

SAFETY REGULATIONS

ALL EXCAVATION AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MARYLAND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (MOSHA) STANDARDS AS SET FORTH IN THE LATEST VERSION OF THE CODE OF MARYLAND REGULATIONS

CONSTRUCTION NOTIFICATION

The Contractor/Owner is to notify the _____ County _____ SOIL CONSERVATION DISTRICT at least 72 hours prior to construction to facilitate any scheduling, layout, or preliminary mobilization necessary to ensure proper construction inspection to enable appropriate certification of the project.

It is the Landowner's responsibility to obtain all County, State, and Federal permits that may be needed, and to maintain this structure and related regulations.

THERE WILL BE NO CHANGES IN SPECIFICATION, DIMENSIONS, OR MATERIALS UNLESS APPROVED BY THE ENGINEER RESPONSIBLE FOR THIS DRAWING. THE DRAWINGS ARE PREPARED COOPERATIVELY BY THE NATURAL RESOURCE CONSERVATION SERVICE FOR THE NAMED LANDOWNER.

CONSTRUCTION FOUND NOT IN ACCORDANCE WITH THESE DRAWINGS AND SPECIFICATIONS SHALL VIOLATE THE COOPERATIVE AGREEMENT AND ALL DRAWINGS, SPECIFICATIONS, AND QUANTITIES ESTIMATE SHALL IMMEDIATELY BE RETURNED TO THE LOCAL NRCS OFFICE.

GENERAL NOTES:

- PLEASE CONTACT THE SOIL CONSERVATION DISTRICT AT PHONE # _____ AT LEAST 3 DAYS PRIOR TO CONSTRUCTION TO ARRANGE A PRE-CONSTRUCTION MEETING
- A CONSERVATION TECHNICIAN SHALL SET CUT/GRADE STAKES AT THE CONTRACTORS REQUEST

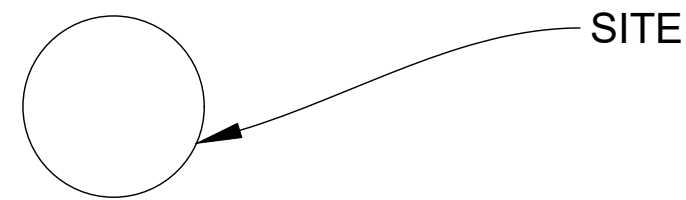
CONSTRUCTION SEQUENCE:

1. Contact the Soil Conservation District at PHONE # to arrange a pre-construction meeting
2. Contact miss utility at 811
3. Install upper sandbag diversion
4. Install upper dewatering basin
5. Install upper pump around device
6. Excavate area for footer stone and install footer stone
7. Install footer imbricated riprap, backfilling with #57 clean stone and geotextile fabric
8. Install next course of imbricated riprap, install final course when previous course has been backfilled with #57 stone and geotextile fabric
9. Backfill top course with topsoil and grade into existing bank
10. Install erosion control matting(jute) and shrubs on shoreline as indicated on the plan
11. Remove sediment controls and stabilize disturbed areas in upper section
12. Install lower sandbag diversion
13. Install lower dewaterwing device
14. Install lower pump around device
15. Follow same procedure as explained above in #6 - #10
16. Remove all sediment controls and stabilize all disturbed areas

USER TO UPDATE SEQUENCE AS NEEDED

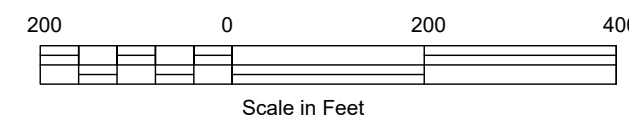
LANDOWNER - SITE NAME

580 STREAMBANK & SHORELINE PROTECTION



REVISED 7/1/2021

LOCATION MAP



Scale in Feet

USER TO INSERT SHEET LIST TABLE

AS-BUILT STATEMENT

THE CONSERVATION PRACTICE(S) MEETS OR EXCEEDS NRCS STANDARDS AND SPECIFICATIONS

INSPECTED BY	SIGNATURE _____	DATE _____
CONSTRUCTION APPROVAL	SIGNATURE _____	DATE _____
VERIFIED DISTRICT CONSERVATIONIST	SIGNATURE _____	DATE _____

AS BUILT CONTRACT ITEMS:

PRACTICE	Reportable Amount	Contract Amount

USER TO ENTER PRACTICES

OWNER/CONTRACTOR STATEMENT

I CERTIFY THAT THIS DESIGN HAS BEEN EXPLAINED TO ME BY A REPRESENTATIVE OF THE COUNTY SOIL CONSERVATION DISTRICT, AND I UNDERSTAND THE CONTENTS. ALL CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND SPECIFICATIONS. I FURTHER UNDERSTAND THAT ALL CONSTRUCTION WILL BE UNDER THE INSPECTION OF THIS OFFICE.

OWNER/OPERATOR SIGNATURE _____ DATE _____

CONTRACTOR'S SIGNATURE _____ DATE _____



Know what's below. Call before you dig.

The Soil Conservation District makes no representation as to the existence or Non-existence of any utilities at the construction site. Shown on these construction drawings are those utilities which have been identified. It is the responsibility of the landowners or operators and contractors to assure themselves that no hazard exists or damage will occur to utilities

All disturbed areas to be stabilized within 7 days of completion, using the following recommendations.

Seeding Recommendations

Tall Fescue	65 lb/ac
Perennial Ryegrass or	5 lb/ac
Redtop (tolerates moist sites)	2 lb/ac
White Clover	5 lb/ac
20-40-40 Fertilizer	500 lb/ac
Ground lime 50% oxides	3 tons /ac
Straw Mulch	2 tons/ac

Dates listed are for plant hardiness Zone 6B, dates will need to be changed for other zones.

Seeding Dates
March 1 thru May 15
August 1 thru October 1

It is the landowner responsibility to obtain All County, State, and Federal permits that may be needed, and to maintain this structure and those regulations.

USER TO ENTER SEEDING INFO MATERIALS LIST

* For bidding purposes only

SITE DATA:

LANDOWNER INFORMATION: _____ STREAM CLASSIFICATION: _____

USER TO ENTER INFORMATION

CONTACT PERSON: _____ STREAM CLOSURE DATE(S): _____

SITE DETAILS:

TOTAL DISTURBED ACRES = ±
TOTAL DISTURBED SQFT = ±

Construction supervision by NRCS/MDA/SCD personnel.
Landowner's permission for MDE and COE inspection.

Date	_____
Designed	_____
Drawn	_____
Checked	_____
Approved	_____

LANDOWNER - SITE NAME

####

COUNTY Soil Conservation District

JOB CLASS #

TRACT #



File Name
MD_0052_StreamStabilization.dwg

Drawing No.
MD_0052

Sheet 1 of 5

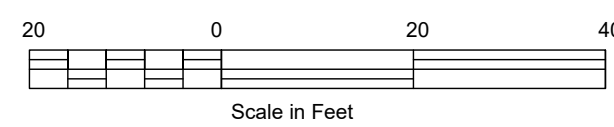


USER TO ENTER PROFILE VIEW

PROFILE

USER TO ENTER PLAN VIEW

PLAN VIEW



BENCH MARK DESCRIPTIONS

TBM #1 (IP): Elev = ????.??
Top of 1" X 2" wooden hub, marked by witness lath.

TBM #2: Elev = ????.??
Top of 1" X 2" wooden hub, marked by witness lath, near NW corner of building.

TBM #3: Elev = ????.??
Top of bolt in NW corner of concrete.

USER TO ENTER CROSS SECTION VIEW

CROSS SECTION

LANDOWNER - SITE NAME

COUNTY Soil Conservation District

TRACT #

JOB CLASS #

_____, Maryland



File Name
MD_0052_StreamStabilization.dwg

Drawing No.
MD_0052

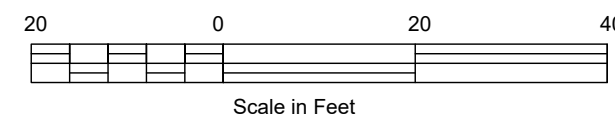
Sheet 2 of 5

Designed	_____	Date	_____
Drawn	_____		_____
Checked	_____		_____
Approved	_____		_____

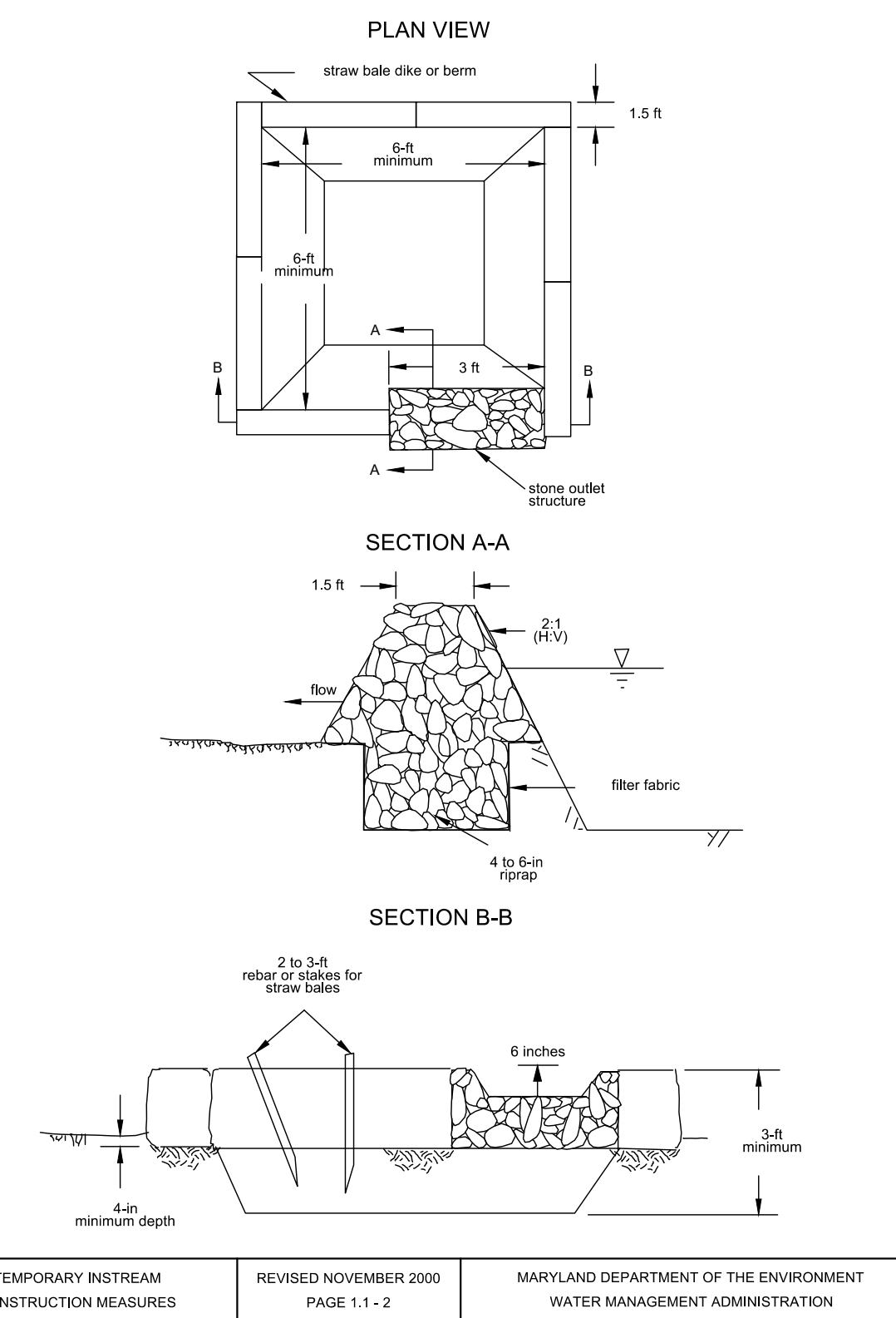


USER TO ENTER PLAN VIEW OF EROSION AND SEDIMENT CONTROLS

EROSION AND SEDIMENT CONTROL

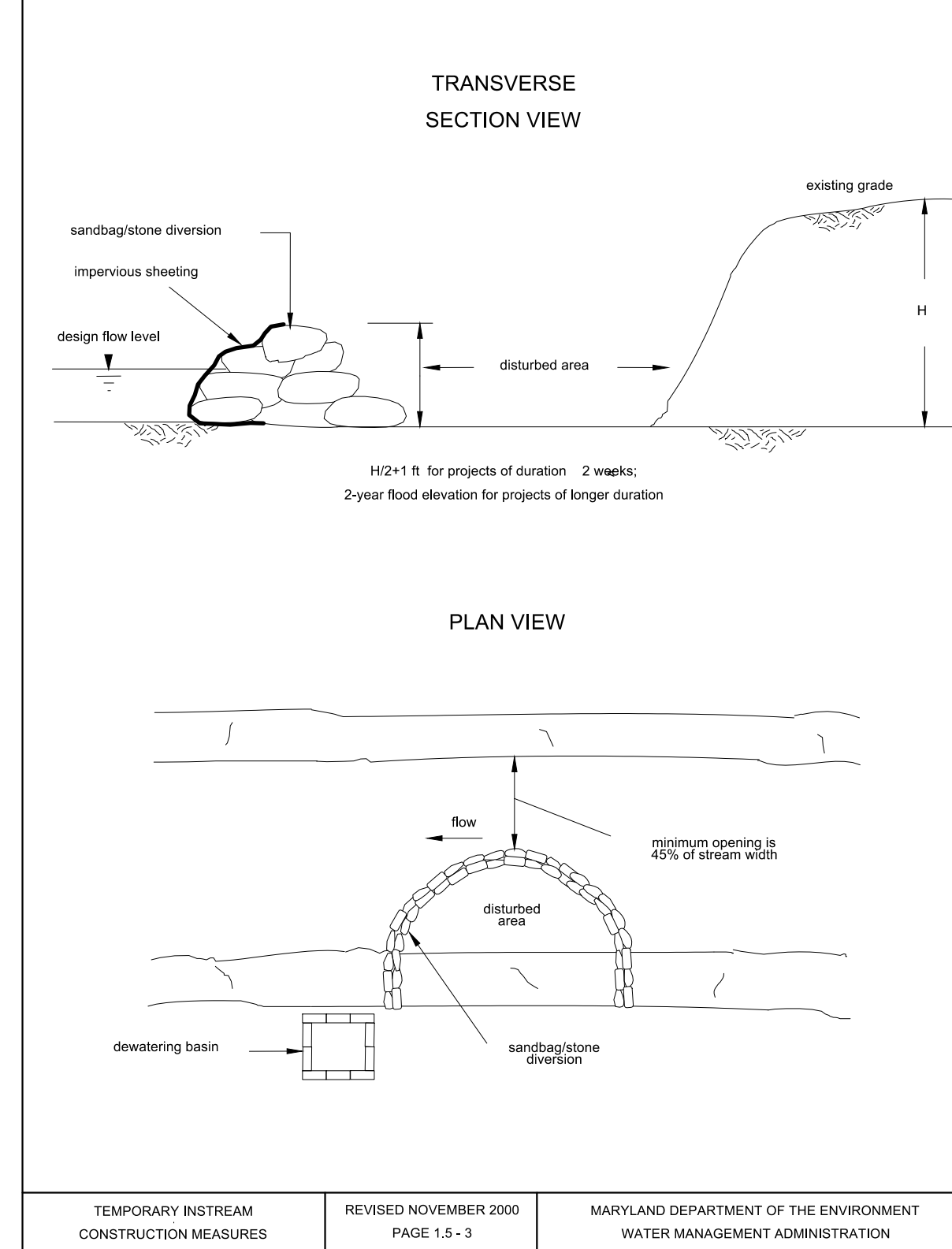


Maryland's Guidelines To Waterway Construction DETAIL 1.1: DEWATERING BASINS



TEMPORARY INSTREAM CONSTRUCTION MEASURES	REVISED NOVEMBER 2000 PAGE 1.1 - 2	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	---------------------------------------	---

Maryland's Guidelines To Waterway Construction DETAIL 1.5: SANDBAG/STONE DIVERSION



TEMPORARY INSTREAM CONSTRUCTION MEASURES	REVISED NOVEMBER 2000 PAGE 1.5 - 3	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	---------------------------------------	---

DETAIL C-6	CLEAR WATER DIVERSION PIPE	STANDARD SYMBOL CWD - 12 DESIGNATION CWD-12 REFERS TO 12 INCH CLEAR WATER DIVERSION
------------	----------------------------	---

CONSTRUCTION SPECIFICATIONS

- FLEXIBLE PIPE IS PREFERRED. HOWEVER, CORRUGATED METAL PIPE OR EQUIVALENT PVC PIPE CAN BE USED. MAKE ALL JOINTS WATERTIGHT.
- FOR SANDBAGS USE MATERIALS THAT ARE RESISTANT TO ULTRA-VIOLET RADIATION, TEARING, AND PUNCTURE AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL.
- USE 10 MIL OR THICKER, UV RESISTANT, IMPERMEABLE SHEETING OR OTHER APPROVED MATERIAL THAT IS IMPERMEABLE AND RESISTANT TO PUNCTURING AND TEARING.
- PLACE IMPERMEABLE SHEETING SUCH THAT UPGRADE PORTION OVERLAPS DOWNGRADE PORTION BY A MINIMUM OF 18 INCHES.
- SET HEIGHT OF SANDBAG DIKE AT TWICE THE PIPE DIAMETER. MAINTAIN HEIGHT ALONG LENGTH OF SANDBAG DIKE. PLACE DOUBLE ROW OF SANDBAGS.
- AT A MINIMUM, SECURELY ANCHOR DIVERSION PIPE AT EACH DOWNGRADE JOINT.
- SET OUTLET END OF DIVERSION PIPE LOWER THAN INLET END.
- PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
- DEWATER WORK AREA USING AN APPROVED EROSION AND SEDIMENT CONTROL PRACTICE AS SPECIFIED ON APPROVED PLAN.
- KEEP POINT OF DISCHARGE FREE OF EROSION. MAINTAIN WATER TIGHT CONNECTIONS AND POSITIVE DRAINAGE. REPLACE SANDBAGS AND IMPERMEABLE SHEETING IF TORN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-4	FILTER BAG	STANDARD SYMBOL FB
------------	------------	-----------------------

CONSTRUCTION SPECIFICATIONS

- TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
- PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
- CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
- REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
- USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4633
FLOW RATE	70 GAL/MIN/FT ²	ASTM D-4491
PERMITTIVITY (SEC ⁻¹)	1.2 SEC ⁻¹	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

- REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3	SUPER SILT FENCE	STANDARD SYMBOL SSF
------------	------------------	------------------------

CONSTRUCTION SPECIFICATIONS

- INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (1/2 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-4-6-B	TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION	STANDARD SYMBOL TSSMS - * lb/ft ² (* INCLUDE SHEAR STRESS)
----------------	--	---

CONSTRUCTION SPECIFICATIONS

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SWOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
- UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
- OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
- KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Date	_____
Designed	_____
Drawn	_____
Checked	_____
Approved	_____

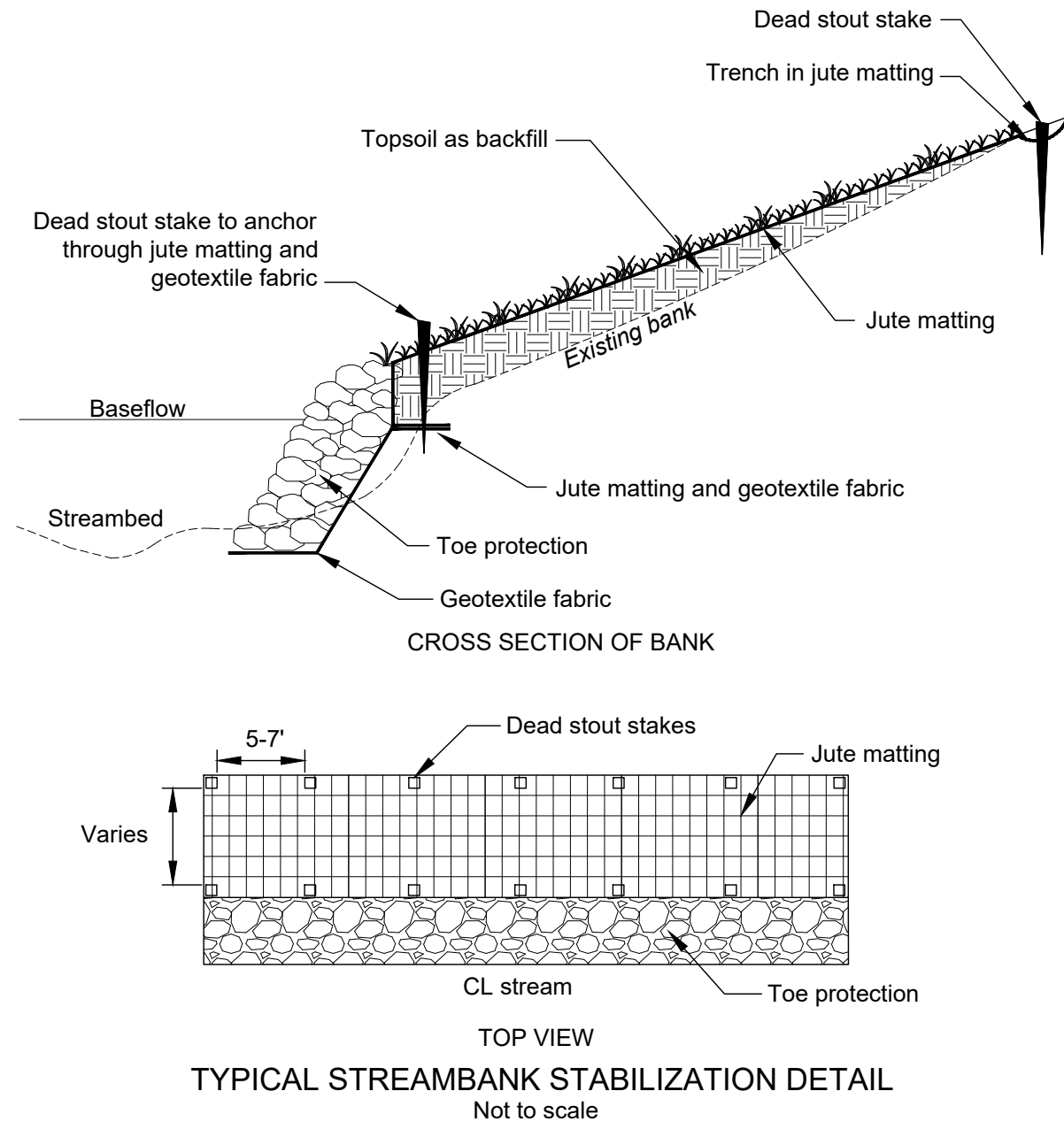
LANDOWNER - SITE NAME

COUNTY Soil Conservation District
JOB CLASS # _____

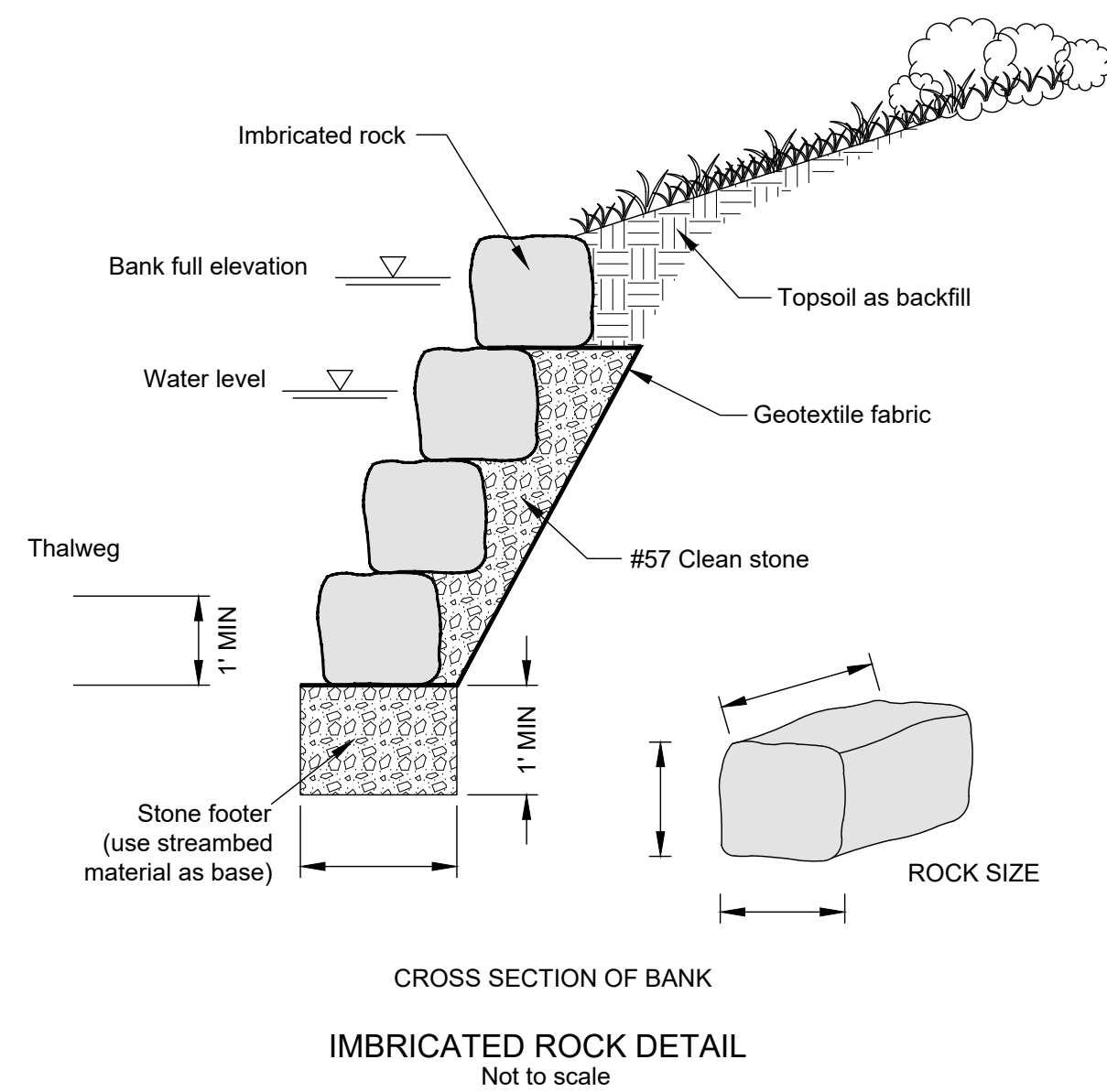
TRACT # _____

United States Department of Agriculture USDA Natural Resources Conservation Service
--

File Name: MD_0052_StreamStabilization.dwg
Drawing No. MD_0052
Sheet 3 of 5

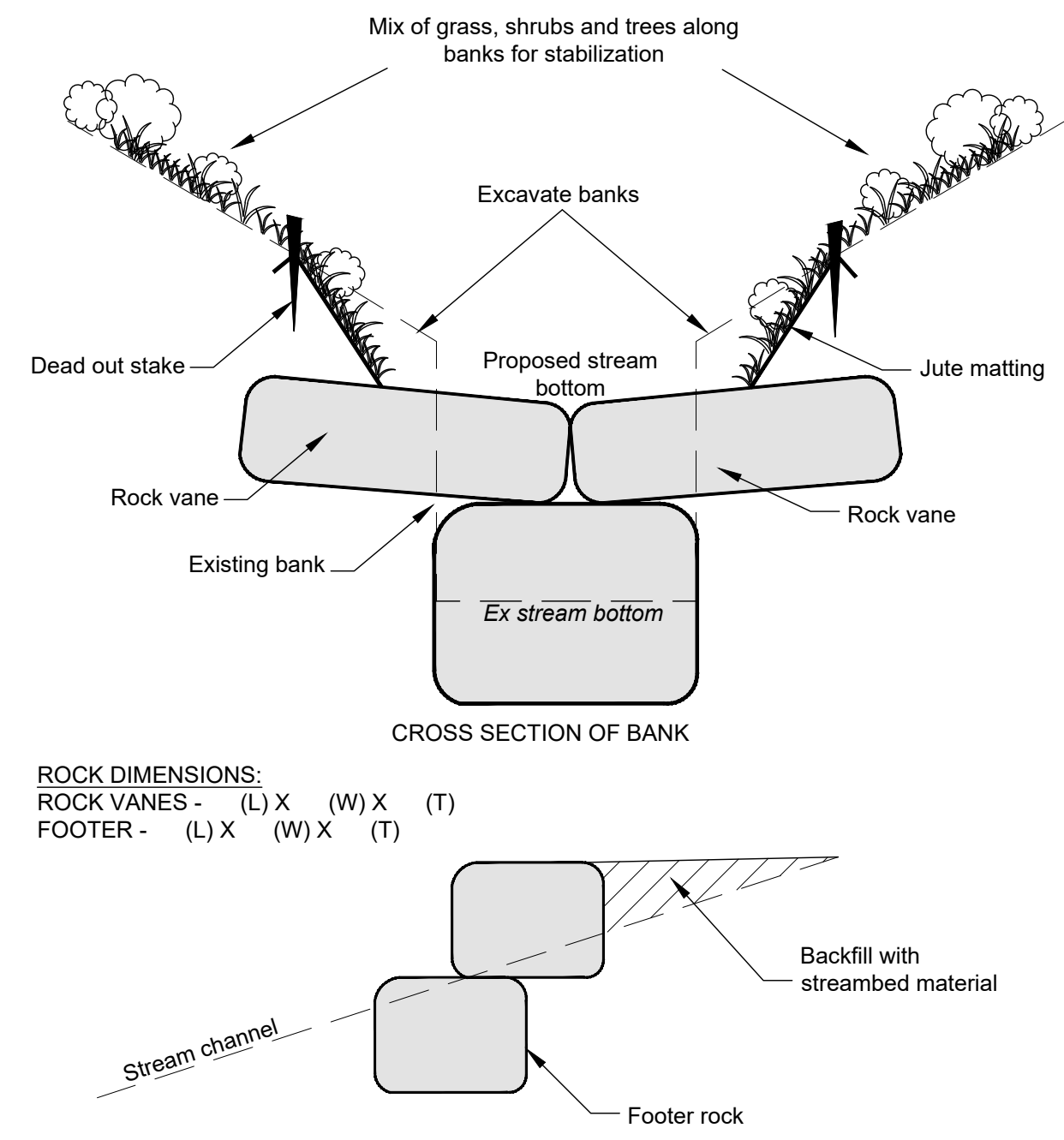


- NOTES:
- Erosion control fabric should be placed on slopes adjacent to erosive inundation.
 - Materials shall be installed the same day that they are prepared.
 - Dead stout stakes shall be placed on the top edge of jute matting and where jute matting meets the toe protection (use 5-7' spacing).



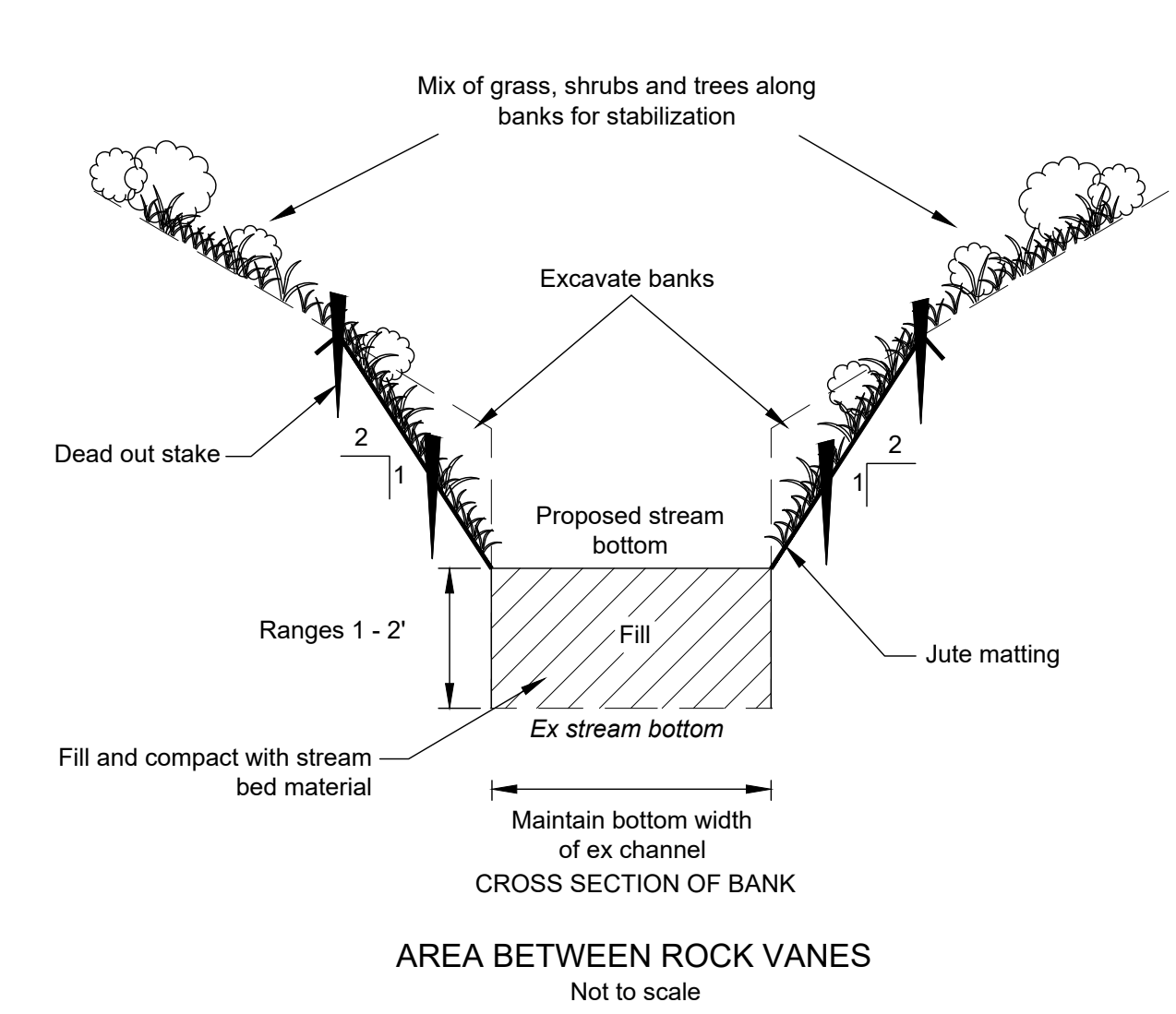
- NOTES:
- Top of rock shall be above bank full elevation.
 - Footer rock shall be 1' below CL of thalweg.
 - Slope of rock shall be equal to existing bank slope.
 - Depending on stream bottom type, geotextile at the bottom of the footer drain will be determined at time of construction.

USER TO ENTER BLOCK INFO



- NOTES:
- Footer rock to be imbedded in the existing stream channel
 - Rock vanes shall be tied into existing banks
 - The existing stream channel width shall remain the same
 - If existing banks are steeper than 2:1, blade back to a 2:1
 - Banks will be planted with approved grasses, shrubs and trees as shown on the plan

USER TO ENTER BLOCK INFO



- NOTES:
- Jute matting will be used to stabilize the banks using dead out stakes.
 - The existing stream channel width shall remain the same.
 - Banks shall be planted with approved grasses, shrubs and trees as shown on the plan.

Maryland's Guidelines To Waterway Construction
DETAIL 2.2: IMBRICATED RIPRAP

DEFINITION SKETCH
 β = backfill slope angle (2H:1V or flatter but greater than 0°)
 α = inclination of wall from horizontal (1H:6V to 2H:6V)

SECTION VIEW
 topsoil (depth shall be sufficient to support stabilizing vegetation)
 rocks shall be angular and have a minimum width equal to 1/3 the vertical height of the wall
 degree of imbrication shall depend on design stone size
 toe trench and footer rock - minimum toe trench depth below channel invert should be designed based on site characteristics and to prevent failure due to scour
 geotextile or gravel filter to prevent pumping of fines
 free - draining backfill composed of gravel (max. of 5% fines)

PLAN VIEW
 Construction Note:
 stone blocks shall be rotated into the bank during placement such that the upstream blocks overlap the downstream blocks by a minimum of 3 inches

3 in in curved reaches

United States Department of Agriculture
 Natural Resources Conservation Service

SLOPE PROTECTION AND STABILIZATION TECHNIQUES
 REVISED APRIL 2004
 MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Maryland's Guidelines To Waterway Construction
DETAIL 2.11(b): TOE PROTECTION

Adapted From Seibert (1968)

RIPARIAN VEGETATION ACCORDING TO BANK ZONE

MHW (bankfull - annual mean high water level)
 MW (annual mean water level)
 MLW (annual mean low water level)

Aquatic plant zone	Reed bank zone	Softwood zone	Hardwood zone
<ul style="list-style-type: none"> Pondweed Water crowfoot White waterlily 	<ul style="list-style-type: none"> Bulrush Cattail Common reed Pond sedge Reed grass Reedmace Sweet flag Yellow flag 	<ul style="list-style-type: none"> Alder Alder buckthorn Ash Guelder rose Hawthorn Hazel Red dogwood Willow 	<ul style="list-style-type: none"> Ash Bird cherry Dewberry Elm Hornbeam Maple Oak Poplar

SLOPE PROTECTION AND STABILIZATION TECHNIQUES
 REVISED NOVEMBER 2000
 MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Date _____

Designed _____
 Drawn _____
 Checked _____
 Approved _____

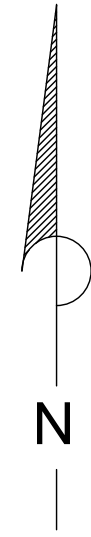
LANDOWNER - SITE NAME
 #####
 COUNTY Soil Conservation District
 TRACT # _____

United States Department of Agriculture
 Natural Resources Conservation Service

File Name
 MD_0052_StreamStabilization.dwg

Drawing No.
 MD_0052

Sheet 4 of 5





- Shrubs (potted)
- Spicebush.....Height: 6.5-16'
 - Common Elderberry.....Height: 6-12'
 - Smooth Alder.....Height: 12-20'
 - Highbush Blueberry.....Height: 6-12'
 - Silky Dogwood.....Height: 6-12'
- Trees
- River Birch.....Height: 50-75'
 - Eastern Redbud.....Height: 20-35'

LEGEND

SHRUBS

-  SPICEBUSH
-  COMMON ELDERBERRY
-  SMOOTH ALDER
-  HIGHBUSH BLUEBERRY
-  SILKY DOGWOOD

TREES

-  RIVER BIRCH
-  EASTERN REDBUD

Total potted shrubs (upper section).....75
Based on the proposed planting, there are 15 species of each shrub

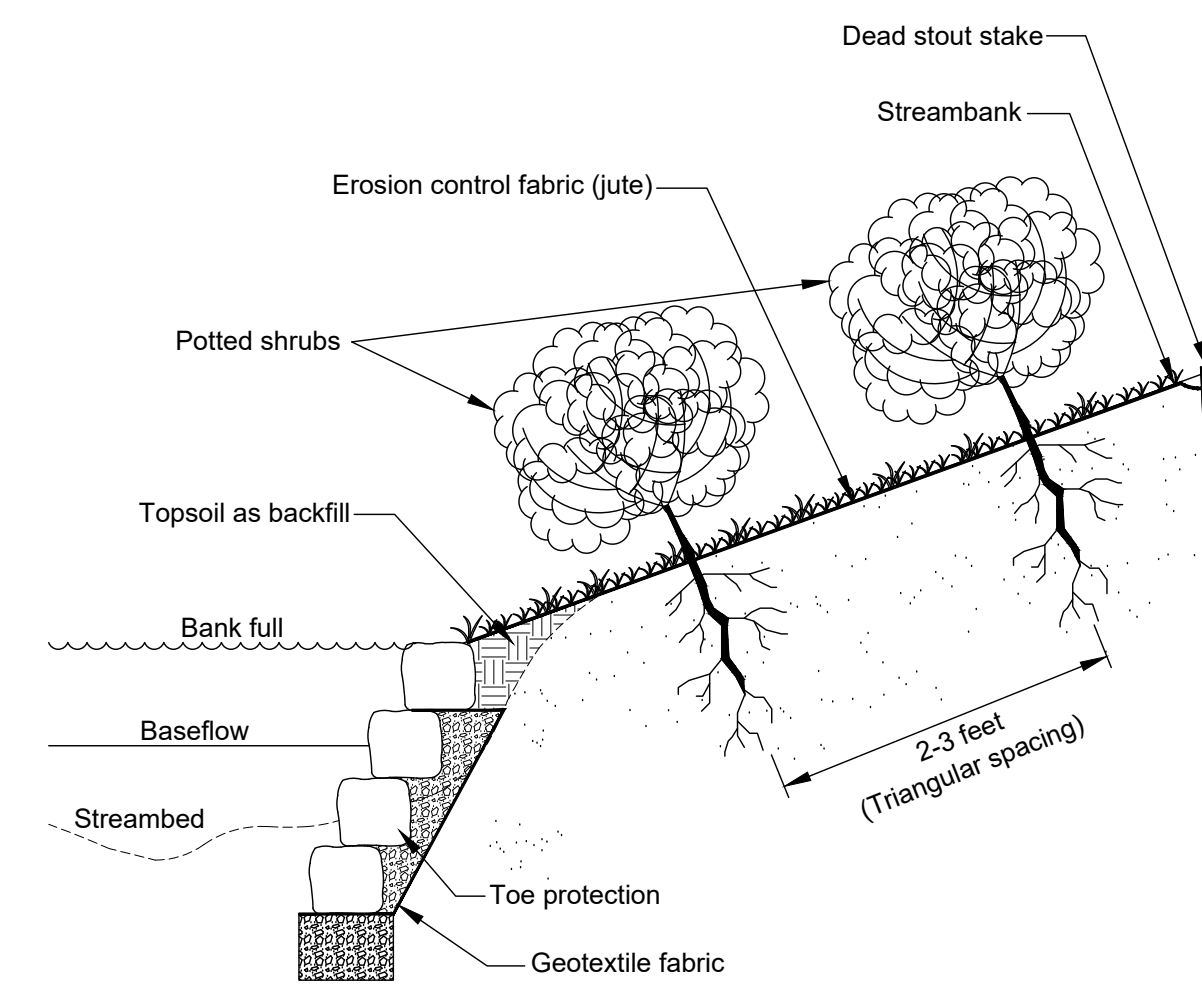
Total trees(upper section).....6
Based on the proposed planting, below are the amount of trees needed:
River Birch.....3
Eastern Redbud....3

Total potted shrubs (lower section).....100
Based on the proposed planting, there are 20 species of each shrub

Total trees(lower section).....8
Based on the proposed planting, below are the amount of trees needed:
River Birch.....4
Eastern Redbud....4

NOTE:
Planting detail is to be used as a guide. Planting locations and types of species may be changed if desired. **NATIVE SPECIES MUST BE USED.** Contact the Soil Conservation District to determine if species are native prior to purchasing them.

Seeding dates for containerized stock:
March 1 - May 15
May 16 - June 30
Sept 15 - Nov 30

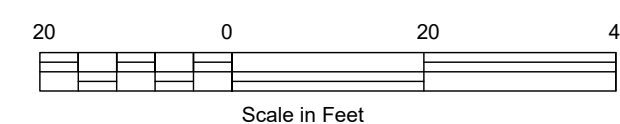


CROSS SECTION OF BANK
Not to scale

- NOTES:
- Erosion control fabric should be placed on slopes adjacent to erosive inundation.
 - Materials shall be installed the same day that they are prepared.
 - Placement and spacing of shrubs may vary depending on species used.

USER TO ENTER SOIL BIOENGINEERING PLAN VIEW

PLAN VIEW OF SOIL BIOENGINEERING



LANDOWNER - SITE NAME

COUNTY Soil Conservation District

JOB CLASS #

TRACT #



File Name
MD_0052_StreamStabilization.dwg

Drawing No.
MD_0052

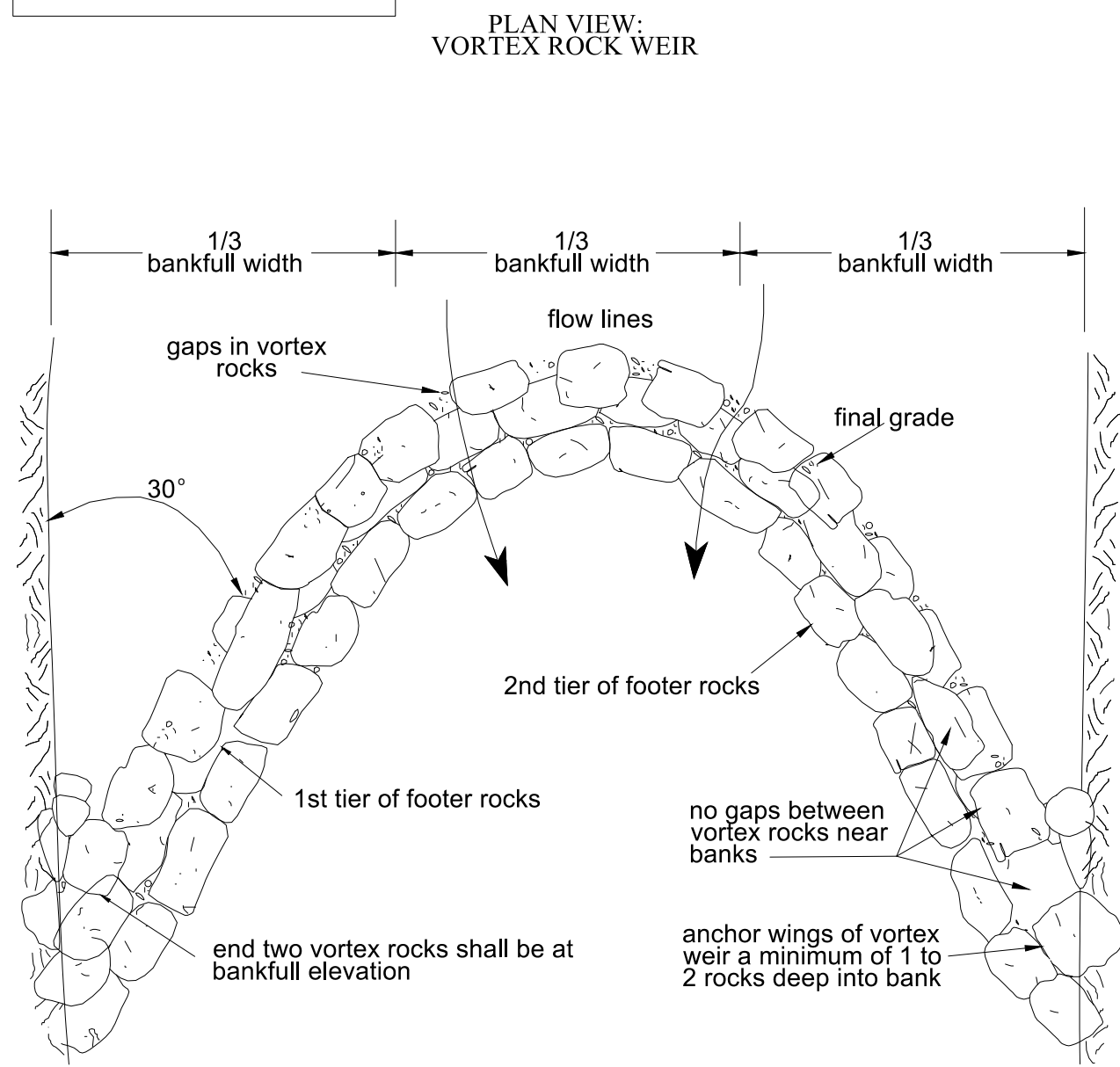
Sheet 5 of 5

Designed	Date
Drawn	_____
Checked	_____
Approved	_____

_____, Maryland

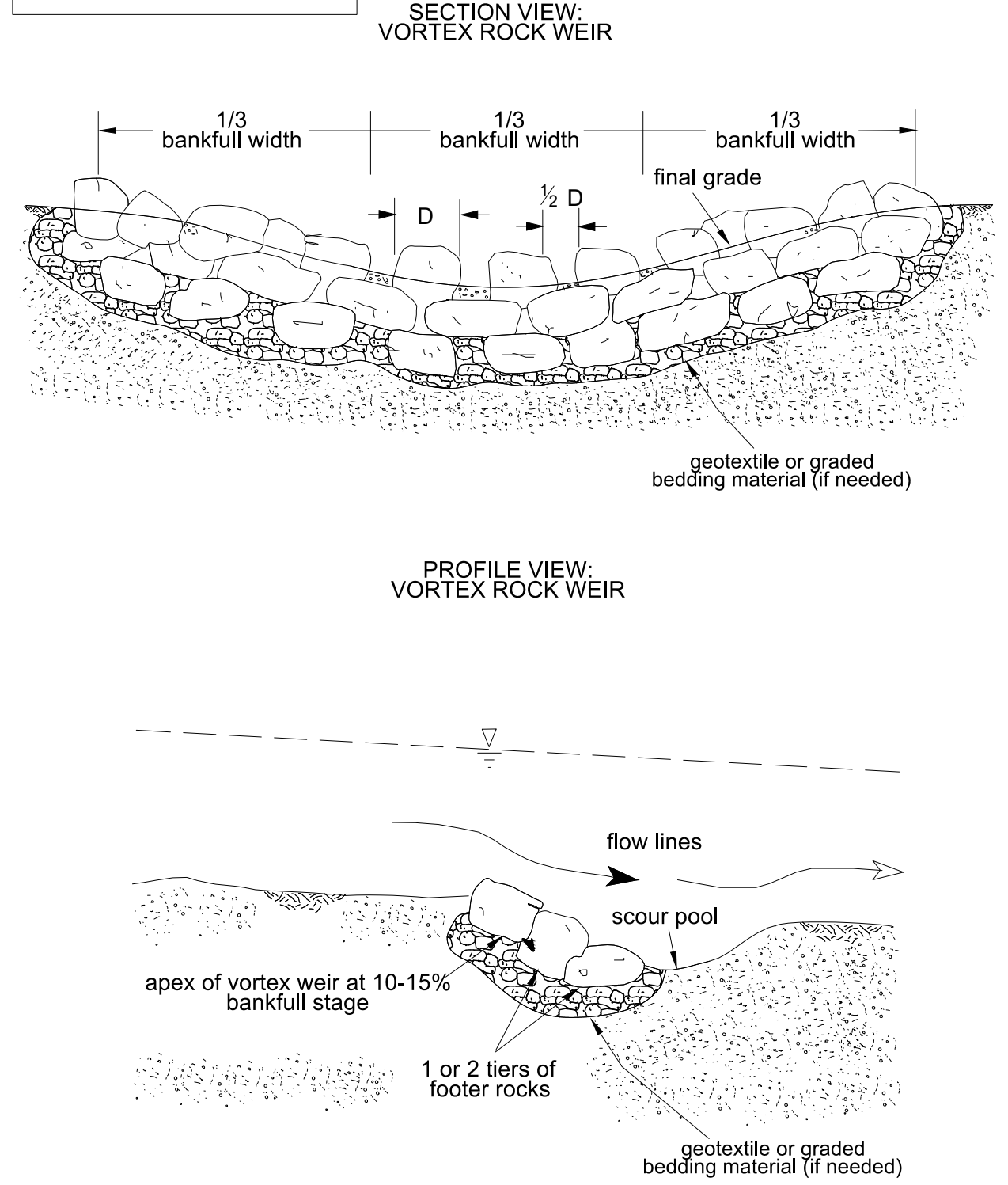
Maryland's Guidelines To Waterway Construction
DETAIL 3.7(a): WEIRS

Section & Plan Views Adapted From Rosgen (1999)



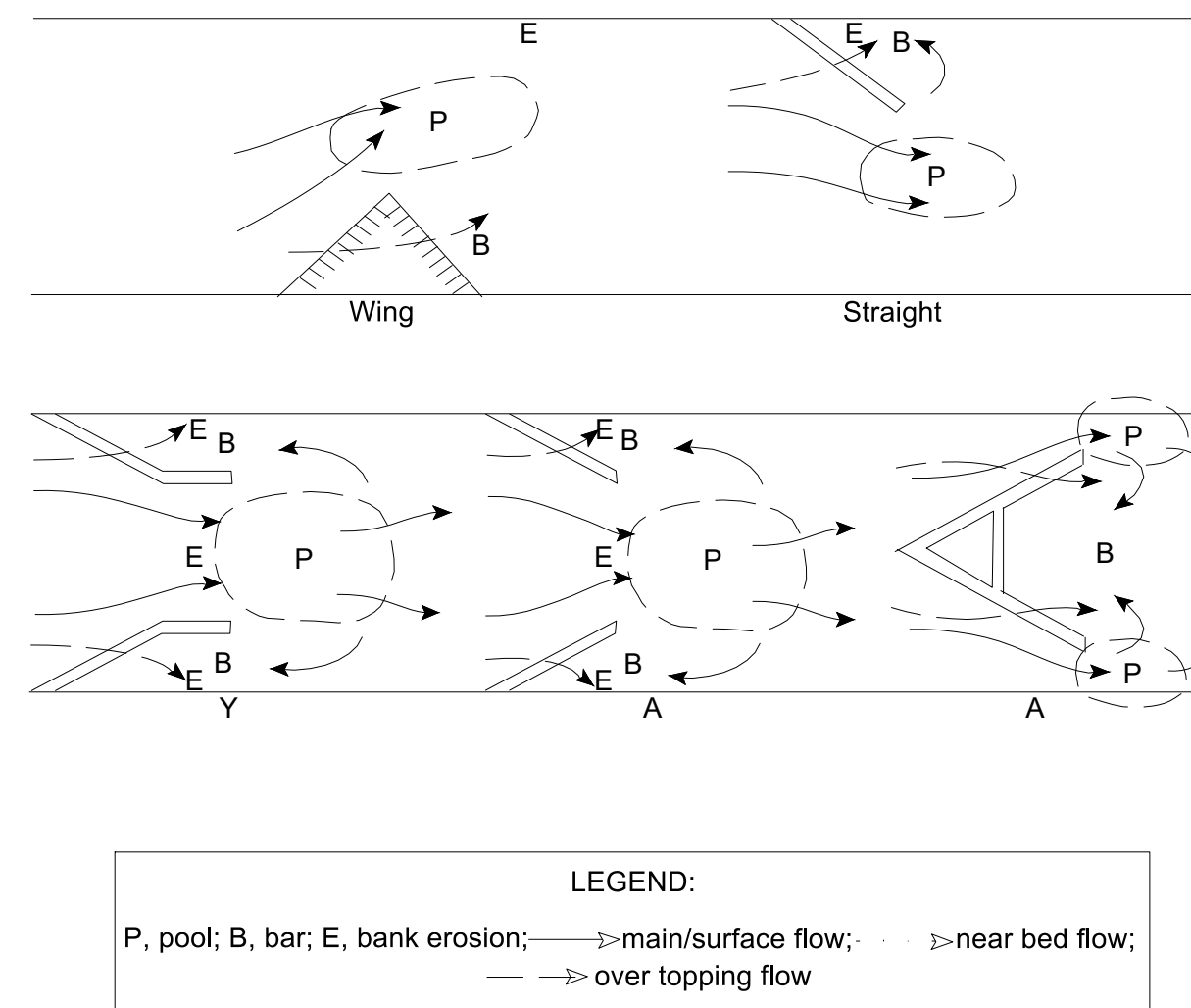
Maryland's Guidelines To Waterway Construction
DETAIL 3.7(b): WEIRS

Section & Plan Views Adapted From Rosgen (1999)

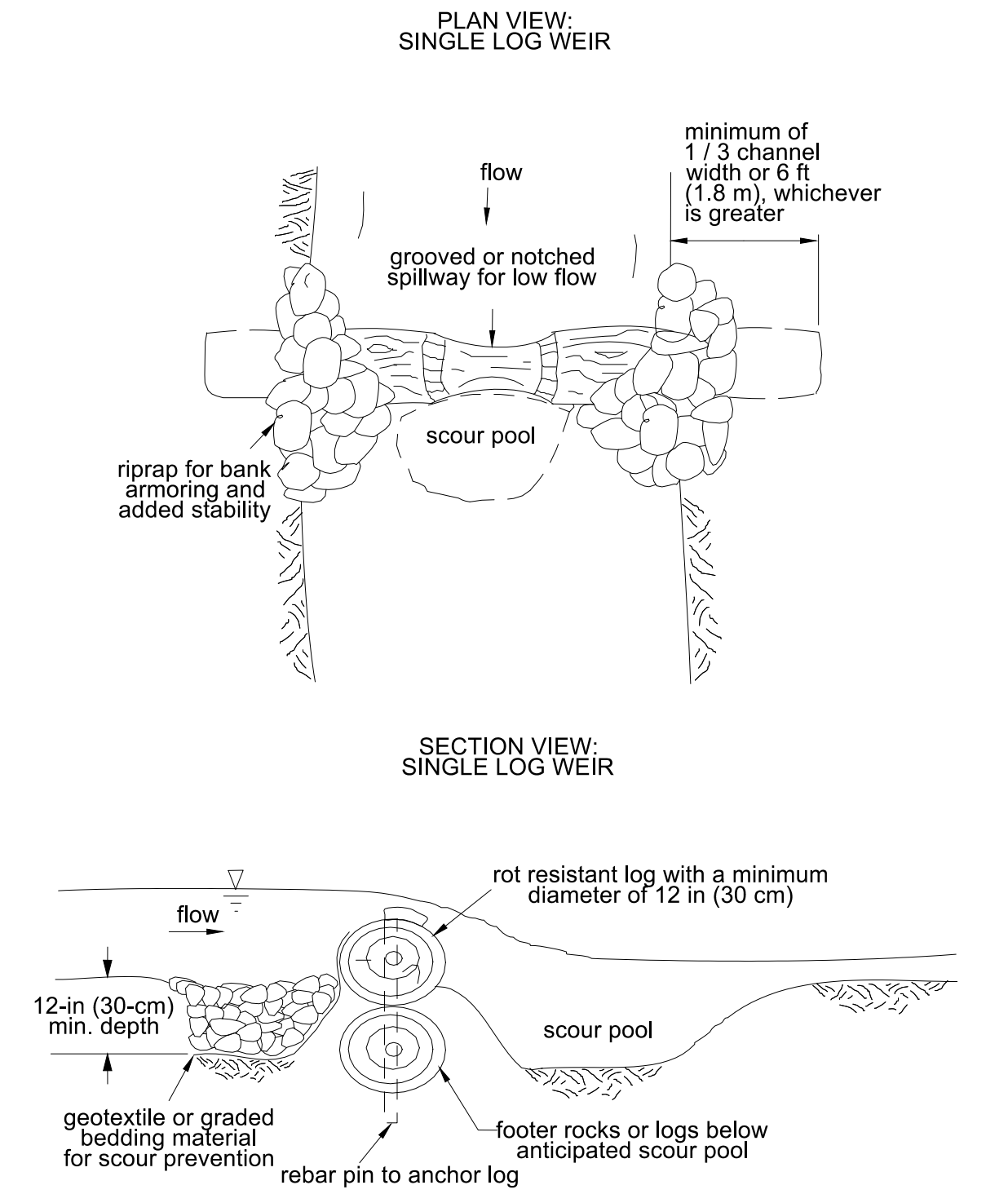


Maryland's Guidelines To Waterway Construction
DETAIL 3.5(b): STREAM DEFLECTORS

PLAN VIEW:
ALTERNATIVE DEFLECTOR CONFIGURATIONS
Source: Hey (1995)

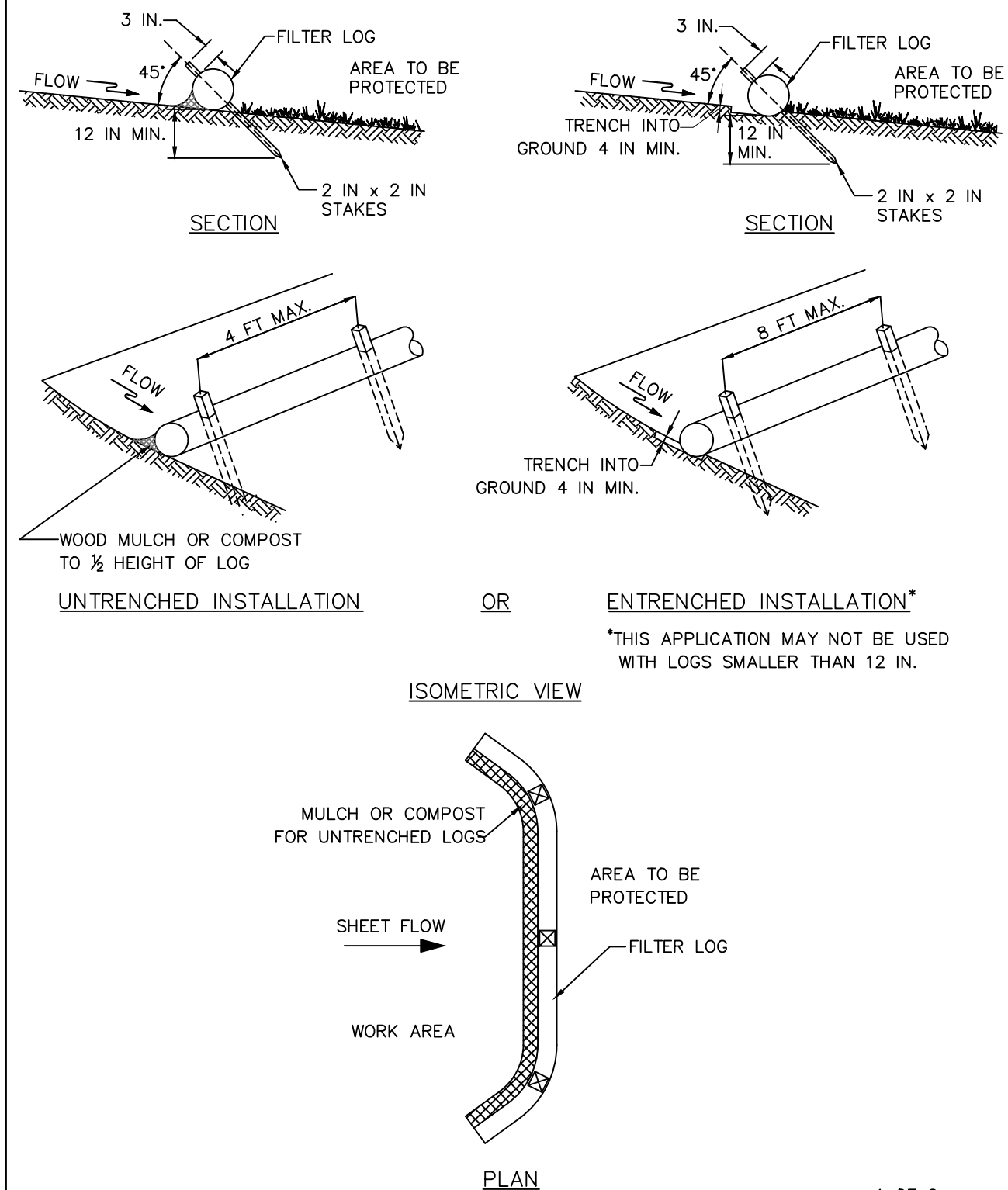


Maryland's Guidelines To Waterway Construction
DETAIL 3.6: LOG & ROCK CHECK DAMS



DETAIL E-6 FILTER LOG

STANDARD SYMBOL
FL-18
DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.



DETAIL E-6 FILTER LOG

STANDARD SYMBOL
FL-18
DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.

- CONSTRUCTION SPECIFICATIONS**
- PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLOUDS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
 - FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
 - INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
 - FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
 - STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
 - USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
 - WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
 - REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF 1/2 THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR DISLODGING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.