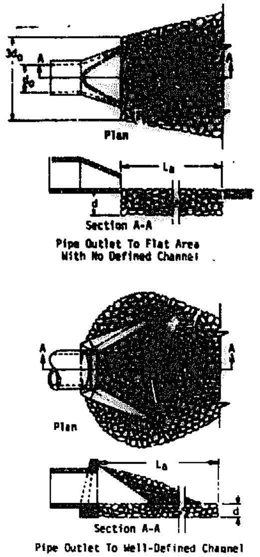
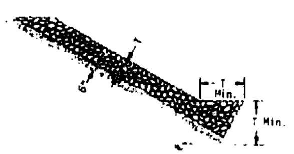


Notes

1. Apron lining may be riprap, grouted riprap, or concrete.
2. L_a is the length of the riprap apron as calculated using Plates 1.36d and 1.36e.
3. d = 1.5 times the maximum stone diameter but not less than 6 inches.

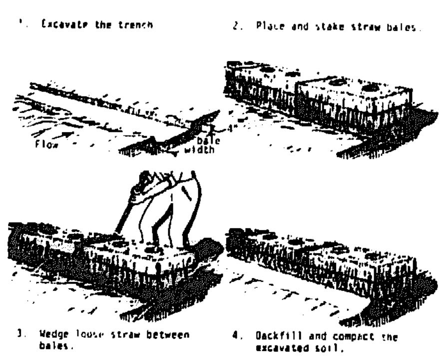
PIPE OUTLET CONDITIONS

(OP) OUTLET PROTECTION



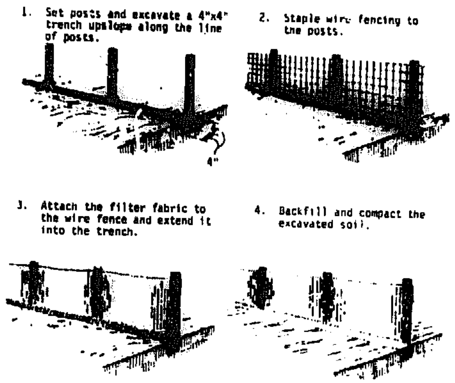
TOE REQUIREMENTS FOR RIPRAP BANK PROTECTION

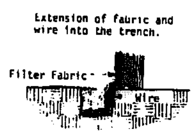
(RR) RIP RAP



CONSTRUCTION OF A STRAW BALE BARRIER

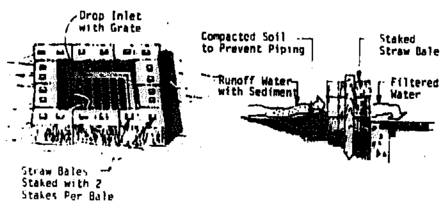
(STB) STRAW BALE





CONSTRUCTION OF A SILT FENCE

(SF) SILT FENCE

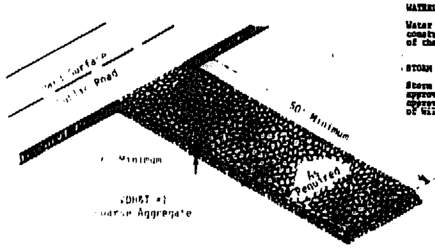


Specific Application

This method of inlet protection is applicable where the inlet drains a relatively flat area (slopes no greater than 5 percent) where sheet or overland flows (not exceeding 0.5 cfs) are typical. The method shall not apply to inlets receiving concentrated flows, such as in street or highway medians.

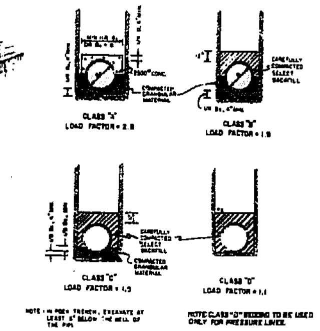
STRAW BALE DROP INLET SEDIMENT FILTER

(IP) INLET PROTECTION



GRAVEL CONSTRUCTION ENTRANCE

(CE) CONSTRUCTION ENTRANCE



Class of bedding will be Class 'C' or 'D' or as specifically directed by City of Williamsburg.

Class 'C' to be used between all buildings; Class 'D' in all other locations.

TRENCH BEDDING

SANITARY SEWER SPECIFICATIONS

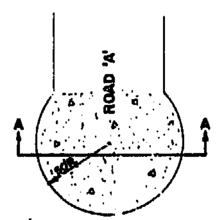
Sanitary sewer shall be 8" ductile iron pipe; sanitary laterals shall be 4" cast iron soil pipe. All sewer appurtenances shall be as shown on the plans or an approved equal as approved by the City of Williamsburg.

WATERLINE SPECIFICATIONS

Water service lines and appurtenances shall be of materials and construction in conformity with the standards and specifications of the City of Williamsburg.

STORM DRAINAGE SPECIFICATIONS

Storm sewer shall be reinforced concrete pipe Class II or an approved corrugated metal pipe as shown on the plans. An approved equal may be used if previously approved by the City of Williamsburg.



50' GRAVEL FILTER DETAIL

EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH THE APPLICABLE REGULATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION AND/OR CITY OF WILLIAMSBURG EROSION AND SEDIMENTATION CONTROL REQUIREMENTS.
2. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION, PROTECTIVE BARRIERS SHALL BE PLACED AROUND SPECIFIED TREES TO BE RETAINED ON THE SITE TO PREVENT THE DESTRUCTION OR DAMAGING OF TREES. THESE WILL BE LOCATED IN A CIRCULAR PATTERN WITH A RADIUS EQUAL TO THE LENGTH OF THE WIDEST OR LONGEST BRANCH. MATERIAL WILL NOT BE STOCKPILED WITHIN THIS DEFINED AREA AND VEHICLES AND OTHER EQUIPMENT ARE TO BE EXCLUDED TO AVOID SOIL COMPACTION. THE ONLY EXCEPTIONS TO THIS REQUIREMENT WILL BE THOSE SPECIFICALLY ALLOWED BY THESE STANDARDS AND SPECIFICATIONS.
3. BOARDS OR WIRES OF A NON-PROTECTIVE NATURE WILL NOT BE NAILED OR ATTACHED TO TREES DURING BUILDING OPERATIONS.
4. HEAVY EQUIPMENT OPERATORS WILL BE CAUTIONED TO AVOID DAMAGE TO EXISTING TREE TRUNKS AND ROOTS DURING LAND LEVELING OPERATIONS. FEEDER ROOTS SHOULD NOT BE CUT IN AN AREA EQUAL TO TWICE THE TREE CIRCUMFERENCE (MEASURED 4 1/2 FEET ABOVE GROUND LINE IN INCHES) EXPRESSED IN FEET. (EXAMPLE: CIRCUMFERENCE OF TEN INCHES WOULD HAVE A "NO CUT" ZONE OF TWENTY FEET IN ALL DIRECTIONS FROM THE TREE). THIS SHOULD APPLY TO DITCHING FOR ALL UTILITY SERVICES IF FEASIBLE.
5. [illegible] AND EXPOSED [illegible] DAMAGED DURING [illegible] WILL BE PAINTED IMMEDIATELY WITH A [illegible] [illegible] CARE FOR SERIOUS INJURY SHOULD BE [illegible] [illegible] ARBORIST.
6. ALL TREE LIMBS DAMAGED DURING BUILDING OR LAND [illegible] REMOVED FOR ANY OTHER REASON WILL BE [illegible] TO TREE [illegible] AND [illegible] TREE PAINT.
7. [illegible] REPLACING TREES KILLED DURING CONSTRUCTION: IF DESIRED TREES PROTECTED BY THE ABOVE MEANS ARE KILLED DURING CONSTRUCTION, THEY SHALL BE REPLACED BY A TREE OF AT LEAST 2 INCHES CALIPER OF THE SAME SPECIES OF LIKE QUALITY, AS SPECIFIED BY THE CITY ARBORIST.
8. ALL EROSION CONTROL DEVICES SHALL BE INSTALLED WITH THE FIRST PHASE OF CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL FINAL GRADING AND PAVING.
9. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN SILT TRAPS SUFFICIENT TO PREVENT SOIL FROM BEING ERODED FROM THE SITE INTO ANY ADJACENT DRAINAGE SYSTEM DITCH OR WATER COURSES. ANY ERODED MATERIAL SHALL BE PROMPTLY REMOVED.
10. CONSTRUCTION OPERATIONS SHALL BE MANAGED SO THAT AS MUCH OF THE SITE AS POSSIBLE IS LEFT COVERED WITH TOPSOIL AND VEGETATION.
11. TEMPORARY SEEDING SHALL BE APPLIED PRIOR TO CONSTRUCTION IN AREAS INDICATED. (SEE TEMPORARY SEEDING SCHEDULE AND SPECIFICATIONS)
12. ALL GRADED AREA MUST BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISH GRADING. (SEE PERMANENT SEEDING SCHEDULE & SPECIFICATIONS.)
13. TEMPORARY STABILIZATION SHALL BE PROVIDED IN AREA [illegible] FREE FROM INSTALLATION OF DRAINAGE OR UTILITY SYSTEMS IMMEDIATELY AFTER INSTALLATION OF EACH SYSTEM IS COMPLETE.
14. TEMPORARY AND PERMANENT ENTRANCES TO THE SITE SHALL HAVE A STONE STABILIZED PAD. PADS AT ENTRANCES SHALL BE [illegible] [illegible] IMMEDIATELY FOLLOWING STREET GRADING.

[illegible] SIZE STONE	-	[illegible] DIAMETER
THICKNESS	-	NOT LESS THAN 6"
LENGTH	-	NOT LESS THAN 50'
WIDTH	-	NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS OR AS SPECIFIED ON THE PLANS

MAINTENANCE REQUIREMENTS - AS NECESSARY TO PREVENT TRACKING OR FLOWING [illegible] INTO PUBLIC RIGHTS-OF-WAY OR PARKING AREAS.

THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN SILT TRAPS SUFFICIENT TO PREVENT SOIL BEING ERODED FROM THE SITE INTO ANY ADJACENT DRAINAGE SYSTEM, DITCH OR WATER COURSES.

SEDIMENT SHALL BE REMOVED FROM EROSION AND SEDIMENT CONTROL STRUCTURES WHEN IT ACCUMULATES TO SUCH AN EXTENT AS TO IMPAIR THE NORMAL FUNCTION OF SUCH STRUCTURES.

EROSION AND SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED AFTER EACH RAINFALL. STRUCTURES FOUND TO BE DAMAGED SHALL BE PROMPTLY REPAIRED.

TEMPORARY SEEDING

I LIME & FERTILIZER

A. LIME - 1 TON OF AGRICULTURAL GROUND LIMESTONE OR EQUIVALENT PER ACRE

B. FERTILIZER - 1,000 LBS. OF [illegible] OR EQUIVALENT PER ACRE

WORK LIME AND FERTILIZER INTO THE SOIL IMMEDIATELY FOLLOWING SPREADING OPERATIONS, USING A DISC OR OTHER APPROVED TOOL. SURFACE SOIL SHALL BE WORKED TO A DEPTH OF AT LEAST 3 INCHES.

THE ABOVE NOTES APPLY TO AREAS WITHOUT THE BENEFIT OF A SOIL TEST. WHERE SOIL TEST IS AVAILABLE, SPECIFIC RECOMMENDATIONS FOR LIME AND FERTILIZER WILL BE PROVIDED BY THE VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY EXTENSION SERVICE FOR EACH SITE.

II SEEDING (DATES AND RATES PER ACRE)

A. AUGUST 1 TO DECEMBER 15

RYE - 3 BU. OR
WHEAT - 2 BU. OR
RYE GRASS - [illegible] TO [illegible] LBS

B. FEBRUARY TO MAY 1

SPRING OATS - 3 BU. OR
SPRING OATS - [illegible] BU. OATS PLUS KOREAN LESPEDEZA 20 LB. LESPEDEZA (HULLED AND INOCULATED)

C. MAY 1 TO AUGUST 1

SUDANGRASS - 30 TO 40 LBS. OR
MILLET - 30 TO 40 LBS. OR
SORGHUM - 30 TO 40 LBS

BROADCAST OR DRILL SEED UNIFORMLY AND COVER TO A DEPTH OF 1/4" TO APPROXIMATELY 2" DEPENDING ON THE SEED MIXTURE; EXCEPT WHERE A GRAIN DRILL IS USED, THE SEEDS SHOULD BE COVERED AND THE SEEDBED FIRMED BY THE USE OF A CORRUGATED AGRICULTURAL CULTIPACKER. SEEDING IMPLEMENTS SHOULD BE USED AT RIGHT ANGLES TO THE GENERAL SLOPE TO MINIMIZE EROSION.

III MULCHING

A. MULCH [illegible] IMMEDIATELY AFTER COMPLETION OF SEEDING OPERATIONS UNIFORMLY [illegible] ALL SEEDED AREAS WITH [illegible] GRAIN STRAW AT THE RATE [illegible] TONS PER ACRE

B. MULCHING IS [illegible] ALL SOILS [illegible]

PERMANENT [illegible]

I TOPSOILING

[illegible] CLAY AND [illegible]

II LIME AND FERTILIZER

A. LIME - APPLY GROUND LIMESTONE [illegible] AT THE RATE OF 2 TONS PER ACRE

B. FERTILIZER - 1,000 POUNDS PER ACRE [illegible] FERTILIZER OR EQUIVALENT

IF SOILS ARE UNIFORM IT IS DESIRABLE TO HAVE LIME AND FERTILIZER RECOMMENDATIONS BASED ON SOIL TEST.

THE LIME AND FERTILIZER SHOULD BE DISKED OR WORKED INTO GOOD SEEDBED TO A DEPTH OF THREE TO [illegible] INCHES.

III SEEDING

SEED ONE OF THE FOLLOWING MIXTURES AT THE SPECIFIED RATE PER ACRE FOR AREAS WITHOUT TURF REQUIREMENTS.

A. 40 - 70 LBS. TALL FESCUE (KY-31)
2 LBS. OF LADINO
8 LBS. OF RED CLOVER

B. 20 - 40 LBS. TALL FESCUE (KY-31)
25 LBS. SERICEA LESPEDEZA FOR SPRING SEEDINGS

SEEDING DATES - FALL SEEDING DATES FROM AUGUST 1 TO SEPTEMBER [illegible] ARE GENERALLY PREFERRED FOR THE ABOVE MIXTURES. SPRING SEEDING DATES WOULD BE FROM FEBRUARY TO MAY [illegible].

IV SEED ONE OF THE FOLLOWING MIXTURES FOR AREAS WITH TURF REQUIREMENTS

TYPE OF GRASS	SEEDING RATE	SEEDING DATE
TALL FESCUE KENTUCKY 31	8 - 10 LBS. PER 1,000 SQ. FT	FEB. - MARCH SEPT. - OCT
COMMON BERMUDA	SPRING SEEDING 2 LBS/ 1,000 SQ. FT. (HULLED SEED) FALL SEEDING 7 LBS./1,000 SQ. FT. (UNHULLED SEED)	MAY - JUNE
TUFCOTE (BERMUDA)	SOD PLUGS ON 1 FT. CENTER SPRIGS 7 BU. 1,000 SQ. FT. BROADCAST	MARCH - JULY
[illegible]	SOD PLUGS ON 1 FT. CENTER SPRIGS [illegible] [illegible] SQ. FT. BROADCAST	MARCH - JULY
ZOYSIA MEYER EMERALD	[illegible] CENTER [illegible] 1,000 [illegible] BROADCAST	MARCH - JULY

V MULCHING

A. MULCH - MULCH WITH ANY OF THE MATERIALS LISTED BELOW [illegible] AT THE RATE INDICATED [illegible] AT A RATE THAT PERMITS NO MORE THAN 25 - 50% OF THE GROUND SHOWING THROUGH THE MULCH.

B. MULCHING IS REQUIRED ON ALL [illegible] EXCEEDING 25% SLOPE.
1. STRAW - 1 TO 2 TONS DEPENDING ON SEASON AND METHOD OF APPLICATION
2. WOOD FIBER MATERIALS - [illegible] POUNDS PER ACRE

VI MAINTENANCE

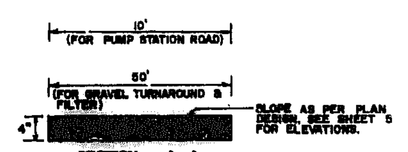
A. IRRIGATION - IF SOIL [illegible] SEEDINGS AND PLANTINGS [illegible] WATER [illegible] GROWTH UNTIL THEY ARE FIRMLY ESTABLISHED.

B. REPAIR - INSPECT ALL AREAS FOR PLANTING FAILURES AND MAKE NECESSARY REPAIRS, REPLACEMENTS, AND RESEEDING WITHIN THE PLANTING SEASON IF POSSIBLE.

C. LIME & FERTILIZER - SHALL BE APPLIED UNDER A REGULAR PROGRAM THAT IS BASED ON SOIL FERTILITY [illegible] THE USE AND GENERAL APPEARANCE OF THE VEGETATION OVER DURING SUBSEQUENT GROWTH SEASONS.

CONSTRUCTION REQUIREMENTS

1. All construction to be in accordance with the City of Williamsburg standards and specifications. The contractor is responsible to obtain copies of same.
2. Water line construction to be in accordance with City of Williamsburg, Department of Public Utilities Standards and Specifications. The contractor is responsible to contact the director prior to construction for standards and any permits that should be required.



SECTION A-A

SPECIAL SEEDING & MULCHING NOTE:

The above seeding and mulching notes should conform to Virginia Soil and Erosion Handbook (the pages are Section III, Seeding pp. 211-215; Mulching - Section III pp. 250) or as directed by the City of Williamsburg.

REVISIONS

DATE	DESCRIPTION
3-15-85	A.M.S. - REVISED AS PER CITY COMMENTS
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

Talbot & Associates, Ltd.

EROSION & SEDIMENT CONTROL DETAILS for PORT ANNE

WILLIAMSBURG, VIRGINIA

Designed	N/A
Drawn	T/A
Checked	ABS
Scale	N/A
Date	2-26-85
File No	E-84019
Project No	84019
Sheet No	11

of 14 Sheets