

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)
	(2013) - 1 GUARDRAIL END TREATMENT, TYPE 1
	(2013) - 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)
	(2013) - 1 GUARDRAIL OVER CULVERTS, TYPE 1-31
	(2013) - 2 GUARDRAIL OVER CULVERTS, TYPE 2-31
	(2013) - 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)
	(2013) - 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



SHEET NO. NAME

SECTION I - BARRIER (CONT'D)

B-16 - GUARDRAIL OVER CULVERTS (TYPES 1-27, 2-27, AND 3-27)

(2013) - 1 GUARDRAIL OVER CULVERTS, TYPE 1-27

(2013) - 2 GUARDRAIL OVER CULVERTS, TYPE 2-27

(2013) - 3 GUARDRAIL OVER CULVERTS, TYPE 3-27

B-17 (2010) - GUARDRAIL END TREATMENT (TYPE 4-27)

B-18 (2010) - CURVED GUARDRAIL SECTION

B-19 (2012) - END ANCHORAGE (TYPE 27)

B-20 - BURIED END SECTION

(2010) - 1 BURIED END SECTION - SINGLE RAIL

(2010) - 2 BURIED END SECTION - DOUBLE RAIL

(2010) - 3 POST, CONCRETE BLOCK, AND RUBRAIL DETAILS

B-21 - GUARDRAIL TO BARRIER CONNECTION (TYPES 1-27, 2-27, AND EXIT TYPE 27)

(2010) - 1 GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 1-27

(2010) - 2 GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 2-27

(2010) - 3 GUARDRAIL TO BARRIER CONNECTION, EXIT TYPE 27

SHEET NO. NAME

SECTION II - CURB & GUTTER

C-1 - P.C.C. CURB AND INTEGRAL P.C.C. CURB & GUTTER

(2013) - 1 P.C.C. CURB, TYPICAL CURB SECTION, AND TYPICAL TAPER SECTION AT NOSE OF MEDIANS

(2012) - 2 INTEGRAL P.C.C. CURB & GUTTER

C-2 - CURB RAMPS

(2013) - 1 TYPE 1

(2013) - 2 TYPE 2, 3, AND 4

(2013) - 3 TYPE 5

C-3 (2012) - ENTRANCES

C-4 (2012) - CURB OPENING DETAILS

C-5 (2011) - CURB OPENING WITH SIDEWALK DETAIL

C-6 (2014) - CURB RETAINING WALL

SHEET NO. NAME

SECTION III - DRAINAGE

D-1 - 6:1 SAFETY END STRUCTURE

(2001) - 1 DETAIL VIEWS

(2001) - 2 SCHEDULES

D-2 - 10:1 SAFETY END STRUCTURE

(2001) - 1 DETAIL VIEWS

(2001) - 2 SCHEDULES

D-3 - SAFETY GRATES

(2005) - 1 SAFETY END STRUCTURE GRATE AND ASSEMBLY DETAIL

(2007) - 2 PERSONNEL SAFETY GRATE FOR PIPE INLET DETAIL

D-R (2014) - DRAINAGE INLET REFERENCE SHEET

D-4 (2009) - INLET BOX DETAILS

D-5 - DRAINAGE INLET DETAILS

(2010) - 1 DRAINAGE INLET ASSEMBLY

(2014) - 2 DRAINAGE INLET FRAME AND GRATES

(2012) - 3 DRAINAGE INLET TOP UNITS

(2010) - 4 DRAINAGE INLET COVER SLAB DETAILS

(2010) - 5 DOUBLE INLET COVER SLAB DETAILS

(2012) - 6 34" x 24" DRAINAGE INLET AND COVER SLAB DETAILS

(2010) - 7 34" x 18" DRAINAGE INLET DETAILS

(2010) - 8 DRAINAGE INLET TOP UNIT, TYPE S

(2010) - 9 DOGHOUSE INLET BOX



DELAWARE
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS (2014)

SHEET 2 OF 5

SHEET NO. NAME

SECTION III - DRAINAGE (CONT'D)

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

SHEET NO. NAME

SECTION IV - EROSION

E-1 (2014) - CONCRETE WASHOUT

E-2 (2014) - SILT FENCE

E-3 (2014) - SEDIMENT TRAP

E-4 (2014) - INLET SEDIMENT CONTROL, DRAINAGE INLET

E-5 (2014) - INLET SEDIMENT CONTROL, CULVERT INLET

E-6 (2014) - PORTABLE SEDIMENT TANK

E-7 (2014) - SUMP PIT

E-8 (2014) - SKIMMER DEWATERING DEVICE

E-9 (2014) - STONE CHECK DAM

E-10 (2014) - TEMPORARY SLOPE DRAIN

E-11 (2014) - INCREMENTAL STABILIZATION

E-12 (2014) - EROSION CONTROL BLANKET APPLICATIONS

E-13 (2014) - TURF REINFORCEMENT MAT APPLICATIONS

E-14 (2014) - STABILIZED CONSTRUCTION ENTRANCE

E-15 (2014) - SANDBAG DIKE

E-16 (2014) - SANDBAG DIVERSION

E-17 (2014) - GEOTEXTILE-LINED CHANNEL DIVERSION

E-18 (2014) - TURBIDITY CURTAIN

E-19 (2014) - STILLING WELL

E-20 (2014) - RIPRAP ENERGY DISSIPATOR

E-21 (2014) - STONE OUTLET DETAIL



SECTION V - LANDSCAPING

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

SECTION VI - MISCELLANEOUS

SHEET NO.	NAME
M-1 (2001)	– RIGHT-OF-WAY FENCE
M-2 (2011)	– RIGHT-OF-WAY MONUMENTATION
M-3 (2013)	– SHARED-USE PATH & SIDEWALK DETAILS
M-4 (2011)	– BIKE RACK LAYOUT DETAILS
M-5 (2004)	– WOOD RAIL FENCE
M-6 (2011)	– PATTERNED HOT-MIX OR CONCRETE & BRICK PAVER DETAILS
M-7 (2006)	– CHAIN LINK FENCE DETAILS
M-8 (2014)	– P.C.C. PARKING BUMPER
M-9	– BUS STOP PAD DETAILS
(2013) - 1	BUS STOP PAD DETAILS, TYPES 1, 2, & 3
(2013) - 2	BUS STOP PAD WITH SHELTER DETAILS, TYPES 1 & 2
M-10	– BRIDGE SAFETY FENCE
(2014) - 1	BRIDGE SAFETY FENCE, TYPE 1
(2014) - 2	BRIDGE SAFETY FENCE, TYPE 2
(2014) - 3	HARDWARE

SECTION VII - PAVEMENT

SHEET NO.	NAME
P-1	– P.C.C. PAVEMENT
(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
P-2	– P.C.C. PAVEMENT PATCHING
(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
P-3 (2014)	– BUTT JOINTS
P-4 (2013)	– PERMANENT CROSS-ROAD PATCH OVER PIPE TRENCH DETAIL



SECTION VIII - TRAFFIC

SHEET NO.	NAME
T-1	<div><div>– CONDUIT JUNCTION WELLS</div><div>(2013) - 1 TYPE 1</div><div>(2013) - 2 TYPE 4</div><div>(2013) - 3 TYPE 5</div></div>
T-2 (2011)	<div><div>– JUNCTION WELL, GROUNDING & BONDING FOR STEEL FRAMES & LIDS</div></div>
T-3	<div><div>– CONDUIT JUNCTION WELLS</div><div>(2013) - 1 TYPE 11</div><div>(2012) - 2 TYPE 14</div><div>(2012) - 3 TYPE 15</div></div>
T-4	<div><div>– CABINET BASES</div><div>(2013) - 1 TYPES M & F</div><div>(2013) - 2 TYPE "P & R"</div></div>
T-5	<div><div>– POLE BASES</div><div>(2013) - 1 ROUND BASE & ROUND BASE WITH SQUARE FOUNDATION HEADER</div><div>(2013) - 2 TYPICAL SECTION AND INSTALLATION (BASES 1, 2, 2A, 2B, 3, 3A, AND 3B)</div><div>(2014) - 3 TYPICAL SECTION (BASES 6) AND POLE BASE DATA CHART</div><div>(2014) - 4 TYPICAL SECTION (BASE 4A AND 4B) AND ANCHOR DETAIL</div></div>
T-6 (2011)	<div><div>– SPECIAL POLE BASE</div></div>
T-7 (2005)	<div><div>– SIGN FOUNDATION</div></div>
T-8	<div><div>– LOOP DETECTOR LEAD-IN WIRE INSTALLATION</div><div>(2013) - 1 JUNCTION WELL BEHIND CURB OR CURB AND GUTTER WITH GRASS STRIP</div><div>(2013) - 2 JUNCTION WELL BEHIND CURB OR CURB & GUTTER WITH SIDEWALK AND JUNCTION WELL DIRECTLY BEHIND CURB OR CURB & GUTTER</div><div>(2013) - 3 JUNCTION WELL IN CONCRETE ISLAND</div><div>(2013) - 4 JUNCTION WELL WITHOUT CURB OR CURB & GUTTER WITH SIDEWALK AND GRASS STRIPS AND JUNCTION WELL DIRECTLY ADJACENT TO PAVED SURFACE</div></div>
T-9	<div><div>– LOOP DETECTOR INSTALLATION</div><div>(2013) - 1 LOOP DETECTOR SAWCUT TYPICAL, HOT MIX SURFACE TYPICAL SECTION, AND SPLICE KIT</div><div>(2013) - 2 TYPICAL INTERSECTION LAYOUT</div><div>(2013) - 3 PEDESTRIAN CROSSING TYPICAL LAYOUT</div></div>
T-10	<div><div>– **DETAIL REMOVED IN 2012 REVISION**</div></div>
T-11	<div><div>– MESSENGER WIRE ATTACHMENT</div><div>(2005) - 1 INTERMEDIATE MESSENGER WIRE ATTACHMENT ON WOOD POLES</div><div>(2005) - 2 ANGULAR INTERMEDIATE MESSENGER WIRE ATTACHMENT</div></div>
T-12	<div><div>– MESSENGER WIRE ATTACHMENT</div><div>(2005) - 1 SPAN WIRE ATTACHMENT BETWEEN POLES</div><div>(2005) - 2 DEAD END MESSENGER WIRE ATTACHMENT</div></div>
T-13 (2013)	<div><div>– CONDUIT JUNCTION WELL, TYPE 7</div></div>
T-14	<div><div>– EMERGENCY PREEMPTION RECIEVER</div><div>(2006) - 1 UPRIGHT MOUNT</div><div>(2005) - 2 INVERTED MOUNT</div></div>
T-15 (2013)	<div><div>– BREAKAWAY SIGN POST AND PIN ASSEMBLY DETAILS</div></div>
T-16 (2010)	<div><div>– WOOD BARRICADE DETAILS</div></div>
T-17 (2013)	<div><div>– ELECTRICAL SERVICE PEDESTAL - LIGHTING, SIGNAL & 'ITMS' COMPONENT INSTALLATIONS</div></div>

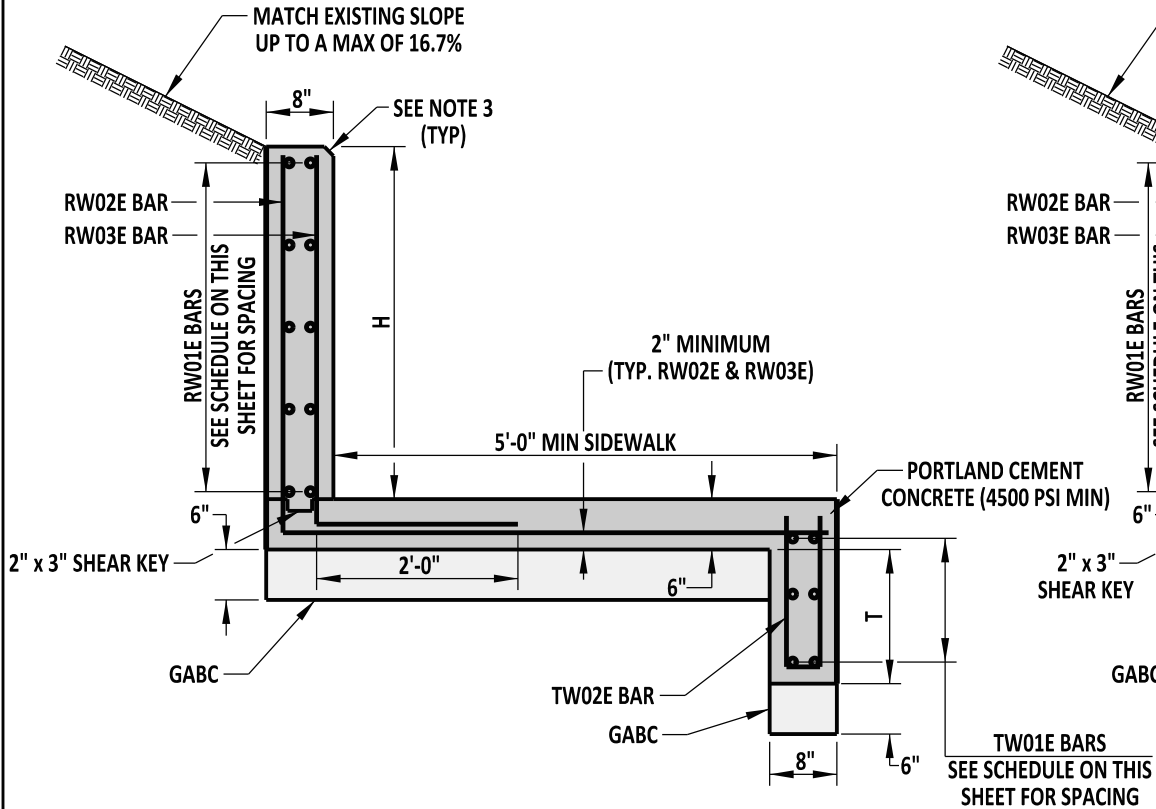


WALL HEIGHT (H)	TOEWALL DEPTH (T)	REQUIRED TRANSVERSE REINFORCEMENT	REQUIRED LONGITUDINAL REINFORCEMENT
GREATER THAN 12" TO 2'-6"	NO TOEWALL NEEDED	#4 BARS @ 6" (RW02E, & RW03E)	#4 BARS @ 12" (RW01E & TW01E)
GREATER THAN 2'-6" TO 3'-0"	6"	#4 BARS @ 6" (RW02E, RW03E, & TW02E)	#4 BARS @ 12" (RW01E & TW01E)
GREATER THAN 3'-0" TO 3'-6"	12"	#5 BARS @ 6" (RW02E, RW03E, & TW02E)	#4 BARS @ 12" (RW01E & TW01E)

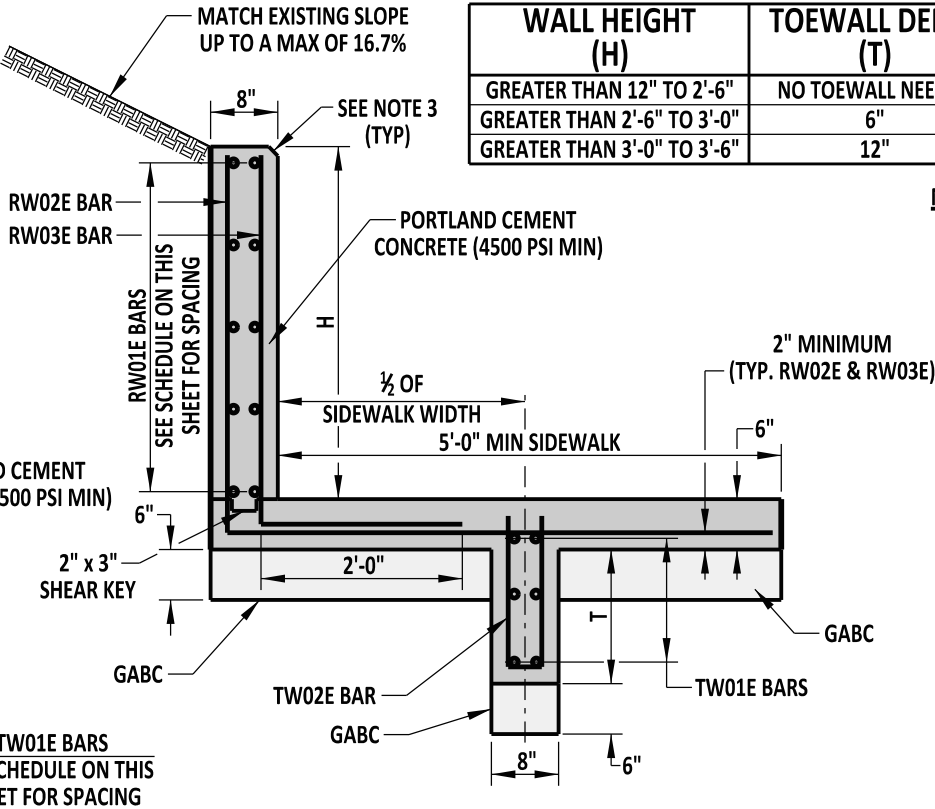
SCALE : NTS

NOTES:

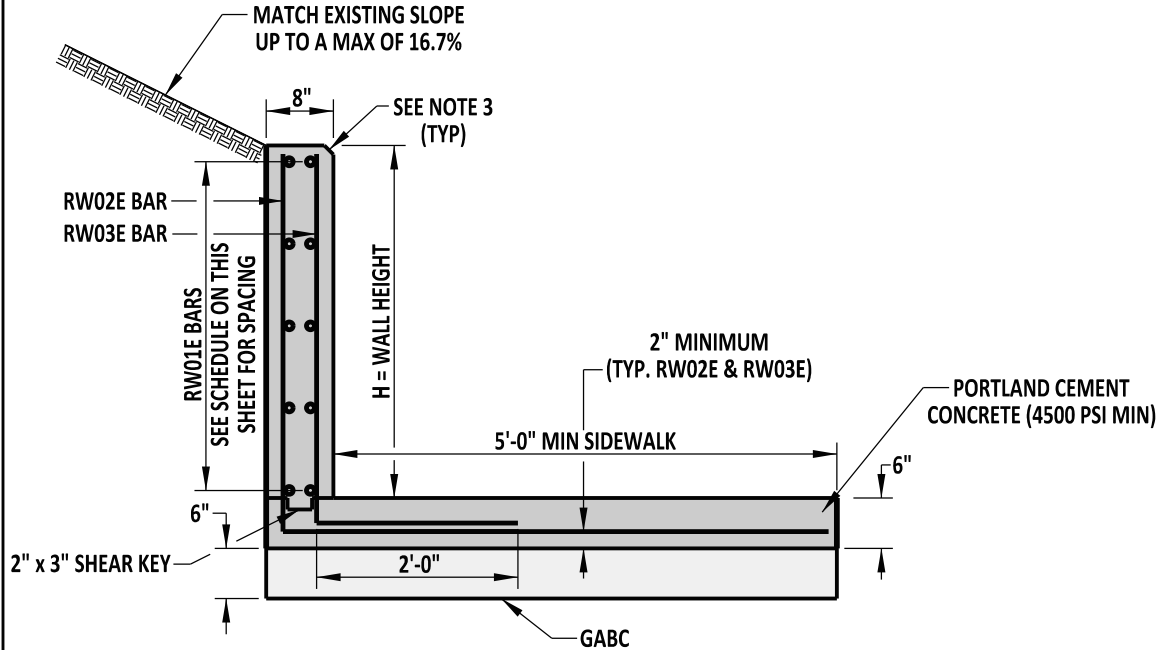
- 1). THE CURB RETAINING WALL DETAILS ARE FOR QUICK FIELD CHANGES WITH APPROVAL OF THE ENGINEER. MODULAR BLOCK WALLS OR ANY OTHER SMALL RETAINING WALLS ARE THE PREFERRED CHOICE DURING PLAN DEVELOPMENT.
- 2). WHEN H IS GREATER THAN 2'-6", CAST THE CURB RETAINING WALLS IN PLACE. WHEN H IS GREATER THAN 12" AND LESS THAN 2'-6", THE WALLS CAN BE EITHER PRECAST OR CAST-IN-PLACE.
- 3). CHAMFER EDGES 3/4" AT THE TOP OF WALL. PLACE A 1/4" ROUND EDGE AT THE FRONT OF SIDEWALK.
- 4). THE RETAINING WALL HAS BEEN DESIGNED TO RESIST EARTH PRESSURE ONLY. ADDITIONAL REINFORCEMENT MAY BE REQUIRED IF ANY SURCHARGE IS APPLIED BEHIND THE RETAINING WALL WITHIN A DISTANCE EQUAL TO 2 TIMES H AND WOULD REQUIRE AN APPROVED SHOP DRAWING.
- 5). MINIMUM BAR COVER IS 2" UNLESS OTHERWISE SPECIFIED ON THIS SHEET.
- 6). BEND THE RW02E AND RW03E BARS INTO ONE CONTINUOUS L-SHAPED BAR.
- 7). BEND THE TW02E BARS INTO 1 CONTINUOUS U-SHAPED BAR.
- 8). SEE DETAIL M-3 FOR SIDEWALK DETAILS AND NOTES, INCLUDING CONSTRUCTION JOINTS AND EXPANSION MATERIAL.
- 9). DO NOT PLACE RW01E AND TW01E BARS THROUGH EXPANSION JOINTS. STOP REINFORCEMENT AND MAINTAIN MINIMUM BAR COVER AS SPECIFIED IN PREVIOUS NOTES.
- 10). THE TOEWALL CAN OPTIONALLY BE PLACED AT MIDPOINT OF THE SIDEWALK.
- 11). ALL REINFORCING STEEL MUST BE EPOXY COATED.
- 12). IF A CURB IS CONSTRUCTED ADJACENT TO THE STRUCTURE, COAT THE FRONT FACE OF THE SIDEWALK/TOEWALL WITH AN APPROVED BOND BREAKER AGENT PRIOR TO THE PLACEMENT OF CONCRETE FOR THE CURB.
- 13). FOR CURB RETAINING WALLS WHERE H IS 12" OR LESS, A MODIFIED P.C.C. CURB TYPE 1-8 CAN BE USED.
- 14). CURB HAS BEEN OMITTED FROM THESE DETAILS FOR CLARITY PURPOSES. FOR INSTALLATIONS WHERE THE TOE WALL IS PLACED AT THE EDGE OF THE SIDEWALK, THE TOEWALL IS NOT A REPLACEMENT FOR CURB.



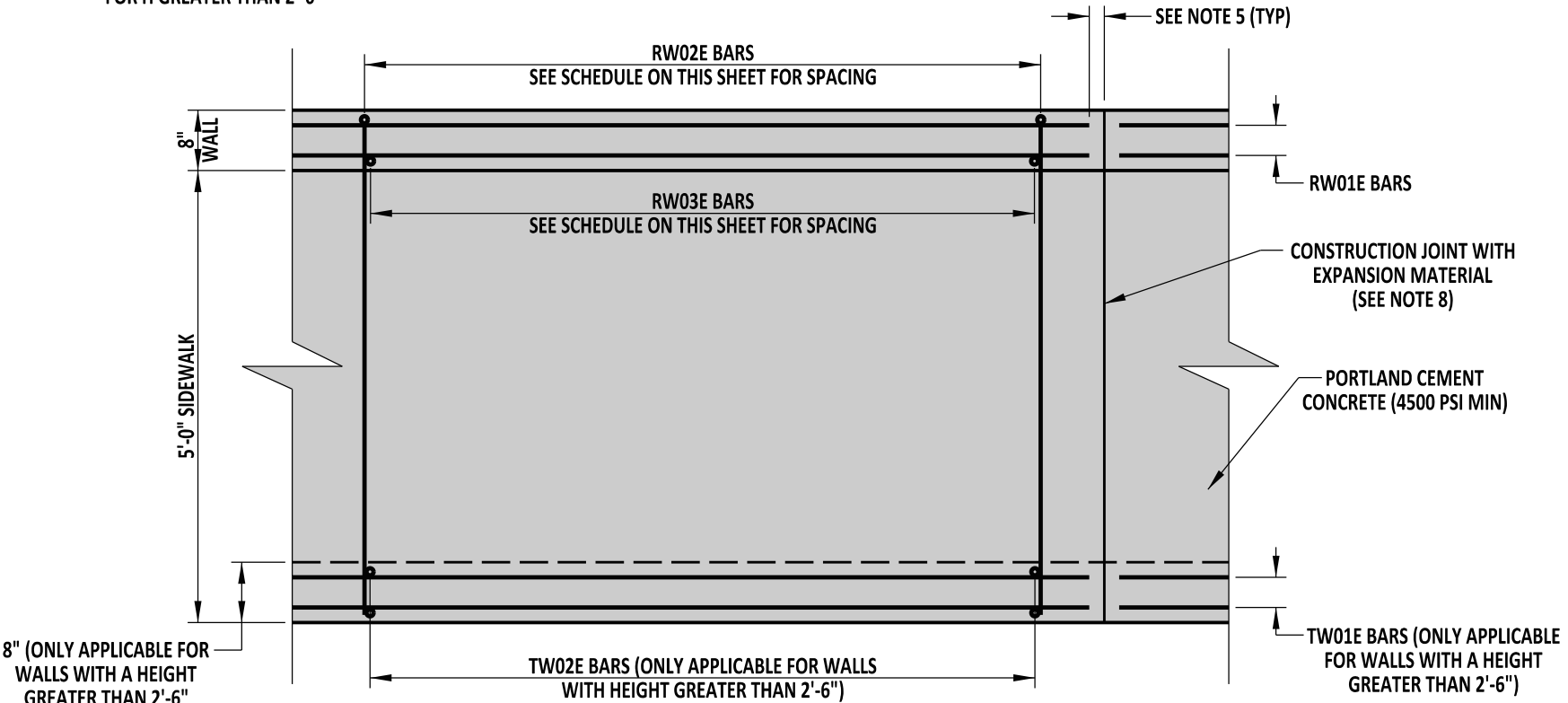
CURB RETAINING WALL SECTION
FOR H GREATER THAN 2'-6"



OPTIONAL TOEWALL PLACEMENT
CURB RETAINING WALL SECTION
FOR H GREATER THAN 2'-6"



CURB RETAINING WALL SECTION
FOR HEIGHTS GREATER THAN 12"
BUT LESS THAN OR EQUAL TO 2'-6"



PLAN VIEW



DELAWARE
DEPARTMENT OF TRANSPORTATION

CURB RETAINING WALL				APPROVED	SIGNATURE ON FILE	12/30/2014
STANDARD NO. C-6 (2014)				RECOMMENDED	SIGNATURE ON FILE	12/11/2014
SHT. 1 OF 1					DESIGN ENGINEER	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) SEE NOTE 6	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 AND 7 GRATE STANDARD DRAINAGE INLET FRAME	24"	12"	11'-4"
34"	24"	NO COVER SLAB	TYPES A, B, C, D, E, & S (SEE NOTE 4)	79"	82"	S501 (SEE NOTE 5)	TYPES 1 THRU 4 AND 7 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 & S (SEE NOTE 5)	93"	96"	S501 (SEE NOTE 5)	TYPES 1 THRU 4 AND 7 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 & S (SEE NOTE 5)	93"	96"	S501 (SEE NOTE 5)	TYPES 1 THRU 4 AND 7 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 & S (SEE NOTE 5)	111"	114"	S501 (SEE NOTE 5)	TYPES 1 THRU 4 AND 7 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 & S (SEE NOTE 5)	111"	114"	S501 (SEE NOTE 5)	TYPES 1 THRU 4 AND 7 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 & S (SEE NOTE 5)	111"	114"	S501 (SEE NOTE 5)	TYPES 1 THRU 4 AND 7 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 & S (SEE NOTE 5)	117"	120"	S501 (SEE NOTE 5)	TYPES 1 THRU 4 AND 7 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 & S (SEE NOTE 5)	117"	120"	S501 (SEE NOTE 5)	TYPES 1 THRU 4 AND 7 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 & S (SEE NOTE 5)	117"	120"	S501 (SEE NOTE 5)	TYPES 1 THRU 4 AND 7 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".
- 3).
- SEE DETAIL D-4 OR APPROPRIATE DETAIL SHEET FOR ADDITIONAL NOTES.
- 4).
- FOR A 34" X 24" DRAINAGE INLET, SEE DETAIL D-5, SHEET 6 FOR INLET TOP UNIT TYPES A, B, C, D, & E. FOR INLET TOP UNIT TYPE S, SEE DETAIL D-5, SHEET 8.
- 5).
- FOR MORE INFORMATION ON DRAINAGE INLET TOP UNIT TYPES A, B, C, D, & E SEE DETAIL D-5, SHEET 3 AND FOR DRAINAGE INLET TOP UNIT, TYPE S, SEE DETAIL D-5, SHEET 8.
- 6).
- ONLY USE THE TYPE 7 DRAINAGE INLET GRATE WHEN SPECIFIED ON THE PLANS OR AFTER APPROVAL BY THE ENGINEER.



DELAWARE
DEPARTMENT OF TRANSPORTATION

DRAINAGE INLET REFERENCE SHEET

STANDARD NO. D-R (2014) SHT. 1 OF 1

APPROVED

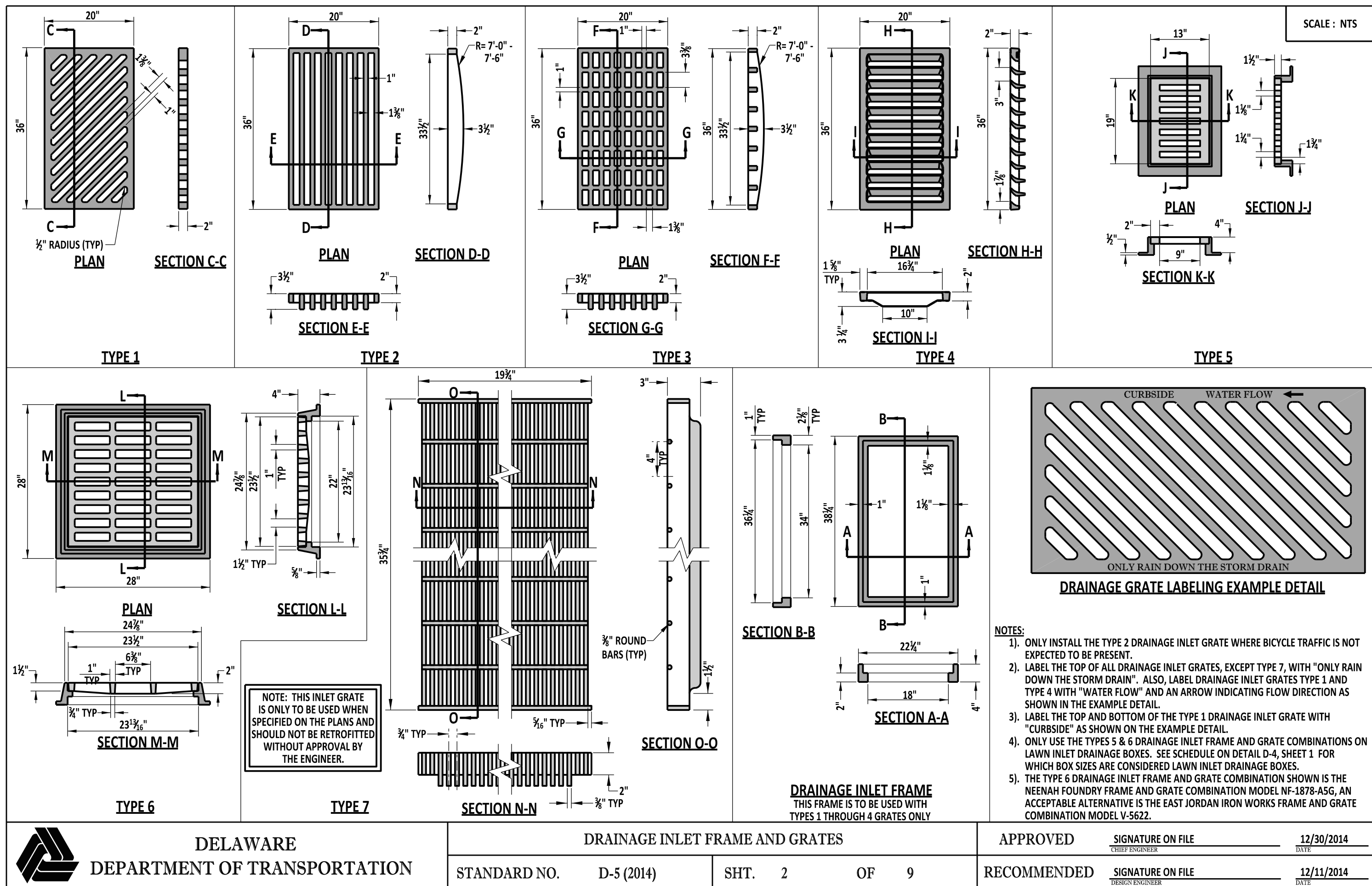
SIGNATURE ON FILE
CHIEF ENGINEER

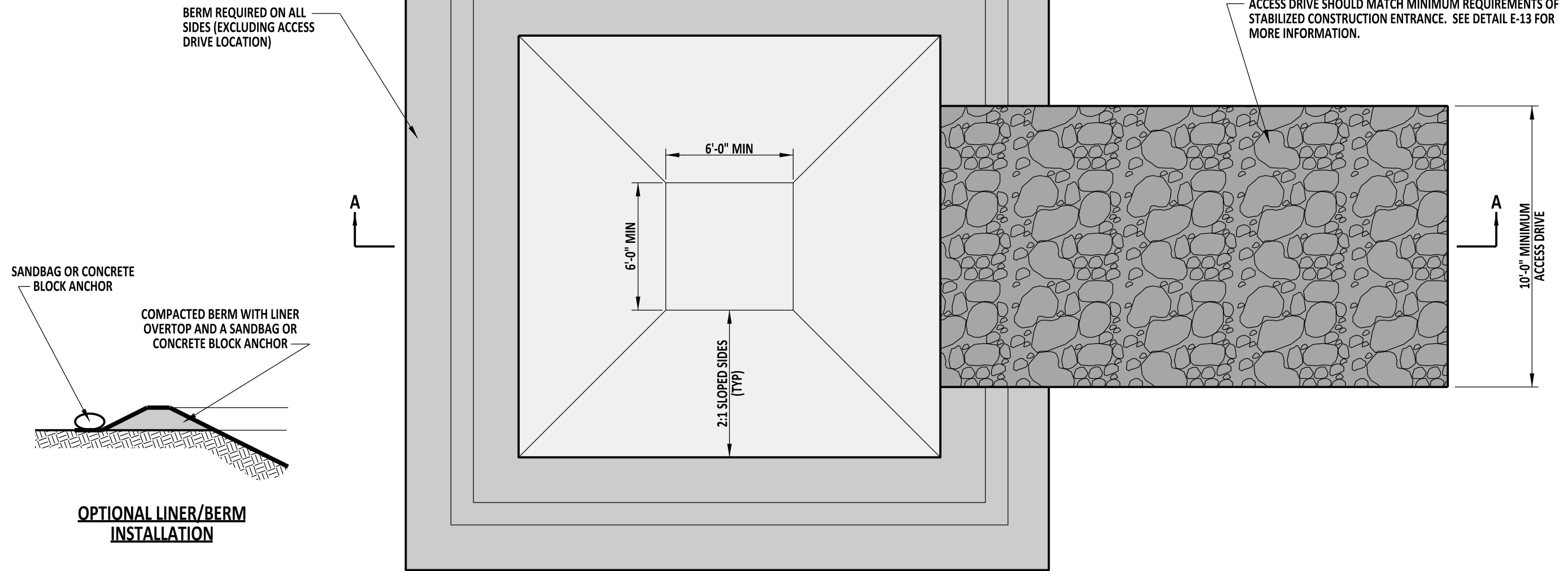
12/30/2014
DATE

RECOMMENDED

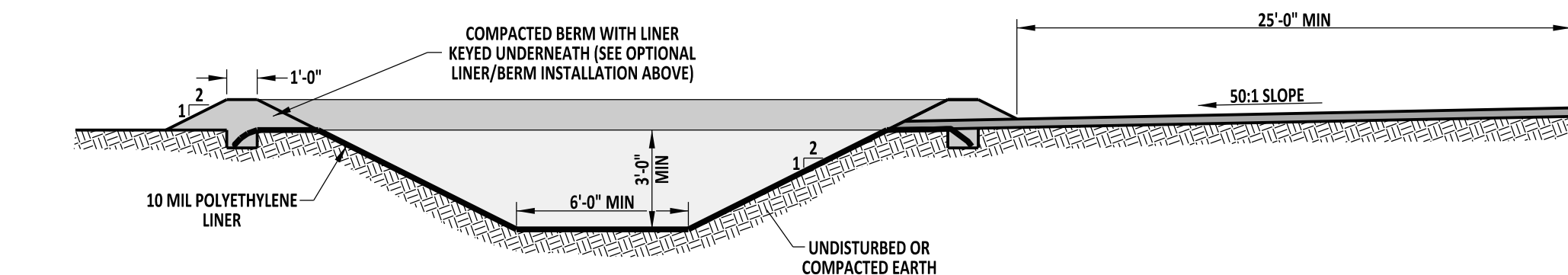
SIGNATURE ON FILE
DESIGN ENGINEER

12/11/2014
DATE





PLAN VIEW



SECTION A-A

NOTES:

- 1). A PREFABRICATED CONCRETE WASHOUT UNIT MAY BE USED IN LIEU OF THE DESIGN SHOWN ON THIS DETAIL. THE DIMENSIONS ARE 4'-0" x 4'-0" x 1'-0" DEEP WITH A 4 MIL POLYETHYLENE PLASTIC LINER. FOLLOW THE DIMENSIONS IN THIS DETAIL FOR CONSTRUCTED CONCRETE WASHOUT AREAS.
- 2). THE LINER MUST BE FREE OF TEARS OR HOLES AND PLACED OVER SMOOTH SURFACES TO PREVENT PUNCTURING. FOR EXCAVATED WASHOUTS, ANCHOR THE LINER UNDERNEATH THE BERM OR OVERTOP WITH SANDBAGS OR CONCRETE BLOCKS TO HOLD IN PLACE, AS DIRECTED ON THIS DETAIL.
- 3). ALLOW WASHED OUT CONCRETE MIXTURE TO HARDEN THROUGH EVAPORATION OF THE WASTEWATER. ONCE THE FACILITY HAS REACHED 75% OF ITS CAPACITY, REMOVE THE HARDENED CONCRETE BY REUSING THE BROKEN AGGREGATE ON SITE, RECYCLING, OR DISPOSING OFFSITE. THE HARDENED MATERIAL CAN BE BURIED ON SITE WITH A MINIMUM OF 1'-0" OF CLEAN, COMPACTED FILL.
- 4). APPLY A NEW LINER BEFORE REUSING THE STATION FOR ADDITIONAL WASHOUTS AFTER MAINTENANCE HAS OCCURRED.



DELAWARE
DEPARTMENT OF TRANSPORTATION

CONCRETE WASHOUT

STANDARD NO.

E-1 (2014)

SHT. 1

OF 1

APPROVED

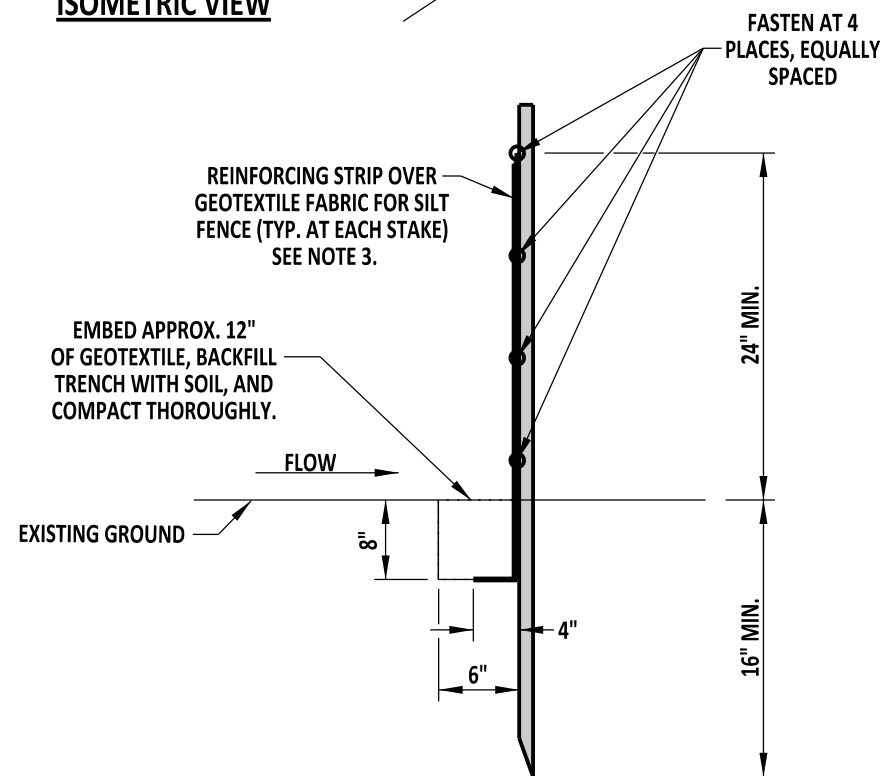
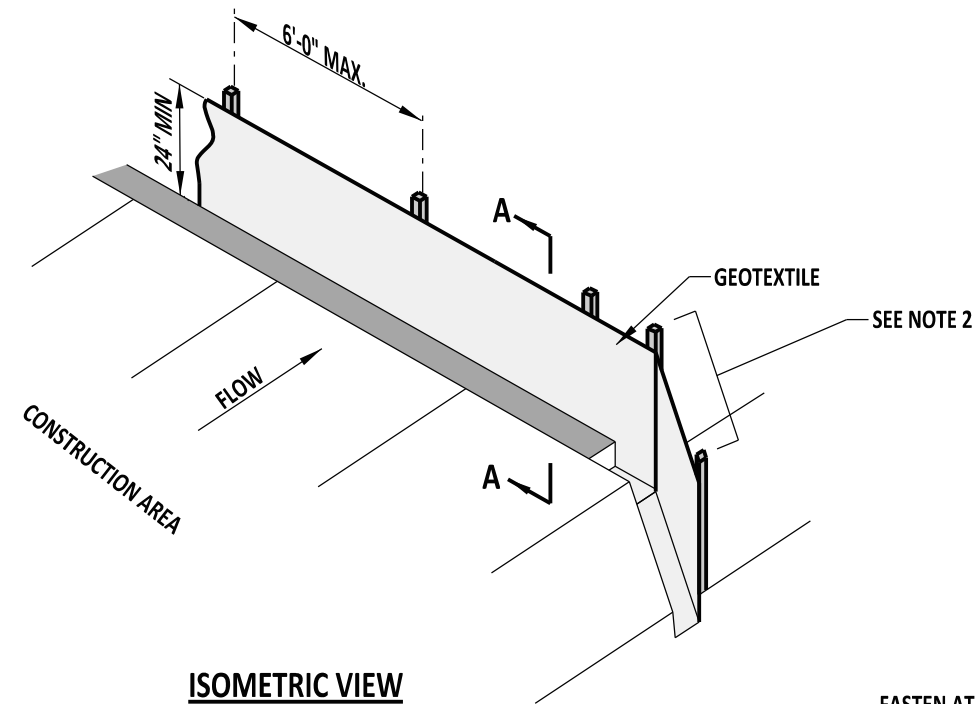
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

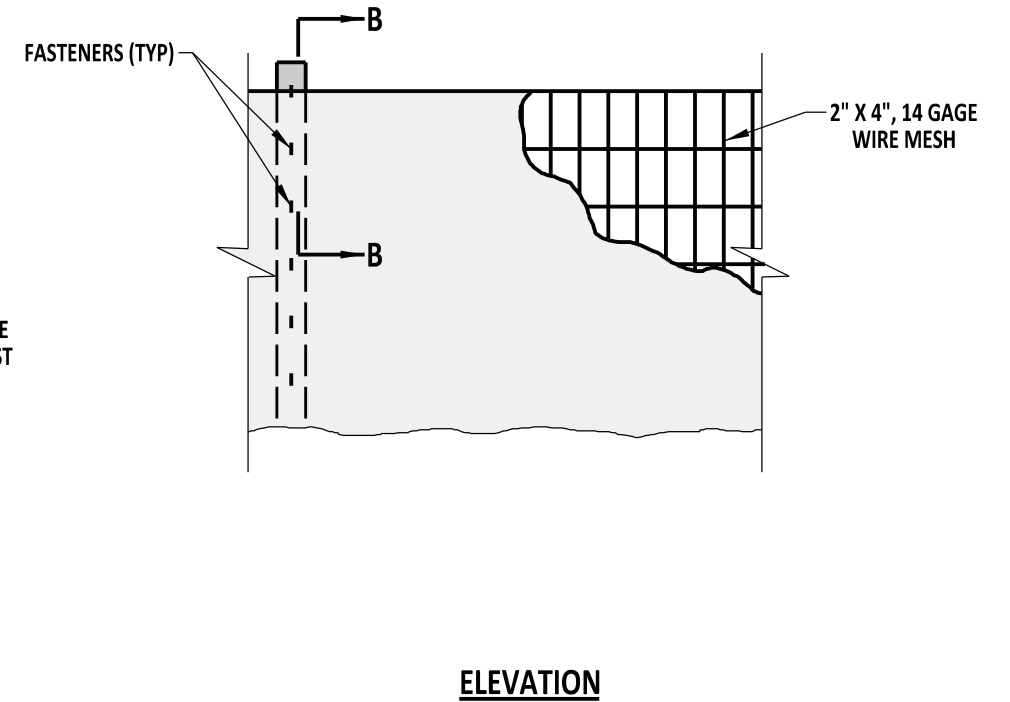
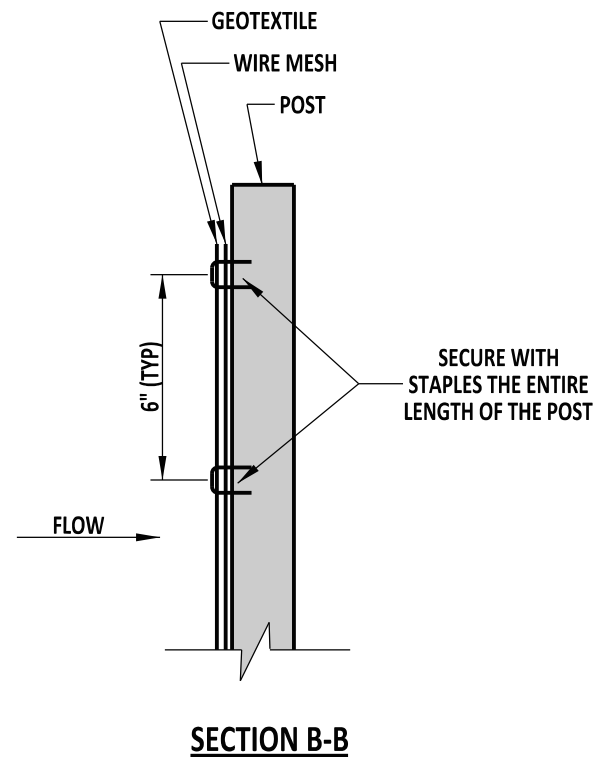
RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER

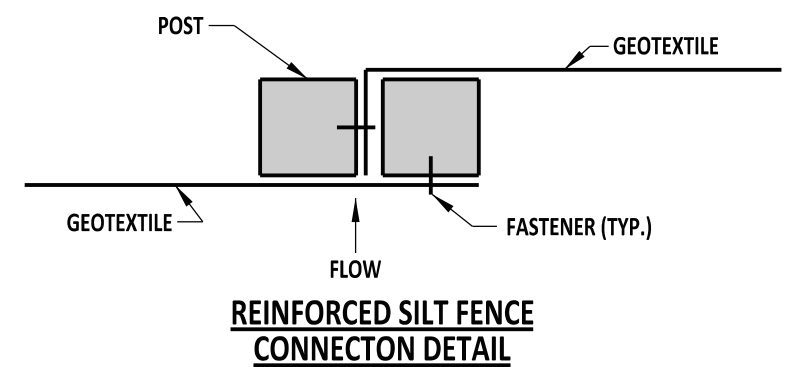
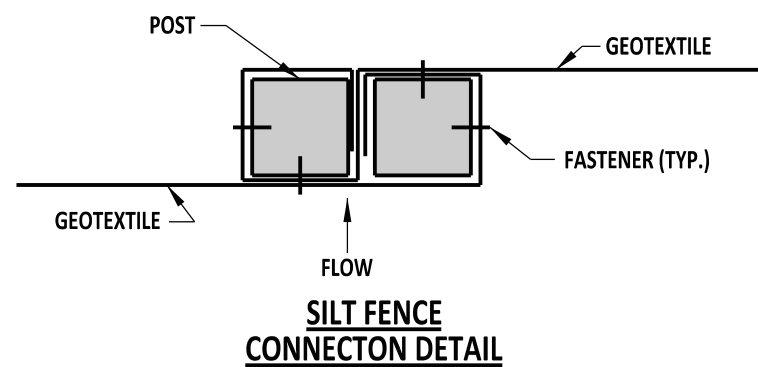
12/11/2014
DATE



- NOTES:**
- 1). THIS DEVICE IS INTENDED TO CONTROL SHEET FLOW ONLY AND IS NOT TO BE USED IN AREAS OF CONCENTRATED FLOW.
 - 2). TURN ENDS OF SILT FENCE UPSLOPE TO CONTAIN RUNOFF.
 - 3). REINFORCING STRIP IS TO BE ONE COMPLETE STRIP COVERING ALL GEOTEXTILE FABRIC AT POST.



WIRE MESH DETAIL
(REINFORCED SILT FENCE ONLY)



DELAWARE
DEPARTMENT OF TRANSPORTATION

SILT FENCE
STANDARD NO. E-2 (2014)

SHT. 1 OF 1

APPROVED

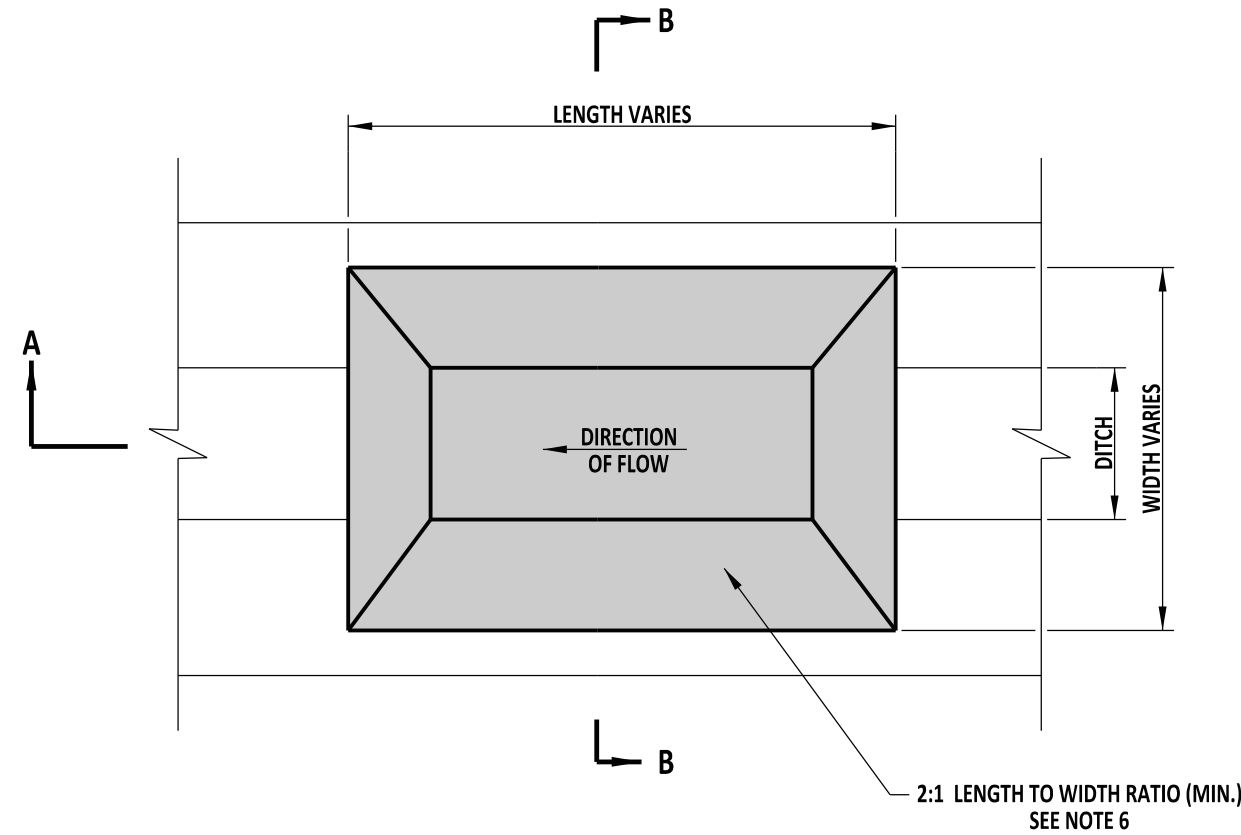
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

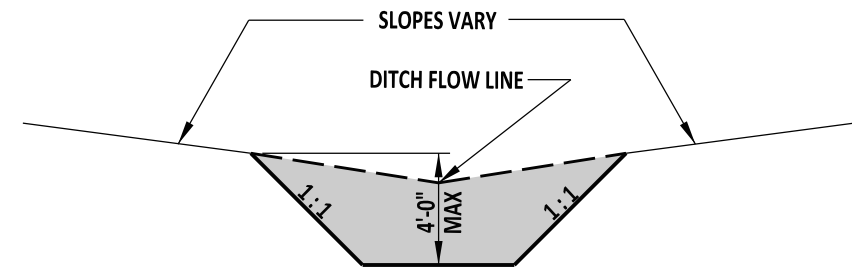
RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER

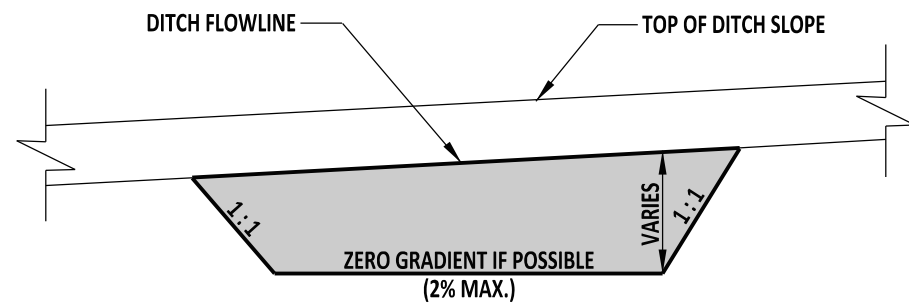
12/11/2014
DATE



PLAN

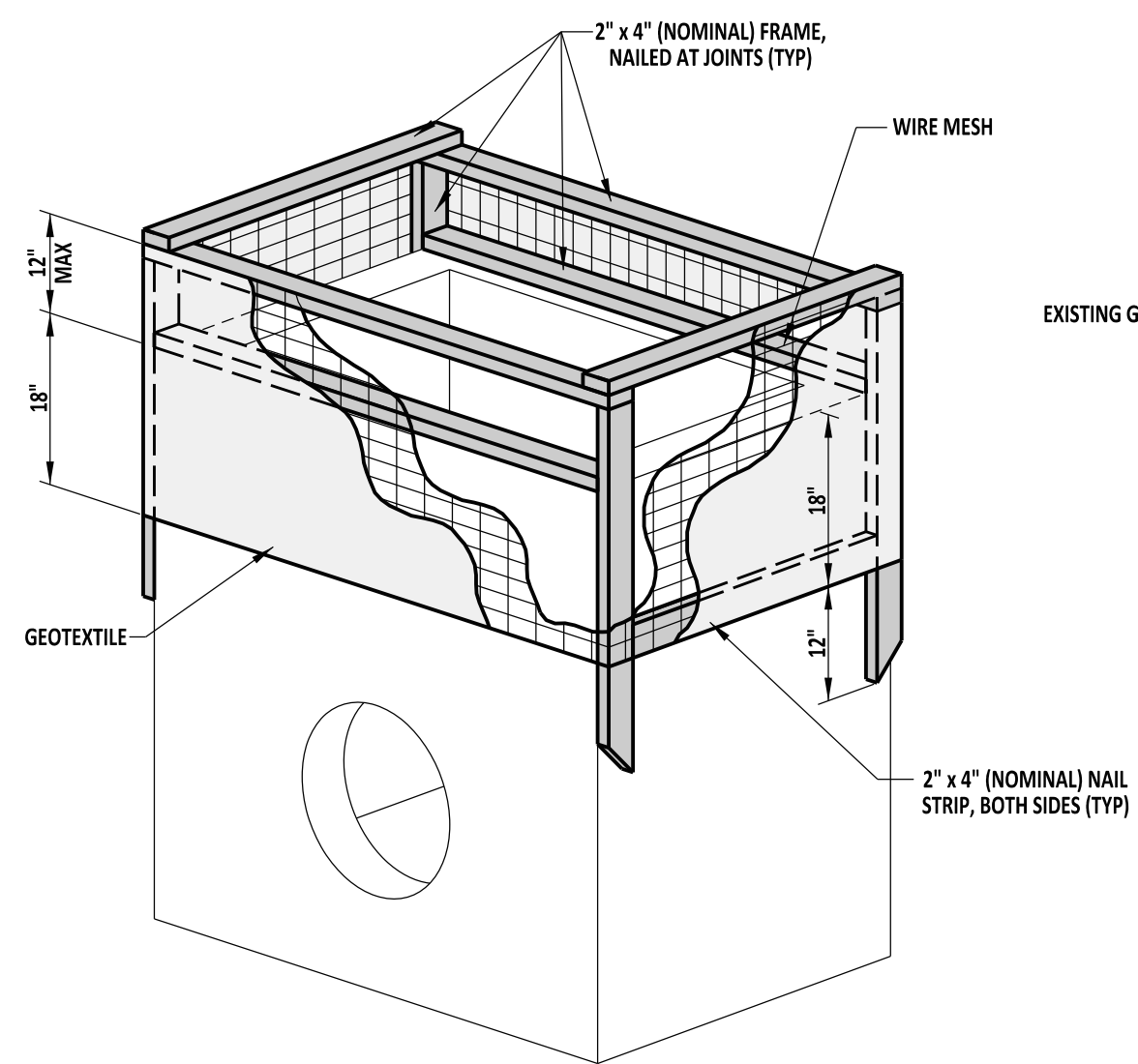


SECTION B-B

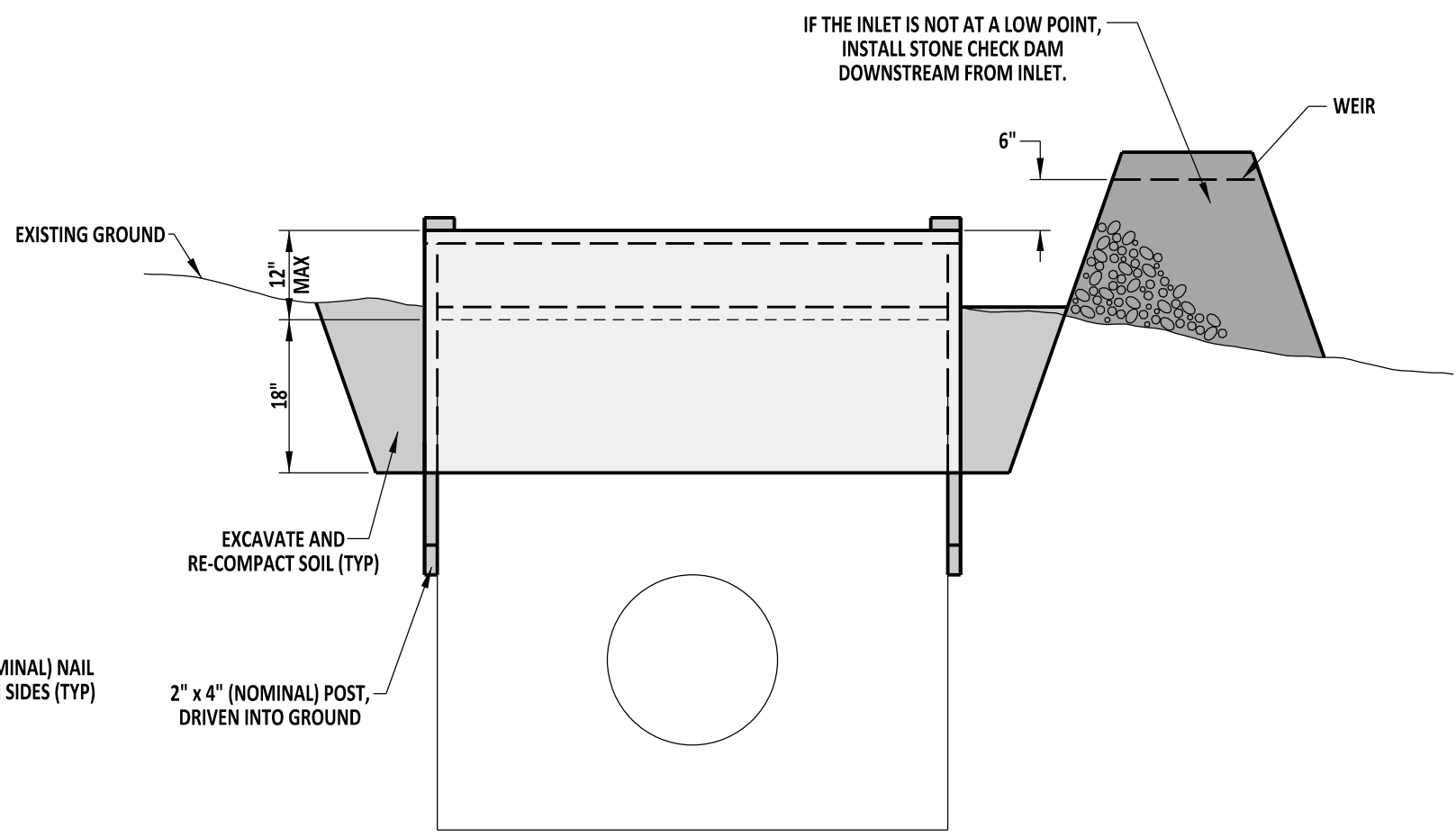


SECTION A-A


- NOTES:**
- 1). SEDIMENT TRAPS ARE INTENDED FOR USE IN EXISTING, PROPOSED, AND TEMPORARY DITCHES OF ALL TYPES WITH A MAXIMUM DRAINAGE AREA OF 15 ACRES, AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.
 - 2). STABILIZE SIDE SLOPES WITH TEMPORARY GRASS SEEDING AS PER SPECIFICATIONS.
 - 3). AN OUTLET STRUCTURE IS REQUIRED AND IS NOTED ON THE PLANS.
 - 4). FOR SIZE, LOCATION, ETC. OF SEDIMENT TRAP, SEE PLANS.
 - 5). ALL FILL SLOPES ARE TO HAVE A SLOPE OF 2:1.
 - 6). THE SEDIMENT TRAP LENGTH TO WIDTH RATIO IS TO BE 2:1. SPECIAL DESIGNS ARE PERMITTED TO INCREASE THE FLOW TIME AFTER APPROVAL BY THE STORMWATER ENGINEER.

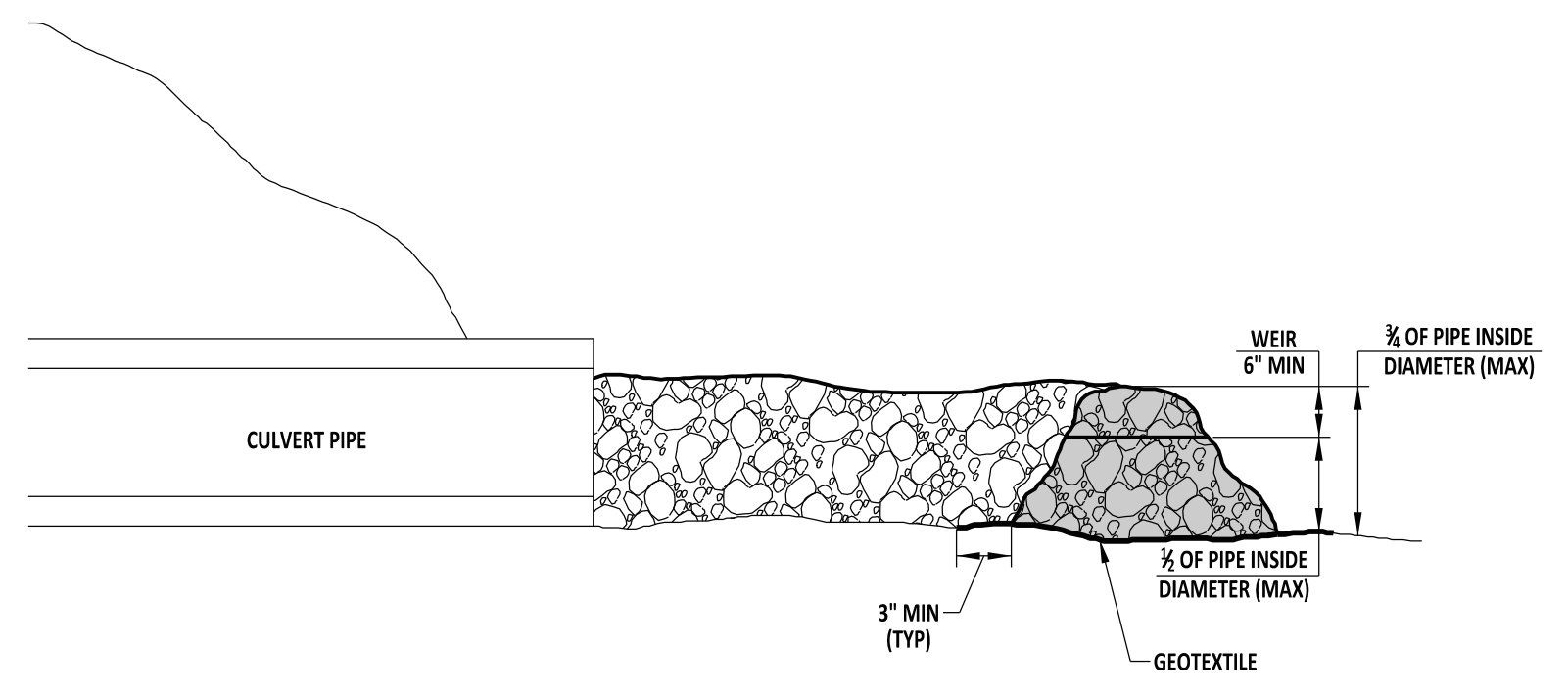
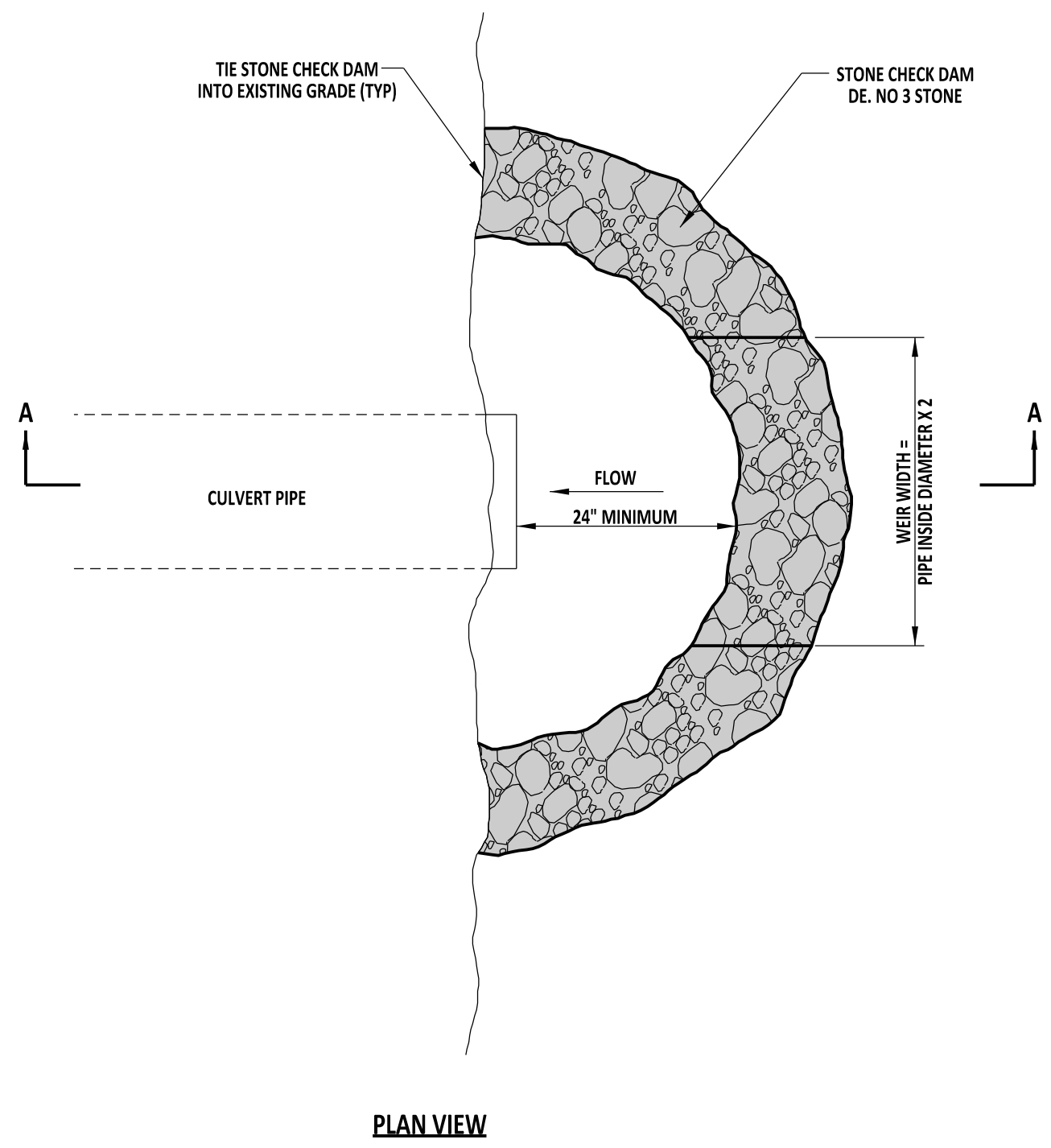


ISOMETRIC VIEW




ELEVATION VIEW

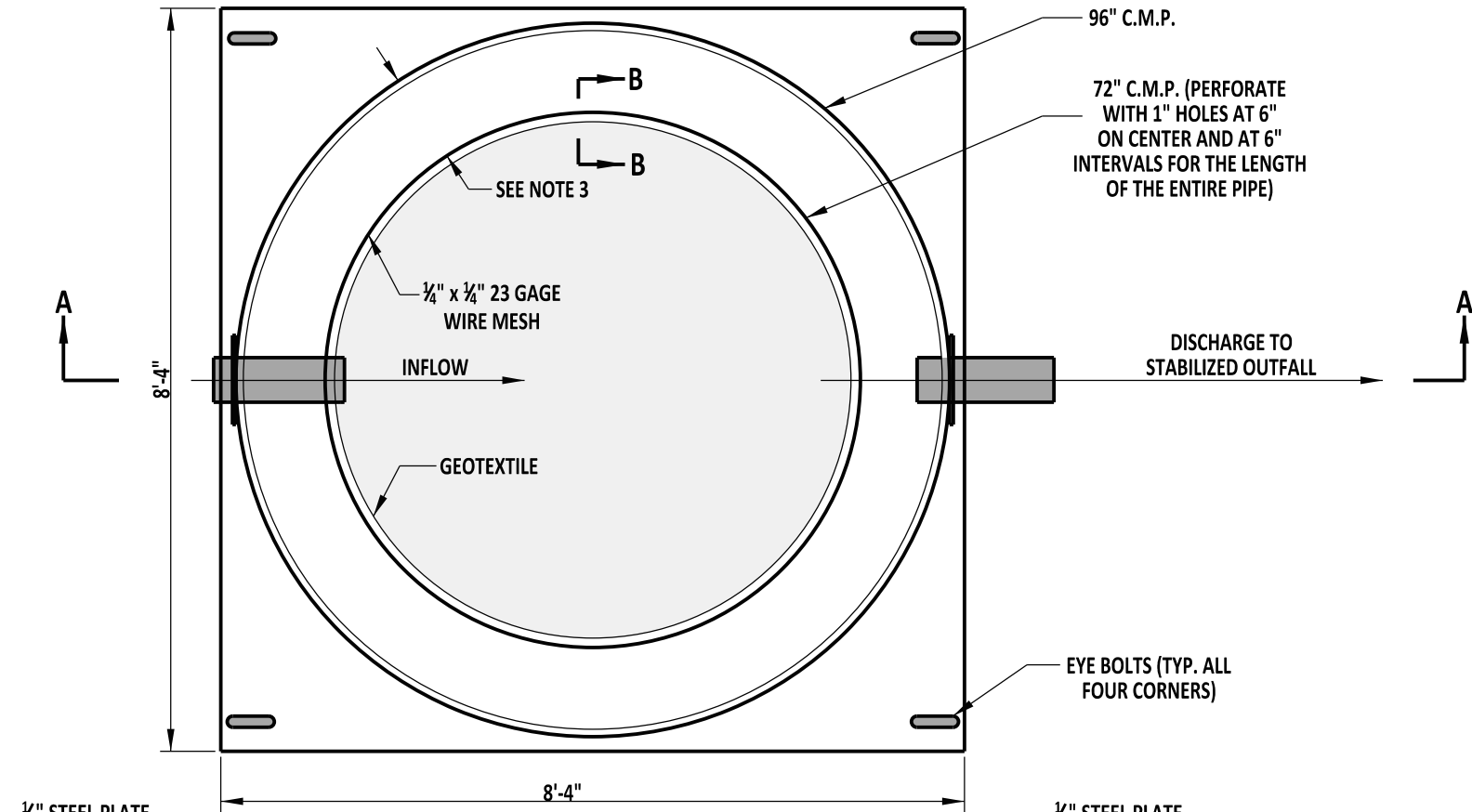
 DELAWARE DEPARTMENT OF TRANSPORTATION	INLET SEDIMENT CONTROL, DRAINAGE INLET			APPROVED	SIGNATURE ON FILE CHIEF ENGINEER	12/30/2014 DATE
	STANDARD NO.	E-4 (2014)	SHT. 1 OF 1	RECOMMENDED	SIGNATURE ON FILE DESIGN ENGINEER	12/11/2014 DATE



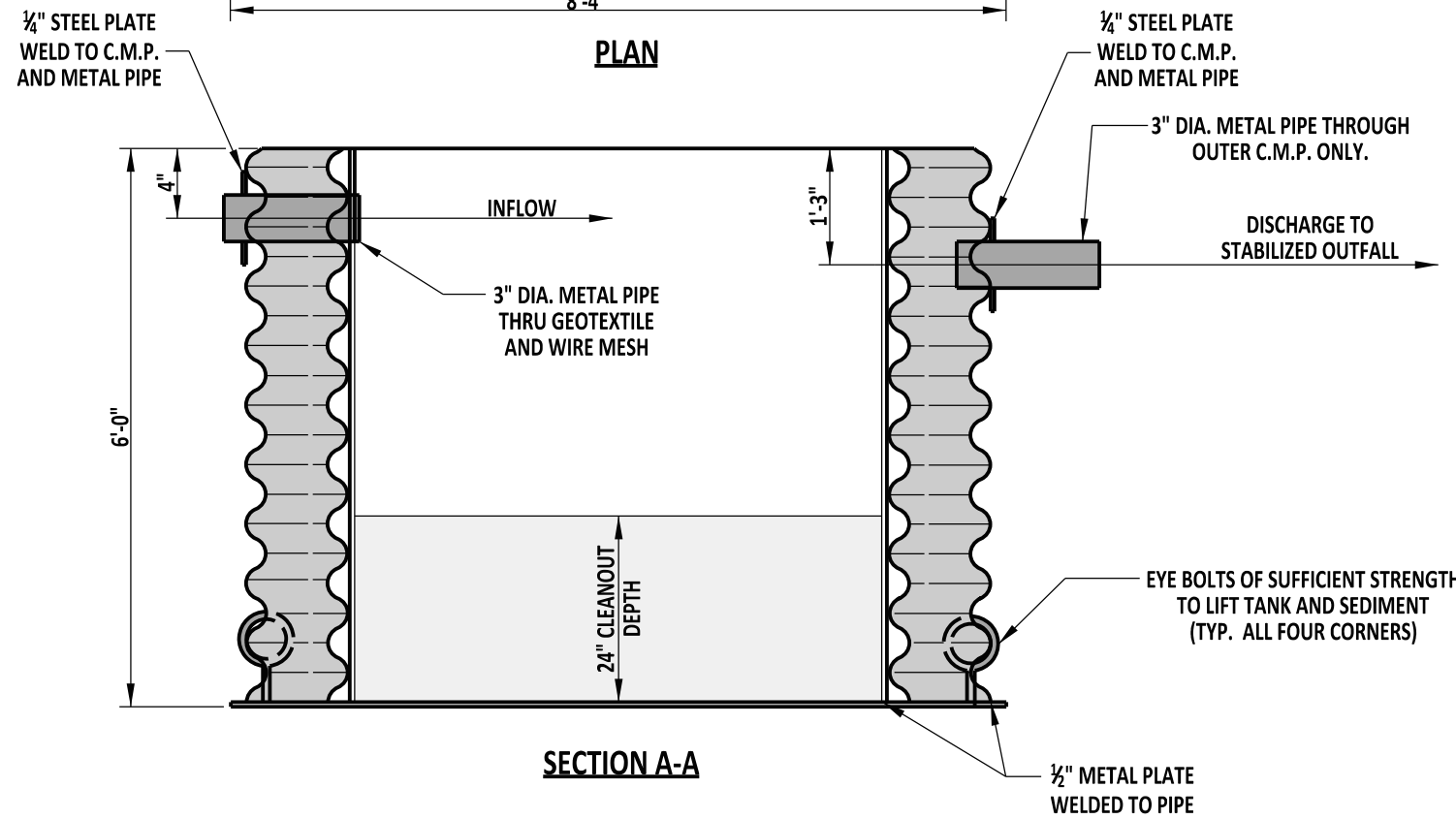
SECTION A-A

NOTE:
1). THE ENGINEER WILL ADAPT SIZE AND SHAPE OF THE STONE CHECK DAM TO MEET FIELD CONDITIONS. INTERCEPTING SWALES AND GRADES NEED TO BE CONSIDERED AS WELL.

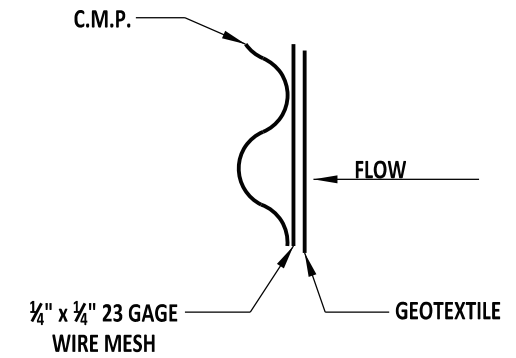
 DELAWARE DEPARTMENT OF TRANSPORTATION	INLET SEDIMENT CONTROL, CULVERT INLET			APPROVED	SIGNATURE ON FILE	12/30/2014
	STANDARD NO.	E-5 (2014)	SHT. 1 OF 1	RECOMMENDED	SIGNATURE ON FILE	12/11/2014



PLAN



SECTION A-A



SECTION B-B

NOTES:

- 1). THE MAXIMUM PUMP DISCHARGE IN THIS TYPICAL PORTABLE SEDIMENT TANK IS 125 GALLONS PER MINUTE. REPLACE THE GEOTEXTILE WHEN THE PORTABLE SEDIMENT TANK CAN NO LONGER ALLOW THIS FLOW RATE, WHEN THERE IS A TEAR, OR WHEN DIRECTED BY THE ENGINEER.
- 2). SEVERAL UNCONNECTED OR CONNECTED IN PARALLEL PORTABLE SEDIMENT TANKS MAY BE USED WHEN A HIGHER FLOW RATE IS NEEDED TO DEWATER THE JOB.
- 3). PLACE 72" C.M.P. SO THAT IT IS CENTERED IN THE 96" C.M.P. AND THERE IS AN EQUAL AMOUNT OF SPACE BETWEEN THE TWO PIPES.



DELAWARE
DEPARTMENT OF TRANSPORTATION

PORTABLE SEDIMENT TANK

STANDARD NO.

E-6 (2014)

SHT. 1

OF 1

APPROVED

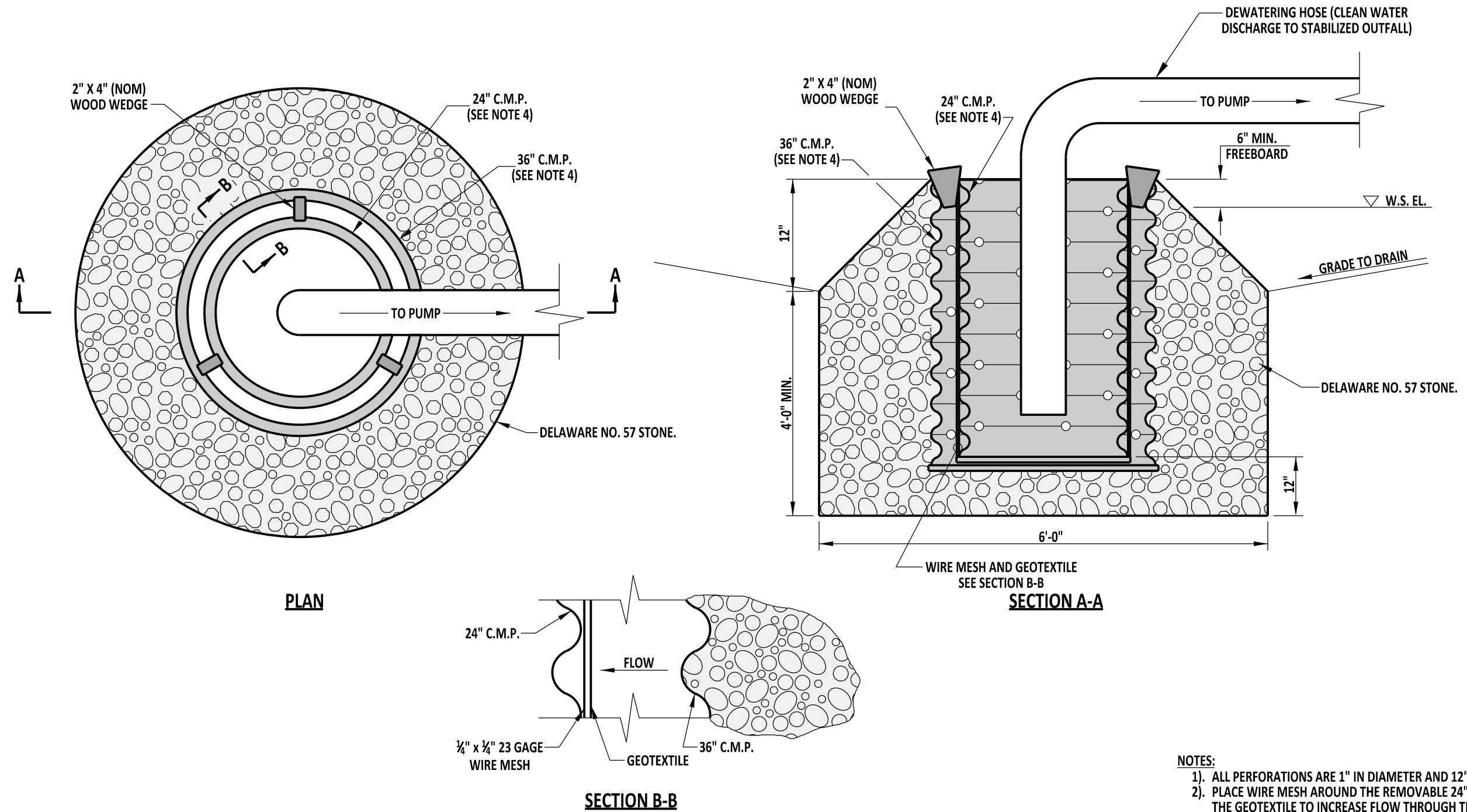
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER

12/11/2014
DATE



- NOTES:
- 1). ALL PERFORATIONS ARE 1" IN DIAMETER AND 12" ON CENTER IN ALL DIRECTIONS.
 - 2). PLACE WIRE MESH AROUND THE REMOVABLE 24" C.M.P. BEFORE ATTACHING THE GEOTEXTILE TO INCREASE FLOW THROUGH THE GEOTEXTILE.
 - 3). WELD PERFORATED CAP TO THE BOTTOM OF BOTH PIPES.
 - 4). REPLACE GEOTEXTILE FOR THE 24" C.M.P. WHEN CLOGGED WITH SEDIMENT.



DELAWARE
DEPARTMENT OF TRANSPORTATION

SUMP PIT

STANDARD NO. E-7 (2014)

SHT. 1 OF 1

APPROVED

SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

RECOMMENDED

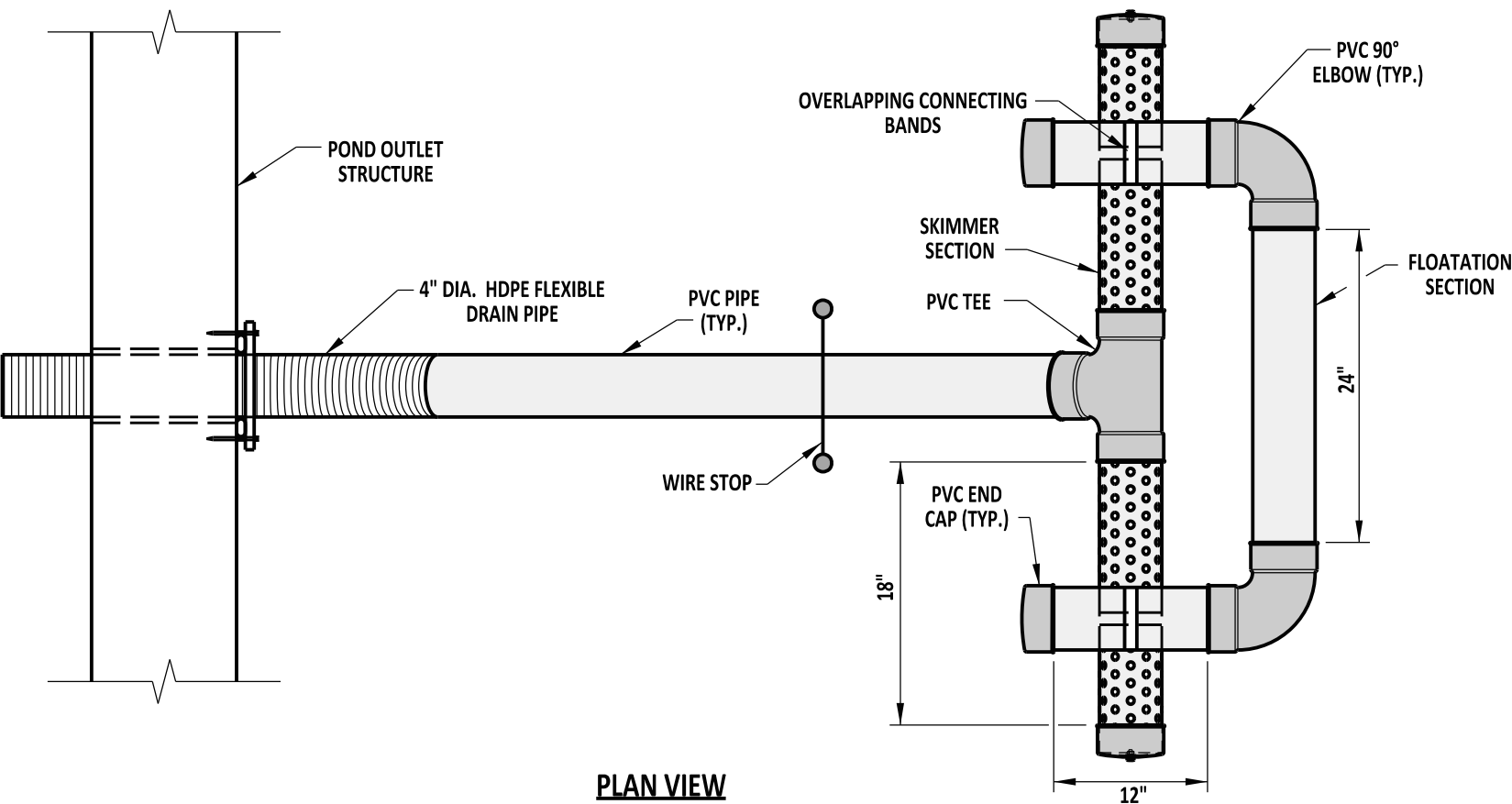
SIGNATURE ON FILE
DESIGN ENGINEER

12/11/2014
DATE

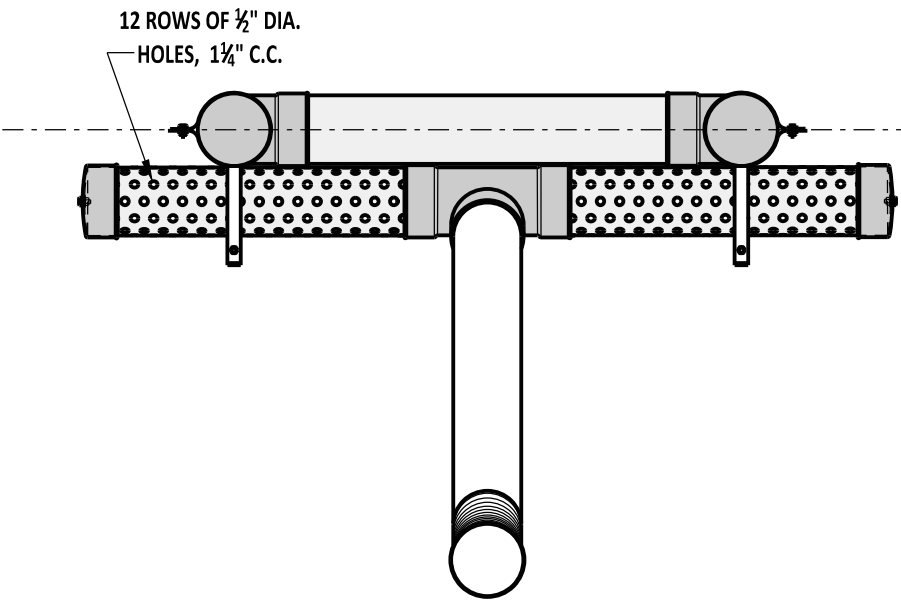
NOTES:

- 1). ALL PVC PIPES ARE 4" I.D., SCHEDULE 40.
- 2). SOLVENT WELD ALL JOINTS OF THE FLOTATION SECTION..
- 3). ATTACH A 4" HDPE FLEXIBLE DRAIN PIPE TO THE POND OUTLET STRUCTURE USING WATER TIGHT CONNECTIONS.

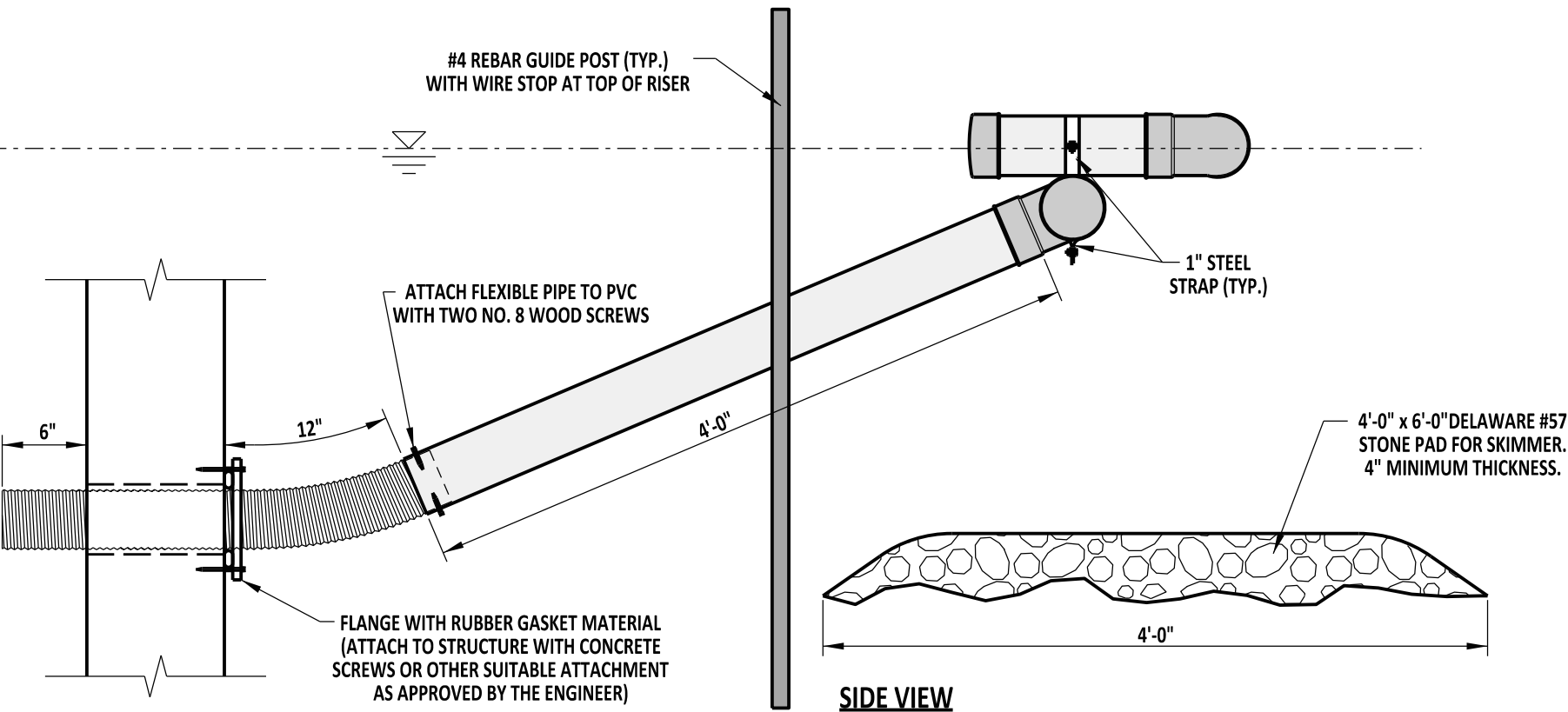
SCALE : NTS



PLAN VIEW



FRONT VIEW



SIDE VIEW



DELAWARE
DEPARTMENT OF TRANSPORTATION

SKIMMER DEWATERING DEVICE

STANDARD NO.

E-8 (2014)

SHT. 1

OF 1

APPROVED

SIGNATURE ON FILE
CHIEF ENGINEER

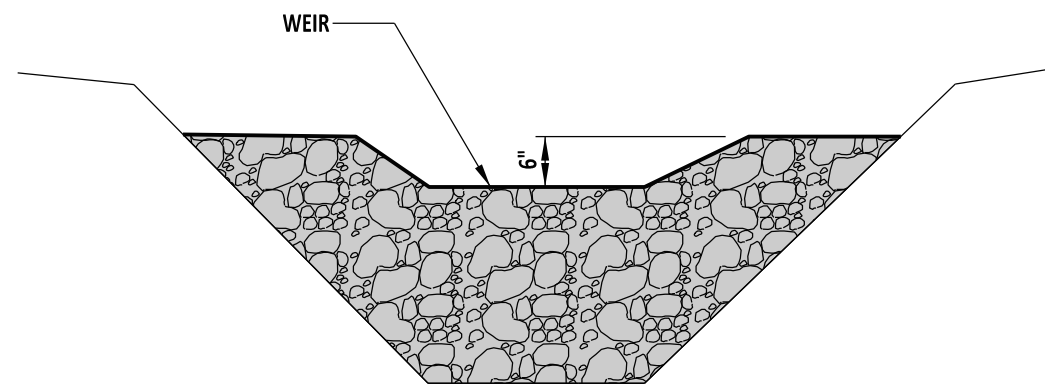
12/30/2014
DATE

RECOMMENDED

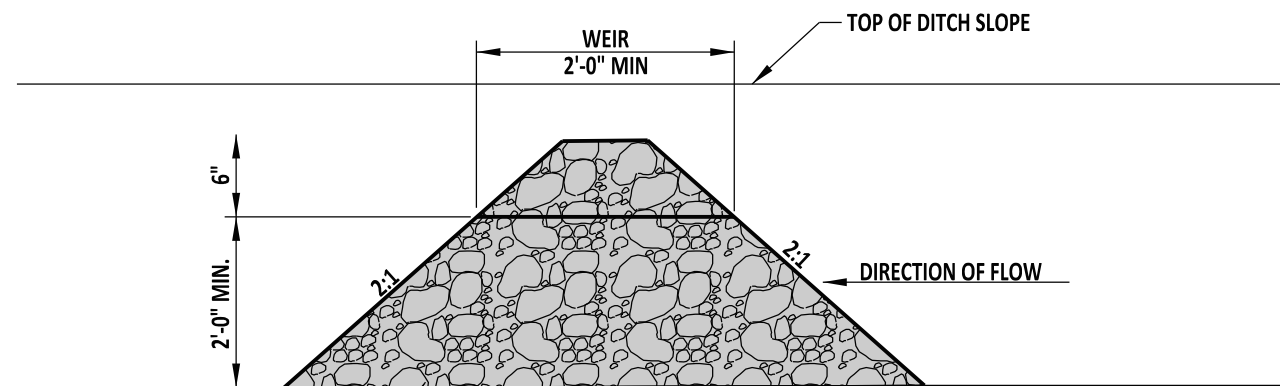
SIGNATURE ON FILE
DESIGN ENGINEER

12/11/2014
DATE

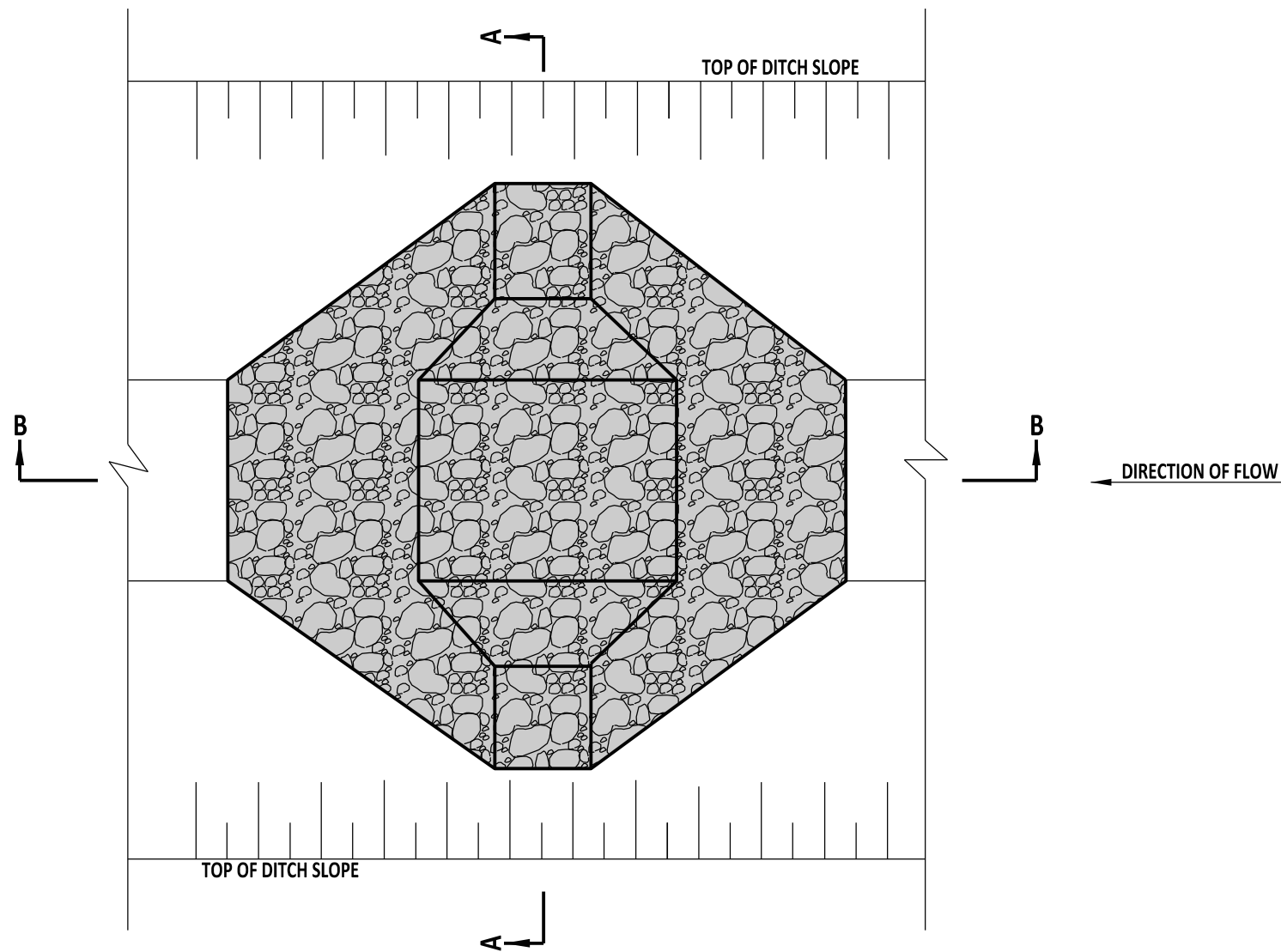
SCALE : NTS



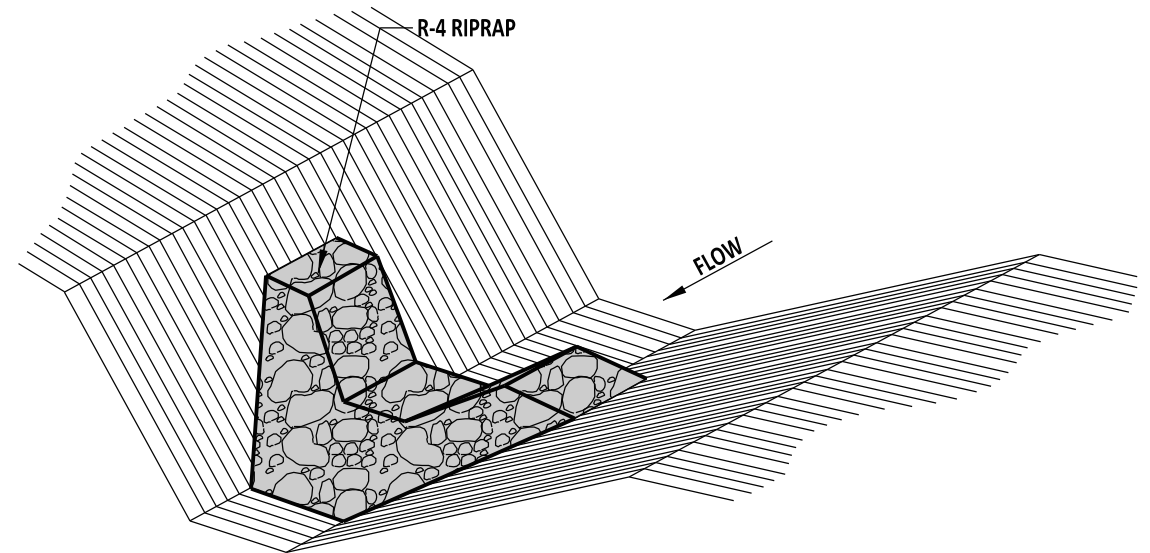
SECTION A-A



SECTION B-B



PLAN



ISOMETRIC VIEW

NOTES:

- 1). THE MAXIMUM HEIGHT OF THE CHECK DAM IS 2'-0" AT THE CENTER OF THE WEIR.
- 2). CONSTRUCT CHECK DAM SO THAT THE CENTER OF THE DAM IS 6" LOWER THAN THE OUTER EDGES, FORMING A WEIR THAT WATER CAN FLOW ACROSS.
- 3). INSTALL GEOTEXTILE FABRIC UNDERNEATH RIPRAP ON PERMANENT CHECK DAMS ONLY.
- 4). SPACE DAMS SO THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE WIER OF THE DOWNSTREAM DAM. PLACE DAMS NO FURTHER THAN 200'-0" APART WHEN THE SLOPE IS LESS THAN 1%.



DELAWARE
DEPARTMENT OF TRANSPORTATION

STONE CHECK DAM

STANDARD NO. E-9 (2014)

SHT. 1 OF 1

APPROVED

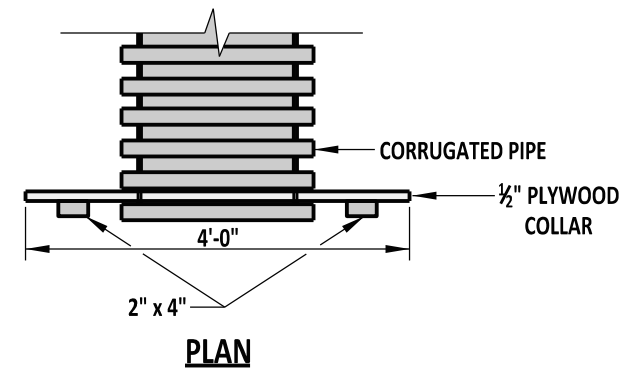
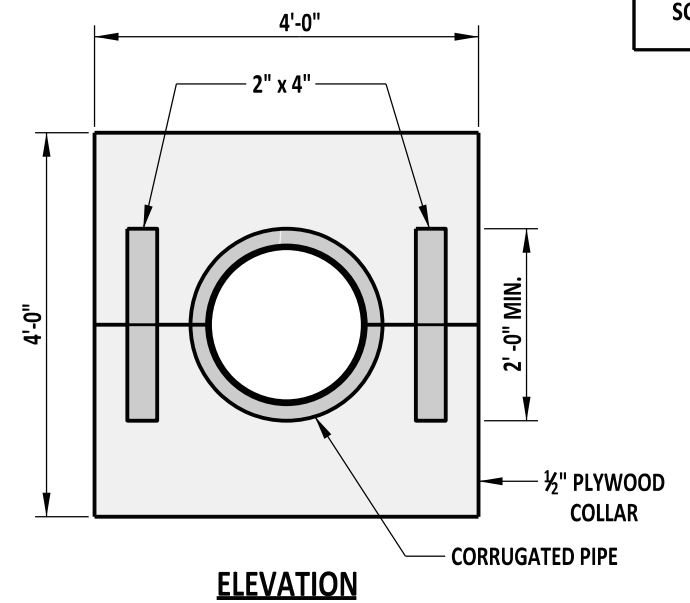
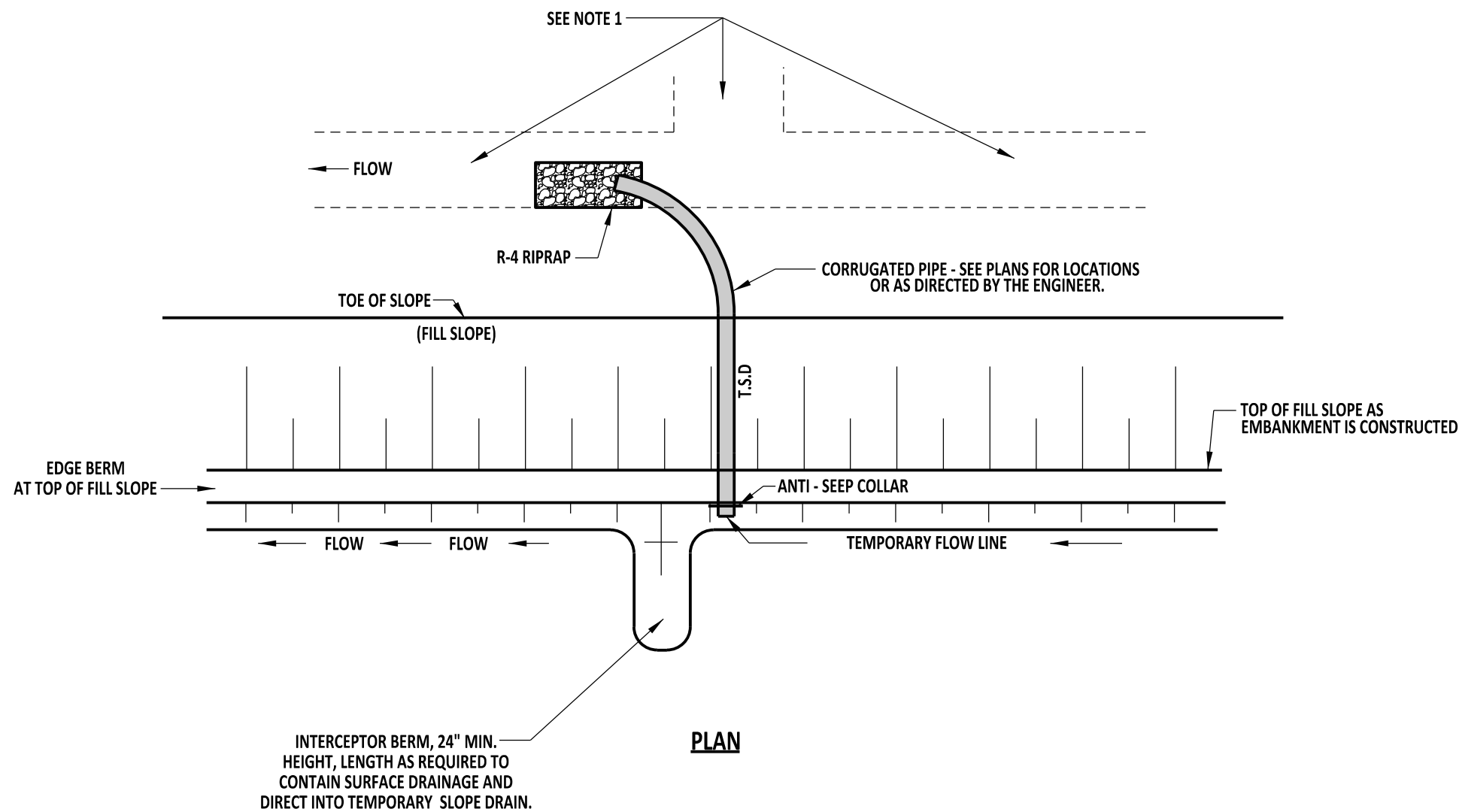
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

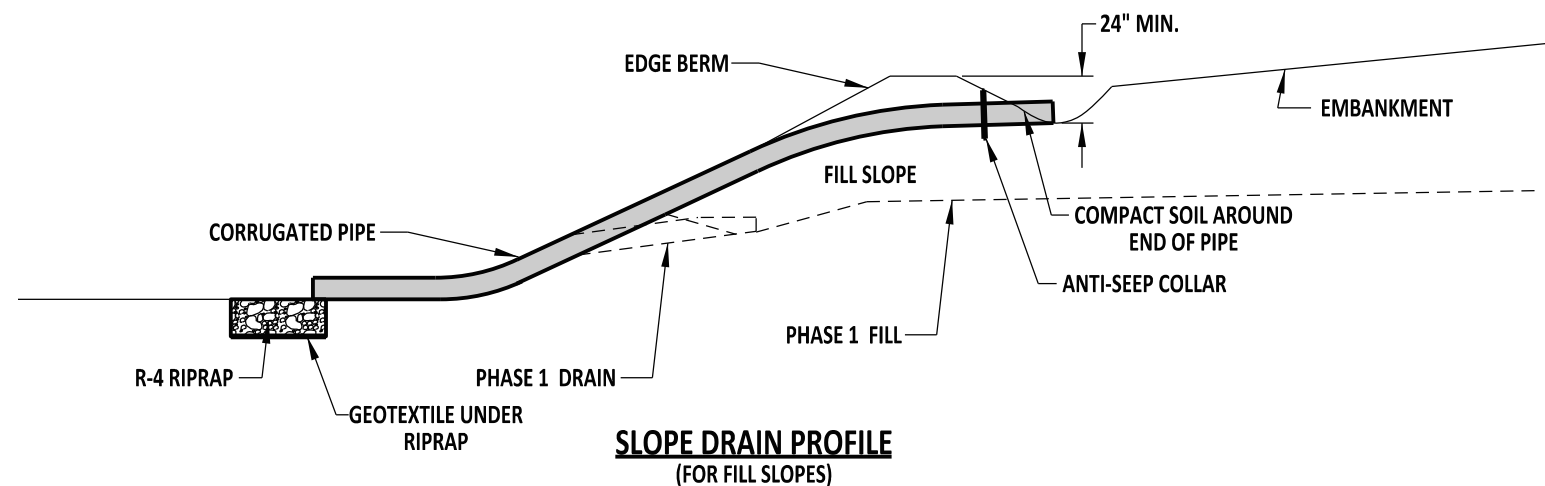
RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER

12/11/2014
DATE



ANTI-SEEP COLLAR

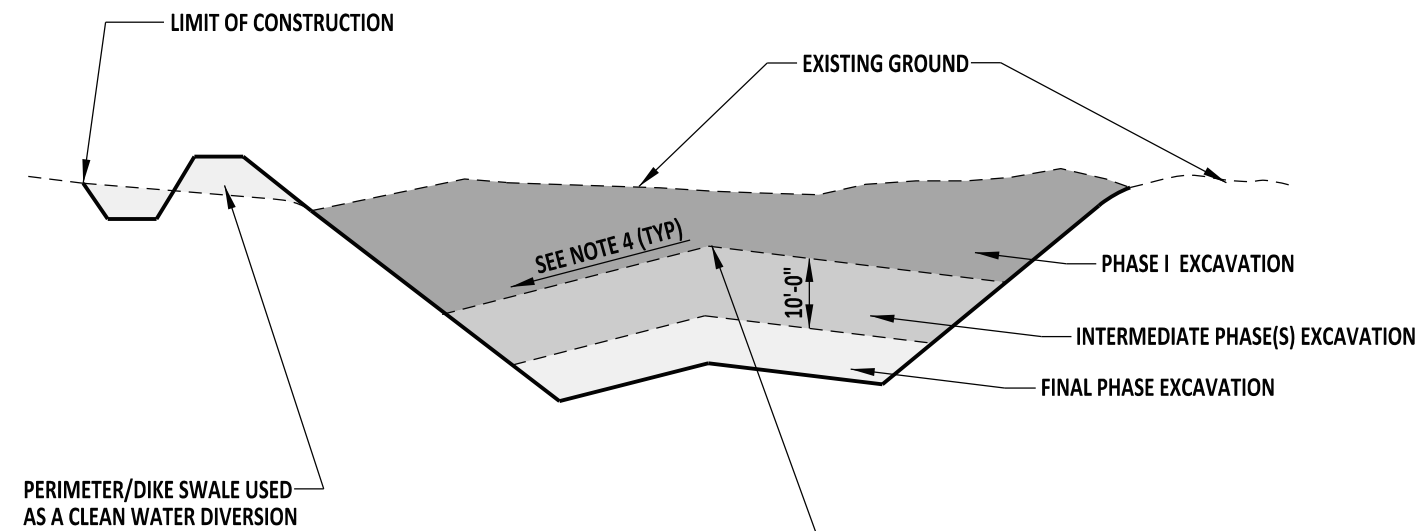


- NOTES:
- 1). DISCHARGE ALL TEMPORARY SLOPE DRAINS ONTO A STABILIZED OUTFALL AND THEN INTO A SEDIMENT TRAPPING DEVICE.
 - 2). USE TEMPORARY SLOPE DRAINS AT THE TOP OF FILL SLOPES AS EMBANKMENT IS CONSTRUCTED TO PREVENT EXCESSIVE EROSION UNTIL SHOULDERS ARE CONSTRUCTED AND THE SLOPES ARE SEEDING AS PER SPECIFICATIONS.
 - 3). RESTRICT MOVEMENT OF SLOPE DRAINS TO THE SLOPE BY A METHOD APPROVED BY THE ENGINEER.

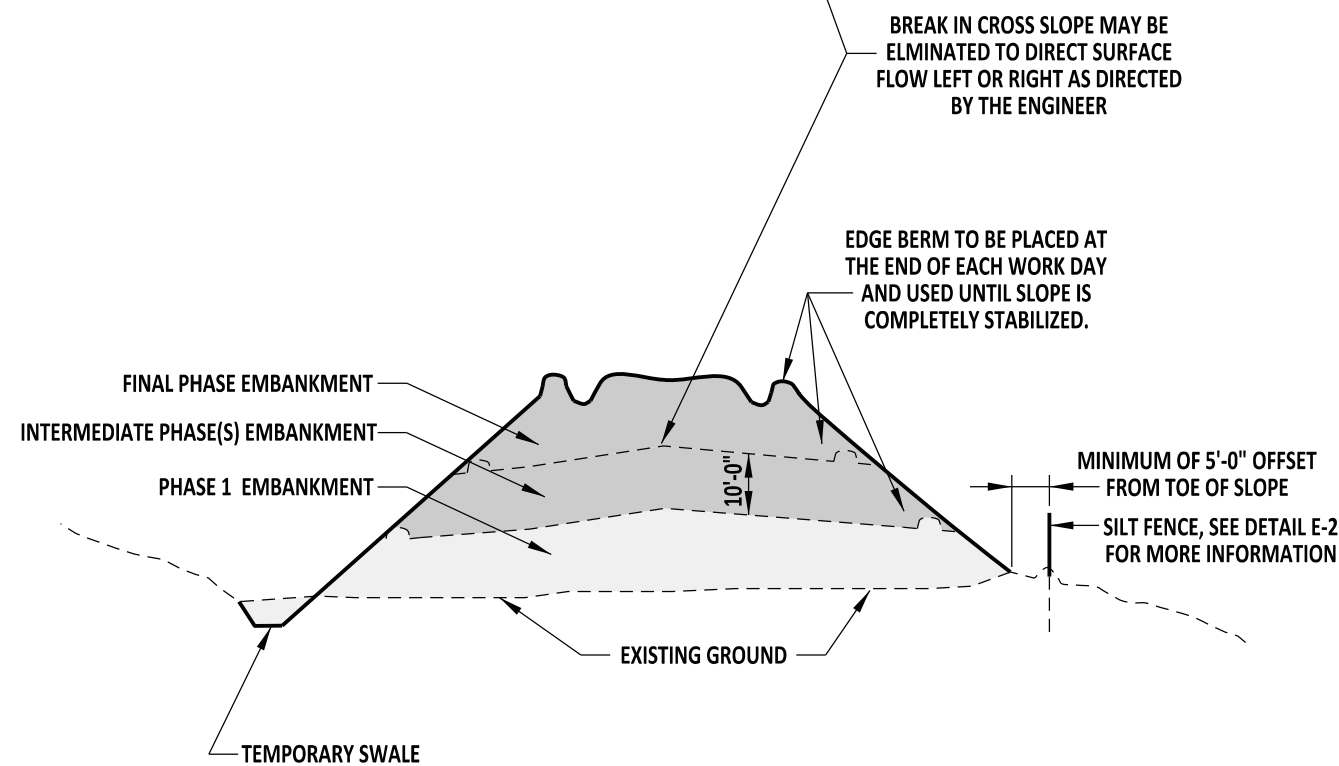


DELAWARE
DEPARTMENT OF TRANSPORTATION

TEMPORARY SLOPE DRAIN				APPROVED	SIGNATURE ON FILE	12/30/2014
					CHIEF ENGINEER	DATE
STANDARD NO.	E-10 (2014)	SHT.	1 OF 1	RECOMMENDED	SIGNATURE ON FILE	12/11/2014
					DESIGN ENGINEER	DATE



CUT SECTION



FILL SECTION

NOTES:

- 1). CONSTRUCT EDGE BERMS AND TEMPORARY SLOPE DRAINS ALONG THE TOP OF ALL SLOPES TO INTERCEPT RUNOFF AND CONVEY IT DOWN THE SLOPE FACES WITHOUT CREATING GULLIES OR WASHOUTS.
- 2). TRACK SLOPE FACES WITH CLEATED EQUIPMENT SUCH THAT THE CLEAT MARKS ARE ORIENTED HORIZONTALLY.
- 3). STABILIZE ALL CUT AND FILL SLOPES OF THE HIGHWAY EMBANKMENT WITH TEMPORARY OR PERMANENT SEED AS WORK PROGRESSES IN INCREMENTS NOT TO EXCEED 10'-0" OF EMBANKMENT HEIGHT.
- 4). CONSTRUCT EMBANKMENT CROSS SLOPES SO THAT THEY ARE NO FLATTER THAN 2% AND NO STEEPER THAN 6%.



DELAWARE
DEPARTMENT OF TRANSPORTATION

INCREMENTAL STABILIZATION

STANDARD NO.

E-11 (2014)

SHT. 1

OF 1

APPROVED

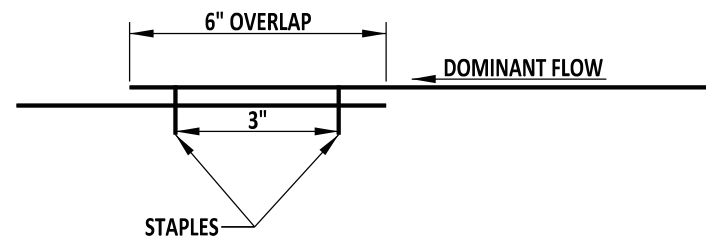
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

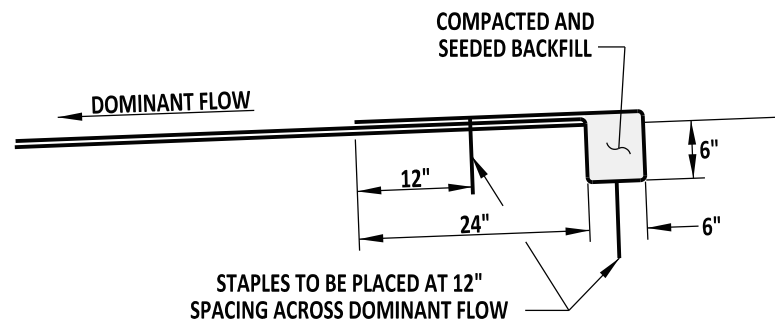
RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER

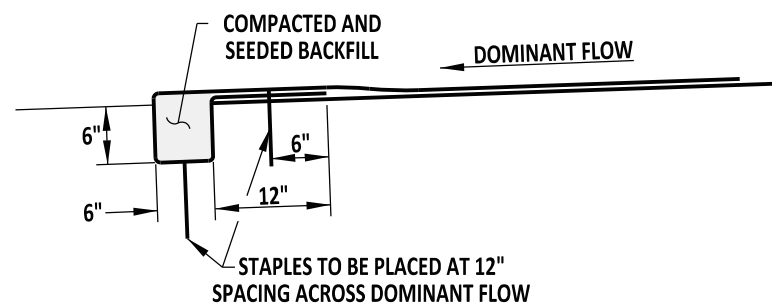
12/11/2014
DATE



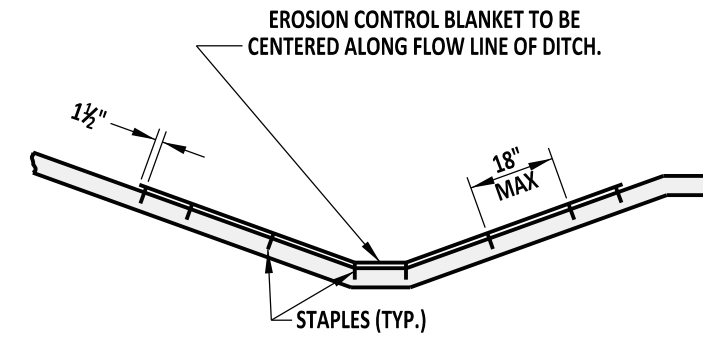
OVERLAP DETAIL
STAPLES TO BE STAGGERED AT 6" SPACING.



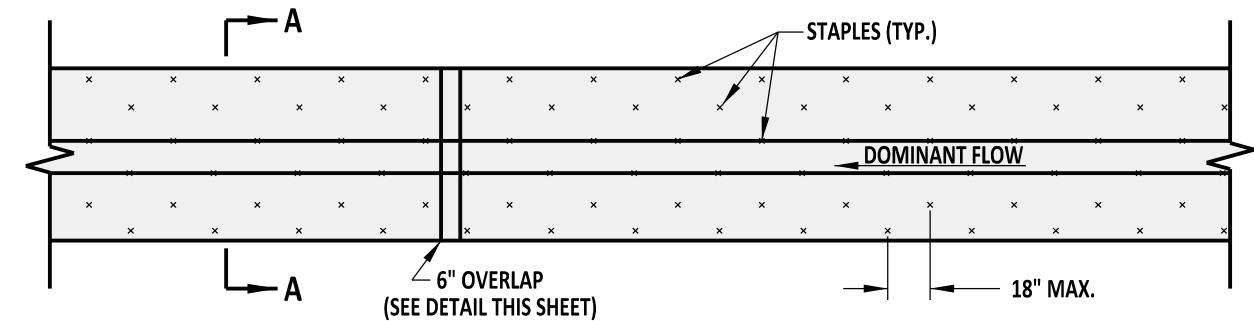
TERMINAL TRENCH ANCHOR DETAIL
APPLIED AT THE UPSTREAM END OF DITCH



INITIAL TRENCH ANCHOR DETAIL
APPLIED AT THE DOWNSTREAM END OF DITCH



SECTION A-A



PLAN

STABILIZATION OF DITCHES

NOTES:

- 1). TRACK AND SEED TOPSOIL UNDER EROSION CONTROL BLANKET.
- 2). ADDITIONAL STAPLES ARE REQUIRED AT OVERLAPS. SEE OVERLAP DETAIL ON THIS SHEET FOR STAPLE PLACEMENT.
- 3). STAGGER ALL STAPLES ACROSS EROSION CONTROL BLANKET AS SHOWN.



DELAWARE
DEPARTMENT OF TRANSPORTATION

EROSION CONTROL BLANKET APPLICATIONS

STANDARD NO. E-12 (2014)

SHT. 1 OF 1

APPROVED

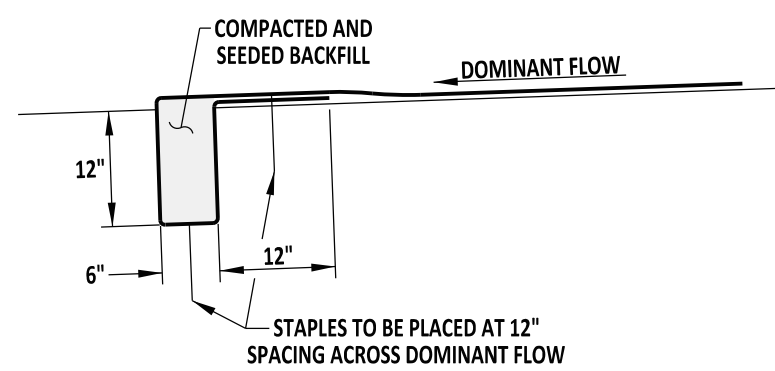
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

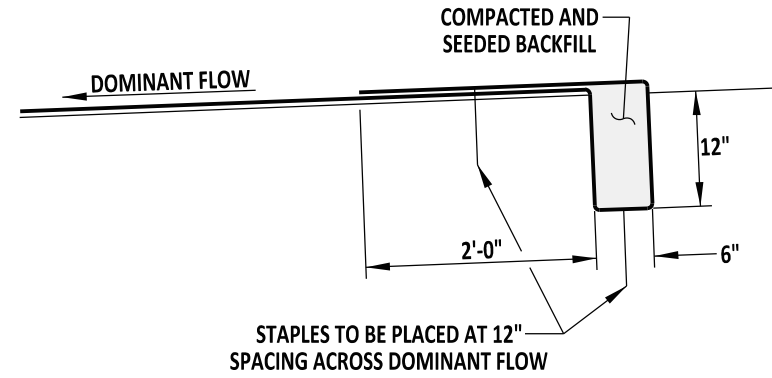
RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER

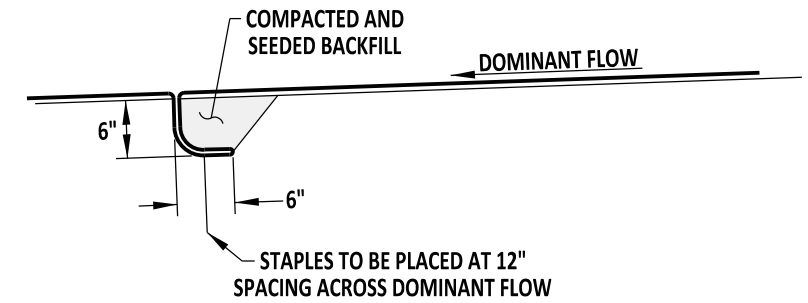
12/11/2014
DATE



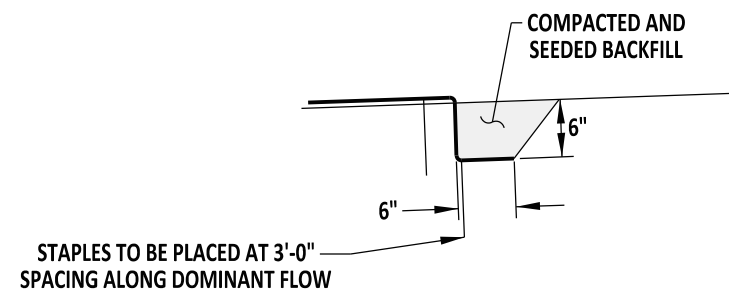
INITIAL TRENCH ANCHOR DETAIL
APPLIED AT THE DOWNSTREAM END OF DITCH



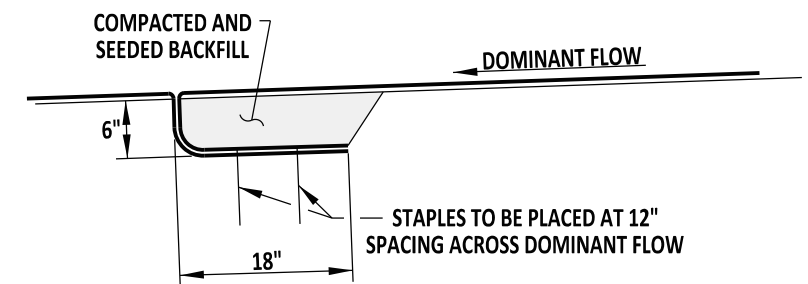
TERMINAL TRENCH ANCHOR DETAIL
APPLIED AT THE UPSTREAM END OF DITCH



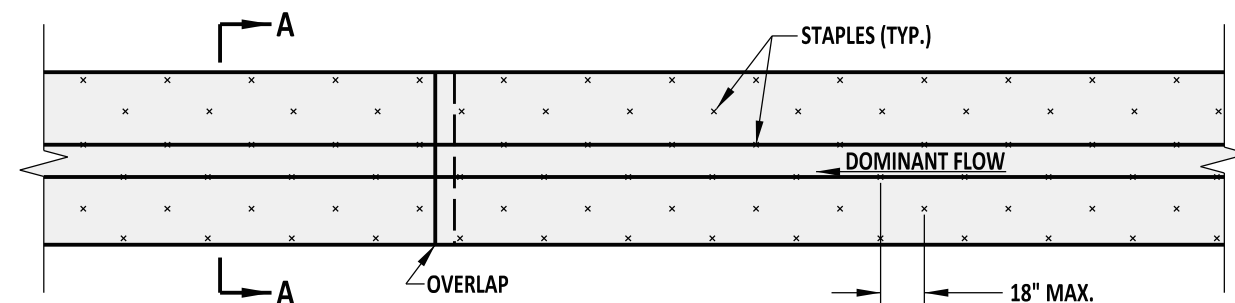
CHECK SLOT DETAIL
(PLACE AS PER MANUFACTURER)



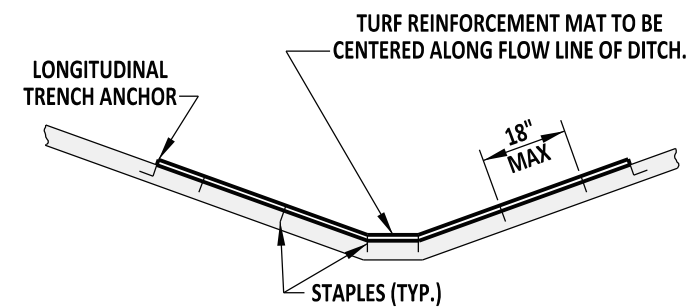
LONGITUDINAL TRENCH ANCHOR DETAIL



OVERLAP DETAIL



**STABILIZATION OF DITCHES
PLAN**



**STABILIZATION OF DITCHES
SECTION A-A**

DESIGN SHEAR STRESS	
TYPE 1	GREATER THAN 2 lb/sf BUT LESS THAN 6 lb/sf
TYPE 2	GREATER THAN 6 lb/sf BUT LESS THAN 8 lb/sf

NOTES:

- 1). TRACK AND SEED TOPSOIL UNDER TURF REINFORCEMENT.
- 2). ADDITIONAL STAPLES ARE REQUIRED AT OVERLAPS, ENDS, CHECK SLOTS, AND EDGES AS DETAILED ON THIS SHEET.
- 3). STAGGER ALL STAPLES AS SHOWN ON THIS SHEET.



DELAWARE
DEPARTMENT OF TRANSPORTATION

TURF REINFORCEMENT MAT APPLICATIONS

STANDARD NO. E-13 (2014)

SHT. 1 OF 1

APPROVED

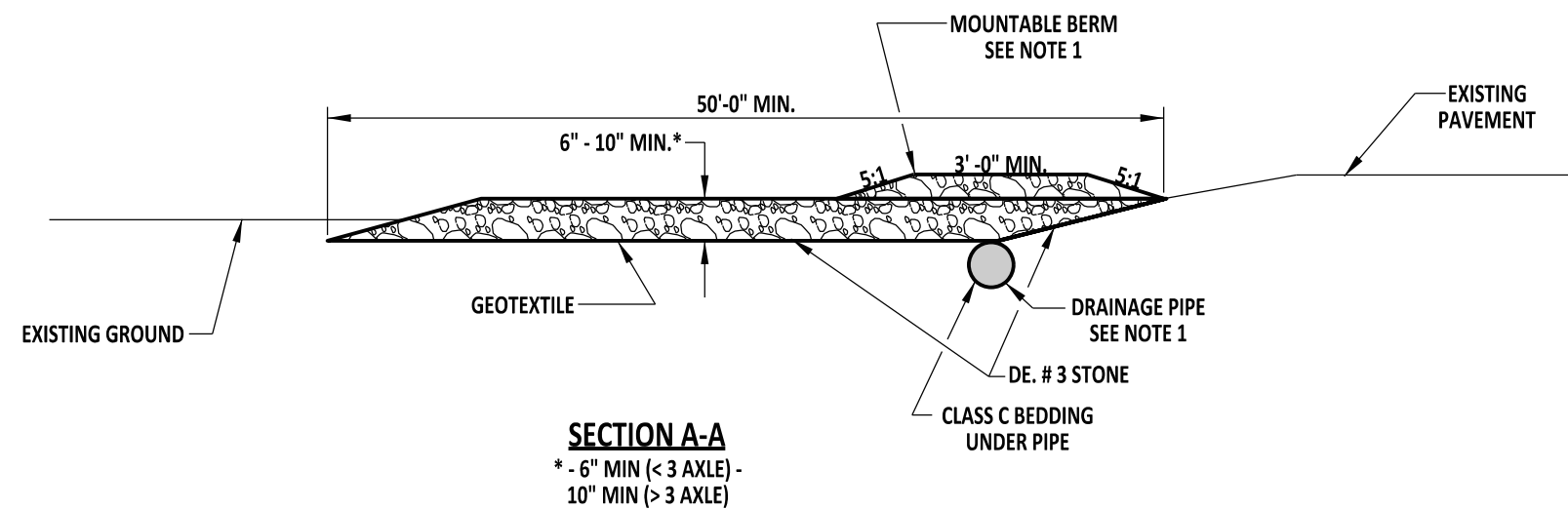
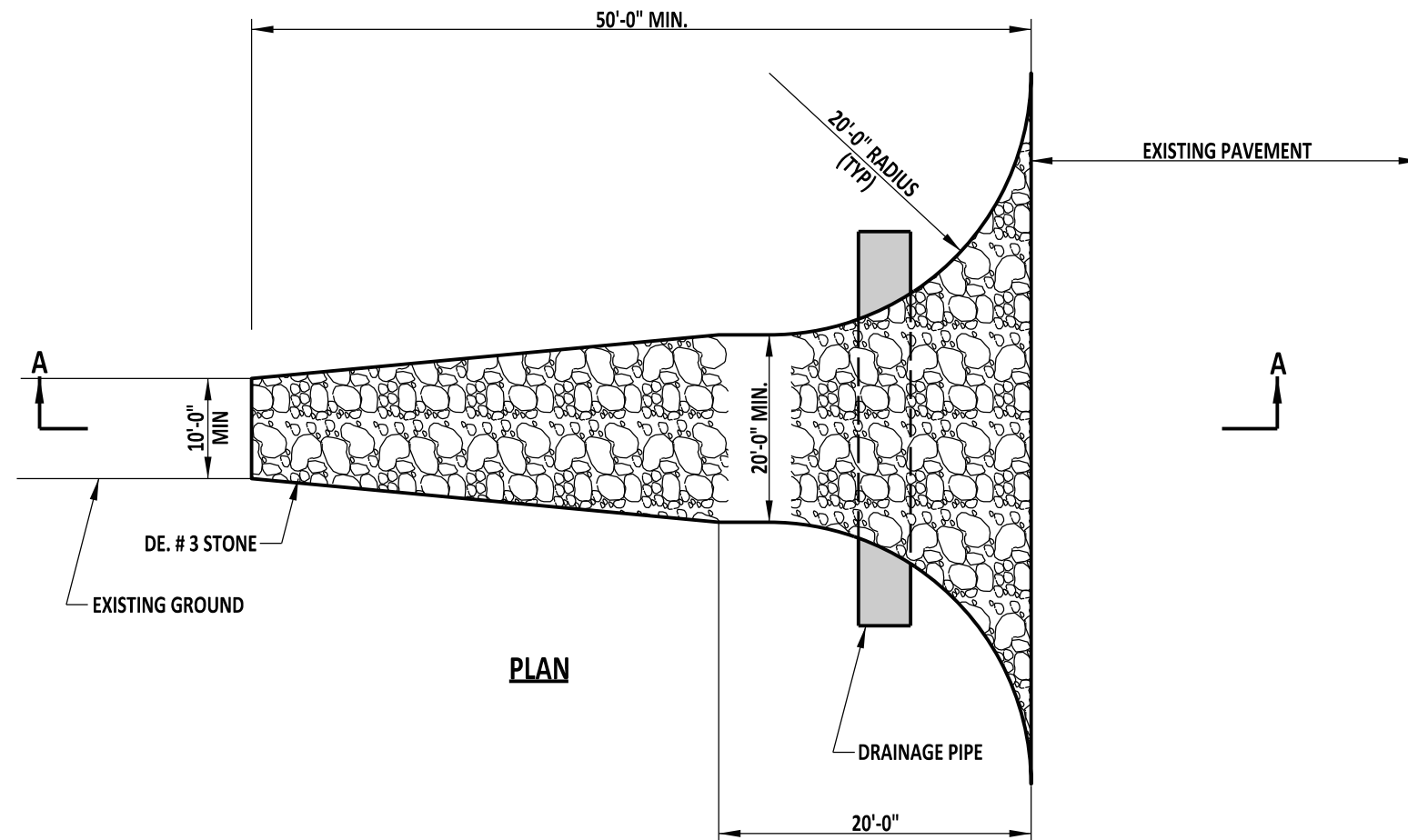
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER

12/11/2014
DATE

**NOTES:**

- 1). PIPE ALL SURFACE WATER THAT IS FLOWING OR DIVERTED TOWARDS THE CONSTRUCTION ENTRANCE UNDER THE ENTRANCE. A MOUNTABLE BERM AS SHOWN ON THIS DETAIL, IS PERMITTED TO FACILITATE PLACEMENT OF PIPES IN SHALLOW CONDITIONS.
- 2). SEE PLANS FOR LOCATION AND NUMBER OF STABILIZED CONSTRUCTION ENTRANCES. PRIOR APPROVAL BY THE ENGINEER IS REQUIRED FOR ANY CHANGE IN LOCATION OR NUMBER OF ENTRANCES.
- 3). REMOVE AND REPLACE TOP 2" OF STONE WITH 2" OF CLEAN STONE WHEN VOIDS ARE FILLED OR AS DIRECTED BY THE ENGINEER.



DELAWARE
DEPARTMENT OF TRANSPORTATION

STABILIZED CONSTRUCTION ENTRANCE

STANDARD NO. E-14 (2014)

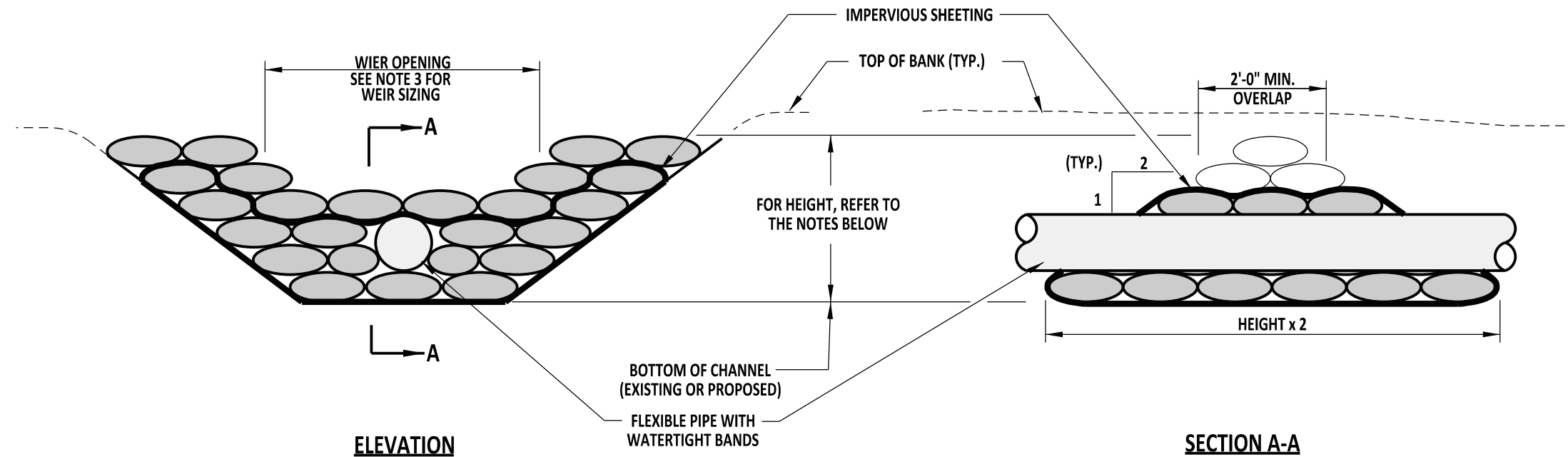
SHT. 1 OF 1

APPROVED

SIGNATURE ON FILE
CHIEF ENGINEER12/30/2014
DATE

RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER12/11/2014
DATE



NOTES:

- 1). INSTALL SANDBAG DIKE IN UPSTREAM LOCATION FIRST.
- 2). CONSTRUCT SANDBAG DIKE SUCH THAT THE HEIGHT IS 1'-0" ABOVE THE PEAK ELEVATION OF THE 1 YEAR STORM, OR 1'-0" BELOW THE TOP OF THE BANK, WHICHEVER IS LESS. SEE PLANS FOR MORE INFORMATION.
- 3). CONSTRUCT WEIR SUCH THAT IT WILL PASS A 1 YEAR STORM EVENT PEAK FLOW. SEE PLANS FOR MORE INFORMATION.
- 4). SIZE THE PIPE SUCH THAT IT WILL ALLOW PASSAGE OF THE STREAM BASE FLOW.



DELAWARE
DEPARTMENT OF TRANSPORTATION

SANDBAG DIKE

STANDARD NO. E-15 (2014)

SHT. 1 OF 1

APPROVED

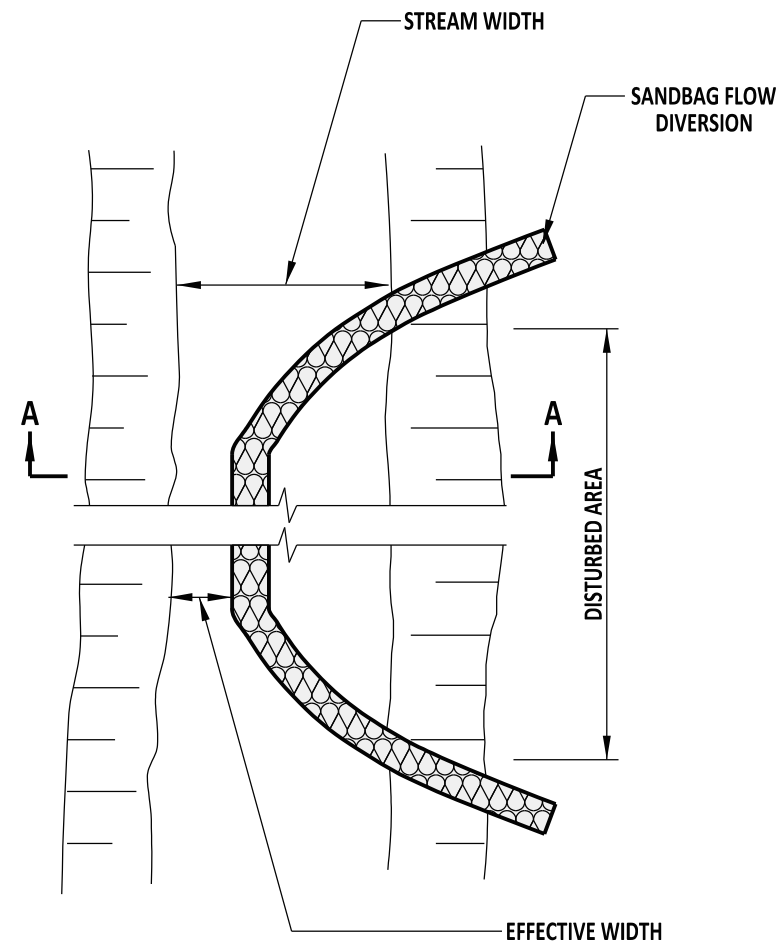
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

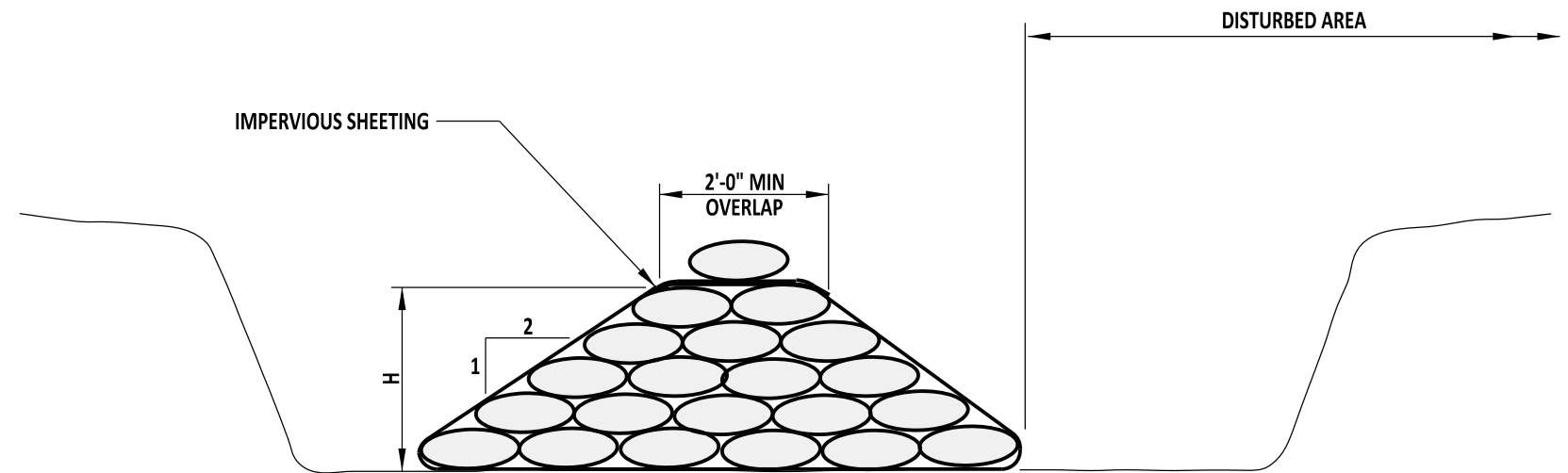
RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER

12/11/2014
DATE



PLAN



SECTION A-A

NOTES:

- 1). INSTALL DIVERSION STRUCTURE FROM UPSTREAM TO DOWNSTREAM.
- 2). SIZE EFFECTIVE CHANNEL WIDTH SO THAT IT WILL PASS A 1 YEAR STORM EVENT PEAK FLOW, OR $\frac{1}{2}$ OF STREAM WIDTH, WHICHEVER IS GREATER.
- 3). CONSTRUCT SANDBAG DIVERSION HEIGHT SUCH THAT TOP OF THE DIVERSION STRUCTURE IS 1'-0" ABOVE THE 1 YEAR STORM PEAK ELEVATION.



**DELAWARE
DEPARTMENT OF TRANSPORTATION**

SANDBAG DIVERSION

STANDARD NO.

E-16 (2014)

SHT. 1

OF 1

APPROVED

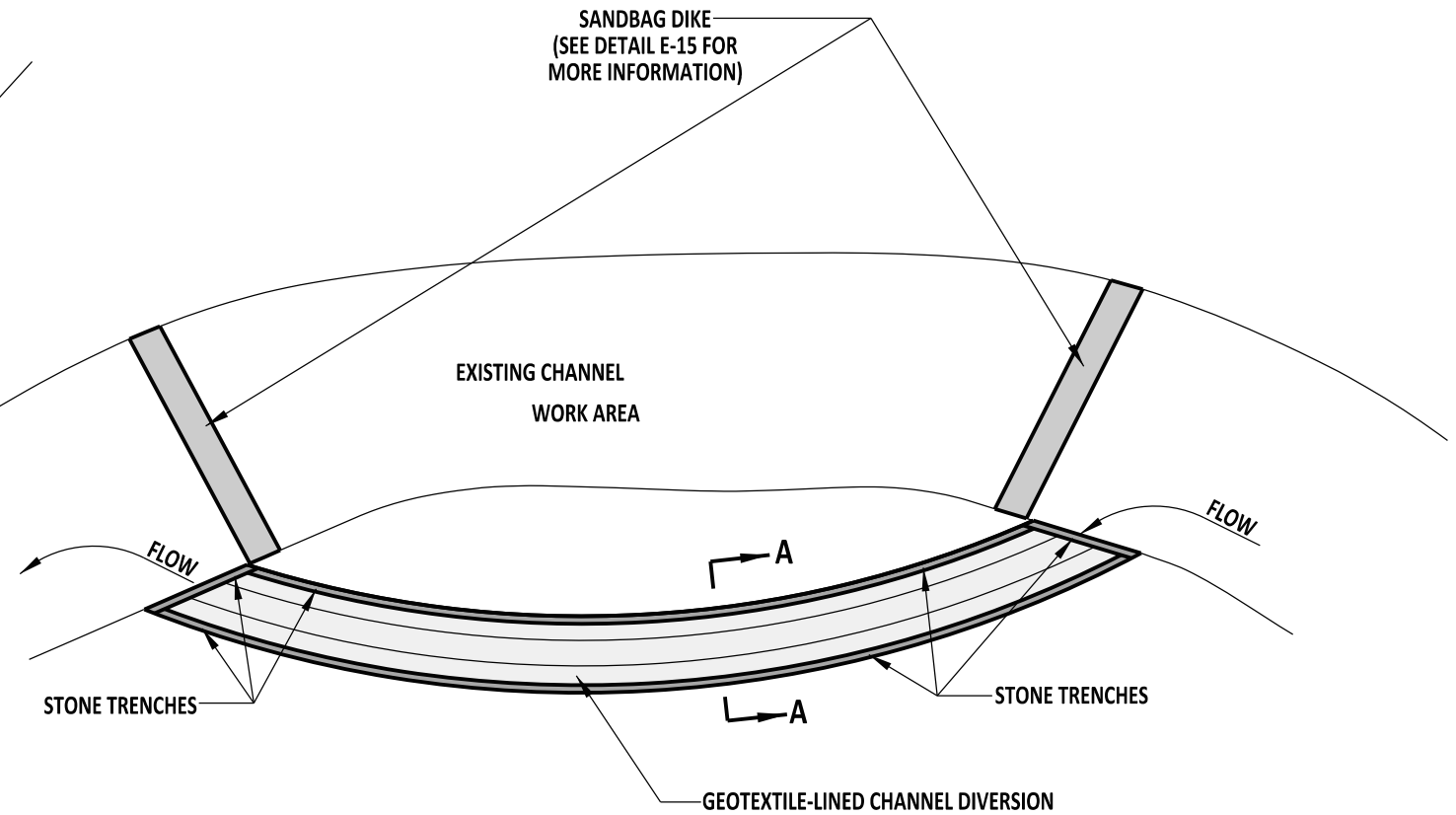
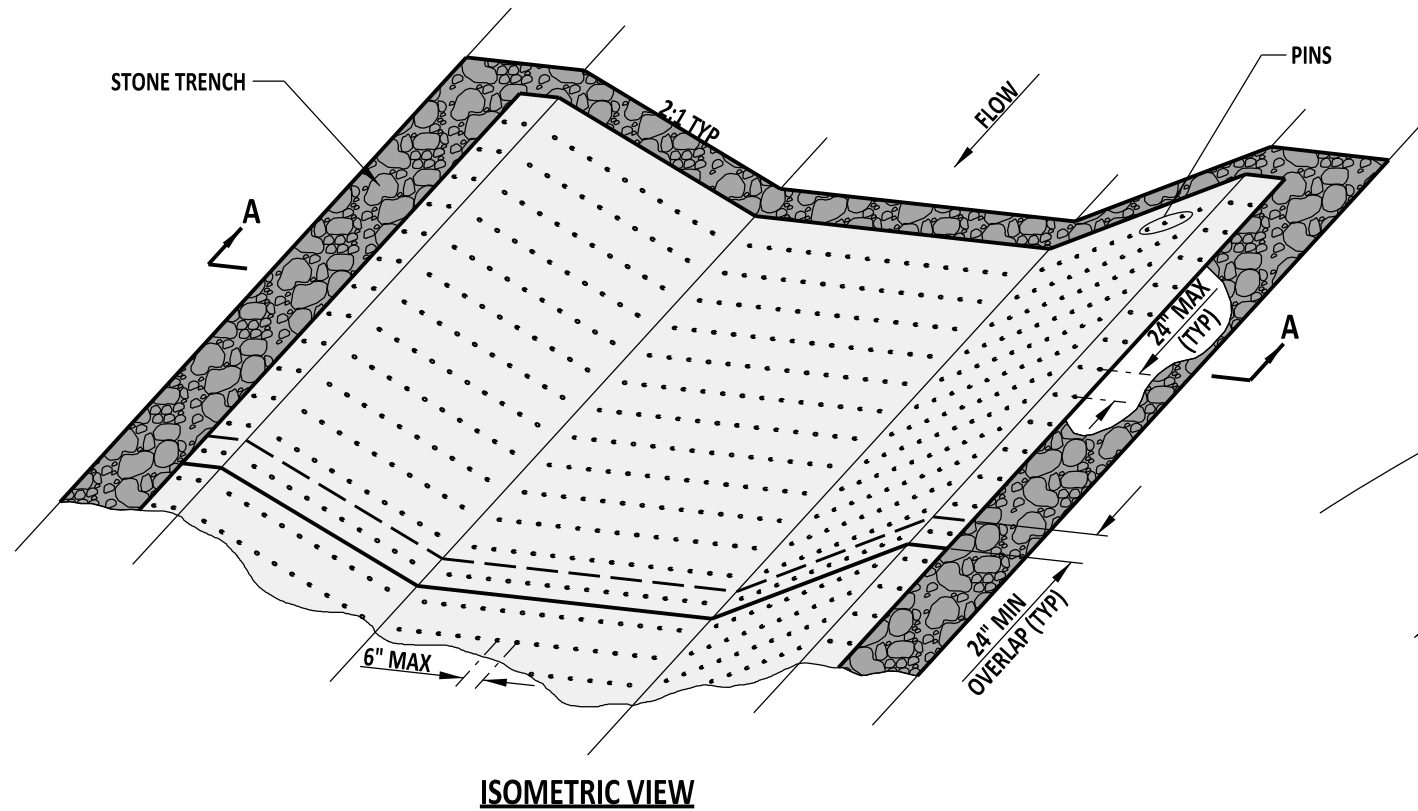
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

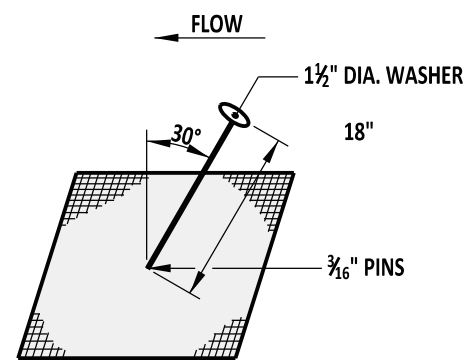
RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER

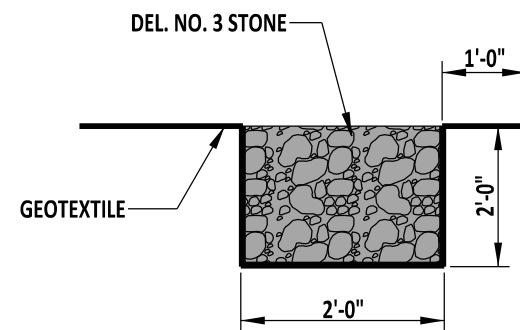
12/11/2014
DATE



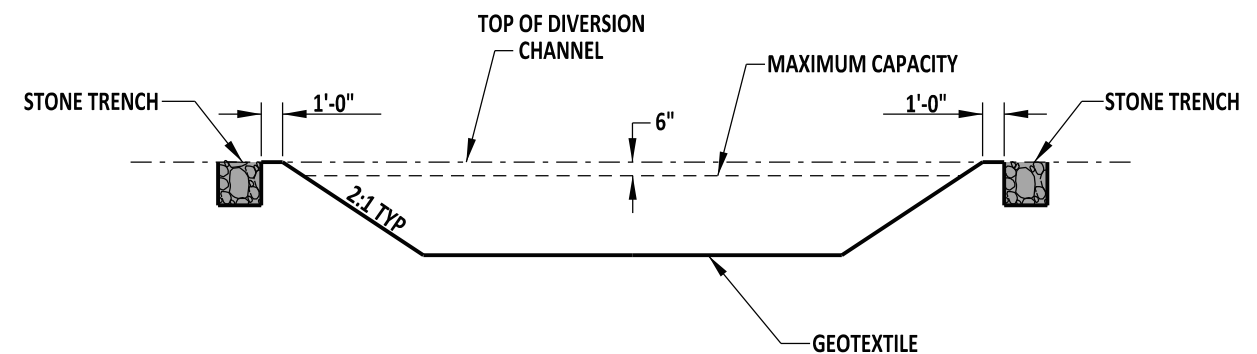
PLAN



FASTENING DETAIL



TRENCHING DETAIL



SECTION A-A

NOTE:
SEE PLANS FOR LOCATION, DIMENSIONS, GRADES, ETC.



**DELAWARE
DEPARTMENT OF TRANSPORTATION**

GEOTEXTILE-LINED CHANNEL DIVERSION

STANDARD NO. E-17 (2014)

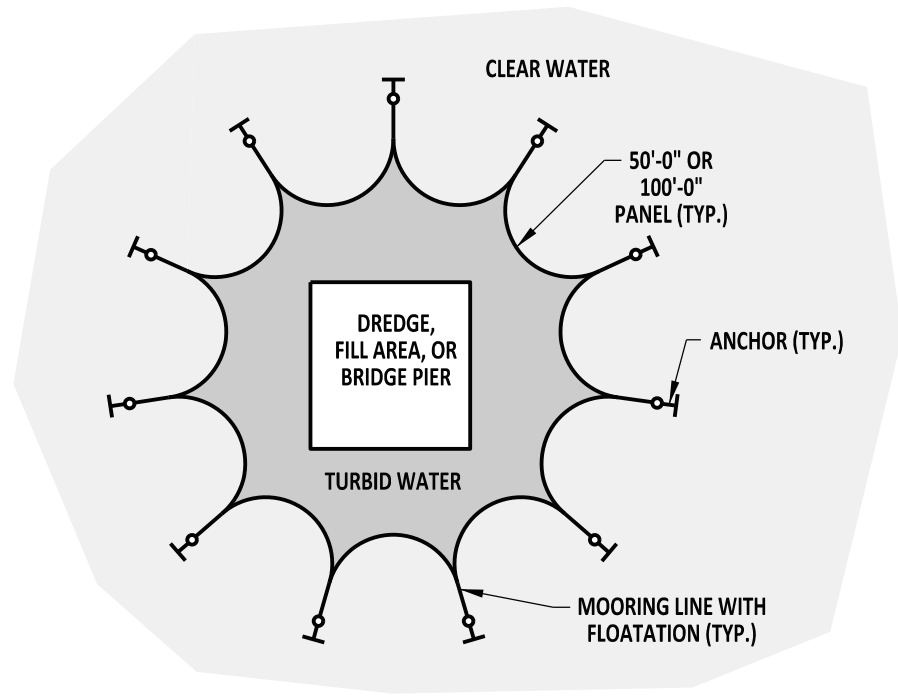
SHT. 1 OF 1

APPROVED

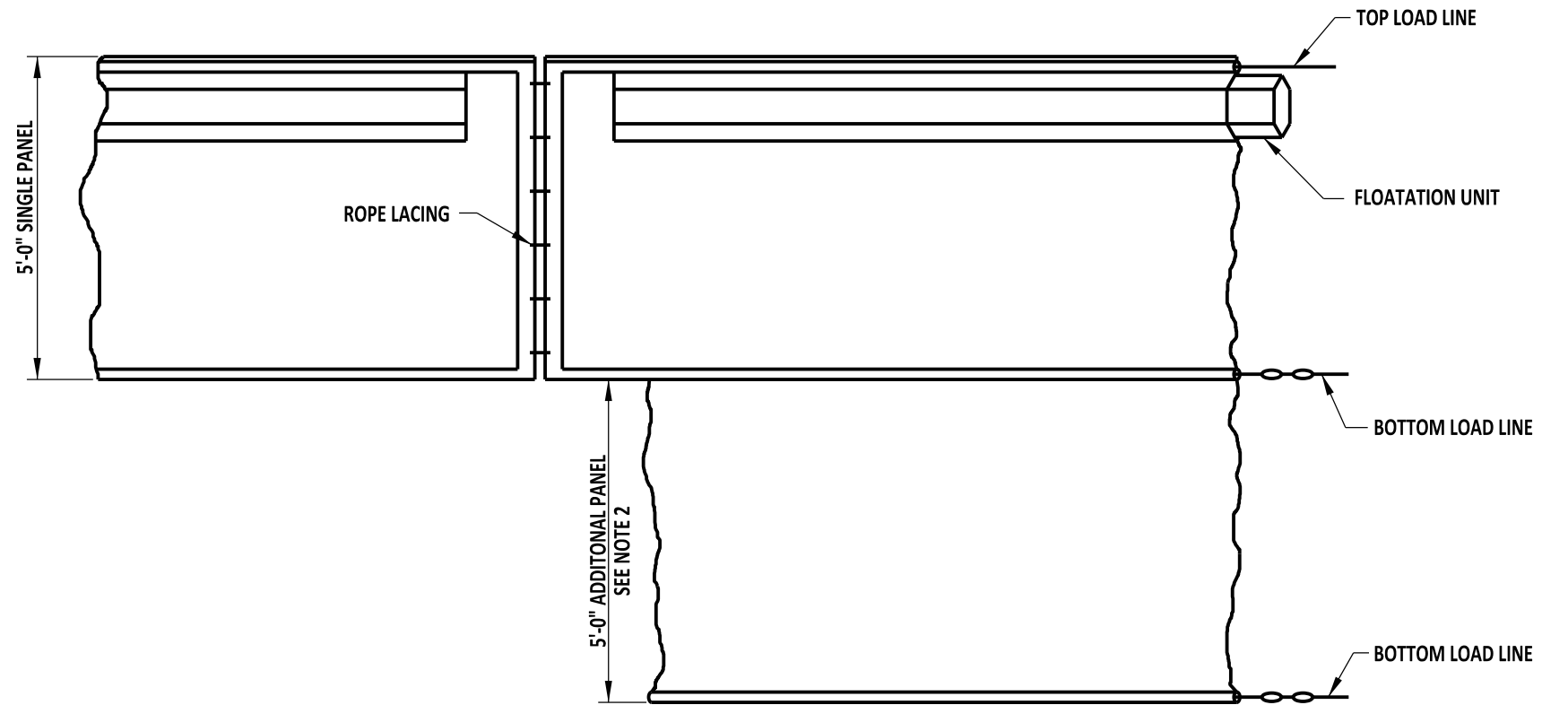
SIGNATURE ON FILE
CHIEF ENGINEER 12/30/2014
DATE

RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER 12/11/2014
DATE

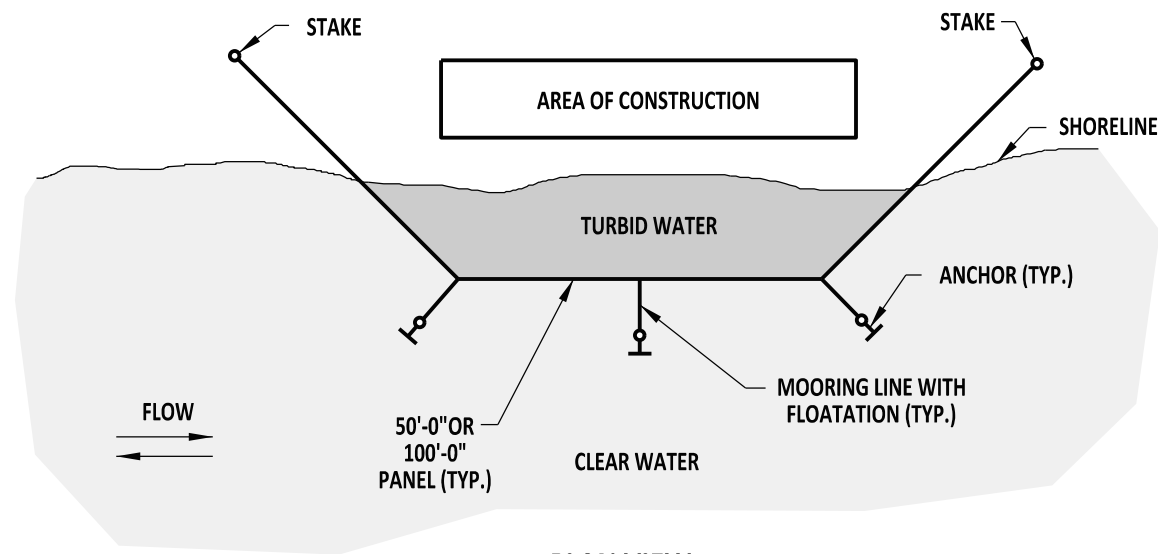


PLAN VIEW
OPEN WATER APPLICATION



ELEVATION

FLOATING TURBIDITY CURTAIN



PLAN VIEW
SHORELINE APPLICATION

- NOTE:**
- 1). ADDITIONAL PANEL REQUIRED FOR DEPTHS GREATER THAN 5'-0".
 - 2). USE 2 TURBIDITY CURTAIN PANELS TO REACH BOTTOM DEPTHS OF 10'-0". SPECIAL DEPTH TURBIDITY CURTAIN PANELS ARE REQUIRED FOR DEPTHS GREATER THAN 10'-0" AND THEIR USE WITH BE CALLED OUT IN THE PLANS OR DIRECTED BY THE ENGINEER.



DELAWARE
DEPARTMENT OF TRANSPORTATION

TURBIDITY CURTAIN

STANDARD NO.

E-18 (2014)

SHT. 1

OF 1

APPROVED

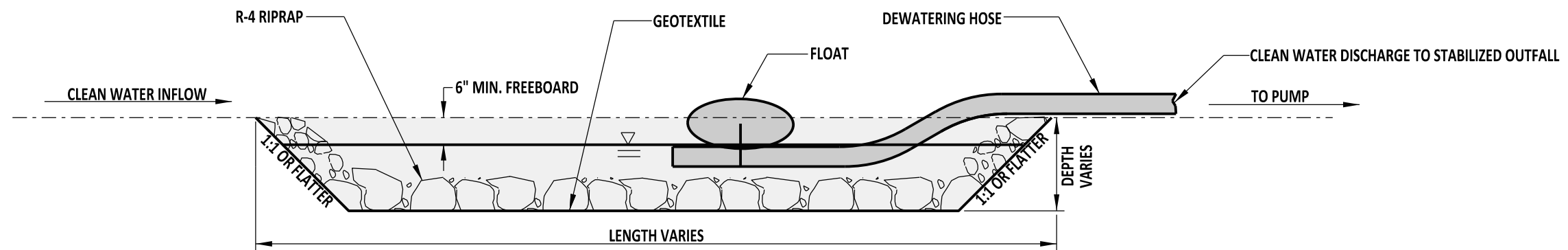
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE


RECOMMENDED

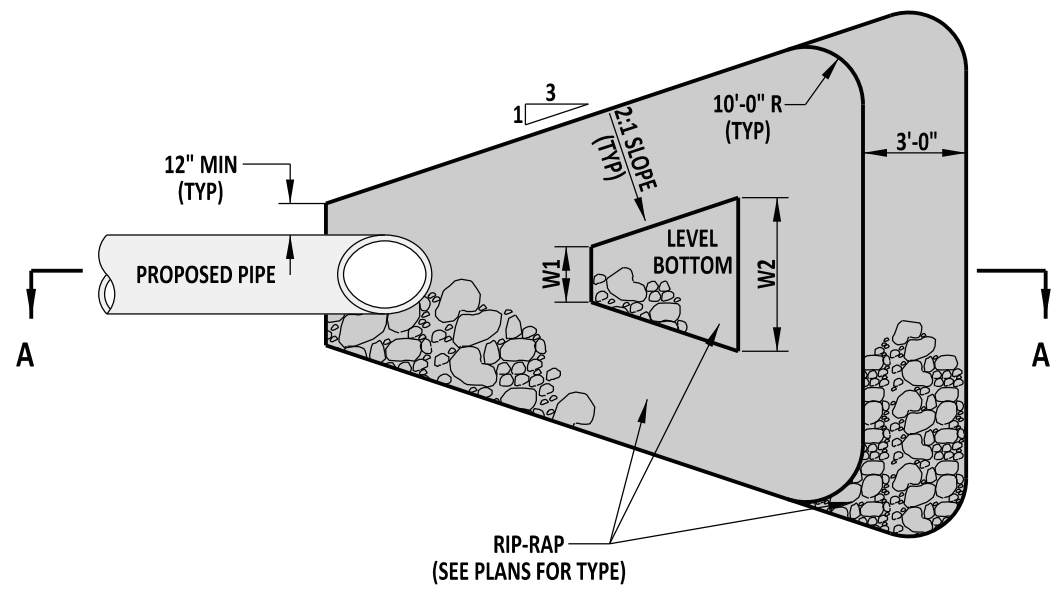
SIGNATURE ON FILE
DESIGN ENGINEER

12/11/2014
DATE

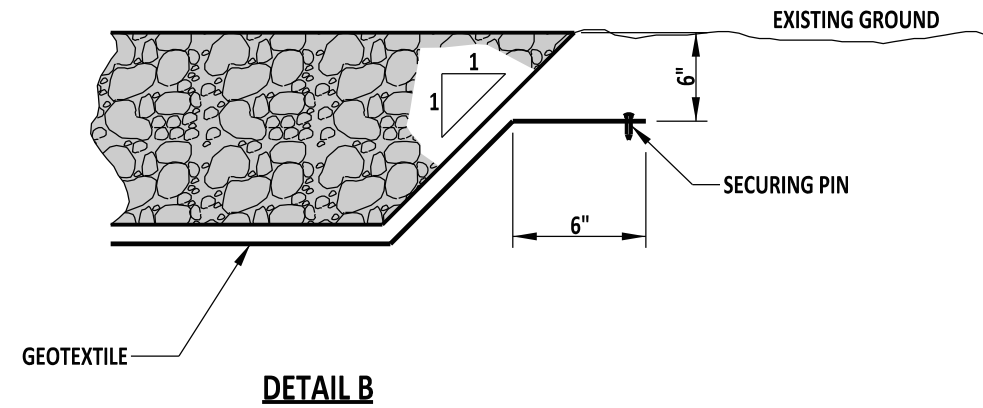


NOTE:
THE DIMENSIONS OF THE STILLING WELL ARE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER. THE MINIMUM SIZE OF THE STILLING WELL IS 5'-0" x 5'-0".

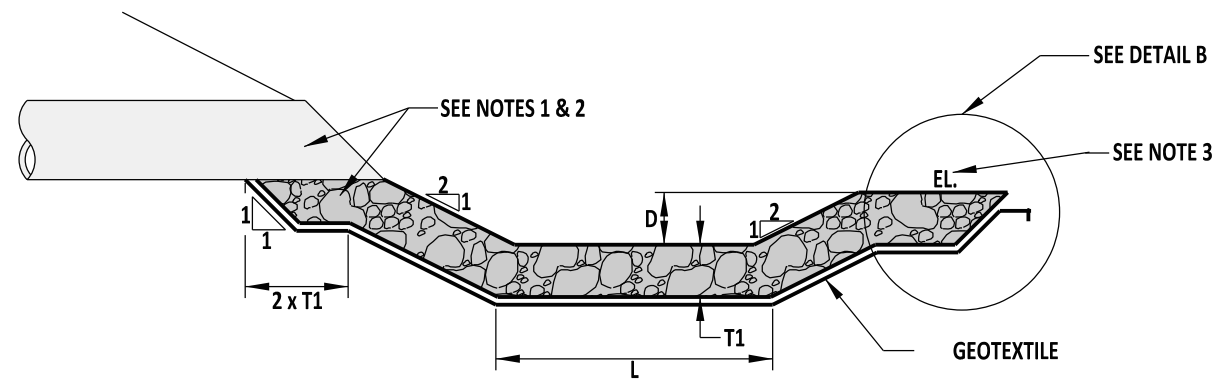
 DELAWARE DEPARTMENT OF TRANSPORTATION	STILLING WELL			APPROVED	SIGNATURE ON FILE	12/30/2014
	STANDARD NO.	E-19 (2014)	SHT. 1 OF 1	RECOMMENDED	SIGNATURE ON FILE	12/11/2014



PLAN VIEW



DETAIL B



SECTION A-A

NOTES:

- 1). PLACE RIPRAP PRIOR TO PLACING PIPE.
- 2). PLACE DELAWARE NO. 3 STONE UNDER PIPE.
- 3). CONSTRUCT DISSIPATOR SUCH THAT THE ELEVATION (EL.) IS LOWER THAN PIPE INVERT.
- 4). REFER TO THE PIPE ENERGY DISSIPATOR SCHEDULE ON THE PLANS FOR THE VALUE OF DIMENSION VARIABLES.



**DELAWARE
DEPARTMENT OF TRANSPORTATION**

RIPRAP ENERGY DISSIPATOR

STANDARD NO.

E-20 (2014)

SHT. 1

OF 1

APPROVED

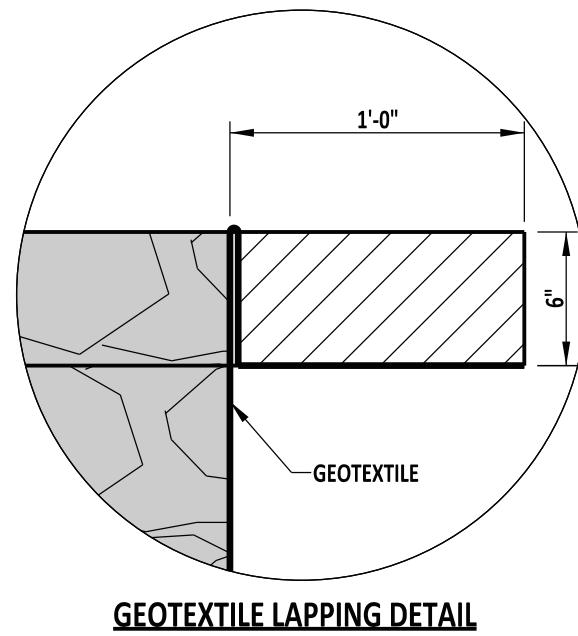
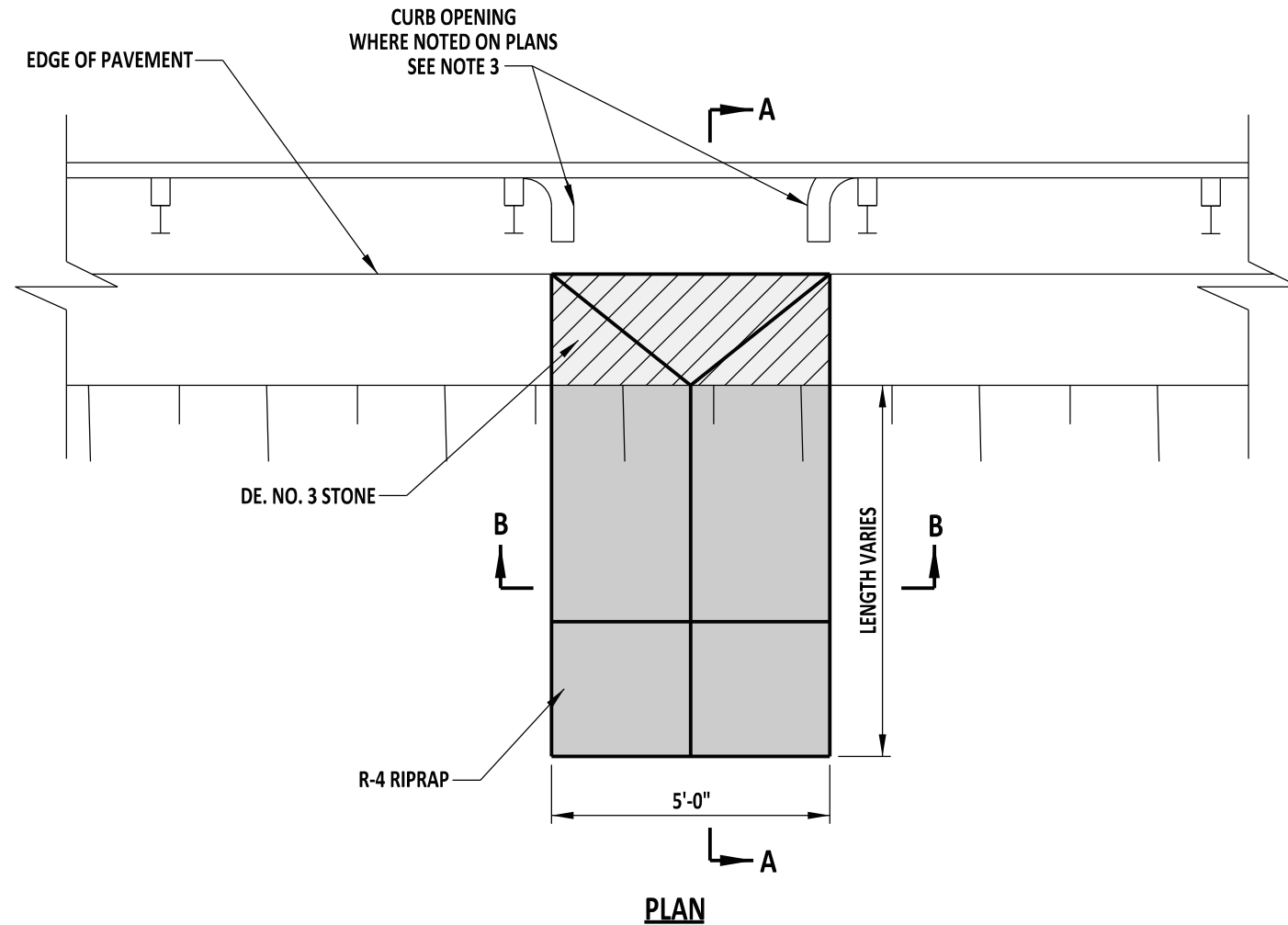
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

RECOMMENDED

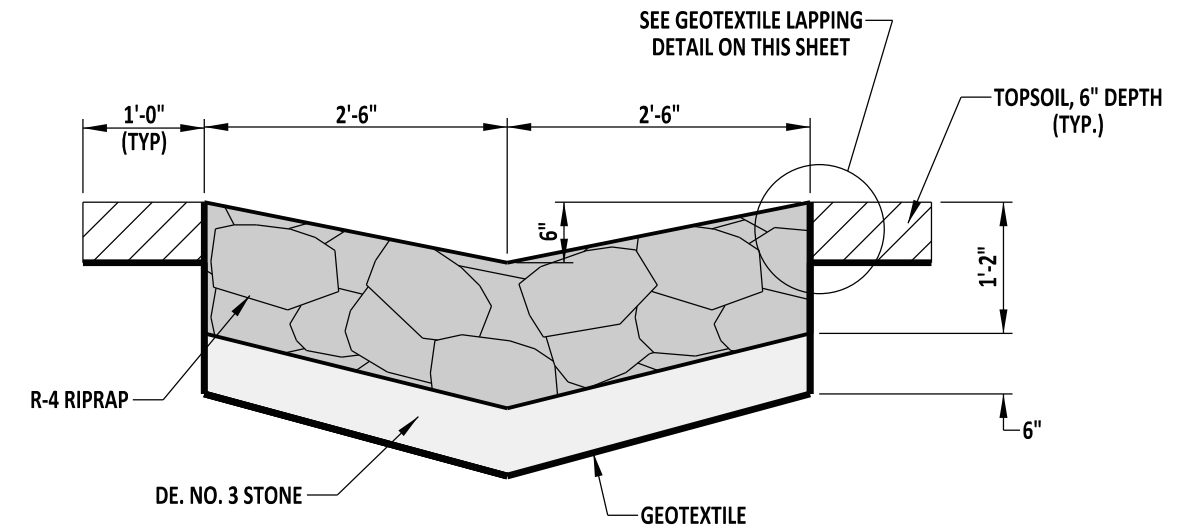
SIGNATURE ON FILE
DESIGN ENGINEER

12/11/2014
DATE

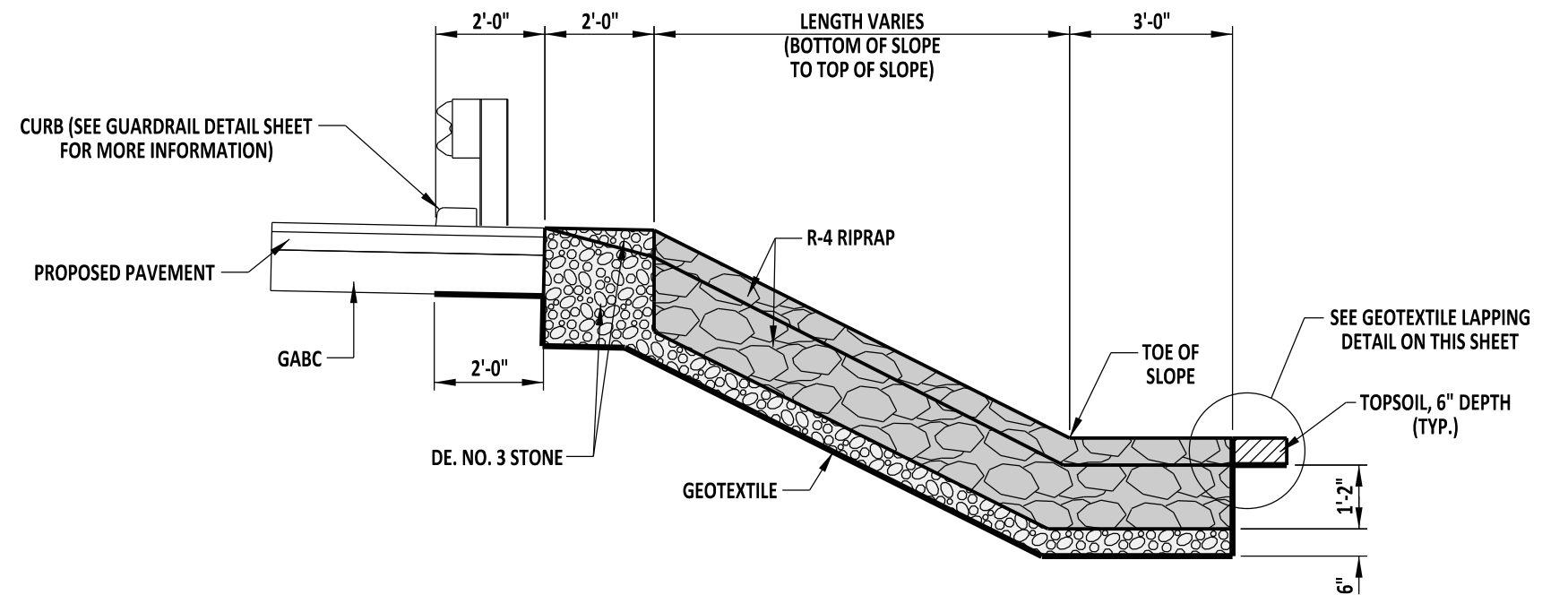


NOTES:

- 1). GUARDRAIL DEPICTED ON THIS SHEET IS FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO THE GUARDRAIL DETAILS FOR ACTUAL PLACEMENT. PLACEMENT OF SLOPE DRAIN MAY NEED TO BE ADJUSTED TO AVOID CONFLICT WITH GUARDRAIL POSTS.
- 2). PLACE CURB OPENING AT EACH SLOPE DRAIN LOCATION.
- 3). SEE DETAILS C-4 AND C-5 FOR MORE INFORMATION.



SECTION B-B



SECTION A-A



DELAWARE
DEPARTMENT OF TRANSPORTATION

STONE OUTLET DETAIL

STANDARD NO. E-21 (2014)

SHT. 1 OF 1

APPROVED

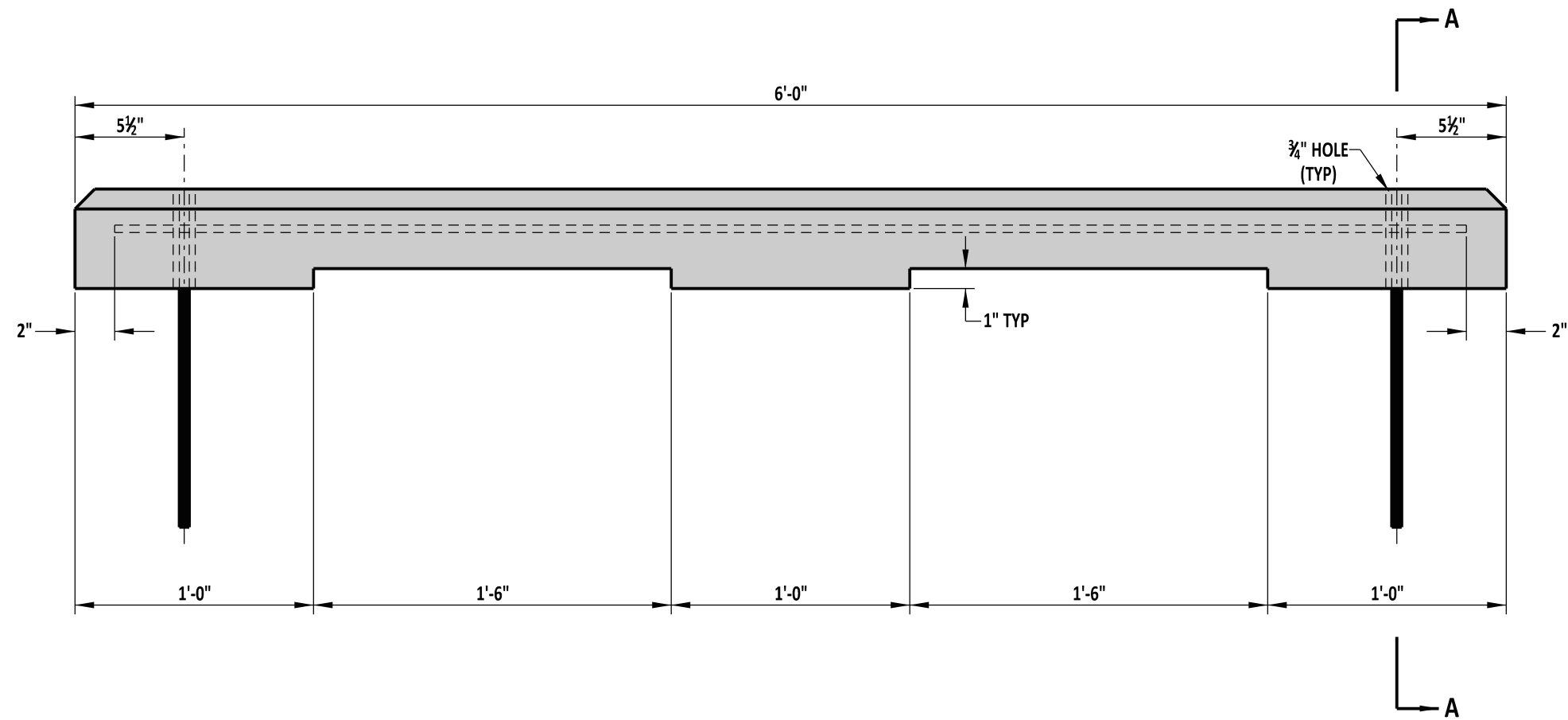
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

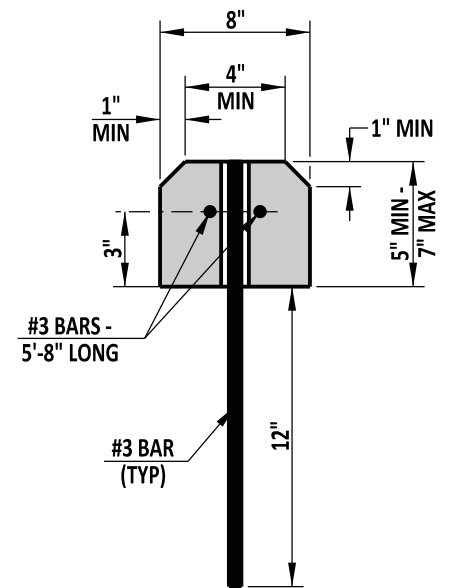
RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER

12/11/2014
DATE



ELEVATION VIEW



SECTION A-A



DELAWARE
DEPARTMENT OF TRANSPORTATION

P.C.C. PARKING BUMPER

STANDARD NO.

M-8 (2014)

SHT. 1

OF 1

APPROVED

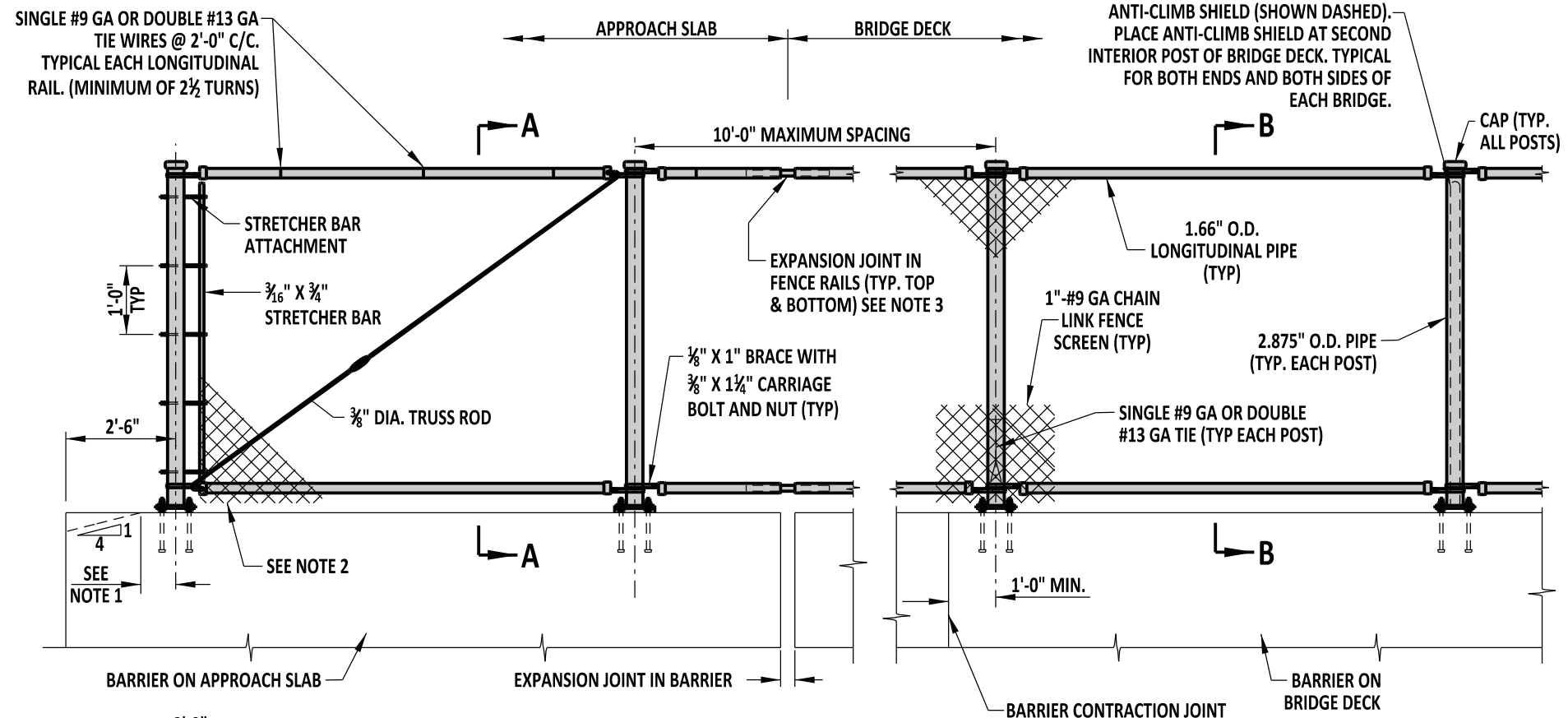
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

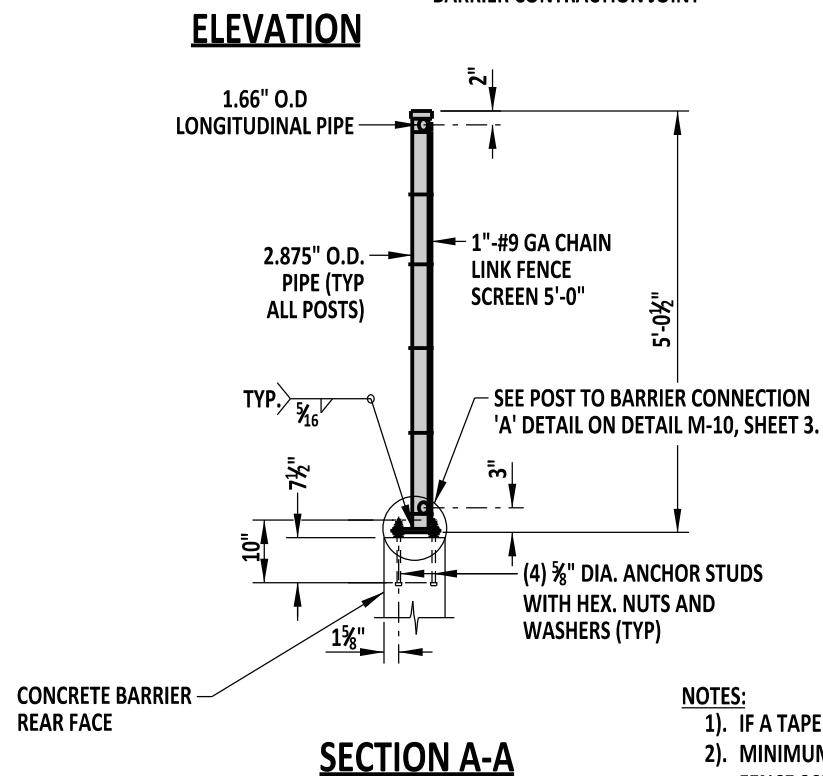
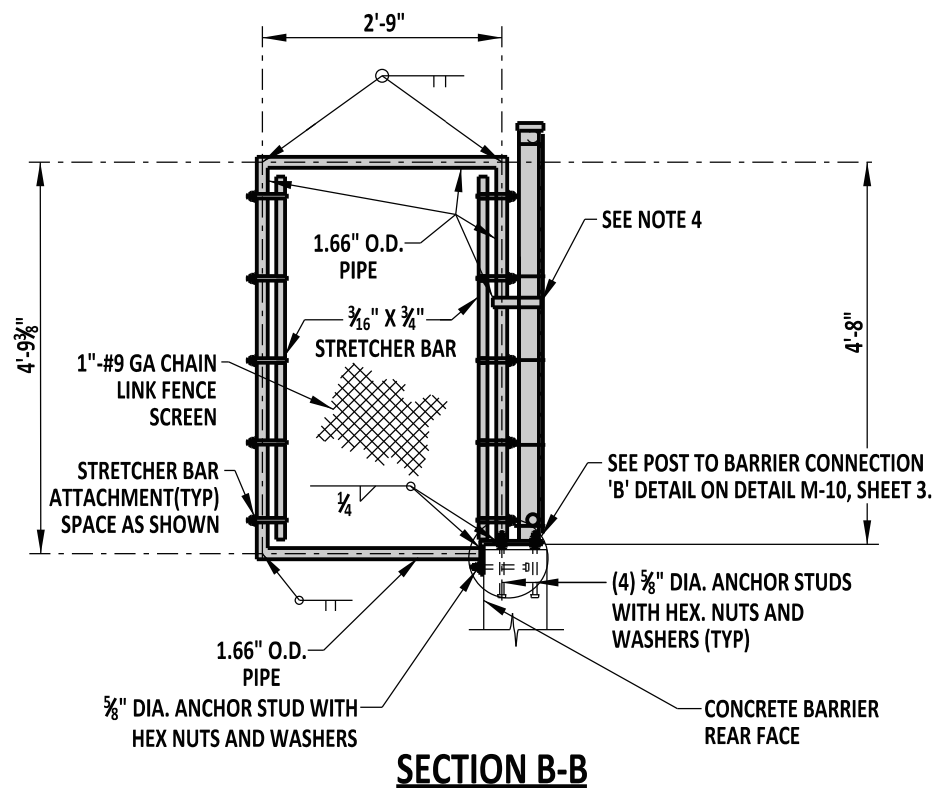
RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER

12/11/2014
DATE



SCALE : NTS



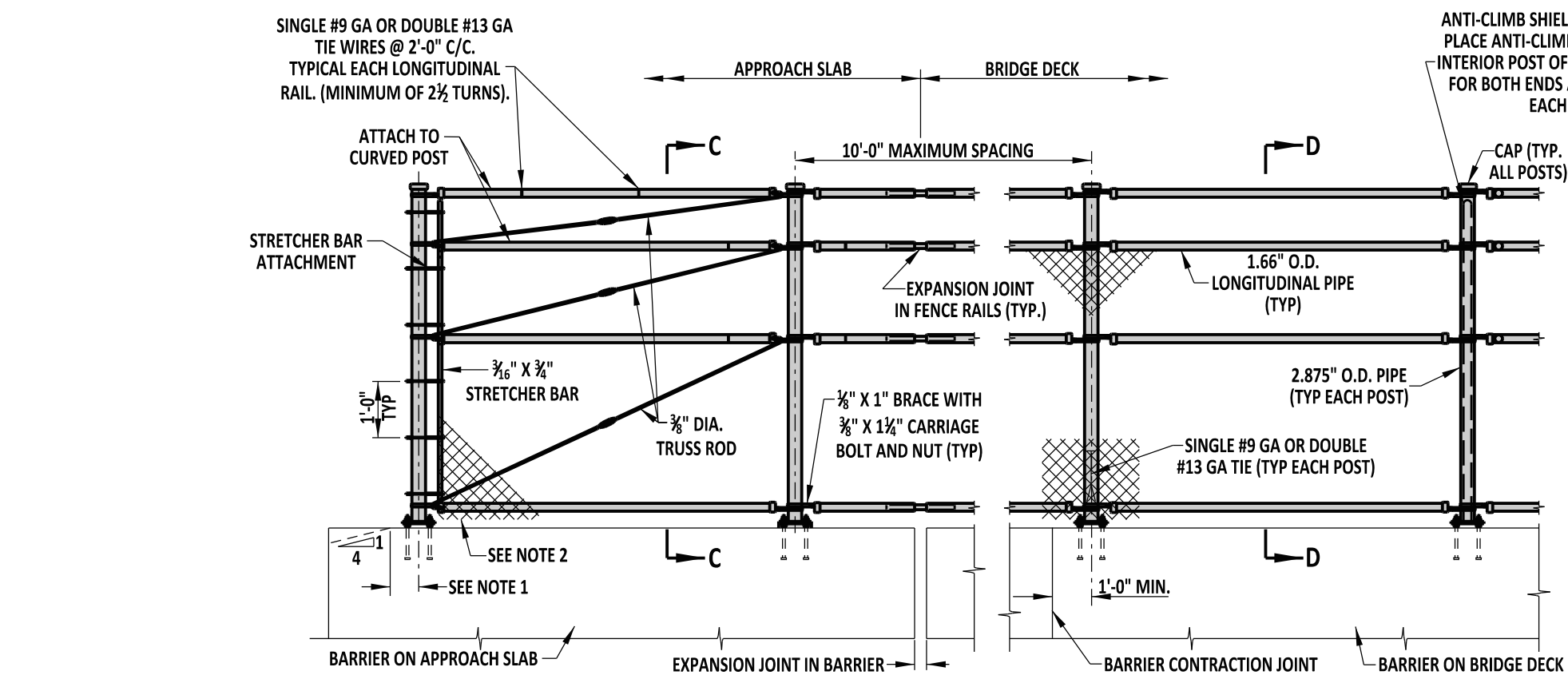
BRIDGE SAFETY FENCE, TYPE 1

- NOTES:
- 1). IF A TAPER EXISTS AT THE END OF THE BARRIER, PLACE POST 6" FROM THE TOP OF TAPER.
 - 2). MINIMUM 1/2" TO MAXIMUM 1" OF CLEARANCE BETWEEN TOP OF BARRIER AND BOTTOM OF CHAIN LINK FENCE SCREEN.
 - 3). LINE UP EXPANSION JOINTS IN TOP AND BOTTOM FENCE RAILS WITH EXPANSION JOINTS IN BARRIER.
 - 4). ATTACH ANTI-CLIMB SHIELD TO FENCE POST BY SMALL SECTION OF PIPE TO EACH VERTICAL POST WITH 1/4" FILLET WELD. SHAPE PIPE CONNECTOR TO HAVE FULL CONTACT WITH EACH POST.

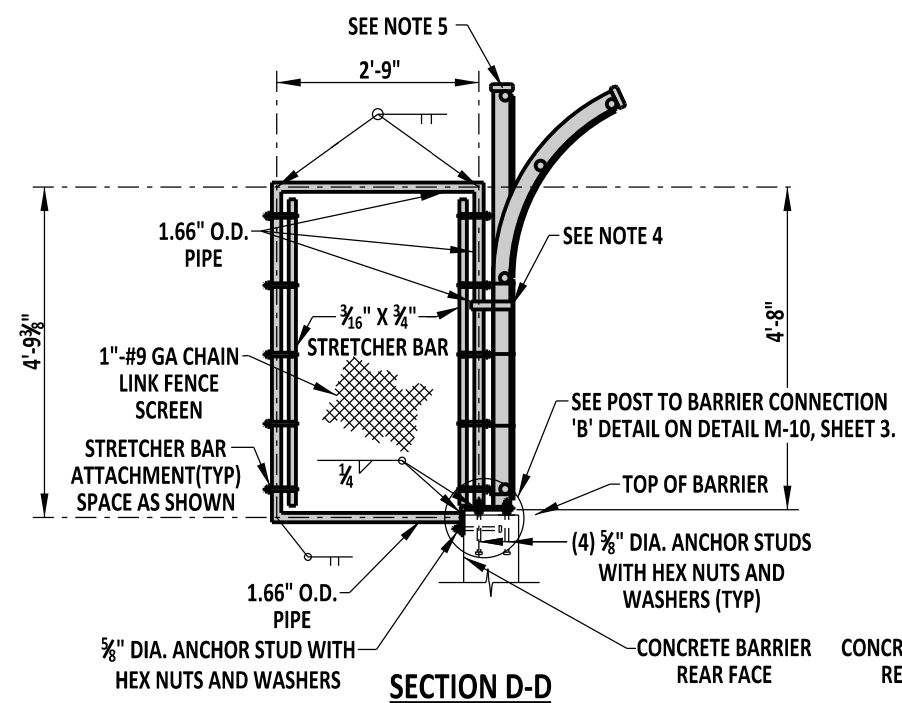


DELAWARE
DEPARTMENT OF TRANSPORTATION

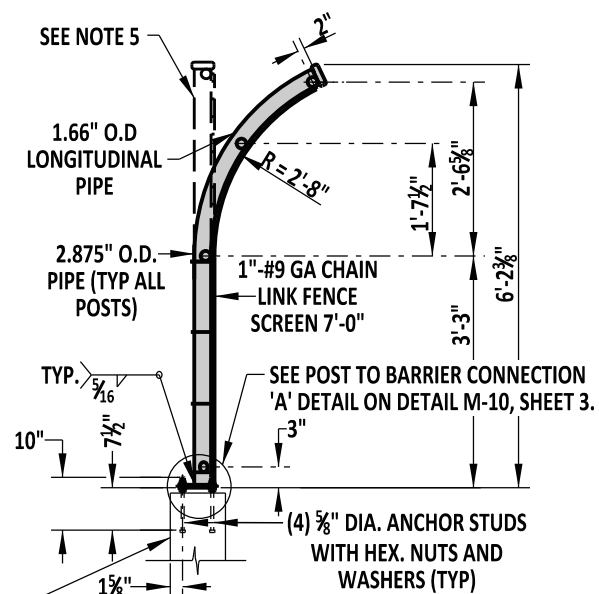
BRIDGE SAFETY FENCE				APPROVED	SIGNATURE ON FILE	12/30/2014
STANDARD NO. M-10 (2014)				RECOMMENDED	SIGNATURE ON FILE	12/11/2014
SHT. 1 OF 3					DESIGN ENGINEER	DATE



ELEVATION



SECTION D-D



SECTION C-C

BRIDGE SAFETY FENCE, TYPE 2

DESIGNER NOTE: BRIDGE SAFETY FENCE, TYPE 2 SHOULD BE USED WHEN A SIDEWALK EXISTS ADJACENT TO THE BARRIER. OTHERWISE, USE BRIDGE SAFETY FENCE, TYPE 1.

NOTES:

- 1). IF A TAPER EXISTS AT THE END OF THE BARRIER, PLACE POST 6" FROM THE TOP OF TAPER.
- 2). MINIMUM 1/2" TO MAXIMUM 1" OF CLEARANCE BETWEEN TOP OF BARRIER AND BOTTOM OF CHAIN LINK FENCE SCREEN.
- 3). LINE UP EXPANSION JOINTS IN TOP AND BOTTOM FENCE RAILS WITH EXPANSION JOINTS IN BARRIER.
- 4). ATTACH ANTI-CLIMB SHIELD TO FENCE POST BY SMALL SECTION OF PIPE TO EACH VERTICAL POST WITH 1/4" FILLET WELD. SHAPE PIPE CONNECTOR TO HAVE FULL CONTACT WITH EACH POST.
- 5). WELD ADDITIONAL STRAIGHT POST TO CURVED POST AT SECOND INTERIOR POST OF MAIN SPAN. (TYPICAL FOR BOTH ENDS OF THE BRIDGE.)



DELAWARE
DEPARTMENT OF TRANSPORTATION

BRIDGE SAFETY FENCE

STANDARD NO.

M-10 (2014)

SHT. 2

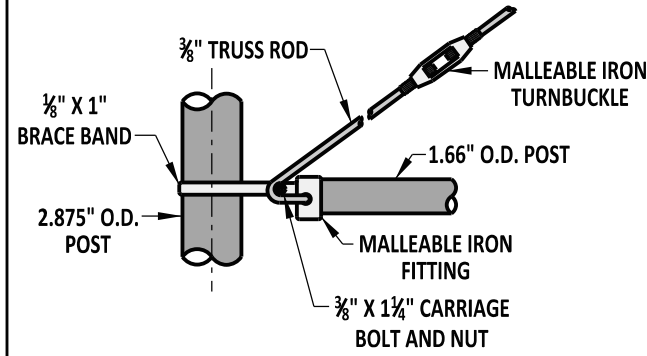
OF 3

APPROVED

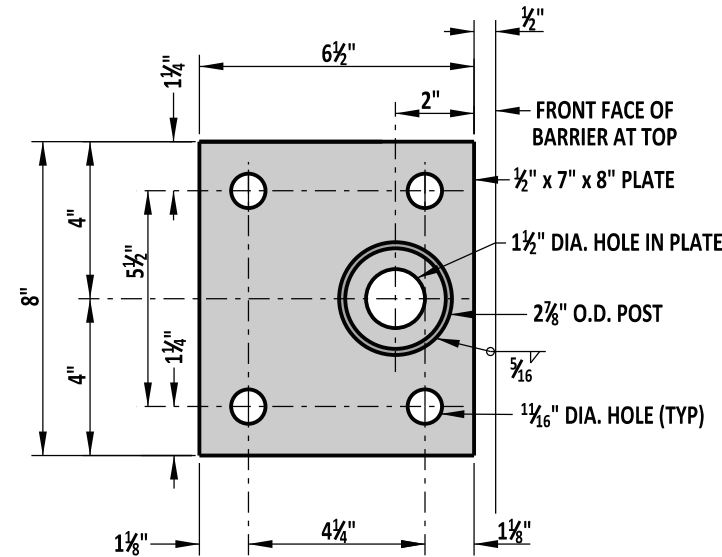
SIGNATURE ON FILE
CHIEF ENGINEER12/30/2014
DATE

RECOMMENDED

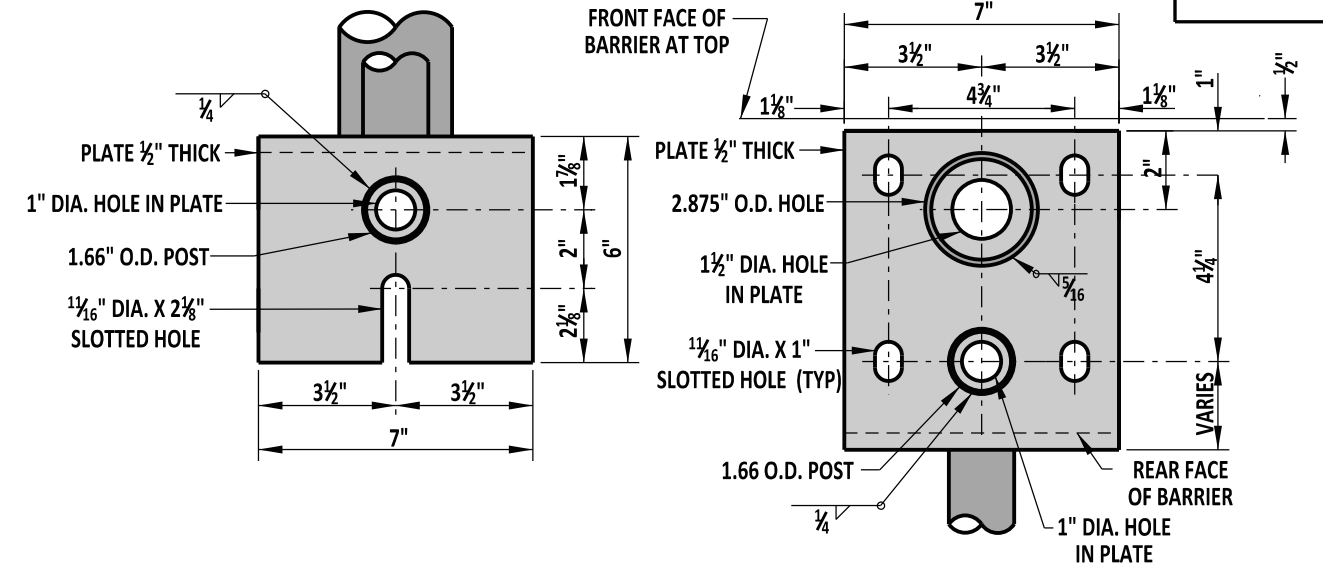
SIGNATURE ON FILE
DESIGN ENGINEER12/11/2014
DATE



TRUSS ROD ATTACHMENT

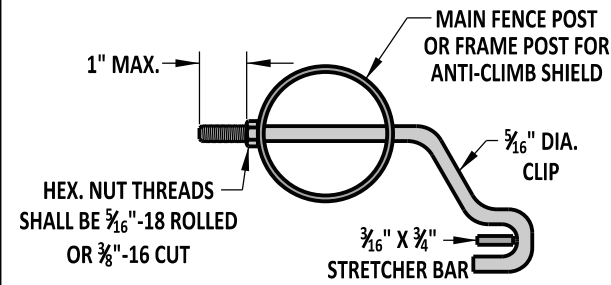


DETAIL 'A'

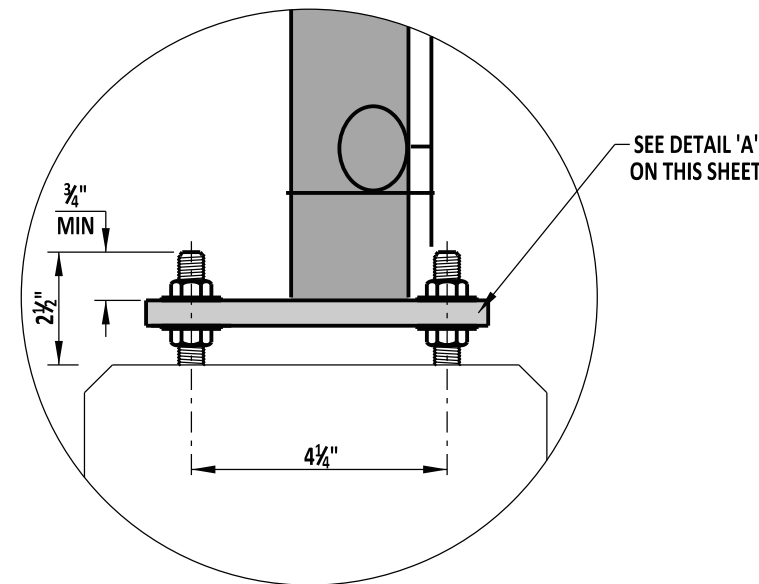


SIDE VIEW

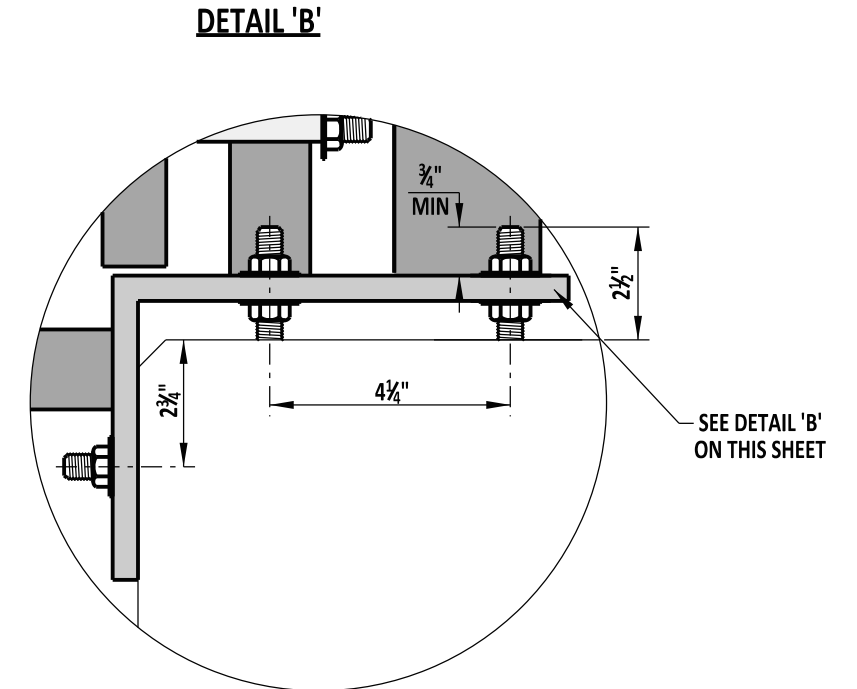
PLAN VIEW



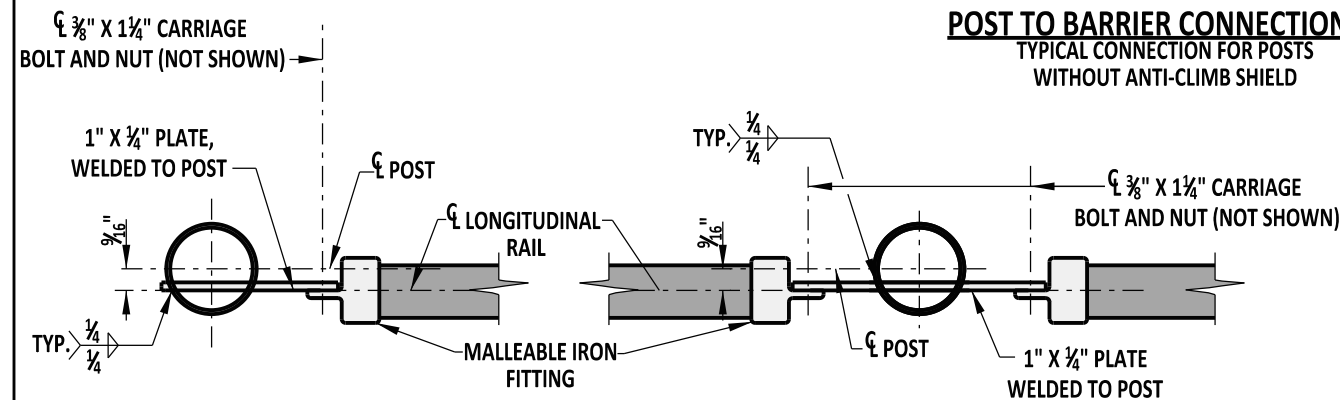
STRETCHER BAR ATTACHMENT



POST TO BARRIER CONNECTION 'A'
TYPICAL CONNECTION FOR POSTS
WITHOUT ANTI-CLIMB SHIELD



POST TO BARRIER CONNECTION 'B'
TYPICAL CONNECTION FOR POSTS
WITH ANTI-CLIMB SHIELD



TOP LONGITUDINAL RAIL-POST ATTACHMENT

NOTES:

- 1). POST SPACING - POST SPACING TO BE DETERMINED BY THE CONTRACTOR AND INCLUDED IN THE WORKING DRAWINGS. EACH POST MUST BE A MINIMUM OF 1'-0" FROM ANY PARAPET JOINT.
- 2). WORKING DRAWINGS - CONTRACTOR SHALL SUBMIT WORKING DRAWINGS FOR THE FENCE FOR REVIEW BY THE ENGINEER



DELAWARE
DEPARTMENT OF TRANSPORTATION

BRIDGE SAFETY FENCE

STANDARD NO.

M-10 (2014)

SHT. 3

OF 3

APPROVED

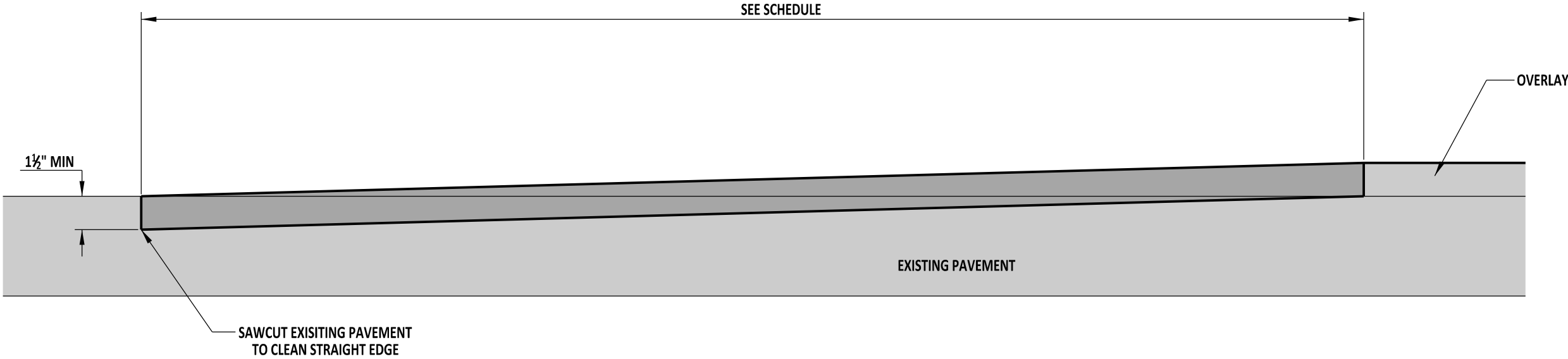
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER

12/11/2014
DATE



- NOTES:**
- 1). ADJUST THE PROFILE OF THE OVERLAY PAVING TO ASSURE A SMOOTH TRANSITION THROUGH THE BUTT JOINT.
 - 2). CRACK SEAL THE JOINT BETWEEN THE BUTT JOINT AND THE EXISTING PAVEMENT.

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



DELAWARE
DEPARTMENT OF TRANSPORTATION

BUTT JOINTS

STANDARD NO.

P-3 (2014)

SHT.

1

OF

1

APPROVED

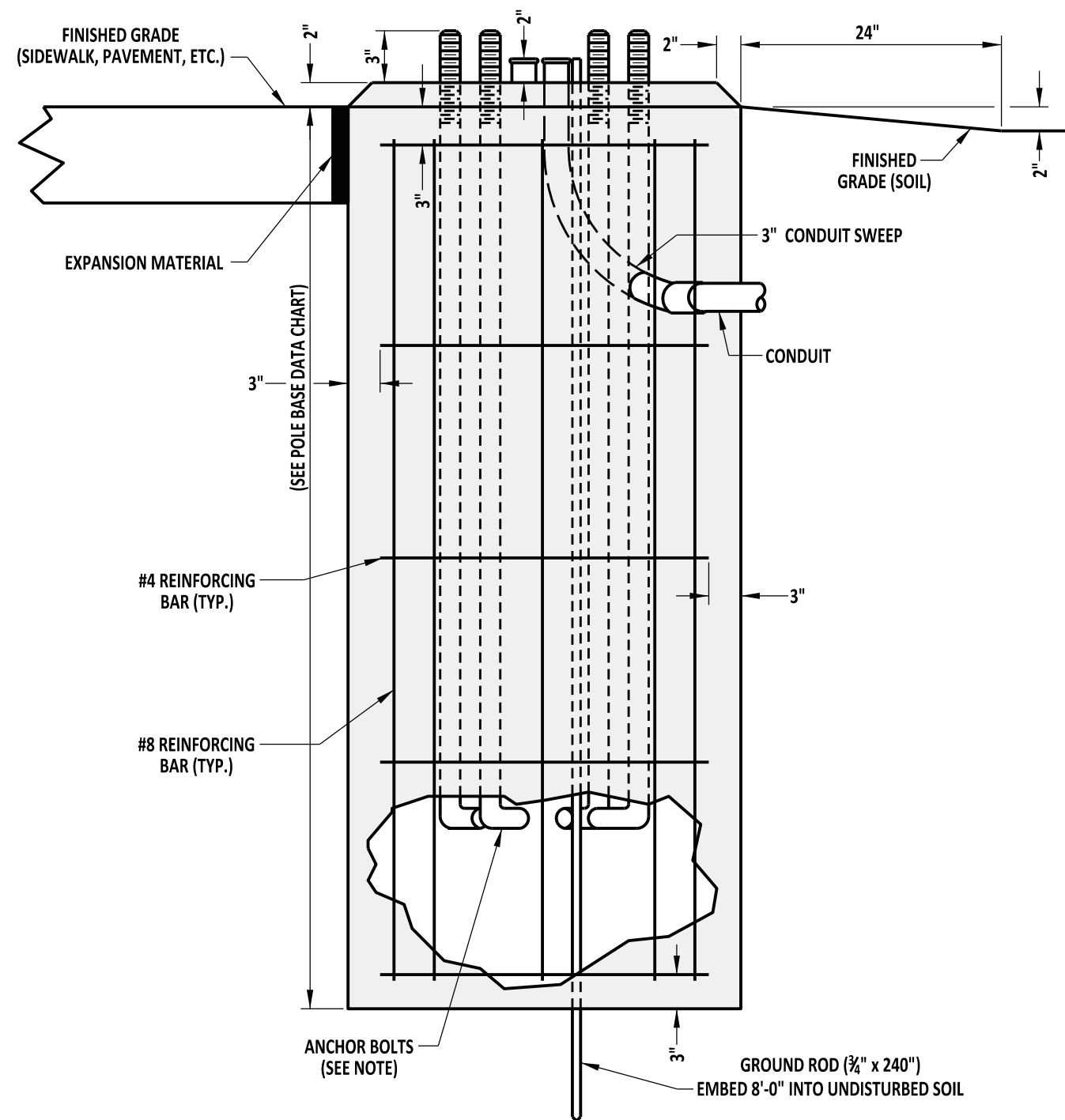
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER

12/11/2014
DATE



TYPICAL SECTION (BASE 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"	14	17	2 - 3"
3A	48"	12'-0"	17	17	2 - 3"
3B	48"	15'-0"	21	17	2 - 3"
3C	48"	20'-0"	27	17	2 - 3"
4A & 4B	24"	2'-4"	NONE	NONE	2 - 2.5"
6	24"	6'-0"	4	8	2 - 3"

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



DELAWARE
DEPARTMENT OF TRANSPORTATION

POLE BASES

STANDARD NO. T-5 (2014)

SHT. 3 OF 4

APPROVED

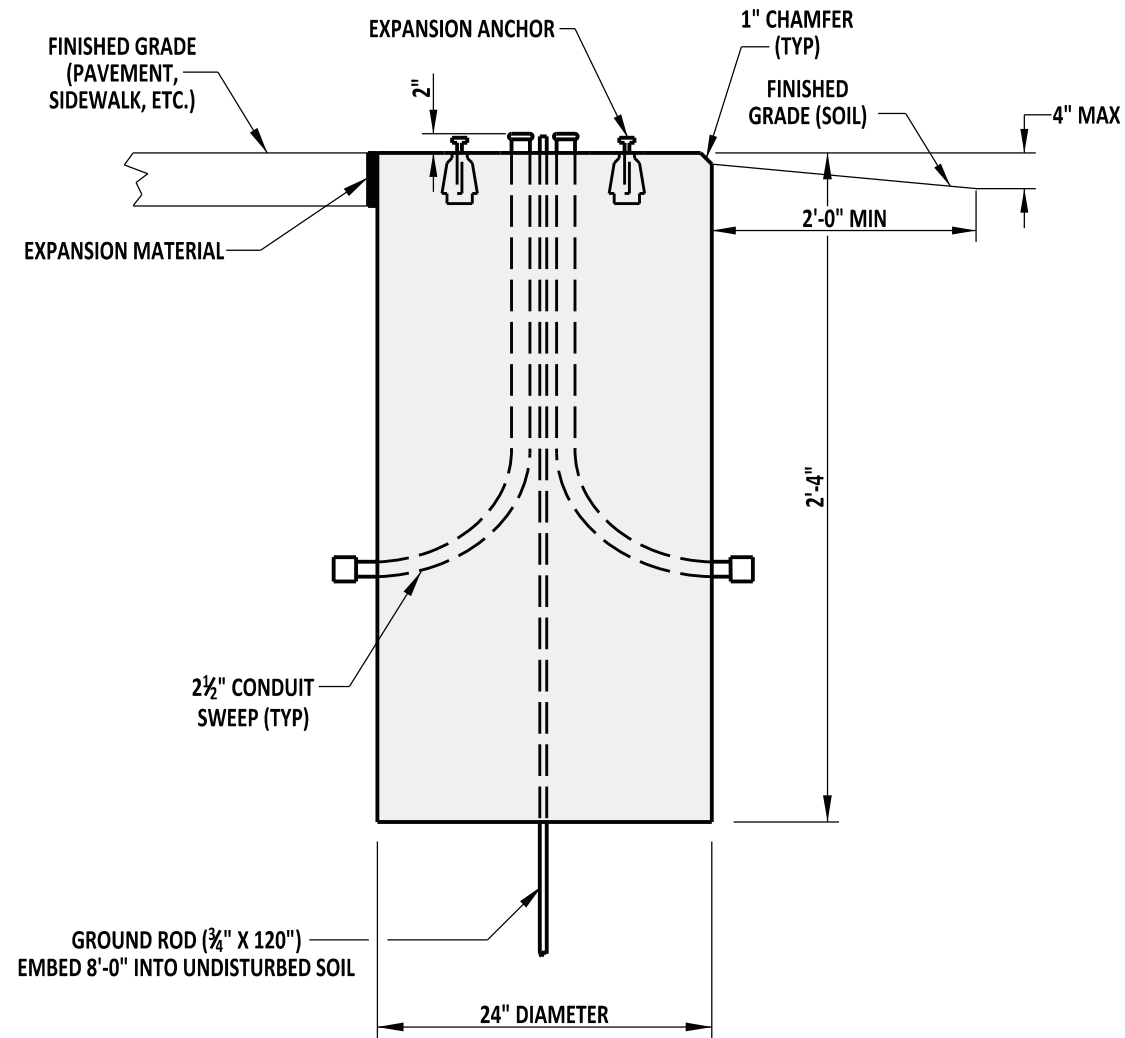
SIGNATURE ON FILE
CHIEF ENGINEER

12/30/2014
DATE

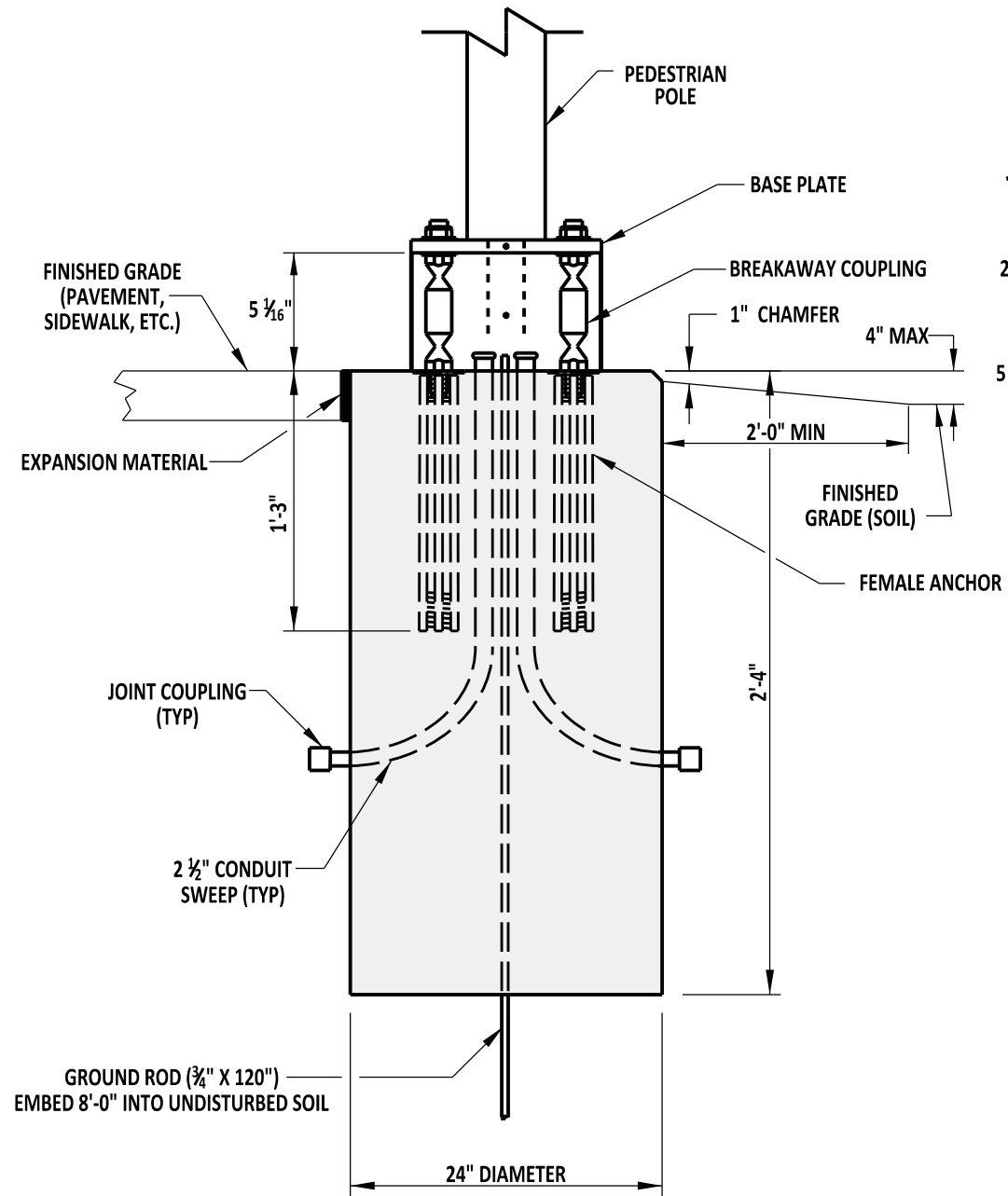
RECOMMENDED

SIGNATURE ON FILE
DESIGN ENGINEER

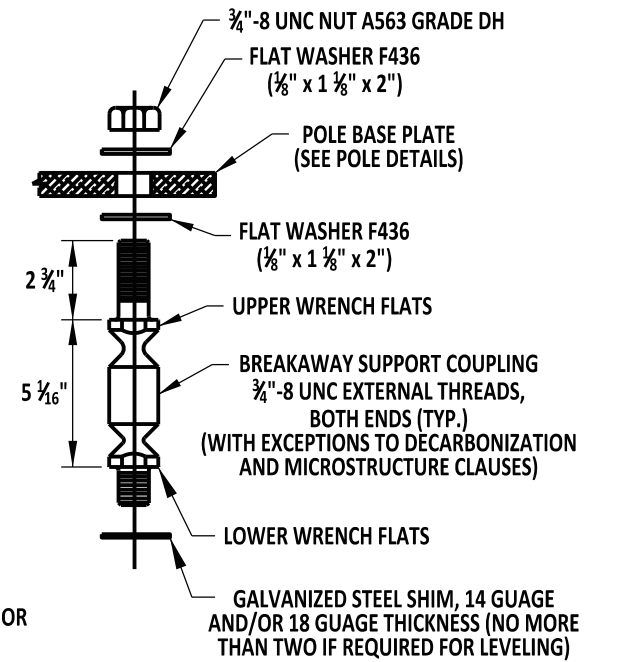
12/11/2014
DATE



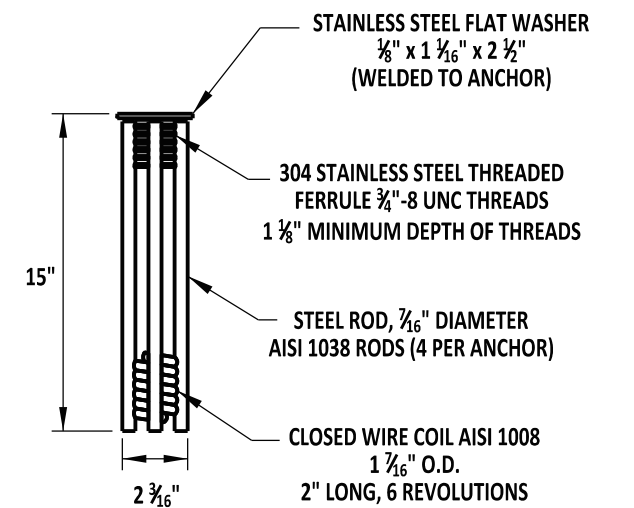
TYPICAL SECTION (BASE 4A)



TYPICAL SECTION (BASE 4B)



BREAKAWAY COUPLING DETAIL



ANCHOR DETAIL

NOTE:
BOLT PATTERN TO BE PROVIDED BY DELDOT'S SIGNAL CONSTRUCTION INSPECTOR.

NOTE:
BOLT PATTERN TO BE PROVIDED BY DELDOT'S SIGNAL CONSTRUCTION INSPECTOR.



DELAWARE
DEPARTMENT OF TRANSPORTATION

POLE BASES			
STANDARD NO.	T-5 (2014)	SHT.	4 OF 4

APPROVED	SIGNATURE ON FILE	12/30/2014
	CHIEF ENGINEER	DATE
RECOMMENDED	SIGNATURE ON FILE	12/11/2014
	DESIGN ENGINEER	DATE