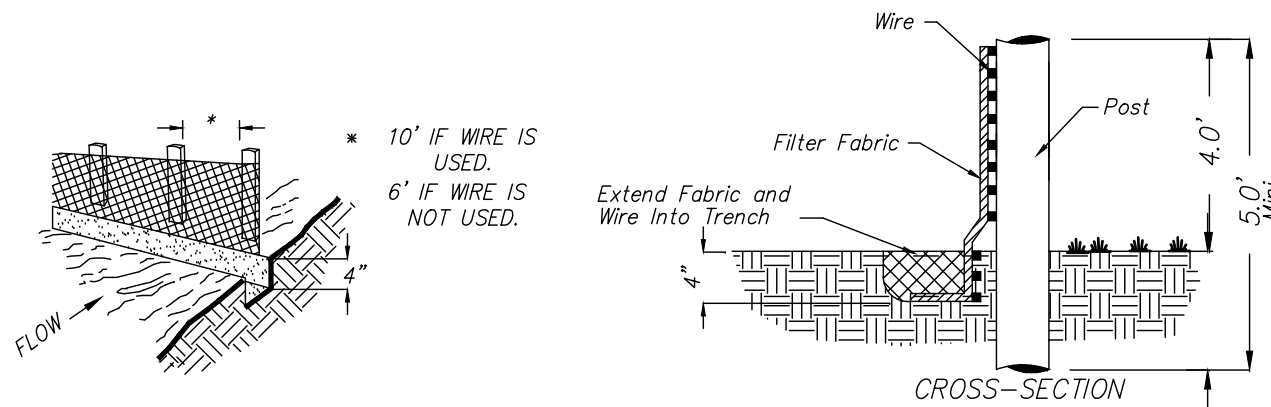
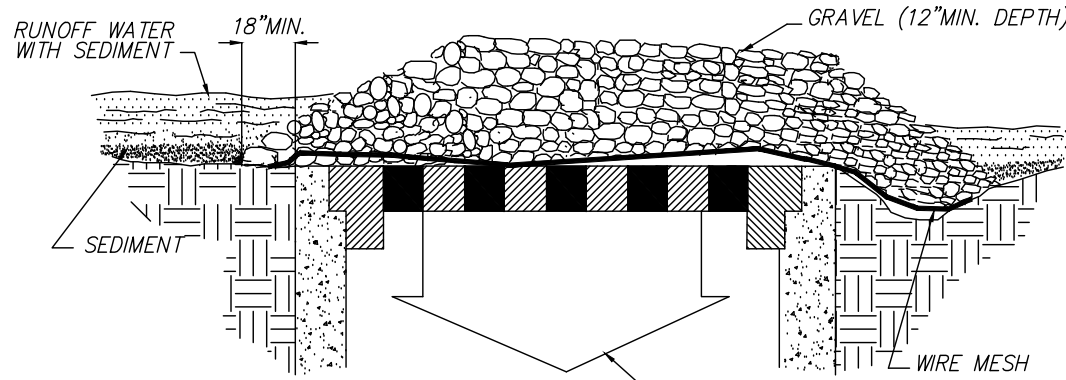


NO.	TITLE	KEY	SYMBOL
3.01	SAFETY FENCE	(SAF)	
3.02	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE	(CE)	
3.03	CONSTRUCTION ROAD STABILIZATION	(ORS)	
3.04	STRAW BALE BARRIER	(STB)	
3.05	SILT FENCE	(SF)	
3.06	BRUSH BARRIER	(BB)	
3.07	STORM DRAIN INLET PROTECTION	(IP)	
3.08	CULVERT INLET PROTECTION	(CIP)	
3.09	TEMPORARY DIVERSION DIKE	(DD)	
3.10	TEMPORARY FILL DIVERSION	(FD)	
3.11	TEMPORARY RIGHT-OF-WAY DIVERSION	(RWD)	
3.12	DIVERSION	(DV)	
3.13	TEMPORARY SEDIMENT TRAP	(ST)	
3.14	TEMPORARY SEDIMENT BASIN	(SB)	
3.15	TEMPORARY SLOPE DRAIN	(TSD)	
3.16	PAVED FLUME	(PF)	
3.17	STORMWATER CONVEYANCE CHANNEL	(SCC)	
3.18	OUTLET PROTECTION	(OP)	
3.19	RIPRAP	(RR)	
3.20	ROCK CHECK DAMS	(CD)	
3.21	LEVEL SPREADER	(LS)	
3.22	VEGETATIVE STREAMBANK STABILIZATION	(VSS)	
3.23	STRUCTURAL STREAMBANK STABILIZATION	(SSS)	
3.24	TEMPORARY VEHICULAR STREAM CROSSING	(VSC)	
3.25	UTILITY STREAM CROSSING	(USC)	
3.26	DEWATERING STRUCTURE	(DS)	
3.27	TURBIDITY CURTAIN	(TC)	
3.28	SUBSURFACE DRAIN	(SD)	
3.29	SURFACE ROUGHENING	(SR)	
3.30	TOPSOILING	(TO)	
3.31	TEMPORARY SEEDING	(TS)	
3.32	PERMANENT SEEDING	(PS)	
3.33	SODDING	(SO)	
3.34	BERMUDA GRASS AND ZOYSIAURASS ESTABLISHMENT	(BE/ZE)	
3.35	MULCHING	(MU)	
3.36	SOIL STABILIZATION BLANKETS AND MATTING TREES, SHRUBS, VINES AND GROUND COVERS	(B/M)	
3.37	TREE PRESERVATION AND PROTECTION	(VEG)	
3.38	DUST CONTROL	(DC)	

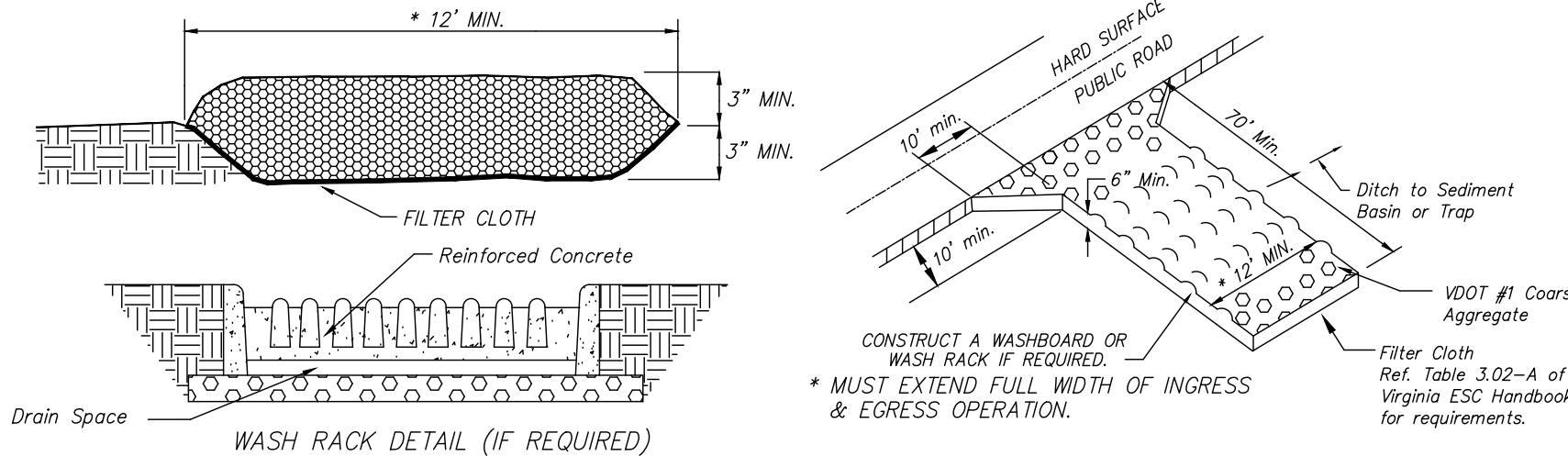


(SF) CONSTRUCTION OF A SILT FENCE
(STD & SPEC 3.05)



SPECIFIC APPLICATION
This method of inlet protection is applicable where heavy concentrated flows are expected, but not where ponding around the structure might cause excessive inconvenience or damage to adjacent structures and unprotected areas.
* Gravel shall be VDOT #3, #357 or #5 coarse aggregate.

(IP) GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER
(STD & SPEC 3.07)

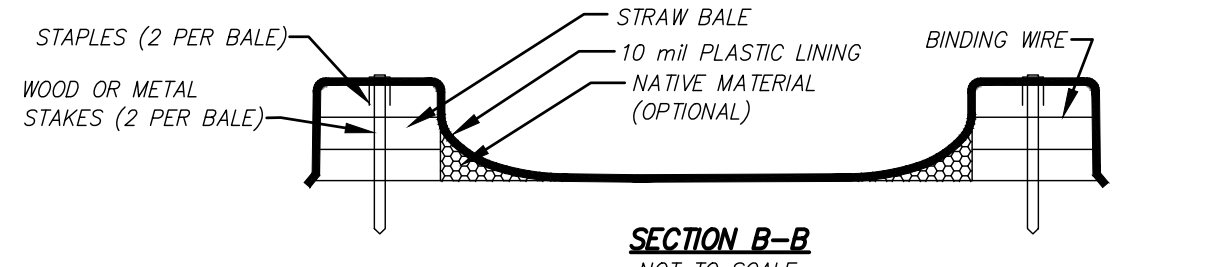


(CE) TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
(STD & SPEC 3.02)

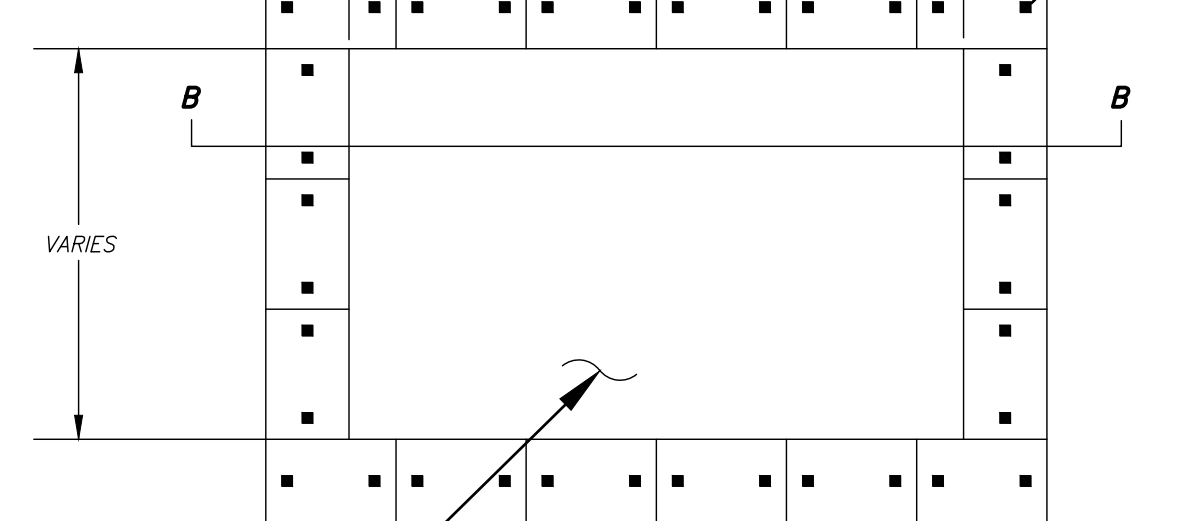
BMP DESCRIPTION: A DESIGNATED TEMPORARY, ABOVE-GRADE CONCRETE WASHOUT AREA WILL BE CONSTRUCTED AT A LOCATION SELECTED BY THE CONTRACTOR AND APPROVED BY THE COUNTY INSPECTOR. THE TEMPORARY CONCRETE WASHOUT AREA WILL BE CONSTRUCTED AS SHOWN, WITH A RECOMMENDED MINIMUM LENGTH AND MINIMUM WIDTH OF 10 FEET, BUT WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. THE WASHOUT AREA WILL BE LINED WITH PLASTIC SHEETING AT LEAST 10 MILS THICK AND FREE OF ANY HOLES OR TEARS. SIGNS SHALL BE POSTED MARKING THE LOCATION OF THE WASHOUT AREA. TO ENSURE THAT CONCRETE EQUIPMENT OPERATORS USE THE PROPER FACILITY, ALTERNATELY, A PRE-FABRICATED CONCRETE WASHOUT FACILITY MAY BE USED, PROVIDED IT RESULTS IN THE SAME OR BETTER PROTECTION AND RETAINAGE OF THE CONCRETE WASTE. CONCRETE POURS WILL NOT BE CONDUCTED DURING OR BEFORE AN ANTICIPATED STORM EVENT. CONCRETE MIXER TRUCKS AND CHUTES WILL BE WASHED IN THE DESIGNATED AREA OR CONCRETE WASTES WILL BE PROPERLY DISPOSED OF OFF-SITE. WHEN THE TEMPORARY WASHOUT AREA IS NO LONGER NEEDED FOR THE CONSTRUCTION PROJECT, THE HARDENED CONCRETE AND MATERIALS USED TO CONSTRUCT THE AREA WILL BE REMOVED AND DISPOSED OF ACCORDING TO THE MAINTENANCE SECTION BELOW, AND THE AREA WILL BE STABILIZED.

INSTALLATION SCHEDULE: THE WASHOUT AREA WILL BE CONSTRUCTED BEFORE CONCRETE POURS OCCUR AT THE SITE.

MAINTENANCE AND INSPECTION: THE WASHOUT AREAS WILL BE INSPECTED DAILY TO ENSURE THAT ALL CONCRETE WASHING IS BEING DISCHARGED INTO THE WASHOUT AREA, NO LEAKS OR TEARS ARE PRESENT, AND TO IDENTIFY WHEN CONCRETE WASTES NEED TO BE REMOVED. THE WASHOUT AREAS WILL BE CLEANED OUT ONCE THE AREA IS FILLED TO 75 % OF THE HOLDING CAPACITY. ONCE THE AREA'S HOLDING CAPACITY HAS BEEN REACHED, THE CONCRETE WASTES WILL BE ALLOWED TO HARDEN; THE CONCRETE WILL BE BROKEN UP AND REMOVED FOR DISPOSAL. THE PLASTIC SHEETING WILL BE REPLACED IF TEARS OCCUR DURING REMOVAL OF CONCRETE WASTES FROM THE WASHOUT AREA.



SECTION B-B
NOT TO SCALE



TYPE "ABOVE GRADE" WITH STRAW BALES
CONCRETE WASHOUT

DISTURBED AREAS SHALL BE PERMANENTLY SEEDED WITHIN SEVEN (7) DAYS OF ACHIEVING FINAL GRADE, OR ON DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE WITHIN ONE YEAR.

PERMANENT SEEDING SPECIFICATIONS FOR APPALACHIAN / MOUNTAIN AREA

LAND USE	SPECIES	APPLICATION RATES
MINIMUM CARE LAWN (COMMERCIAL OR RESIDENTIAL)	TALL FESCUE (1) PERENNIAL RYEGRASS (2) KENTUCKY BLUEGRASS	90-100% 0-10% 0-10% TOTAL 200-250 LBS/ACRE

HIGH-MAINTENANCE LAWN	MINIMUM OF THREE UP TO FIVE VARIETIES OF KENTUCKY BLUEGRASS FROM APPROVED LIST FOR USE IN VIRGINIA (1)	TOTAL 125 LBS/ACRE
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GENERAL SLOPE (3:1 OR LESS)	TALL FESCUE (1) RED TOP GRASS OR CREEPING RED FESCUE SEASONAL NURSE CROP (3)	128 LBS 2 LBS 20 LBS TOTAL 150 LBS/ACRE
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LOW-MAINTENANCE SLOPE (STEEPER THAN 3:1)	TALL FESCUE (1) RED TOP GRASS OR CREEPING RED FESCUE SEASONAL NURSE CROP (3) CROWN VETCH (4)	108 LBS 2 LBS 20 LBS 20 LBS TOTAL 150 LBS/ACRE
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- WHEN SELECTING VARIETIES OF TURFGRASS, USE THE VIRGINIA CROP IMPROVEMENT ASSOCIATION (VCIA) RECOMMENDED TURFGRASS VARIETY LIST. QUALITY SEED WILL BEAR A LABEL INDICATING THAT THEY ARE APPROVED BY VCIA. A CURRENT TURFGRASS VARIETY LIST IS AVAILABLE AT THE LOCAL COUNTY EXTENSION OFFICE OR THROUGH VCIA AT 804-746-4884.
- PERENNIAL RYEGRASS WILL GERMINATE FASTER AND AT LOWER SOIL TEMPERATURES THAN TALL FESCUES, THEREBY PROVIDING COVER AND EROSION RESISTANCE FOR SEEDING.
- USE SEASONAL NURSE CROP IN ACCORDANCE WITH SEEDING DATES AS STATED BELOW:
MARCH, APRIL - MAY 15TH----- ANNUAL RYE
MAY 16TH - AUGUST 15TH----- FOKTAL MILLET
AUGUST 16TH - SEPTEMBER, OCTOBER----- ANNUAL RYE
NOVEMBER-FEBRUARY----- WINTER RYE
- ALL LEGUME SEED MUST BE PROPERLY INOCULATED. IF FLATPEA IS USED, INCREASE TO 30 LBS/ACRE. IF WEEPING LOVEGRASS IS USED, INCLUDE IN ANY SLOPE OR LOW MAINTENANCE MIXTURE DURING WARMER SEEDING PERIODS, INCREASE TO 30-40 LBS/ACRE.

FERTILIZER & LIME

- APPLY 10-20-10 FERTILIZER AT A RATE OF 500 LBS/ACRE (OR 12 LBS/1000 SQUARE FEET)
- APPLY PULVERIZED AGRICULTURAL LIMESTONE AT A RATE OF 2 TONS/ACRE (OR 90 LBS/1000 SQUARE FEET)

NOTE:

- A SOIL TEST IS NECESSARY TO DETERMINE THE ACTUAL AMOUNT OF LIME REQUIRED TO ADJUST THE SOIL pH OF SITE.
- INCORPORATE THE LIME AND FERTILIZER INTO THE TOP 4-6 INCHES OF SOIL BY DISKING OR OTHER MEANS.
- WHEN APPLYING SLOWLY AVAILABLE NITROGEN, USE RATES AVAILABLE IN "EROSION & SEDIMENT CONTROL TECHNICAL BULLETIN #4, 2003 NUTRIENT MANAGEMENT FOR DEVELOPMENT SITES" AT <http://www.deq.virginia.gov/Portals/0/DEQ/Water/Publications/ESCTechnicalBulletin4.pdf>.

MULCH:

IF REQUIRED, SHALL BE USED OVER ALL SEEDED AREAS AND SHALL BE APPLIED IN ACCORDANCE WITH SECTION 1.75 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

SOIL CONDITIONING:

INCORPORATION OF LIME AND FERTILIZER, SELECTION OF CERTIFIED SEED, MULCHING, MAINTENANCE OF NEW SEEDLINGS, AND RESEEDING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE VIRGINIA SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. ADDITIONAL SEEDING TO BE PERFORMED AS REQUIRED BY THE INSPECTOR.

SEED APPLICATION:

APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER ON A FIRM, FRIABLE, SEEDBED. MAXIMUM SEEDING DEPTH SHALL BE 1/4 INCH.

(PS) PERMANENT SEEDING MIXTURE
(STD & SPEC 3.32)

DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY SEEDING MEASURES AS SHOWN HEREON, AND AS FURTHER DETAILED AS "STANDARD AND SPECIFICATION 3.31 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK", LATEST EDITION. IN ADDITION TO AREAS OF GENERAL GRADING THAT WILL NOT BE FINE-GRADED FOR GREATER THAN 14 DAYS, THE FOLLOWING SPECIFIC EROS MEASURES SHALL BE STABILIZED WITH TEMPORARY SEEDING IMMEDIATELY UPON COMPLETION OF CONSTRUCTION OF THE TEMPORARY MEASURE:

- SOIL STOCKPILES
- DIKES, DAMS, AND SIDES OF SEDIMENT BASINS
- TEMPORARY ROADWAY EMBANKMENTS

PRIOR TO SEEDING, INSTALL NECESSARY EROSION CONTROL PRACTICES SUCH AS DIKES, WATERWAYS, AND BASINS. PROVIDE PLANTS AS SPECIFIED HEREIN, OR ENGINEER-APPROVED EQUAL.

LIME APPLICATION:

ADJUSTING THE SOIL pH BETWEEN 6.25 TO 6.5 IS EXTREMELY IMPORTANT FOR GRASS ESTABLISHMENT. A SOIL TEST IS NECESSARY TO DETERMINE THE ACTUAL AMOUNT OF LIME REQUIRED TO ADJUST THE SOIL pH OF DENUDED SITES. HOWEVER, WHEN A SOIL TEST HAS NOT BEEN PERFORMED, APPLY 2 TONS/ACRE (90 POUNDS/1,000 SQUARE FEET) OF PULVERIZED AGRICULTURAL GRADE LIMESTONE.

FERTILIZER SHALL BE APPLIED AS 450 LBS/ACRE OF 10-10-10 OR EQUIVALENT NUTRIENTS. LIME (AS APPLICABLE) AND FERTILIZER SHALL BE INCORPORATED INTO THE TOP 4 TO 6 INCHES OF SOIL BY DISKING OR OTHER MEANS. WHEN APPLYING SLOWLY AVAILABLE NITROGEN, USE RATES AVAILABLE IN "EROSION & SEDIMENT CONTROL TECHNICAL BULLETIN #4, 2003 NUTRIENT MANAGEMENT FOR DEVELOPMENT SITES" AT <http://www.deq.virginia.gov/Portals/0/DEQ/Water/Publications/ESCTechnicalBulletin4.pdf>.

SURFACE ROUGHENING SHALL BE REQUIRED WHERE AREAS TO BE SEEDED HAVE BEEN COMPACTED, CRUSTED, OR HARDENED BY CONSTRUCTION TRAFFIC. AS REQUIRED, SEEDBEDS SHALL BE ROUGHENED IN ACCORDANCE WITH STANDARD AND SPECIFICATION 3.29 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. (TRACKING WITH BULLDOZER CLEATS SHALL BE USED IN SANDY SOILS)

SEEDING:

SEED SHALL BE EVENLY APPLIED WITH THE SAME MEANS SPECIFIED HEREIN FOR PERMANENT SEEDING. SMALL GRAINS SHALL BE PLANTED NO MORE THAN ONE INCH DEEP. GRASSES AND LEGUMES SHALL BE PLANTED WITH NO LESS THAN 1/4" OF SOIL COVER.

MULCHING:

SEEDINGS MADE IN FALL FOR WINTER COVER AND DURING HOT AND DRY SUMMER MONTHS SHALL BE MULCHED ACCORDING TO STANDARD AND SPECIFICATION 3.35 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, EXCEPT THAT FIBER MULCH MAY NOT BE USED. STRAW MULCH SHALL BE USED DURING THESE PERIODS.

TEMPORARY SEEDINGS MADE UNDER FAVORABLE SOIL AND SITE CONDITIONS DURING OPTIMUM SPRING AND FALL SEEDING DATES MAY NOT REQUIRE MULCH.

RE-SEEDING:

AREAS WHICH FAIL TO ESTABLISH VEGETATIVE COVER ADEQUATE TO PREVENT RILL EROSION SHALL BE RE-SEEDED AS SOON AS SUCH AREAS ARE IDENTIFIED.

ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS BY RANGE OF PLANTING DATES:

09/01 TO 02/15	ANNUAL RYEGRASS @ 50 LB / ACRE
02/16 TO 04/30	WINTER RYE @ 50 LB / ACRE
05/01 TO 08/31	ANNUAL RYEGRASS @ 100 LB / ACRE
	GERMAN MILLET @ 50 LB / ACRE

(TS) TEMPORARY SEEDING
(STD & SPEC 3.31)

LANDLORD WORK SOIL EROSION AND SEDIMENTATION CONTROL COST ESTIMATE

ALL COSTS GIVEN ARE COMPLETE IN PLACE

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
SILT FENCE	LF	446	\$ 4.00	\$ 1,784
PERMANENT SEEDING	SF	11,072	0.05	554
TEMPORARY SEEDING	SF	11,072	0.04	443
TEMPORARY CONSTRUCTION ENTRANCE	EA	1	1,200.00	1,200
TEMPORARY CONSTRUCTION ROAD STABILIZATION	SF	11,889	0.35	4,161

SUB-TOTAL \$ 8,142

10% CONTINGENCY \$ 814

TOTAL BONDABLE COST \$ 8,956

TENANT WORK SOIL EROSION AND SEDIMENTATION CONTROL COST ESTIMATE

ALL COSTS GIVEN ARE COMPLETE IN PLACE

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
INLET PROTECTION	EA	1	150.00	150
PERMANENT SEEDING	SF	2,730	0.05	137
TEMPORARY SEEDING	SF	2,730	0.04	109

SUB-TOTAL \$ 396

10% CONTINGENCY \$ 40

TOTAL BONDABLE COST \$ 436

GENERAL EROSION AND SEDIMENT CONTROL NOTES

- ALL SOIL EROSION & SEDIMENT CONTROL MEASURES SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
- THE APPROVING AUTHORITY MAY ADD TO, DELETE, RELOCATE, CHANGE, OR OTHERWISE MODIFY CERTAIN EROSION AND SEDIMENT CONTROL MEASURES WHERE FIELD CONDITIONS ARE ENCOUNTERED THAT WARRANT SUCH MODIFICATIONS.
- ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON THE PLAN SHALL BE PLACED IN ADVANCE OF THE WORK BEING PERFORMED.
- IN NO CASE DURING CONSTRUCTION SHALL WATER RUNOFF BE DIVERTED OR ALLOWED TO FLOW TO LOCATIONS WHERE ADEQUATE PROTECTION HAS NOT BEEN PROVIDED.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LEAVE THE SITE ADEQUATELY PROTECTED AGAINST EROSION, SEDIMENTATION, OR ANY DAMAGE TO ANY ADJACENT PROPERTY AT THE END OF EACH DAY'S WORK.
- FOR THE EROSION CONTROL KEY SYMBOLS SHOWN ON THE PLANS, REFER TO THE VIRGINIA UNIFORM CODING SYSTEM FOR EROSION AND SEDIMENT CONTROL PRACTICES CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

	DETAILS-SOIL EROSION & SEDIMENTATION CONTROL FOR PROPOSED CHILI'S RESTAURANT TO BE CONSTRUCTED AT TANGLEWOOD MALL PREPARED FOR BRINKER INTERNATIONAL LLC & TANGLEWOOD VENTURE LLC SITUATE ELECTRIC ROAD (VA ROUTE 419) CAVE SPRING MAGISTERIAL DISTRICT COUNTY OF ROANOKE, VIRGINIA
Designed: <u>C.L. White</u> Drawn: <u>C.L. White</u> Checked: <u>October 27, 2021</u> Date: <u>October 27, 2021</u> Scale: <u>N/A</u> Tax Parcel: <u>072.16-01-02-00-0000</u> Field Book: <u>CH-22</u> W.O. No.: <u>21-0043/0084/0123</u>	CALDWELL WHITE ASSOCIATES ENGINEERS / SURVEYORS / PLANNERS 4203 MELROSE AVENUE P.O. BOX 6260 ROANOKE, VIRGINIA 24017-0260 (540) 366-3400 FAX: (540) 366-8702