

TIP PROJECT: X-0002CC

MAINTAIN EXISTING EROSION CONTROL DEVICES INSTALLED UNDER U-2519DA, U-2519E, X-0002B X-0002BC, X-0002CA, X-0002CB CONTRACTS WITHIN THE LIMITS OF X-0002CC UNTIL PROJECT COMPLETION. INSTALL ADDITIONAL EROSION CONTROL DEVICES AS DIRECTED.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
CUMBERLAND COUNTY

LOCATION: FAYETTEVILLE OUTER LOOP FROM EAST OF SR1007 (ALL AMERICAN FREEWAY) TO WEST OF US 401 (RAMSEY STREET)

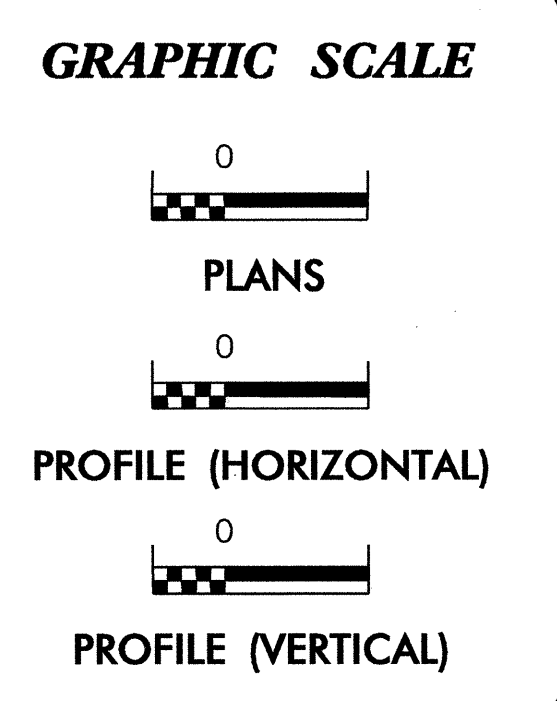
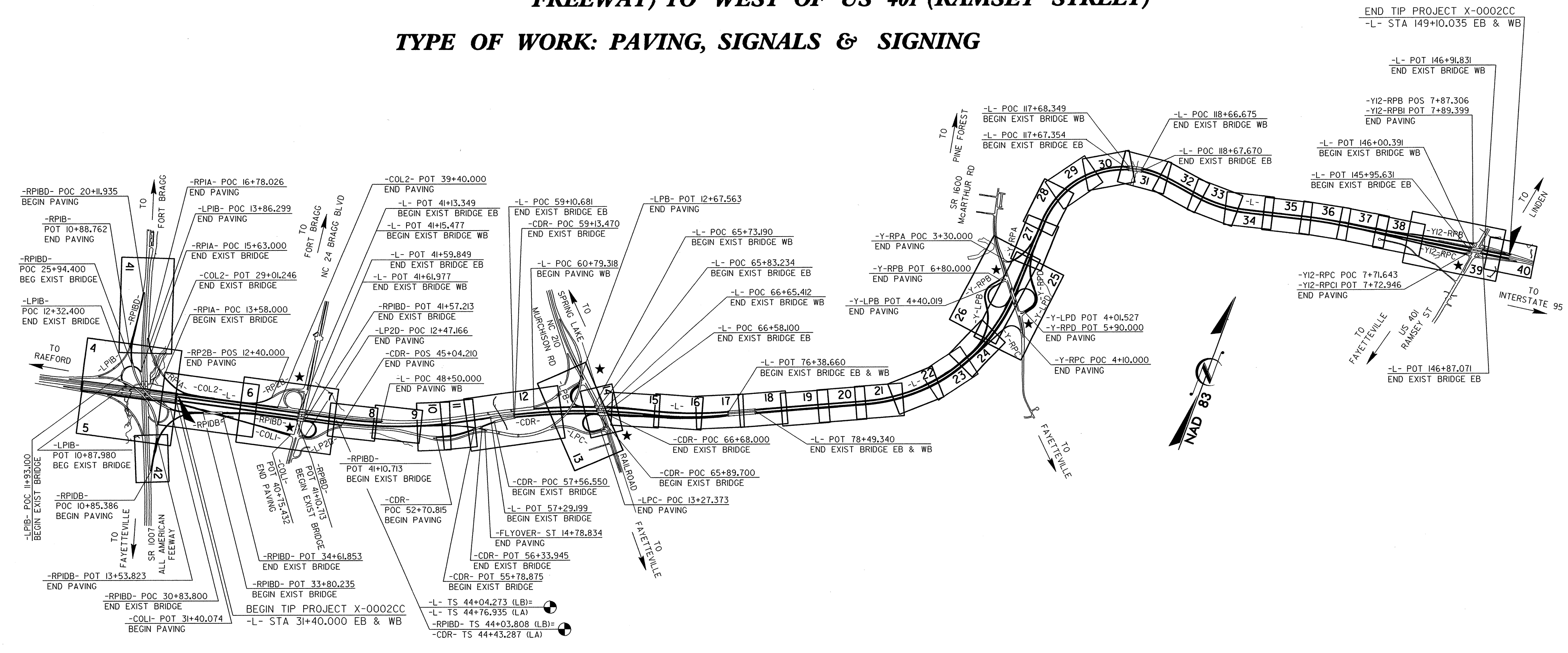
TYPE OF WORK: PAVING, SIGNALS & SIGNING

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	X-0002CC	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

ALL DIMENSIONS IN THESE PLANS ARE IN METERS UNLESS OTHERWISE SHOWN

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TS
1630.05	Temporary Diversion	TD
	Temporary Silt Fence	III III III
	Special Sediment Control Fence	~ ~ ~ ~ ~
1622.01	Temporary Berms and Slope Drains	— T —
	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	▨
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	▨
1633.02	Temporary Rock Silt Check Type-B	▨
	Wattle/Coir Fiber Wattle	—)
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	—)
1634.01	Temporary Rock Sediment Dam Type-A	▨
1634.02	Temporary Rock Sediment Dam Type-B	▨
1635.01	Rock Pipe Inlet Sediment Trap Type-A	U
1635.02	Rock Pipe Inlet Sediment Trap Type-B	U
	Stilling Basin	▭
	Rock Inlet Sediment Trap	▭
1632.01	Type A	A
1632.02	Type B	B
	Type C	C
	Skimmer Basin	▭
	Tiered Skimmer Basin	▭
	Infiltration Basin	▭



ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

Prepared in the Office of:
ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611
2006 STANDARD SPECIFICATIONS

Roadway Standard Drawings

The following roadway metric standards as appear in "Roadway Standard Drawings" - Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated July 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence	1632.01 Rock Inlet Sediment Trap Type A
1606.01 Special Sediment Control Fence	1632.02 Rock Inlet Sediment Trap Type B
1622.01 Temporary Berms and Slope Drains	1632.03 Rock Inlet Sediment Trap Type C
1630.01 Riser Basin	1633.01 Temporary Rock Silt Check Type A
1630.02 Silt Basin Type B	1633.02 Temporary Rock Silt Check Type B
1630.03 Temporary Silt Ditch	1633.01 Temporary Rock Silt Check Type A
1630.04 Stilling Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.05 Temporary Diversion	1634.02 Temporary Rock Sediment Dam Type B
	1635.01 Rock Pipe Inlet Sediment Trap Type A
	1635.02 Rock Pipe Inlet Sediment Trap Type B
	1636.01 Rock Silt Screen

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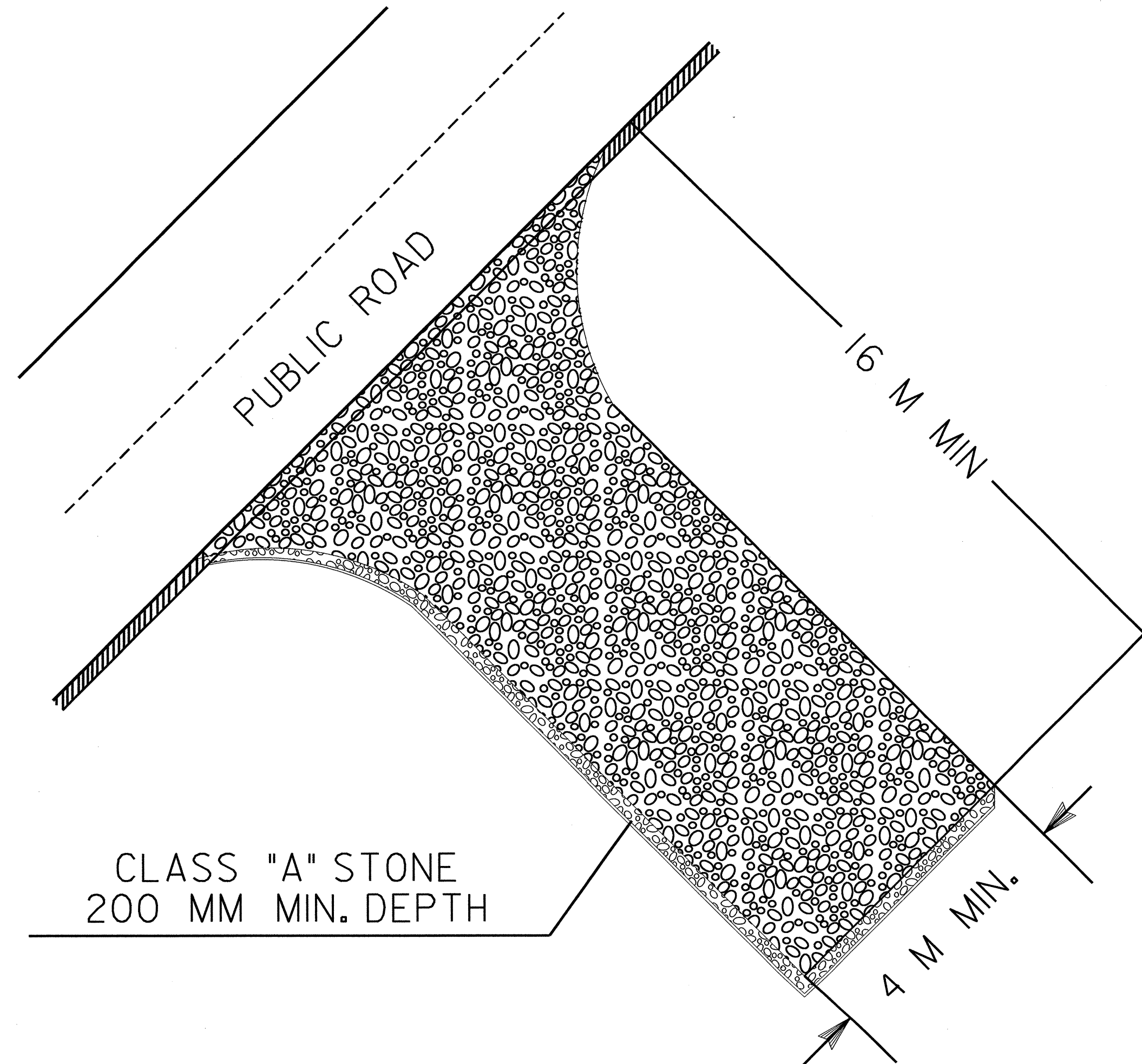


PROJECT REFERENCE NO. X-0002CC	SHEET NO. EC-02
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

NOTES:

1. TURNING RADIUS SUFFICIENT TO ACCOMODATE LARGE TRUCKS SHALL BE PROVIDED.
2. ENTRANCE(S) SHOULD BE LOCATED TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. GRAVEL CONSTRUCTION ENTRANCE SHALL BE LOCATED AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE MUST BE PROVIDED.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER

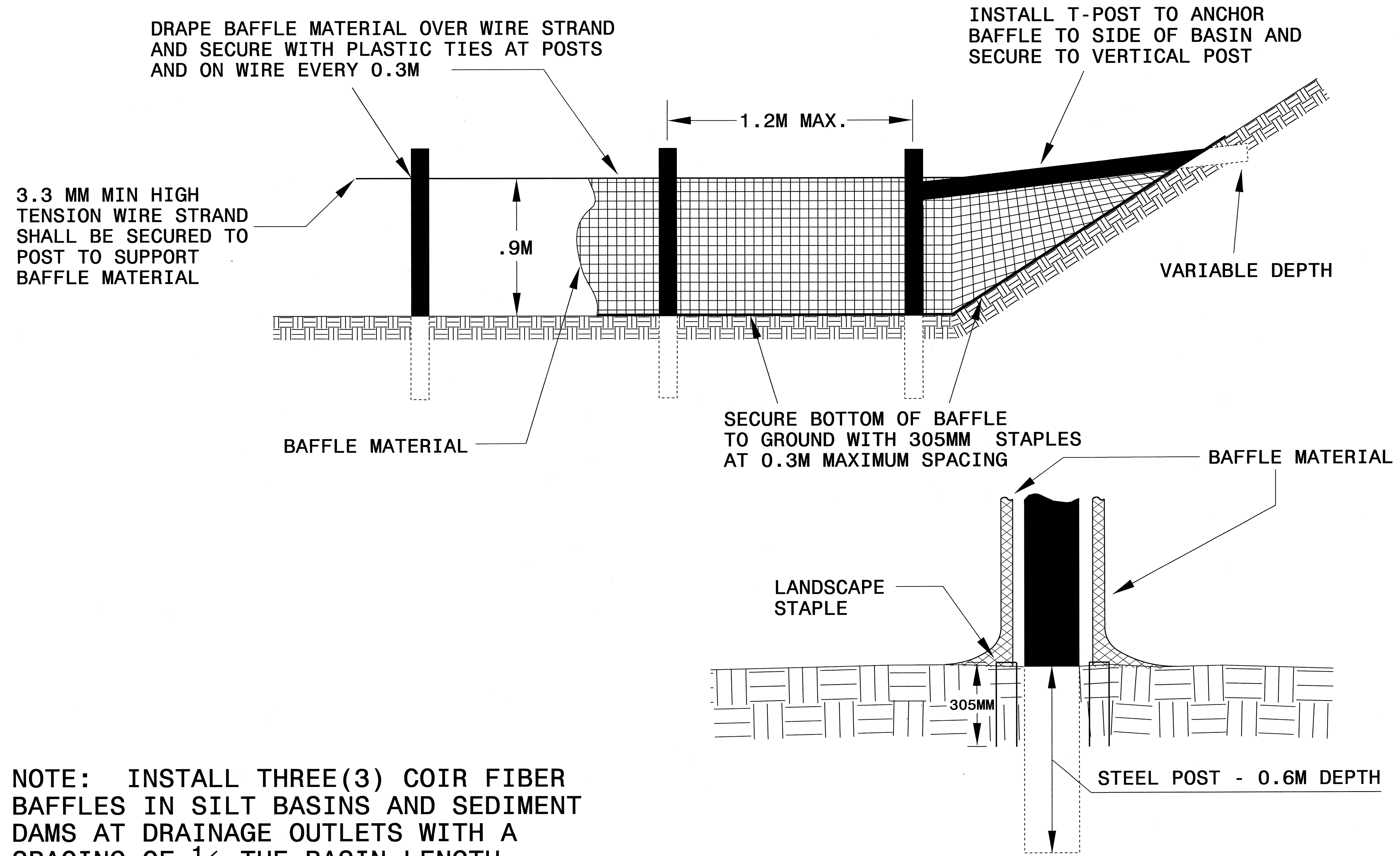


NOTE: FILTER FABRIC TO BE PLACED BENEATH STONE

COIR FIBER BAFFLE DETAIL



PROJECT REFERENCE NO. X-0002CC	SHEET NO. EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



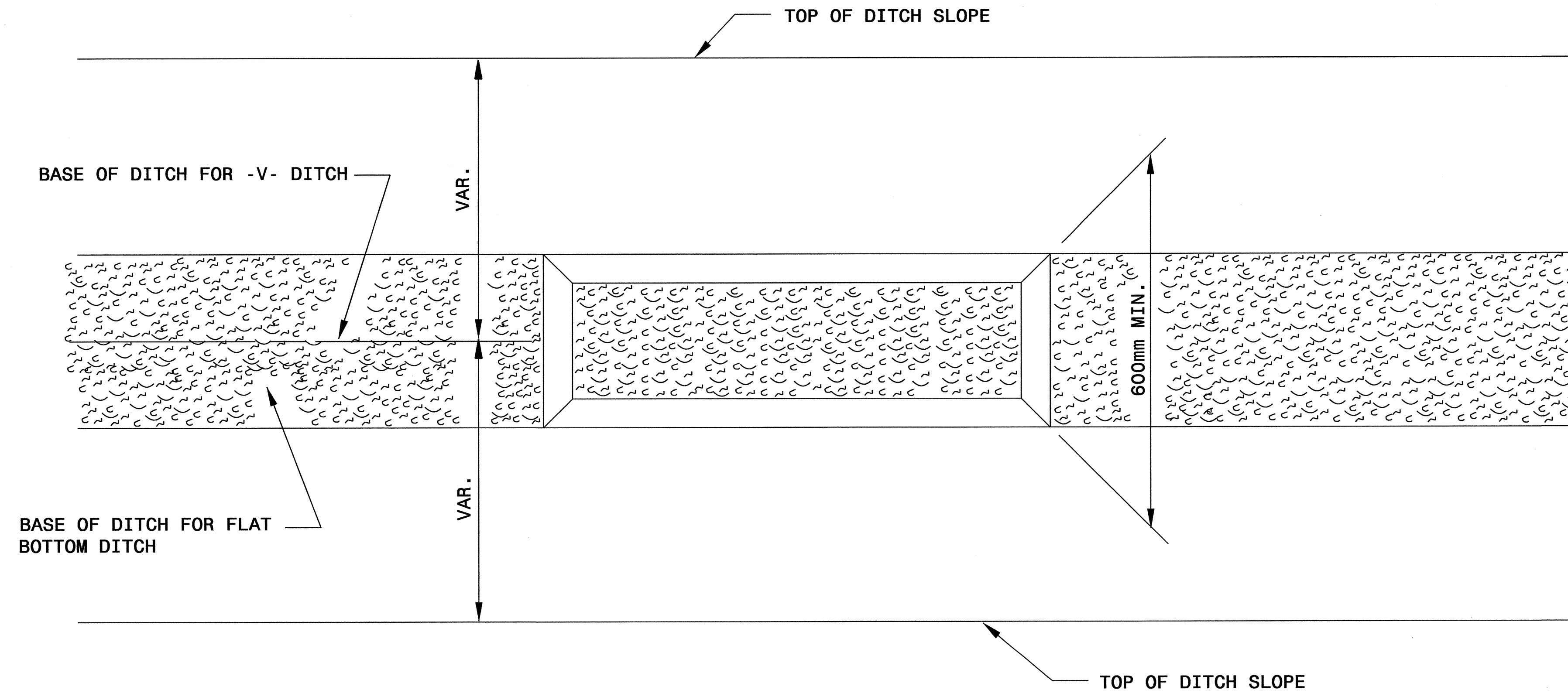
NOTE: INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF $\frac{1}{4}$ THE BASIN LENGTH. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 6 M IN LENGTH WITH A SPACING OF $\frac{1}{3}$ THE BASIN LENGTH.

BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 305MM LANDSCAPE STAPLES

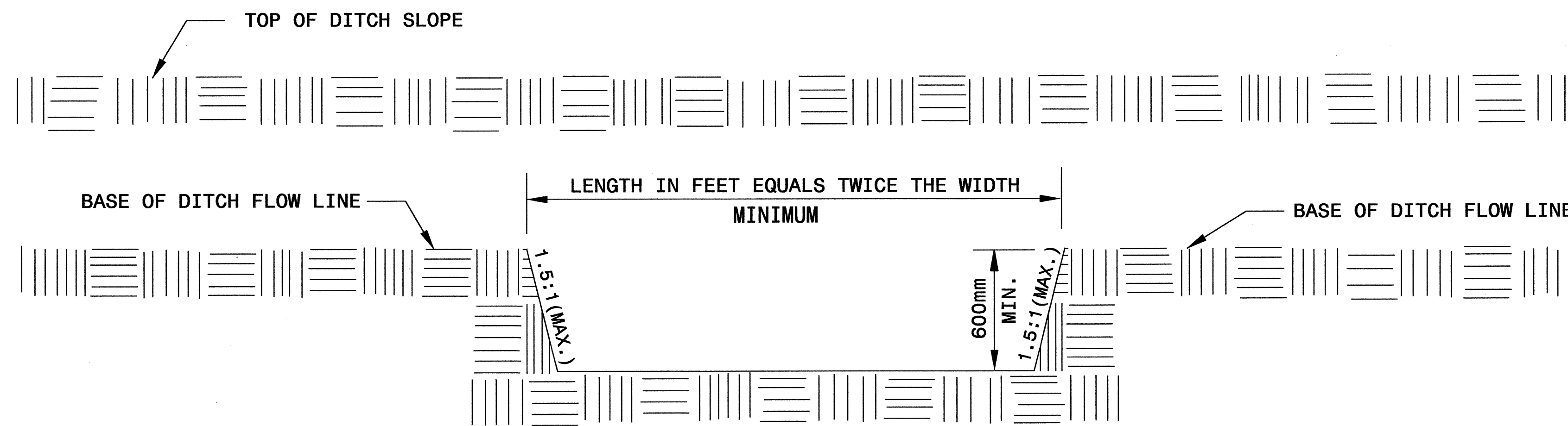


PROJECT REFERENCE NO. X-0002CC	SHEET NO. EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT BASIN 'B' DETAIL



PLAN

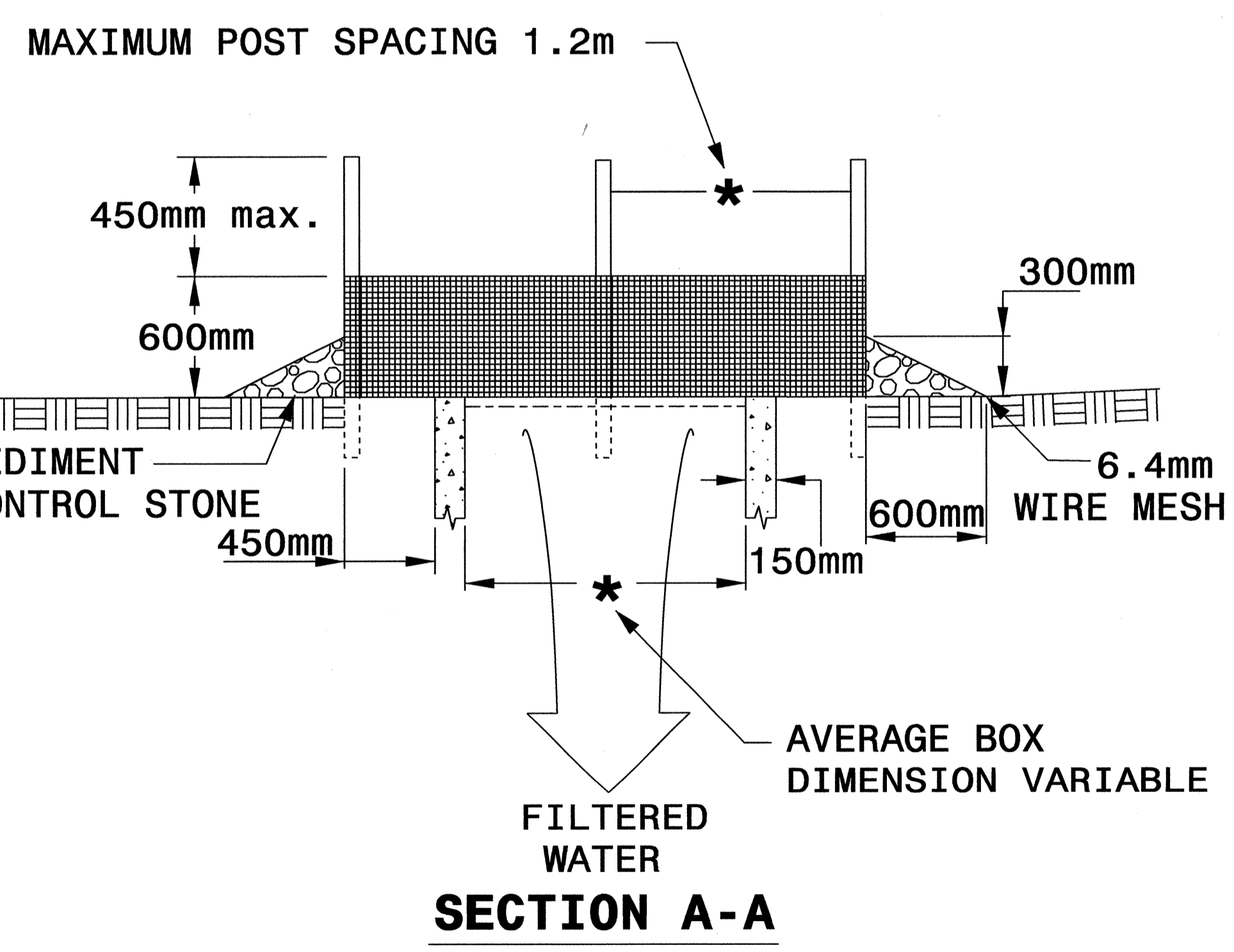
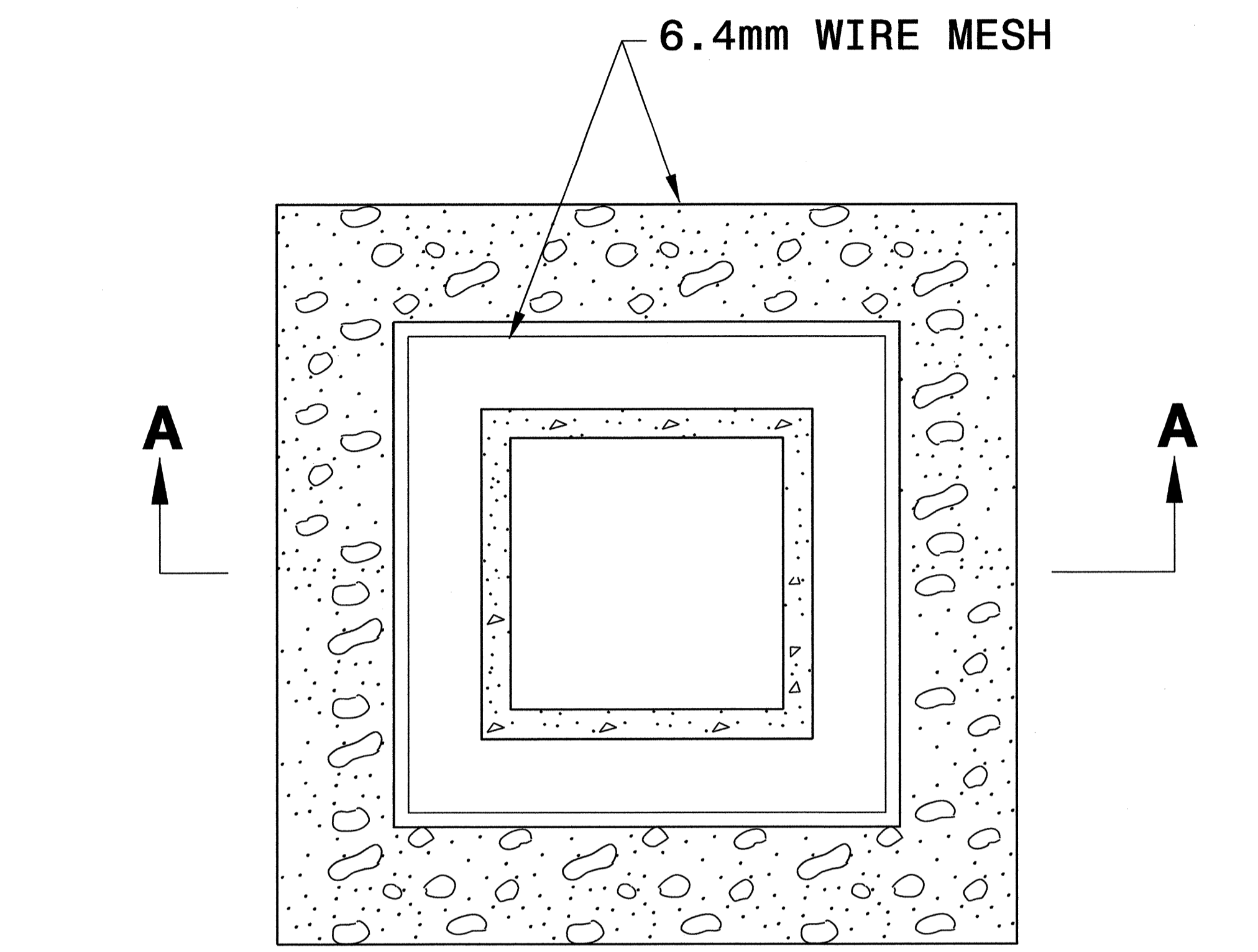


ELEVATION



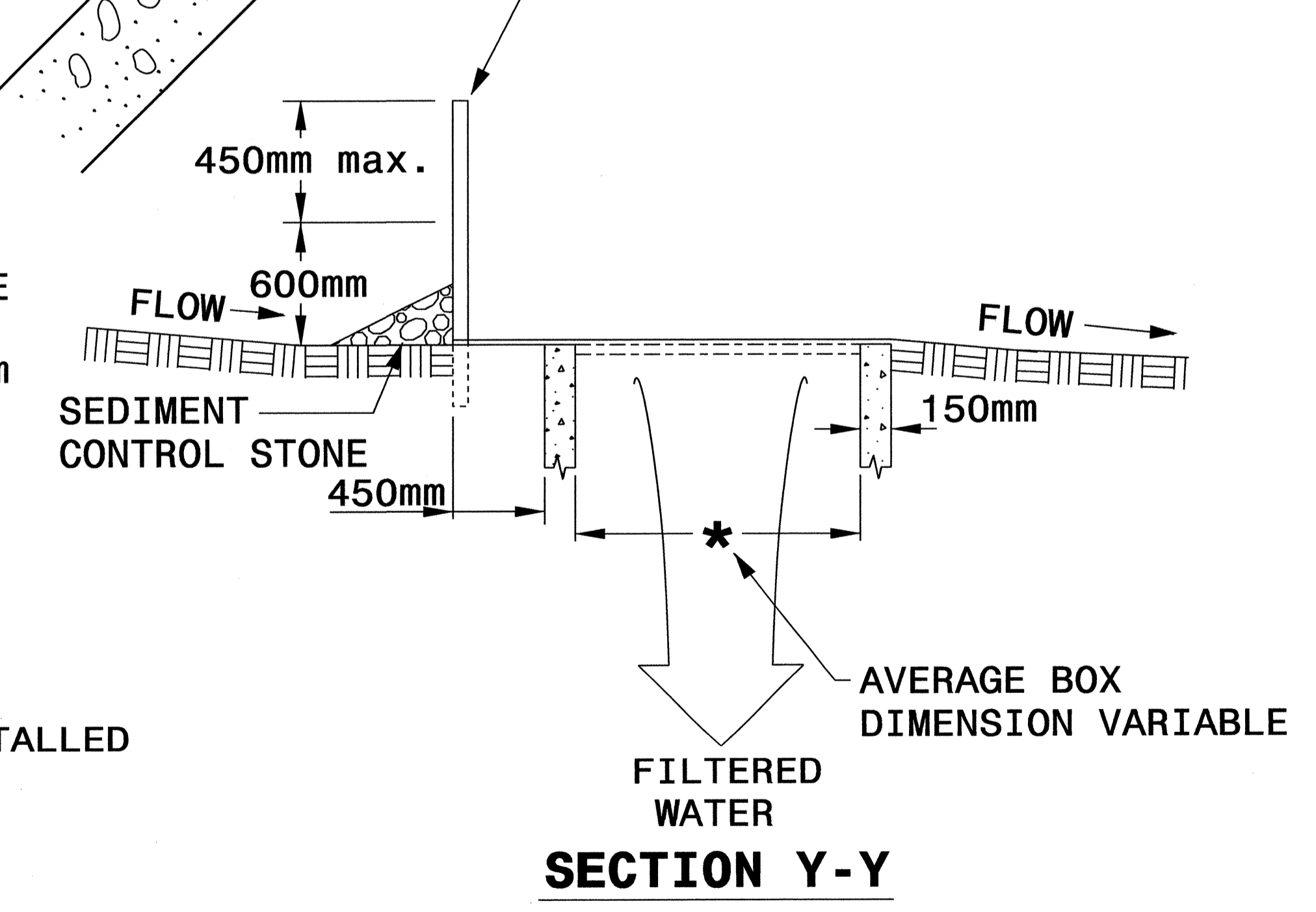
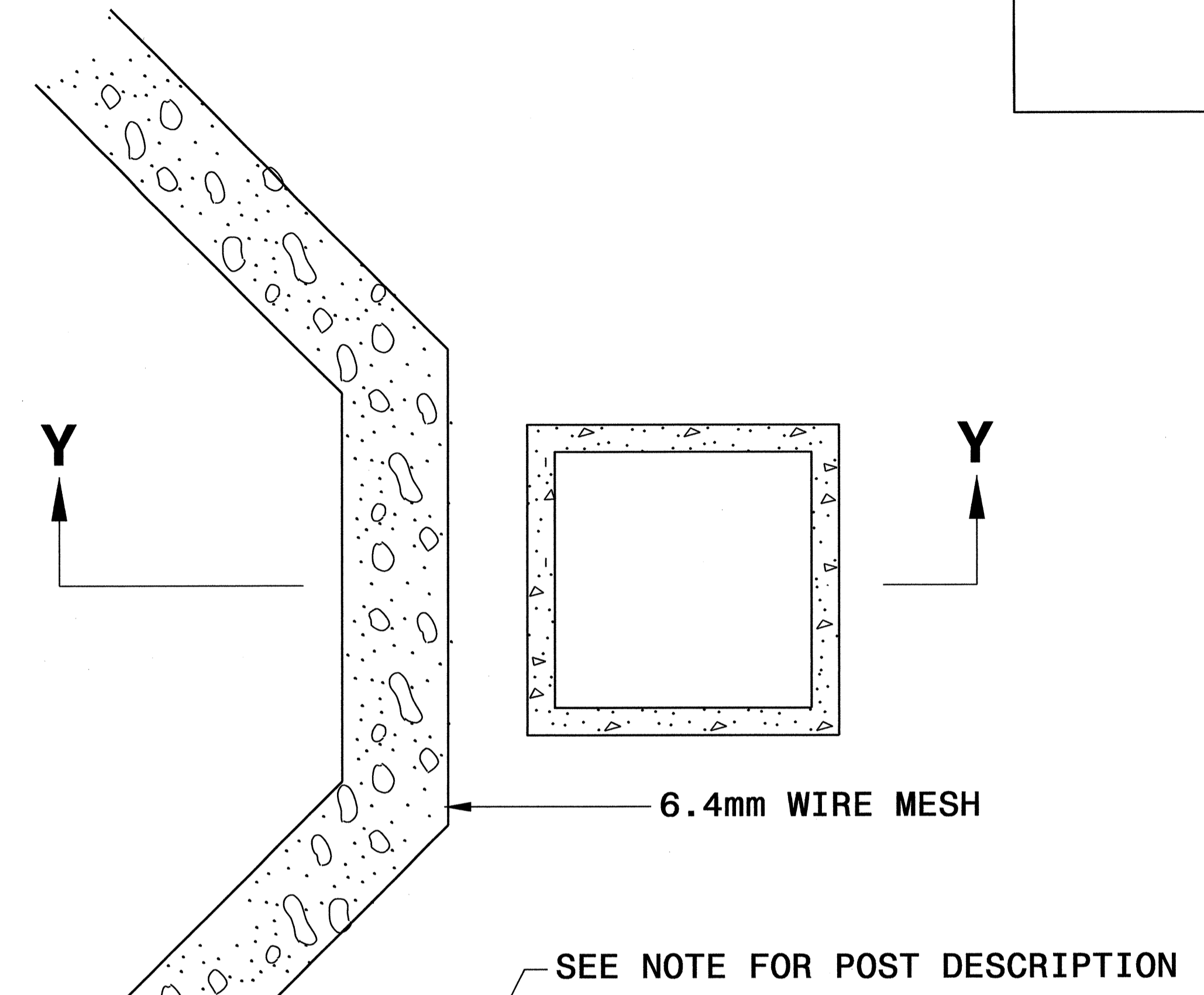
PROJECT REFERENCE NO. X-0002CC	SHEET NO. EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ROCK INLET SEDIMENT TRAP TYPE 'C' DETAIL



MULTI-DIRECTIONAL FLOW

NOTE
 USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL.
 USE HARDWARE CLOTH 0.65mm WIRE MESH WITH 6.4mm MESH OPENINGS.
 PLACE TOP OF WIRE MESH A MINIMUM OF 300mm BELOW THE SHOULDER OR ANY DIVERSION POINT.
 INSTALL WIRE MESH UNDER SEDIMENT CONTROL STONE.
 USE 1.5m STEEL POST, INSTALLED 450mm DEEP MINIMUM, AND OF THE SELF-FASTENER ANGLE STEEL TYPE.
 SPACE POST A MAXIMUM OF 1.2m.

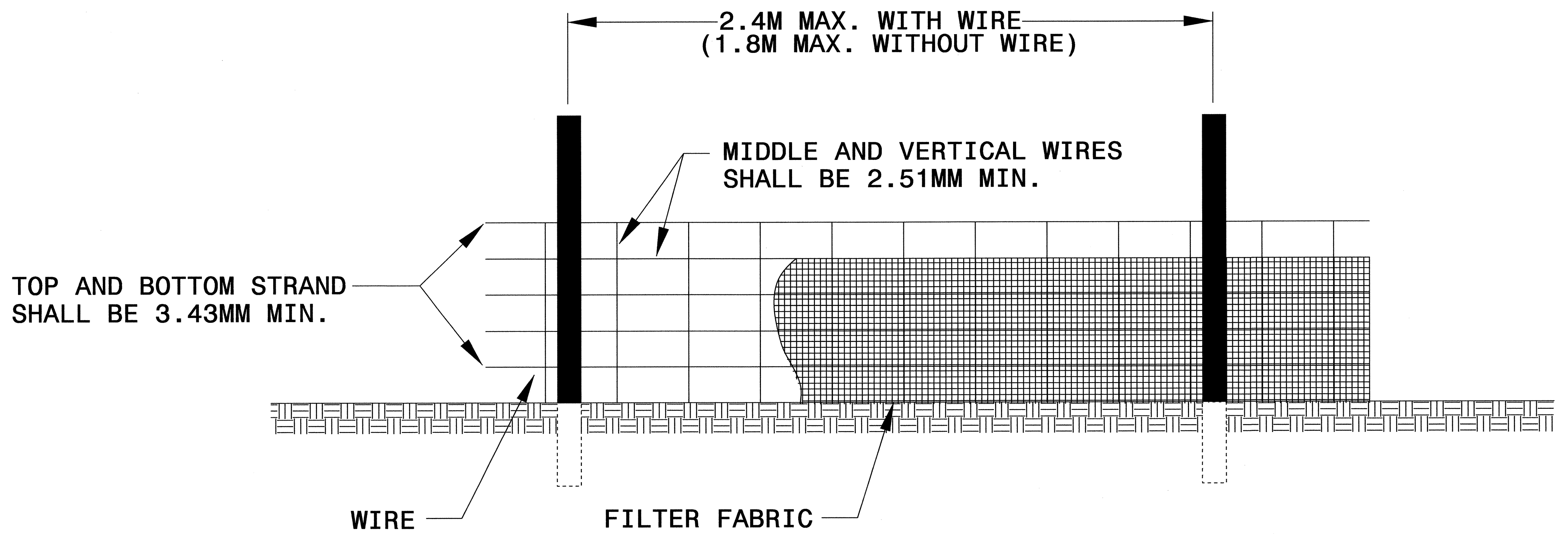


SINGLE-DIRECTIONAL FLOW



PROJECT REFERENCE NO. X-0002CC	SHEET NO. EC-2D
R / W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY SILT FENCE DETAIL

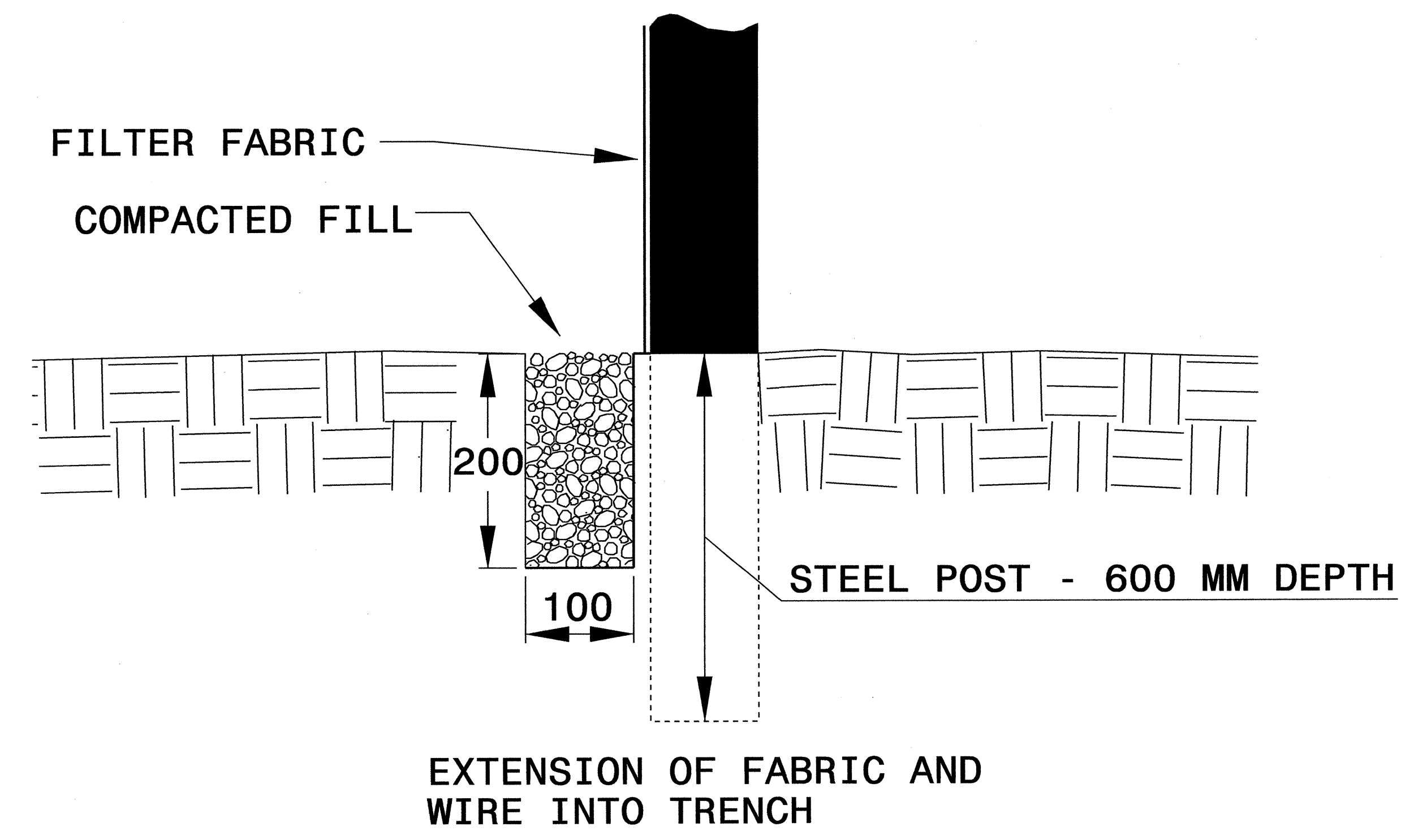


NOTES

USE WIRE A MINIMUM OF 800MM IN WIDTH AND WITH A MINIMUM OF 6 LINE WIRES WITH 300MM STAY SPACING.

USE FILTER FABRIC A MINIMUM OF 900MM IN WIDTH AND FASTEN ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER.

PROVIDE 1.5M STEEL POST OF THE SELF-FASTENER ANGLE STEEL TYPE.





PROJECT REFERENCE NO. X-0002CC	SHEET NO. EC-2E
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SPECIAL SEDIMENT CONTROL FENCE DETAIL

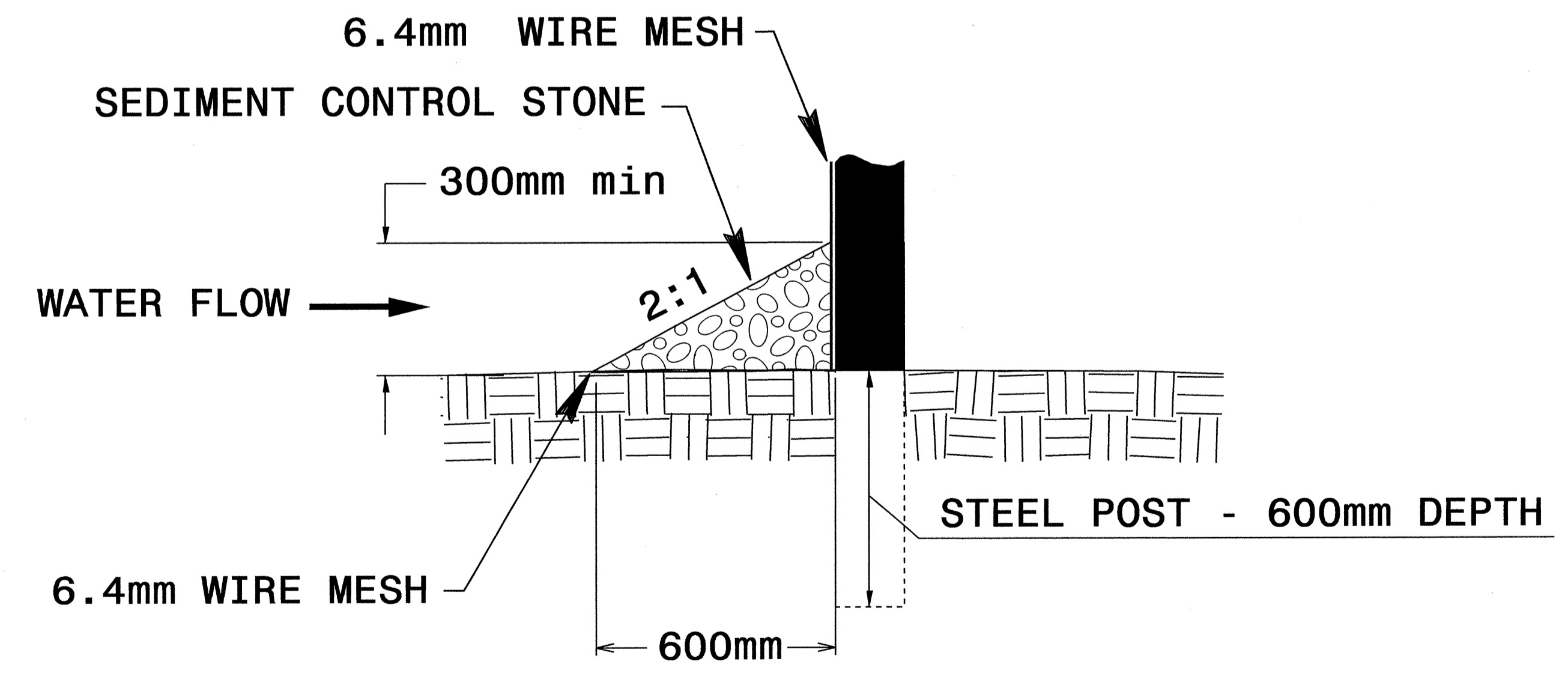
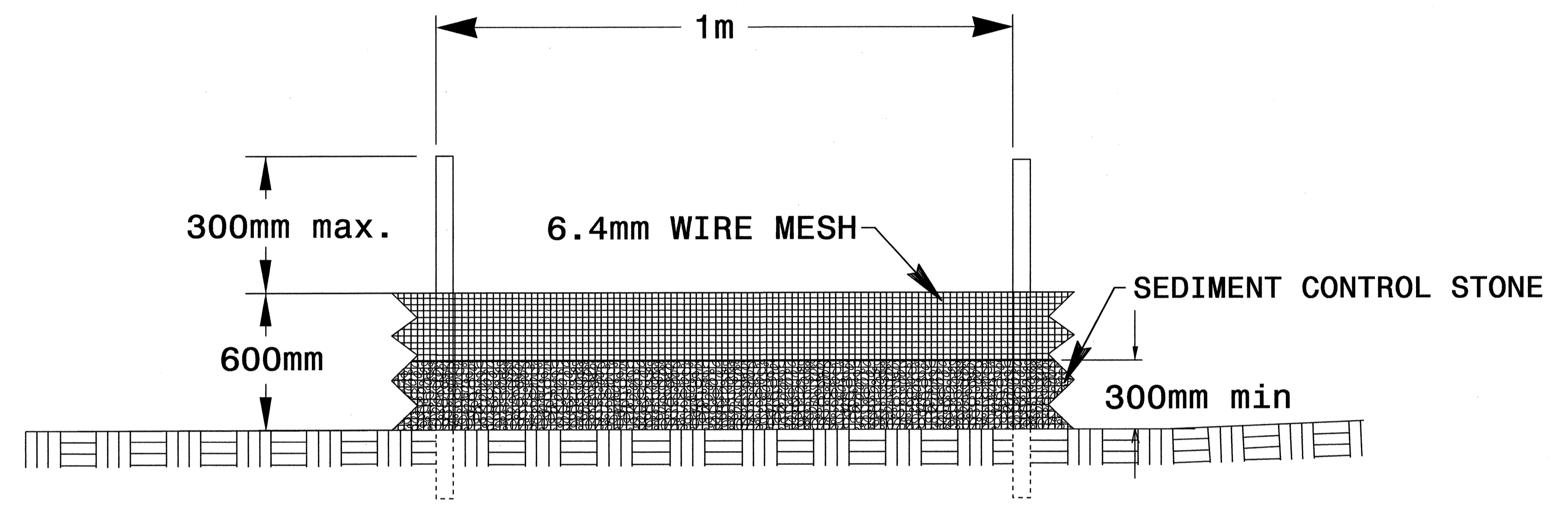
GENERAL NOTES:

USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL.

USE 0.65mm HARDWARE CLOTH WIRE MESH WITH 6.4 mm MESH OPENINGS.

INSTALL 1.5m SELF FASTENER ANGLE STEEL POST 600mm DEEP MINIMUM.

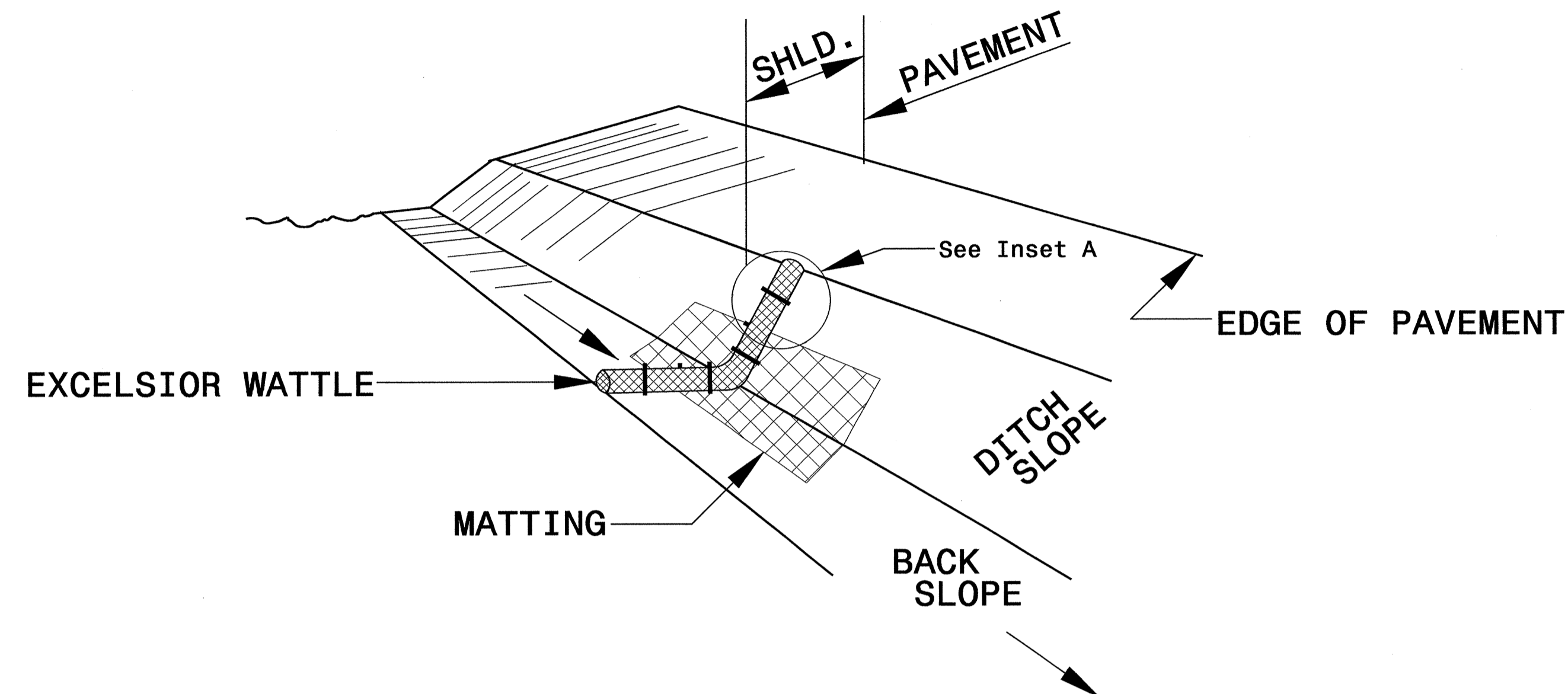
SPACE POST A MAXIMUM OF 1m.



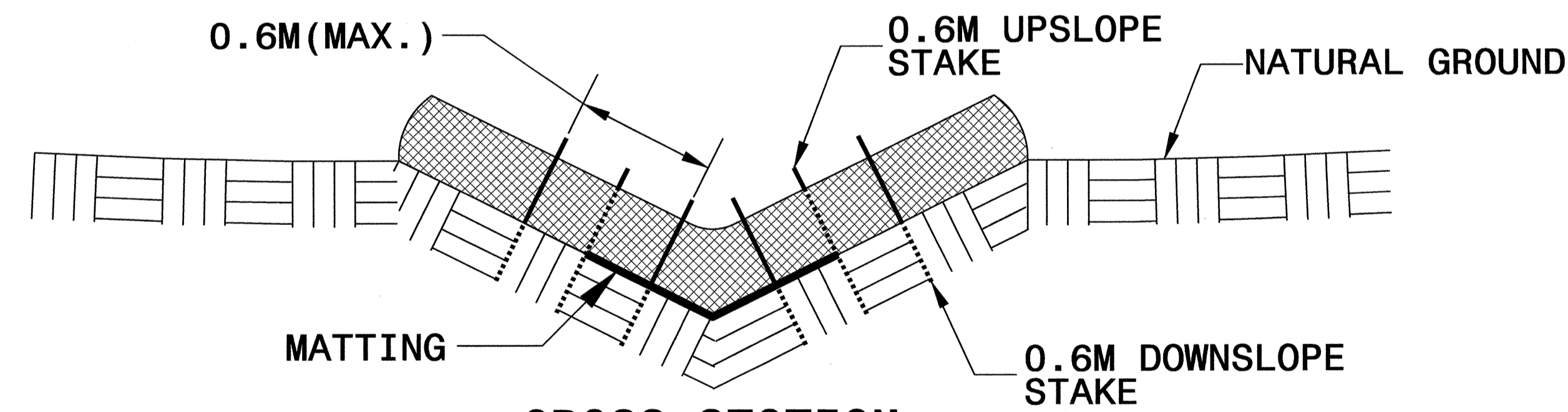
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



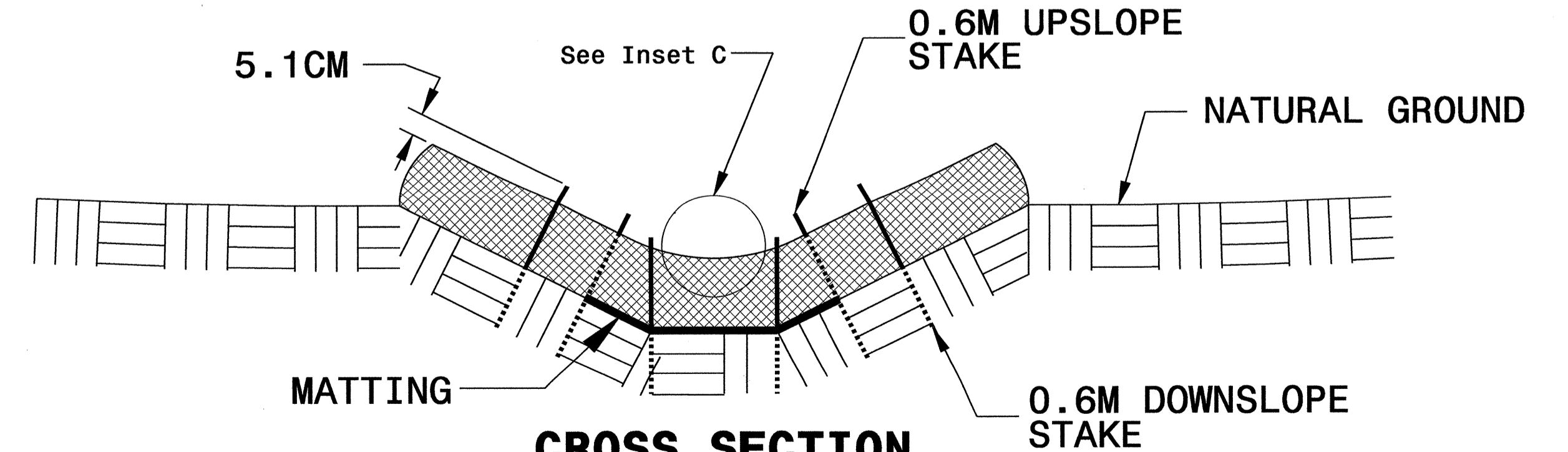
PROJECT REFERENCE NO. X-0002CC	SHEET NO. EC-2F
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



ISOMETRIC VIEW



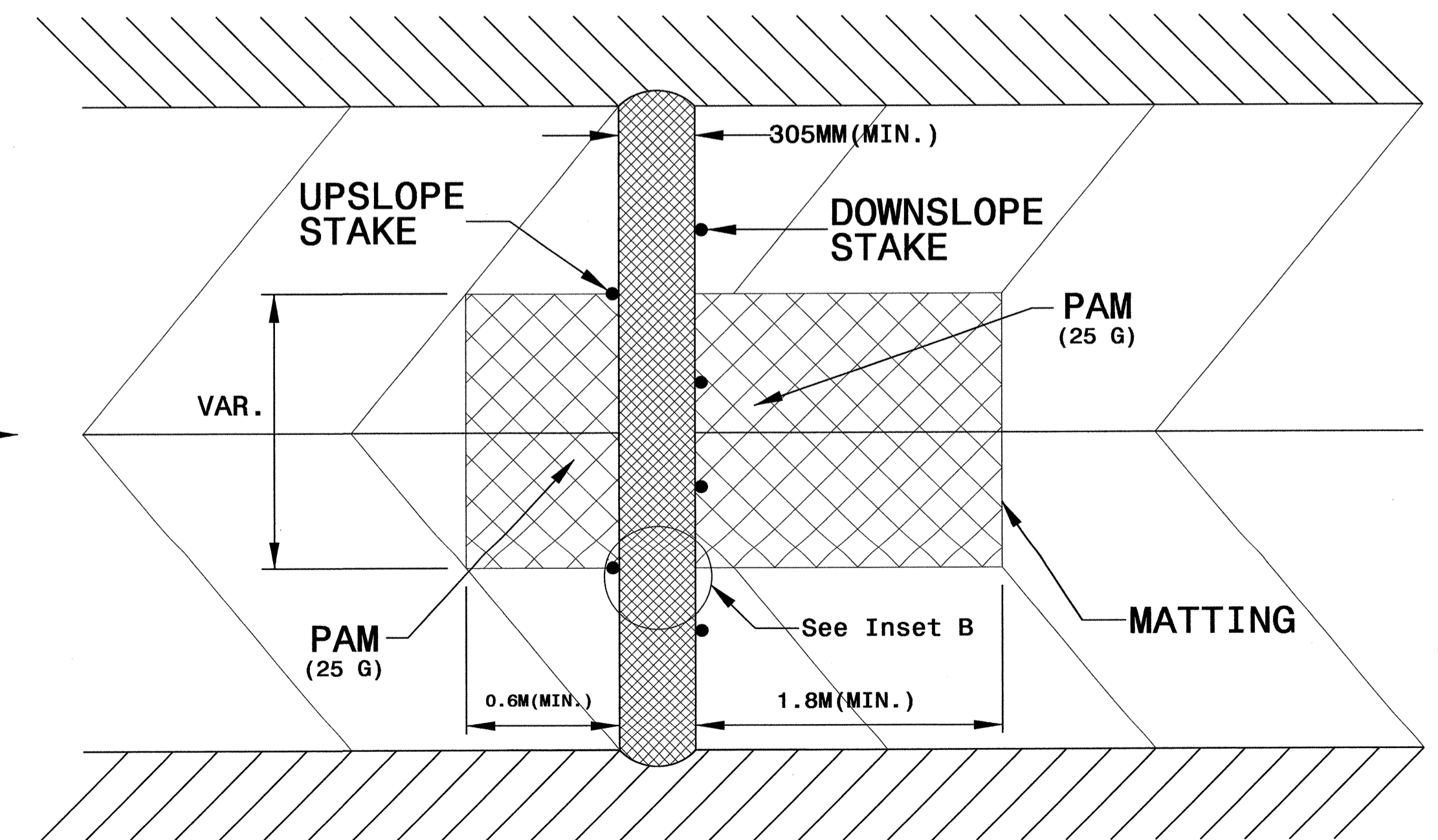
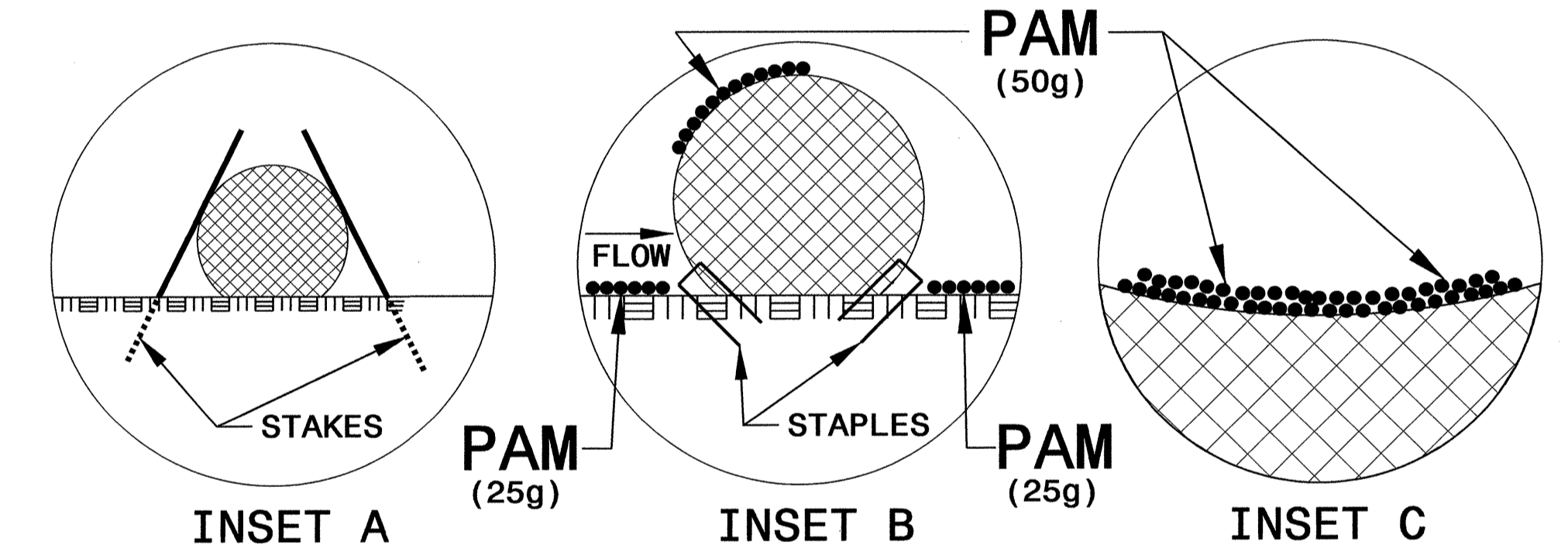
CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

- USE MINIMUM 305 MM DIAMETER EXCELSIOR WATTLE.
- USE 0.6 M WOODEN STAKES WITH A 5.1 CM BY 5.1 CM NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 3 MM DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 305 MM IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 0.3 LINEAR METER ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
- PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.
- INITIALLY APPLY 50 GRAMS OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 25 GRAMS ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 12 MM.

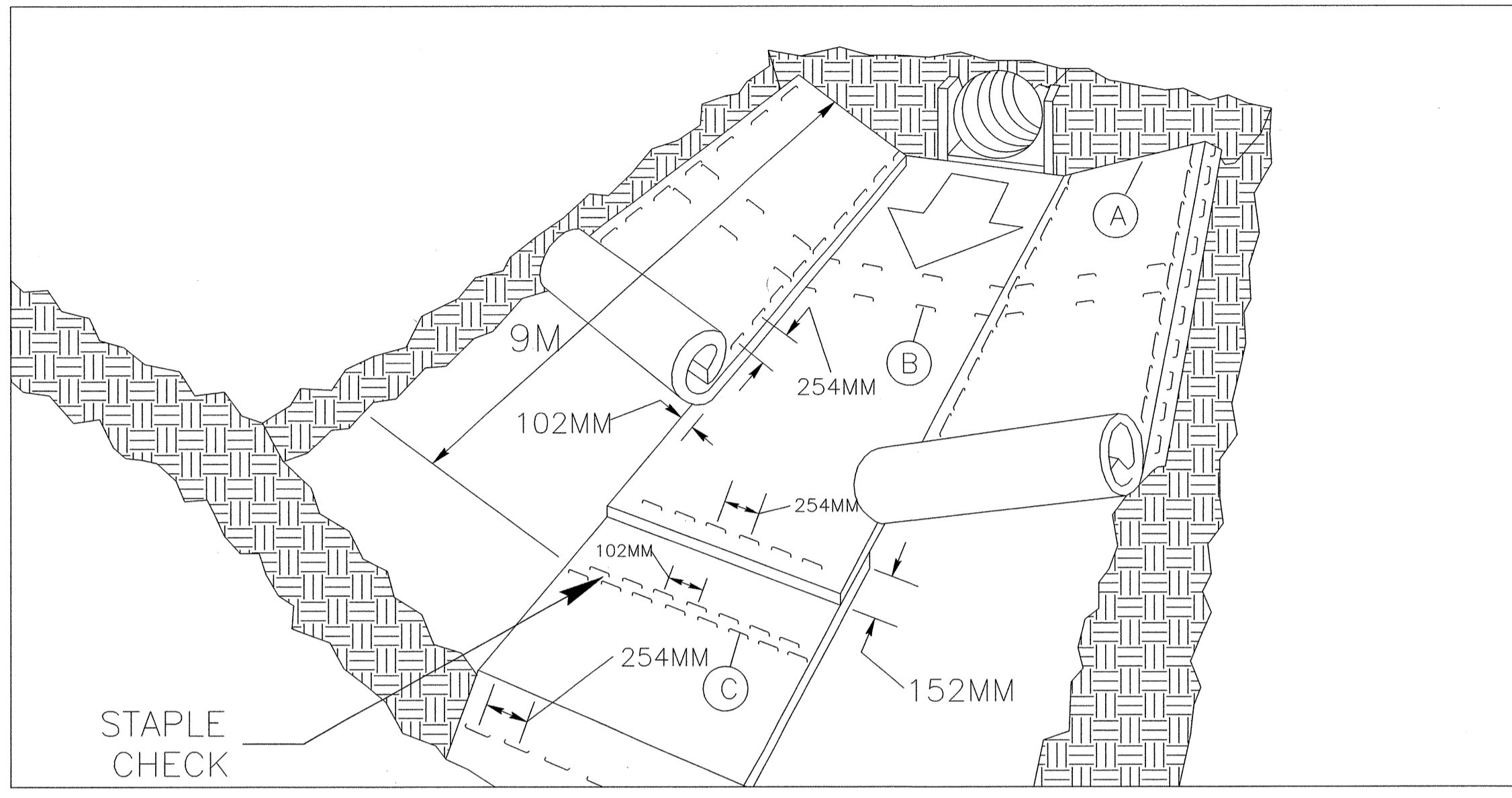


TOP VIEW



PROJECT REFERENCE NO. X-0002CC	SHEET NO. EC-26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATTING INSTALLATION DETAIL



MATTING IN DITCHES

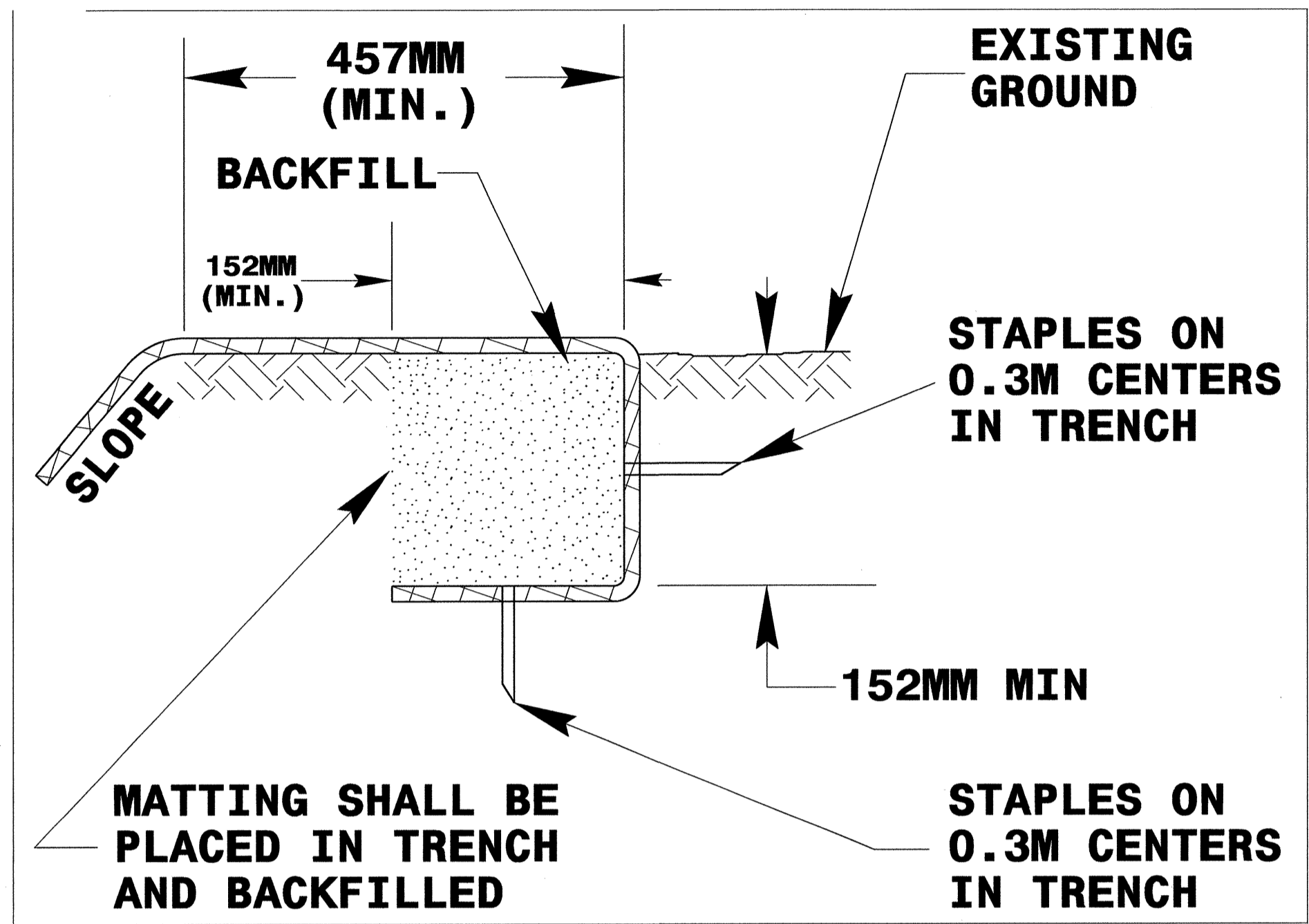
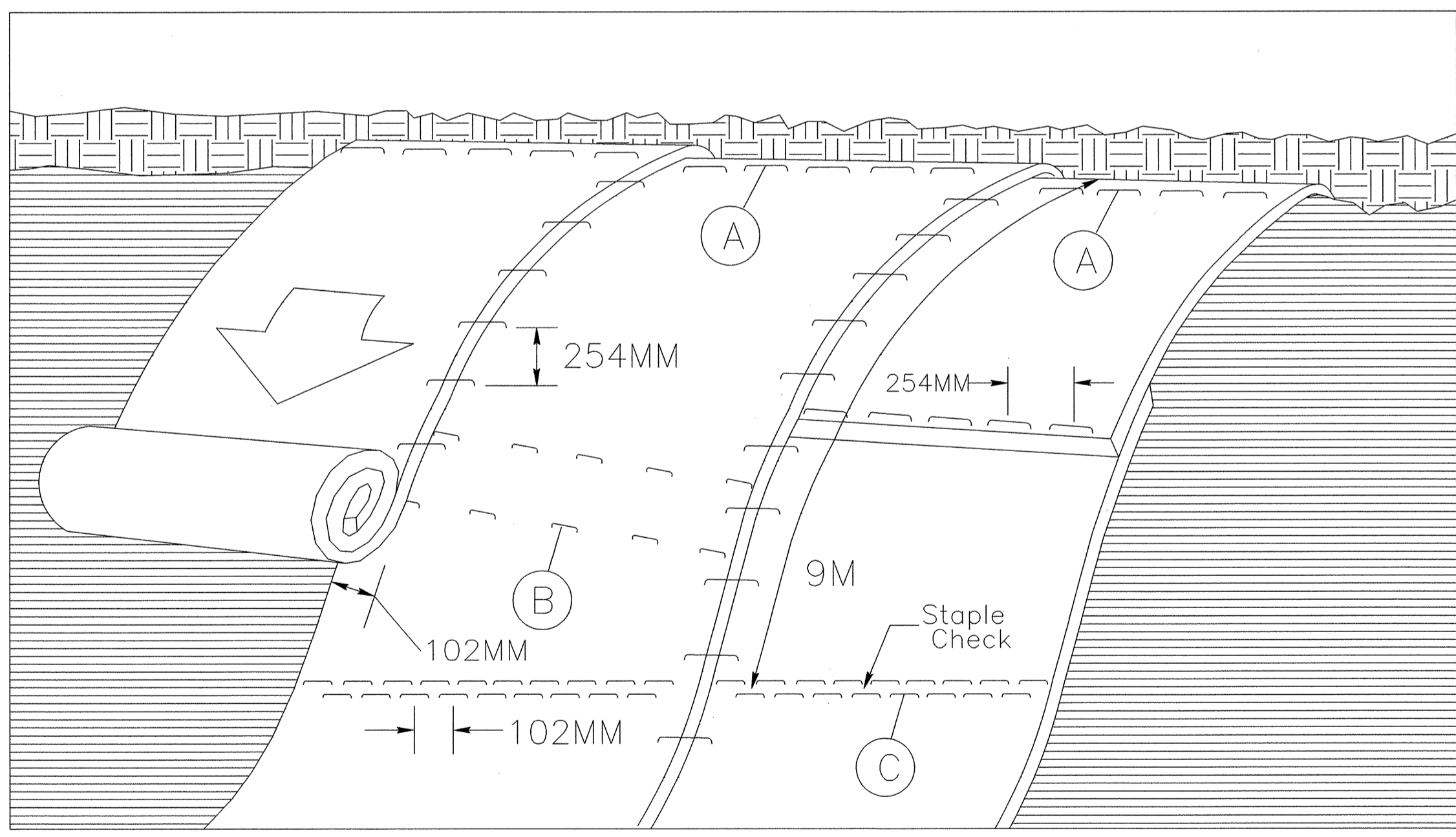


DIAGRAM (A)



MATTING ON SLOPES

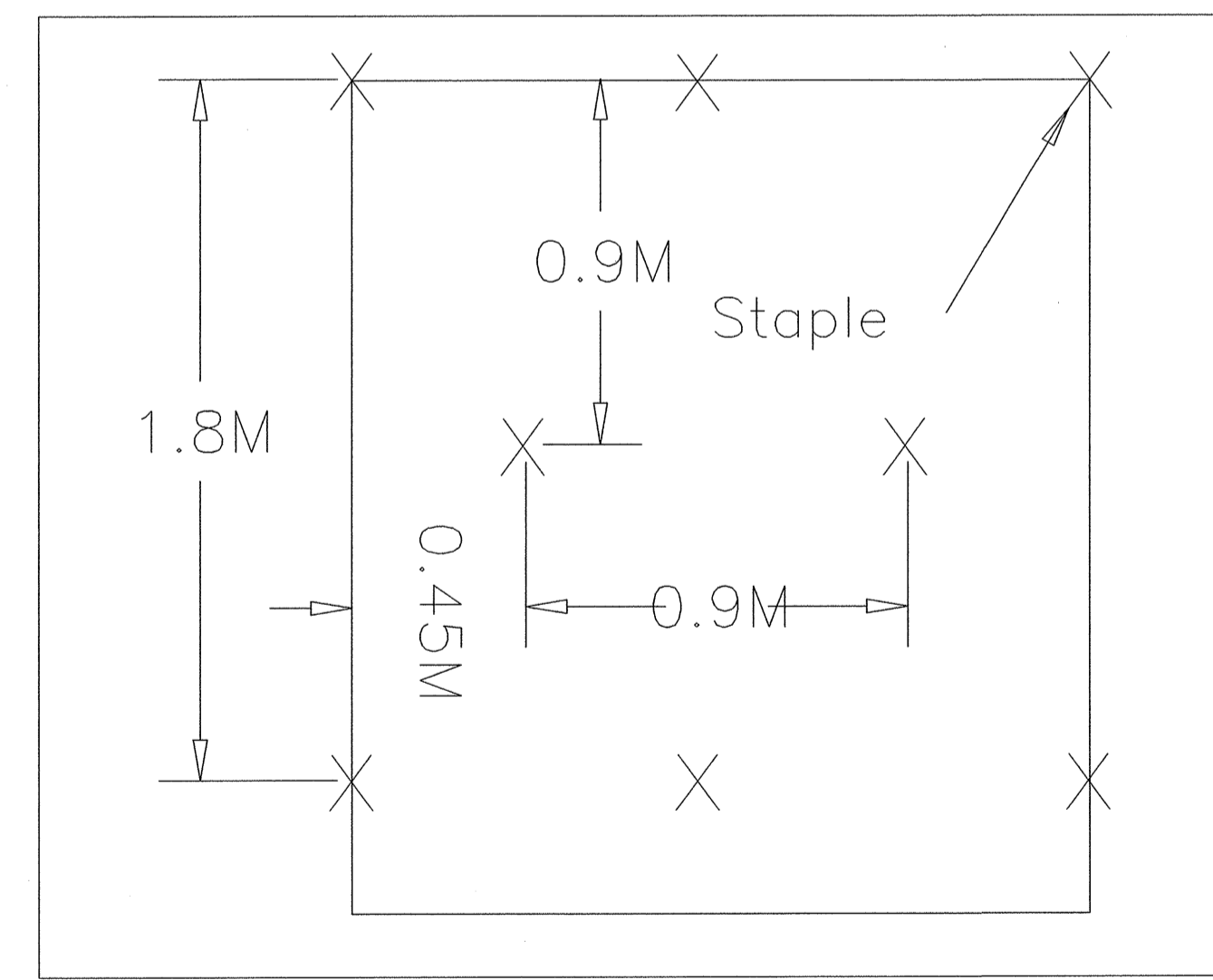


DIAGRAM (B)

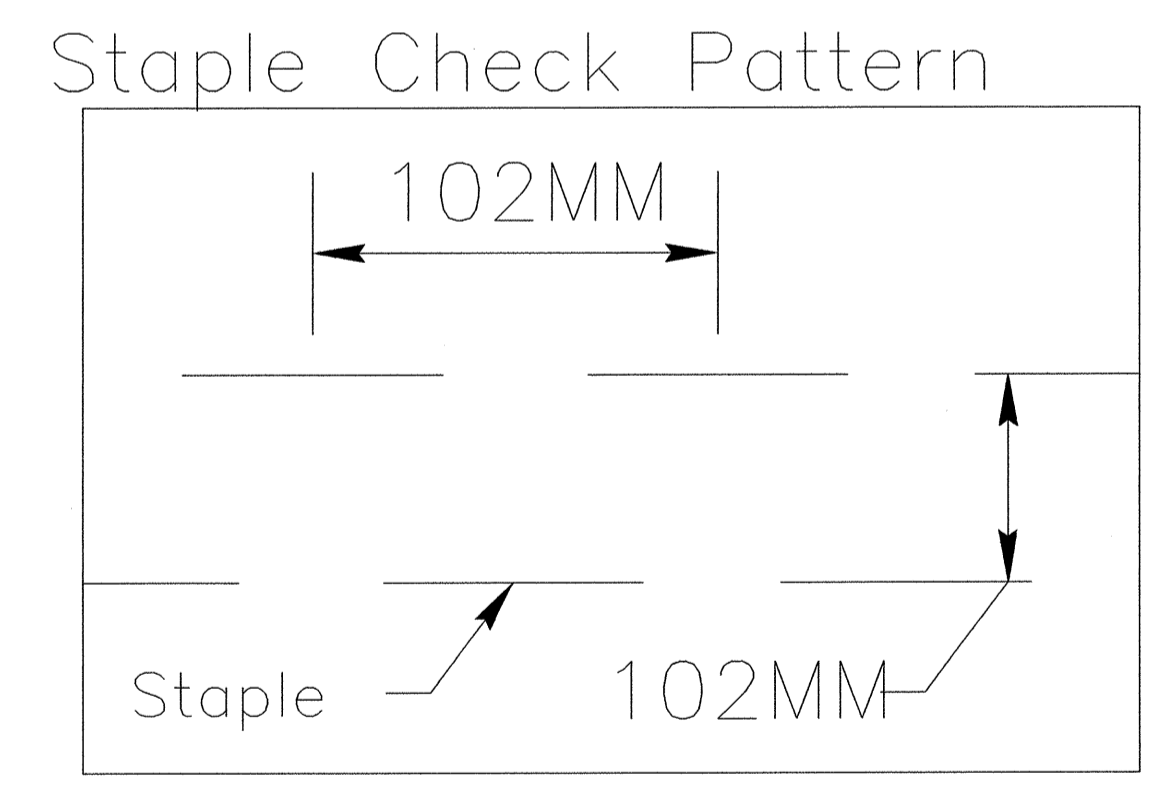


DIAGRAM (C)

NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 25MM AND NOT LESS THAN 152MM IN LENGTH.

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



PROJECT REFERENCE NO. <i>X-0002CC</i>	SHEET NO. <i>EC-03</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 3 M OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 15 M IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.