APPENDIX A

STANDARD CONSTRUCTION DETAILS

APPENDIX A
STANDARD CONSTRUCTION DETAILS

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5A.4	Water Bar
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EG-303 (LS-6815-0)	Typical Swamp Mat Detail
EG-303 (LS-6831-0)	Typical Dewatering Haybale Basin
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SP.06.01.301.103	Transmission Line Standards – ROW Gates and Fences Pipe Gate (New York) (Sheet 2 of 5)
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EM&CP-0631	Type 1: Unimproved Access Road
EM&CP-0632	Type 2: Permanent Stabilized Access Road Firm Soil (Page 1 of 2)

EM&CP-0632	Type 2: Permanent Stabilized Access Road Soft Soil (Page 2 of 2)
EM&CP-0633	Type 3: Temporary Access Road Gravel/Stone
611-01	New York State Department of Transportation (NYSDOT) Standard Specification for Tree and Shrub Planting
Standard and Specification	Temporary Critical Area Plantings
Standard and Specification	Permanent Critical Area Plantings
Standard and Specification	Recreation Area Improvement (Groundcover Restoration for Lawns)

Steep Slope Seed Mix

Typical Permanent Road Section – Moreau State Park: Non-Infiltration Trench Areas

Typical Permanent Road Section – Moreau State Park: With Infiltration Trench

Typical Permanent Road Section – Moreau State Park: Non-Geoweb Areas

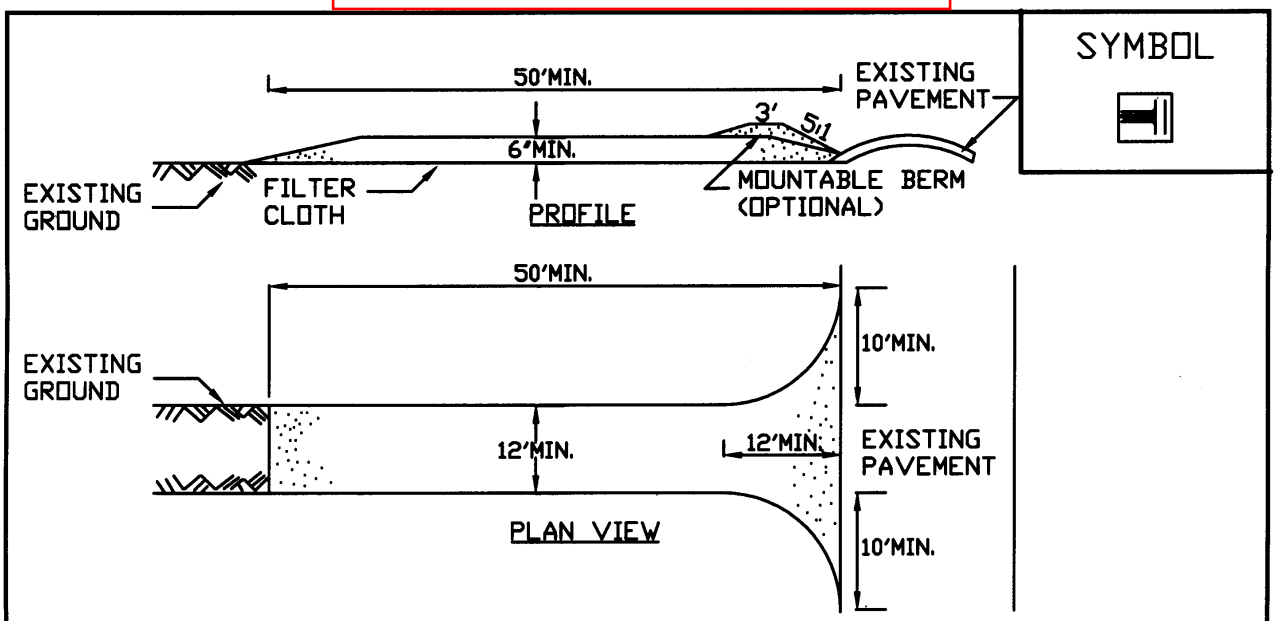
Typical Riprap Slope Section – Moreau State Park

Turf Reinforcement Mat

Genuine Geoweb Plan and Sections

Figure 5A.35
Stabilized Construction Entrance

Note: Mountable berm will not be installed.



CONSTRUCTION SPECIFICATIONS

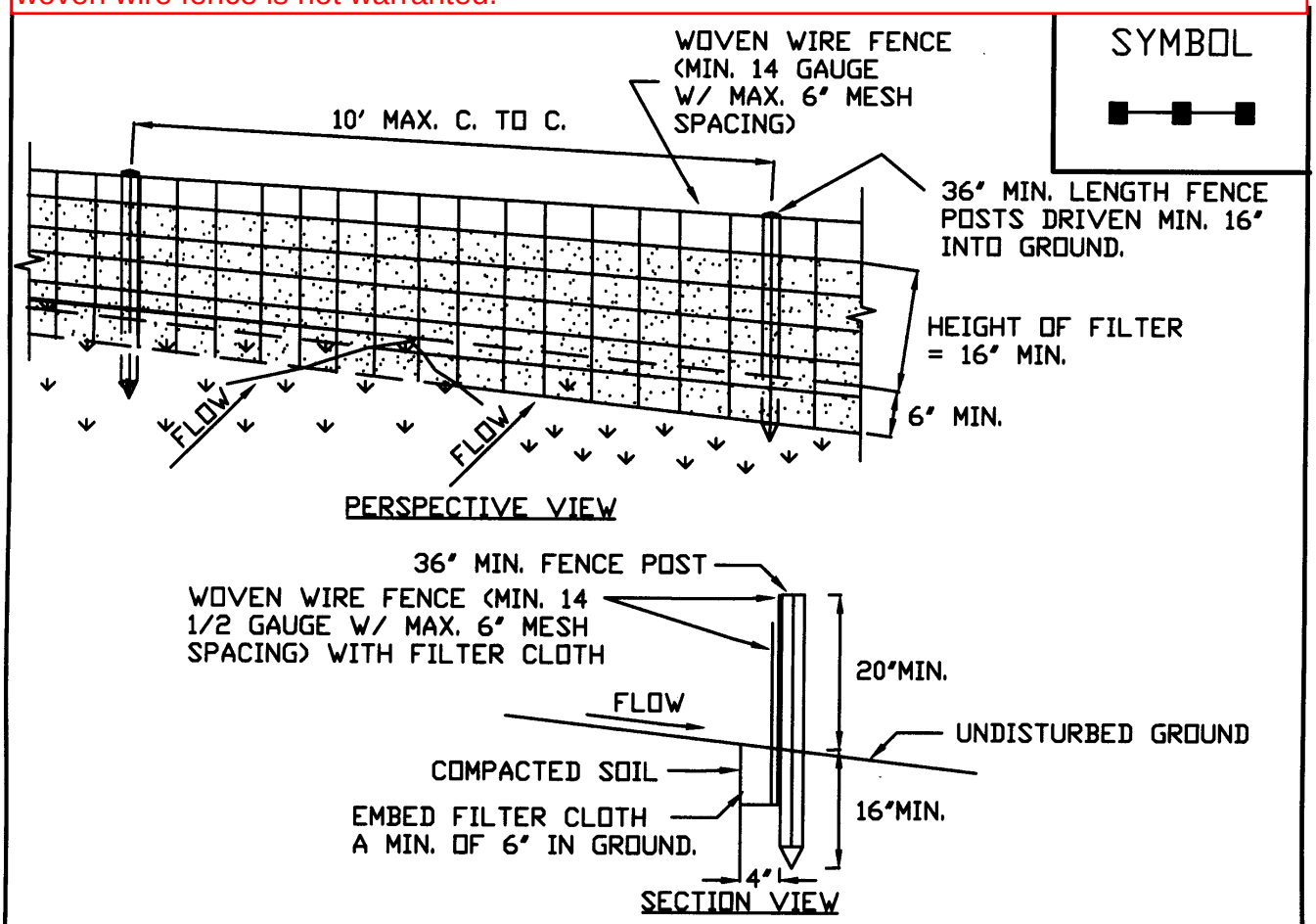
1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

STABILIZED CONSTRUCTION ENTRANCE

Figure 5A.8
Silt Fence

Note: Silt fence may be constructed of filter cloth or geotextile material and stakes where woven wire fence is not warranted.



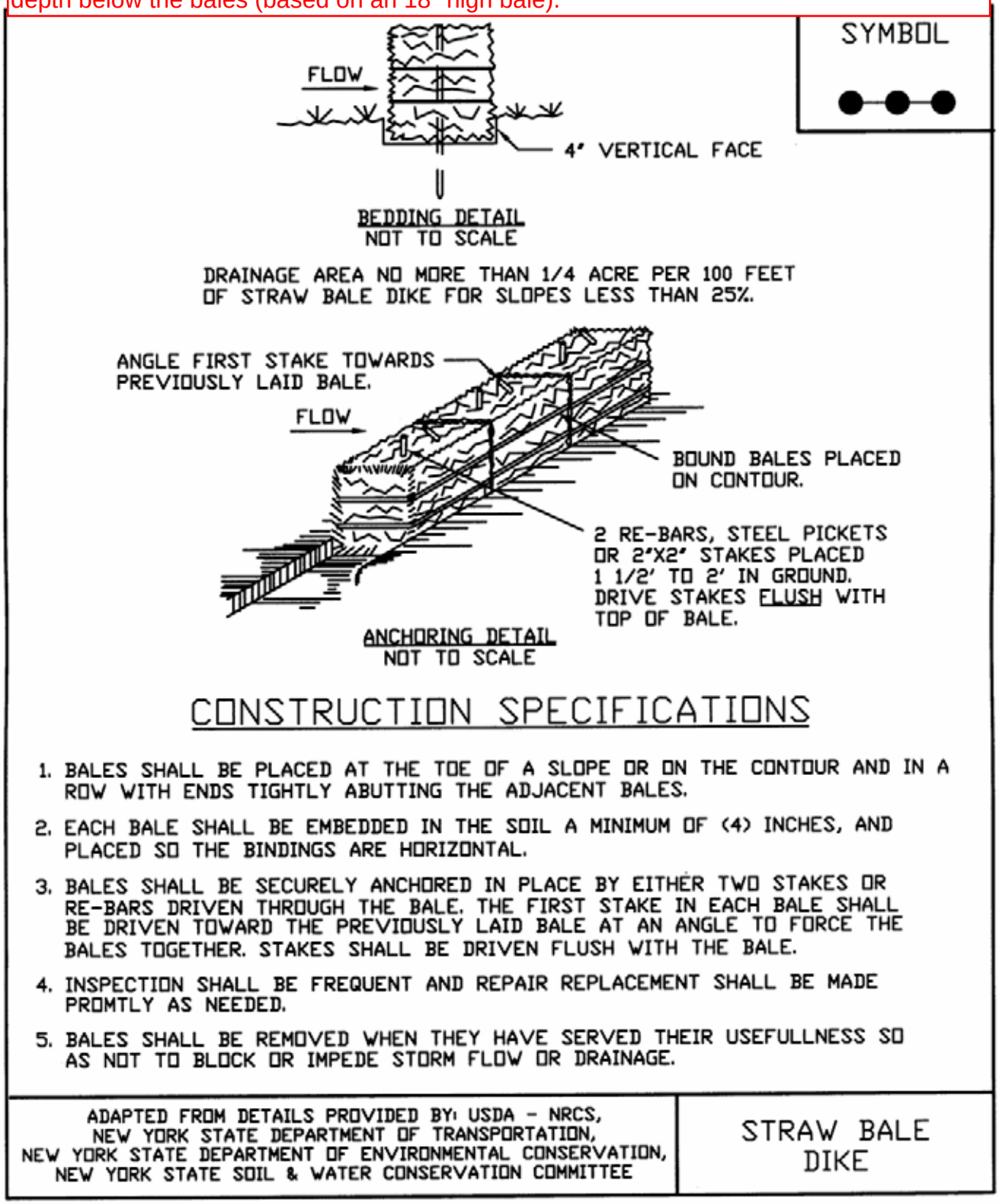
CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	SILT FENCE

Figure 5A.7
Straw Bale Dike

Note: 2" X 2" stakes should be at least 3' to 3.5' long to provide for 1.5' to 2' penetration depth below the bales (based on an 18" high bale).



CONSTRUCTION SPECIFICATIONS

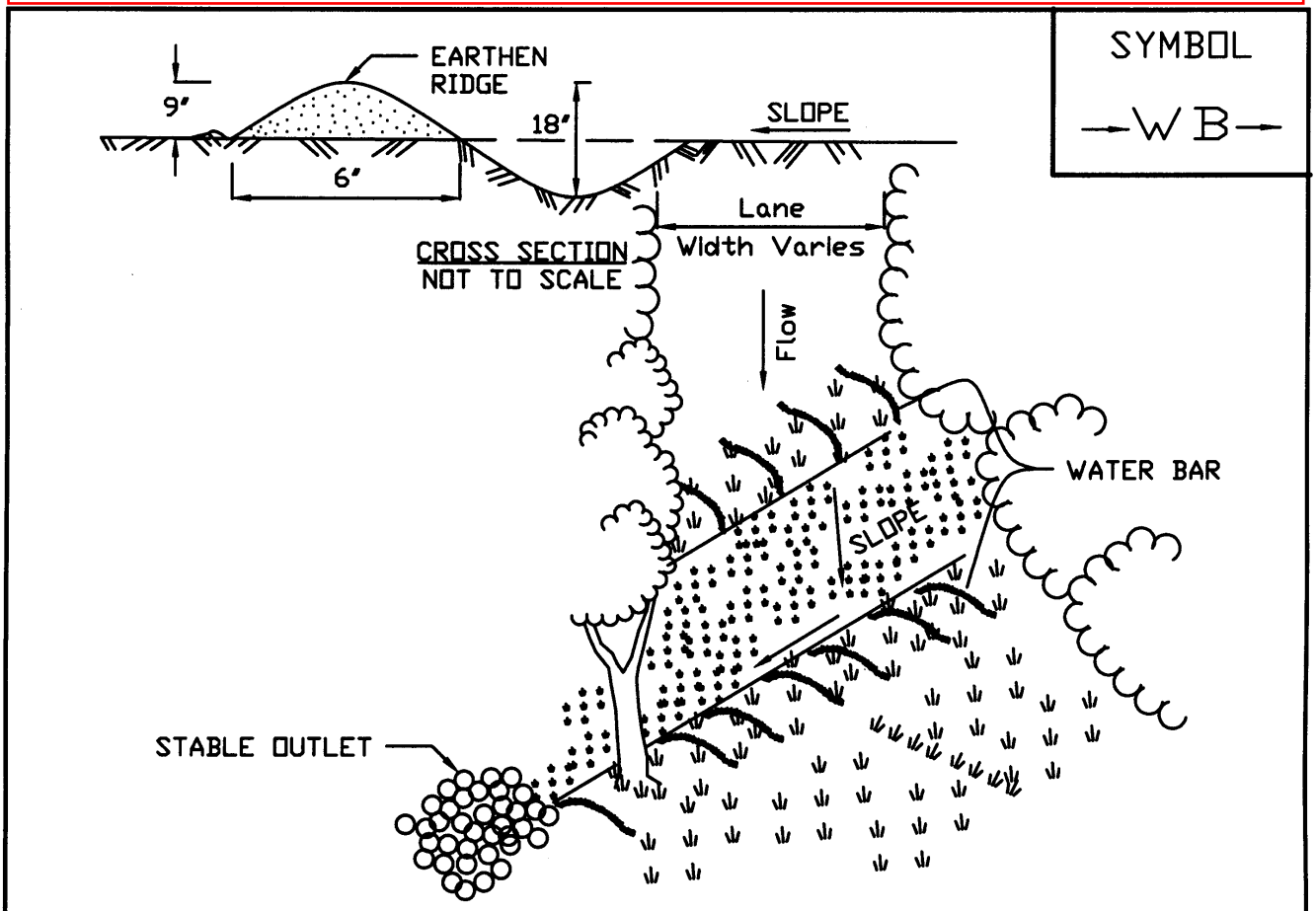
1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULLNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

STRAW BALE DIKE

Figure 5A.4
Water Bar

Note: A typical 12” to 18” range for the width of the earthen ridge is acceptable.

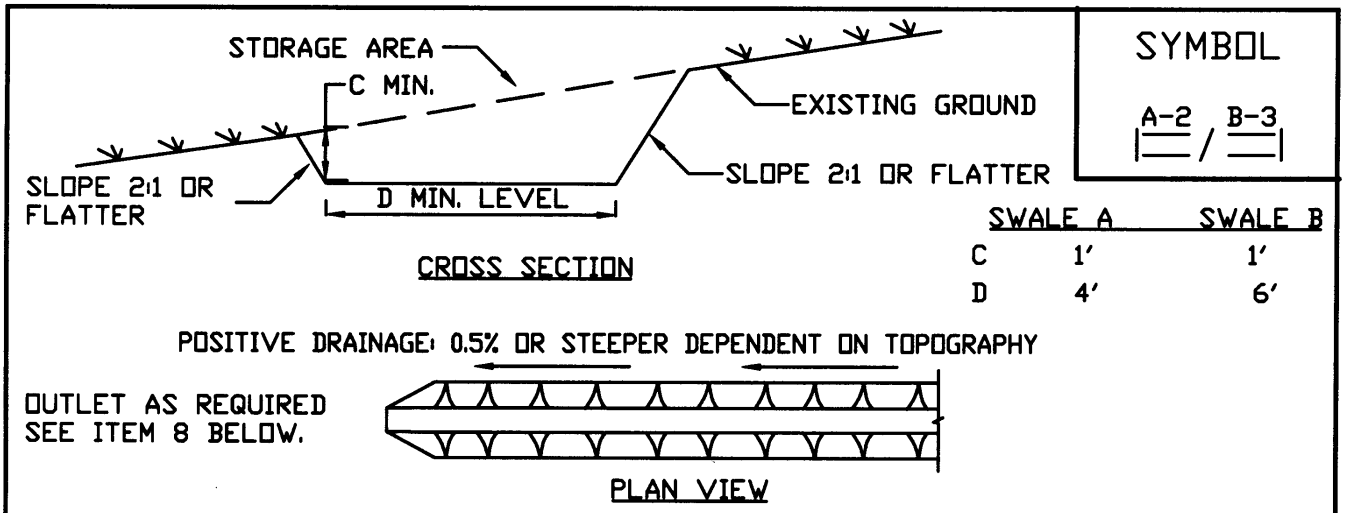


CONSTRUCTION SPECIFICATIONS

1. INSTALL THE WATER BAR AS SOON AS THE RIGHT OF WAY IS CLEARED AND GRADED.
2. DISK OR STRIP THE SOD FROM THE BASE FOR THE CONSTRUCTED RIDGE BEFORE PLACING FILL.
3. TRACK THE RIDGE TO COMPACT IT TO THE DESIGN CROSS SECTION.
4. THE OUTLET SHALL BE LOCATED ON AN UNDISTURBED AREA. FIELD SPACING WILL BE ADJUSTED TO USE THE MOST STABLE OUTLET AREAS. OUTLET PROTECTION WILL BE PROVIDED WHEN NATURAL AREAS ARE NOT ADEQUATE.
5. VEHICLE CROSSING SHALL BE STABILIZED WITH GRAVEL. EXPOSED AREAS SHALL BE IMMEDIATELY SEEDED AND MULCHED.
6. PERIODICALLY INSPECT WATER BARS FOR EROSION DAMAGE AND SEDIMENT. CHECK OUTLET AREAS AND MAKE REPAIRS AS NEEDED TO RESTORE OPERATION.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	WATER BARS

Figure 5A.2
Temporary Swale



CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY SWALES SHALL HAVE UNINTERUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE FLOW CHANNEL STABILIZATION CHART BELOW:

TYPE OF TREATMENT	CHANNEL GRADE	A(5 AC. OR LESS)	B(5 AC -10AC)
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED AND COVER USING RECP
3	5.1-8.0%	SEED AND COVER WITH RECP	LINED WITH 4-8" RIP-RAP OR GEOTEXTILE
4	8.1-20.%	LINED WITH 4-8" RIP-RAP OR GEOTEXTILE	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

TEMPORARY SWALE

Figure 5A.36
Temporary Access Bridge

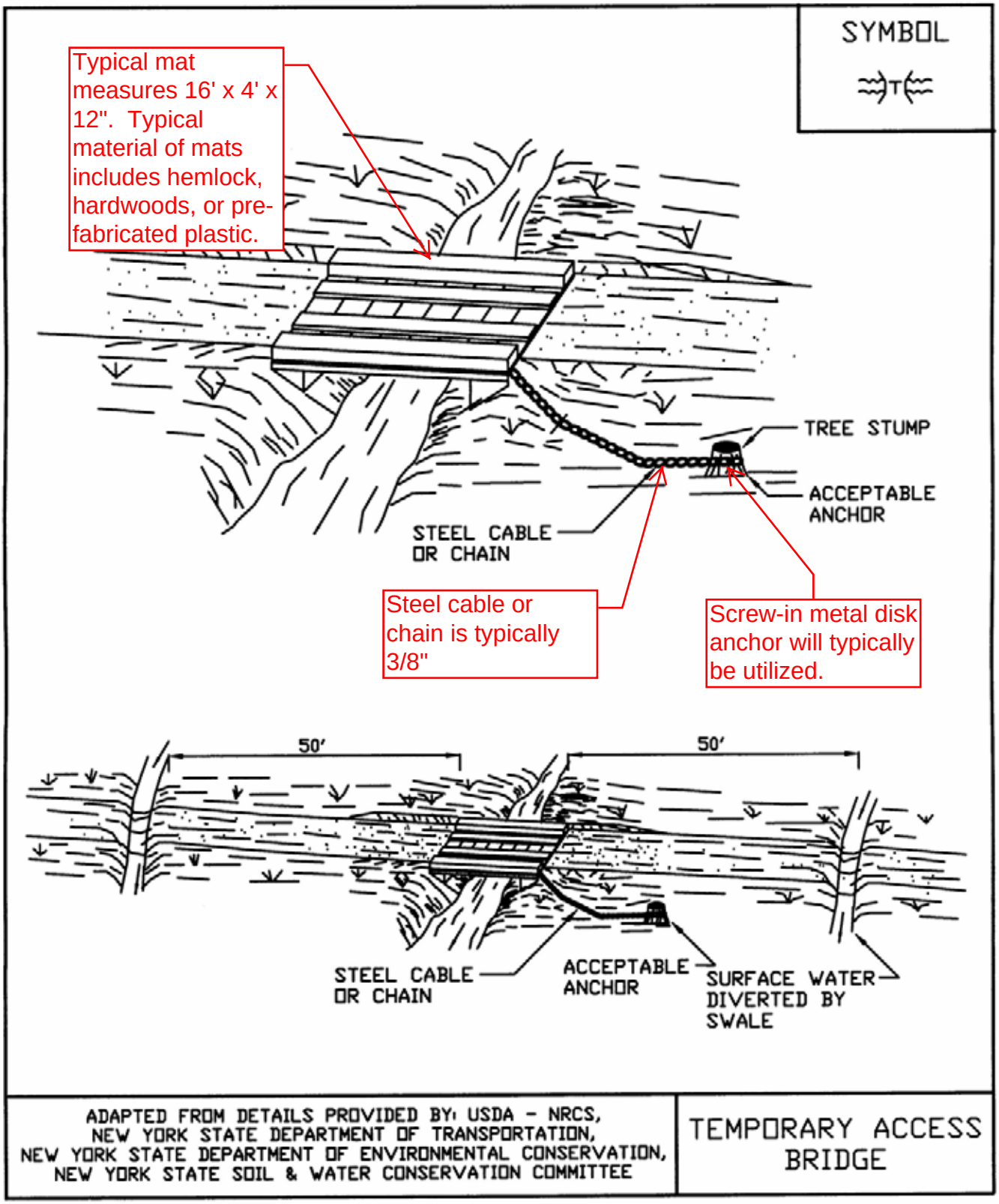
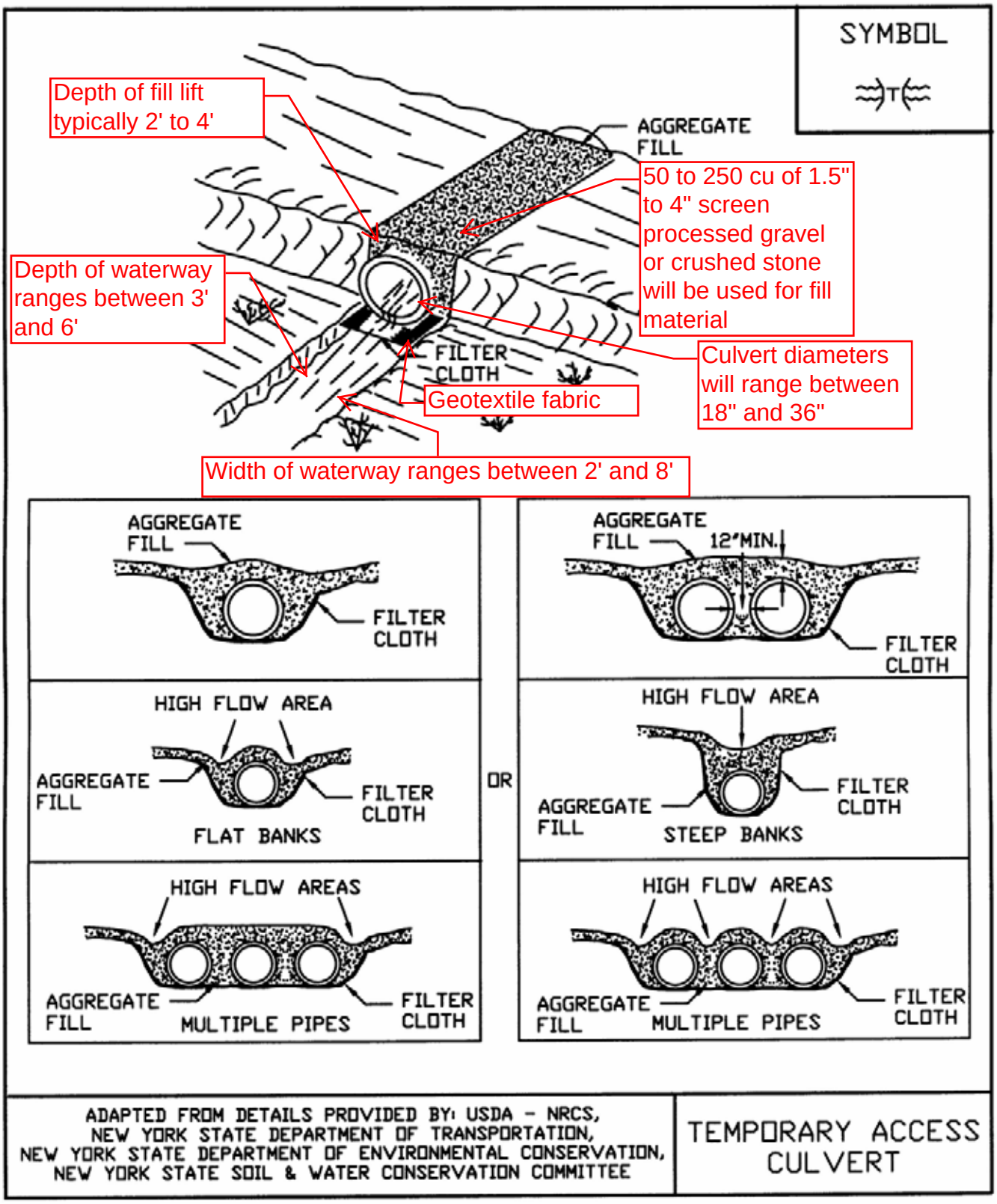


Figure 5A.37
Temporary Access Culvert



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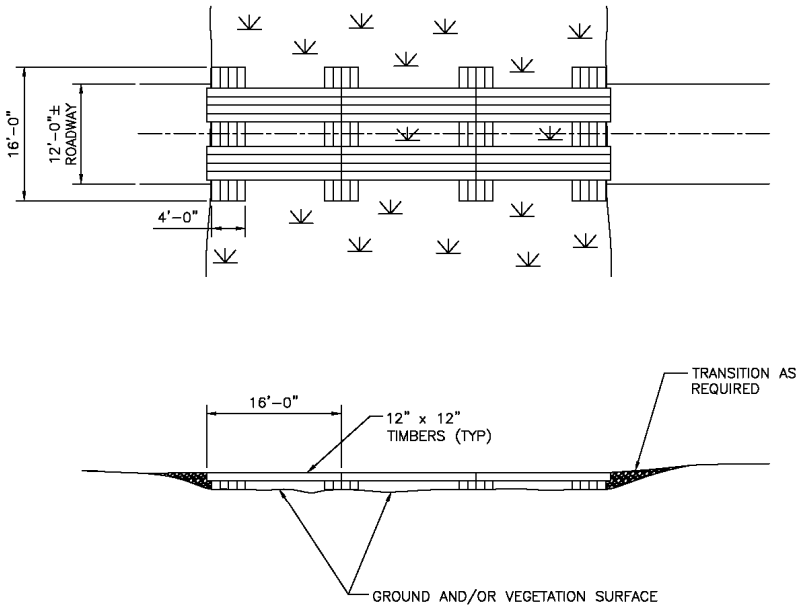

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ORIGINAL	REVISIONS		
DATE 11/15/05	REV.	DATE	
DESIGNED JME	1		
CHECKED	2		
DRAWN	3		
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REVIEWED	5		
APPROVED	6		
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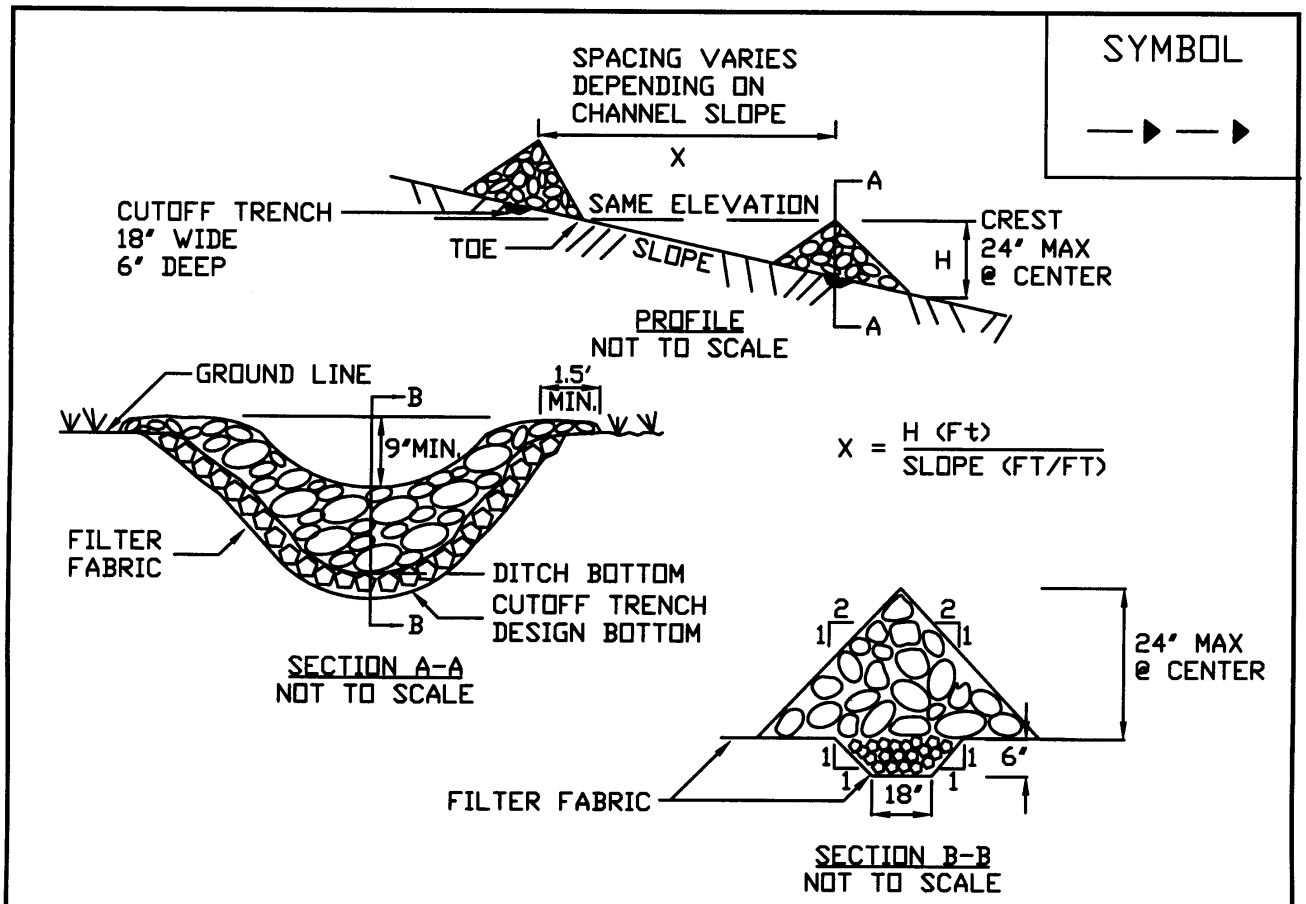
TYPICAL STREAM CROSSING WITH SWAMP MATS

SCALE: NONE DATE: 11/15/05

Figure 5A.9
Check Dam



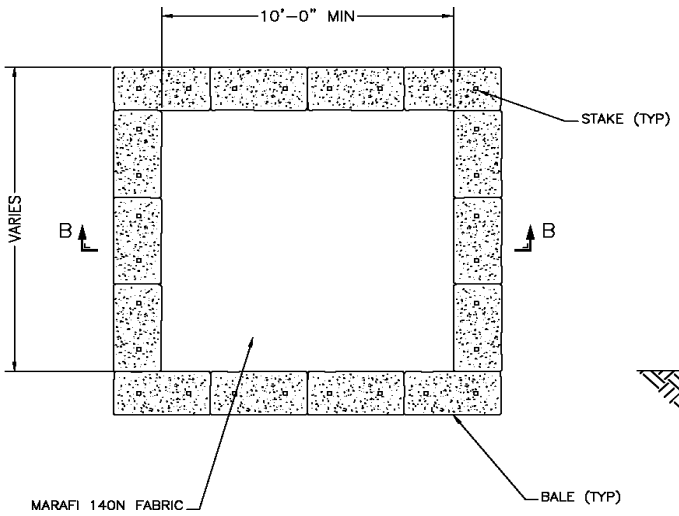
CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

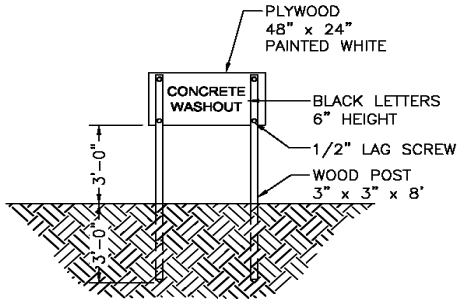
MAXIMUM DRAINAGE AREA 2 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	CHECK DAM

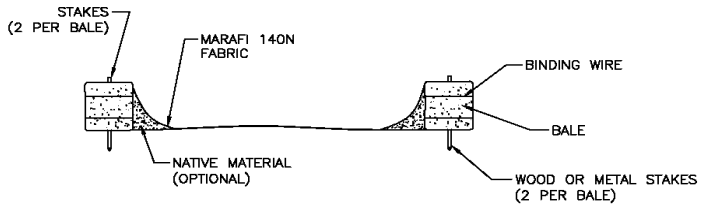
LS-6832-0



PLAN VIEW
TYPE "ABOVE GRADE" WITH BALES



CONCRETE WASHOUT SIGN DETAIL
(OR EQUIVALENT)



SECTION B–B

NOTES:
1. SUMPS TO BE LOCATED IN YARD BUT SHOULD BE KEPT AS FAR FROM DRAINAGE CHANNELS AND WETLAND AREAS AS PRACTICAL.
2. SUMPS TO BE CLEANED AND WASTE CONCRETE REMOVED AND PROPERLY DISPOSED OF UPON COMPLETION OF WORK.

LS-6832-0

ORIGINAL	REVISIONS		
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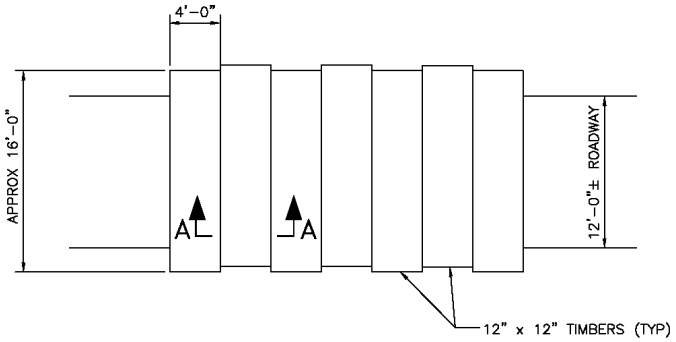
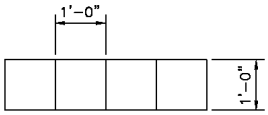
TYPICAL CONCRETE WASTE SUMP

SCALE: NONE DATE: 11/15/05

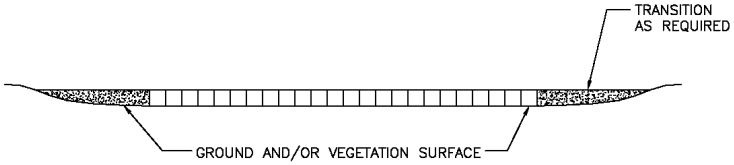
LS-6815-0



TYPICAL PLAN VIEW



SECTION A–A
TYPICAL MAT SECTION
BOLTED TOGETHER



TYPICAL SECTION VIEW

NOTE:
1. TO BE INSTALLED IF NECESSARY TO PREVENT RUTTING, TO ACCESS STRUCTURES.
2. THIS DETAIL SHOWS TYPICAL DIMENSIONS. SOME CONTRACTORS SWAMP MATS ARE DIMENSIONALLY DIFFERENT FROM WHAT IS SHOWN HERE.
3. DEPENDENT ON SITE CONDITIONS, MULTIPLE LAYERS OF SWAMP MATS MAY BE INSTALLED.

LS-6815-0

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TYPICAL SWAMP MAT DETAIL

SCALE: NONE DATE: 11/15/05

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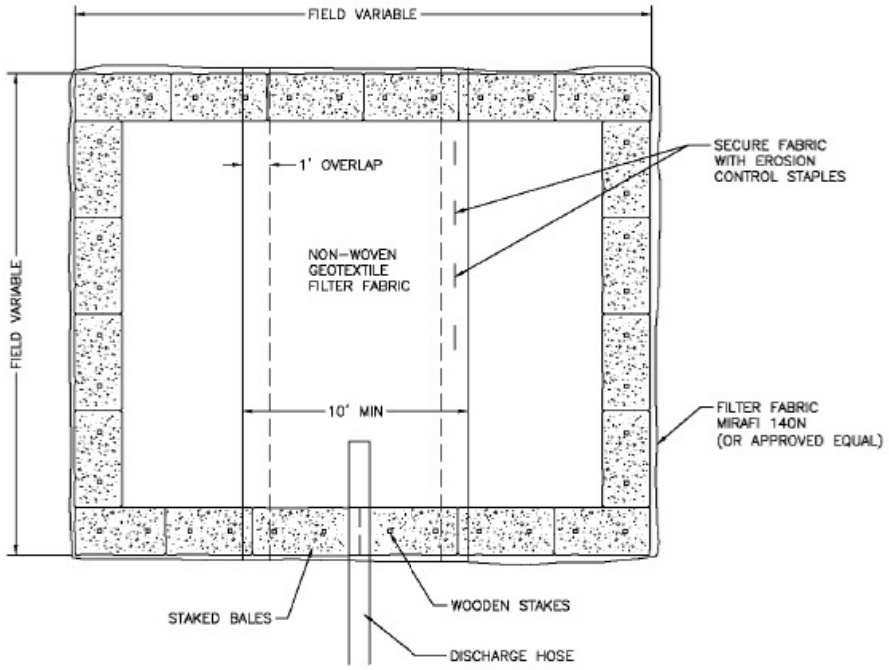
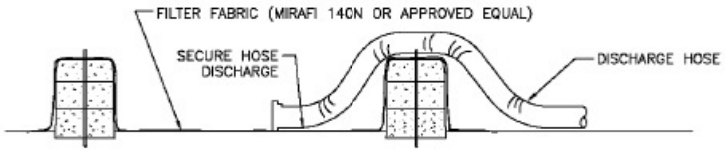


PLAN VIEW



CROSS-SECTION

NOTES:
1. NUMBER OF BALES MAY VARY DEPENDING ON SITE CONDTIONS.
2. THE BASIN TO BE SIZED TO PREVENT DISCHARGE WATER FROM OVERTOPPING BASIN.
3. KEEP AS FAR FROM WETLANDS AS PRACTICAL.
4. CLEAN AND REMOVE AS SOON AS DEWATERING IS COMPLETE.

LS-6831-0

ORIGINAL	REVISIONS		
DATE 11/15/05	REV.	DATE	
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TYPICAL DEWATERING
STRAW BALE BASIN

SCALE: NONE DATE: 11/15/05

STANDARD AND SPECIFICATIONS FOR DUST CONTROL

Definition

The control of dust resulting from land-disturbing activities.

Purpose

To prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety problems.

Conditions Where Practice Applies

On construction roads, access points, and other disturbed areas subject to surface dust movement and dust blowing where off-site damage may occur if dust is not controlled.

Design Criteria

Construction operations should be scheduled to minimize the amount of area disturbed at one time. Buffer areas of vegetation should be left where practical. Temporary or permanent stabilization measures shall be installed. No specific design criteria is given; see construction specifications below for common methods of dust control.

Water quality must be considered when materials are selected for dust control. Where there is a potential for the material to wash off to a stream, ingredient information must be provided to the local permitting authority.

Construction Specifications

A. Non-driving Areas – These areas use products and materials applied or placed on soil surfaces to prevent airborne migration of soil particles.

Vegetative Cover – For disturbed areas not subject to traffic, vegetation provides the most practical method of dust control (see Section 3).

Mulch (including gravel mulch) – Mulch offers a fast effective means of controlling dust. This can also include rolled erosion control blankets.

Spray adhesives – These are products generally composed of polymers in a liquid or solid form that are mixed with water to form an emulsion that is sprayed on the soil surface with typical hydroseeding equipment. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations for the specific soils on the site. In no case should the application of these adhesives be made on wet soils or if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators and others working with the material.

B. Driving Areas – These areas utilize water, polymer emulsions, and barriers to prevent dust movement from the traffic surface into the air.

Sprinkling – The site may be sprayed with water until the surface is wet. This is especially effective on haul roads and access routes.

Polymer Additives – These polymers are mixed with water and applied to the driving surface by a water truck with a gravity feed drip bar, spray bar or automated distributor truck. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations. Incorporation of the emulsion into the soil will be done to the appropriate depth based on expected traffic. Compaction after incorporation will be by vibratory roller to a minimum of 95%. The prepared surface shall be moist and no application of the polymer will be made if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators working with the material.

Barriers – Woven geotextiles can be placed on the driving surface to effectively reduce dust throw and particle migration on haul roads. Stone can also be used for construction roads for effective dust control.

Windbreak – A silt fence or similar barrier can control air currents at intervals equal to ten times the barrier height. Preserve existing wind barrier vegetation as much as practical.

All Stormwater Pollution Prevention Plans must contain the NYS DEC issued “Conditions for Use” and “Application Instructions” for any polymers used on the site. This information can be obtained from the NYS DEC website.

Maintenance

Maintain dust control measures through dry weather periods until all disturbed areas are stabilized.

VER	DATE	VERSION DESCRIPTION	PREPARED	REVIEWED	APPROVED	VERSION
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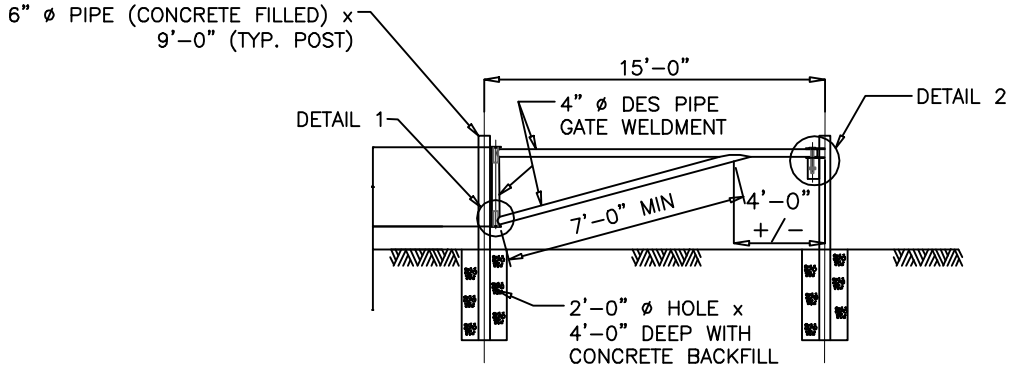
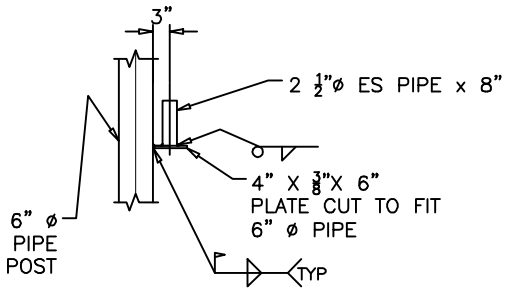
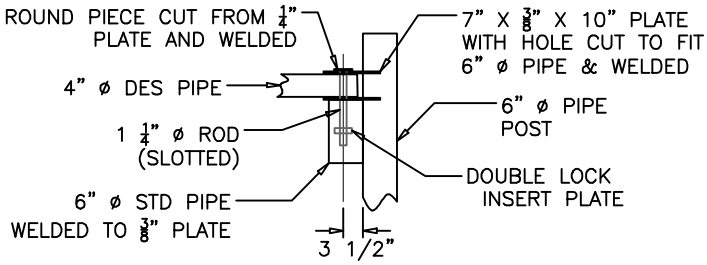
2						
3						
4						





DETAIL 1

SIMILAR DETAIL AT TOP



DETAIL 2

NOTES
1. ALL GATE STEEL PIPES SHALL BE IN ACCORDANCE WITH ASTM A-501, PLATES SHALL BE ASTM A-36
2. ALL STEEL PIPES SHALL BE PRIMED WITH ZINC-CHROMATE PRIMER AND FINISHED WITH AN APPROVED OSHA "SAFETY YELLOW" TOP COAT COMPATIBLE WITH THE PRIMER AND FOR EXTERIOR EXPOSURE.
3. REFLECTORS SHALL BE SPACED AT 3 FEET ALONG THE LENGTH OF THE CROSSBAR AND BRACE
4. BACKFILL AT POSTS TO BE COMPACTED.

TRANSMISSION LINE STANDARDS

R.O.W. GATES AND FENCES PIPE GATE (NEW ENGLAND)

PREPARED BY	TEC	
REVIEWED BY	JLC	
APPROVED BY	MSB	
SCALE	NTS	
SHEET	1 OF 5	
INDEX	SP.06.01.301	

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SP.06.01.301.103

VER	DATE	VERSION DESCRIPTION	PREPARED	REVIEWED	APPROVED	VERSION
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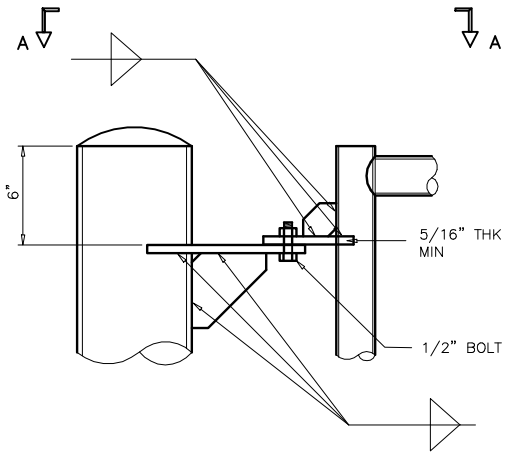
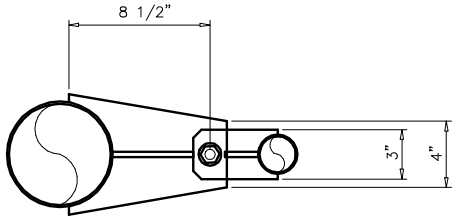
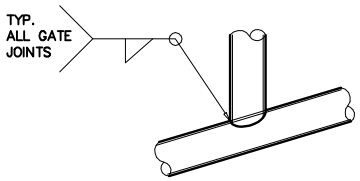


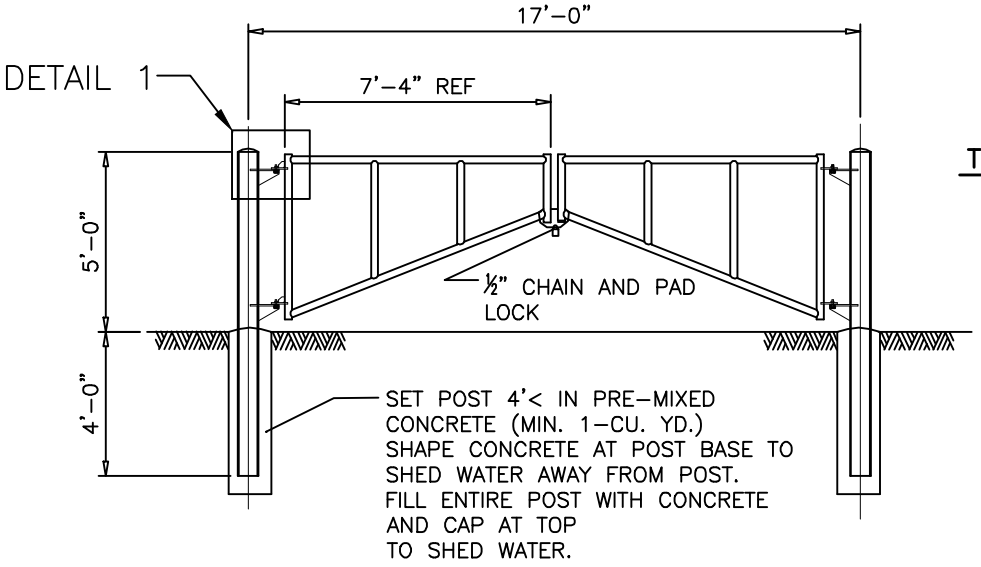
DETAIL 1



SECTION A–A



TYPICAL JOINT WELD DETAIL



NOTES:

1. GATE COATING – THE FINISHED WELDED GATE AND POST/HINGE ASSEMBLIES SHALL BE HOT–DIP GALVANIZED PER THE LATEST EDITION OF ASTM A123.
2. GATE: 2" SCH. 40 GALV. PIPE. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AMERICAN WELDING STANDARD D11.
3. POSTS: 6" SCH. 40 GALVANIZED PIPE
4. HINGES ARE WELDED PLATES (5/16" THK. MIN.) AND CASE HARDENED ½" BOLTS. THE BOLTS ARE TO BE SPOT WELDED TO PREVENT LOOSENING. SELF LOCKING NUTS CAN BE SUBSTITUTED FOR SPOT WELDING.
5. ALL STEEL PIPES SHALL BE PRIMED WITH ZINC–CHROMATE PRIMER AND FINISHED WITH AN APPROVED OSHA "SAFETY YELLOW" TOP COAT COMPATIBLE WITH THE PRIMER AND FOR EXTERIOR EXPOSURE.
6. REFLECTORS SHALL BE SPACED AT 3 FEET ALONG THE LENGTH OF THE COROSSBARS.

TRANSMISSION LINE STANDARDS

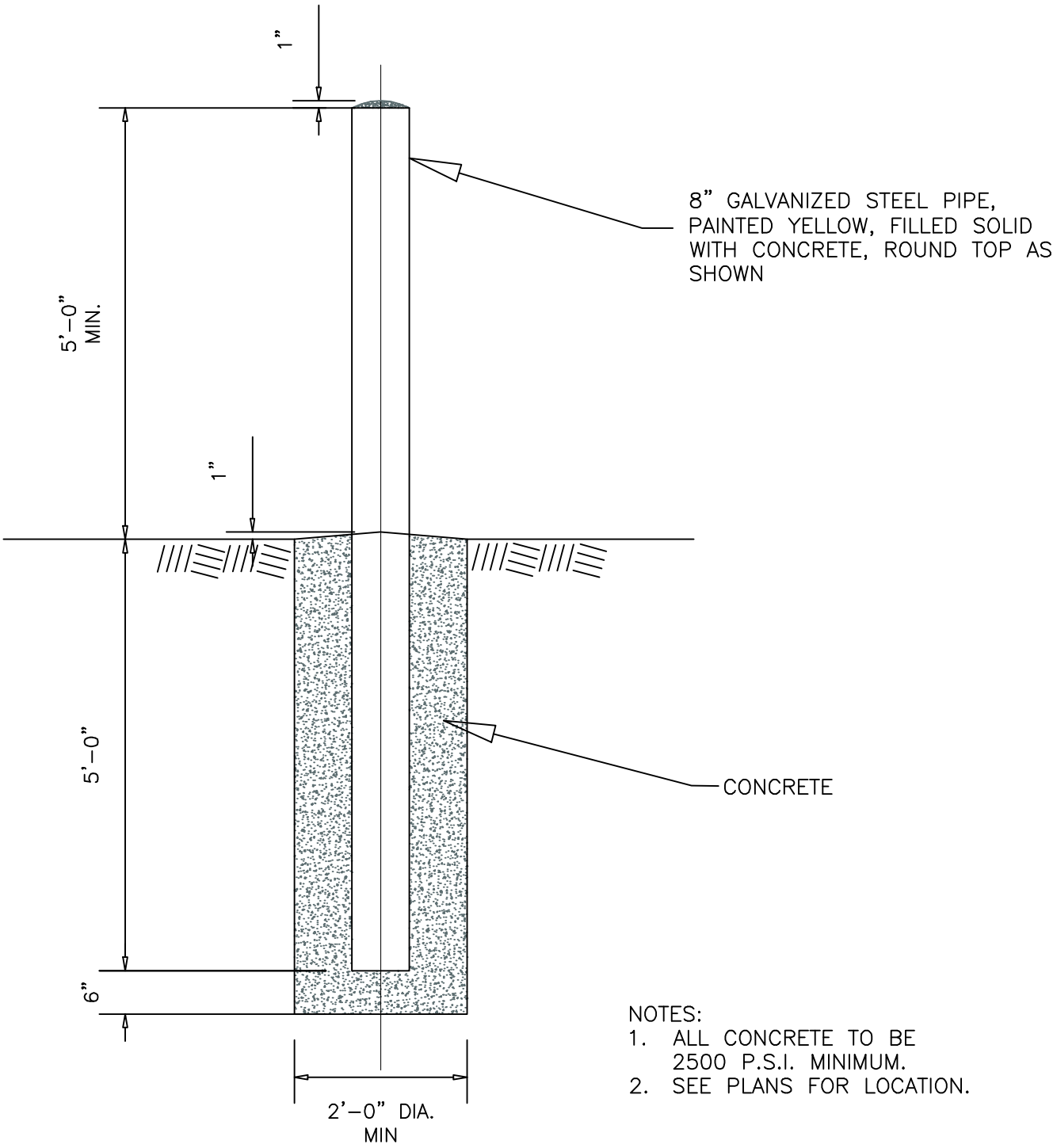
R.O.W. GATES AND FENCES PIPE GATE (NEW YORK)

PREPARED BY	TEC	
REVIEWED BY	JLC	
APPROVED BY	MSB	
SCALE	NTS	
SHEET	2 OF 5	
INDEX	SP.06.01.301	

nationalgrid

SP.06.01.301.103

VER	DATE	VERSION DESCRIPTION	PREPARED	REVIEWED	APPROVED	VERSION
1	07/26/10	INITIAL RELEASE	TEC			1
2						
3						
4						



NOTES:
1. ALL CONCRETE TO BE 2500 P.S.I. MINIMUM.
2. SEE PLANS FOR LOCATION.

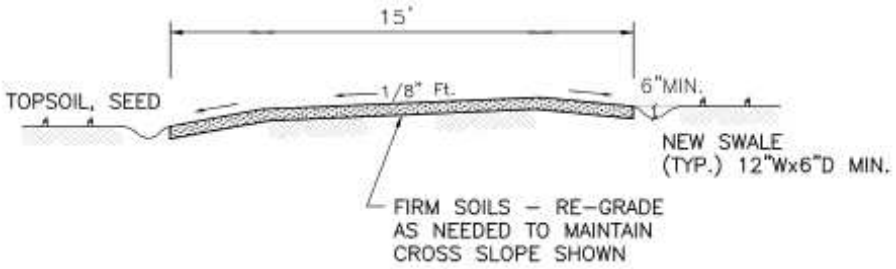
TRANSMISSION LINE STANDARDS

R.O.W. GATES AND FENCES TYPICAL BOLLARD DETAIL

PREPARED BY	TEC	
REVIEWED BY	JLC	
APPROVED BY	MSB	
SCALE	NTS	
SHEET	5 OF 5	
INDEX	SP.06.01.301	

nationalgrid

SP.06.01.301.103



TYPICAL SECTION VIEW

NOTES:

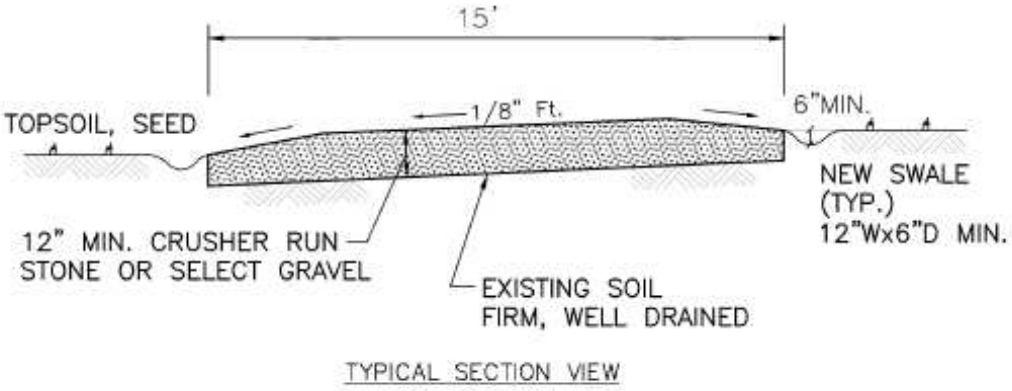
1. GRADE AND CROWN, ON LEVEL TERRAIN, THE FINISHED SURFACE TO DRAIN.
2. GRADE TO DRAIN WITH APPROPRIATE DITCHING, WATER BARS, ETC. TO ROADS INSTALLED ON SIDE SLOPES.

ORIGINAL	REVISIONS		
DATE	REV.	DATE	
DESIGNED	1		
CHECKED	2		
DRAWN	3		
CHECKED	4		
REVIEWED	5		
APPROVED	6		
	7		

nationalgrid

TYPE 1: UNIMPROVED ACCESS ROAD

SCALE: NONE



TYPICAL SECTION VIEW

NOTES:

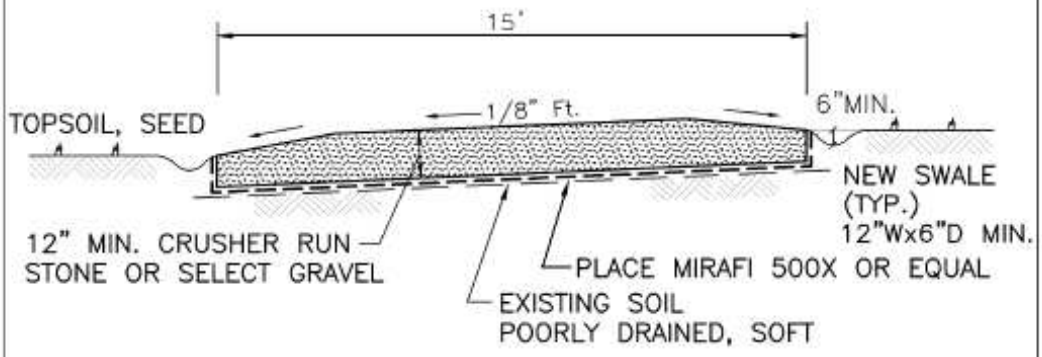
1. ON LEVEL TERRAIN, CROWN ROADWAY AT A MINIMUM CROSS SLOPE OF 1/8" PER FOOT. ON SLOPED TERRAIN, ROADS TO SLOPE AS SHOWN.
2. PROVIDE DITCHING OR SWALES ON ALL ROADS TO MAINTAIN DRAINAGE PATTERN.

ORIGINAL	REVISIONS		
DATE	REV.	DATE	
DESIGNED	1		
CHECKED	2		
DRAWN	3		
CHECKED	4		
REVIEWED	5		
APPROVED	6		
	7		

nationalgrid

TYPE 2: PERMANENT STABILIZED ACCESS ROAD
FIRM SOIL

SCALE: NONE



TYPICAL SECTION VIEW

NOTES:

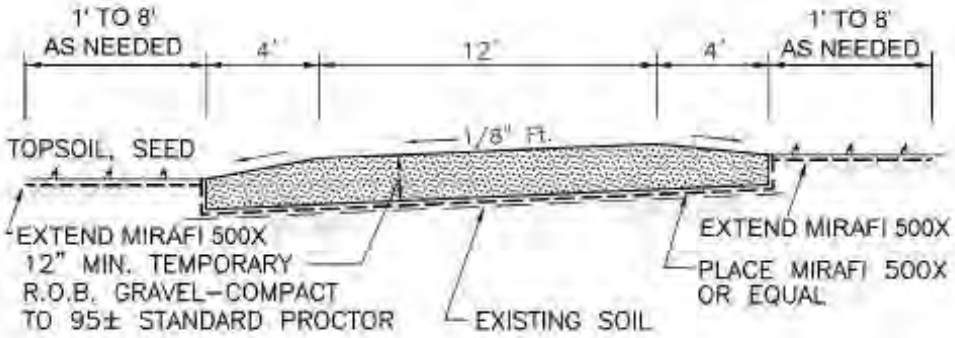
1. GRADE AND CROWN, ON LEVEL TERRAIN, THE FINISHED SURFACE TO DRAIN.
2. GRADE TO DRAIN WITH APPROPRIATE DITCHING, WATER BARS, ETC. TO ROADS INSTALLED ON SIDE SLOPES.

ORIGINAL	REVISIONS		
DATE	REV.	DATE	
DESIGNED	1		
CHECKED	2		
DRAWN	3		
CHECKED	4		
REVIEWED	5		
APPROVED	6		
	7		

nationalgrid

TYPE 2: PERMANENT STABILIZED ACCESS ROAD SOFT SOIL

SCALE: NONE



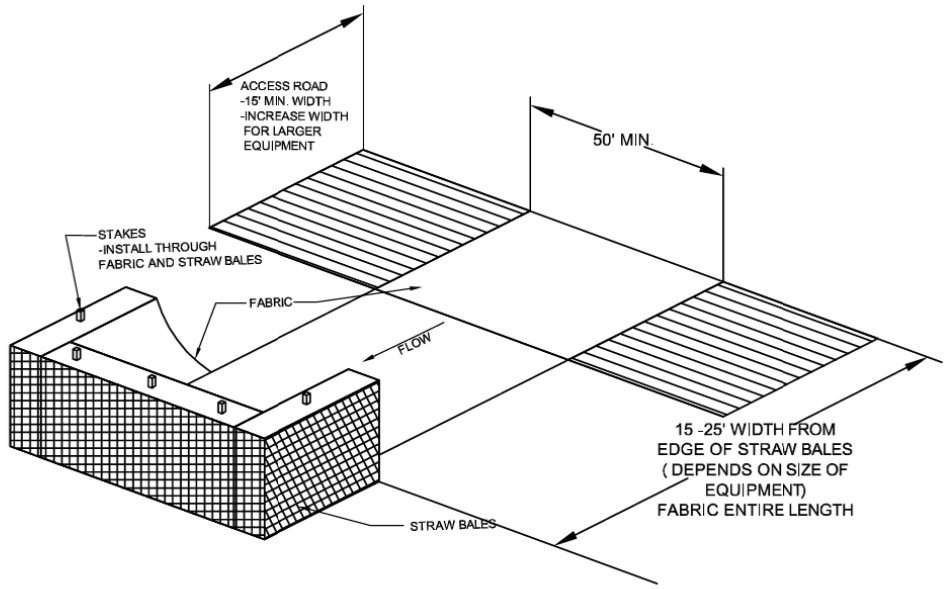
1 GRAVEL WILL BE REMOVED AND AREA RETURNED TO ORIGINAL CONDITION WHEN TEMPORARY ACCESS ROAD IS NO LONGER NEEDED.

ORIGINAL	REVISIONS		
DATE	REV.	DATE	
DESIGNED	1		
CHECKED	2		
DRAWN	3		
CHECKED	4		
REVIEWED	5		
APPROVED	6		
	7		

nationalgrid

TYPE 3: TEMPORARY ACCESS ROAD
GRAVEL/STONE

SCALE: NONE



DESCRIPTION
FOR GENERAL WASHING OF EQUIPMENT AND CONSTRUCTION VEHICLES.

APPLICATION:
AT ANY SITE WHERE REGULAR WASHING OF VEHICLES AND EQUIPMENT WILL OCCUR.
MAY ALSO BE USED AS A FILLING POINT FOR WATER TRUCKS LIMITING EROSION CAUSED BY OVERFLOW OR SPILLAGE OF WATER.

INSTALLATION/APPLICATION CRITERIA:
-CLEAR AND GRADE TO PROVIDE MAXIMUM SLOPE OF 1%.
-PLACE FILTER FABRIC (RECOMMENDED FOR WASH AREAS TO REMAIN IN USE FOR MORE THAN 3 MONTHS)
-INSTALL SILT FENCE/STRAW BALES DOWN GRADIENT (SEE SILT FENCE INFORMATION SHEET)
-2 STAKES TO BE INSTALLED IN EACH STRAW BALE THROUGH FABRIC.

LIMITATIONS:
CANNOT BE UTILIZED FOR WASHING EQUIPMENT OR VEHICLES THAT MAY CAUSE CONTAMINATION OF RUNOFF SUCH AS FERTILIZER EQUIPMENT OR CONCRETE EQUIPMENT.
SOLELY USED TO CONTROL SEDIMENT AND INVASIVE SPECIES MATERIAL.

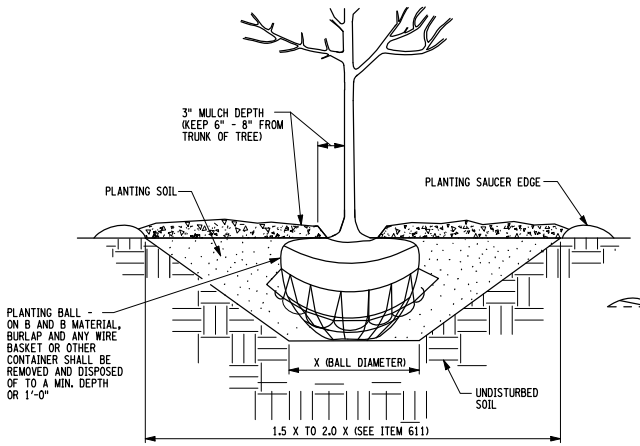
MAINTENANCE:
-INSPECT DAILY FOR SEDIMENT BUILDUP.
-INSPECT ADJACENT AREA FOR SEDIMENT DEPOSIT AND INSTALL ADDITIONAL CONTROLS AS NECESSARY.
-REPAIR AREA AS REQUIRED TO MAINTAIN CONTROL IN GOOD WORKING CONDITION.
-EXPAND STABILIZED AREA AS REQUIRED TO ACCOMMODATE ACTIVITIES.

ORIGINAL	REVISIONS		
DATE	REV.	DATE	
DESIGNED	1		
CHECKED	2		
DRAWN	3		
CHECKED	4		
REVIEWED	5		
APPROVED	6		
	7		

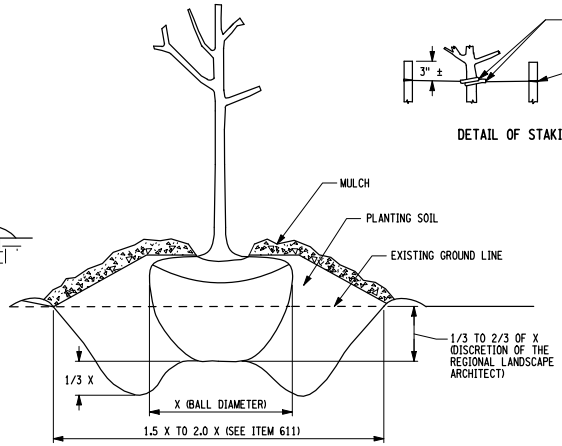
nationalgrid

TYPICAL CLEANING STATION

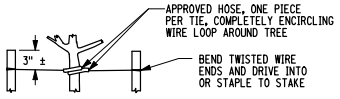
SCALE: NONE



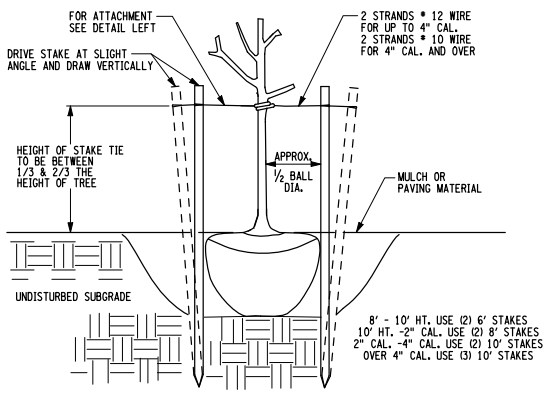
GENERAL TREE PLANTING



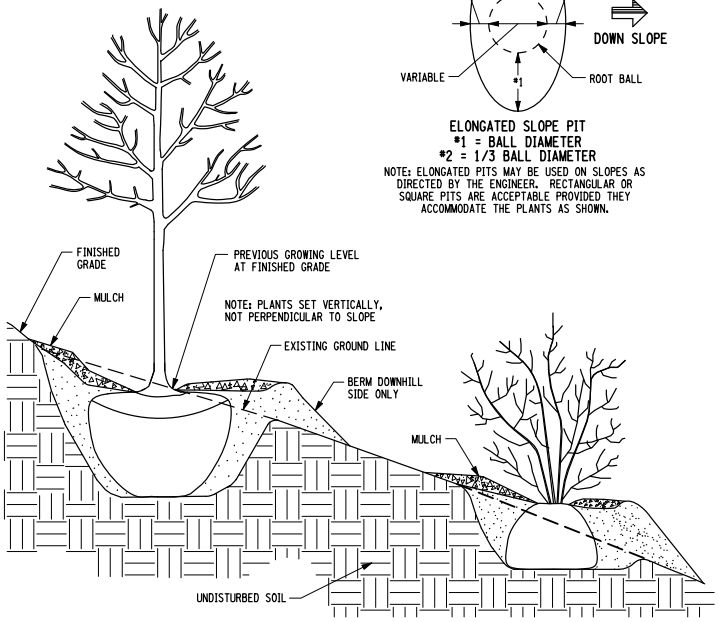
TREE PLANTING IN WET / HEAVY SOILS



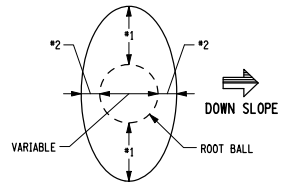
DETAIL OF STAKING TIE



STAKING TREES (WHEN SPECIFIED)

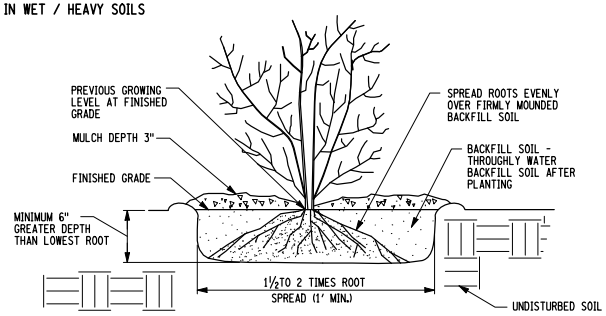


PLANT PLACEMENT
(ALL PLANT MATERIAL)

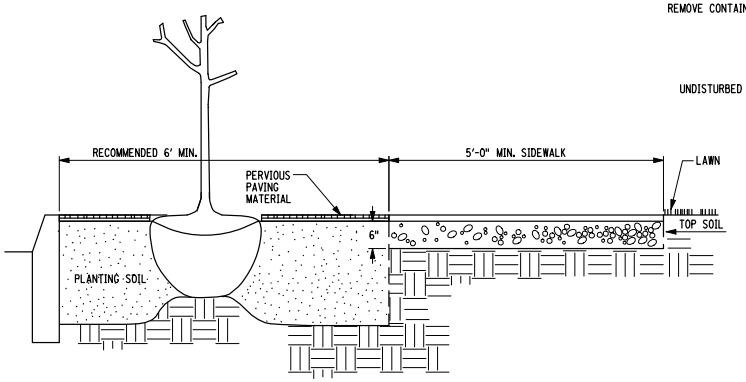


ELONGATED SLOPE PIT
#1 = BALL DIAMETER
#2 = 1/3 BALL DIAMETER

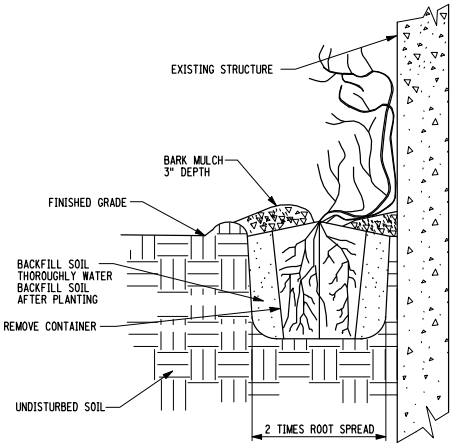
NOTE: ELONGATED PITS MAY BE USED ON SLOPES AS DIRECTED BY THE ENGINEER. RECTANGULAR OR SQUARE PITS ARE ACCEPTABLE PROVIDED THEY ACCOMMODATE THE PLANTS AS SHOWN.



BARE ROOT SHRUB PLANTING



URBAN TREE PLANTING



VINE PLANTING DETAIL

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY STANDARD SHEET

LANDSCAPE PLANTING DETAILS

APPROVED SEPTEMBER 19, 2008

/S/ DANIEL D'ANGELO, P.E.
DEPUTY CHIEF ENGINEER
(DESIGN)

ISSUED UNDER EB 08-036

611-01

EFFECTIVE DATE: 01/08/09

FILE NAME = IP_PWPrd0109553\611-01.dgn
DATE/TIME = 06-NOV-2008 15:03
USER = jturley

STANDARD AND SPECIFICATIONS FOR TEMPORARY CRITICAL AREA PLANTINGS

Definition

Providing erosion control protection to a critical area for an interim period. A critical area is any disturbed, denuded slope subject to erosion.

Purpose

To provide temporary erosion and sediment control. Temporary control is achieved by covering all bare ground areas that exist as a result of construction or a natural event.

Conditions Where Practice Applies

Temporary seedings may be necessary on construction sites to protect an area, or section, where final grading is complete, when preparing for winter work shutdown, or to provide cover when permanent seedings are likely to fail due to mid-summer heat and drought. The intent is to provide temporary protective cover during temporary shutdown of construction and/or while waiting for optimal planting time.

Criteria

Water management practices must be installed as appropriate for site conditions. The area must be rough graded and slopes physically stable. Large debris and rocks are usually removed. Seedbed must be seeded within 24 hours of disturbance or scarification of the soil surface will be necessary prior to seeding.

Fertilizer or lime are not typically used for temporary seedings.

IF: Spring or summer or early fall, then seed the area with ryegrass (annual or perennial) at 30 lbs. per acre (Approximately 0.7 lb./1000 sq. ft. or use 1 lb./1000 sq. ft.).
IF: Late fall or early winter, then seed Certified 'Aroostook' winter rye (cereal rye) at 100 lbs. per acre (2.5 lbs./1000 sq. ft.).

Any seeding method may be used that will provide uniform application of seed to the area and result in relatively good soil to seed contact.

Mulch the area with hay or straw at 2 tons/acre (approx. 90 lbs./1000 sq. ft. or 2 bales). Quality of hay or straw mulch allowable will be determined based on long term use and visual concerns. Mulch anchoring will be required where wind or areas of concentrated water are of concern. Wood fiber hydromulch or other sprayable products approved for erosion control (nylon web or mesh) may be used if applied according to manufacturers' specification. Caution is advised when using nylon or other synthetic products. They may be difficult to remove prior to final seeding.

STANDARD AND SPECIFICATIONS FOR PERMANENT CRITICAL AREA PLANTINGS

Definition

Establishing grasses with other forbs and/or shrubs to provide perennial vegetative cover on disturbed, denuded, slopes subject to erosion.

Purpose

To reduce erosion and sediment transport.

Conditions Where Practice Applies

This practice applies to all disturbed areas void of, or having insufficient, cover to prevent erosion and sediment transport. See additional standards for special situations such as sand dunes and sand and gravel pits.

Criteria

All water control measures will be installed as needed prior to final grading and seedbed preparation. Any severely compacted sections will require chiseling or disking to provide an adequate rooting zone, to a minimum depth of 12". The seedbed must be prepared to allow good soil to seed contact, with the soil not too soft and not too compact. Adequate soil moisture must be present to accomplish this. If surface is powder dry or sticky wet, postpone operations until moisture changes to a favorable condition. If seeding is accomplished within 24 hours of final grading, additional scarification is generally not needed, especially on ditch or stream banks. Remove all stones and other debris from the surface that are greater than 4 inches, or that will interfere with future mowing or maintenance.

Soil amendments should be incorporated into the upper 2 inches of soil when feasible. **The soil should be tested to determine the amounts of amendments needed.** Apply ground agricultural limestone to attain a pH of 6.0 in the upper 2 inches of soil. If soil must be fertilized before results of a soil test can be obtained to determine fertilizer needs, apply commercial fertilizer at 600 lbs. per acre of 5-10-10 or equivalent. If manure is used, apply a quantity to meet the nutrients of the above fertilizer. This requires an appropriate manure analysis prior to applying to the site. Do not use manure on sites to be planted with birdsfoot trefoil or in the path of concentrated water flow.

Seed mixtures may vary depending on location within the state and time of seeding. Generally, warm season grasses should only be seeded during early spring, April to May. These grasses are primarily used for vegetating excessively drained sands and gravels. See Standard and Specification for Sand and Gravel Mine Reclamation. Other grasses may be seeded any time of the year when the soil is not frozen and is workable. When legumes such as birdsfoot trefoil are included, spring seedings are preferred. See Table 3.1 "Permanent Critical Area Planting Mixture Recommendations" for additional seed mixtures.

General Seed Mix:
[1] add inoculant immediately prior to seeding

	Variety	lbs./acre	lbs/1000 sq. ft.
Birdsfoot trefoil[1] OR	Empire/Pardee	8[2]	0.20
Common white clover[1]	Common	8	0.20
PLUS			
Tall fescue	KY-31/Rebel	20	0.45
PLUS			
Redtop OR	Common	2	0.05
Ryegrass (perennial)	Pennfine/Linn	5	0.10

[2] Mix 4 lbs each of Empire and Pardee OR 4 lbs of Birdsfoot and 4 lbs white clover per acre.

Time of Seeding: The optimum timing for the general seed mixture is early spring. Permanent seedings may be made any time of year if properly mulched and adequate moisture is provided. Late June through early August is not a good time to seed, but may facilitate covering the land without additional disturbance if construction is completed. Portions of the seeding may fail due to drought and heat. These areas may need reseeding in late summer/fall or the following spring.

Method of seeding: Broadcasting, drilling, cultipack type

seeding, or hydroseeding are acceptable methods. Proper soil to seed contact is key to successful seedings.

Mulching: Mulching is essential to obtain a uniform stand of seeded plants. Optimum benefits of mulching new seedings are obtained with the use of small grain straw applied at a rate of 2 tons per acre, and anchored with a netting or tackifier. See the mulch standard and specification for choices and requirements.

Irrigation: Watering may be essential to establish a new seeding when a drought condition occurs shortly after a new seeding emerges. Irrigation is a specialized practice and care must be taken not to exceed the application rate for the soil or subsoil. When disconnecting irrigation pipe, be sure pipes are drained in a safe manor, not creating an erosion concern.

Table 3.1
Permanent Critical Area Planting Mixture Recommendations

Seed mixture	Variety	Rate in lbs. per acre	Rate in lbs. Per 1000 sq. ft.
Mix #1			
Creeping red fescue	Ensylva, Pennlawn, Boreal	10	.25
Perennial ryegrass	Pennfine, Linn	10	.25

*This mix is used extensively for shaded areas.

Mix #2

Switchgrass	Shelter, Pathfinder, Trailblazer, or Blackwell	20	.5

*This rate is in pure live seed, this would be an excellent choice along the upland edge of a wetland to filter runoff and provide wildlife benefits. In areas where erosion may be a problem, a companion seeding of sand lovegrass should be added to provide quick cover at a rate of 2 lbs. per acre (0.05 lbs. per 1000 sq. ft.).

Mix #3

Switchgrass	Shelter, Pathfinder, Trailblazer, or Blackwell	4	.1
Big bluestem	Niagara	4	.1
Little bluestem	Aldous or Camper	2	.05
Indiangrass	Rumsey	4	.1
Coastal panicgrass	Atlantic	2	.05
Sideoats grama	El Reno or Trailway	2	.05
Wildflower mix		.5	.01

*This mix has been successful on sand and gravel plantings. It is very difficult to seed without a warm season grass seeder such as a Truax seed drill. Broadcasting this seed is very difficult due to the fluffy nature of some of the seed, such as bluestems and indiangrass.

Mix #4

Switchgrass	Shelter, Pathfinder Trailblazer, or Blackwell	10	.25
Coastal panicgrass	Atlantic	10	.25

*This mix is salt tolerant, a good choice along the upland edge of tidal areas and roadsides.

Mix #5

Saltmeadow cordgrass (Spartina patens)—This grass is used for tidal shoreline protection and tidal marsh restoration. It is planted by vegetative stem divisions.

'Cape' American beachgrass can be planted for sand dune stabilization above the saltmeadow cordgrass zone.

Mix #6

Creeping red fescue	Ensylva, Pennlawn, Boreal	20	.45
Tall fescue	KY 31, Rebel	20	.45
Perennial ryegrass	Pennfine, Linn	5	.10
Birdsfoot trefoil	Empire, Pardee	10	.45

*General purpose erosion control mix. Not to be used for a turf planting or play grounds.

STANDARD AND SPECIFICATIONS FOR RECREATION AREA IMPROVEMENT

Definition

Establishing grasses, legumes, vines, shrubs, trees, or other plants, or selectively reducing stand density and trimming woody plants, to improve an area for recreation.

Purpose

To increase the attractiveness and usefulness of recreation areas and to protect the soil and plant resources.

Conditions Where Practice Applies

On any area planned for recreation use, lawns, and areas that will be maintained in a closely mowed condition.

Specifications

ESTABLISHING GRASSES (Turfgrass)

The following applies for playgrounds, parks, athletic fields, camping areas, picnic areas, passive recreation areas such as lawns, and similar areas.

1. Time of Planting

Fall planting is preferred. Seed after August 15. In the spring, plant until May 15.

If seeding is done between May 15 and August 15, irrigation may be necessary to ensure a successful seeding.

2. Site Preparation

A. Install needed water and erosion control measures and bring area to be seeded to desired grades. A minimum of 4 in. topsoil is required.

B. See Standard and Specification of Topsoiling.

C. Prepare seedbed by loosening soil to a depth of 4-6 inches.

D. Lime to a pH of 6.5.

E. **Fertilize as per soil test** or, if soil must be fertilized before results of a soil test can be obtained to determine fertilizer needs, apply commercial fertilizer at 850 pounds of 5-10-10 or equivalent per acre (20 lbs/1,000 sq. ft.)

F. Incorporate lime and fertilizer in top 2-4 inches of topsoil.

G. Smooth. Remove sticks, foreign matter, and stones over 1 inch in diameter, from the surface. Firm the seedbed.

3. Planting

Use a cultipacker type seeder if possible. Seed to a depth of 1/8 to 1/4 inch. If seed is to be broadcast, cultipack or roll after seeding. If hyroseeded, lime and fertilizer may be applied through the seeder, and rolling is not practical.

4. Mulching

Mulch all seedings in accordance with Standard and Specifications for Mulching. Small grain straw is the best material.

5. Seed Mixtures

Select seed mixture for site conditions and intended use from Table 3.2.

6. Contact Cornell Cooperative Extension Turf Specialist for suitable varieties.

When Kentucky bluegrass is used, it is desirable to use two or more varieties in the seeding for disease resistance.

Turf-type tall fescues have replaced the old KY31 tall fescues. New varieties have finer leaves and are the most resistant grass to foot traffic. Do not mix it with fine textured grasses such as bluegrass and red fescue.

Common ryegrass and redtop, which are relatively short lived species, provide quick green cover. Improved lawn cultivars of perennial ryegrass provide excellent quality turf, but continue to lack winter hardiness.

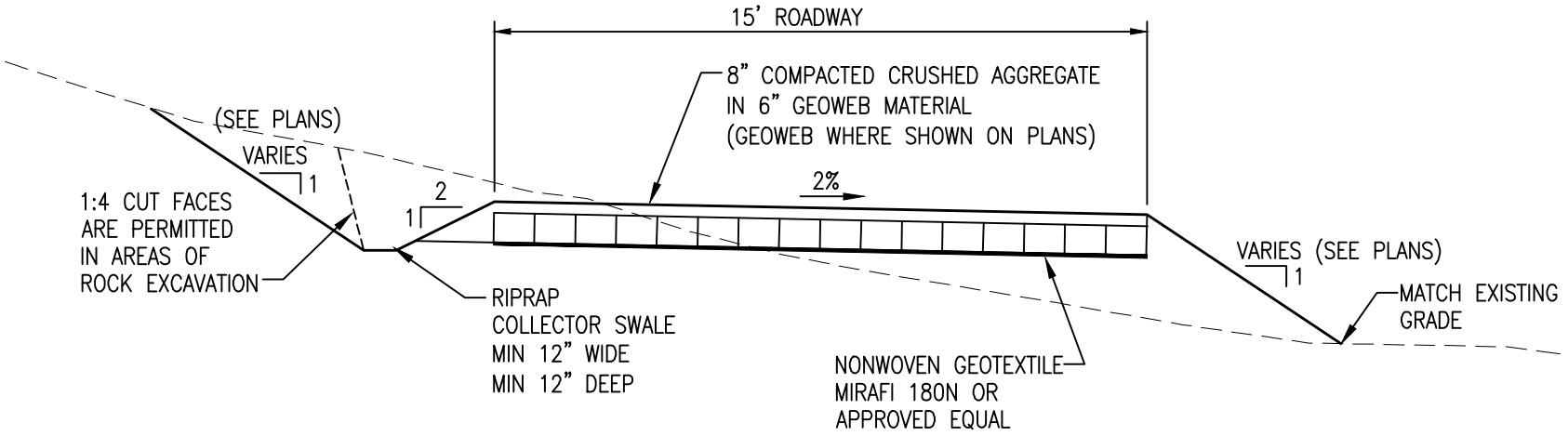
Common white clover can be added to mixtures at the rate of 1-2 lbs/acre to help maintain green color during the dry summer period; however, they will not withstand heavy traffic. Avoid using around swimming areas as flowers attract bees which can be easily stepped on.

Table 3.2 Recreation Turfgrass Seed Mixture

Site - Use	Species (% by weight)	lbs/1,000 sq. ft.	lbs./acre
1. Sunny sites (well, moderately well, and somewhat poorly drained soils)			
a. Athletic fields and similar areas			
	80% Kentucky bluegrass blend……..	2.4-3.2	105-138
	20% perennial ryegrass……..	0.6-0.8	25-37
	OR……	3.0-4.0	130-175
	(for southern and eastern NY)		
	50% Kentucky bluegrass……..	1.5-2.0	65-88
	50% perennial ryegrass……	1.5-2.0	65-87
	OR……..	3.0-4.0	130-175
	100% Tall fescue, Turf-type, fine leaf……..	3.4-4.6	150-200
b. General recreation areas and lawns (Medium to high maintenance)			
	65% Kentucky bluegrass blend……	2.0-2.6	85-114
	20% perennial ryegrass……	0.6-0.8	26-35
	15% fine fescue……	0.4-0.6	19-26
	OR……	3.0-4.0	130-175
	100% Tall fescue, Turf-type, fine leaf……..	3.4-4.6	150-200
2. Sunny droughty sites - general recreation areas and lawns, low maintenance (somewhat excessively to excessively drained soils). Excluding Long Island.			
	65% fine fescue……..	2.6-3.3	114-143
	15% perennial ryegrass……	0.6-0.7	26-33
	20% Kentucky bluegrass blend……	0.8-1.0	35-44
	OR……	4.0-5.0	175-220
	100% Tall fescue, Turf-type, fine leaf……..	3.4-4.6	150-200
3. Shady dry sites (well to somewhat poorly drained soils).			
	65% fine fescue……..	2.6-3.3	114-143
	15% perennial ryegrass……	0.6-0.7	26-33
	20% Kentucky bluegrass blend……	0.8-1.0	35-44
	OR……	4.0-5.0	174-220
	80% blend of shade-tolerant Kentucky bluegrass……	2.4-3.2	105-138
	20% perennial ryegrass……	0.6-0.8	25-37
	OR……..	3.0-4.0	130-175
	100% Tall fescue, Turf-type, fine leaf……..	3.4-4.6	150-200
4. Shady wet sites (somewhat poor to poorly drained soils).			
	70% rough bluegrass……..	1.4-2.1	60-91
	30% blend of shade-tolerant Kentucky bluegrass……	0.6-0.9	25-39
	OR……	2.0-3.0	85-130
	100% Tall fescue, Turf-type, fine leaf……..	3.4-4.6	150-200

For varieties suitable for specific locations, contact Cornell Cooperative Extension Turf Specialist.

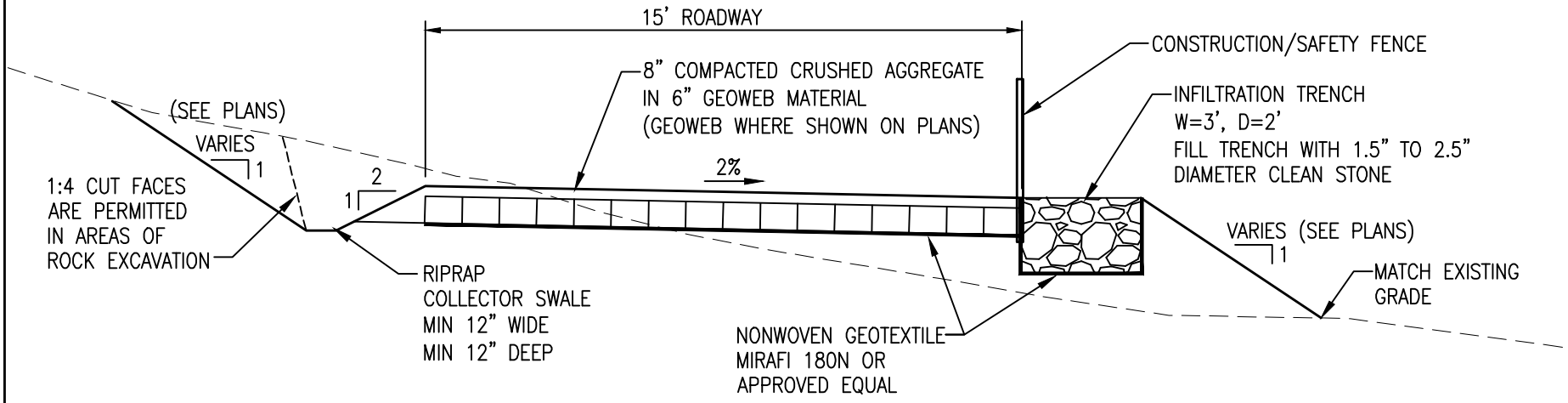
Reference: Thurn, M.C., N.W. Hummel, and A.M. Petrovic. Cornell Extension Pub. Info. Bulletin 185 Revised. HomeLawns Establishment and Maintenance. 1994.



NON-INFILTRATION TRENCH AREAS

TYPICAL PERMANENT ROAD SECTION-MOREAU STATE PARK

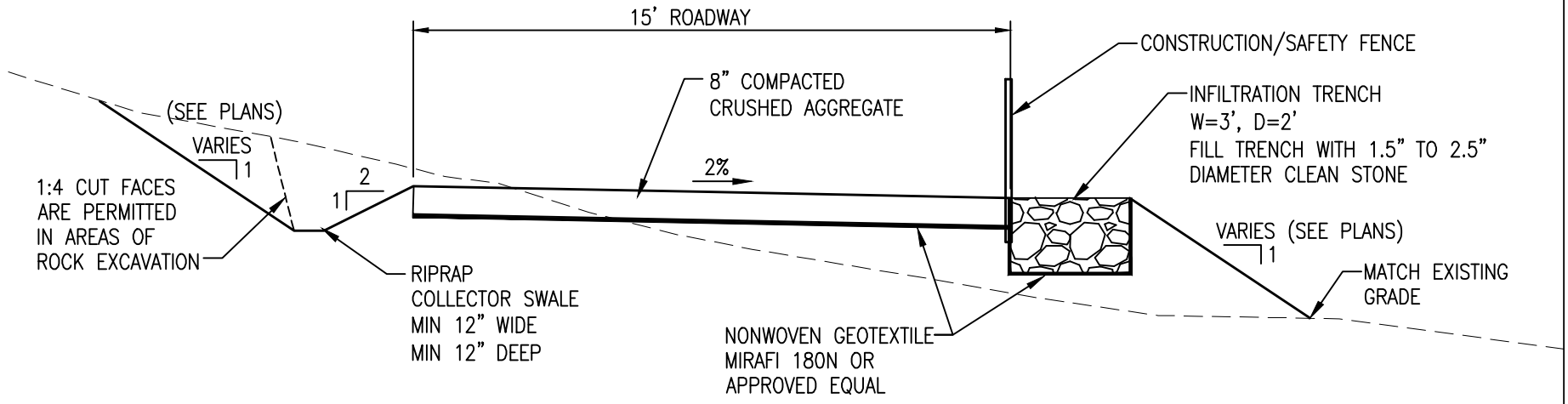
NOT TO SCALE



WITH INFILTRATION TRENCH

TYPICAL PERMANENT ROAD SECTION-MOREAU STATE PARK

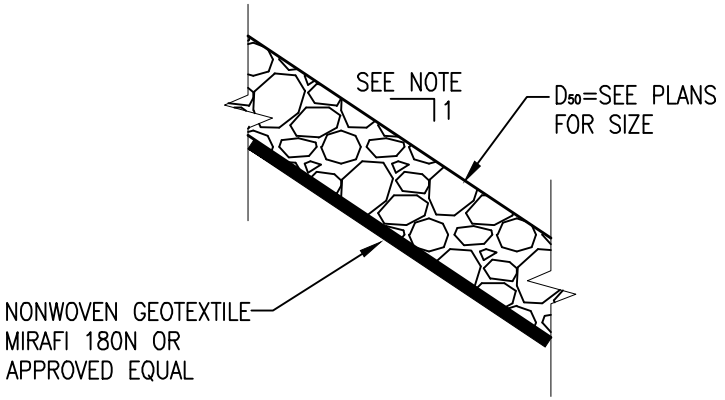
NOT TO SCALE



NON-GEOWEB AREAS

TYPICAL PERMANENT ROAD SECTION-MOREAU STATE PARK

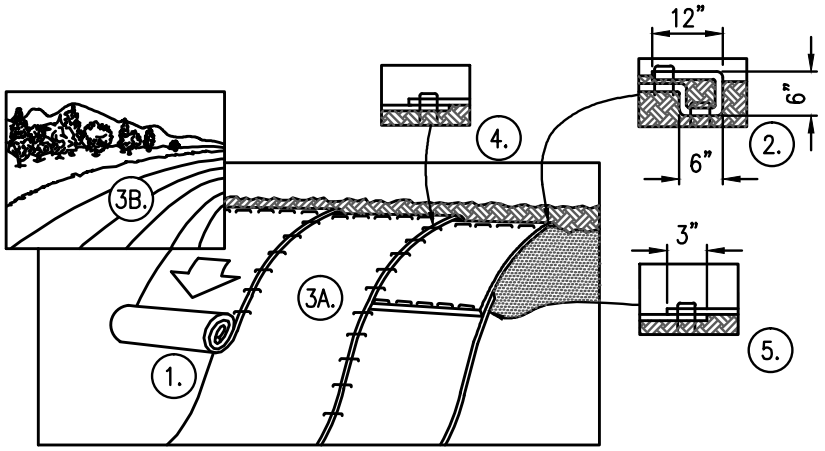
NOT TO SCALE



NOTE: RIPRAP SHALL BE USED IN ALL PERMANENT SLOPES STEEPER THAN 2:1.

TYPICAL RIPRAP SLOPE SECTION-MOREAU STATE PARK

NOT TO SCALE



1. PREPARE SOIL BEFORE INSTALLING MATS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE MAT IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF MAT EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE MAT WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF MAT BACK OVER SEED AND COMPACTED SOIL. SECURE MAT OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE MAT.
3. ROLL THE MATS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. MATS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL MATS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL MATS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON MAT TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING MAT (MAT BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED MAT.
5. CONSECUTIVE MATS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE MAT WIDTH.

NOTE:

*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE MATS.

TURF REINFORCEMENT MAT (TRM)

NOT TO SCALE

GEOWEB® CELL SIZES

	NOMINAL CELL AREA IN²(CM²)	CELL EXPANSION RANGE MINIMUM LENGTH IN (CM)	MINIMUM WIDTH IN (CM)	MAXIMUM LENGTH IN (CM)	MAXIMUM WIDTH IN (CM)
CELL LENGTH / CELL WIDTH 20V	44.8 (289)	8.02 (204)	9.2 (234)	9.65 (245)	11.07 (281)
CELL LENGTH / CELL WIDTH 30V	71.3 (460)	10.25 (260)	11.39 (289)	12.39 (315)	13.77 (360)
CELL LENGTH / CELL WIDTH 40V	187.0 (1206)	16.92 (430)	18.01 (457)	20.66 (522)	21.88 (556)

NOTE: ALL DIMENSIONS ARE NOMINAL AND ARE WITHIN MANUFACTURING TOLERANCES

GEOWEB® SECTION SIZES

GW20V – 10 CELLS WIDE

CELLS LONG	MIN EXPANSION LENGTH ft	m	WIDTH ft	m	MAX EXPANSION LENGTH ft	m	WIDTH ft	m	NOMINAL AREA ft²	m²
18	12.0	3.7	9.2	2.8	14.5	4.4	7.7	2.3	112	10.4
21	14.0	4.3			16.9	5.1			131	12.1
25	16.7	5.1			20.1	6.1			156	14.5
29	19.4	5.9			23.3	7.1			181	16.8
34	22.7	6.9			27.3	8.3			212	19.7

GW30V – 8 CELLS WIDE

CELLS LONG	MIN EXPANSION LENGTH ft	m	WIDTH ft	m	MAX EXPANSION LENGTH ft	m	WIDTH ft	m	NOMINAL AREA ft²	m²
18	15.4	4.7	9.2	2.8	18.6	5.7	7.6	2.3	143	13.3
21	18.0	5.5			21.7	6.6			167	15.5
25	21.4	6.5			25.8	7.9			198	18.4
29	24.6	7.6			30.0	9.1			230	21.4
34	29.1	8.9			35.1	10.7			270	25.0

GW40V – 5 CELLS WIDE

CELLS LONG	MIN EXPANSION LENGTH ft	m	WIDTH ft	m	MAX EXPANSION LENGTH ft	m	WIDTH ft	m	NOMINAL AREA ft²	m²
18	25.4	7.70	9.1	2.8	30.8	9.40	7.5	2.3	234	21.7
21	29.6	9.00			36.0	11.0			273	25.3
25	35.2	10.7			42.8	13.1			325	30.2
29	40.9	12.5			49.7	15.1			377	35.0
34	47.9	14.6			58.2	17.8			441	41.0

GEOWEB® PRODUCT CODE FORMAT

GWTTVDWWLL + MODIFICATIONS

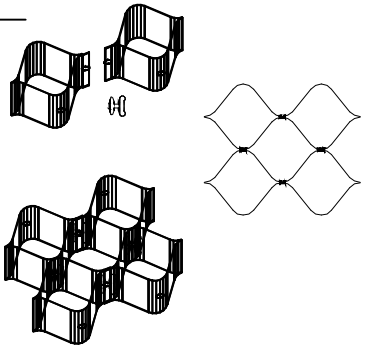
WHERE:
- TT: CELL TYPE – 20, 30 or 40
- V: DESIGNATES V SERIES
- D: CELL DEPTH – 3, 4, 6, 8 or 12"
- WW: SECTION WIDTH 10, 20V; 8 30V & 5 40V
- LL: SECTION CELL LENGTH – 18, 21, 25, 29 & 34

MODIFICATIONS:
- P: PERFORATED STRIP
- S1: SAND COLOR FASCIA STRIP ONLY
- G1: GREEN COLOR FASCIA STRIP ONLY
- T: INTEGRAL I–SLOT

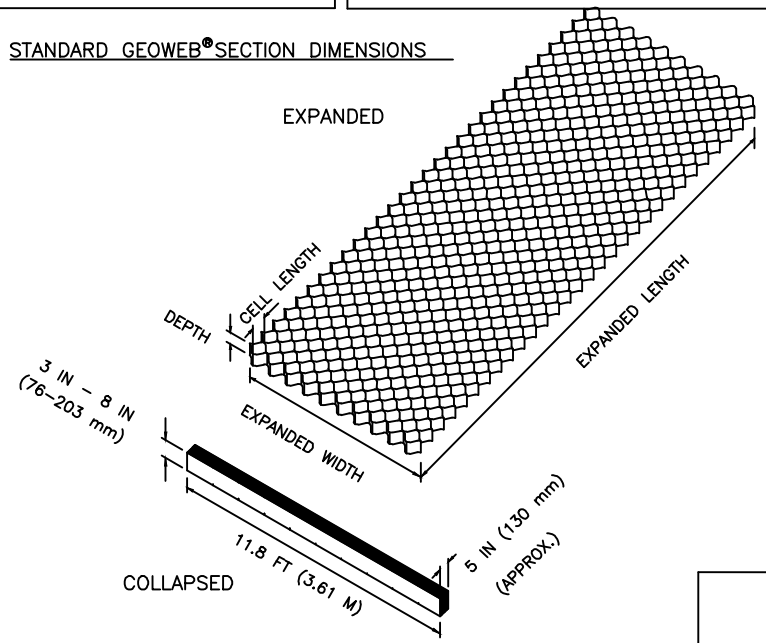
EXAMPLE:
GW30V61029PT
30V CELL TYPE, 6" DEPTH, 10 CELLS WIDE, 29 CELLS LONG, PERFORATED STRIP WITH I–SLOTS

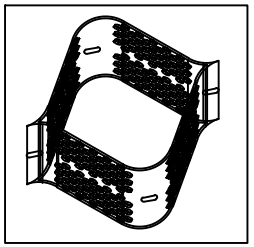
ATRA® KEY CONNECTION DETAILS

GEOWEB CONNECTION NOTES:
1. THE TOP EDGES OF ADJACENT CELL WALLS SHALL BE FLUSH WHEN CONNECTING.
2. ALIGN THE I–SLOTS FOR INTERLEAF AND END TO END CONNECTIONS.
3. THE GEOWEB PANELS SHALL BE CONNECTED WITH ATRA KEYS AT EACH INTERLEAF AND END TO END CONNECTION.



STANDARD GEOWEB® SECTION DIMENSIONS





ISOMETRIC VIEW OF PERFORATED STRIP WITH I–SLOT

GENUINE GEOWEB®
PLAN AND SECTIONS

DATE	MARCH 2010		FILE NAME	GWGEN1F.DWG
SCALE	NTS	SHEET 1		