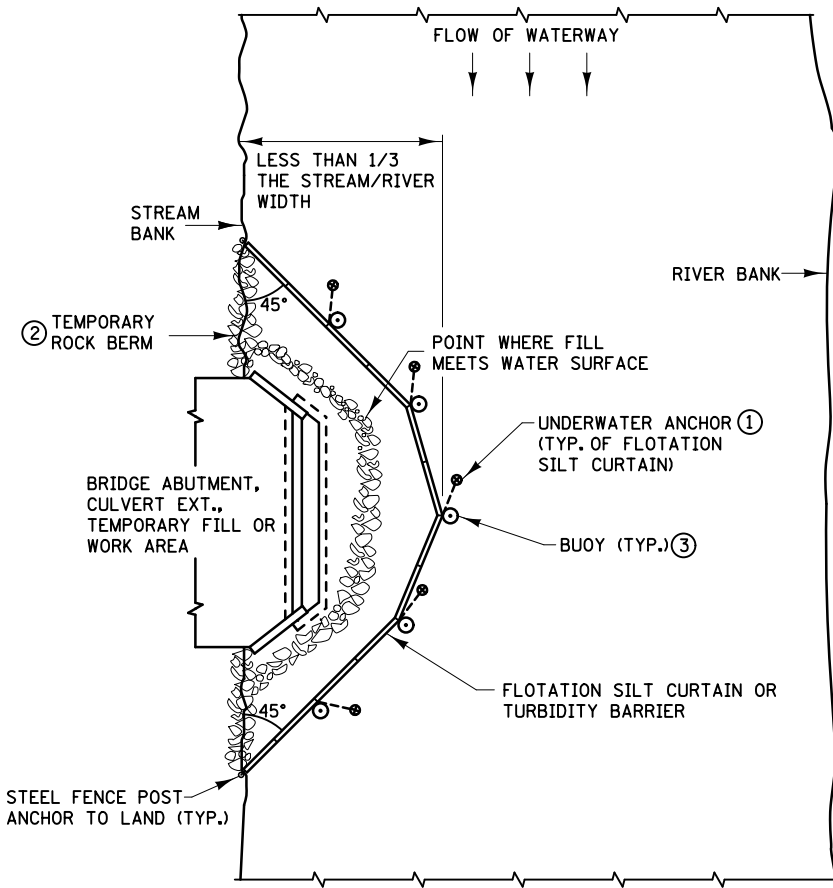
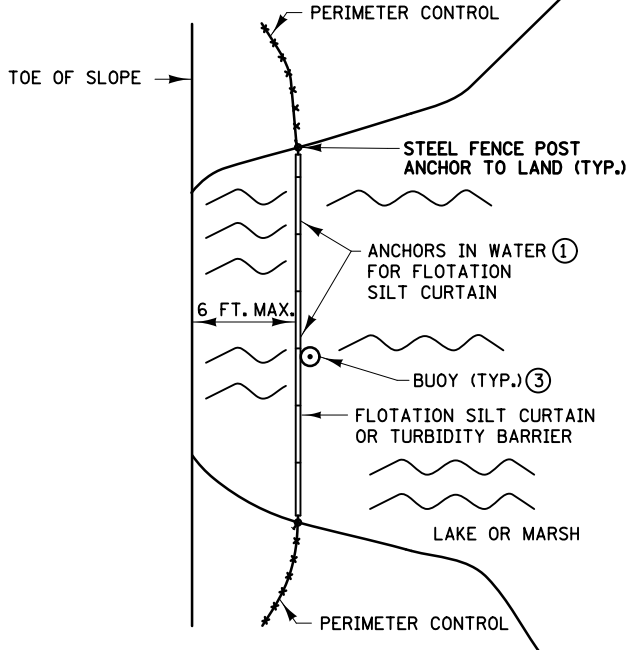


PLOTTED/REVISED: 23-OCT-2013

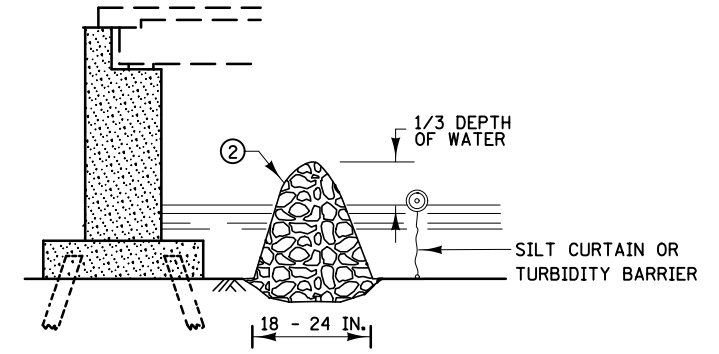
DISTRICT \*: Design Standards  
PLOT NAME: TSC-J  
PATH & FILENAME: IP\_PWP-d1567933temporary\_sediment\_control\_ldgn



PLAN VIEW FOR STREAM (6)(7)



PLAN VIEW FOR LAKE OR MARSH (6)(7)



TEMPORARY ROCK BERM FOR SEDIMENT CONTROL

**INSTALLATION GUIDELINES TURBIDITY BARRIER (4)**

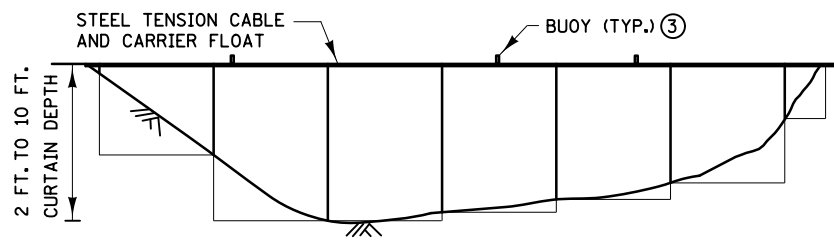
MINIMUM WATER DEPTH: 1 FT.  
 MAXIMUM WATER DEPTH: 3 FT.  
 MAXIMUM WATER VELOCITY: 5 FT./SEC.

**INSTALLATION GUIDELINES FLOTATION SILT CURTAIN TYPE: STILL WATER (5)**

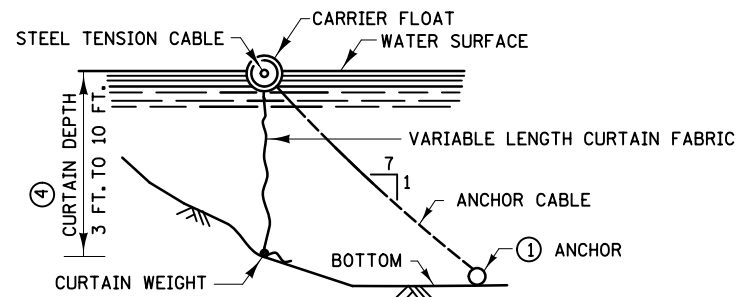
MINIMUM WATER DEPTH: 3 FT.  
 MAXIMUM WATER DEPTH: 10 FT.  
 MAXIMUM WATER VELOCITY: 2 FT./SEC.  
 MAXIMUM WAVE HEIGHT: 1 FT

**INSTALLATION GUIDELINES FLOTATION SILT CURTAIN TYPE: MOVING WATER (5)**

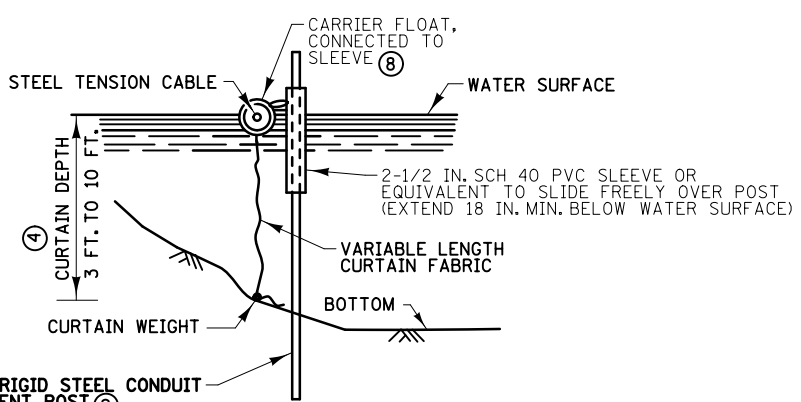
MINIMUM WATER DEPTH: 3 FT.  
 MAXIMUM WATER DEPTH: 10 FT.  
 MAXIMUM WATER VELOCITY: 5 FT./SEC.  
 MAXIMUM WAVE HEIGHT: 2 FT.



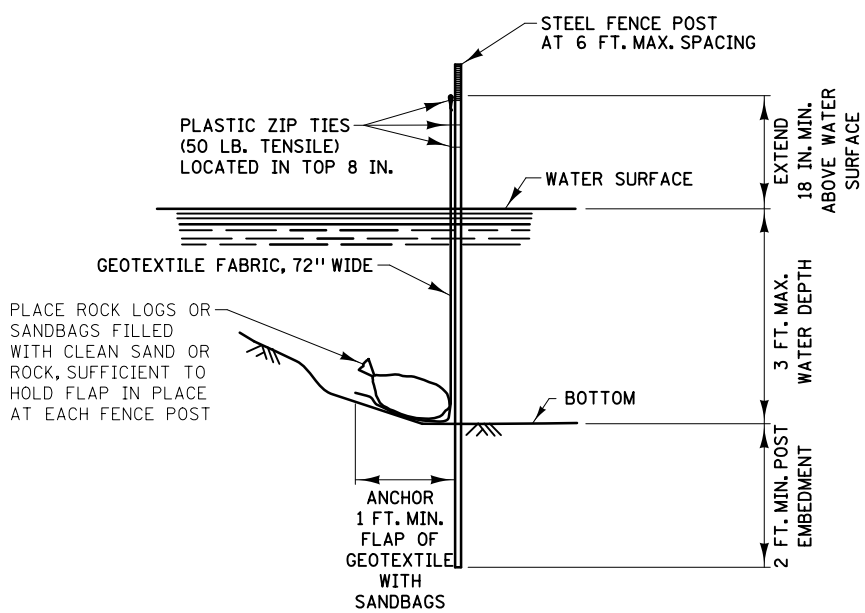
FRONT VIEW FOR FLOTATION SILT CURTAIN (4)



FLOTATION SILT CURTAIN



ALTERNATE FLOTATION SILT CURTAIN



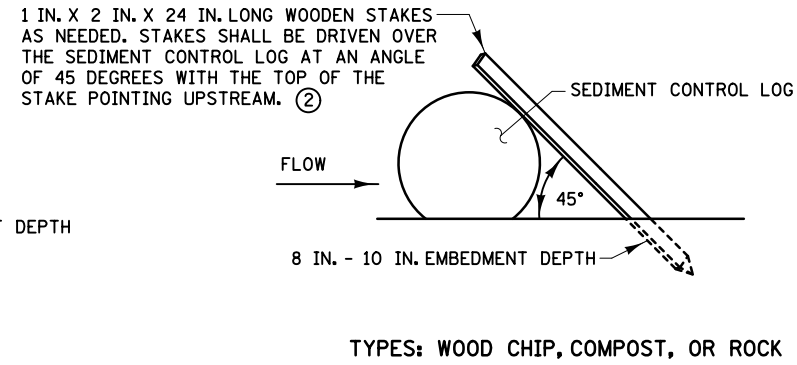
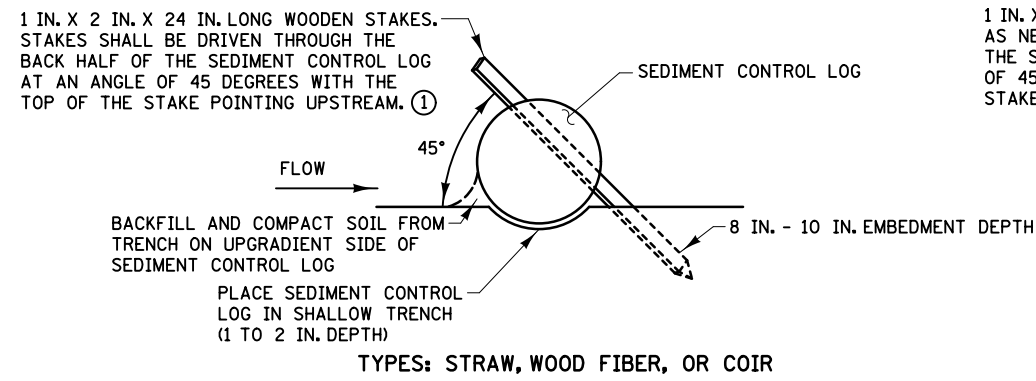
TURBIDITY BARRIER (SILT FENCE TYPE TB)

**NOTES:**

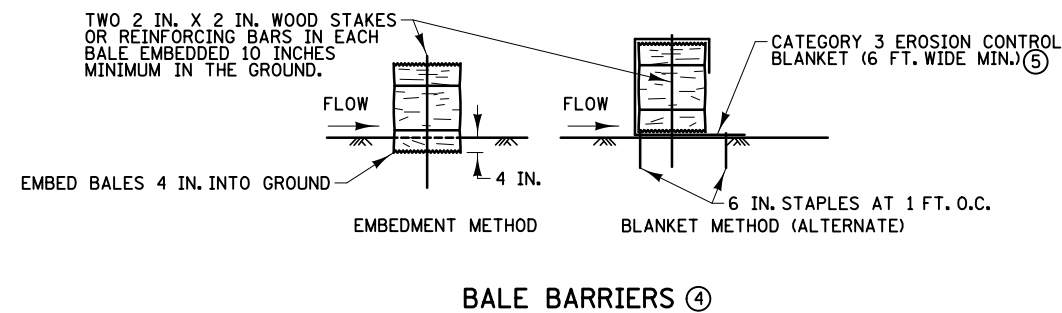
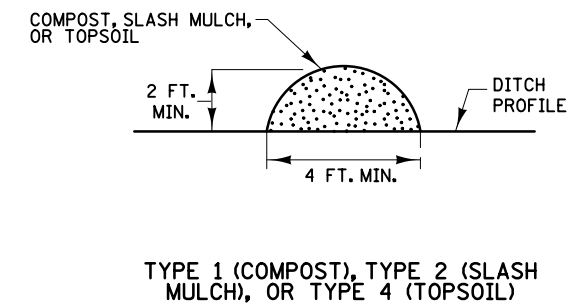
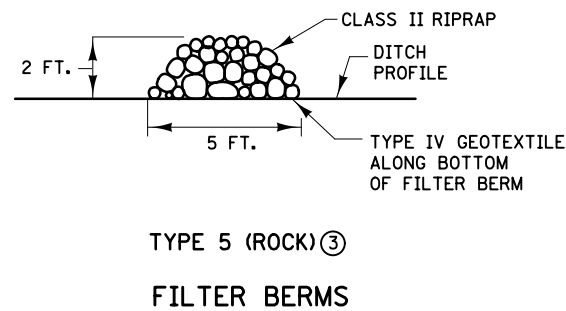
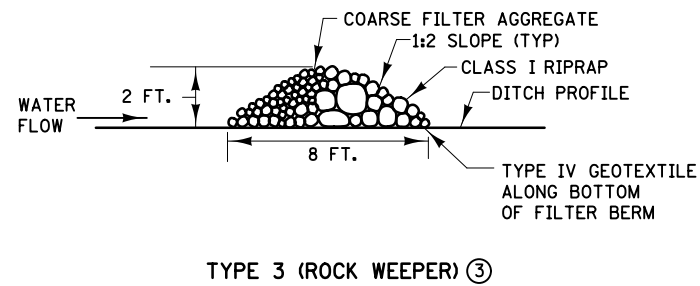
- SEE SPECS. 2573, 3886, 3887 & 3893.
- (1) FOR ANCHOR SPACING AND WEIGHT REQUIREMENTS, SEE SPEC. 2573.
- (2) IN AREAS WHERE THE PLAN CALLS FOR RIPRAP AT A BRIDGE, CULVERT, OR SLOPE, A TEMPORARY ROCK BERM CONSTRUCTED FROM THE RIPRAP CAN BE USED TO PROVIDE ADDITIONAL PROTECTION. WHEN THE WORK IS COMPLETE THE RIPRAP CAN THEN BE MOVED TO THE PERMANENT LOCATION INDICATED IN THE PLANS. THE TEMPORARY ROCK BERM IS INCIDENTAL.
- (3) ON U.S. COAST GUARD OR OTHER MOTORIZED WATERWAYS, BUOYS ARE REQUIRED TO MARK THE ENDS AND SPECIAL AREAS FOR VISIBILITY. PLACE BUOYS AS REQUIRED FOR NAVIGATIONAL PURPOSES.
- (4) WATER DEPTH CAN BE 0 TO 10 FEET. THE DEPTH OF THE SILT CURTAIN VARIES.
- (5) MINIMUM WATER DEPTH APPLIES TO THE DEEPEST POINT ALONG THE FLOTATION SILT CURTAIN OR TURBIDITY BARRIER FOR DETERMINING APPLICABILITY OF FLOTATION SILT CURTAIN OR TURBIDITY BARRIER.
- (6) SILT CURTAIN SHOULD BE REMOVED WHEN THE AREA CONTRIBUTING DIRECT RUNOFF HAS BEEN TEMPORARILY OR PERMANENTLY STABILIZED. SILT CURTAIN SHOULD ALSO BE REMOVED BEFORE WINTER IF ICE UP OR ICE FLOW IS ANTICIPATED.
- (7) EMBED POST INTO BOTTOM A MINIMUM OF 40% OF THE WATER DEPTH (INCLUDING WAVE HEIGHT), BUT IN NO CASE SHALL EMBEDMENT BE LESS THAN 2 FEET.
- (8) ANCHOR FLOAT MUST BE CONNECTED SECURELY TO SLEEVE WITH A MINIMUM TENSILE STRENGTH OF 100 LBS. CONNECTION METHOD MUST ALLOW FOR SLEEVE TO MOVE FREELY ON POST.
- (9) PROVIDE SUFFICIENT NUMBER OF POST ANCHORS TO MAINTAIN SILT CURTAIN POSITION.

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DISTRICT \*: Design Standards  
I/PLOT NAME: TSC-2  
PATH & FILENAME: IP\_PWP-d/1567933/temporary\_sediment\_control\_2.dgn



### SEDIMENT CONTROL LOGS



### NOTES:

SEE SPECS. 2573, 3149, 3874, 3882, 3886, & 3897.

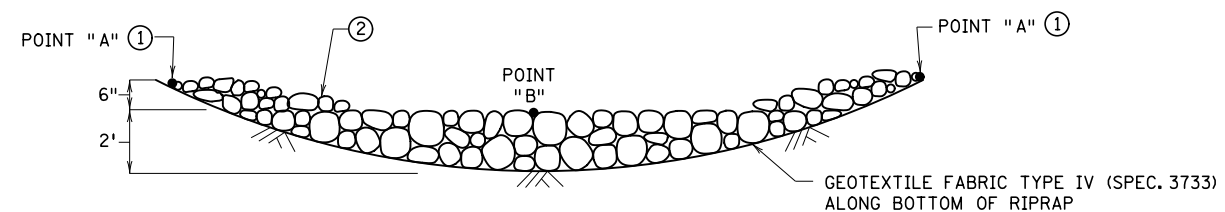
- ① SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1 FOOT FOR DITCH CHECKS OR 2 FEET FOR OTHER APPLICATIONS.
- ② PLACE STAKES AS NEEDED TO PREVENT MOVEMENT OF SEDIMENT CONTROL LOGS PLACED ON SLOPES OR AS NEEDED DUE TO OTHER FACTORS. STAKES SHALL BE INCIDENTAL.
- ③ FOR PERMANENT DITCH CHECK REDUCE THE HEIGHT TO 16 IN. AND MODIFY THE 1:2 (V:H) SIDE SLOPE TO 1:6 (V:H).
- ④ TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS WHERE STANDING WATER OCCURS (6 INCH MAX. DEPTH). BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14 IN. X 18 IN. X 36 IN. LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.
- ⑤ INSTEAD OF TRENCHING, PLACE BALE ON THE BLANKET AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS

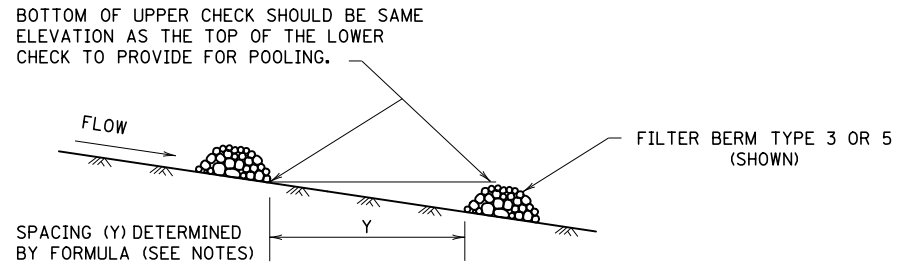
TEMPORARY SEDIMENT CONTROL

STATE PROJ. NO. (TH ) SHEET NO. OF SHEETS

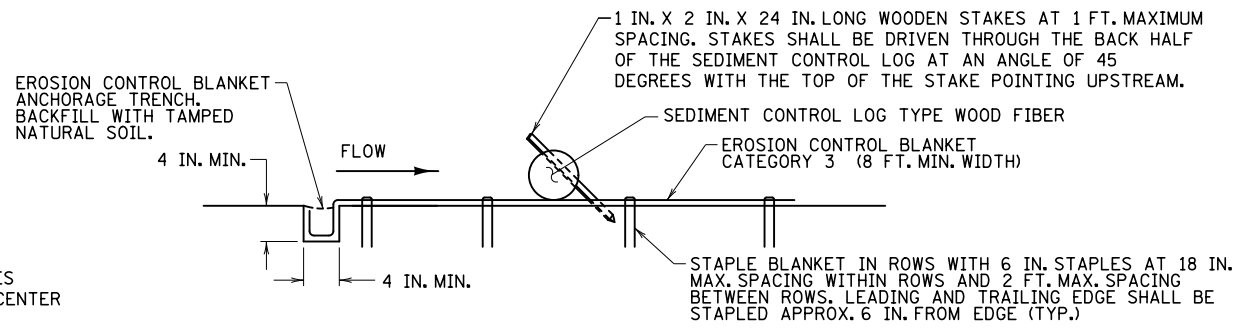
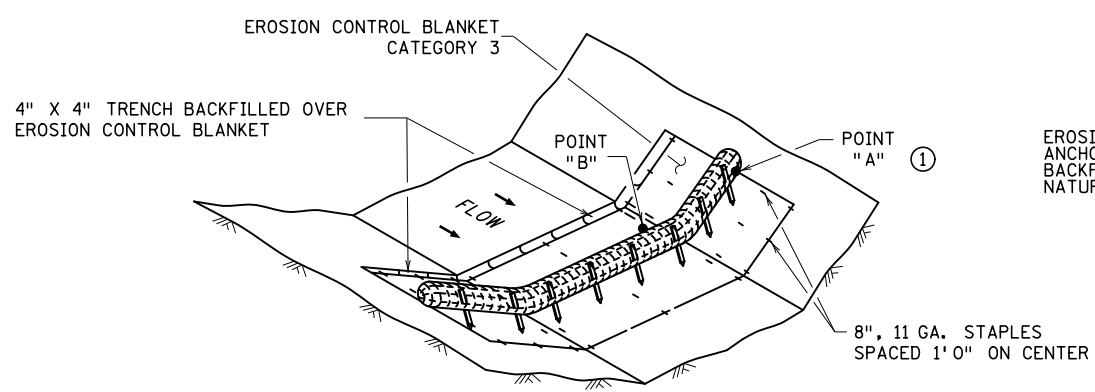
PLOTTED/REVISED: 23-OCT-2013



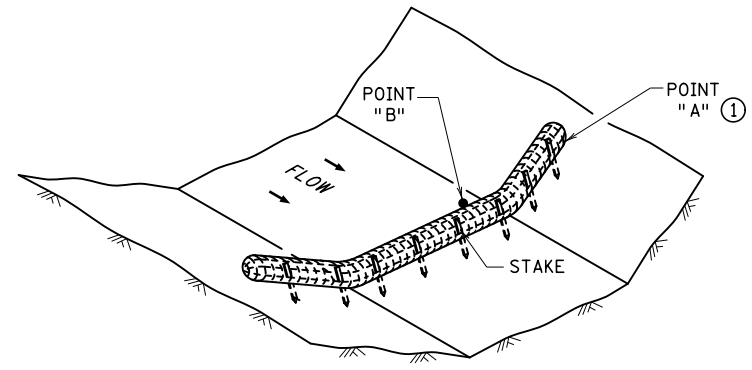
ROCK DITCH CHECKS  
 FILTER BERMS TYPE 3 (ROCK WEEPER) OR FILTER TYPE 5 (ROCK) ③  
 (FOR USE ON ROUGH GRADED AREAS)



DITCH CHECK SPACING  
 (FOR ALL FILTER BERM TYPES)



SEDIMENT CONTROL LOG BLANKET SYSTEM



SEDIMENT CONTROL LOG TYPE WOOD FIBER, OR TYPE COMPOST  
 (FOR USE ON ROUGH GRADED AREAS)

- NOTES:
- SEE SPECS. 2573, 3601, 3733, 3885, 3886 & 3889.
- APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:
- $$\text{APPROXIMATE SPACING OF DITCH CHECKS (FT.)} = Y = \frac{\text{DITCH CHECK HEIGHT (FT)}}{\% \text{ CHANNEL SLOPE}} \times 100$$
- ① POINT "A" MUST BE A MINIMUM OF 6 INCHES HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
  - ② CLASS I - IV RIPRAP (SPEC. 3601) WITH GEOTEXTILE FABRIC TYPE IV (SPEC. 3733).
  - ③ PERMANENT ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE ARE TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.

DISTRICT \*: Design Standards  
 IPLOT NAME: TSC\_3  
 PATH & FILENAME: IP\_PWP-d\1567933\temporary\_sediment\_control\_3.dgn

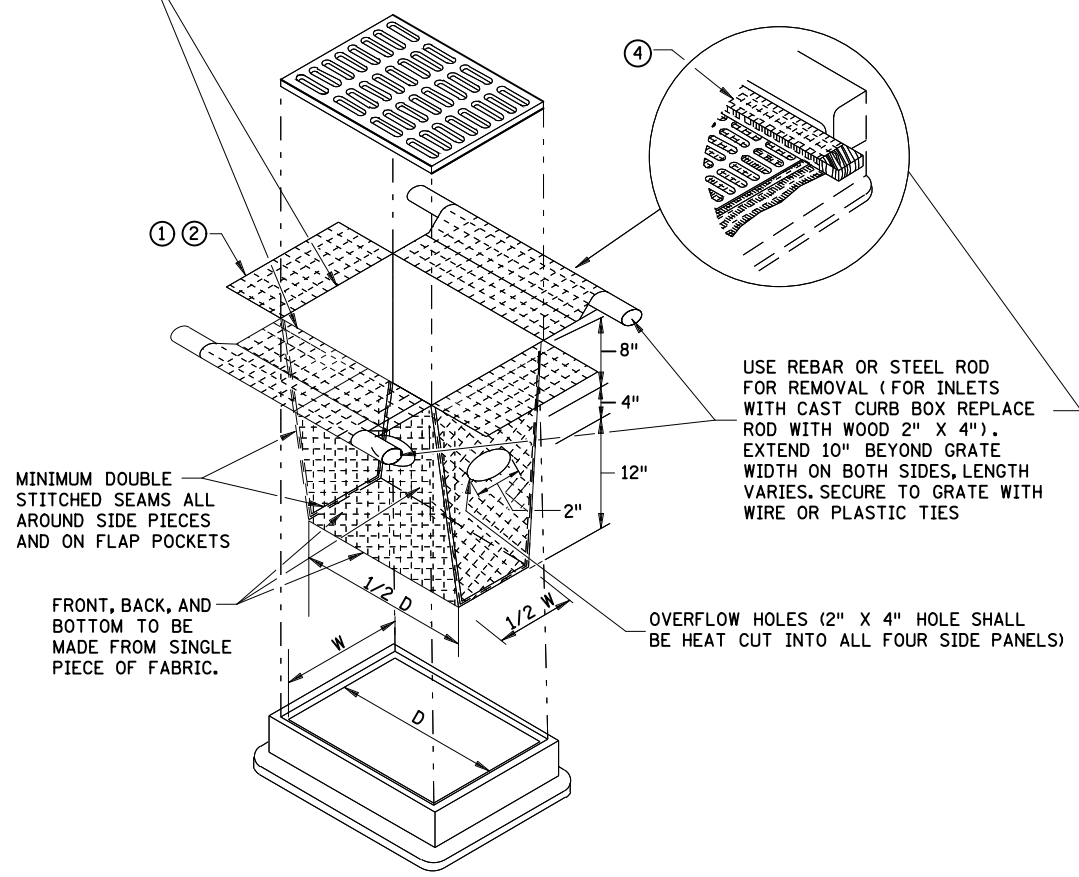
DITCH CHECK

TEMPORARY SEDIMENT CONTROL			
STATE PROJ. NO.	(TH )	SHEET NO.	OF SHEETS

PLOTTED/REVISED: 23-OCT-2013

DISTRICT \*: Design Standards  
PLOT NAME: TSC-4  
PATH & FILENAME: IP\_PWP-d1567933temporary\_sediment\_control\_4.dgn

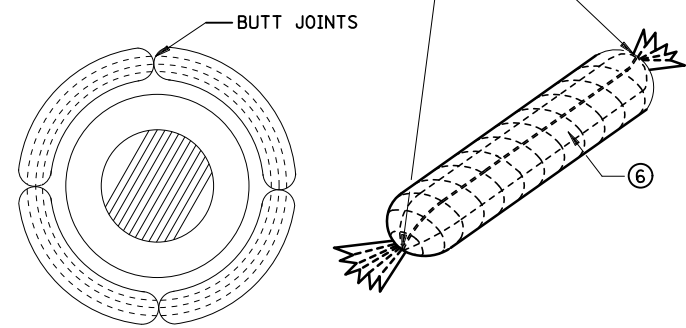
INLET SPECIFICATIONS AS PER THE PLAN  
DIMENSION LENGTH AND WIDTH TO MATCH  
FLAP POCKET



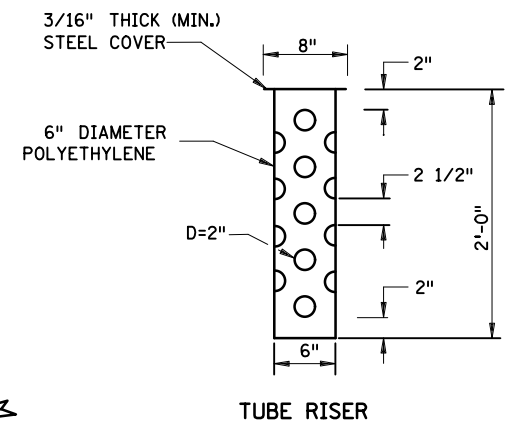
**FILTER BAG INSERT ③**

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)

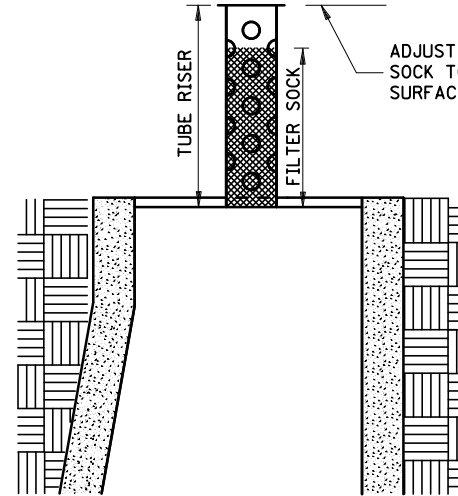
ENDS SECURELY CLOSED TO PREVENT LOSS OF OPEN GRADED AGGREGATE FILL. SECURED WITH 50 PSI. ZIP TIE.



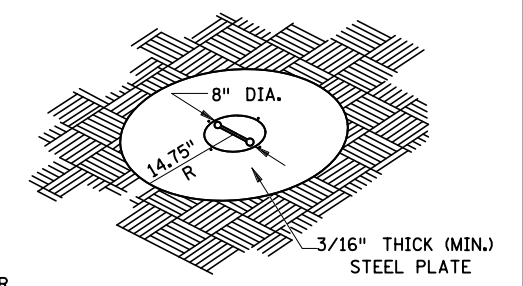
**ROCK LOG/COMPOST LOG**



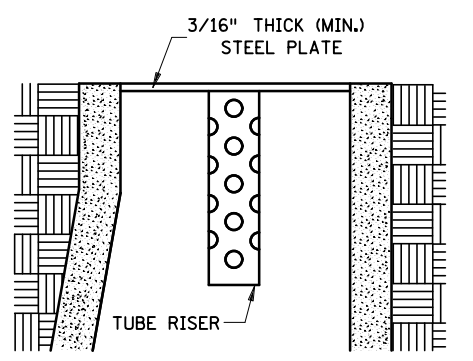
**TUBE RISER**



**SECTION (UP POSITION)**

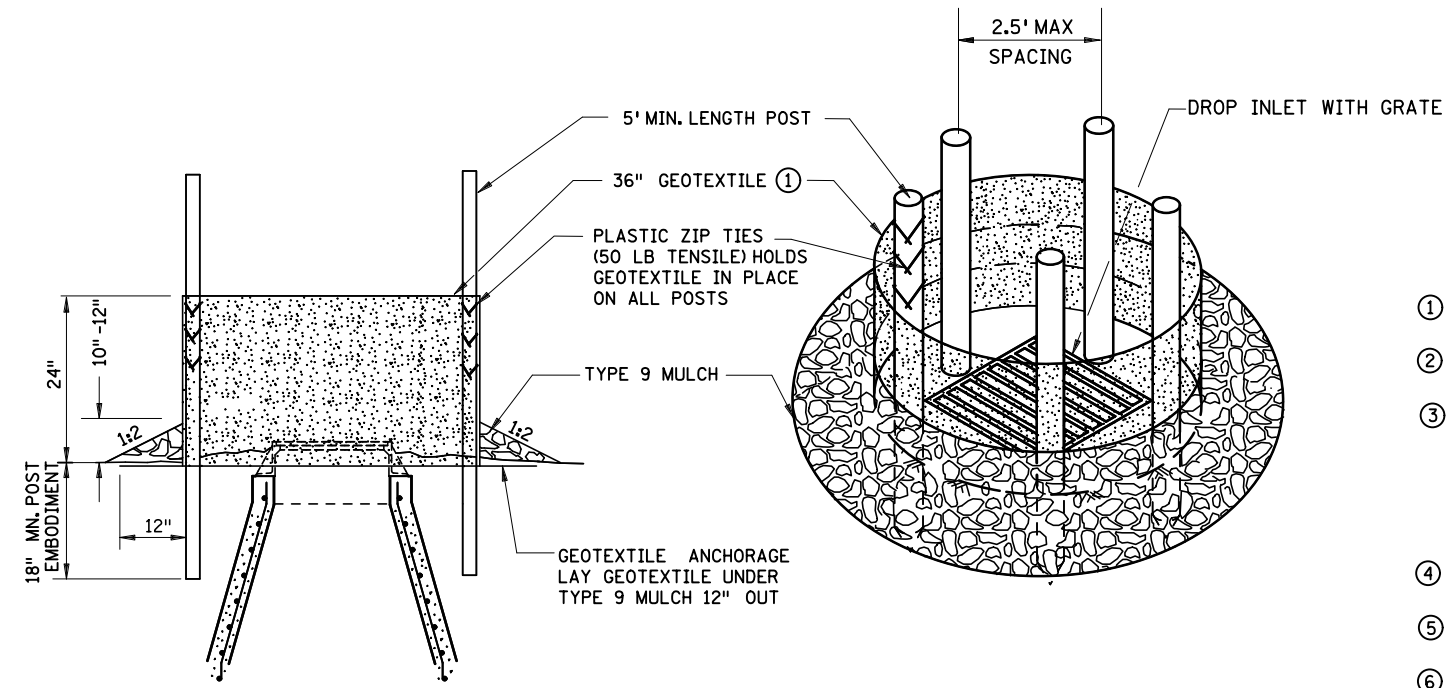


**PERSPECTIVE VIEW**

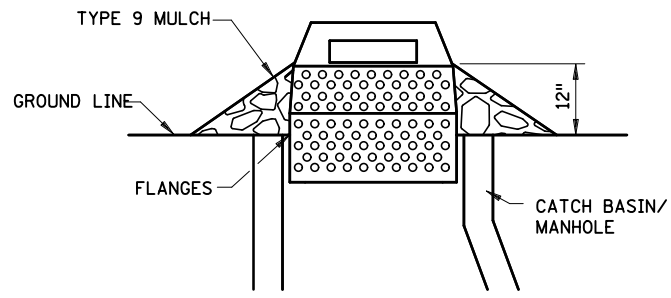


**SECTION (DOWN POSITION)**

**POP-UP HEAD**



**SILT FENCE RING AND ROCK FILTER BERM**  
USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS



**SEDIMENT CONTROL INLET HAT**

NOTE:  
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.

**NOTES:**

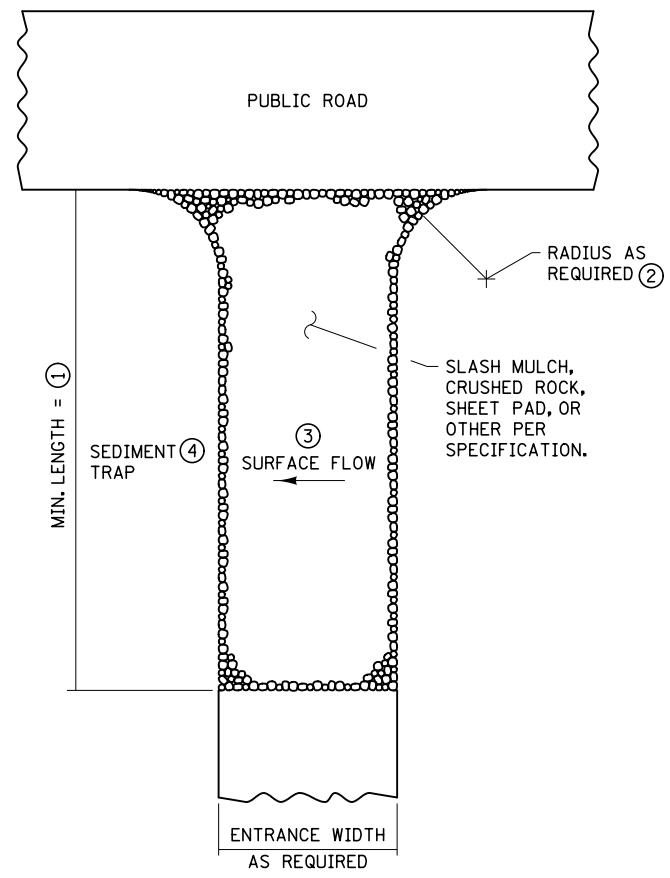
- SEE SPECS. 2573, 3137, 3886 & 3891.
- MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.
- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
- ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ③ INSTALLATION NOTES:  
DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
- ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
- ⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

STORM DRAIN INLET PROTECTION

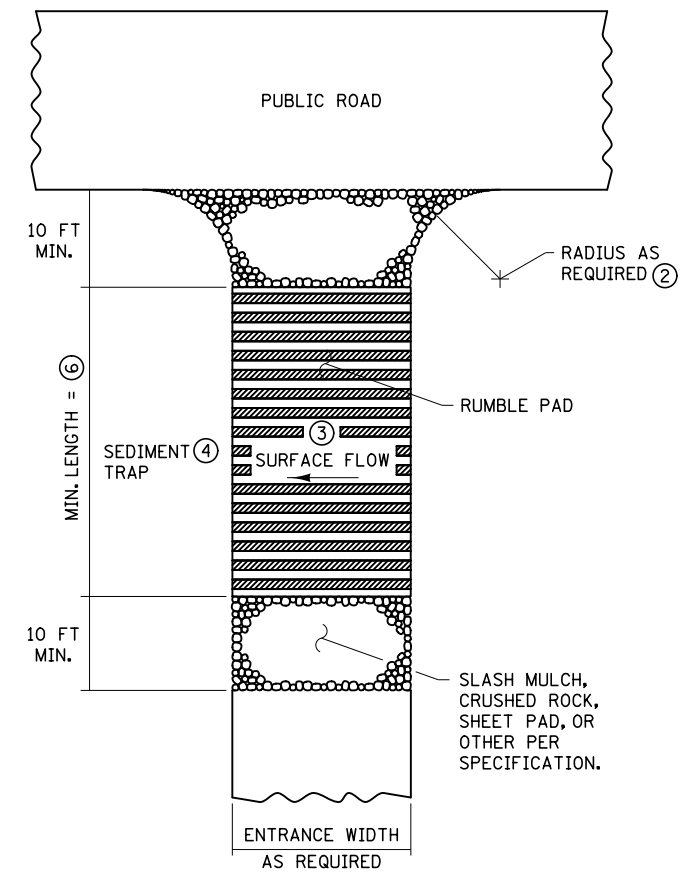
TEMPORARY SEDIMENT CONTROL

STATE PROJ. NO. (TH ) SHEET NO. OF SHEETS

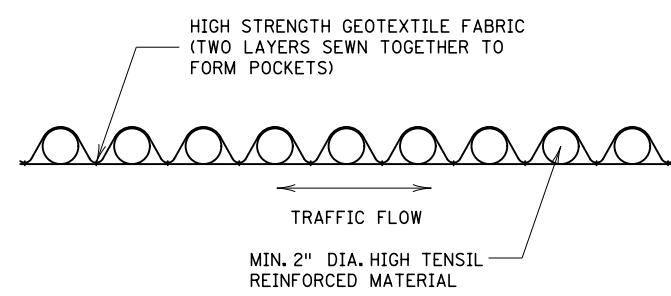
PLOTTED/REVISED: 23-OCT-2013



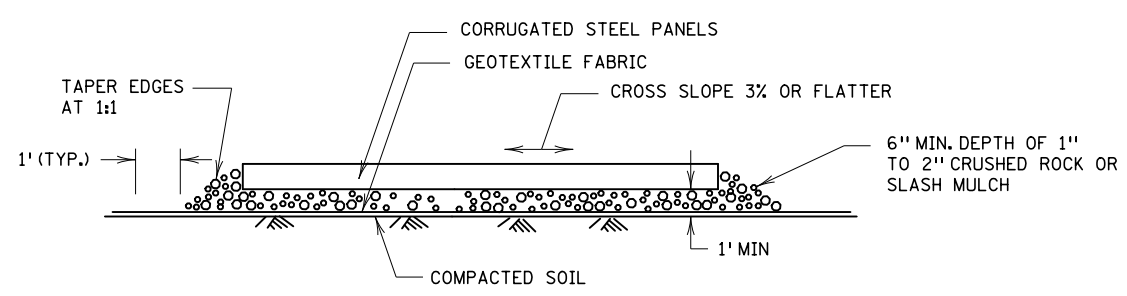
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



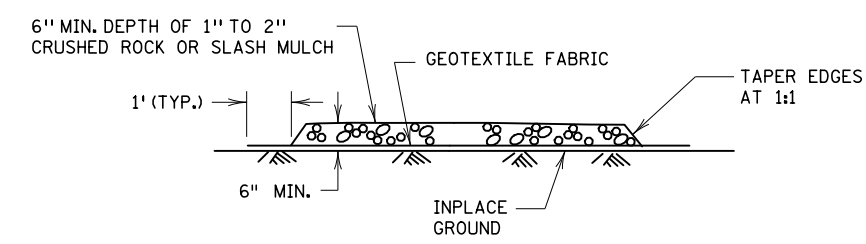
RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



SHEET PAD



RUMBLE PAD



SLASH MULCH OR CRUSHED ROCK

NOTES:

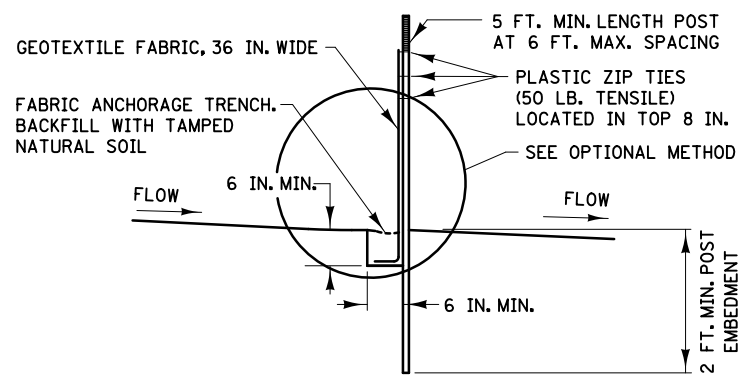
- SEE SPECS. 2573 & 3882.
- ① MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.
- ② PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.
- ③ IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXIT S, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.
- ④ IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.
- ⑤ IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.
- ⑥ MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.
- ⑦ MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

DISTRICT #: Design Standards  
 IPLOT NAME: TSC-5  
 PATH & FILENAME: IP\_PWP-d\56793\temporary\_sediment\_control\_5.dgn

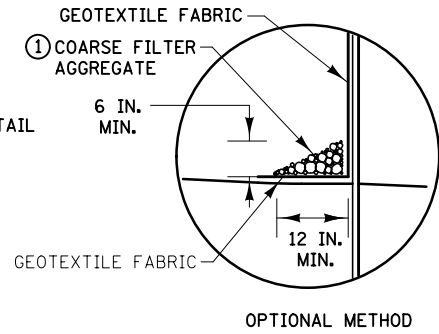
CONSTRUCTION EXITS

TEMPORARY SEDIMENT CONTROL			
STATE PROJ. NO.	(TH )	SHEET NO.	OF SHEETS

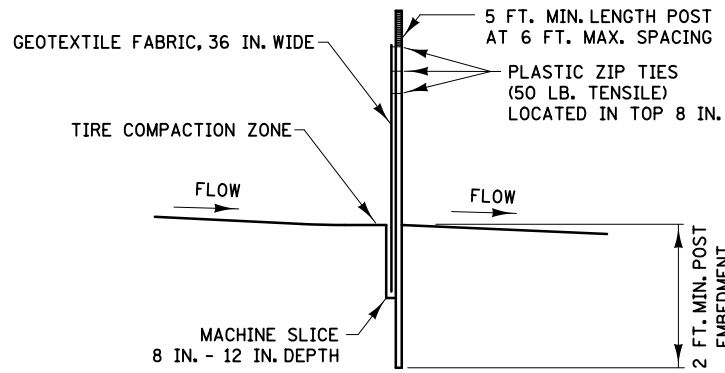
PLOTTED/REVISED: 23-OCT-2013



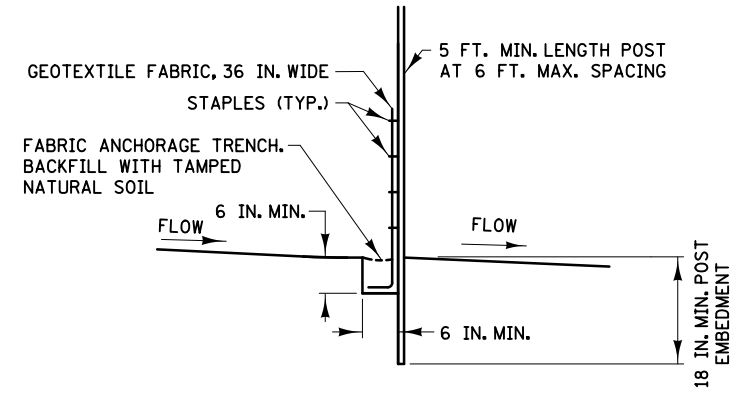
**SILT FENCE TYPE HI ②  
(HAND INSTALLED)**



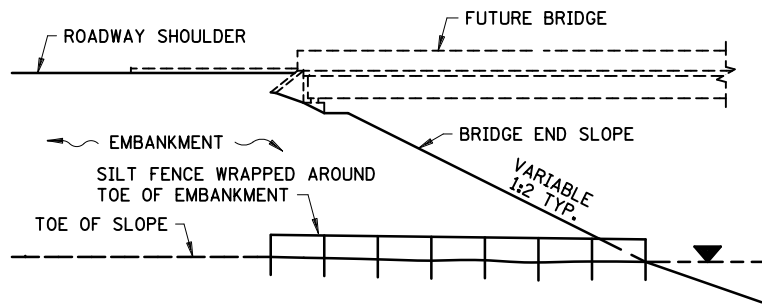
OPTIONAL METHOD



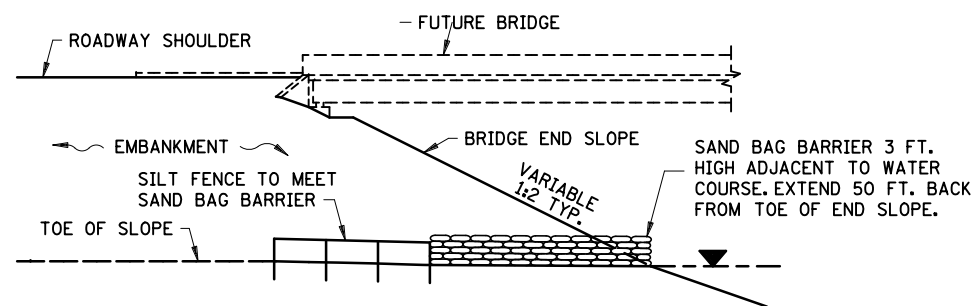
**SILT FENCE TYPE MS ②  
(MACHINE SLICED)**



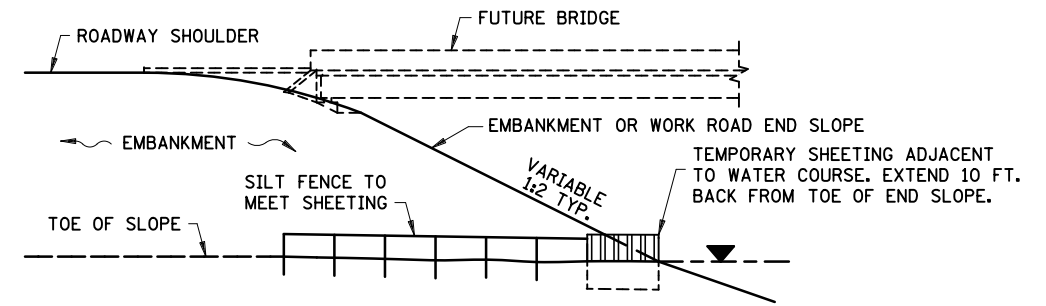
**SILT FENCE TYPE PA ③  
(PREASSEMBLED)**



**SILT FENCE ONLY ④**

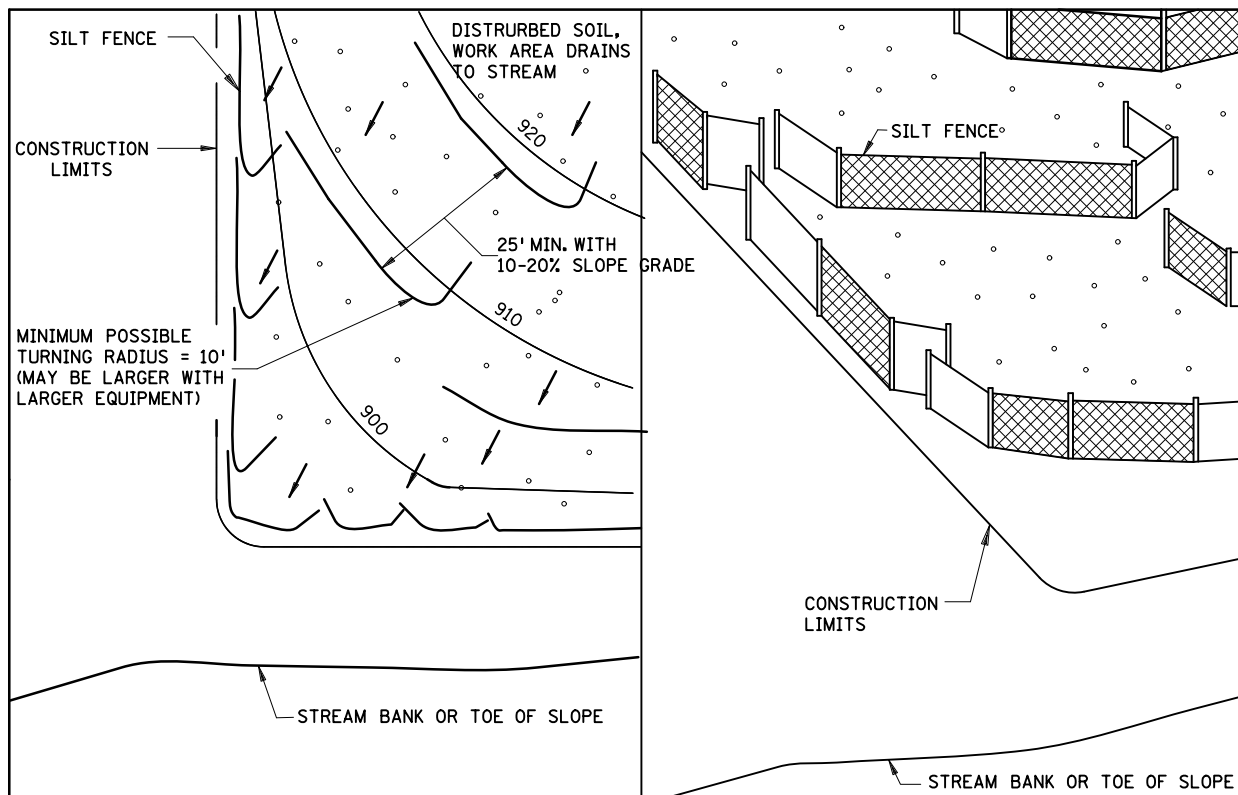


**SILT FENCE WITH SAND BAGS ⑤**



**SILT FENCE WITH SHEETING ⑥**

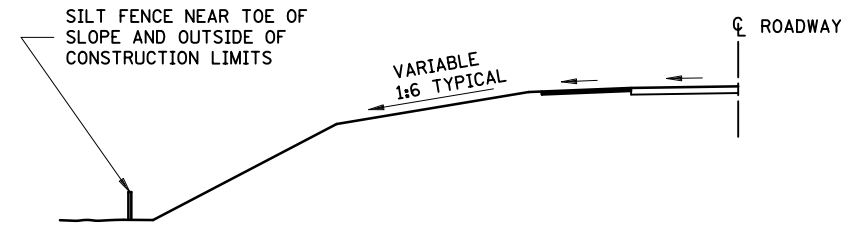
**INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER**



PLAN VIEW

PERSPECTIVE VIEW

**J-HOOK INSTALLATION**



**LOCATION AT TOE OF ROADWAY EMBANKMENT**

**NOTES:**

- SEE SPECS. 2573, 3149 & 3886.
- ① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.
- ② TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 1 ACRE.
- ③ TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 0.25 ACRE.
- ④ WATER COURSE FLOW VELOCITY: STANDING. CONTRIBUTING SLOPE AREA: 1/2 ACRE.
- ⑤ WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC. CONTRIBUTING SLOPE AREA: 1 ACRE.
- ⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC. CONTRIBUTING SLOPE AREA: 3 ACRES.

SILT FENCE

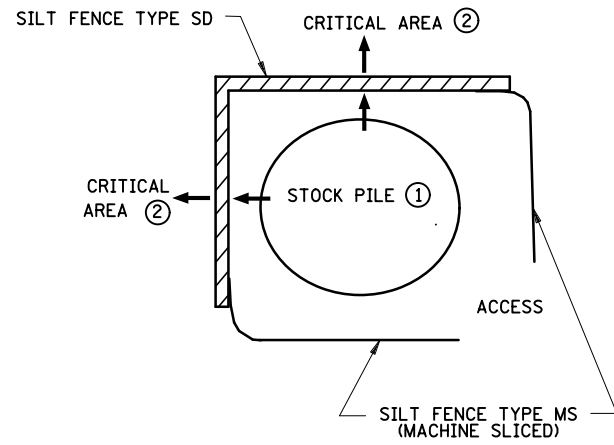
**TEMPORARY SEDIMENT CONTROL**

STATE PROJ. NO. (TH ) SHEET NO. OF SHEETS

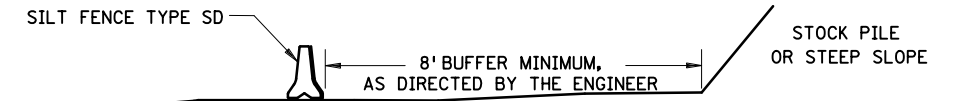
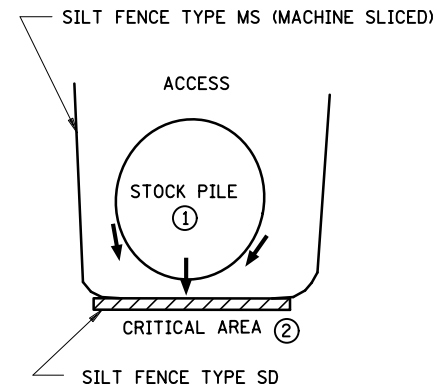
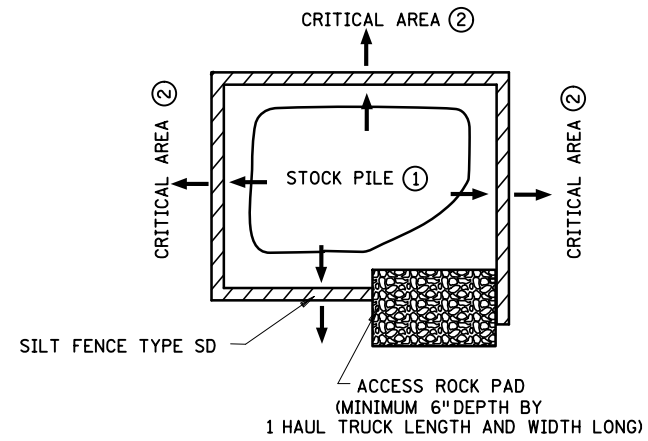
DISTRICT \*: Design Standards  
PLOT NAME: TSC-6  
PATH & FILENAME: IP\_PWP-d1567933temporary\_sediment\_control\_6.dgn

PLOTTED/REVISED: 23-OCT-2013

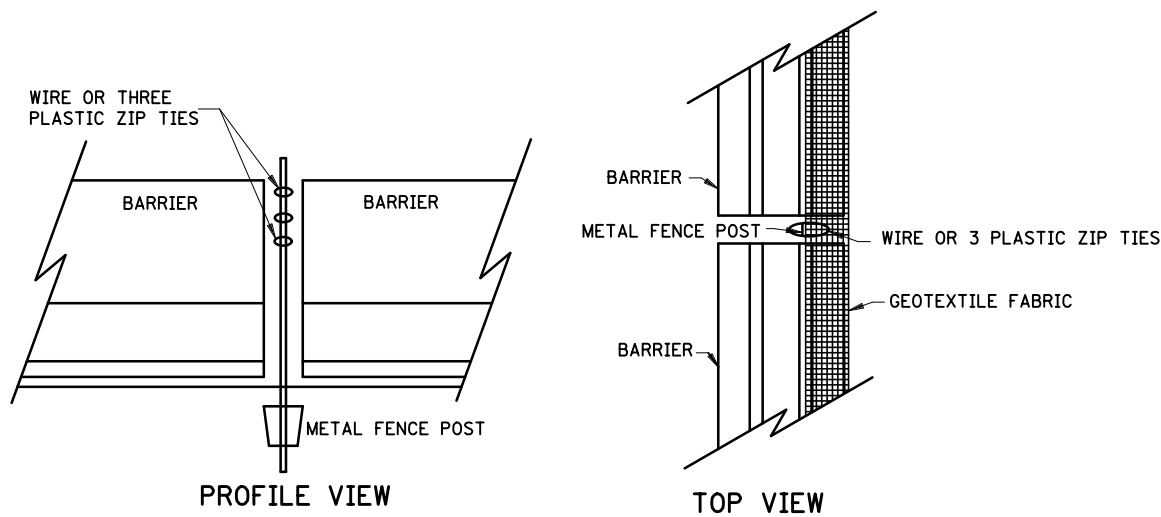
DISTRICT #: Design Standards  
PLOT NAME: TSC-7  
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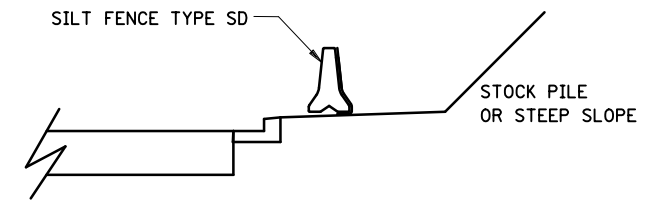
STOCK PILE CONTAINMENT



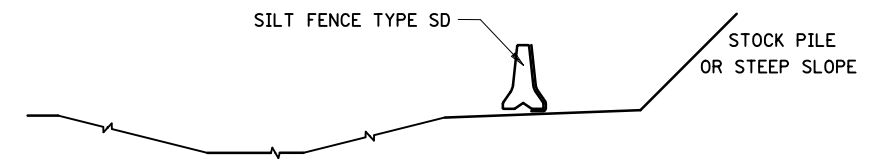
STOCKPILE SEDIMENT CONTROL



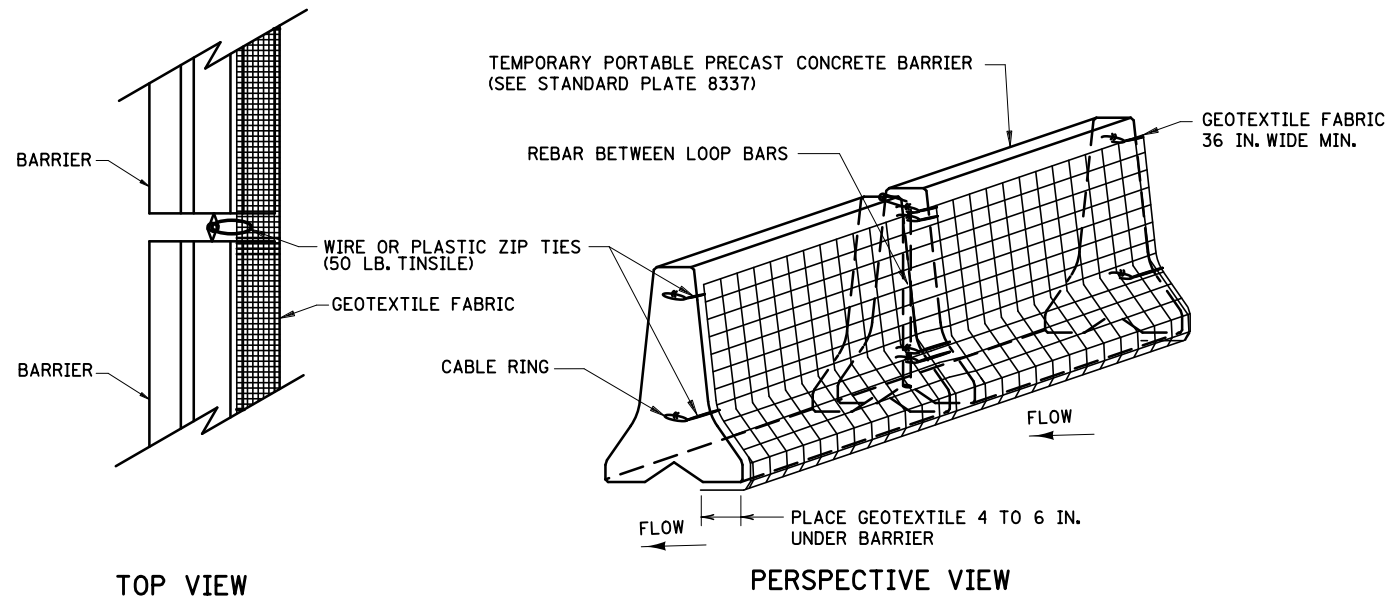
SILT FENCE TYPE SD (SUPER DUTY) BARRIER WITHOUT LOOP BARS



CURB AND GUTTER PROTECTION SYSTEM



DITCH PROTECTION SYSTEM



SILT FENCE TYPE SD (SUPER DUTY) BARRIER WITH LOOP BARS

NOTES:

SEE SPECS. 2533, 2573 & 3886.

SILT FENCE TYPE SD USED TO PROTECT CRITICAL AREAS FROM SHEET FLOW, AND AREAS WHERE OTHER SILT FENCES CANNOT BE INSTALLED. MAXIMUM CONTRIBUTING AREA: 1 ACRE.

PLACE SILT FENCE TYPE SD ALONG A CONSTANT ELEVATION.

SILT FENCE TYPE SD CAN UTILIZE EITHER A CONCRETE, OR WATER FILLED, TEMPORARY MEDIAN BARRIER.

① PLACING STOCK PILES NEXT TO AN ENVIRONMENTALLY SENSITIVE AREA IS NOT RECOMMENDED. WHEN THERE ARE NO FEASIBLE ALTERNATIVES, PLACE SILT FENCE SD AS SHOWN OR AS DIRECTED BY THE ENGINEER.

② CRITICAL AREAS INCLUDE WETLANDS, JUDICIAL DITCHES, STREAMS, WATER BODIES, AND OTHER AREAS REQUIRING PROTECTION.

SILT FENCE

TEMPORARY SEDIMENT CONTROL

STATE PROJ. NO. (TH ) SHEET NO. OF SHEETS