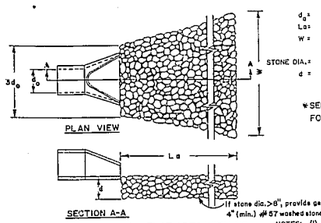


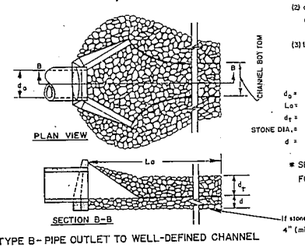
*SEE APPROPRIATE SCHEDULE FOR DIMENSIONS

TYPE A- PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL

NOTES: (1) d=1.5 times the maximum stone diameter but not less than 6 inches.

(2) d_s = 1' above maximum tail-water or top of channel bank (whichever is less).

(3) L_a = Length of riprap apron.



*SEE APPROPRIATE SCHEDULE FOR DIMENSIONS

TYPE B- PIPE OUTLET TO WELL-DEFINED CHANNEL

CULVERT OUTLET PROTECTION

—NO SCALE—

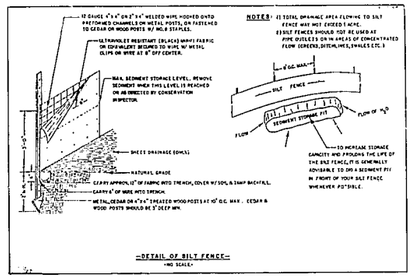
Seeding Schedule

Shoulders, Side Ditches, Slopes Max. 3:1:1

Date	Type	Planting Rate
Aug 15-Nov 1	Tall Fescue	300 lbs/acre
Nov 1-Mar	Tall Fescue	300 lbs/acre
	and Annual Rye	25 lbs/acre
Mar 1-Apr 15	Tall Fescue	300 lbs/acre
Apr 15-Jun 30	Hulled Common Bermudagrass	25 lbs/acre
Jul 15-Aug 15	Tall Fescue and	120 lbs/acre
	***Browntop Millet	25 lbs/acre
	***or Sorghum-Sudan Hybrids	30 lbs/acre
	Slopes 3:1 to 2:1:1	
Mar 1-Jun 1	Serices Lespedeza (Scarified)	50 lbs/acre
	and	
Mar 1-Apr 15	Add Tall Fescue	120 lbs/acre
Apr 1-Jun 30	Or Add Weeping Lovegrass	10 lbs/acre
Mar 1-Jun 30	Or Add Hulled Common Bermudagrass	25 lbs/acre
Jun 1-Sep 1	***Tall Fescue and	120 lbs/acre
	***Browntop Millet	25 lbs/acre
	***or Sorghum-Sudan Hybrids	30 lbs/acre
Sep 1-Mar 1	Serices Lespedeza (scrafified-unscarified)	70 lbs/acre
	and Tall Fescue	120 lbs/acre
Nov 1-Mar 15	Add Annual Rye	25 lbs/acre

Consult Conservation Engineer or Soil Conservation Service for additional information concerning other alternatives for vegetation of denuded areas. The above vegetation rates are those which do well under local conditions; other seeding rate combinations are possible.

***Temporary - Proceed accordinly to optimum season for desired permanent vegetation. Do not allow temporary cover to grow over 12" in height before mowing, otherwise fescue may be stemmed out.



NOTES: 1) TOTAL DRAINAGE AREA FLOWING TO SILT FENCE MAY NOT EXCEED 1 ACRE.
2) SILT FENCES SHOULD TIE RE USED AT PIPE OUTLETS OR IN AREAS OF CONCENTRATED FLOW (CREEKS, DITCHLINES, DRAINAGEWAYS.)

—DETAIL OF SILT FENCE—

—NO SCALE—

Seedbed Preparation

1.) Chisel compacted areas and spread topsoil 3 inches deep over adverse soil conditions, if available.

2.) Rip the entire area to 6 inches depth.

3.) Remove all loose rock, roots, and other obstructions leaving surface reasonably smooth and uniform.

4.) Apply agricultural lime, fertilizer, and superphosphate uniformly and mix with soil (see below*).

5.) Continue tillage until a well-pulverized, firm, reasonably uniform seedbed is prepared 4 to 6 inches deep.

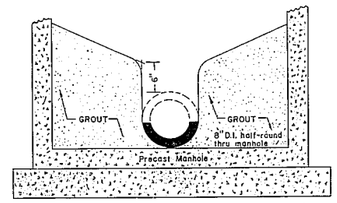
6.) Seed on a freshly prepared seedbed and cover seed lightly with seeding equipment or cultipack after seeding.

7.) Mulch immediately after seeding and anchor mulch.

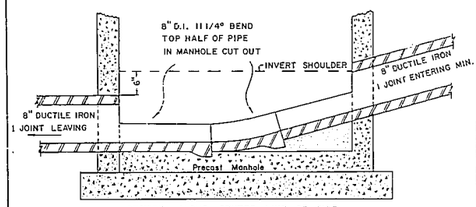
8.) Inspect all seeded areas and make necessary repairs or reseedings within the planting season, if possible. If stand should be over 60% damaged, reestablish following original lime, fertilizer and seeding rates.

9.) Consult Conservation Inspector on maintenance treatment and fertilization after permanent cover is established.

* Apply: Agricultural Limestone - 2 tons/acre (3 tons/acre in clay soils)
Fertilizer - 1,000 lbs./acre - 10-10-10
Superphosphate - 500 lbs./acre - 20% analysis
Mulch - 2 tons/acre - small grain straw
Anchor - Asphalt Emulsion @ 200 gals./acre



SECTION AT RIGHT ANGLE TO CENTER LINE OF PIPE



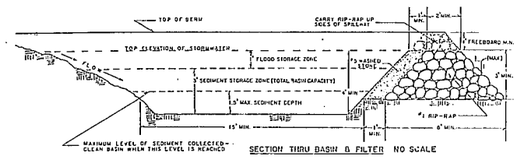
SECTION ALONG CENTER LINE OF PIPE

Note:
No Horizontal Alignment Change Can Be Made Within This Manhole Type.

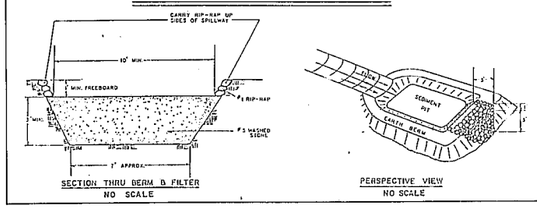
NO SCALE

HIGH VELOCITY MANHOLE INVERT

To size a basin: Determine denuded area in square feet draining to the device. Divide this by 24 (½" of soil will be lost per avg. year on denuded sites Source: USDA-SCS) and then divide the result by 2 (6 mos. sediment storage), or by 3 (4 mos. sediment storage) to get storage required in cubic feet. Divide this by 3 (depth of sediment) and then divide again by 15 (width of basin). Final value will be length of basin. When you put the basin dimensions on your plan, be sure to specify a 4' depth, which will provide the 1' Flood Storage Zone (as above).

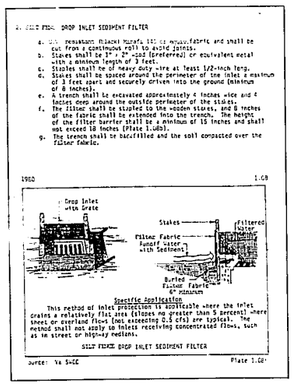


GRAVEL & RIP-RAP FILTER BASIN DETAIL



CONSTRUCTION SEQUENCE

1. Obtain grading permit.
2. Install gravel construction pad, temporary diversions, silt fencing, sediment basins or other measures as shown on the approved plan. Clear only as necessary to install these devices.
3. Call 755-6830 for onsite inspection by Environmental Inspector and obtain Certificate of Compliance.
4. Begin clearing and grubbing. Maintain devices as needed. Rough grade site.
5. Install storm sewer (if shown) and protect inlets with silt fencing, sediment traps or other approved measures as shown on the plan. Begin constructing buildings &c.
6. Stabilize site as areas are brought up to finish grade with vegetation, paving, ditch lining&, &c.
7. When construction is complete and all areas are stabilized completely, call for inspection by Environmental Inspector.
8. If site is approved, remove temporary diversions, silt fencing, sediment basins, etc., and seed&mulch any resulting bare areas. All remaining permanent erosion control devices (such as velocity dissipators) should be installed now.
9. When vegetation has become established, call for final site inspection by Environmental Inspector.



JM, INC.
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LIGON BUILDING • SUITE 102
(919) 834-9954
800 ST MARY'S STREET
RALEIGH, N C 27605

BY	REVISIONS	DATE

NORTHWOODS P.U.D.
PROPERTY OWNER: PULTE HOME CORPORATION
CAROLINA DIVISION
CARY, NORTH CAROLINA

DETAIL SHEET

6-6-80