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 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 LEAST 3 DAYS PRIOR TO CONSTRUCTION TO ARRANGE A PRE-CONSTRUCTION MEETING AT PHONE #
- A CONSERVATION TECHNICIAN SHALL SET CUT/GRADE STAKES AT THE CONTRACTORS REQUEST
- A CONSERVATION TECHNICIAN MUST BE PRESENT AT THE TIME OF PIPE INSTALLATION, IF REQUIRED



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

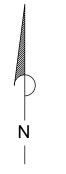
CRITICAL INSPECTION ITEMS (Waterway w/Tile)

- The landowner will arrange for a pre-construction meeting between the contractor, NRCS and landowner to review the plans, standards and specifications prior to the start of construction.
- There will be no changes in specifications, dimensions, or materials unless approved by the engineer
- The drawings are prepared cooperatively by the Natural Resources Conservation Service for named owner/operator. 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
- The following is a list of items that must be inspected by the Technician-in-Charge. If cost share is involved, payment may be forfeited if the Technician-in-Charge does not inspect all of the below

	,	,	
•	Preconstruction Meeting	Date:	Initials:
	Verify layouts:	Date:	Initials:
	Verify Drain Tile Placement:		
	Inspect Trench and Grades:	Date:	Initials:
	Pipe and Drain Tubing Placement:	Date:	
	Pipe Material and Size:	Date:	Initials:
	Placement of Stone Envelope:	Date:	Initials:
	Backfill and Compaction:	Date:	Initials:
	Rodent Guard Installed at Outlet:	Date:	Initials:
•	Strip and Stock Pile Top Soil:	Date:	Initials:
•	Grading of Waterway:		
	Correct Width, Depth and Shape:	Date:	Initials:
	Sides Graded to Allow Inflow of Runoff:	Date:	Initials:
	Spreading Top Soil:	Date:	Initials:
•	Placement of Riprap (when applicable):		
	Inspect Foundation:	Date:	Initials:
	Geotextile placement and Type:	Date:	Initials:
	Gradation and Placement of Rip Rap:	Date:	Initials:
•	Final Grading:	Date:	Initials:
•	All disturbed areas seeded and mulched:	Date:	Initials:
•	Erosion Control Matting Installation:	Date:	Initials:
	Type and Materials:	Date:	Initials:
	Location and Width:	Date:	Initials:
	Proper Installation:	Date:	Initials:
•	Remaining disturbed areas mulched:	Date:	Initials:
•	Fencing (when applicable):	Date:	Initials:
	Type and Materials:		Initials:
	Proper location:	Date:	Initials:
	Installation:	Date:	Initials:
•	Other items shown on the plans:	Date:	Initials:

LANDOWNER - SITE NAME

412 GRASSED WATERWAY





REVISED 7/1/2021

LOCATION MAP



USER TO INSERT SHEET LIST TABLE

RECOMMENDED SEEDING MIXES (USER TO CHOOSE ONE)

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

Tall Fescue Creeping Red Fescue 60 lb/ac 20 lb/ac 5 lb/ac Perennial Ryegrass 20-40-40 fertilize 500 lb/ac Ground lime 50% oxides 3 tons /ac Straw Mulch 2 tons/ac 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

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

Seeding Dates

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

Maryland Conservation Planting Guide Table 3.3 Notes

Select turf-type cultivars of Tall Fescue, Kentucky Bluegrass, and Perennial Ryegrass based on recommendations from the University of Maryland Extension, Turfgrass Technical Update TT-77, and the Virginia and Maryland National Turfgrass Evaluation Program (NTEP). The use of recommended cultivars usually results in a grass stand of higher quality and density, greater drought tolerance, lower nutrient requirements, and fewer pest problems. Cultivars developed for other regions of the country or for forage may be also used, but they may not perform as well as the recommended turf-types in a critical area planting.

endophyte-infected to avoid livestock health problems due to endophyte toxicity. Tall fescue with the novel endophyte is not toxic to livestock, and has the adaptive advantages of being more resistant to drought, disease, and insects than endophyte-free varieties. Please note that endophyte levels in plantings can vary between varieties, between fields of the same variety, and with the time of year.

For areas where livestock will not have access, tall fescue varieties with higher endophyte levels are preferable because they tend to be more drought tolerant and more MD_0048 resistant to disease and insect damage. Most turf-type tall fescue varieties have high endophyte levels, as does 'Kentucky 31' tall fescue (originally selected as a forage

Certified varieties of endophyte-infected tall fescue may be used for stockpile grazing (i.e., winter grazing) when the risk of endophyte toxicity is much reduced. *Refer to Maryland's Conservation Planting Guide for additional seeding mixes and specifications for establishing plantings

AS-BUILT STATEMENT THE CONSERVATION PRACTICE(S) MEETS OR EXCEEDS NRCS STANDARDS AND SPECIFICATIONS **INSPECTED BY** SIGNATURE DATE DATE /FRIFIED DISTRICT CONSERVATIONIST SIGNATURE DATE

AS BUILT CONTRACT ITEMS:	Reportable	Contract
PRACTICE	Amount	Amount
	<u> </u>	

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

All disturbed areas to be stabilized within 7 days of

completion, using the following recommendations

Seeding Recommendations

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

March 1 thru May 15 August 1 thru October

USER TO ENTER SEEDING INFO

Tall Fescue: Where livestock may be allowed to graze (e.g., heavy use grass loafing paddocks), use tall fescue varieties that are endophyte-free or are novel

NAME SITE LANDOWNER

District

Conservation

Soil

COUNTY

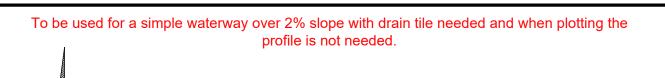
United States Department of Agriculture



ile Name

MD 0048

heet 1 of



Width USER TO CLICK ON BLOCK AND ENTER INFORMATION Erosion control matting Existing ground Depth Existing grade to slope towards Proposed grassed waterway

TYPICAL CROSS SECTION NOT TO SCALE

General notes

- Remove topsoil prior to grading and stockpile outside limits of waterway construction Install excelsior type erosion control matting according to manufacture's recommendations. Matting shall meet minimum shear stress of 1.75 lb/ft2 and maximum velocities of 7ft/s (see erosion control matting detail sheet for installation instructions)
- Erosion control matting width shall be a minimum of 2/3 of the waterway width or shown as above
- A minimum of 4" of topsoil shall be placed along entire length and width of constructed
- Lime, fertilizer and seed shall be placed in waterway prior to installing erosion control matting (see seeding details)
- Waterway shall be maintained as needed to minimize erosion throughout the required maintenance life of 10 years

GRASSED WATERWAY DETAIL

Note: Geotextile to meet the following Maryland State Highway Administration requirements

Maryland Application Class	Type of Geotextile	Grab Strength Lb D 4632	Puncture Strength Lb D 4833	Permitivity Sec 1	Apparent Opening Size Max Mm D 4751	Trapezoid Tear Strength Lb D 4533
-	NONWOVEN	200	80	0.2	0.3	80
SE	WOVEN	250	90	0.2	0.3	90

OVERLAP OR ABUT

EDGES (TYP.)

6 IN MIN._ OVERLAP

AT ROLL END (TYP.

PREPARED FLOW

CHANNEL WITH

USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS

DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION

KEY IN UPPER

NAME

SITE

LANDOWNER

of of

ssedWaterwayWithTi

MD 0048

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District

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Soil

COUNTY

ROLL END

FILL MAT VOIDS

- IF SPECIFIED

6 IN DEEP (MIN.) KEY TRENCH FOR UPPER END OF

DOWN SLOPE ROLL. (TYP.)

ISOMETRIC VIEW

(SEE NOTE 9)

- 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 SMOLDER RESISTANT, CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND THROUGHOUT AND BE SINGUED RESISTANT. CHEMICALS USED IN THE MAIL MIGHT BE NOTHERACTING AND NON-TOXIC TO VEGETATION AND NEED 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
- 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 $1\frac{1}{2}$ 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 AND SEDIMENT CONTROL
- UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE, AVOID STRETCHING THE MATTING.
- KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.
- OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MA
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS
- ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

PLAN VIEW

Jse detail for type of rock outlet and DELETE the one not used tie into elect block and fill in required information existing around Break in slope if needed Top of riprap side slope Geotextile to be extended under existing ground a minimum of 2FT 12" and minimum 6" of soil Geotextile at all placed over top 5' min PROFILE Top width PROFILE FT Depth Key ingeotextile Geotextile(Min class "SE NOT TO SCALE see table) CHUTE ANCHOR DETAIL PARABOLIC ROCK OUTLET

Rock thickness

CROSS SECTION

TRAPEZOIDAL ROCK OUTLET

Kev in

geotextile

Geotextile -

(Min class

RIPRAP CONSTRUCTION SPECIFICATIONS

All materials and construction shall be in accordance with applicable NRCS standards and construction

BENCH MARK DESCRIPTIONS

Top of 1" X 2" wooden hub, marked by

Top of 1" X 2" wooden hub, marked by

Top of bolt in NW corner of concrete.

witness lath, near NW corner of building

TBM #1 (IP): Elev = ???.??

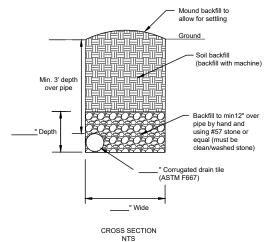
TBM #2: Elev = ???.??

TBM #3: Elev = ???.??

witness lath

- Rock Riprap shall conform to the requirements as shown on the plans. It shall be free from dirt, clay, sand, rock fines, and other material not meeting the required gradation limits.
- The subgrade surface on which the rock riprap, filter, bedding, or geotextile is to be placed shall be cut or filled and graded to the lines and grades shown on the drawings. When fill to subgrade lines is required, it shall consist of approved material and shall conform to the requirements as shown on the plans. Rock riprap, filter, bedding, or geotextile shall not be placed until the foundation preparation is completed and the subgrade surface has been inspected and approved.
- The rock riprap shall be placed by equipment on the surface and to the depth specified. It shall be installed to the full course thickness in one operation and in such a manner as to avoid serious displacement of the underlying material. The rock for riprap shall be delivered and placed in a manner that ensures the riprap in place is reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks and filling the voids between the larger rocks. Some hand placing may be required to provide a neat and uniform surface.

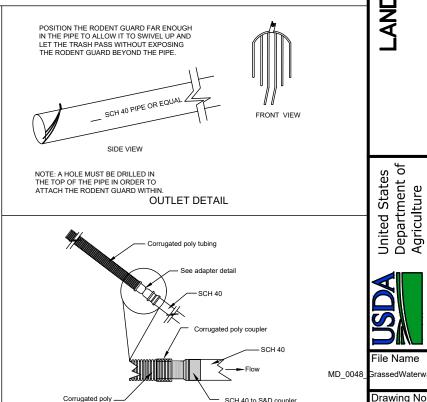
USER TO CLICK ON BLOCK AND ENTER INFORMATION



CONSTRUCTION NOTES

Plan, design and construct spring developments in accordance with Federal, State, and Local laws and regulations. When collecting water for potable uses, meet the requirements of the state health department for materials and installation. Permits may be required for the installation of these systems. Contact the Permits Division of the local county government for regulations and permit requirements.

TILE DRAIN DETAIL NTS



ADAPTER DETAIL