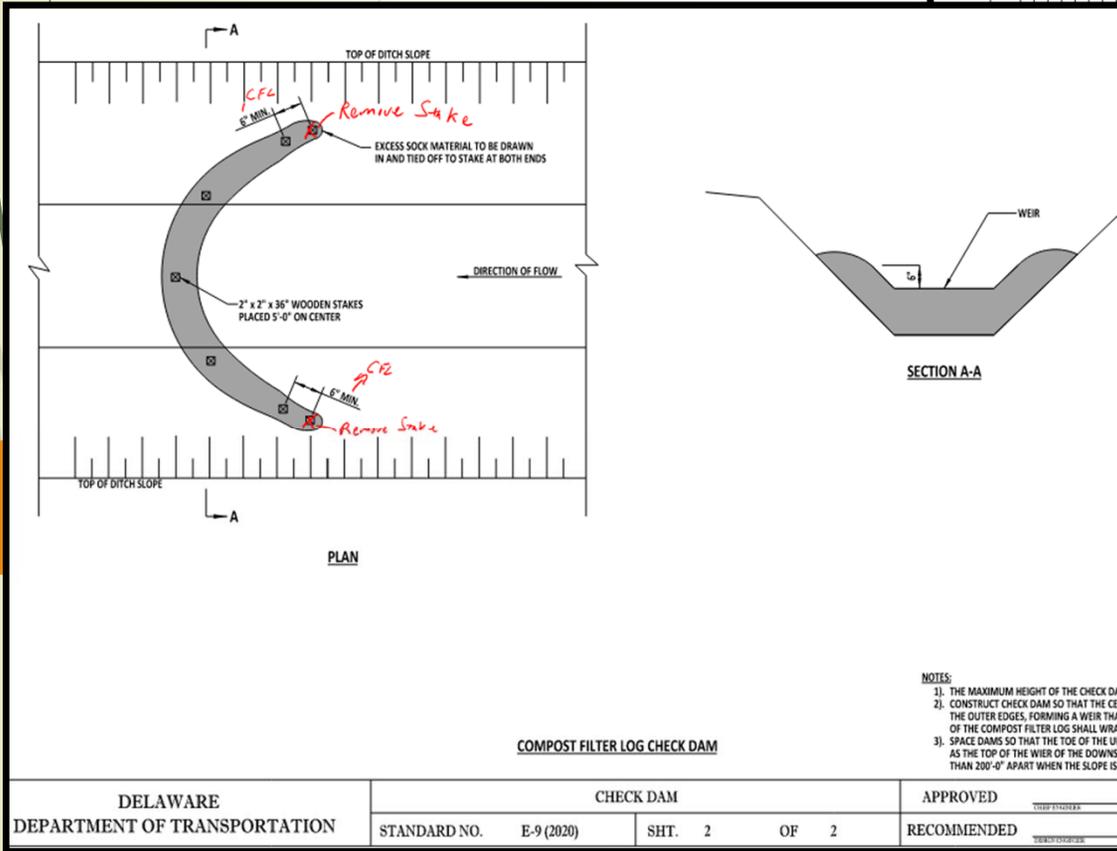
THE STATE OF DELAWARE  
DEPARTMENT OF TRANSPORTATION

STANDARD CONSTRUCTION DETAILS

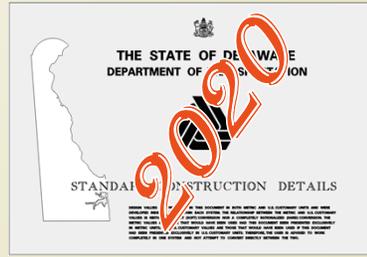
2020

# EROSION

# CHECK DAMS



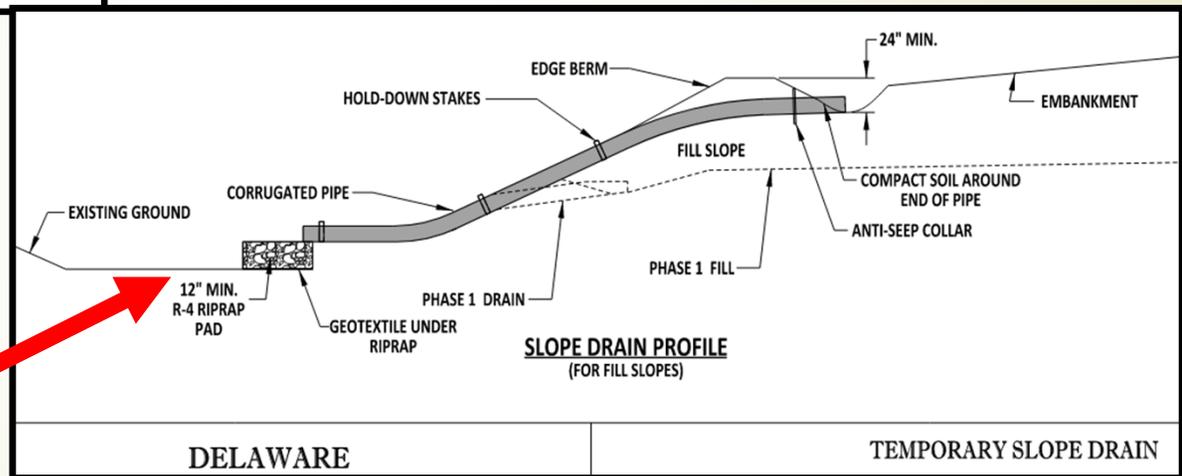
DELAWARE DEPARTMENT OF TRANSPORTATION	CHECK DAM				APPROVED
	STANDARD NO.	E-9 (2020)	SHT. 2	OF 2	RECOMMENDED



# EROSION

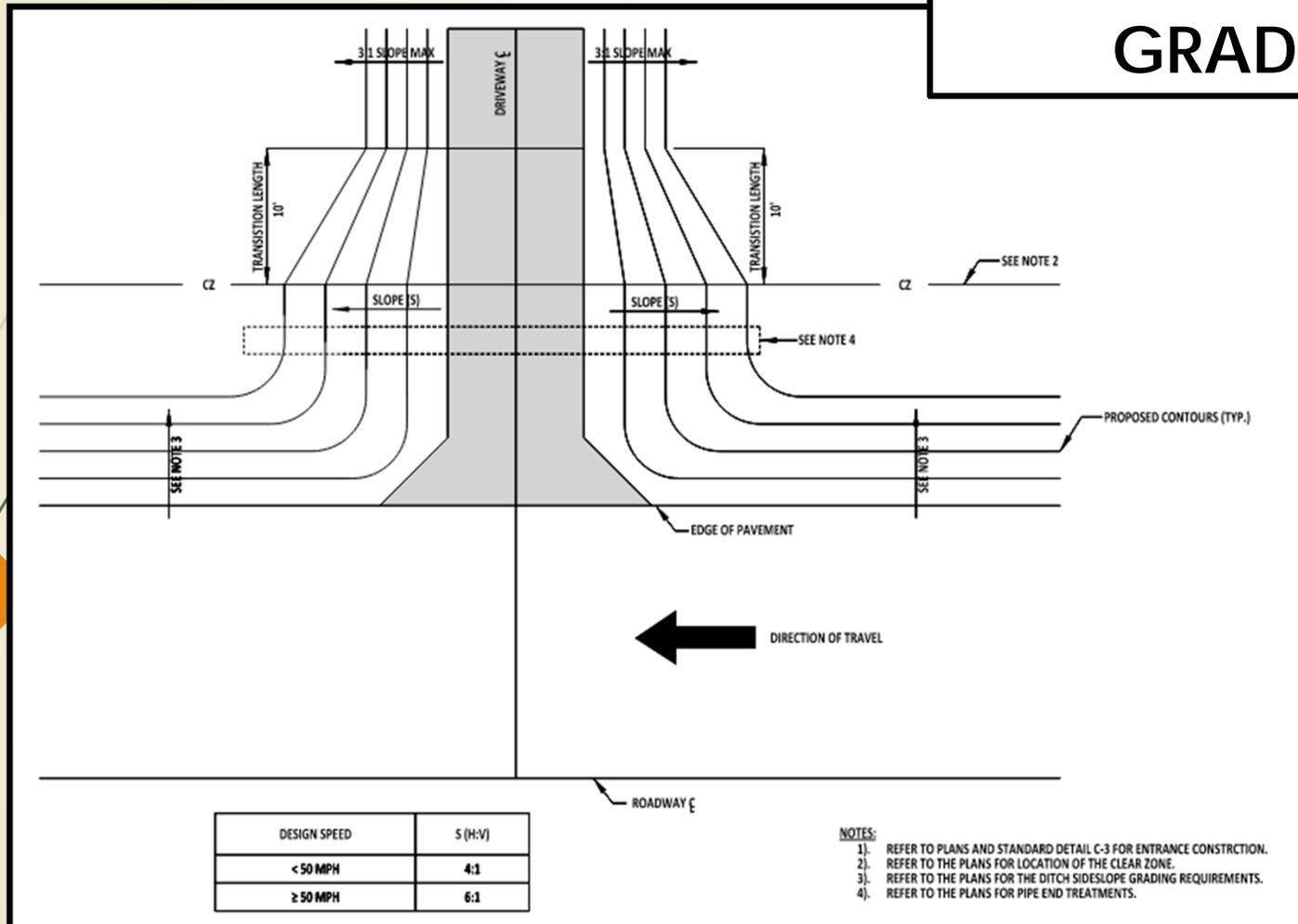
## TEMPORARY

INSTALL  
NO EXCAVATION

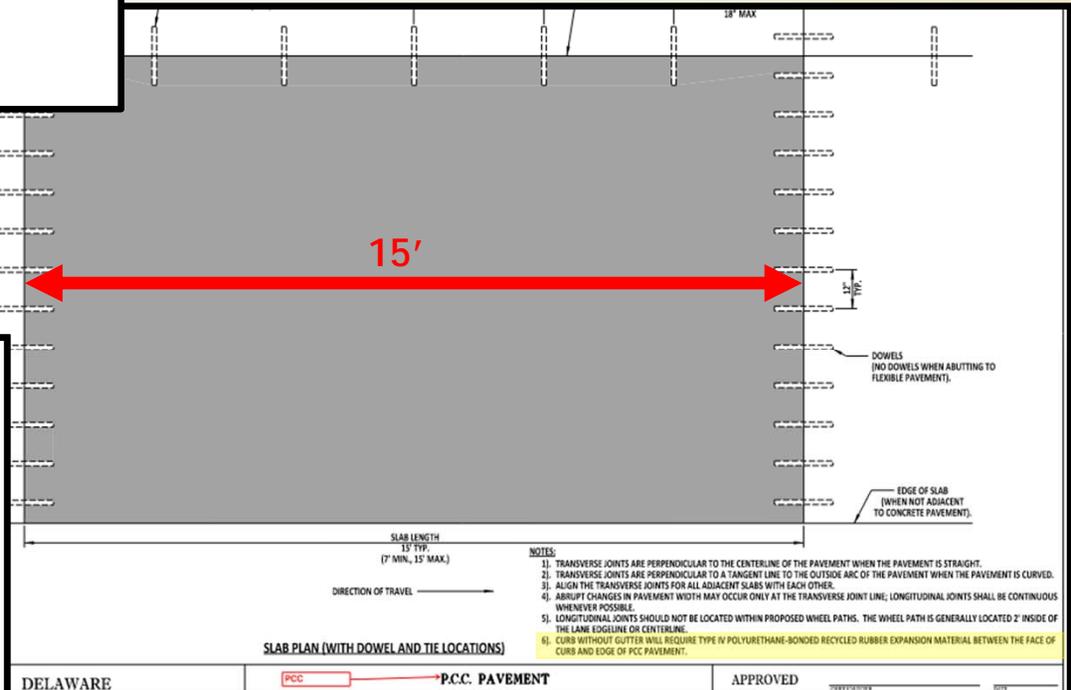
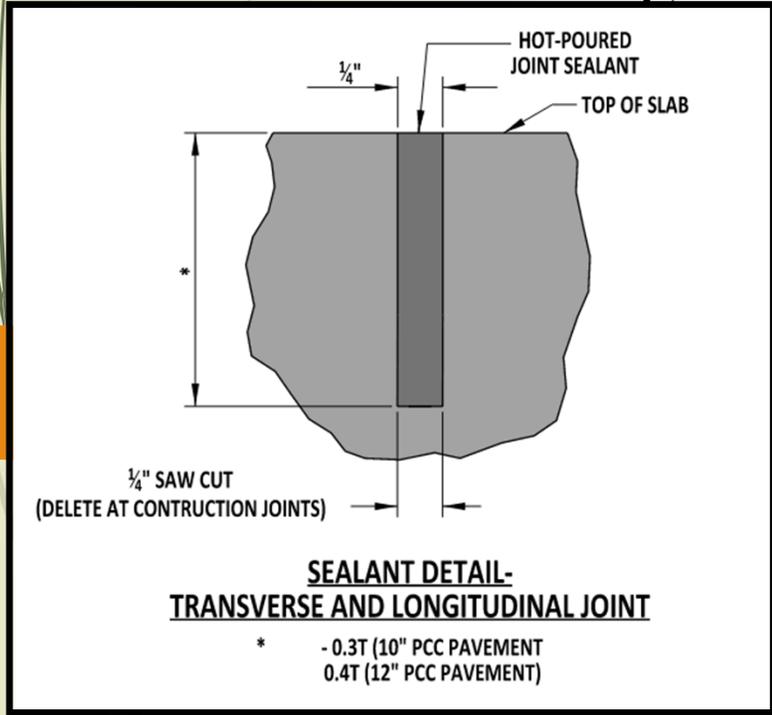


# MISCELLANEOUS

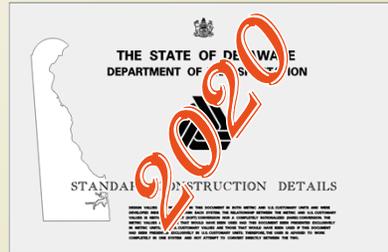
# DRIVEWAY GRADING



# PAVEMENT

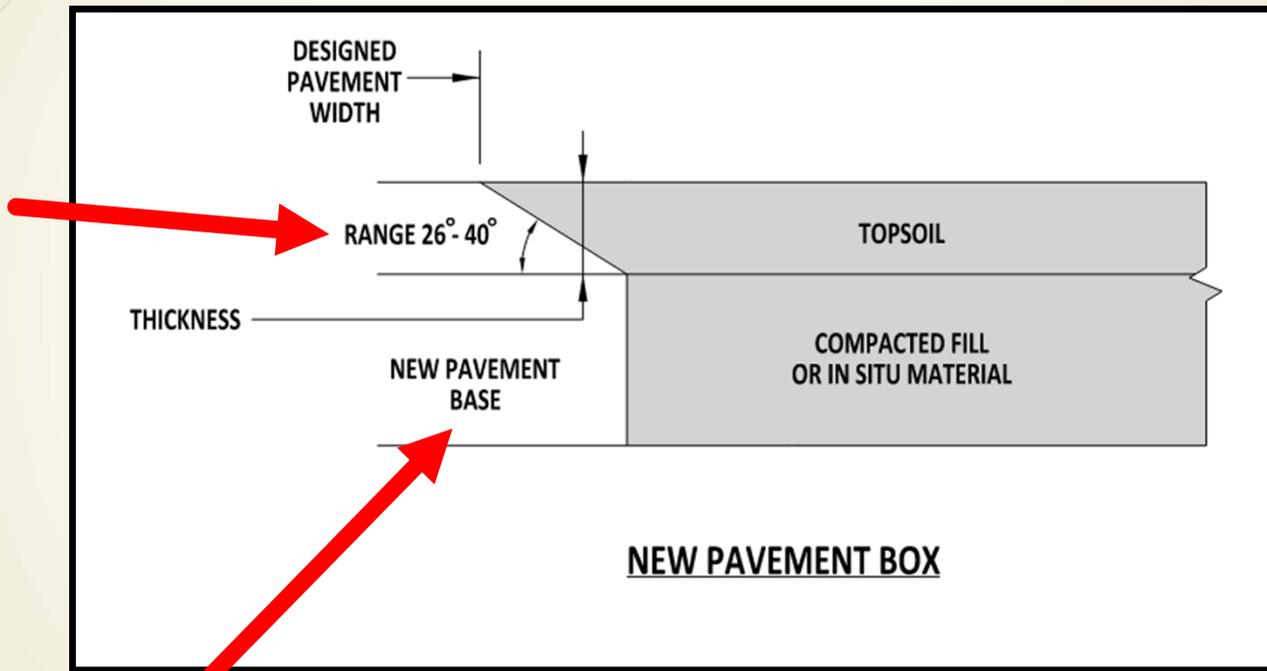


- NOTES:**
1. TRANSVERSE JOINTS ARE PERPENDICULAR TO THE CENTERLINE OF THE PAVEMENT WHEN THE PAVEMENT IS STRAIGHT.
  2. TRANSVERSE JOINTS ARE PERPENDICULAR TO A TANGENT LINE TO THE OUTSIDE ARC OF THE PAVEMENT WHEN THE PAVEMENT IS CURVED.
  3. ALIGN THE TRANSVERSE JOINTS FOR ALL ADJACENT SLABS WITH EACH OTHER.
  4. ABRUPT CHANGES IN PAVEMENT WIDTH MAY OCCUR ONLY AT THE TRANSVERSE JOINT LINE; LONGITUDINAL JOINTS SHALL BE CONTINUOUS WHENEVER POSSIBLE.
  5. LONGITUDINAL JOINTS SHOULD NOT BE LOCATED WITHIN PROPOSED WHEEL PATHS. THE WHEEL PATH IS GENERALLY LOCATED 2' INSIDE OF THE LANE EDGELINE OR CENTERLINE.
  6. CURB WITHOUT GUTTER WILL REQUIRE TYPE IV POLYURETHANE-BONDED RECYCLED RUBBER EXPANSION MATERIAL BETWEEN THE FACE OF CURB AND EDGE OF PCC PAVEMENT.

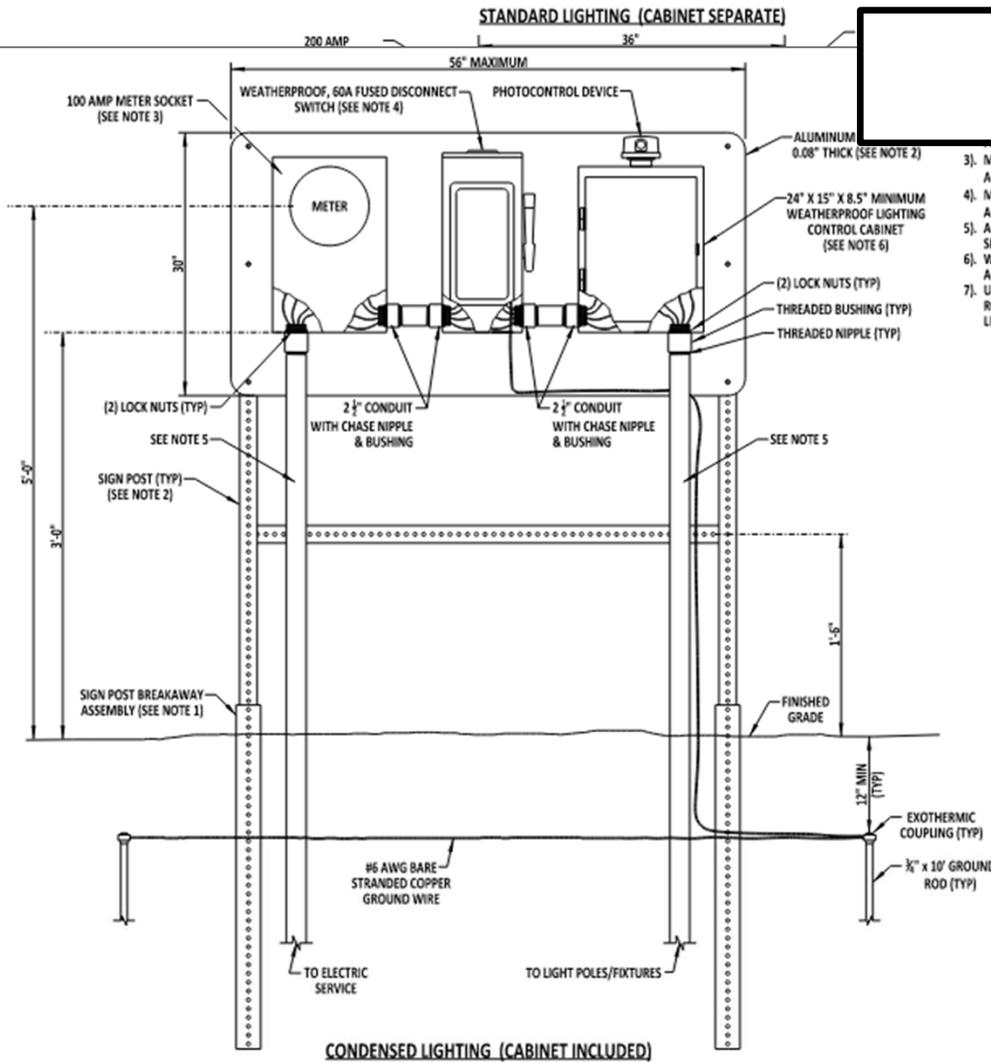


# Pavement

# PAVEMENT SAFETY EDGE



# TRAFFIC



- 3). MOUNT METER SOCKET TO ALUMINUM PANEL WITH (4)  $\frac{3}{16}$ " x  $\frac{3}{8}$ " STAINLESS STEEL BOLTS AND NYLON LOCK NUTS.
- 4). MOUNT DISCONNECT SWITCH TO ALUMINUM PANEL WITH (4)  $\frac{3}{16}$ " x  $\frac{3}{8}$ " STAINLESS STEEL BOLTS AND NYLON LOCK NUTS.
- 5). ALL CONDUITS AND OTHER ASSOCIATED PIECES SHALL BE 2" GALVANIZED UNLESS SPECIFIED DIFFERENTLY ON THE PLANS OR BY LOCAL UTILITY COMPANY.
- 6). WEATHERPROOF LIGHTING CONTROL CABINET SHALL CONTAIN LIGHTING CONTACTOR AND APPROPRIATE OVERCURRENT PROTECTION FOR LIGHTING CIRCUIT(S) BEING USED.
- 7). USE OF THESE DETAILS ARE MEANT FOR SMALLER INTERSECTION LIGHTING SYSTEMS, OR ROADWAY LIGHTING INSTALLATIONS WITH NO MORE THAN 8 LIGHT FIXTURES. FOR LARGER LIGHTING INSTALLATIONS, SEE DETAIL T-17, 4 OF 5.

NO. 1



DELAWARE  
DEPARTMENT OF TRANSPORTATION

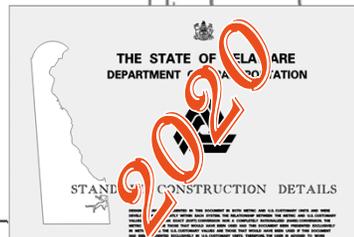
## ELECTRICAL SERVICE PEDESTAL - LIGHTING COMPONENT INSTALLATIONS ( 8 OR LESS FIXTURES)

STANDARD NO. T-17 (2020) SHEET 5 OF 5

APPROVED

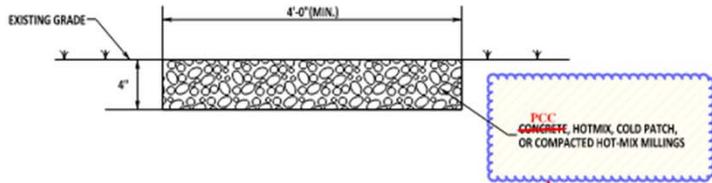
RECOMMENDED

**For Review**



# TRAFFIC

# TEMPORARY PEDESTRIAN PATHWAY



**TEMPORARY PEDESTRIAN PATHWAY**  
N.T.S.

COMPACTED  
COLD  
PATCH AND  
HOT MIX  
MILLINGS

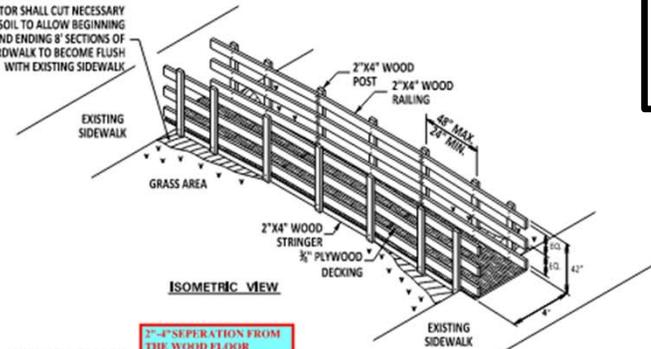
ADD NOTE: MAXIMUM ALLOWABLE RUNNING SLOPE NOT TO EXCEED 5%, MAXIMUM ALLOWABLE CROSS SLOPE NOT TO EXCEED 2% AND VERTICAL SURFACES NOT TO EXCEED 1/4". FURTHER GUIDANCE IN ACCORDANCE WITH THE LATEST VERSION OF THE Pedestrian Accessibility Standards for Facilities in the Public Right-of-Way.

**NOTES:**

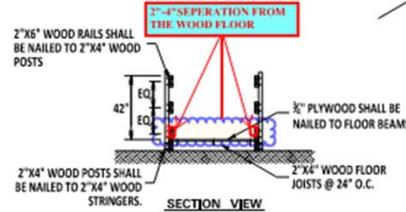
1. PROVIDE 4'-0" WIDE TEMPORARY PATHWAY, SUPPLY CONCRETE, HOTMIX, COLD PATCH OR MILLINGS TO A MINIMUM DEPTH OF 4", FLUSH WITH EXISTING GRADE.
2. IN THE EVENT THAT THE WALKING SURFACE OF THE TEMPORARY SIDEWALK IS LOCATED MORE THAN 30" FROM GRADE AT ANY POINT ALONG THE PROPOSED PATH, PROVIDE TYPE 2 TEMPORARY SIDEWALK.
3. ANY REQUIRED EXCAVATION TO CONSTRUCT THE PATHWAY IS INCIDENTAL TO ITEM 813503.
4. COST FOR SEEDING REQUIRED TO RESTORE THE AREA IS INCIDENTAL TO ITEM 908001, TOPSOIL. IF NO TOPSOIL IS REQUIRED, THEN SEEDING IS CONSIDERED INCIDENTAL TO ITEM 813503.

MAKE ITEMS PAYABLE BY THE DEPARTMENT

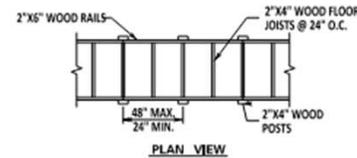
CONTRACTOR SHALL CUT NECESSARY DEPTH OF SOIL TO ALLOW BEGINNING AND ENDING 8' SECTIONS OF BOARDWALK TO BECOME FLUSH WITH EXISTING SIDEWALK



**ISOMETRIC VIEW**



**SECTION VIEW**



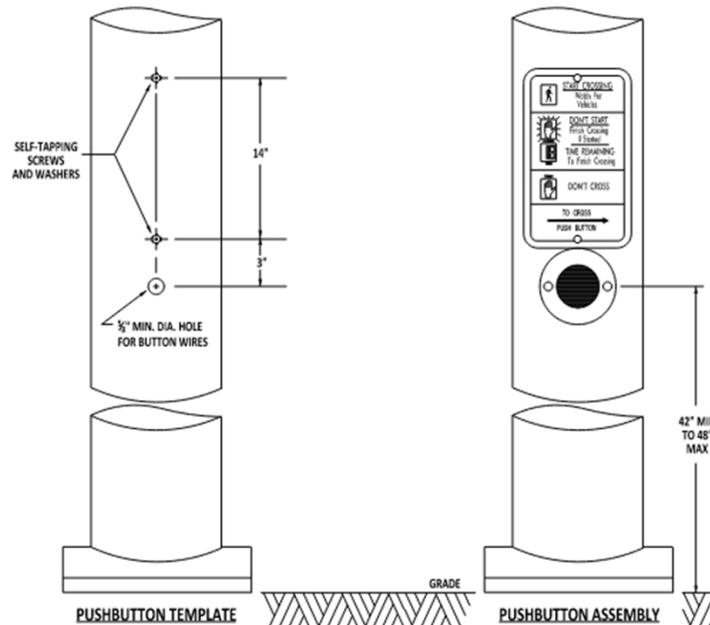
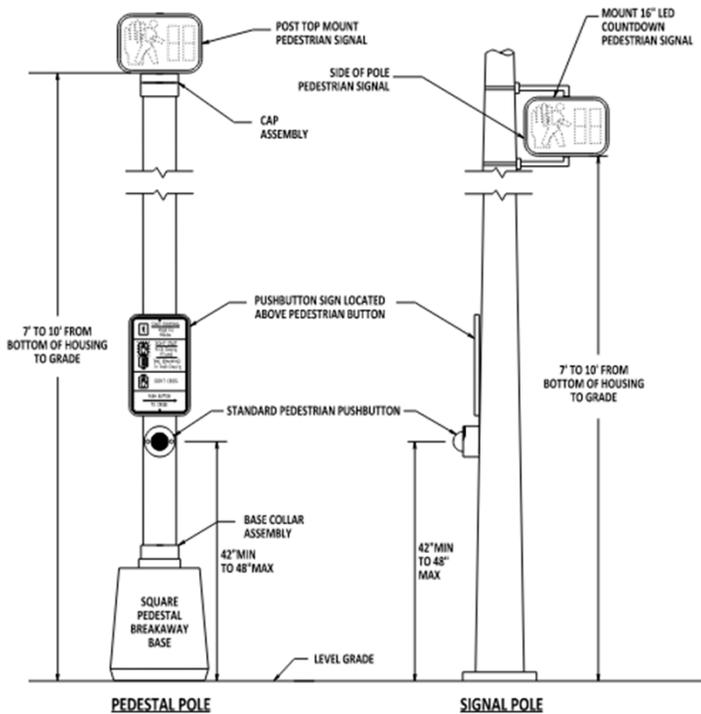
**PLAN VIEW**

**TEMPORARY SIDEWALK DETAIL - TYPE 2**  
N.T.S.

ADD NOTE: MAXIMUM ALLOWABLE RUNNING SLOPE NOT TO EXCEED 5%, MAXIMUM ALLOWABLE CROSS SLOPE NOT TO EXCEED 2% AND VERTICAL SURFACES NOT TO EXCEED 1/4". FURTHER GUIDANCE IN ACCORDANCE WITH THE LATEST VERSION OF THE Pedestrian Accessibility Standards for Facilities in the Public Right-of-Way.

# TRAFFIC

# PEDESTRIAN PUSHBUTTONS



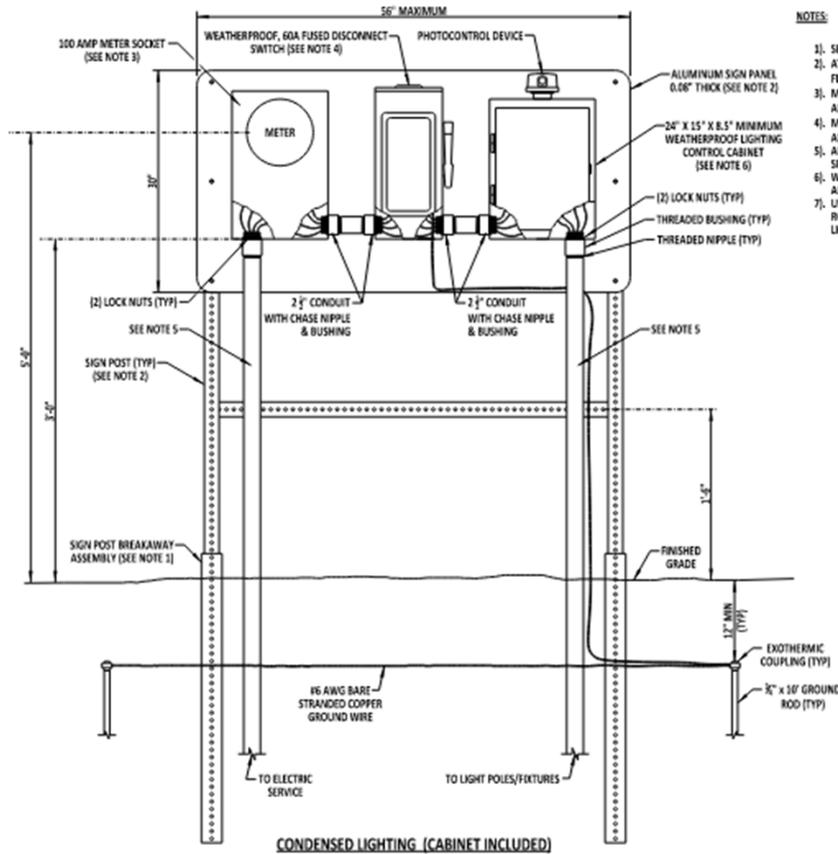
- NOTES:
- 1). WHEN CUTTING IS REQUIRED, CONTRACTOR SHALL CONFIRM PROPER HEIGHT OF PEDESTAL IS MAINTAINED PRIOR TO CUTTING POLE.
  - 2). REFER TO POLE MOUNTING FOR PEDESTRIAN SIGNAL HEADS STANDARD PLATES FOR DETAILS.

- NOTES:
- 1). PUSHBUTTON ASSEMBLY SHALL BE SECURED TO WOOD POLES WITH 21#2" LAG BOLTS.

For Review

# TRAFFIC

# ELECTRICAL SERVICE PEDESTALS



**NOTES**

1. SEE DETAIL T-15, SHEET 1, FOR SIGN POST AND BREAKAWAY ASSEMBLY DETAILS.
2. ATTACH ALUMINUM PANEL TO SIGN POSTS WITH (6)  $\frac{3}{16}$ " x 2 $\frac{1}{2}$ " LONG GRADE 5 BOLTS, FLAT WASHERS, AND NYLON LOCK NUTS, 3 ON EACH SIDE.
3. MOUNT METER SOCKET TO ALUMINUM PANEL WITH (4)  $\frac{3}{16}$ " x  $\frac{1}{2}$ " STAINLESS STEEL BOLTS AND NYLON LOCK NUTS.
4. MOUNT DISCONNECT SWITCH TO ALUMINUM PANEL WITH (4)  $\frac{3}{16}$ " x  $\frac{1}{2}$ " STAINLESS STEEL BOLTS AND NYLON LOCK NUTS.
5. ALL CONDUITS AND OTHER ASSOCIATED PIECES SHALL BE 2" GALVANIZED UNLESS SPECIFIED DIFFERENTLY ON THE PLANS OR BY LOCAL UTILITY COMPANY.
6. WEATHERPROOF LIGHTING CONTROL CABINET SHALL CONTAIN LIGHTING CONTACTOR AND APPROPRIATE OVERCURRENT PROTECTION FOR LIGHTING CIRCUIT[S] BEING USED.
7. USE OF THESE DETAILS ARE MEANT FOR SMALLER INTERSECTION LIGHTING SYSTEMS, OR ROADWAY LIGHTING INSTALLATIONS WITH NO MORE THAN 8 LIGHT FIXTURES. FOR LARGER LIGHTING INSTALLATIONS, SEE DETAIL T-17, 4 OF 5.

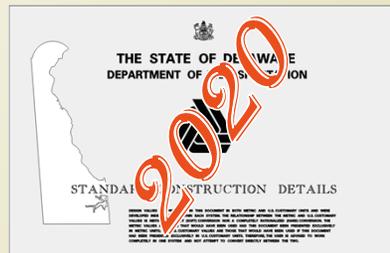


DELAWARE  
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SERVICE PEDESTAL -  
LIGHTING COMPONENT INSTALLATIONS ( 8 OR LESS FIXTURES )  
STANDARD NO. T-17 (2020) SHT. 5 OF 5

APPROVED  
RECOMMENDED

**For Review**





# THANK YOU

**James D. Osborne, P.E.**  
Engineering Support  
**Delaware Department of Transportation**  
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☎: 302-760-2221  
✉: [James.Osborne@delaware.gov](mailto:James.Osborne@delaware.gov)



[www.deldot.gov](http://www.deldot.gov)

