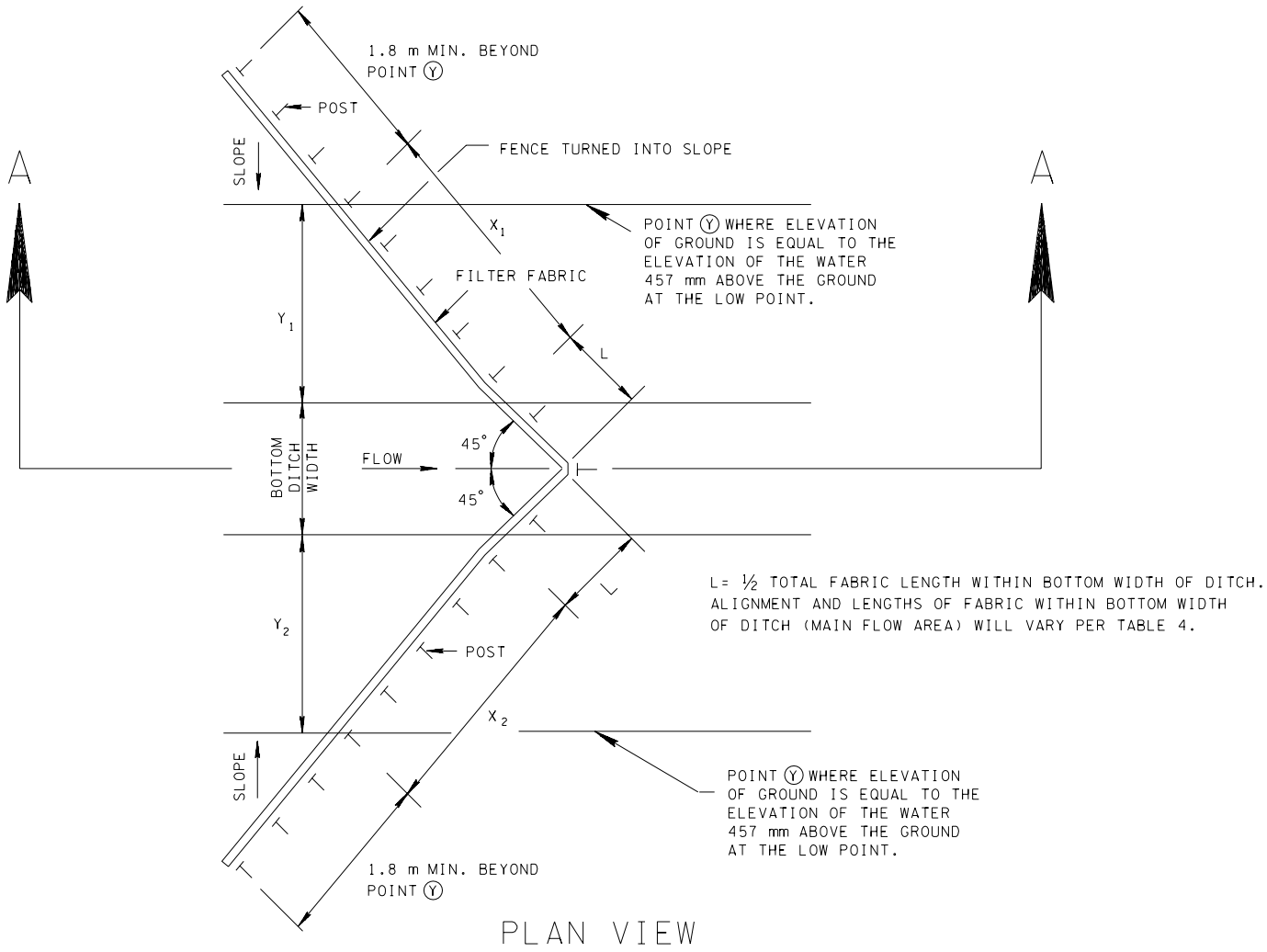
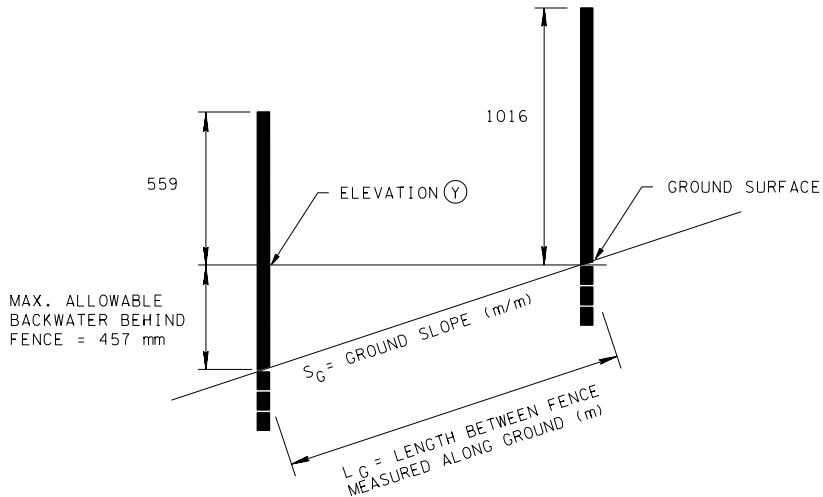
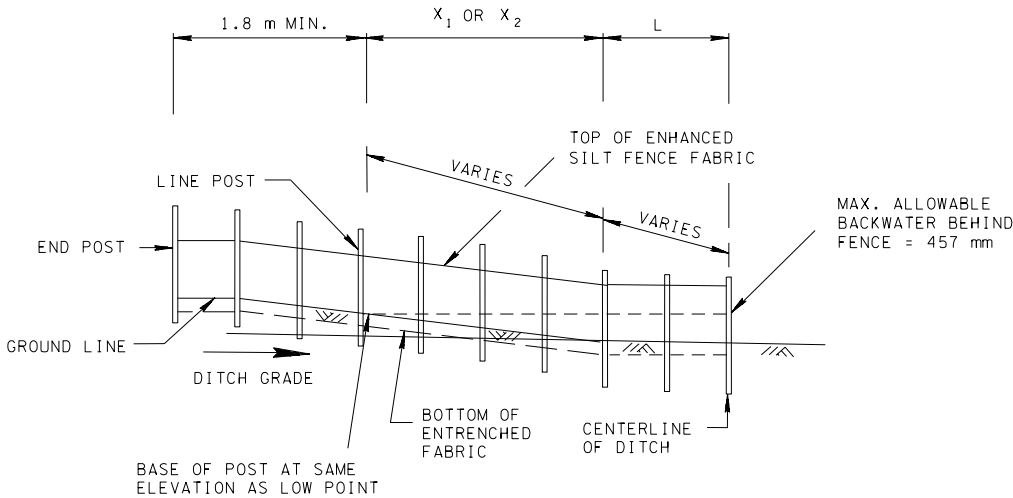


- REV. 12-18-03: MODIFIED SPACING FOR ENHANCED SILT FENCE DETAIL AND ADDED SUPPORTING TABLE. MODIFIED TABLE 4 AND GENERAL NOTES.
- REV. 3-15-04: CHANGED PLANS LEGEND SYMBOL.

TYPE EC I



EROSION CONTROL PLAN LEGEND: ➤ ① TEMPORARY TYPE EC I FILTER BARRIER EROSION DITCH CHECK



SPACING FOR ENHANCED SILT FENCE

GROUND SLOPE S_G (m/m)	⊕ RECOMMENDED SPACING, (L_G) BETWEEN ENHANCED SILT FENCE (m)
0.01	46
0.02	23
0.03	15
0.04	12
0.05	9
0.06 AND STEEPER	8

⊕ RECOMMENDED SPACING REFERS TO SPACING BETWEEN ENHANCED SILT FENCE FILTER LOCATIONS, BASED ON BACKWATER EFFECTS (USING 457 mm MAXIMUM BACKWATER BEHIND FENCE)

TABLE 4										
WIDTH OF DITCH BOTTOM (m)	③ TOTAL ENHANCED SILT FABRIC FENCE LENGTH 2L (LENGTH L) WITHIN FLAT-BOTTOM ZONE OF DITCH, (PER LINEAR METER)	X ₁ OR X ₂ (m)			TOTAL AVAILABLE SURFACE AREA OF FABRIC IN DITCH AT 0.46 m OF FLOW DEPTH (m ²)			② MAXIMUM ALLOWABLE DESIGN PEAK FLOW FROM WATERSHED (L/SEC) AT 0.46 m HEAD		
		2:1	3:1	4:1	① 2:1 SIDESLOPE	① 3:1 SIDESLOPE	① 4:1 SIDESLOPE	① 2:1 SIDESLOPE	① 3:1 SIDESLOPE	① 4:1 SIDESLOPE
0.9	1.3 (0.7)	1.3	1.9	2.6	1.17	1.47	1.77	280.37	334.18	390.82
1.2	1.7 (0.9)	1.3	1.9	2.6	1.38	1.67	1.97	339.84	396.48	453.12
1.5	2.1 (1.1)	1.3	1.9	2.6	1.56	1.86	2.16	390.82	447.46	504.10
1.8	2.6 (1.3)	1.3	1.9	2.6	1.77	2.06	2.36	450.29	506.93	563.57
2.1	3.0 (1.5)	1.3	1.9	2.6	1.97	2.26	2.55	506.93	563.57	620.21
2.4	3.4 (1.7)	1.3	1.9	2.6	2.16	2.45	2.75	563.57	617.38	674.02
2.7	3.9 (2.0)	1.3	1.9	2.6	2.36	2.65	2.94	617.38	674.02	730.66
3.0	4.3 (2.2)	1.3	1.9	2.6	2.55	2.84	3.14	674.02	730.66	787.30
3.7	5.2 (2.6)	1.3	1.9	2.6	2.95	3.25	3.55	790.13	846.77	903.41
4.5	6.5 (3.3)	1.3	1.9	2.6	3.54	3.84	4.13	957.22	1013.86	1070.50

- ① HORIZONTAL TO VERTICAL MEASUREMENT RATIOS ARE SHOWN
- ② ALLOWABLE FLOWS DO NOT INCLUDE HYDRAULIC REDUCTION DUE TO ACCUMULATION OF CAPTURED SOIL PARTICLES ON FILTER SURFACE AREA
- ③ THIS LENGTH IS TO BE ADDED TO CALCULATED LENGTHS X₁ AND X₂. LENGTH Y₁ AND Y₂ ARE BASED ON PERPENDICULAR SLOPE LENGTHS TO A POINT WHERE THE BASE OF POST ENTERING THE GROUND IS AT THE SAME ELEVATION AS A POINT 457 mm ABOVE THE GROUND AT THE LOW POINT OF THE DITCH. LENGTHS X₁ AND X₂ WILL BE CALCULATED BY MULTIPLYING THE LENGTHS OF SLOPE Y₁ OR Y₂ AT EACH INDIVIDUAL LOCATION BY 1.414.
- ④ BASED ON 2445 LITERS PER MIN./m² (0.10 CM/SEC PERMEABILITY) ENHANCED SILT FENCE FABRIC AND TRAPEZOIDAL DITCH CROSS SECTION. SEE TABLE 3 FOR ENHANCED SILT FENCE FABRIC SPECIFICATIONS ON STANDARD DRAWING ECM-STR-3D. A HEAD OF 0.46 METERS BEHIND THE FENCE WAS USED TO DETERMINE MAXIMUM ALLOWABLE DESIGN PEAK FLOW THROUGH FILTER FABRIC.

GENERAL NOTES

- A A DITCH WITH A TRAPEZOIDAL CROSS-SECTION IS ASSUMED WITH SIDESLOPES AS NOTED.
- B FENCE LENGTH DESIGNATED IN TABLE 4 INCLUDES THE LENGTH OF FENCE STAKED WITHIN THE BOTTOM WIDTH OF DITCH (2L).
- C DESIGN FLOWS FOR STORMWATER TREATMENT (E.G., 2 YEAR/24 HOUR STORM EVENT FLOWS) SHOULD BE ROUTED THROUGH ENHANCED SILT FENCE FILTERS WITH NO BYPASSING OR OVERFLOWS. FLOWS IN EXCESS OF THE FLOW -THROUGH CAPACITIES GIVEN IN TABLE 4 ABOVE SHOULD BE ACCOMODATED BY BYPASSING EXCESS FLOWS.
- D ANCHOR AND INSTALL TEMPORARY ENHANCED SILT FENCE PER DETAILS AND SPECIFICATIONS SHOWN ON STANDARD DRAWING ECM-STR-3D. THE LOCATIONS AND SPACING OF ENHANCED SILT FENCE FILTERS, ALONG A DITCH SHOULD BE BASED ON COMBINATION OF HYDRAULIC PROPERTIES OF THE FENCE MATERIAL (TABLE 4) AND THE SPACING TABLE (SHOWN ABOVE). TO INSURE THAT THE TREATMENT REQUIREMENTS OF NOTE C ARE ACHIEVED, AND TO PREVENT OVERTOPPING, IT IS ALSO RECOMMENDED THAT BACKWATER ANALYSIS BE PERFORMED (E.G., STANDARD-STEP METHOD).
- E THE FLOW VALUES IN TABLE 4 ASSUME NO CLOGGING EFFECTS AT THE ENHANCED SILT FENCE SURFACE WITH SOLIDS. IN ORDER TO INSURE MINIMAL INFLUENCE FROM FILTER CLOGGING, FILTER FENCES SHOULD BE REGULARLY CLEANED BY DRYBRUSHING OF FABRIC SURFACE AND/OR PRESSURE WASHING OF FILTER.



MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TEMPORARY
EROSION
DITCH CHECK
USING ENHANCED
SILT FENCE