


STANDARD NOTES FOR EROSION CONTROL PLAN

1. THE CONTRACTOR SHALL INSTALL AND MAINTAIN BMP'S AS SHOWN AND PERFORM ALL ACTIONS NECESSARY TO PREVENT EROSION, AND CONTROL SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. CONTRACTOR SHALL COMPLY WITH CLARK COUNTY CODE CHAPTER 40.385.
2. ALL EROSION CONTROL MEASURES SHALL BE IN-PLACE AND IN WORKING CONDITION PRIOR TO DISTURBING AND EXPOSING ANY SOIL SURFACES (I.E. SILT FENCE, CONSTRUCTION ENTRANCE, SEDIMENTATION BARRIERS, SEDIMENTATION TRAPS).
3. ALL EROSION PREVENTION AND CONTROL BMP'S SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO INSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. NEEDED REPAIRS SHALL BE MADE AS SOON AS PRACTICABLE. THEY ARE TO REMAIN IN PLACE AND OPERATIONAL DURING ALL PHASES OF CONSTRUCTION. CONSTRUCTION ACTIVITIES SHALL NOT CONTINUE OR RESUME UNTIL REPAIRS TO EROSION CONTROL FACILITIES ARE MADE AND THE FACILITIES ARE FUNCTIONAL. ANY SEDIMENT LEAVING THE SITE OR DISCHARGING TO A SENSITIVE AREA SHALL BE STOPPED AND CONTROLLED IMMEDIATELY. CONTAMINATED AREAS SHALL BE CLEANED AND RESTORED.
4. CLEARING LIMITS AND WORK AREA LIMITS SHALL BE DELINEATED AND MARKED. DO NOT DISTURB MORE AREA THAN NEEDED FOR CONSTRUCTION REQUIREMENTS.
5. ALL SENSITIVE OR CRITICAL AREAS (WETLANDS, STEEP SLOPES, NATURAL WATERWAYS), AND BUFFERS SHALL ALL BE CLEARLY DELINEATED AND CLEARLY MARKED, AND PROTECTED FROM SEDIMENT DEPOSITION.
6. SEDIMENT LADEN RUNOFF SHALL BE PREVENTED FROM ENTERING ALL EXISTING STORM WATER CATCH BASINS, INLETS AND PERVIOUS DRAINAGE SYSTEMS AFFECTED BY CONSTRUCTION.
7. NO EXPOSED, BARE SOILS SHALL REMAIN UNSTABILIZED FOR MORE THAN **TWO** DAYS DURING THE PERIOD OCTOBER 1 THRU APRIL 30 OR FOR MORE THAN **SEVEN** DAYS DURING THE PERIOD OF MAY 1 THROUGH SEPTEMBER 30. ALL DISTURBED SOIL SURFACES SHALL BE STABILIZED BY A SUITABLE APPLICATION OF "BEST MANAGEMENT PRACTICES".
8. WHERE FEASIBLE, NO MORE THAN 500 FEET OF TRENCH SHALL BE OPEN AT ONE TIME. EXCAVATED MATERIAL SHALL BE PLACED ON THE UP-HILL SIDE OF TRENCHES PROVIDED IT DOES NOT CONFLICT WITH SAFETY REQUIREMENTS.
9. DEWATERING DEVICES SHALL DISCHARGE INTO A SEDIMENT TRAP OR SEDIMENT POND. NO DISCHARGE SHALL BE MADE TO A PAVED STREET OR STORMWATER COLLECTION SYSTEM WITHOUT APPROVAL AND REMOVING SEDIMENT.
10. CUT AND FILL SLOPES SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. EROSION SHALL BE CONTROLLED AND PREVENTED BY SUCH MEASURES AS ROUGHENING THE SURFACE, INSTALLATION OF INTERCEPTOR DITCHES, TERRACING, COVERING WITH MATTING, MULCH OR PLASTIC SHEETING. RUNOFF SHALL BE PREVENTED FROM ENTERING A SLOPE AND FROM UNDERCUTTING THE BASE OF SLOPES.
11. ANY SOIL OR DEBRIS TRANSPORTED ONTO ROADWAYS AND SIDEWALKS SHALL BE REMOVED. DEPOSITS SHALL BE COMPLETELY REMOVED BY SHOVELING AND/OR SWEEPING. WASHING SHALL NOT BE UTILIZED UNLESS SPECIFICALLY APPROVED IN WRITING BY THE COUNTY.
12. ALL PERMANENT INFILTRATION SYSTEMS SHALL BE ISOLATED AND PROTECTED FROM SEDIMENT LADEN RUNOFF ENTERING TO AVOID RISK OF REDUCING THE ABILITY OF THE SYSTEMS TO INFILTRATE. ISOLATION AND PROTECTION SHALL NOT BE REMOVED UNTIL THE DRAINAGE AREA TRIBUTARY TO THE SYSTEM IS COMPLETELY STABILIZED.
13. ALL CONVEYANCE CHANNELS, BOTH TEMPORARY AND PERMANENT SHALL BE STABILIZED TO PREVENT EROSION OF THE CHANNEL. STABILIZATION SHALL EXTEND TO AREAS AT OUTLETS AND DOWNSTREAM REACHES VULNERABLE TO EROSION RESULTING FROM FLOW DISCHARGING FROM THE CHANNEL.
14. IF BMP'S SHOWN ARE UTILIZED BUT ARE INSUFFICIENT TO PREVENT SEDIMENT FROM REACHING WATER BODIES, ADJACENT PROPERTIES, OR PUBLIC RIGHTS-OF-WAY; ADDITIONAL BMP'S SHALL BE IMPLEMENTED IMMEDIATELY TO PREVENT FURTHER ENCROACHMENT OF SEDIMENT.

NO.	REVISIONS	DATE	BY

DWG: ECN.DWG

SHEET 1 OF 2

 <p>Department of Public Works CLARK COUNTY WASHINGTON proud past, promising future</p>	<p>STANDARD NOTES FOR EROSION CONTROL PLAN</p> <p>APPROVED</p> <p><i>[Signature]</i> COUNTY ENGINEER</p>	<p>STANDARD ECN1 DETAIL DESIGNED DRAWN DATE 01/30/15</p>
	<p>01/30/15 DATE</p>	

STANDARD NOTES FOR EROSION CONTROL PLAN (CONTINUED)

15. STABILIZED AREAS SHALL BE PROVIDED FOR EMPLOYEE PARKING AND STORAGE OF CONSTRUCTION MATERIALS. ERODIBLE STOCKPILES OF EARTHEN MATERIALS, SUCH AS TOPSOIL, SILTY AND CLAYEY SOILS; AND LANDSCAPE MATERIALS, SHALL BE COVERED WHEN NOT BEING INCORPORATED IN THE WORK. EROSION CONTROL BMP'S SHALL BE UTILIZED AS NECESSARY TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING OR SEDIMENT BEING TRANSPORTED FROM THESE AREAS FROM VEHICLE ACTIVITY.
16. ALL POLLUTANTS OTHER THAN SEDIMENT THAT OCCUR DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORM WATER.
17. THE CONTRACTOR SHALL KEEP AN INSPECTION LOG OF THE CONDITION OF THE EROSION CONTROL FACILITIES. EROSION CONTROL FACILITIES SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RAINFALL. THE INSPECTION LOG SHALL BE KEPT AT THE PROJECT SITE AT A DESIGNATED LOCATION AND SHALL BE AVAILABLE FOR REVIEW BY THE COUNTY. AN INDIVIDUAL THAT HAS SUCCESSFULLY COMPLETED THE COUNTY'S EROSION CONTROL CERTIFICATION COURSE SHALL PERFORM INSPECTIONS AND MAINTAIN THE LOG.
18. ALL TEMPORARY BMP'S SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED. TRAPPED SEDIMENT SHALL BE DEPOSITED AND STABILIZED ON SITE. AREAS DISTURBED RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED.
19. CONSTRUCTION SHALL NOT BE CONSIDERED COMPLETE AND ACCEPTABLE UNTIL ALL DISTURBED SOIL SURFACES HAVE BEEN PROTECTED FROM EROSION WITH PERMANENT LANDSCAPING, COVERING WITH IMPERVIOUS SURFACES, RESTORED TO ORIGINAL UNDISTURBED CONDITION OR PERMANENTLY STABILIZED.
20. VEGETATED STABILIZATION AND LANDSCAPING SHALL BE FERTILIZED, WATERED AND MAINTAINED TO INSURE THAT GROWTH OF VEGETATION IS ESTABLISHED AND SUSTAINED.
21. DURING DRY WEATHER CONSTRUCTION PERIODS THE CONTRACTOR SHALL PROVIDE PROJECT-SPECIFIC DUST CONTROL MEASURES THAT MAY INCLUDE: SEEDING, MULCHING, MATTING, WATER, TACKIFIER, OR CHEMICAL SOIL STABILIZERS. THE CONTRACTOR SHALL MAINTAIN THE DUST CONTROL MEASURES THROUGH DRY WEATHER PERIODS UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED. IMMEDIATELY RE-STABILIZE AREAS DISTURBED BY CONTRACTOR'S OPERATIONS OR OTHER ACTIVITIES (WIND, WATER, VANDALISM, ETC.).
22. ENTRY ONTO THE CONSTRUCTION SITE SHALL BE RESTRICTED TO A SINGLE APPROVED ENTRANCE AS SHOWN ON THE APPROVED PLAN.
23. MAINTENANCE AND REPAIR OF HEAVY EQUIPMENT AND VEHICLES WHICH INVOLVE POTENTIAL CONTAMINANTS (OIL, SOLVENTS, HYDRAULIC FLUID, ETC.) MUST BE CONDUCTED IN A MANNER WHICH PREVENTS CONTAMINATION OF SOILS, SURFACE WATER AND GROUND WATER. TARPS, DRIP PANS, OR OTHER APPROPRIATE MEASURES SHALL BE USED AS NECESSARY.
24. STRIPPING, TOPSOIL, AND UNSUITABLE MATERIAL STOCKPILES SHALL BE HYDROSEED WITH "REGREEN WHEAT X WHEAT GRASS HYBRID" BY HOBBS AND HOBKINS (OR APPROVED EQUAL). MAINTENANCE OF STOCKPILE AREAS AND REAPPLICATION OF HYDROSEED COVERING SHALL BE REQUIRED IF BARE SOIL IS PRESENT. DURING WINTER AND WET WEATHER CONDITIONS, STOCKPILES SHALL BE COVERED WITH PLASTIC SHEETING PER DETAIL E-16.
25. SIGNIFICANT VARIATION AND DEGREE OF EROSION CONTROL EFFORT WILL BE DICTATED BY WEATHER CONDITIONS. THE DEVELOPER AND CONTRACTOR SHOULD BE PREPARED TO PROVIDE EXTRA EROSION CONTROL PROVISIONS AND EFFORT DURING WINTER AND WET WEATHER CONDITIONS BEYOND THAT NORMALLY REQUIRED DURING SUMMER AND DRY WEATHER CONDITIONS. FINE GRAINED AND UNCONSOLIDATED SOILS ON SLOPING SITES MAY BECOME UNSTABLE WHEN SUBJECT TO EXCESSIVE MOISTURE.

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SHEET 2 OF 2

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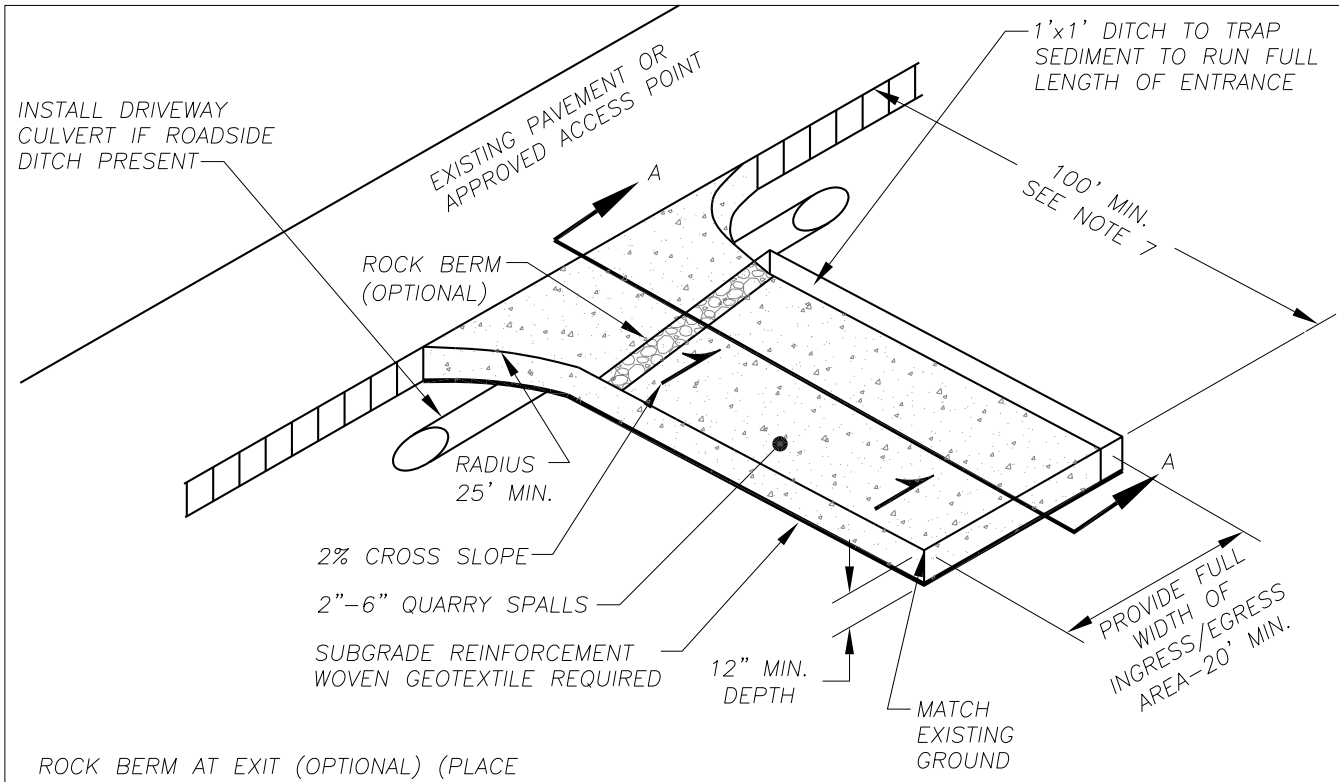
STANDARD NOTES FOR
EROSION CONTROL PLAN (CONTINUED)

APPROVED

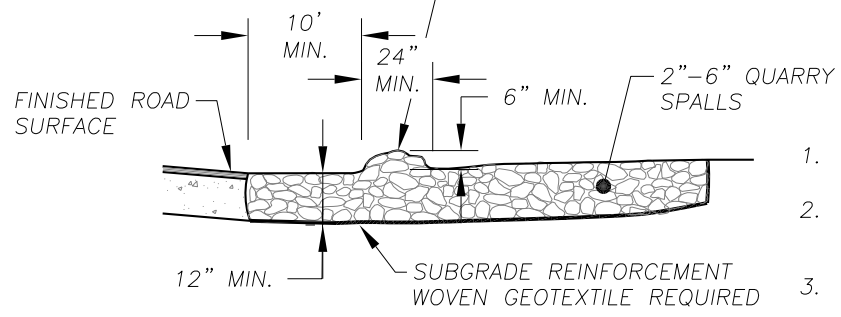
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01/30/15
DATE

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DESIGNED
DRAWN
DATE 01/30/15



ROCK BERM AT EXIT (OPTIONAL) (PLACE AT END OF APPROACH RETURNS)



1. EXCAVATE MINIMUM OF 12" OF EXISTING SOILS.
2. PLACE MINIMUM OF 12" OF 2"-6" QUARRY SPALLS.
3. CONSTRUCT ROCK BERM ALONG TRANSITION POINT TO FINISH ROAD SURFACES, DIVERT RUNOFF TO ONSITE AREA (OPTIONAL).

SECTION A-A

NOTES:

1. FOR DEVELOPMENT PROJECTS REVIEWED BY ENGINEERING SERVICES. NOT FOR USE WITH SINGLE FAMILY OR DUPLEX RESIDENTIAL BUILDING PERMITS. SEE BUILDING DEPT. FOR GRAVEL CONSTRUCTION ENTRANCE PLAN.
2. INSTALL WOVEN GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.
3. VEHICLE WASHDOWN AREA, IF REQUIRED, IS TO BE INSTALLED AND USED TO REMOVE SEDIMENT FROM VEHICLES THAT ARE ABOUT TO ENTER AN ESTABLISHED ROAD.
4. WASHDOWN AREA TO BE MADE UP OF CLEAN 2"- 6" QUARRY SPALLS, 12" DEEP (MIN) OVER WOVEN GEOTEXTILE FABRIC. WASHDOWN AREA TO BE FULL WIDTH OF ENTRANCE AND 50' LENGTH (MIN.), AND 100' IF EXPOSED SOIL IS OVER 5 ACRES.
5. AT TIME OF PRECONSTRUCTION MEETING, THE COUNTY INSPECTOR MAY REQUIRE THE ENTRANCE TO BE PAVED TO THE EDGE OF THE RIGHT-OF-WAY PRIOR TO THE INSTALLATION OF A WASHDOWN ENTRANCE TO AVOID DAMAGE TO THE EXISTING ROADWAY.
6. THE RESPONSIBLE EROSION CONTROL INDIVIDUAL IS TO ENSURE THAT ALL VEHICLES USE THIS ENTRANCE AND ARE TO BE INSPECTED AND CLEANED OF SOILS BEFORE LEAVING PROJECT, AND THAT THE ENTRANCE IS TO BE KEPT CLEAN AT ALL TIMES.
7. THE 100' MINIMUM LENGTH OF ENTRANCE SHALL BE REDUCED TO THE MAXIMUM PRATICABLE SIZE WHEN THE SIZE OR CONFIGURATION OF THE SITE DOES NOT ALLOW THE FULL LENGTH (100').

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1	STORMWATER UPDATES	11/06/08	PC

DWG: E1.DWG



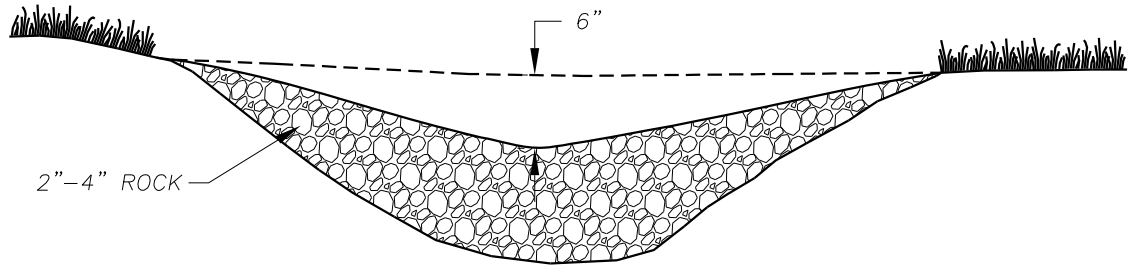
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STABILIZED CONSTRUCTION ENTRANCE

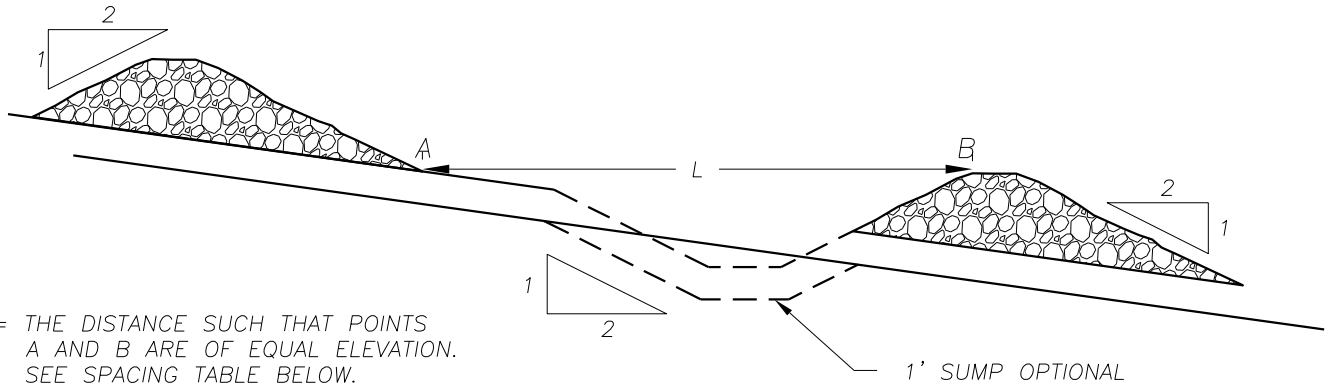
Peter Capen
 APPROVED
 COUNTY ENGINEER

5/23/08
 DATE

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E1
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DRAWN
DATE 05/23/08



ROCK CHECK DAM



L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION. SEE SPACING TABLE BELOW.

SPACING BETWEEN CHECK DAMS

CHECK DAM NOTES:

1. CHECK DAMS ARE CONSTRUCTED ACROSS A SWALE OR DITCH TO REDUCE VELOCITIES OF CONCENTRATED FLOWS, THEREBY REDUCING EROSION AND ALLOWING A SIGNIFICANT AMOUNT OF SUSPENDED SEDIMENT TO SETTLE OUT.
2. CHECK DAMS SHALL BE USED IN TEMPORARY OR PERMANENT CHANNELS THAT DRAIN 10 ACRES OR LESS, ARE NOT YET VEGETATED, AND WHEN INSTALLING CHANNEL LINING IS NOT FEASIBLE.
3. USE TYPICAL ROCK SIZE OF 2-4 INCH. PLACE ROCK BY HAND OR BY MECHANICAL MEANS RATHER THAN DUMPING THE ROCK. BRIDGE ENTIRE DITCH OR SWALE WIDTH AND ENSURE THE CENTER OF THE DAM IS 6" LOWER THAN THE OUTER ENDS. FOR HIGHER VELOCITY FLOWS: ±5 FPS USE 6"-12" RIPRAP, AND HAND PLACE LARGER ROCK ON UPSTREAM SIDE OF DAM.
4. REMOVE CHECK DAMS FROM GRASS-LINED DITCHES AND SWALES ONCE THE GRASS IS ESTABLISHED. SEED, MULCH OR MAT THE AREA WHERE THE CHECK DAMS WERE, IMMEDIATELY FOLLOWING REMOVAL.
5. INSPECT ONCE PER WEEK ON ACTIVE SITES, ONCE EVERY TWO WEEKS ON INACTIVE SITES, AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT. REMOVE SEDIMENT ONCE IT REACHES ONE-THIRD THE DEPTH OF THE ROCK WEIR. REPLACE ROCK WEIR WHEN FILTERING CAPACITY IS REDUCED BY ONE-HALF.

6. SPACING TABLE FOR CHECK DAMS:

DITCH GRADE	MINIMUM WEIR DEPTH		
	6 INCH	12 INCH	18 INCH
6%	**	L= 16 ft O.C.	L= 26 ft O.C.
5%	**	L= 20 ft	L= 30 ft
4%	**	L= 26 ft	L= 40 ft
3%	15 ft	L= 33 ft	L= 50 ft
2%	25 ft	L= 50 ft	L= 80 ft

**NOT ALLOWED

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DWG: E2.DWG



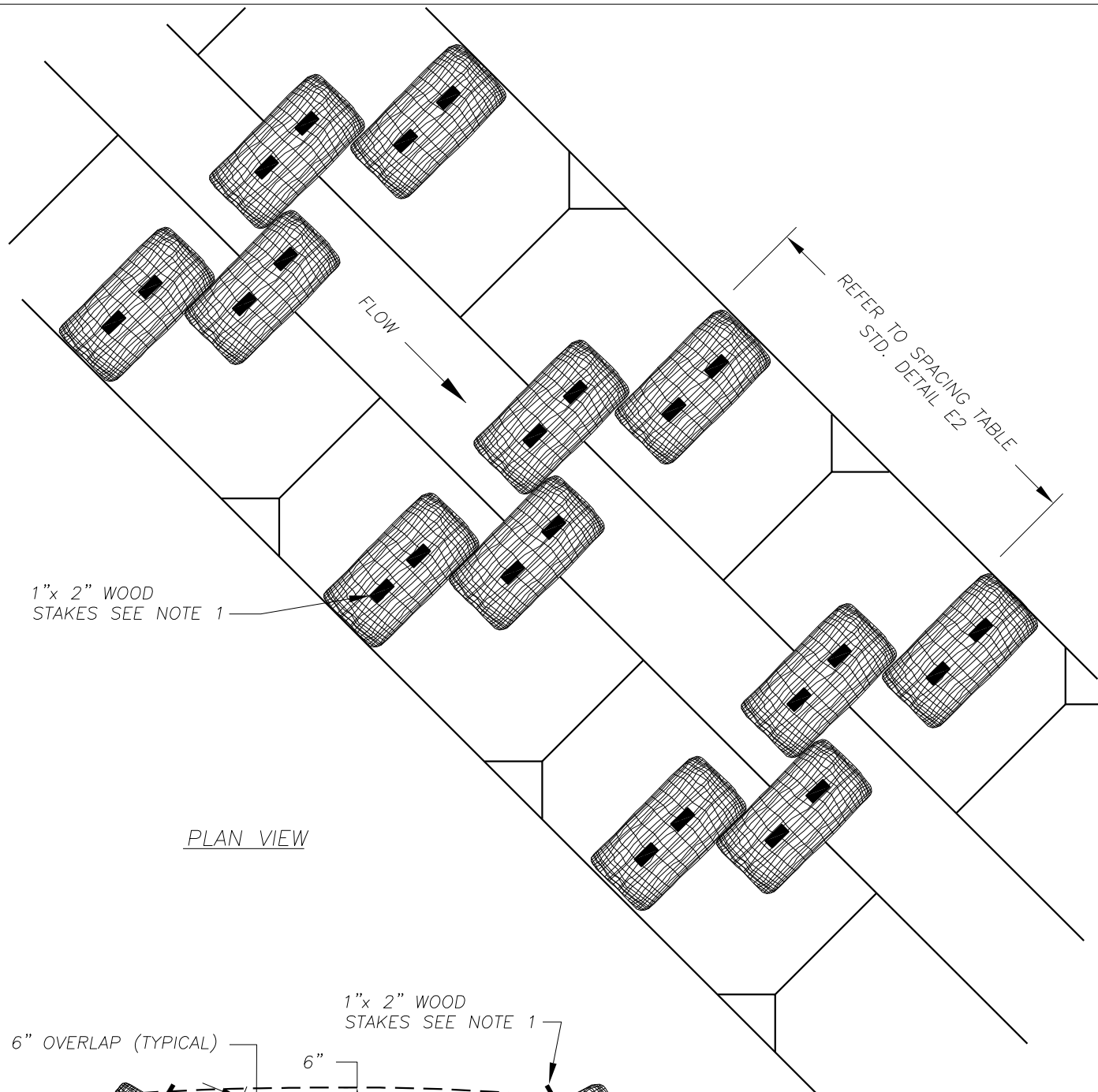
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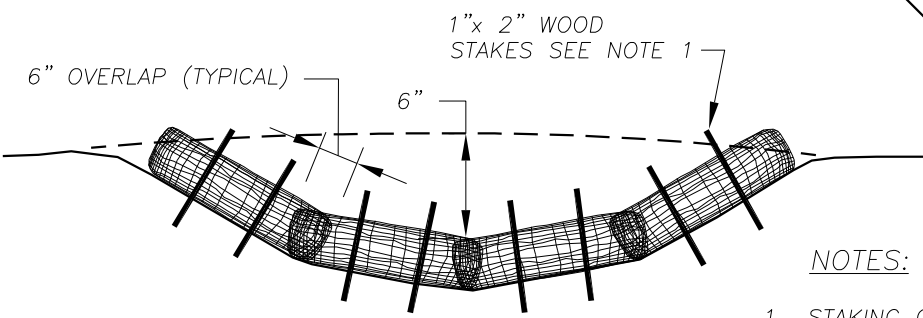
ROCK
CHECK DAM
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PLAN VIEW



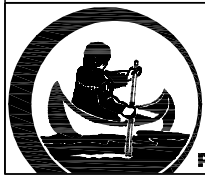
PROFILE

NOTES:

1. STAKING OF BAGS REQUIRED USING (2) 1"x2" WOOD STAKES OR APPROVED EQUAL PER BAG.
2. SURFACE MUST BE SMOOTH BEFORE APPLICATION.
3. SEE CHECK DAM NOTES STD. DETAIL E2.

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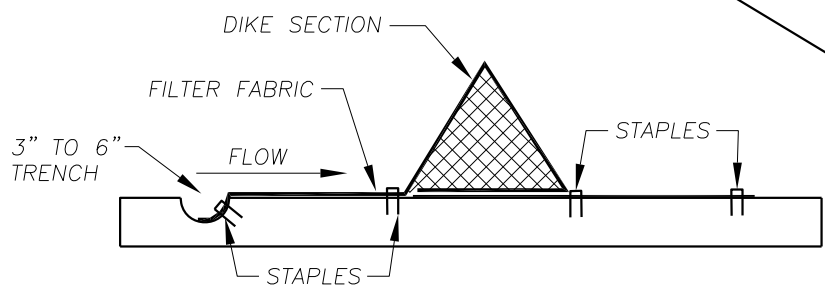
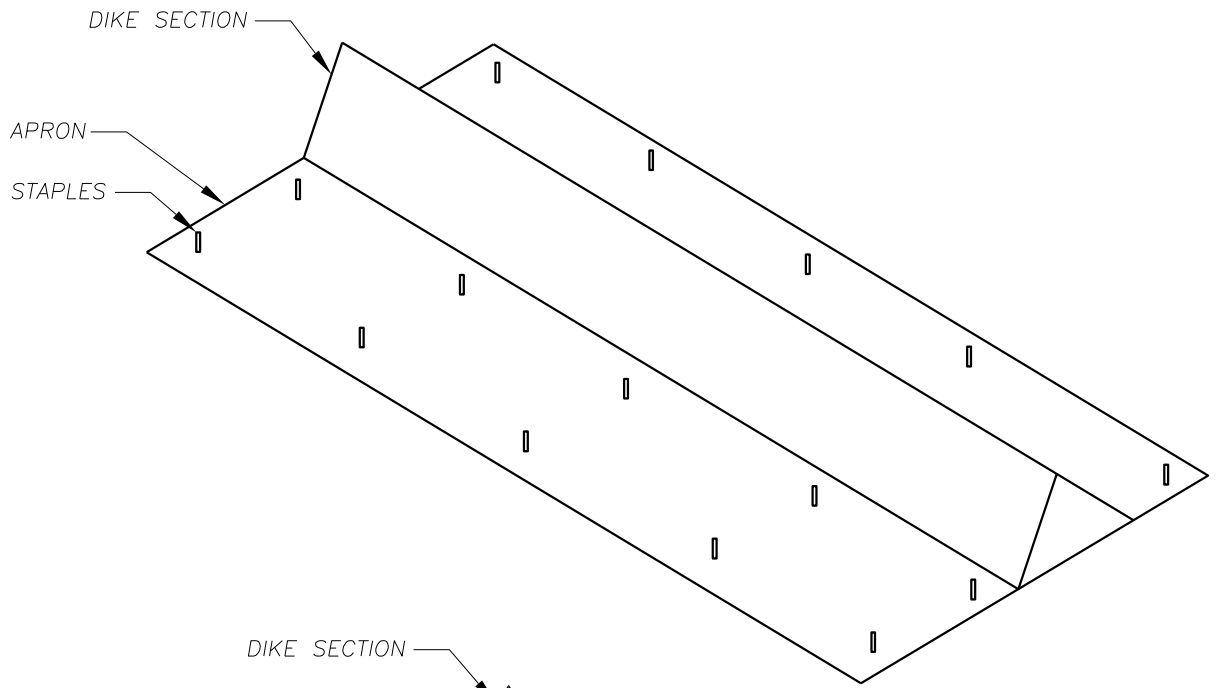


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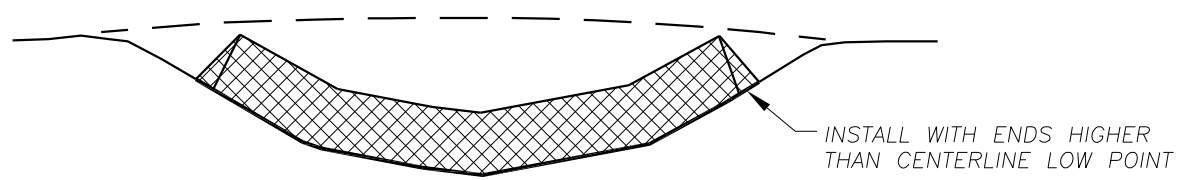
BIO-FILTER BAGS
CHECK DAM
APPROVED
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DATE 05/23/08

5/23/08
DATE



SECTION



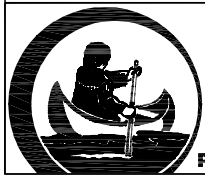
PROFILE

NOTES:

1. TO BE INSTALLED PER MANUFACTURER'S SPECIFICATION. SEE WSDOT SPECIFICATION 8-01.3(6)A.
2. CAN BE USED FOR DITCH CHECK DAMS, DIVERSION DIKES, DROP INLET PROTECTION, TEMPORARY DITCH LINER, AND CAN REPLACE SILT FENCE IN SOME APPLICATION.
3. PRODUCT IS MANUFACTURED BY TRIANGULAR SILT DIKE.TM
4. SEE SPACING TABLE AND CHECK DAM NOTES ON STD. DETAIL E2.

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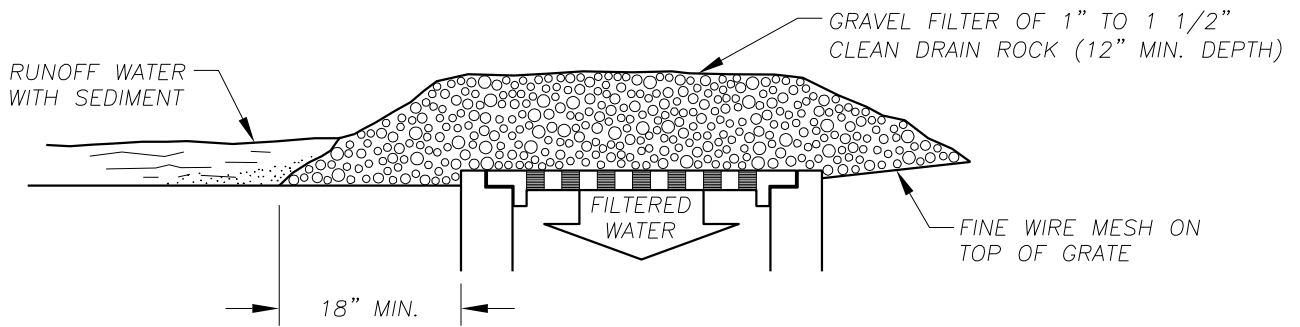
*GEOTEXTILE-ENCASED
CHECK DAM*

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COUNTY ENGINEER

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GRAVEL & WIRE MESH

NOT TO BE USED IN TRAVELED WAY IF IT MAY RESULT IN A TRAFFIC HAZARD

INLET PROTECTION NOTES:

1. INLET PROTECTION IS INTENDED TO PREVENT COARSE SEDIMENT FROM ENTERING STORM DRAINAGE SYSTEMS BY FILTERING RUNOFF AND RETAINING SEDIMENT BEFORE IT REACHES A DRAINAGE OR STORM SEWER SYSTEM.
2. PLACE INLET PROTECTION IN AREAS WHERE WATER CAN POND, AND WHERE PONDING WILL NOT HAVE ADVERSE IMPACTS.
3. INLET PROTECTION MUST ALLOW FOR OVERFLOW IN A SEVERE STORM EVENT.
4. INLET PROTECTION TYPES INCLUDE:
 - TYPE 1 – GRAVEL AND WIRE MESH
 - TYPE 2 – MASONRY AND ROCK
 - TYPE 3 – SILT FENCE
 - TYPE 4 – BIO-FILTER BAGS
 - TYPE 5 – SILT SACK INSERT
5. INSPECT ONCE PER WEEK ON ACTIVE SITES, ONCE EVERY TWO WEEKS ON INACTIVE SITES, AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
6. CLEAN INLET PROTECTION DURING AND AFTER EACH SIGNIFICANT STORM AND REMOVE SEDIMENT FROM BEHIND STRUCTURE AFTER EVERY STORM.
7. IF ROCK BECOMES CLOGGED WITH SEDIMENT, IT MUST BE CAREFULLY REMOVED FROM THE INLET AND EITHER CLEANED OR REPLACED.
8. ASSESS THE IMPACT OF ALLOWING WATER TO POND AT THE INLET AND PROVIDE AN OVERFLOW WEIR OR SOME OTHER TYPE OF RELIEF AS NEEDED.
9. CONSIDER THE EFFECT PLACING OBSTRUCTIONS AT INLETS ON GRADE MAY HAVE ON THEIR EFFICIENCY.
10. USE MECHANICAL MEANS TO REMOVE SEDIMENT DEPOSITS (SHOVEL, BROOM, SWEEPER/VACTOR UNIT).
11. REMOVE SEDIMENT ACCUMULATED ON OR AROUND THE PROTECTION AS NEEDED TO MAINTAIN INTENDED FUNCTION.
12. REPAIR OR REPLACE MATERIALS AS NEEDED TO ENSURE PROPER FUNCTION.

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INLET PROTECTION TYPE 1
GRAVEL AND WIRE MESH

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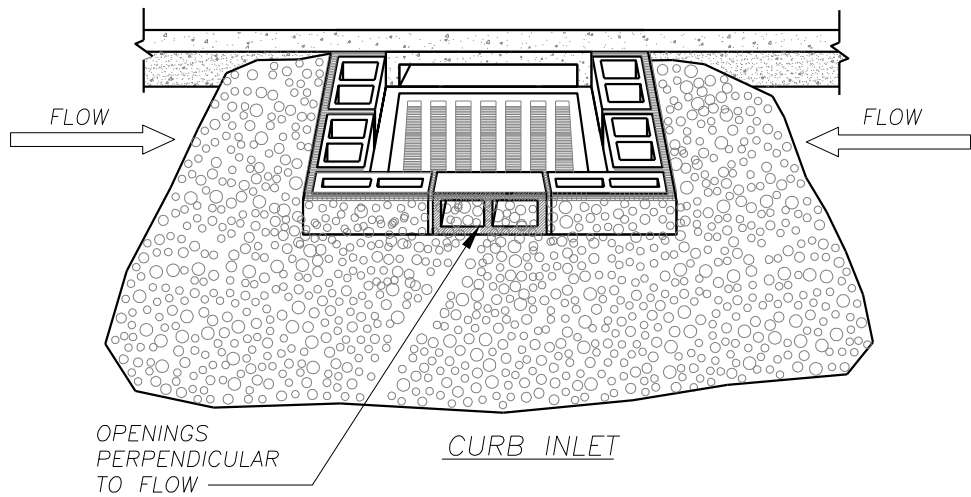
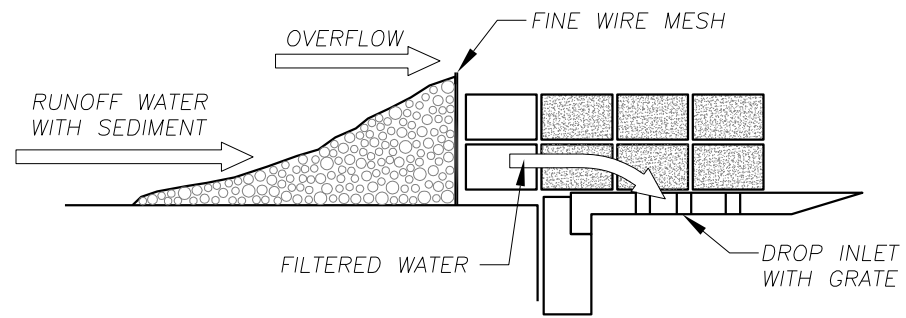
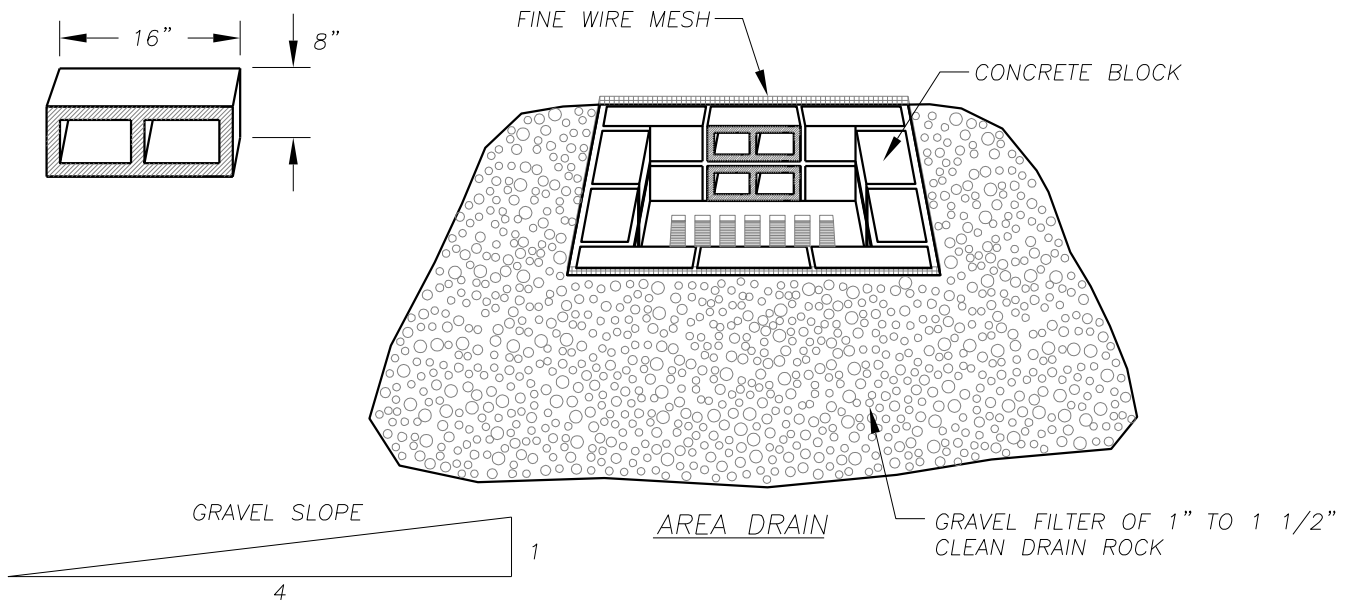
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BLOCK AND GRAVEL INLET BARRIERS
 NOT TO BE USED IN TRAVELED WAY IF IT
 MAY RESULT IN A TRAFFIC HAZARD

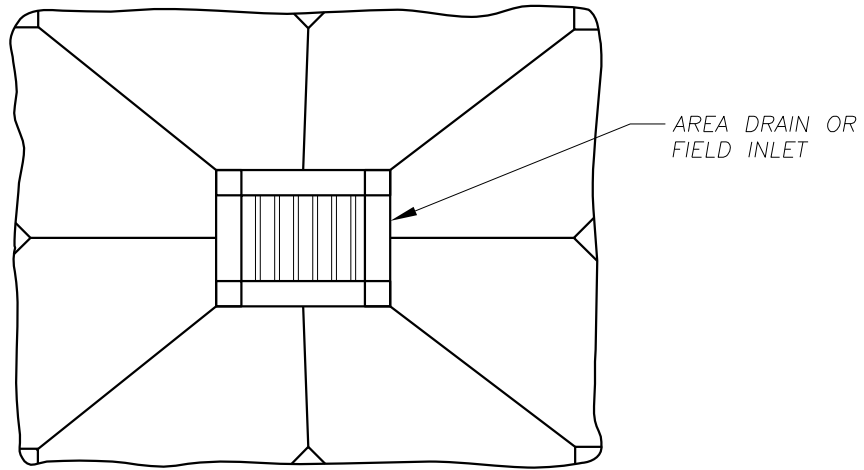
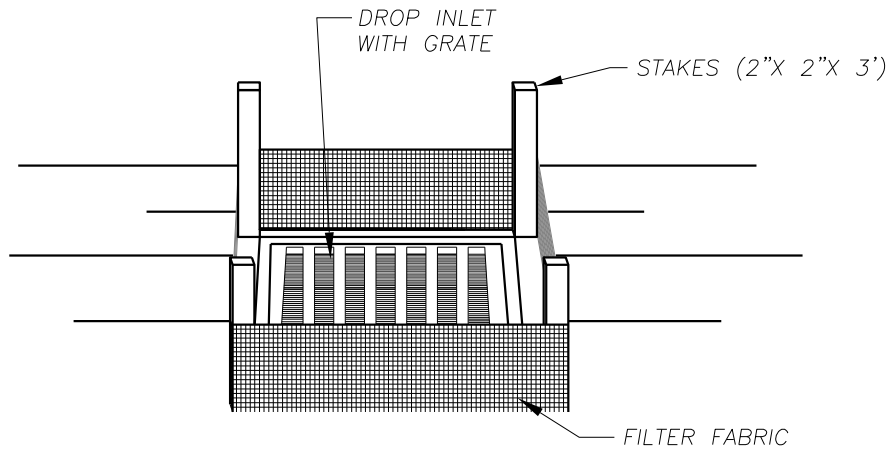
NOTES:

1. BLOCKS SHALL BE STACKED WITH THE OPENINGS ON THE TOP AND BOTTOM EXCEPT FOR THE CENTER BLOCKS. CENTER BLOCKS WILL HAVE OPENINGS PERPENDICULAR TO FLOW.
2. SEE INLET PROTECTION NOTES STD. DETAIL E3.

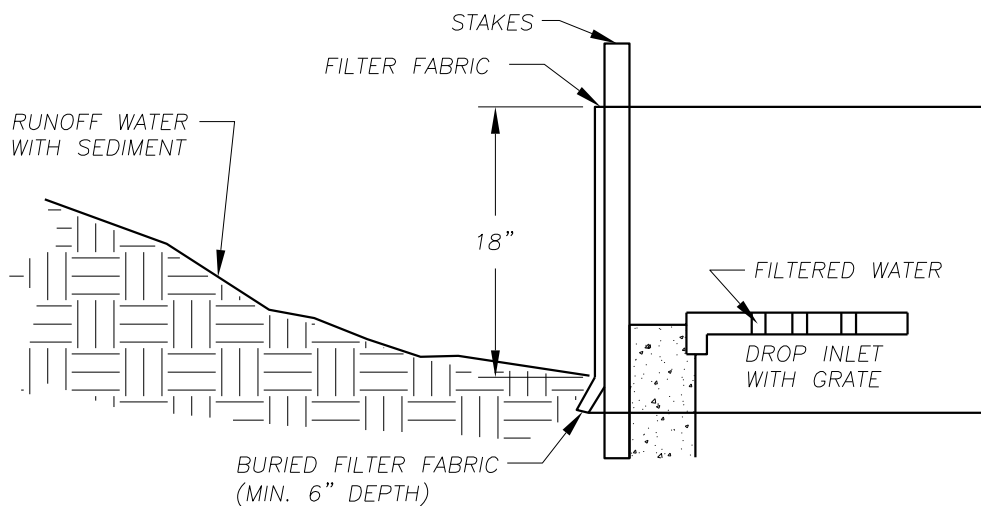
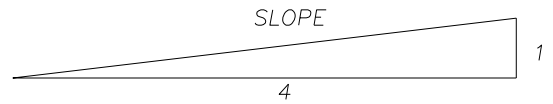
NO.	REVISIONS	DATE	BY

DWG: E3a.DWG

 Department of Public Works CLARK COUNTY WASHINGTON proud past, promising future	INLET PROTECTION TYPE 2 MASONRY AND ROCK APPROVED  COUNTY ENGINEER	STANDARD E3a DETAIL DESIGNED DRAWN DATE 05/23/08
	DATE 5/23/08	



PLAN VIEW
SLOPE 4:1



PROFILE

NOTE:

1. SEE INLET PROTECTION NOTES STD. DETAIL E3.

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INLET PROTECTION TYPE 3
SILT FENCE

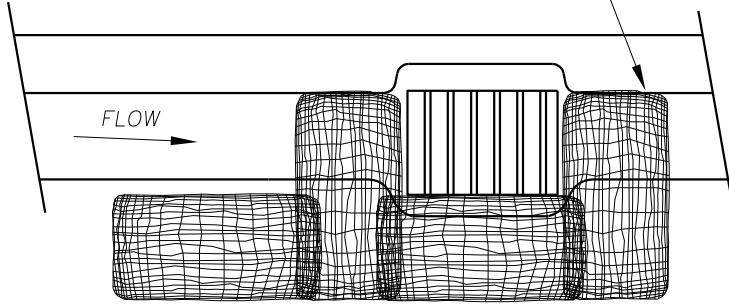
Peter Capen
COUNTY ENGINEER

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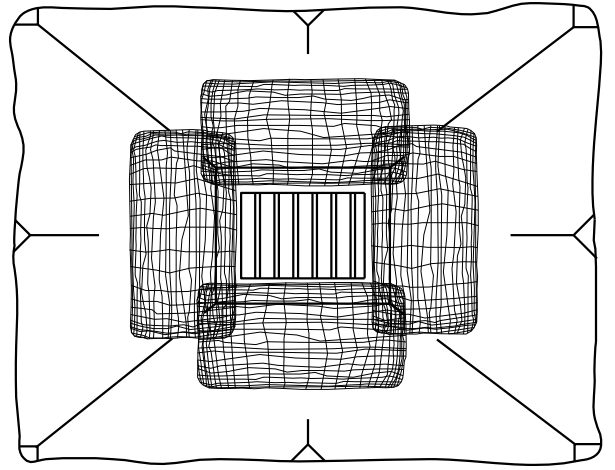
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DATE 05/23/08

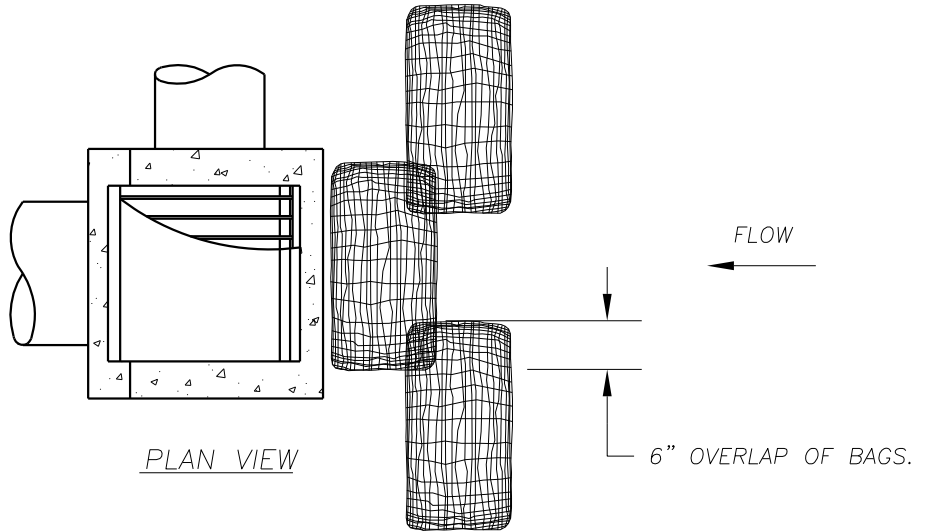
BIO-FILTER BAGS OR STRAW WATTLES MAY BE USED SHORT TERM W/ UTILITY WORK AND W/ PHASING OF DEVELOPMENT



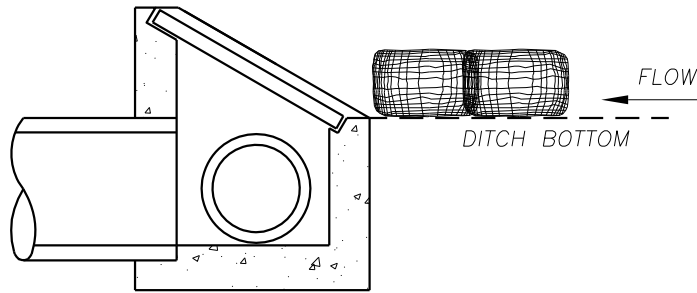
CATCH BASIN



AREA DRAIN



PLAN VIEW



DITCH INLET

NOTES:

1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPE.
2. BIO-FILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2" WOODEN STAKES OR APPROVED EQUAL PER BAG.
3. STRAW WATTLES MUST BE STABILIZED BY ATTACHING WIRE CLIPS TO THE CATCH BASIN PER MANUFACTURERS SPECIFICATIONS.
4. INLET PROTECTION MUST BE REGULARLY INSPECTED BY THE EROSION CONTROL INDIVIDUAL TO INSURE PROPER PLACEMENT/FUNCTION AND MAINTENANCE.
5. SEE INLET PROTECTION NOTES STD. DETAIL E3.

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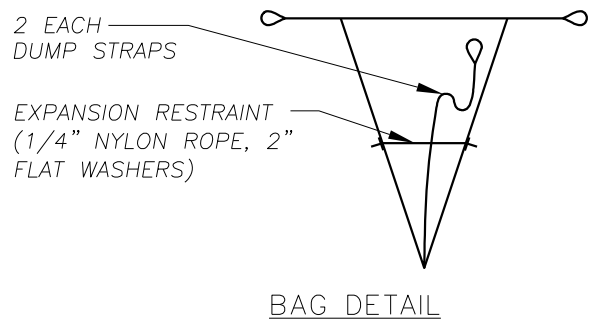
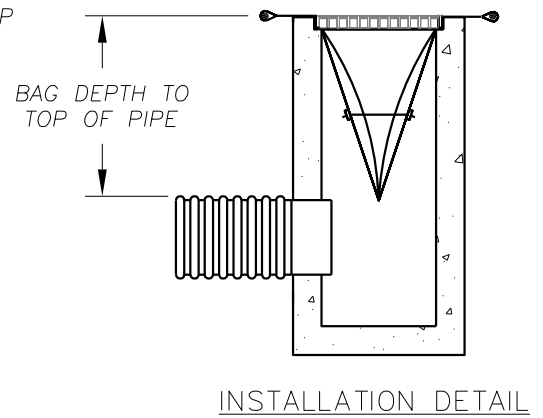
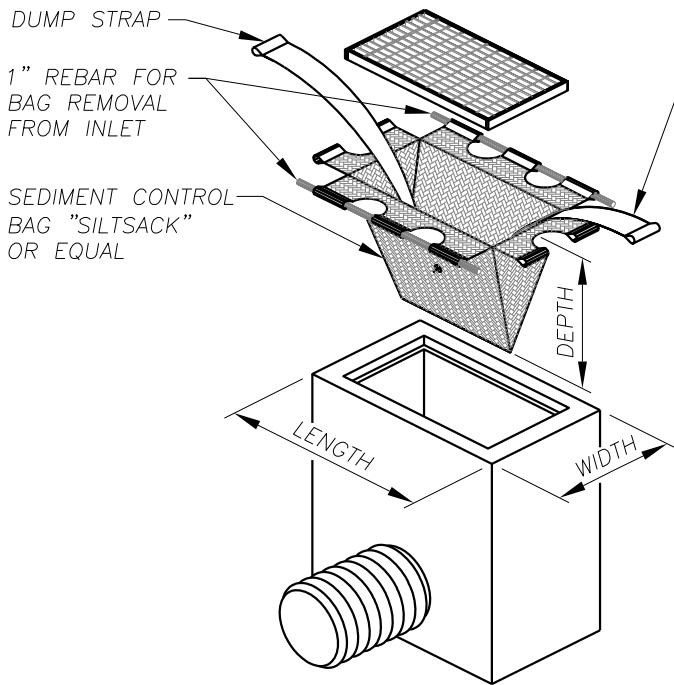
INLET PROTECTION TYPE 4
BIO-FILTER BAGS

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DATE

STANDARD
E3c
DETAIL
DESIGNED
DRAWN
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CB STYLE	LENGTH	WIDTH	DEPTH
TYPE 1 CB	24"	20"	VARIABLE
TYPE 1 CCI	29.5"	24"	VARIABLE
USA G2	32.5"	27.5"	VARIABLE

INLET SEDIMENT CONTROL DEVICE – SILT SACK

NOTES:

1. THE DIMENSION CHART ABOVE IS FOR STANDARD CATCH BASINS AND INLETS ONLY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE CORRECT SIZE DEVICE FOR EACH INLET.
2. FOR NON-STANDARD CATCH BASINS AND INLETS, THE CONTRACTOR SHALL MEASURE DIMENSIONS IN THE FIELD AND ORDER THE APPROPRIATE SIZE(S).
3. THE INLET SEDIMENT CONTROL DEVICE SHALL BE OF HIGH FLOW DESIGN (200 GAL/MIN/FT), AS PER THE MANUFACTURER'S SPECS.
4. THE SEDIMENT CONTROL DEVICE SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED A MINIMUM ONCE PER MONTH OR WITHIN THE 48 HOURS FOLLOWING A STORM EVENT. FILTER SHALL BE CLEANED IN A MANNER WHICH ENSURES THAT ALL SEDIMENT REMAINS ON SITE.
5. SUBSTITUTION OF A SHEET OF FILTER FABRIC PLACED OVER THE OPENING OF THE INLET IS NOT APPROVED.
6. RECESSED CURB INLET CATCH BASINS MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS, SIZE OF FILTER INLET SACK TO BE DETERMINED BY MANUFACTURER.
7. THE FILTER SHALL BE REPLACED OR CLEANED WHEN THE BAG BECOMES HALF FULL.
8. SEE INLET PROTECTION NOTES STD. DETAIL E3.

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INLET PROTECTION TYPE 5
SILT SACK

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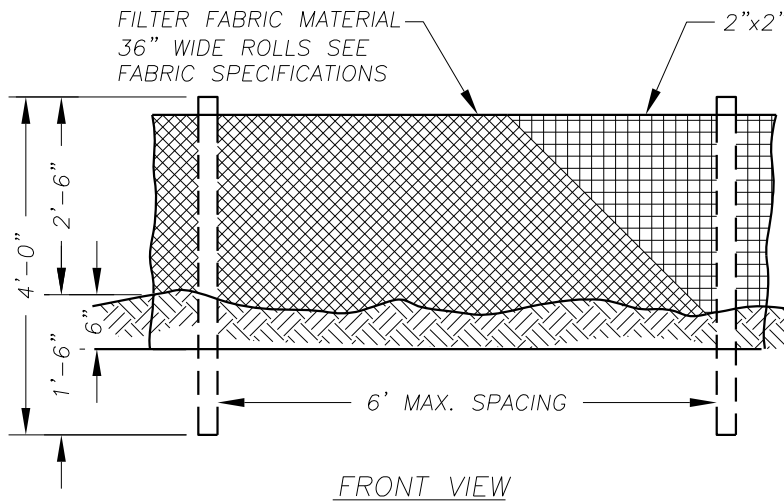
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STANDARD

E3d

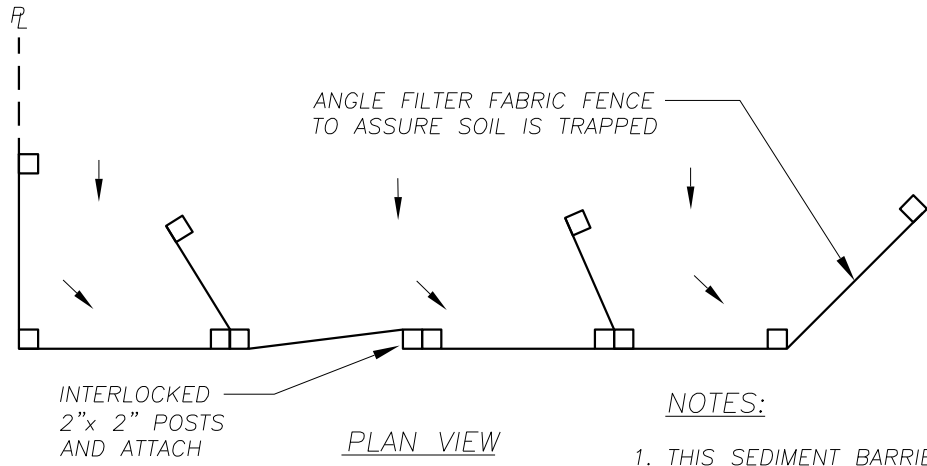
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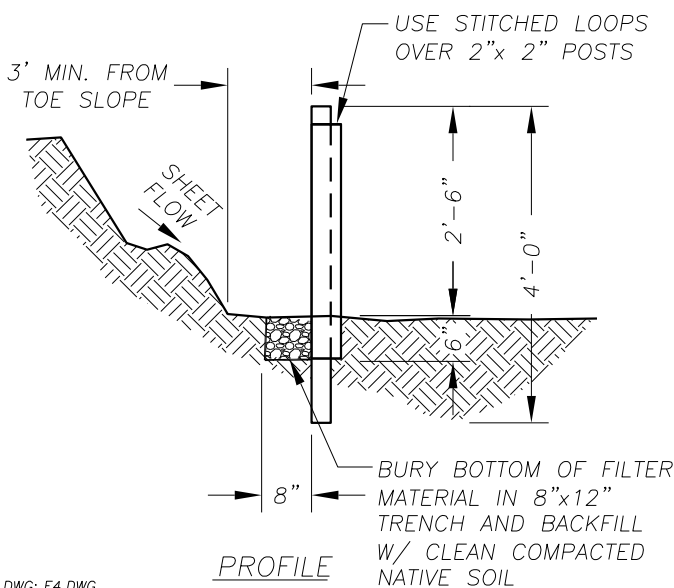
SILT FENCE FABRIC SPECIFICATIONS
(WOVEN POLYPROYLENE SILT FENCE FABRIC)

PROPERTY	TEST PROCEDURE	MIN. FABRIC VALUE
GRAB TENSILE STRENGTH	ASTM D-4632	180 LBS.
GRAB ELONGATION	ASTM D-4632	30%
TRAPEZOID TEAR	ASTM D-4533	70 LBS.
MULLEN BURST	ASTM D-3786	300 PSI.
PUNCTURE	ASTM D-4833	80 LBS.
PERMITTIVITY	ASTM D-4491	0.07 SEC-1 MIN.
PERMEABILITY	ASTM D-4491	.005 CM/SEC
A.O.S.	ASTM D-4751	50 U.S. SIEVE
UV RESISTANCE(500 HRS)	ASTM D-4355	70%



NOTES:

1. THIS SEDIMENT BARRIER UTILIZES STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS, IT IS DESIGNED FOR SITUATIONS IN WHICH ONLY SHEET OR OVERLAND FLOWS ARE EXPECTED. (SEE FABRIC SPECIFICATIONS ABOVE).
2. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
3. POST ARE TO BE 2"x2" FIR, PINE OR STEEL FENCE POSTS.
4. POST TO BE INSTALLED ON UPHILL SIDE OF SLOPE FOR FENCING WITH STITCHED LOOP. FOR STAPLED FENCING, POST TO BE INSTALLED ON DOWNHILL SLOPE.
5. COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.
6. SEDIMENT FENCE TO BE SPACED ON SLOPES PER TABLE BELOW.



INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS		
% SLOPE	SLOPE	MAX. SPACING ON SLOPE
10% FLATTER	10:1 OR FLATTER	300 ft.
10>%<15	10:1>x<7.5:1	150 ft.
15>%<20	7.5:1>x<5:1	100 ft.
20>%<30	5:1>x<3.5:1	50 ft.
30>%<50	3.5:1>x<2:1	25 ft.

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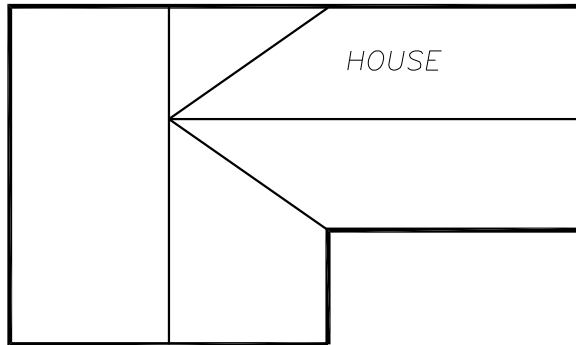
SILT FENCE

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COUNTY ENGINEER

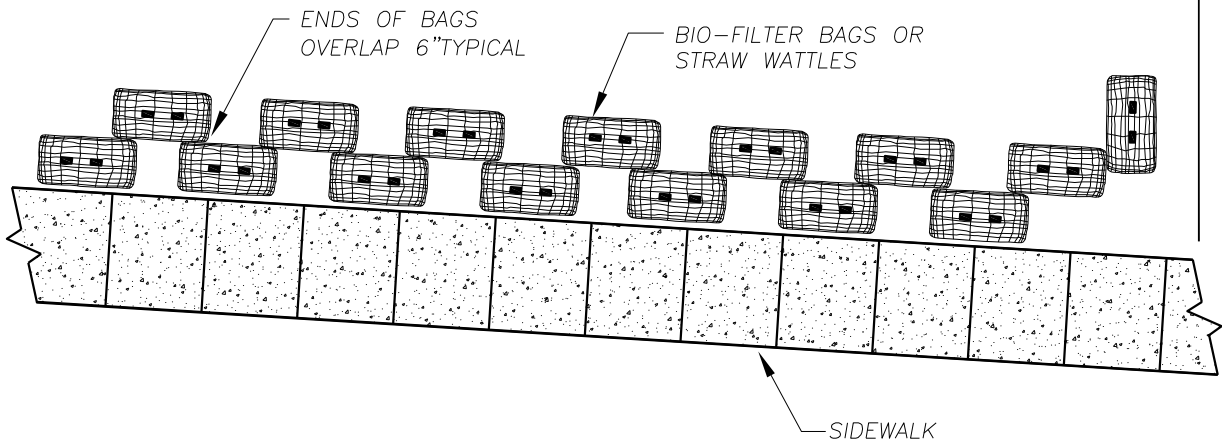
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HOUSE

PROPERTY LINE



PLAN VIEW

NOTES:

1. STAKING OF BAGS REQUIRED USING (2) 1"x2" WOOD STAKES OR APPROVED EQUAL PER BAG.
2. BAGS OR WATTLES MAY BE USED AS ALTERNATE FOR SEDIMENT FENCE FOLLOWING INSTALLATION OF SIDEWALK ON SINGLE FAMILY CONSTRUCTION ONLY.

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BIO-FILTER BAGS
SEDIMENT BARRIER

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WATTLE

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CONSTRUCTION SPECIFICATIONS:

PREPARE THE SLOPE BEFORE THE WATTLING PROCEDURE IS STARTED.

SHALLOW GULLIES SHOULD BE SMOOTHED AS WORK PROGRESSES.

DIG SMALL TRENCHES ACROSS THE SLOPE ON CONTOUR, TO PLACE ROLLS IN. THE TRENCH SHOULD BE DEEP ENOUGH TO ACCOMMODATE HALF THE THICKNESS OF THE ROLL. WHEN THE SOIL IS LOOSE AND UNCOMPACTED, THE TRENCH SHOULD BE DEEP ENOUGH TO BURY THE ROLL 2/3 OF ITS THICKNESS BECAUSE THE GROUND WILL SETTLE.

IT IS CRITICAL THAT ROLLS ARE INSTALLED PERPENDICULAR TO WATER MOVEMENT, PARALLEL TO THE SLOPE CONTOUR.

START BUILDING TRENCHES AND INSTALL ROLLS FROM THE BOTTOM OF THE SLOPE AND WORK UP.

CONSTRUCT TRENCHES AT CONTOUR INTERVALS OF 3-12 FEET APART DEPENDING ON STEEPNESS OF SLOPE. THE STEEPER THE SLOPE, THE CLOSER TOGETHER THE TRENCHES.
1:1=10' 3:1=30'
2:1=20' 4:1=40'

LAY THE ROLL ALONG THE TRENCHES FITTING IT SNUGLY AGAINST THE SOIL. MAKE SURE NO GAPS EXIST BETWEEN THE SOIL AND THE STRAW WATTLE.

USE A STRAIGHT BAR TO DRIVE HOLES THROUGH THE WATTLE AND INTO THE SOIL FOR THE WILLOW OR WOODEN STAKES.

DRIVE THE STAKE THROUGH PREPARED HOLE INTO SOIL. LEAVE ONLY 1 OR 2 INCHES OF STAKE EXPOSED ABOVE ROLL.

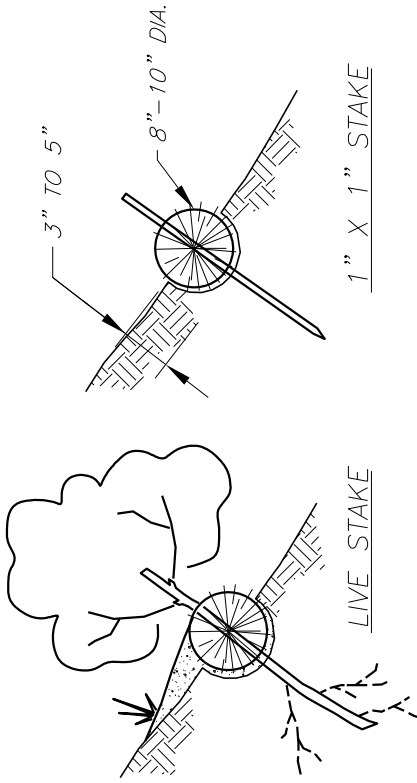
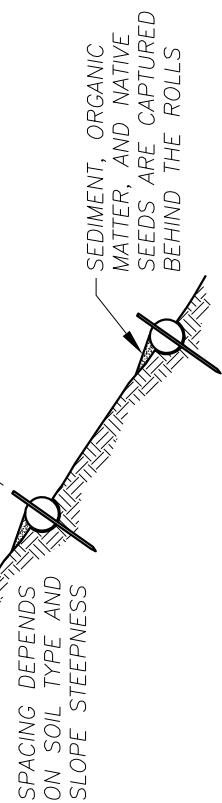
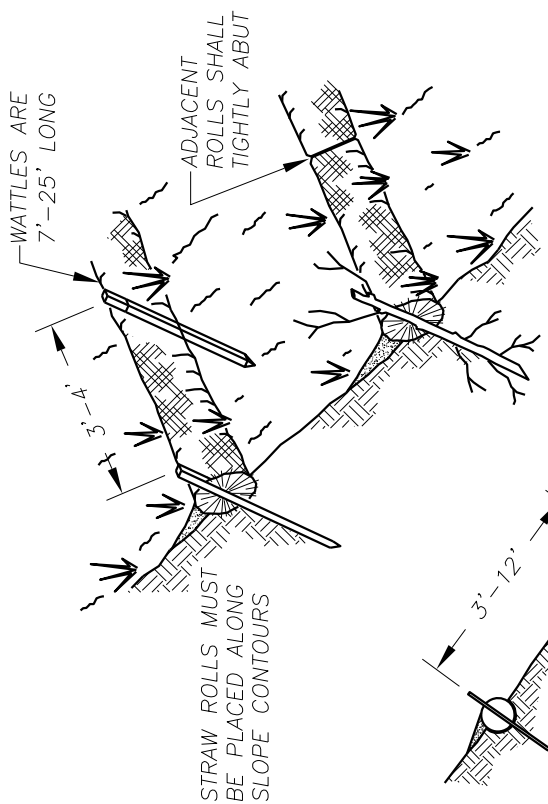
IF USING WILLOW STAKES REFER TO LIVE STAKING BMP.

INSTALL STAKES AT LEAST EVERY 4 FEET APART THROUGH THE WATTLE. ADDITIONAL STAKES MAY BE DRIVEN ON THE DOWNSLOPE SIDE OF THE TRENCHES ON HIGHLY EROSION OR VERY STEEP SLOPES. INSPECTION AND MAINTENANCE:

INSPECT THE STRAW ROLLS AND THE SLOPES AFTER SIGNIFICANT STORMS. MAKE SURE THE ROLLS ARE IN CONTACT WITH THE SOIL.

REPAIR ANY RILLS OR GULLYS PROMPTLY.

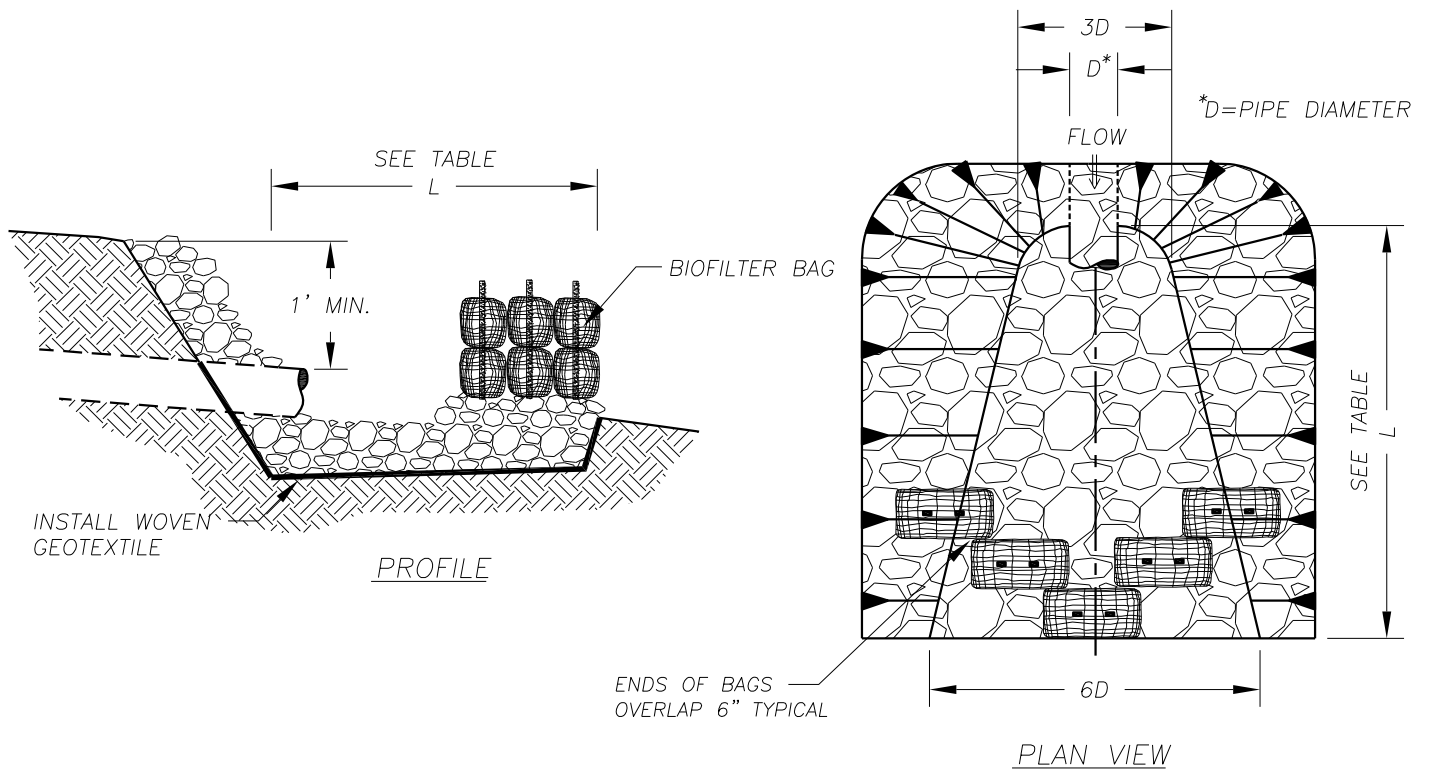
RESEED OR REPLANT VEGETATION IF NECESSARY UNTIL THE SLOPE IS STABILIZED.



WATTLE DETAIL

WATTLES STAKED ALONG THE CONTOUR OF NEWLY CONSTRUCTED OR DISTURBED SLOPES. CAN OFTEN BE USED TO REPLACE SEDIMENT FENCES ON STEEP SLOPES.

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NOTES:

1. BIO-BAGS ONLY REQUIRED WHEN DISCHARGING SEDIMENT LADEN WATER. STAKING OF BAGS REQUIRED WITH EITHER METHOD USING (2) 1"x2" WOOD STAKES OR APPROVED EQUAL PER BAG.
2. RIP-RAP SIZING GOVERNED BY THE SIDE SLOPES ON THE OUTLET CHANNEL, ASSUMED TO BE 3:1.
3. PLACE WOVEN GEOTEXTILE ALONG BOTTOM AND SIDE SLOPES TO CROWN OF PIPE, AND INSTALL ROCK TO 1' ABOVE PIPE CROWN ALONG BOTH SIDES OF CHANNEL.
4. RIP-RAP SHALL BE IN ACCORDANCE WITH SECTION 9-13.1 OF THE WSDOT STANDARD SPECIFICATIONS. RIP-RAP ROCK SIZE SHALL BE AS SHOWN IN THE TABLE BELOW.
5. RIP-RAP SHALL BE HAND LAID AND REASONABLY GRADED.
6. INSPECT ONCE PER WEEK ON ACTIVE SITES, ONCE EVERY TWO WEEKS ON INACTIVE SITES, AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
7. IF THERE IS SCOURING AT THE OUTLET, PROTECT THE ERODED AREA BY INCREASING THE SIZE OF THE ENERGY DISSIPATOR FACILITY.
8. REMOVE ACCUMULATED SEDIMENT FREQUENTLY.
9. USE THIS DETAIL FOR OUTLET PROTECTION AS A MINIMUM. CONSIDER SITE CONDITIONS TO DETERMINE IF A MORE COMPLEX ENERGY DISSIPATOR MAY BE REQUIRED.

DISCHARGE VELOCITY AT DESIGN FLOW (FPS)	REQUIRED PROTECTION MINIMUM DIMENSIONS	
	TYPE	LENGTH (L)
0 TO <5	RIP-RAP*	8' OR 3D (WHICHEVER IS GREATER)
6 TO <10	RIP-RAP**	12' OR 4D (WHICHEVER IS GREATER)
11 TO <20	GABION	AS REQUIRED
>20	ENGINEERED ENERGY DISSIPATER REQUIRED	

* 8" MAXIMUM, 6" MEDIAN, 2" MINIMUM
 ** 24" MAXIMUM, 16" MEDIAN, 4" MINIMUM

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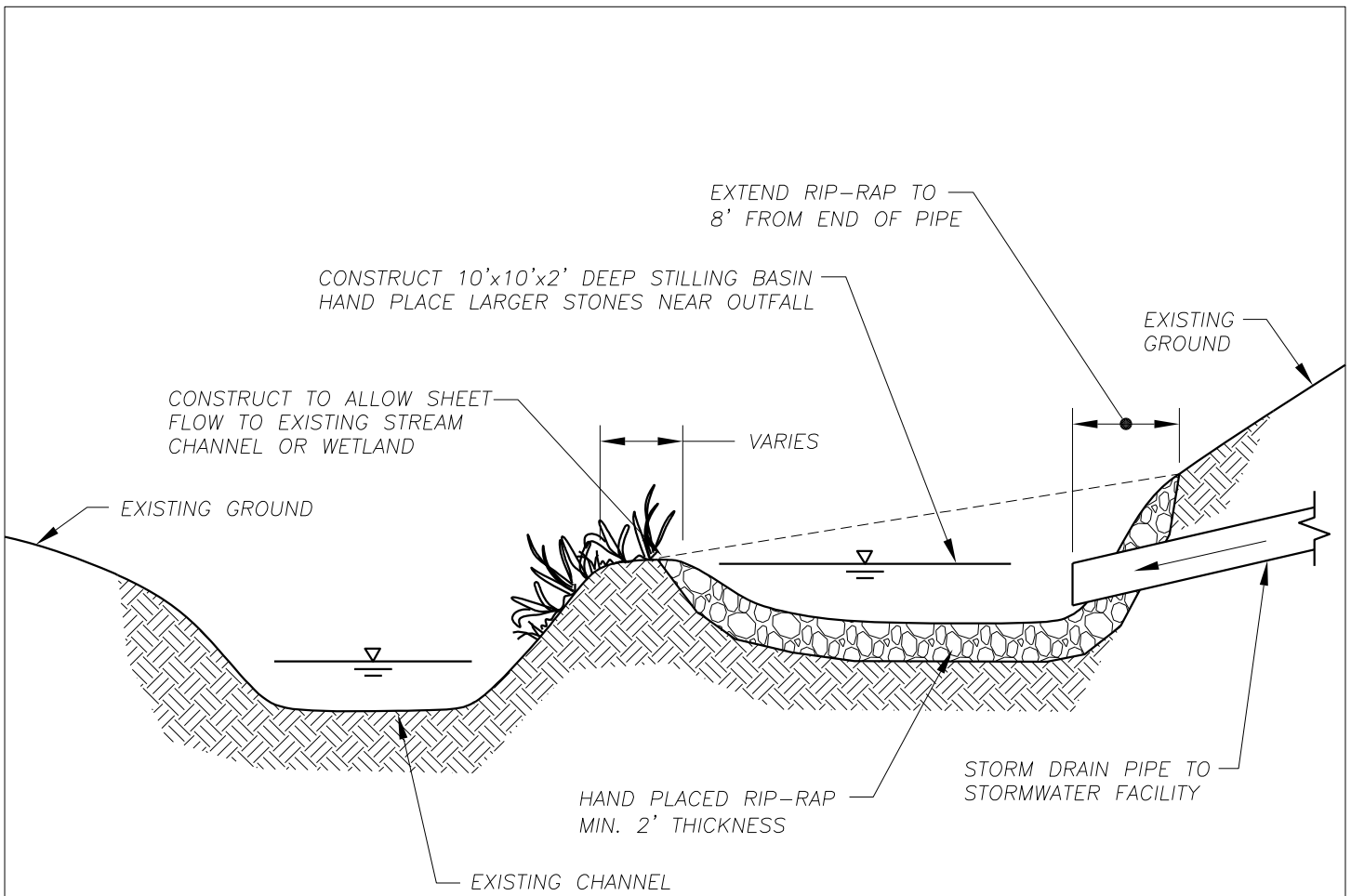
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 COUNTY ENGINEER

OUTLET PROTECTION
 RIP-RAP
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NOTES:

1. HAND PLACED RIPRAP PER WSDOT STD. SPECIFICATION 9-13.2.
2. USE STD. DETAIL E7 FOR OUTLET PROTECTION AS A MINIMUM. CONSIDER SITE CONDITIONS TO DETERMINE IF A MORE COMPLEX ENERGY DISSIPATOR MAY BE REQUIRED.
3. CONTRACTOR TO COMPLY WITH CONDITIONS AND REQUIREMENTS OF COUNTY FLOODPLAIN, SHORELINE, HABITAT AND WETLANDS REVIEWS, HYDRAULIC PERMIT (HPA), AND CORPS PERMITS WHEN APPLICABLE.

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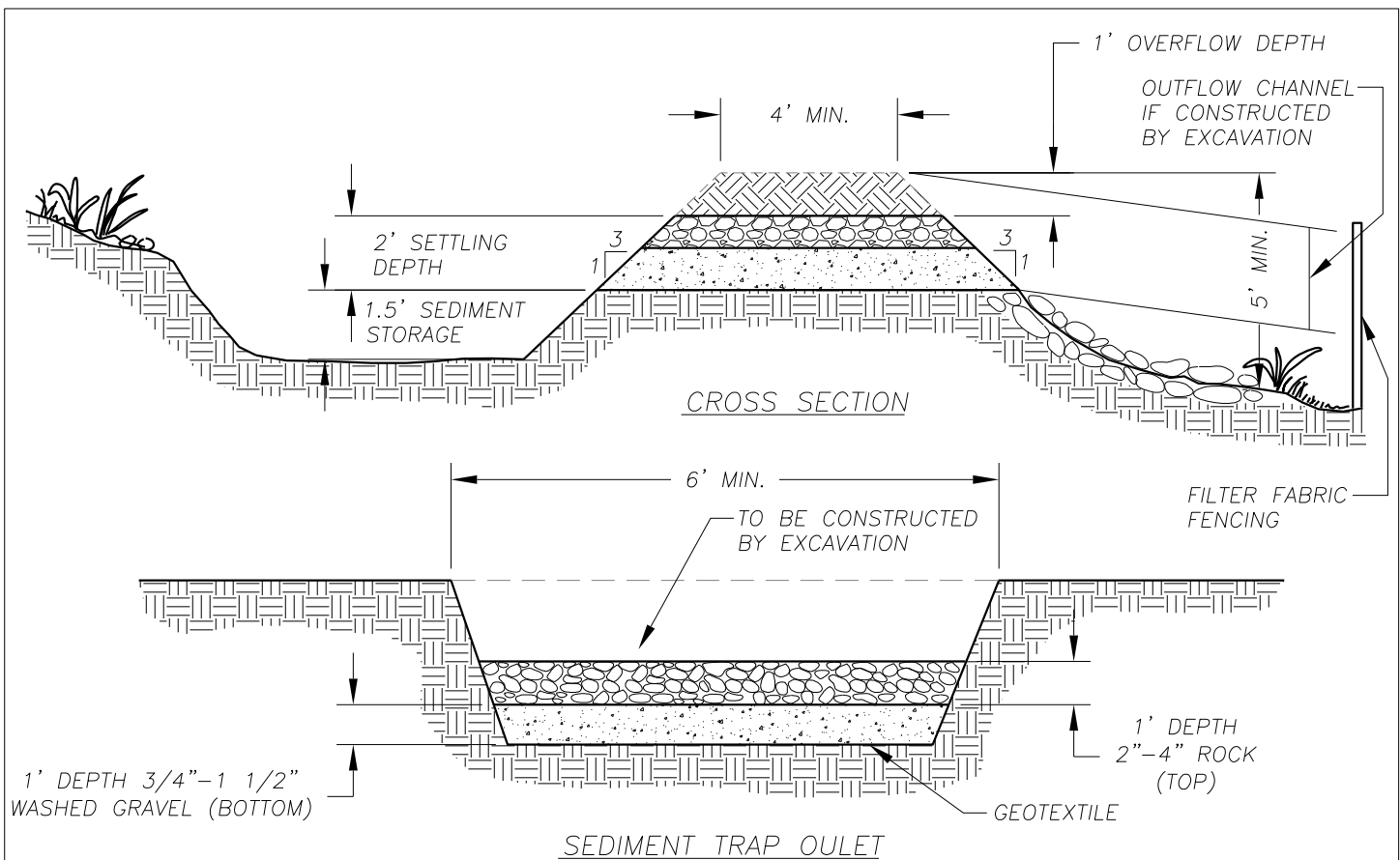
OUTLET PROTECTION
STILLING BASIN

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COUNTY ENGINEER

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E7a
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DRAWN
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NOTES:

1. THE SEDIMENT TRAP MAY BE FORMED COMPLETELY BY EXCAVATION OR BY CONSTRUCTION OF A COMPACTED EMBANKMENT, AND IS TO BE CONSTRUCTED PRIOR TO ANY UPSLOPE CLEARING AND GRADING.
2. TRAP IS TO BE LOCATED IN A LOW AREA WHERE THE TRAP WILL INTERCEPT ALL OR MOST OF THE RUNOFF FROM THE DISTURBED AREA. MUST BE ACCESSIBLE FOR MAINTENANCE.
3. PROVIDE DIVERSION DIKES AND DITCHES, AS NEEDED TO COLLECT AND DIVERT WATER SEDIMENT LADEN FLOWS TO TRAPS AND PONDS.
4. SEDIMENT TRAPS SHALL BE LIMITED TO A TRIBUTARY AREA OF LESS THAN 3 ACRES. SEE THE BMP MANUAL SECTION II-5.8.6 DESIGN CRITERIA, FOR SEDIMENT STORAGE VOLUME.
5. SEDIMENT TRAPS AND PONDS ARE TO HAVE A LEVEL BOTTOM, 3:1 OR FLATTER SIDE SLOPES AND A L:W RATIO OF 3.
6. WATER TEMPERATURE IN TRAPS AND PONDS MAY BE TOO HIGH FOR DIRECT RELEASE. ALWAYS MODERATE THE WATER TEMPERATURE BEFORE IT DRAINS INTO A LAKE, STREAM, WETLAND OR WATERWAY. WHENEVER POSSIBLE, RELEASE THE DISCHARGE ONSITE ONTO A RELATIVELY LEVEL, DENSELY GRASSED AREA AT LEAST 50 FEET FROM A WATERWAY OR WETLAND.
7. INSPECT ONCE PER WEEK ON ACTIVE SITES, ONCE EVERY TWO WEEKS ON INACTIVE SITES, AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
8. CONSTANT MAINTENANCE IS ESSENTIAL FOR PROPER FUNCTIONING.
9. REMOVE SEDIMENT FROM THE TRAP WHEN IT REACHES ONE FOOT IN DEPTH, AND REPAIR ANY DAMAGE TO THE TRAP, THE EMBANKMENT OR THE SLOPES.
10. CARE MUST BE GIVEN TO CONSIDERING LOCATION OF TRAPS FOR SAFETY IN CASE THE STRUCTURE FAILS. FENCING MUST ALSO BE CONSIDERED FOR SAFETY.

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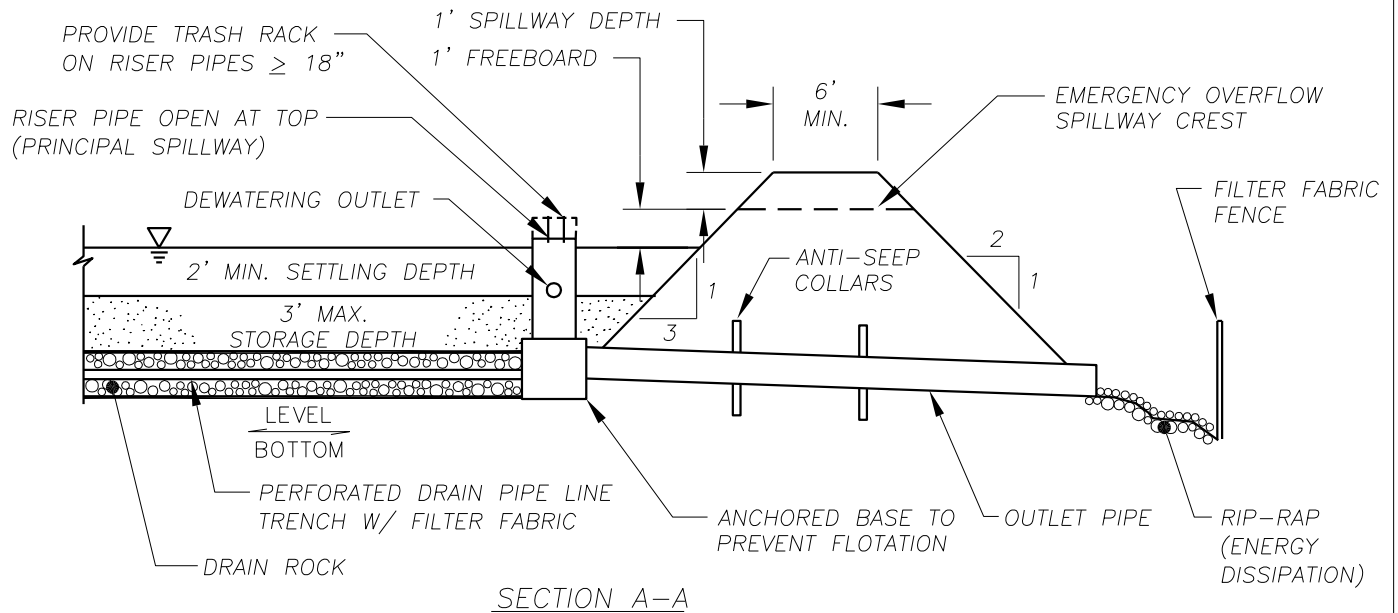
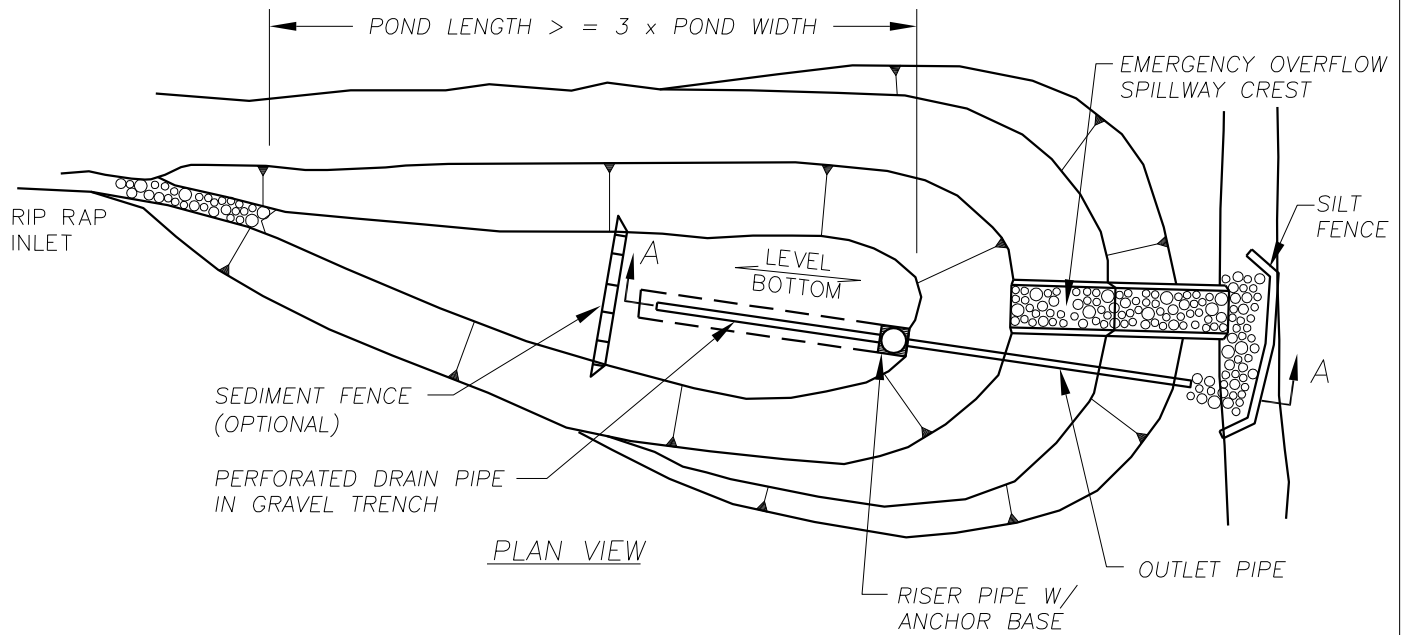
STANDARD SEDIMENT TRAP

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NOTES:

1. FOR USE WITH TRIBUTARY DRAINAGE AREA OF LESS THAN 10 ACRES. IF DRAINAGE AREA EXCEEDS 10 ACRES, CONSULT THE DAM SAFETY SECTION OF THE WASHINGTON DEPARTMENT OF ECOLOGY MANUAL.
2. PROVIDE BAFFLES TO PREVENT SHORT-CIRCUITING.
3. SPILLWAY SHALL BE LINED WITH 2"-4" ROCKS.
4. ALL INLETS AND OUTLETS SHALL BE PROTECTED WITH RIP-RAP.
5. IF POND POSES A SAFETY HAZARD, IT SHALL BE FENCED.
6. REMOVE SEDIMENT BEFORE 1.5" ACCUMULATES.
7. PERFORATED PIPE TRENCH SHALL BE COMPLETELY LINED WITH FILTER FABRIC.
8. SEE APPLICABLE NOTES ON STD. DETAIL E8.

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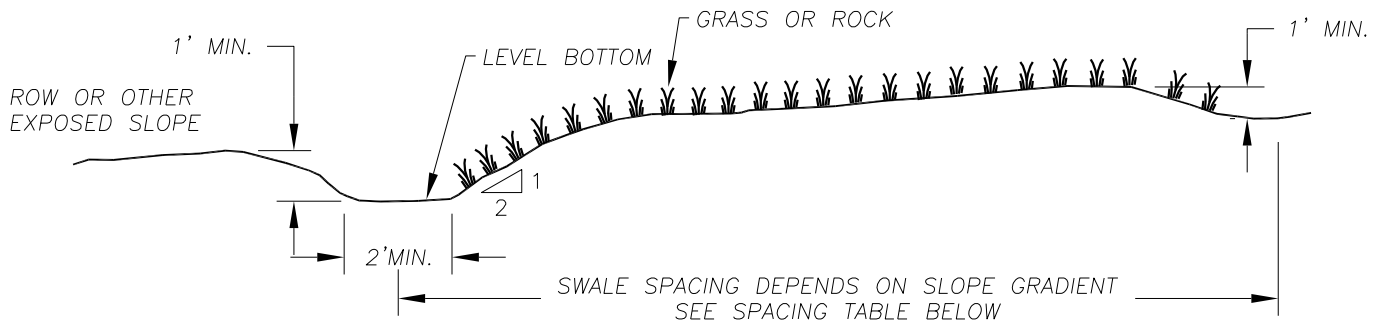
TEMPORARY SEDIMENT POND

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 COUNTY ENGINEER

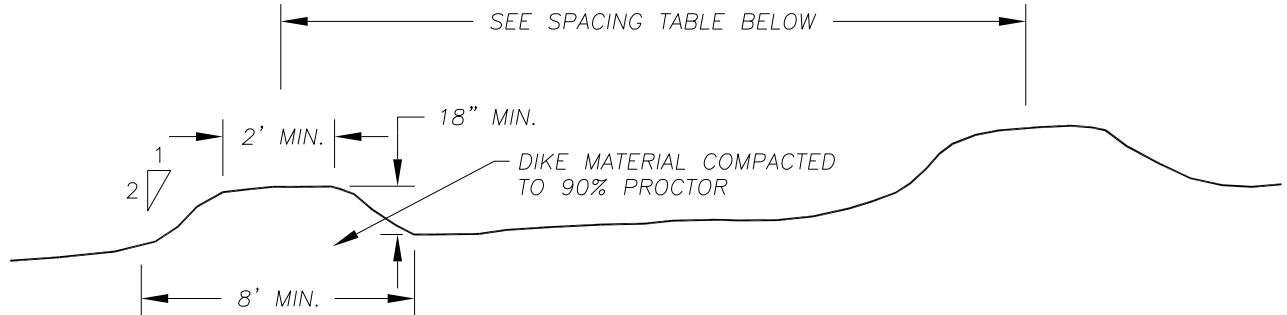
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DIVERSION SWALE



TEMPORARY DIVERSION DIKE

NOTES:

1. DIKE OR SWALES ARE INSTALLED TO INTERCEPT AND CONVEY SMALLER FLOWS ALONG LOW-GRADIENT DRAINAGE WAYS TO LARGER CONVEYANCES SUCH AS DITCHES OR PIPE SLOPE DRAINS OR TO A STABILIZED OUTLET, AND CAN BE USE SINGULARLY OR IN COMBINATION WITH EACH OTHER.
2. REFER TO TABLES BELOW FOR DESIGN CRITERIA FOR DIVERSION DIKES AND SWALES. INSTALL THE DIKES AND/OR SWALES HORIZONTALLY AT INTERVALS ACROSS A DISTURBED SLOPE AT SPACING ACCORDING TO TABLES.
3. FOR SLOPES OF ERODIBLE SOILS STEEPER THAN 2:1 WITH MORE THAN 10 FT. OF VERTICAL RELIEF, CONSTRUCT BENCHES OR SHORTEN DISTANCE BETWEEN DIKES AND SWALES.
4. DISCHARGE THE RUNOFF TO A STABLE CONVEYANCE THAT ROUTES THE SEDIMENT LADEN RUNOFF TO A SEDIMENT TRAP OR POND.
5. MAY NEED MATTING TO PROTECT SEED BED AND CHANNEL FROM EROSION.

DIVERSION DIKE DESIGN CRITERIA

TOP WIDTH	24" MIN.	
HEIGHT	20" MIN (90% COMPACTION)	
SIDE SLOPES	2:1 OR FLATTER	
DIKE GRADE	BETWEEN 0.5-1%	
SLOPE OF DISTURBED AREA VS. HORZ. SPACING	<5%	300 ft
	5-10%	200 ft
	10-25%	100 ft
	25-50%	50 ft
SLOPE STABILIZATION	<5% SEED AND MULCH WITHIN 5 DAYS FOLLOWING DIKE CONSTRUCTION	
OUTLET	UPSLOPE SIDE OF DIKE PROVIDES POSITIVE DRAINAGE TO OUTLET, PROVIDE RIPRAP AS NECESSARY TO PREVENT EROSION RELEASE TO SEDIMENT TRAPPING FACILITY.	

DIVERSION SWALE DESIGN CRITERIA

BOTTOM WIDTH	24" MIN. LEVEL BOTTOM ACROSS SWALE	
DEPTH	12"	
SIDE SLOPES	2:1 OR FLATTER	
GRADE	MAX. 5% POSITIVE DRAINAGE TO OUTLET	
SLOPE OF DISTURBED AREA VS. HORZ. SPACING	<5%	300 ft
	5-10%	200 ft
	10-25%	100 ft
	25-50%	50 ft
SLOPE STABILIZATION	TEMPORARILY SEED OR LINE WITH RIPRAP 12" THICK AND PRESS INTO BANK ± 3-4"	
OUTLET	LEVEL SPREADER OR RIPRAP TO STABILIZED OUTLET/SEDIMENTATION POND	

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DIVERSION DIKE/SWALE

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COUNTY ENGINEER

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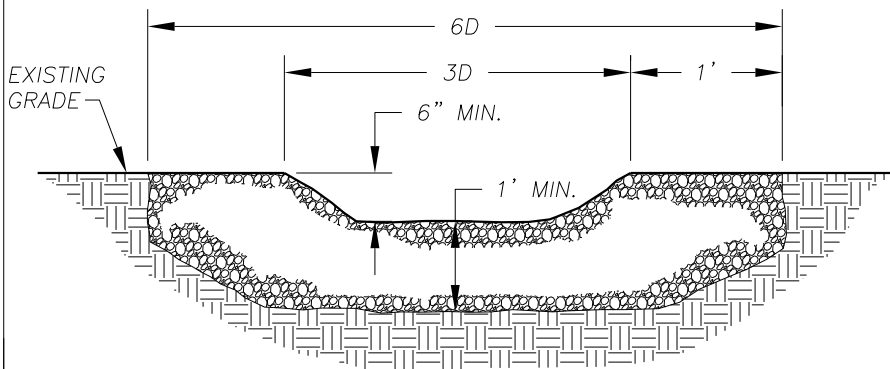
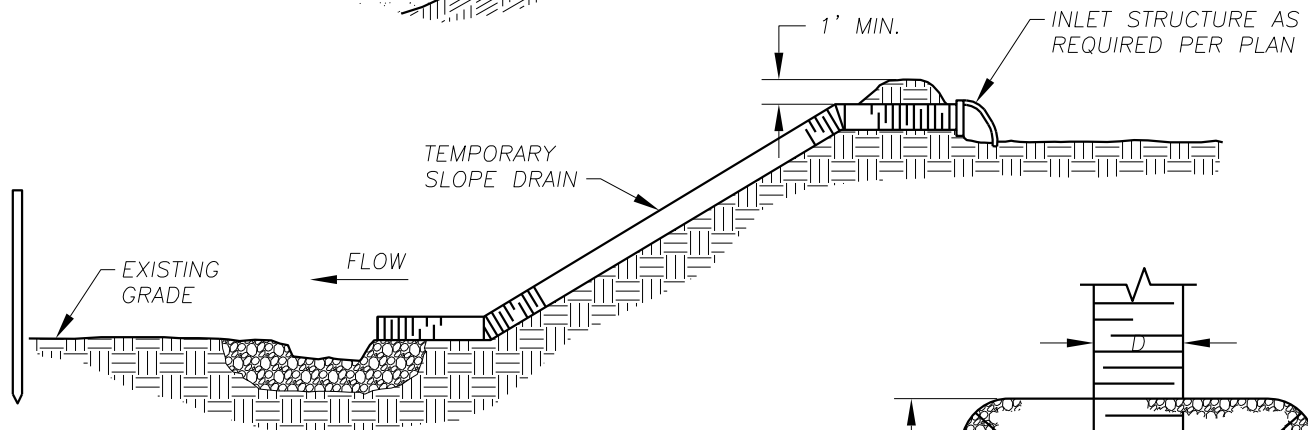
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SEE OUTLET PROTECTION STD.
DETAIL E-7 FOR REQUIRED
PROTECTION VS. DISCHARGE
VELOCITY AT DESIGN FLOW

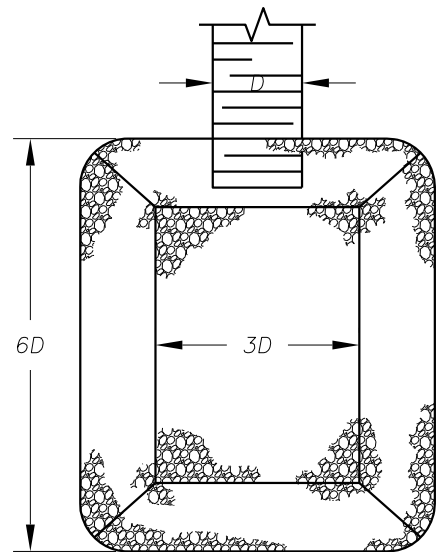
SCOUR HOLE

INTERCEPTOR DIKE

1' MIN.



SCOUR HOLE DETAIL - FRONT VIEW



SCOUR HOLE DETAIL - TOP VIEW

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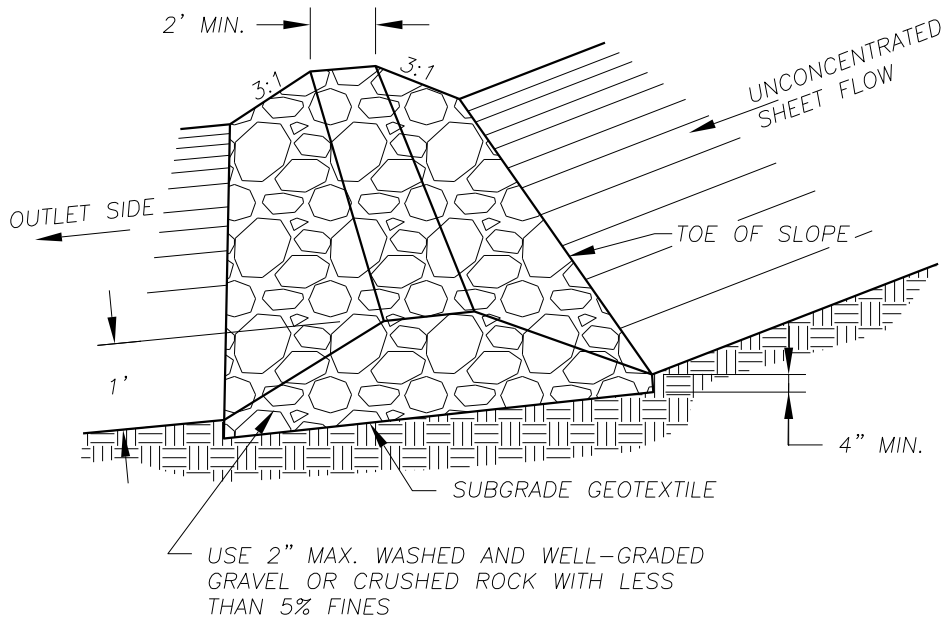
PIPE SLOPE DRAIN

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COUNTY ENGINEER

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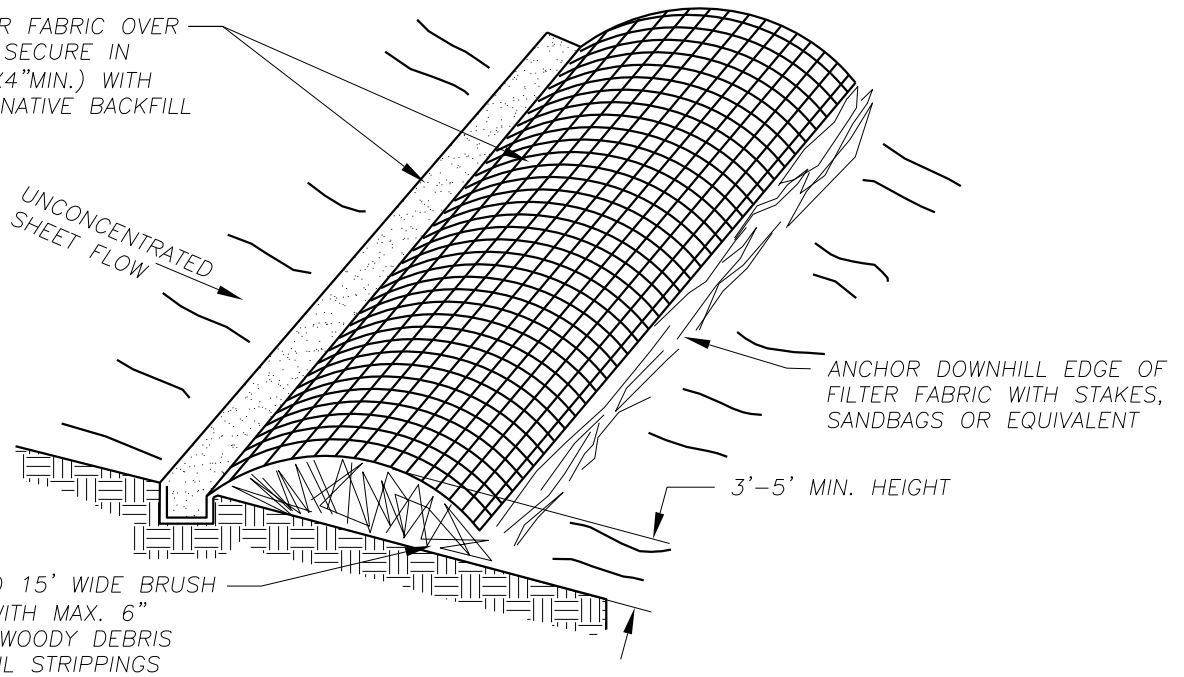
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FILTER BERM

DRAPE FILTER FABRIC OVER BRUSH AND SECURE IN TRENCH (4"X4"MIN.) WITH COMPACTED NATIVE BACKFILL



BRUSH BARRIER

NOTES:

1. DIRECT THE OUTLET SIDE OF THE ROCK FILTER BERM/DAMS ONTO A STABILIZED AREA, SUCH AS VEGETATION AND OR ROCK.
2. EMBED A MIN. OF 4" INTO THE EXISTING GROUND/EMBANKMENT.
3. USE 3:1 OR FLATTER SIDE SLOPES.
4. USED PRIMARILY AS A BASE MEASURE AT TOE OF SLOPE.

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 COUNTY ENGINEER

FILTER BERM
 ROCK/BRUSH

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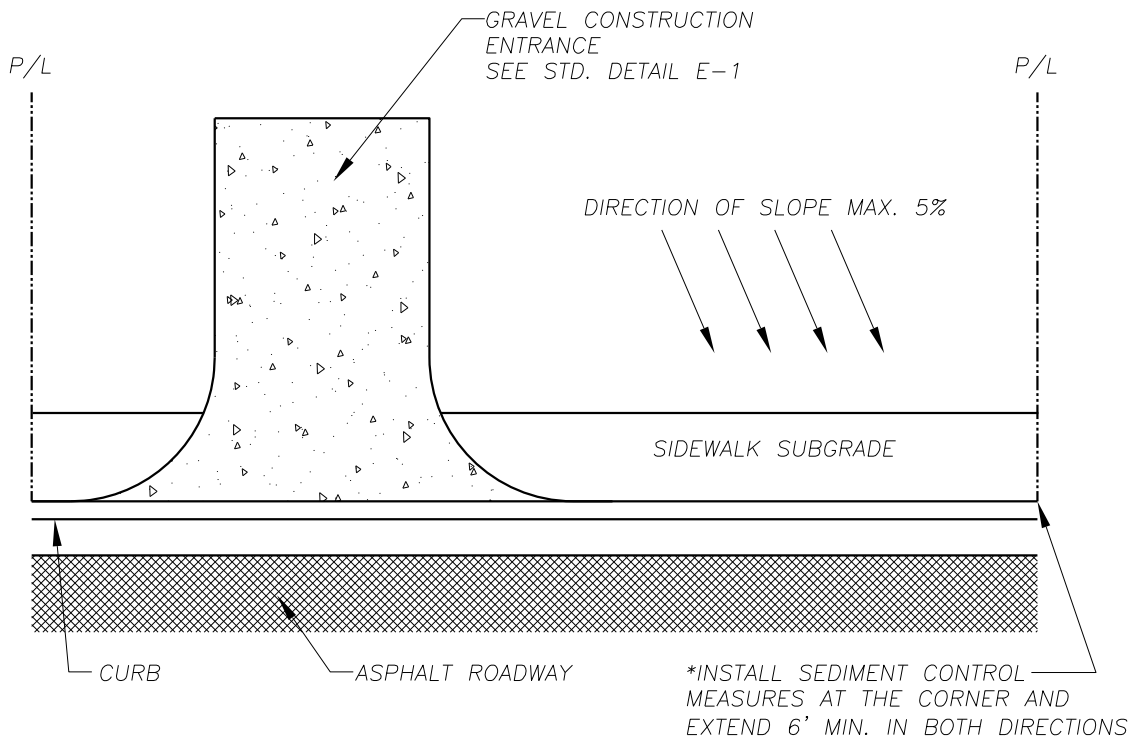
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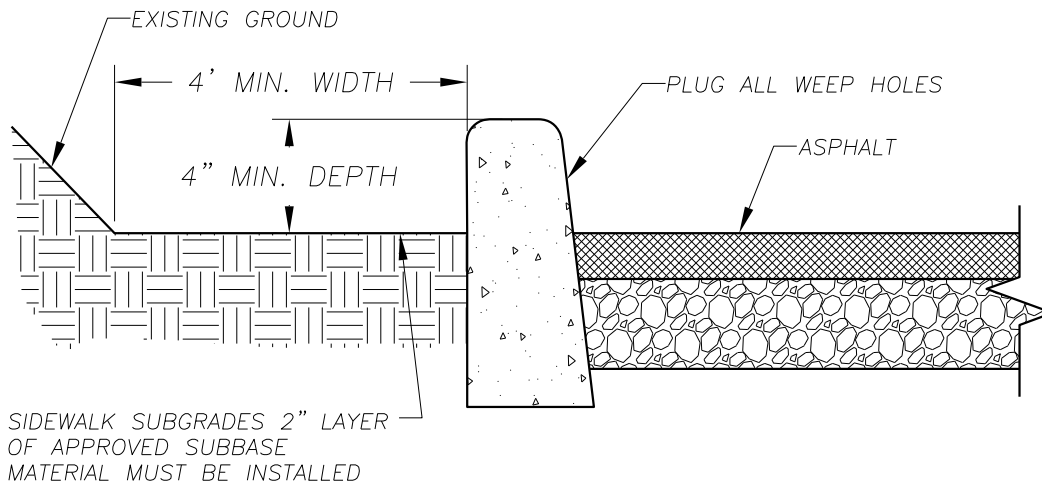
E12

DETAIL

DESIGNED
 DRAWN
 DATE 05/23/08



PLAN VIEW



PROFILE

NOTE: SIDEWALK SUBGRADE CAN BE USED FOR ALL CONSTRUCTION ACTIVITIES.

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DWG: E13.DWG



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SIDEWALK SUBGRADE
 CURB BARRIER
 APPROVED
Peter Capen
 COUNTY ENGINEER
 5/23/08
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E13
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COUNTY ENGINEER

TIRE WASH

APPROVED

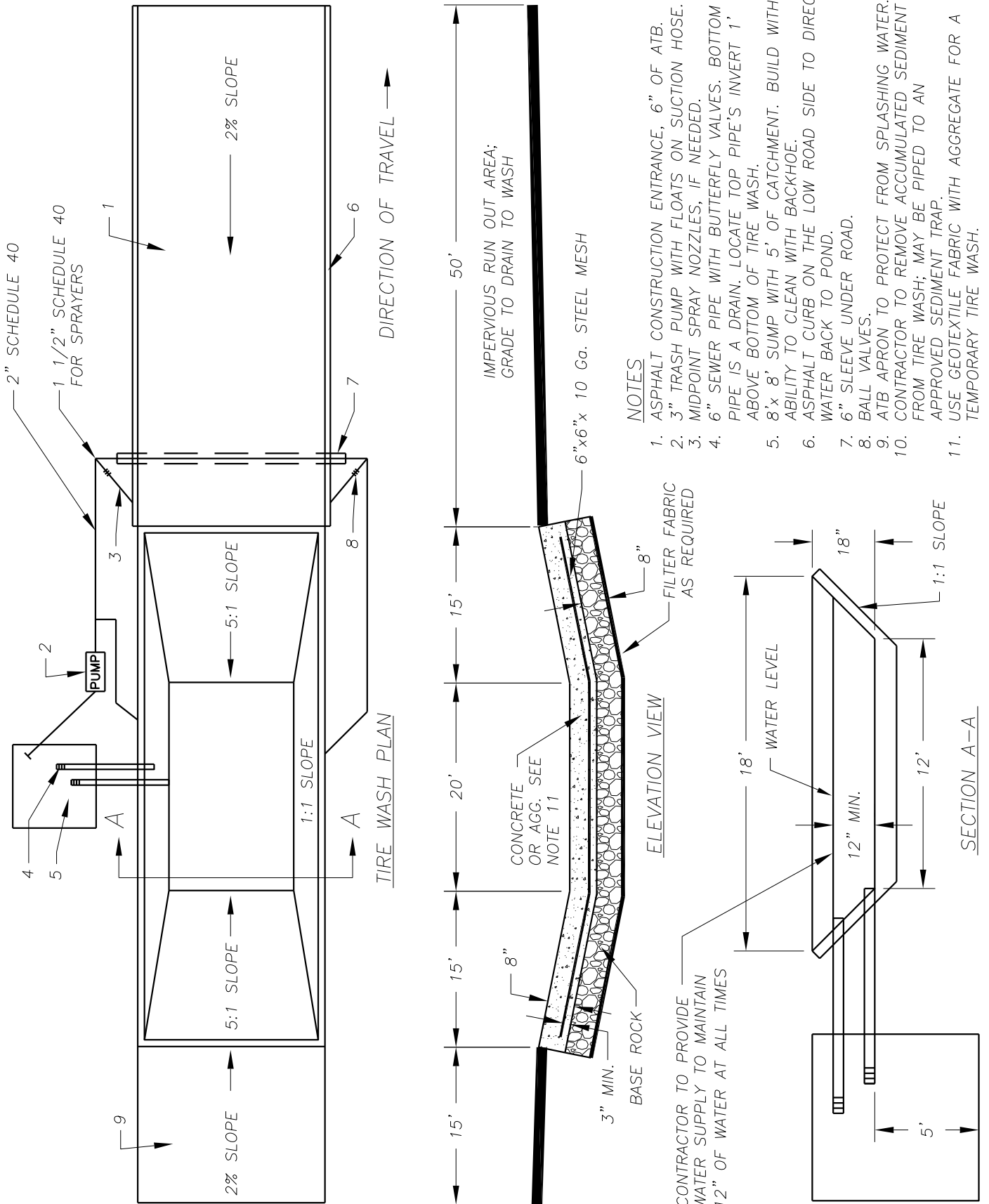
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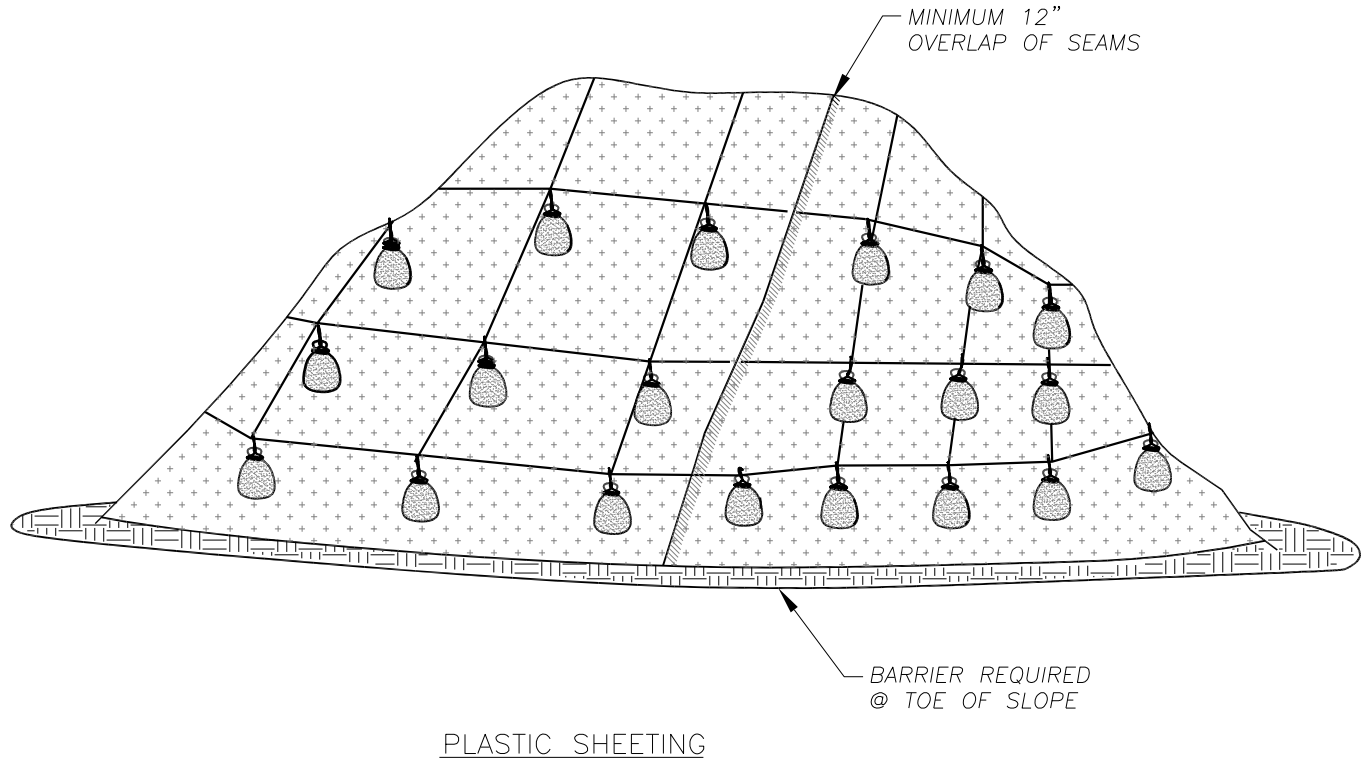
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NOTES:

1. PLASTIC SHEETING IS USED TO PROVIDE IMMEDIATE PROTECTION TO SLOPES AND STOCKPILES.
2. DO NOT USE PLASTIC COVERING UPSLOPE OF AREAS SUCH AS STEEP AND/OR UNSTABLE SLOPES THAT MIGHT BE ADVERSELY AFFECTED BY CONCENTRATED RUNOFF.
3. WHEN POSSIBLE, INSTALL AN INTERCEPTER DIKE AT THE TOP OF THE PLASTIC TO DIVERT FLOWS AWAY FROM THE PLASTIC.
4. TOE-IN THE TOP OF THE SHEETING IN A 6"x6" TRENCH BACKFILLED WITH COMPACTED NATIVE MATERIAL.
5. INSTALL A GRAVEL BERM, RIPRAP, OR OTHER SUITABLE PROTECTION AT THE TOP OF THE SLOPE IN ORDER TO DISSIPATE RUNOFF VELOCITY.
6. ANCHOR THE PLASTIC USING SANDBAGS OR OTHER SUITABLE TETHERED ANCHOR SYSTEM SPACED ON A 10' GRID SPACING IN ALL DIRECTIONS.
7. OVERLAP SEAMS 1-2', TAPE, ROLL AND STAKE THE SEAMS AND THEN WEIGH DOWN THE ENTIRE LENGTH.
8. BARRIER IS REQUIRED @ TOE OF STOCK PILE.
9. REPLACE TORN SHEETS AND REPAIR OPEN SEAMS. COMPLETELY REMOVE AND REPLACE PLASTIC WHEN IT BEGINS TO DETERIORATE.

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PLASTIC SHEETING

APPROVED

Peter Capen
COUNTY ENGINEER

5/23/08
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DATE 05/23/08

MATTING NOTES:

1. THERE ARE A WIDE RANGE OF MATERIALS AND COMBINATION OF MATERIALS USED TO PRODUCE MATTING INCLUDING, BUT NOT LIMITED TO: STRAW, JUTE, WOOD FIBER, COIR (COCONUT FIBER), PLASTIC NETTING, AND BONDED FIBER MATRIX. THE SELECTION OF MATTING MATERIAL FOR A SITE CAN MAKE A SIGNIFICANT DIFFERENCE IN THE EFFECTIVENESS OF THE BMP.
2. GENERALLY, MATTING IS USED ON SLOPES 2:1 AND STEEPER.
3. SURFACE MUST BE GRADED SMOOTH TO REMOVE ALL DEBRIS AND UNDULATIONS LARGER THAN 2" IN ANY DIRECTION.
4. APPLY SEED AND FERTILIZER PRIOR TO MATTING. INSTALL SO THAT MATTING IS IN COMPLETE CONTACT WITH SOIL SURFACE.
5. STAPLES ARE TO BE INSTALLED PER MANUFACTURES SPECIFICATIONS.
6. ORGANIC MATTING MATERIALS (EXCELSIOR, JUTE, AND COIR) BIODEGRADE AND ARE USEFUL FOR APPLICATIONS REQUIRING STABILIZATION FOR UP TO THREE MONTHS. USE ORGANIC BLANKETS, WHICH RETAIN MOISTURE AND PROVIDE ORGANIC MATTER TO THE SOIL, FOR SLOPE PROTECTION AND SHORT-TERM WATERWAY PROTECTION AND TO IMPROVE THE SPEED AND SUCCESS OF REVEGETATION.
 - EXCELSIOR BRAND (ASPEN WOOD FIBER), WOVEN STRAW, AND COIR BLANKETS MAY BE INSTALLED WITHOUT MULCH BECAUSE THEY PROVIDE COMPLETE SURFACE PROTECTION.
7. SYNTHETIC MATS ARE MADE FROM NON-BIODEGRADABLE MATERIALS AND WILL REMAIN IN PLACE FOR YEARS (SOME PHOTODEGRADATION DOES OCCUR). USE PURELY SYNTHETIC BLANKETS FOR LONG-TERM STABILIZATION OF WATERWAYS.
 - TURF REINFORCEMENT MATS (TRM) ARE MADE FROM POLYMER NETTING OR MONOFILAMENTS FORMED INTO A SYNTHETIC 3-D MAT. TRMs PROTECT SEED AND INCREASE GERMINATION AND ALSO ACTS AS PART OF THE ROOT STRUCTURE; GIVING THE TURF HIGHER STRENGTH.
 - EROSION CONTROL AND REVEGETATION MATS (ECRM), COMPOSED OF HEAT-FUSED MONOFILAMENTS AND MONOFILAMENTS STITCHED BETWEEN NETTING ACT AS PERMANENT MULCH. ECRM ALLOW GROWTH THROUGH THE MAT.
8. CHANNEL OR SWALE APPLICATIONS: LENGTHWISE OVERLAP MATTING A MINIMUM OF 12"; CROSSWISE OVERLAP A MINIMUM OF 6", AND AVOID JOINING MATERIAL IN CENTER OF DITCH OR SWALE.
9. SLOPE APPLICATION: LENGTHWISE OVERLAP MATTING A MINIMUM OF 6"; CROSSWISE OVERLAP A MINIMUM OF 6"; AT TOP OF SLOPE, ENTRENCH MATERIAL IN A 6"x6" TRENCH AND STAPLE AT 12" INTERVAL; AT BOTTOM OF SLOPE, EXTEND MAT 2 FEET BEYOND THE TOE OF THE SLOPE, TURN MATERIAL UNDER 4" AND STAPLE AT 12" INTERVAL; ON 4:1 SLOPES, ROLLS CAN BE PLACED IN HORIZONTAL STRIPS; MATS MUST BE STAPLED IN PLACE AS THEY ARE INSTALLED DOWN THE SLOPE FACE EVERY 4' UNTIL YOU REACH THE BOTTOM. THIS KEEPS BLANKET IN A RELAXED POSITION, ELIMINATING THE POTENTIAL FOR UNDER-RILLING.
10. INSPECT ONCE PER WEEK ON ACTIVE SITES, ONCE EVERY TWO WEEKS ON INACTIVE SITES, AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
11. REPAIR ANY DAMAGED AREAS OF THE NET OR BLANKET AND STAPLE INTO THE GROUND ANY AREAS NOT IN CLOSE CONTACT WITH THE GROUND SURFACE.
12. IF EROSION OCCURS, REPAIR AND PROTECT THE ERODED AREA.

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MATTING
GENERAL NOTES

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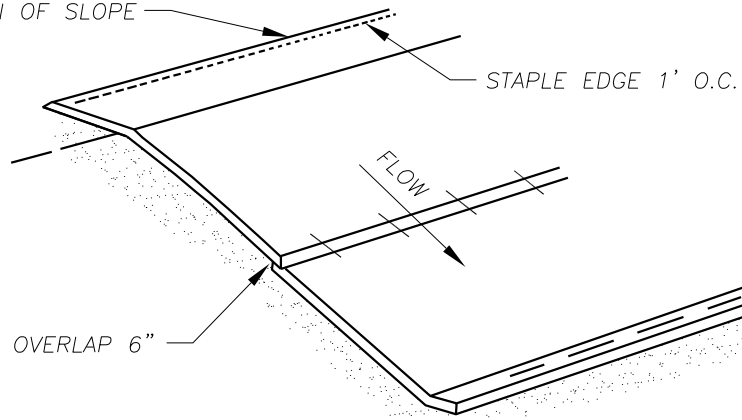
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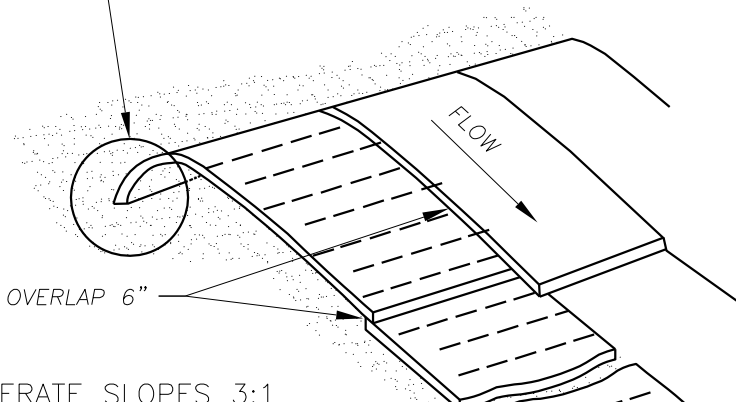
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EXTEND BLANKET A MINIMUM OF 3' ABOVE CROWN OF SLOPE



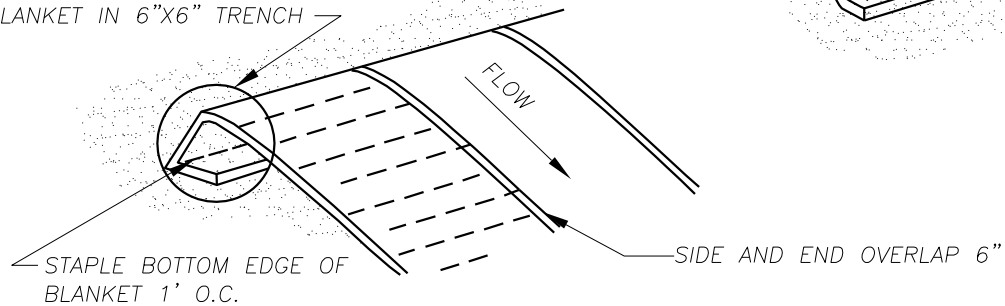
SHALLOW SLOPES 4:1 OR LESS

BURY TOP 4 INCHES OF BLANKET AND STAPLE EDGE 1' O.C.



MODERATE SLOPES 3:1

BURY TOP 12 INCHES OF BLANKET IN 6"X6" TRENCH



STEEP SLOPES 2:1 OR GREATER

NOTES:

1. ON 4:1 OR LESS SLOPES BLANKETS MAY BE APPLIED ACROSS THE SLOPE.
2. ALL BLANKET INSTALLED AND STAPLED PER MANUFACTURERS SPECIFICATIONS.
3. SEE MATTING NOTES STD. DETAIL E17.

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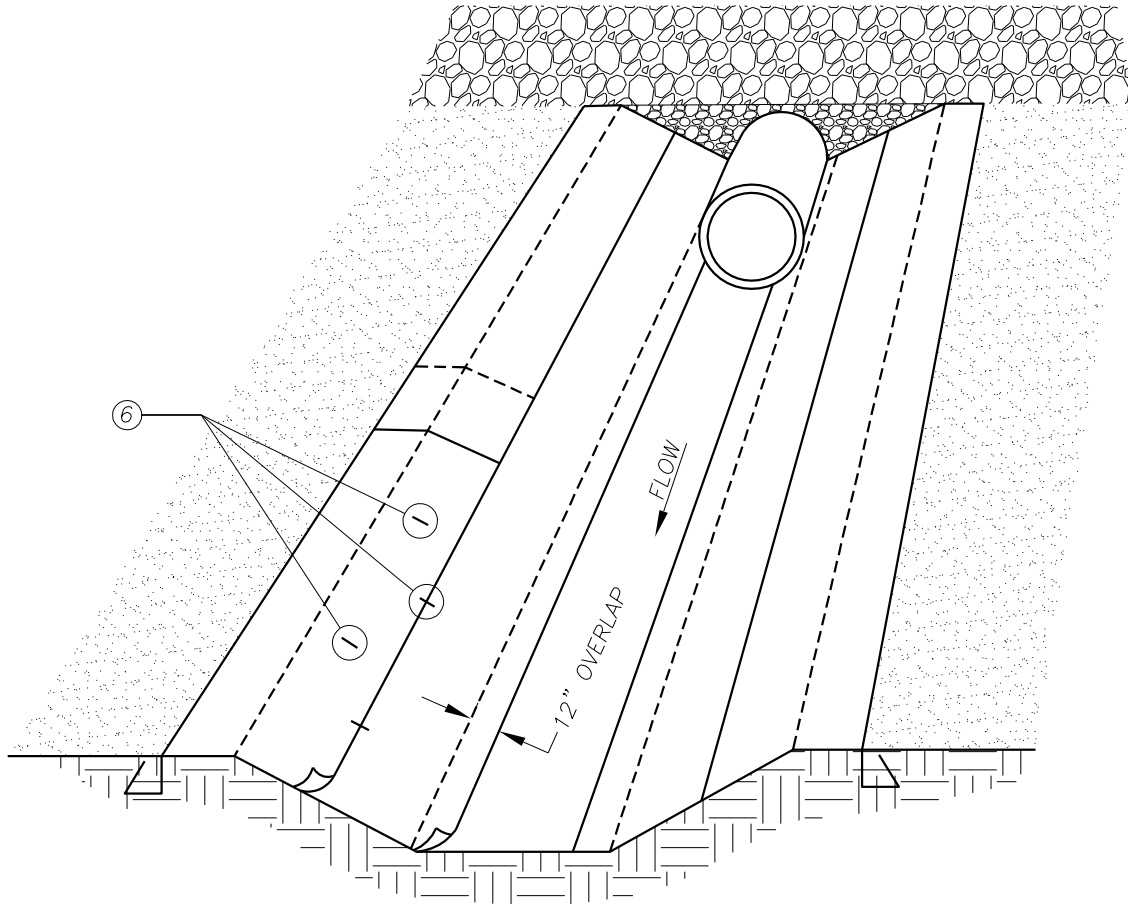
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MATTING
SLOPE INSTALLATION
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CHANNEL INSTALLATION

NOTES:

1. INFORMATION PROVIDED IS MINIMUM REQUIREMENTS. MANUFACTURERS REQUIREMENTS WHICH ARE MORE STRINGENT SHALL BE USED.
2. INSTALL MAT PARALLEL IN CENTER OF CHANNEL IN THE DIRECTION OF FLOW. FOR CULVERT OUTFALLS, PLACE MAT UNDER CULVERT OR RIP RAP A MIN. OF 12".
3. IN CHANNEL BOTTOM, OVERLAP LENGTH ENDS A MINIMUM OF 12 INCHES.
4. REFER TO STD. DETAIL E-17 FOR MATTING NOTES.
5. STAPLE PER MANUFACTURERS SPECIFICATIONS.
6. LENGTH OF STAPLES SHALL BE DETERMINED BY SOIL TYPE- COHESIVE SOIL USE 6 INCH, NON-COHESIVE SOILS 8-12 INCH.

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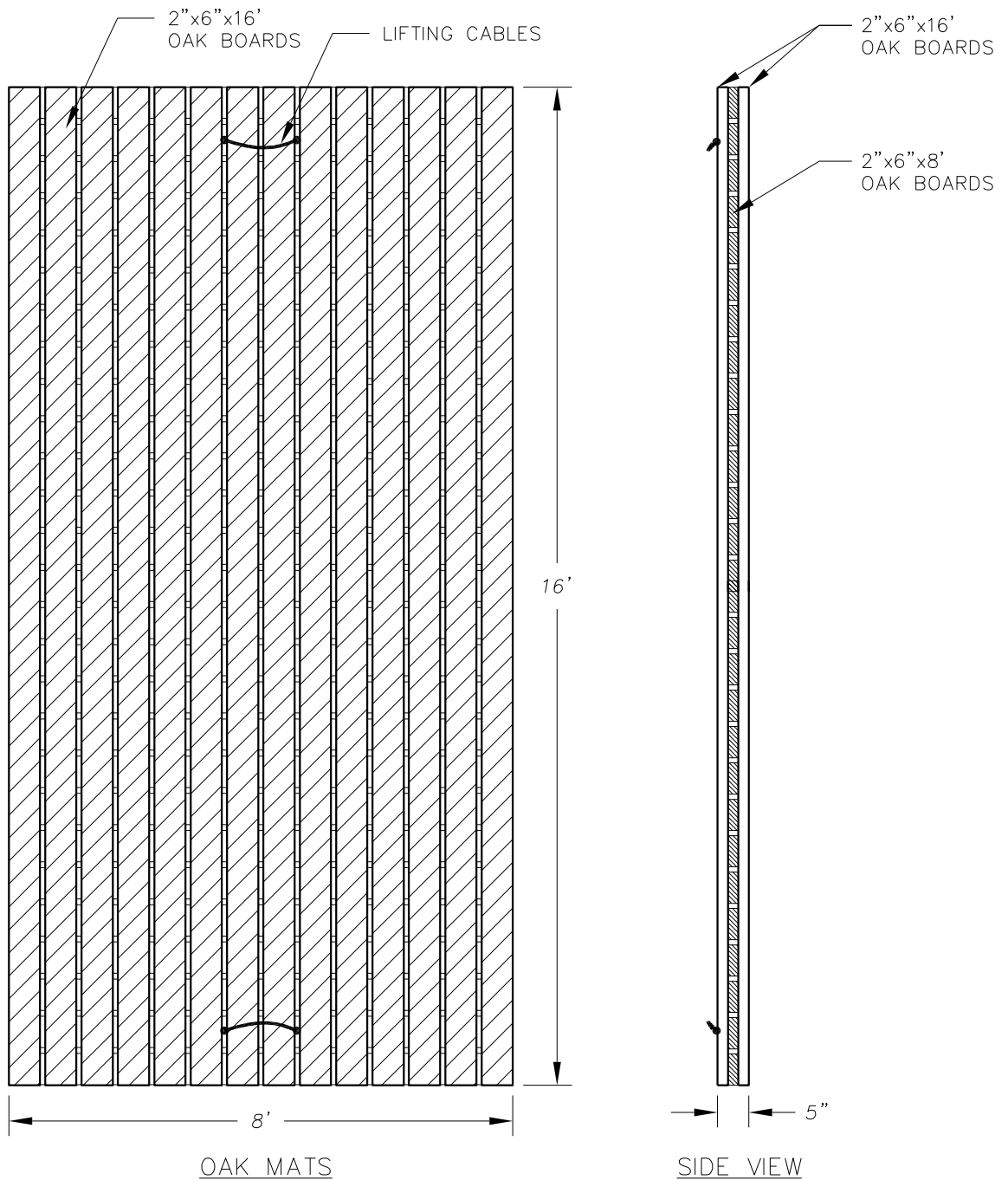
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CHANNEL INSTALLATION

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NOTES:

1. TO BE USED AS A STABILIZED PLATFORM LOCATED AT SPECIFIED POINTS OF CONSTRUCTION FOR THE PURPOSE OF TEMPORARY OR PERMANENT ACCESS. OAK MATS HAVE TWO BENEFITS: REDUCE OVERALL TRACKING FROM CONSTRUCTION SITES, AND CREATES A STABLE PAD FOR HEAVY EQUIPMENT, ESPECIALLY WHEN WORKING AROUND SENSITIVE AREAS SUCH AS WETLANDS AND STREAMS.
2. DIMENSIONS: 8'x16'x4-1/2" (3 PLY LAMINATED OAK).
3. BUILT TO WITHSTAND HEAVY EQUIPMENT SUCH AS CRANES, DUMP TRUCKS, AND BACK HOES.
4. ON LINEAR PROJECTS THAT PARALLEL STREAMS OR WETLANDS INSTALL AS A CONTINUOUS WORKING PAD TO REDUCE SOIL "PUMPING".
5. MINOR EXCAVATION OF SURFACE AREA MAY BE REQUIRED PRIOR TO INSTALLATION OF MATS.

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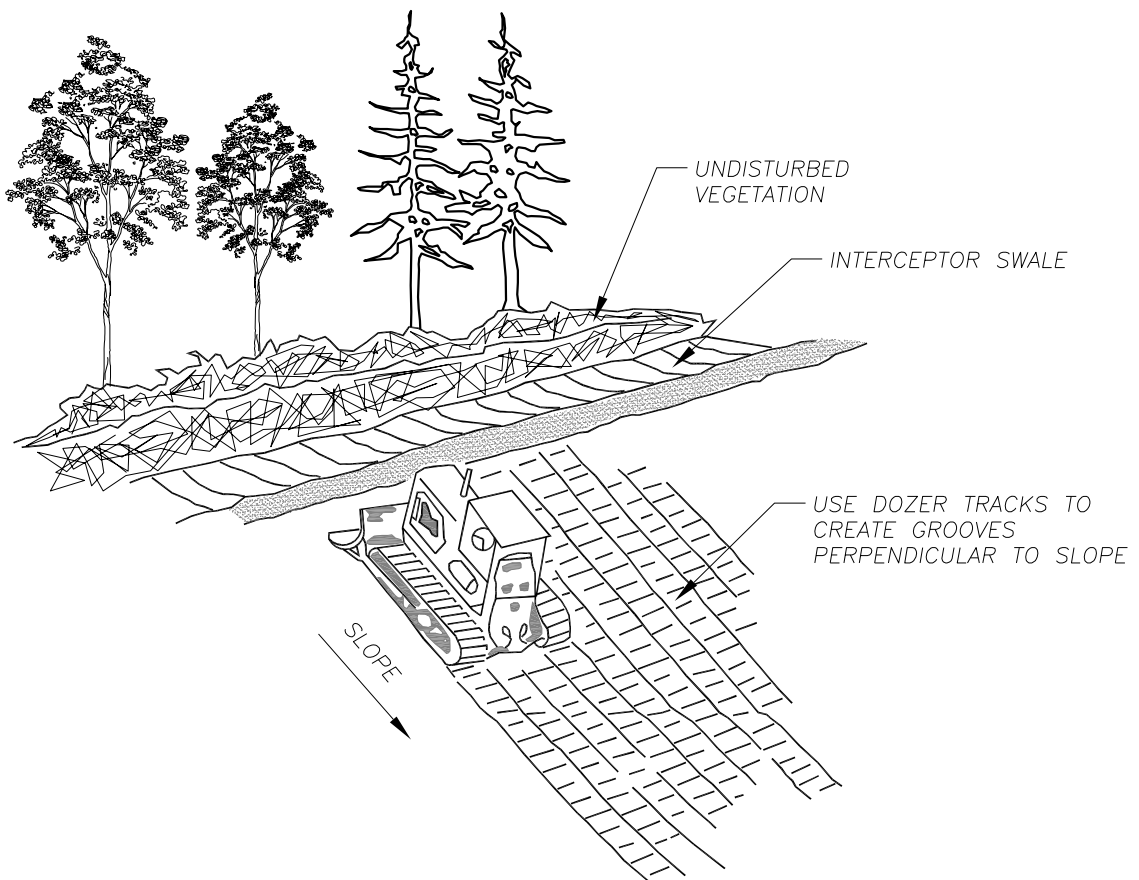
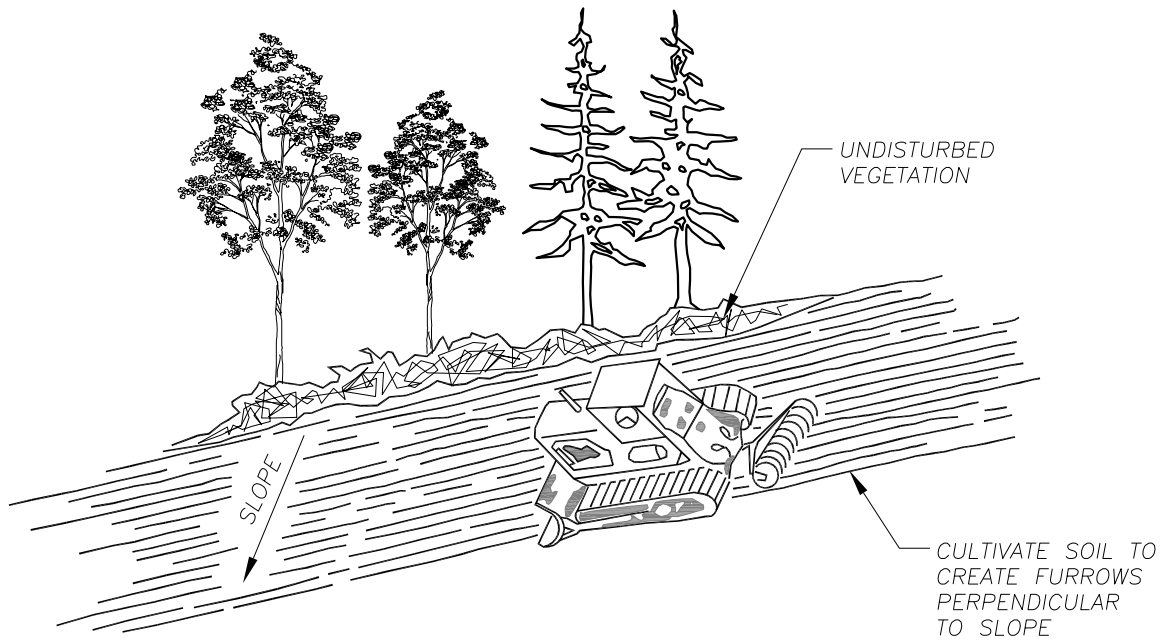
OAK MATS

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*SURFACE ROUGHENING
CAT TRACKING*

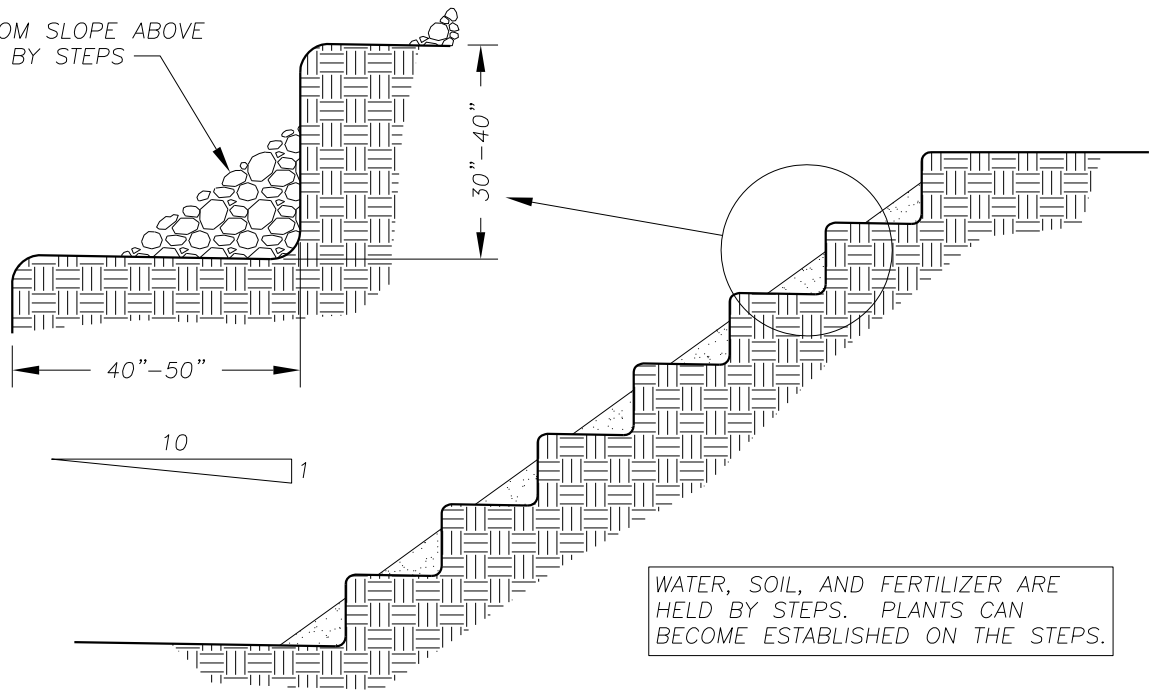
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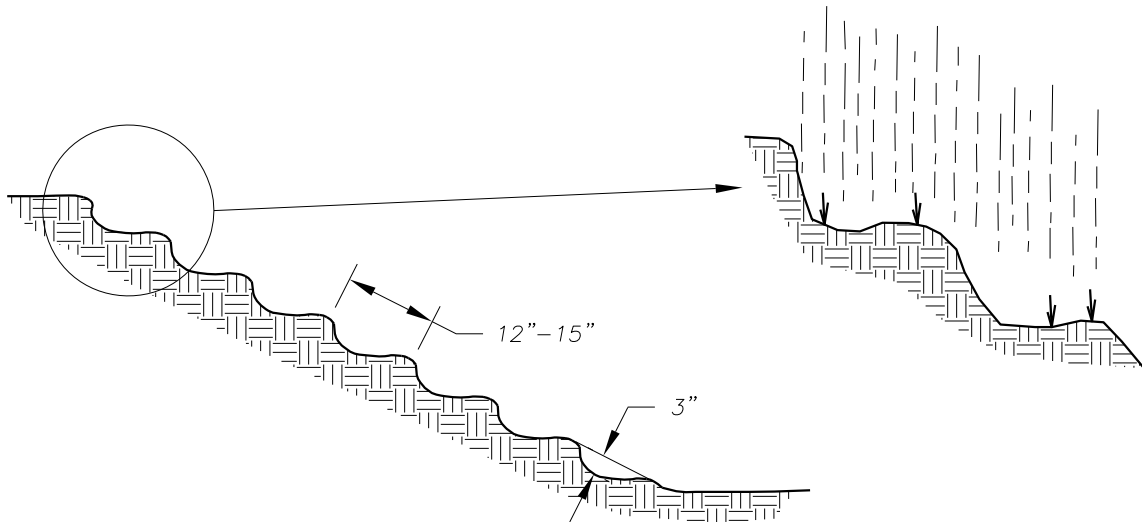
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DEBRIS FROM SLOPE ABOVE IS CAUGHT BY STEPS



WATER, SOIL, AND FERTILIZER ARE HELD BY STEPS. PLANTS CAN BECOME ESTABLISHED ON THE STEPS.

STAIR STEPPING CUT SLOPES



GROOVING IS CUTTING FURROWS ALONG THE CONTOUR OF A SLOPE. IRREGULARITIES IN THE SOIL SURFACE REDUCE RUNOFF VELOCITY, PROMOTE INFILTRATION, AND RETAIN LIME, FERTILIZER, AND SEED.

GROOVING SLOPES

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*SURFACE ROUGHENING
STAIR STEPPING/GROOVING*

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