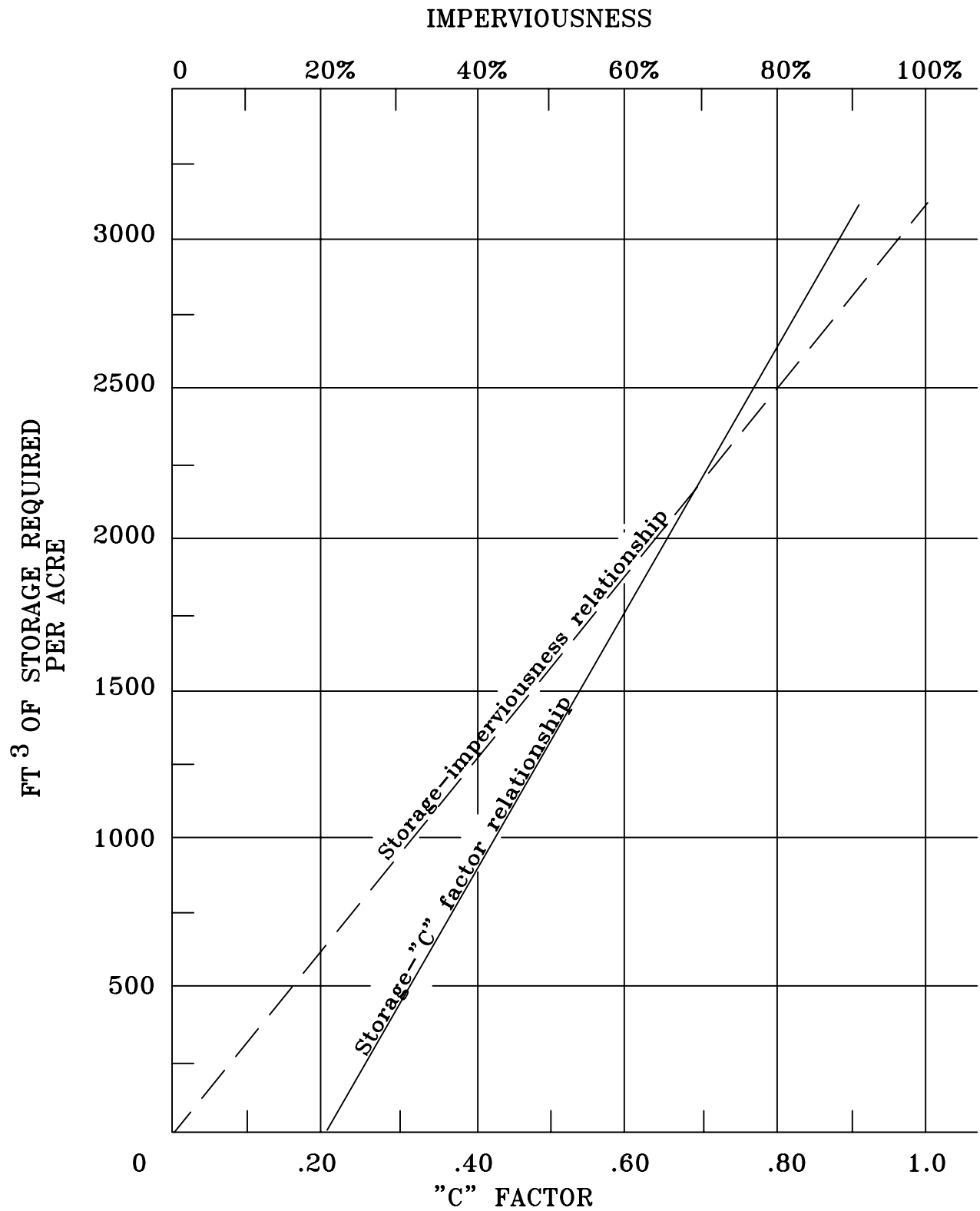


# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



Ref. Sec. 6-0402

**WATER QUALITY STORAGE  
REQUIREMENTS RELATED TO  
PERCENT IMPERVIOUSNESS  
AND RATIONAL FORMULA  
"C" FACTOR**

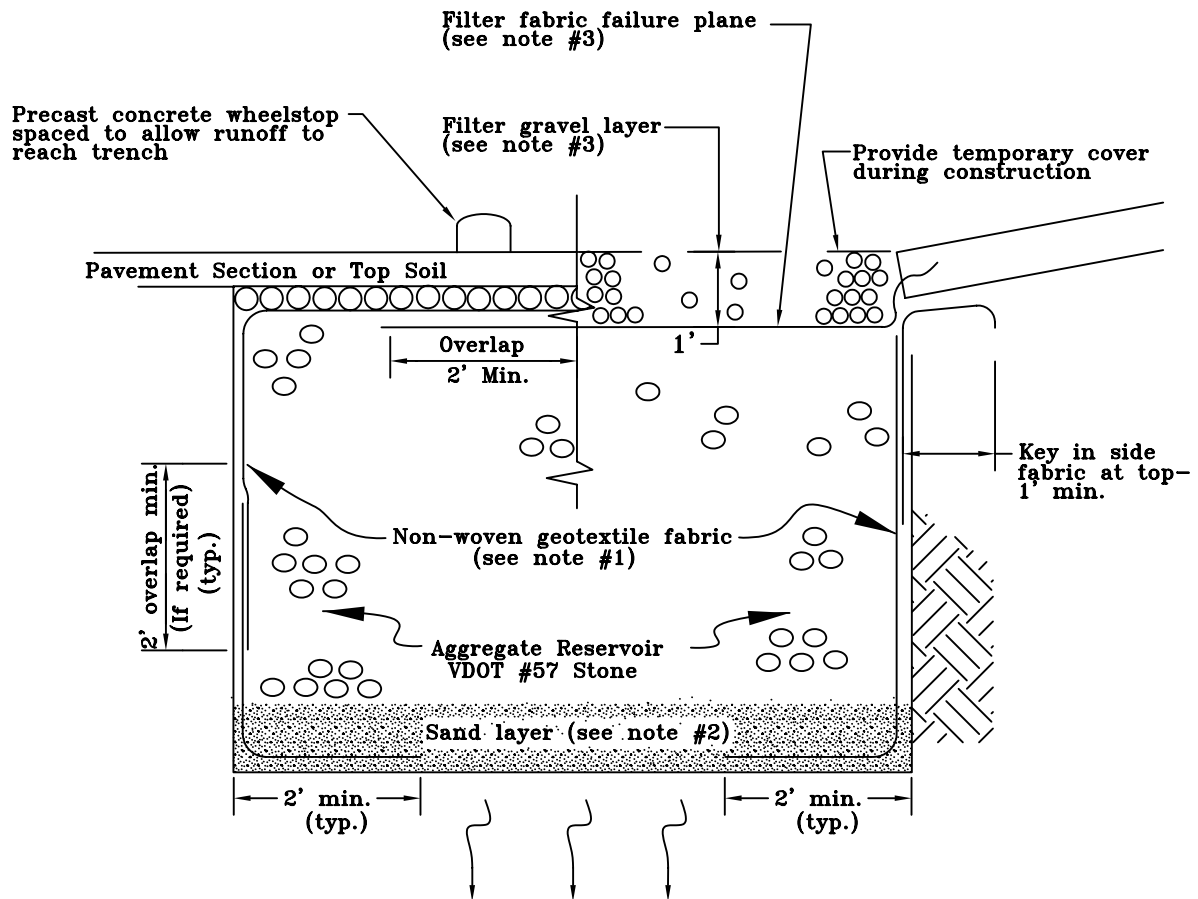
PLATE NO.

STD. NO.

2-6

Rev. 1-00, 2011 Reprint

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



## NOTES:

1. Use non-woven geotextile fabric with AOS of 70-100 US Sieve or 0.2 mm - 0.15 mm as determined by ASTM D4751 and a trapezoidal tear strength of 45 LB. or 0.2 kN as determined by ASTM D4533.
2. An 8-in. deep bottom sand layer (VDOT Fine Aggregate, Grading A or B) is required.
3. For an aggregate surface trench, filter fabric shall surround all of the aggregate fill material except the top one foot. A separate piece of fabric shall be used for the top layer to act as a failure plane. This top piece can then be removed and replaced upon clogging.
4. Geotextile fabric shall not be exposed to direct sunlight for more than 24 hours prior to installation.

Ref. Sec. 6-1303.7B,  
6-1303

Rev. 1-00, 6-04, 10-06,  
2011 Reprint

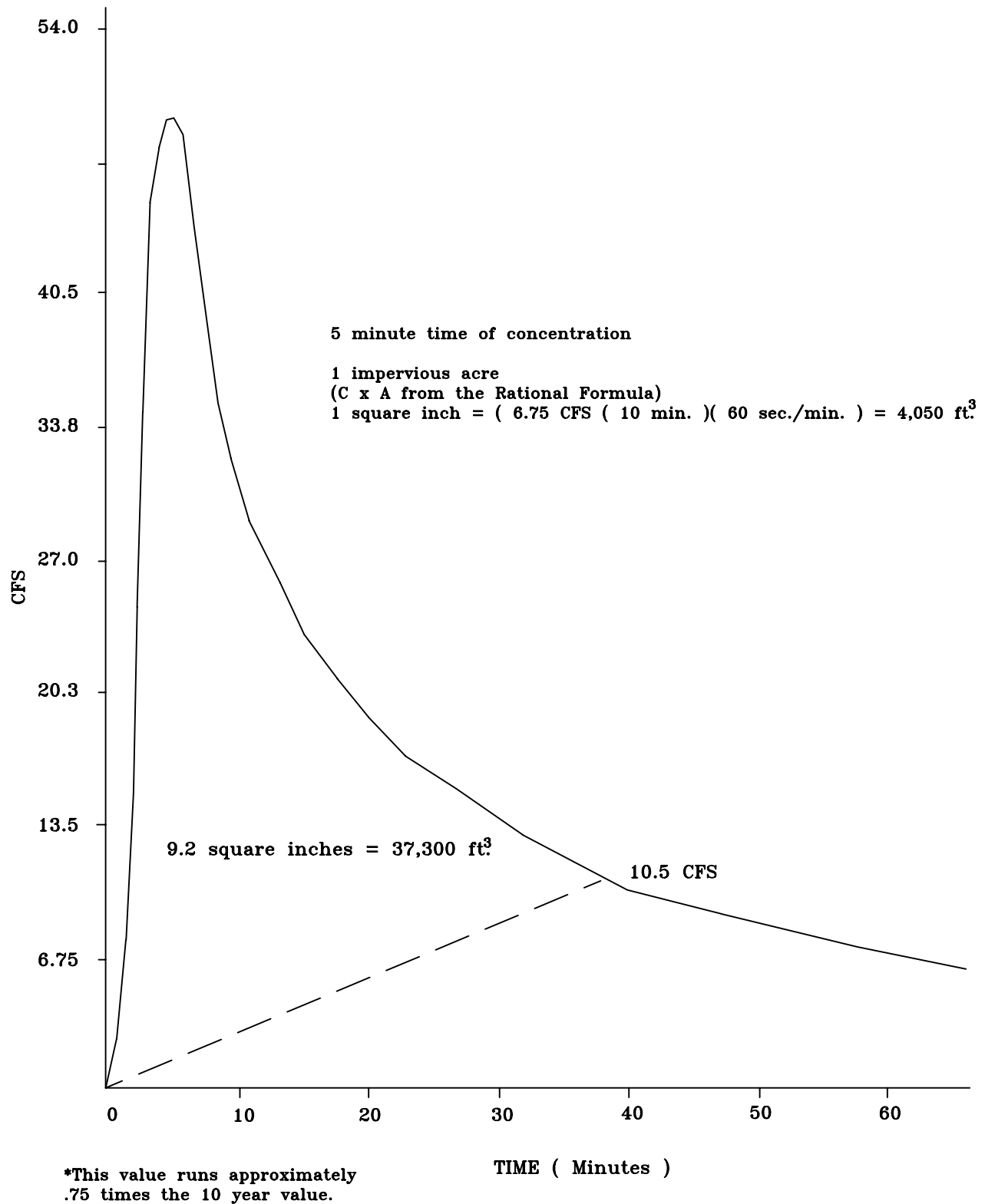
## PERCOLATION TRENCH

PLATE NO.

STD. NO.

41A-6

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



Ref Sec 6-1305.8B(1),  
6-1305.9A

## UNIT FLOW HYDROGRAPH 2 YEAR\* - 2 HOUR STORM

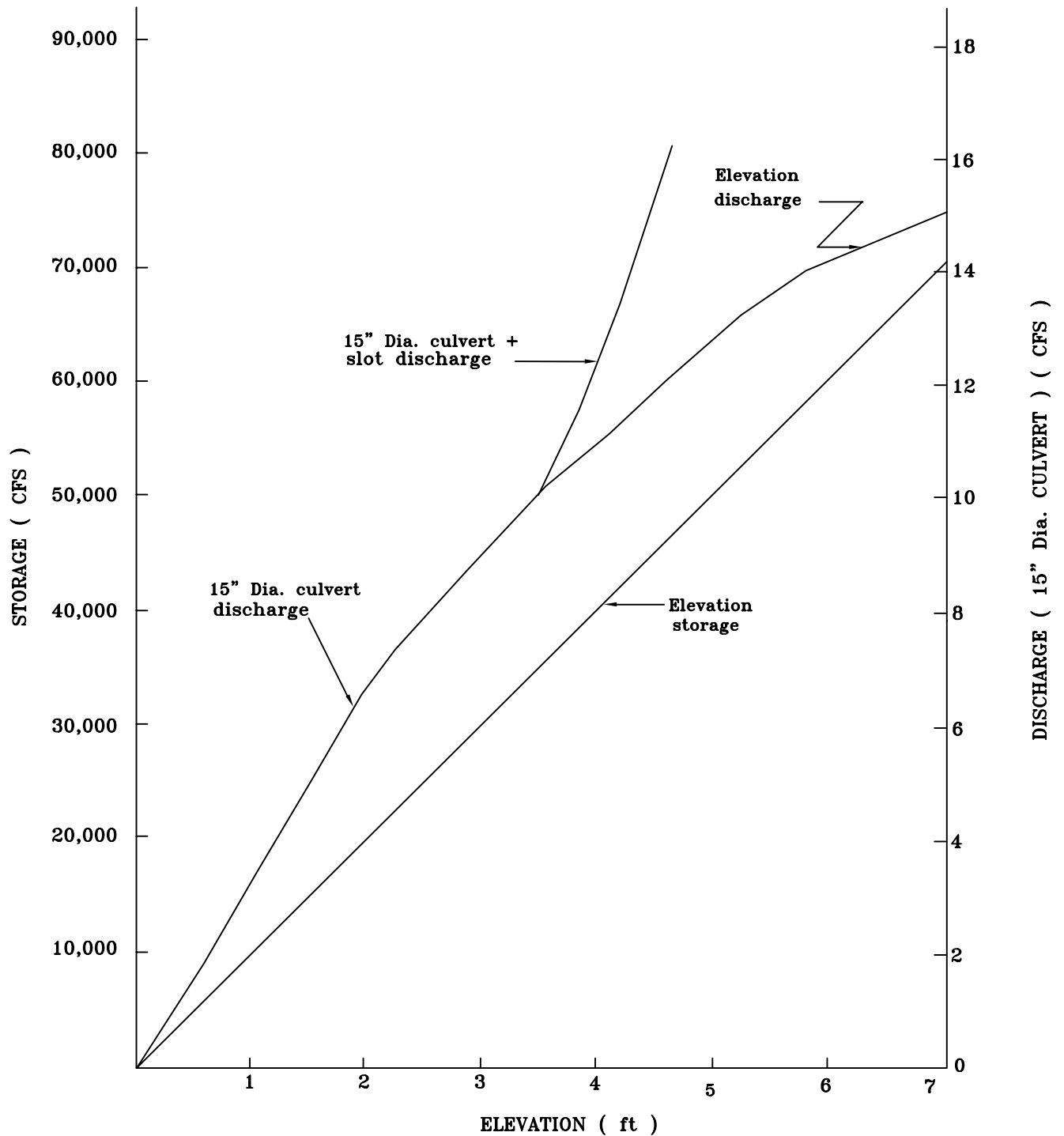
PLATE NO.

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# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



Ref. Sec. 6-1305.8B(5),  
6-1305.8B(6), 6-1305.9C,  
6-1305.10E

## DISCHARGE - 15" CULVERT

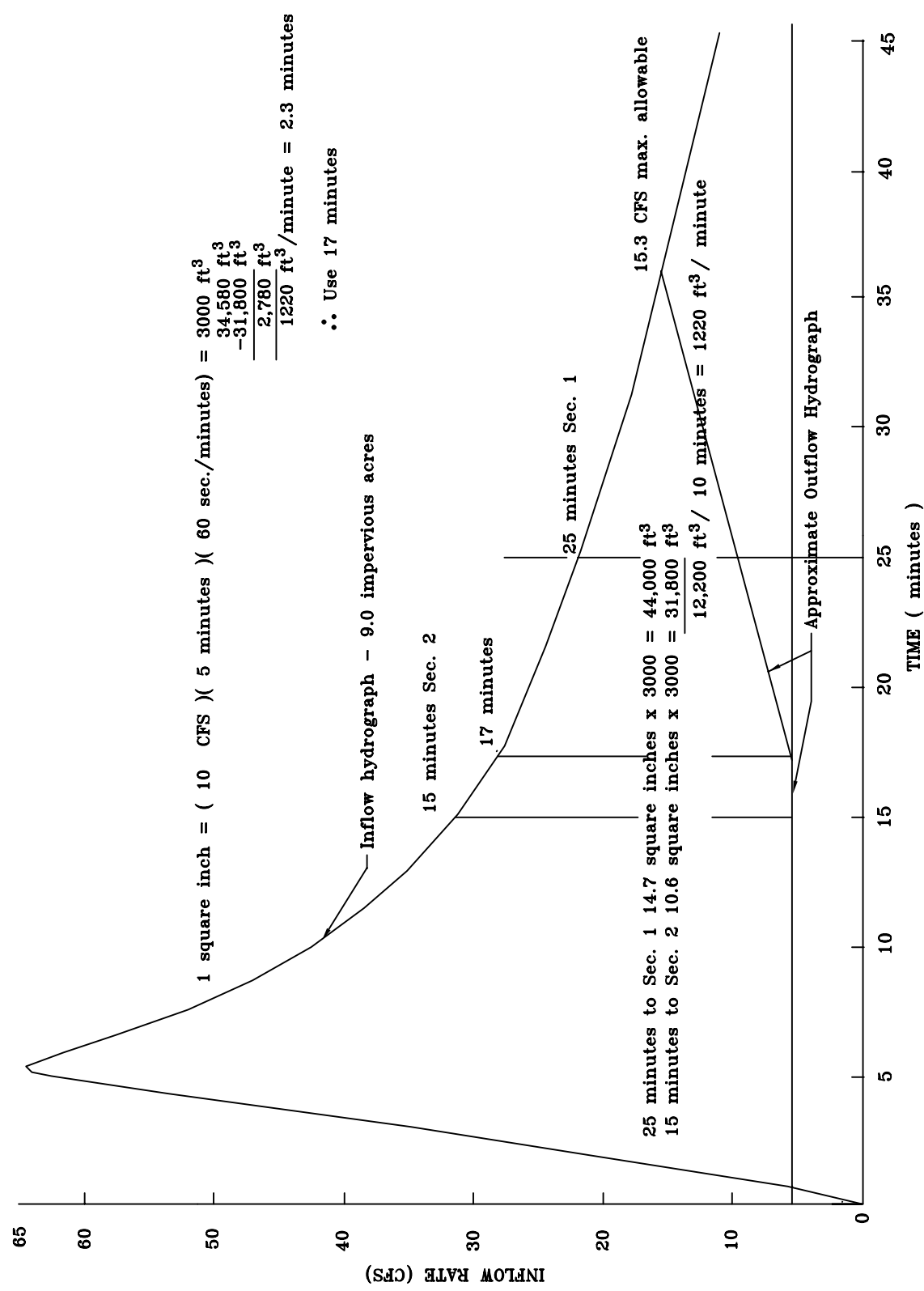
PLATE NO.

STD. NO.

43-6

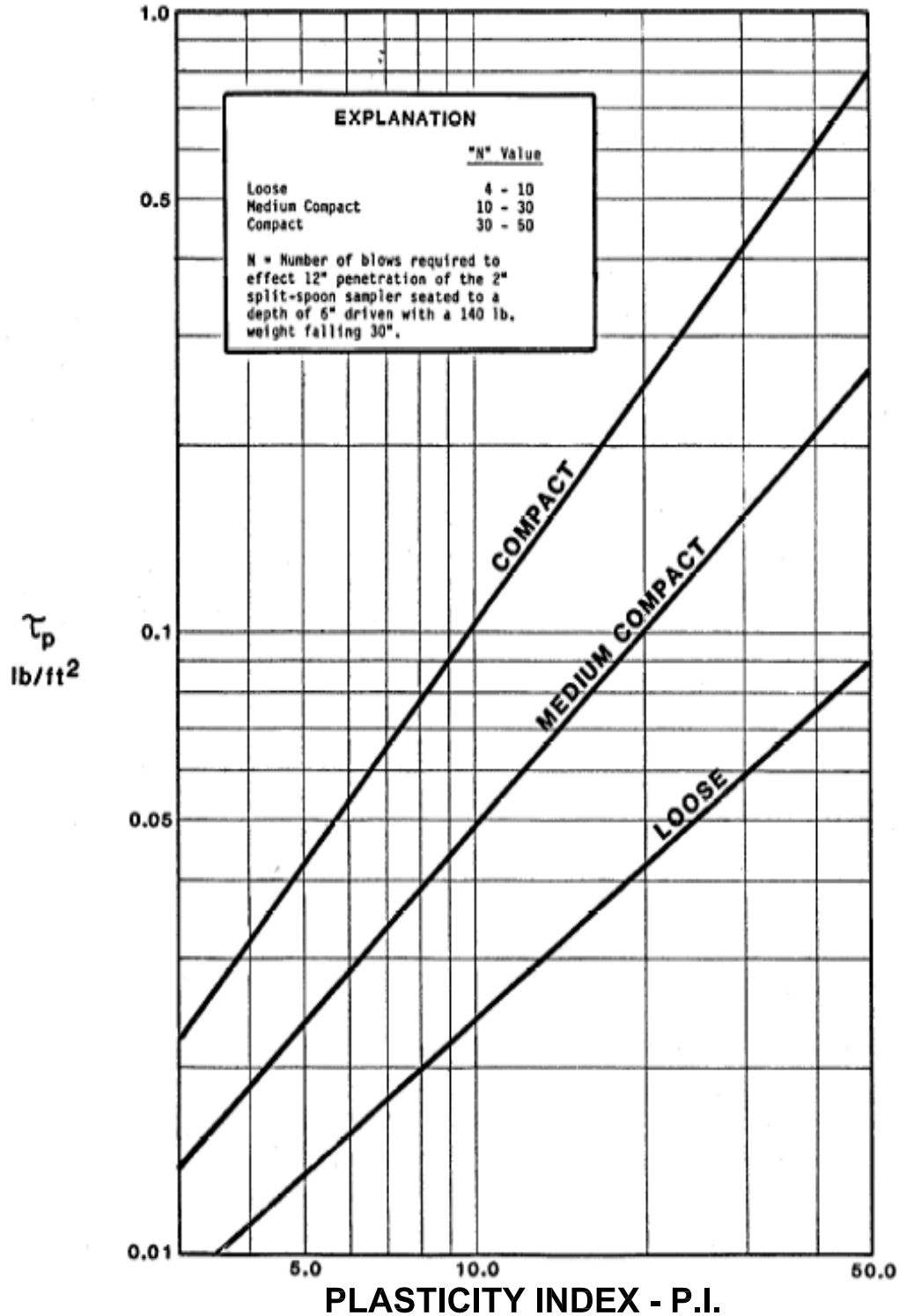
Rev. 1-00, 2011 Reprint

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



Ref. Sec. 6-1305.10B  Rev. 1-00	INFLOW HYDROGRAPH 10 YEAR- 2 HOUR STORM 5 MINUTE TIME OF CONCENTRATION	PLATE NO.	STD. NO.
		44-6	

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



SOURCE: Federal Highway Administration (IP-87-7) 1988  
Design of Roadside Channels with Flexible Linings

Ref. Sec. 6-0203.4A(2)

**PERMISSIBLE SHEAR STRESS**  
**COHESIVE SOILS**

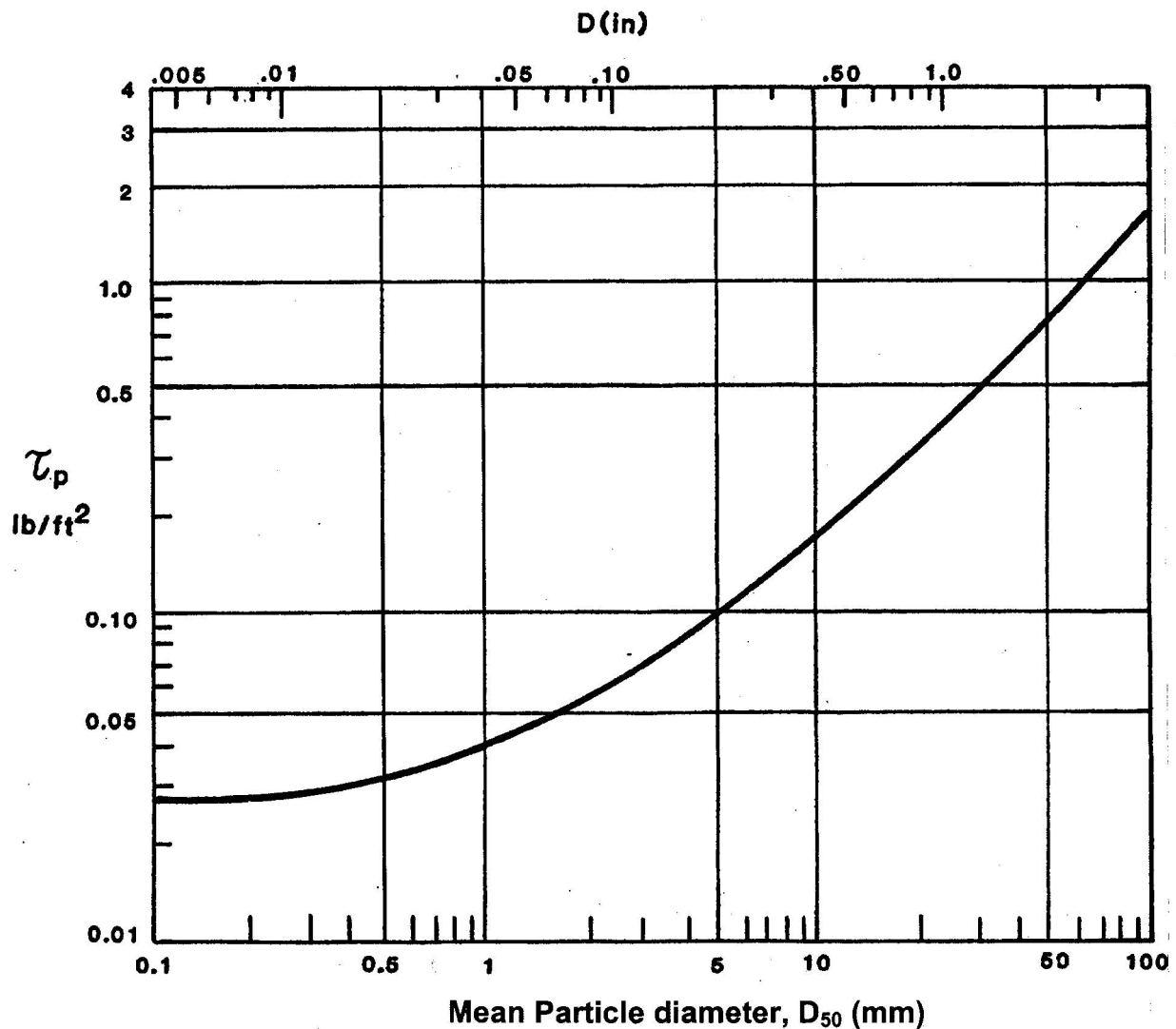
PLATE NO.

STD. NO.

Rev. 1-00, 2-06, 2011  
Reprint

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# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



**Chart 1. Permissible shear stress for non-cohesive soils.**

SOURCE: Federal Highway Administration (IP-87-7) 1988 Design of Roadside Channels with Flexible Linings

Ref. Sec. 6-0203.5A(2)

PERMISSIBLE SHEAR STRESS  
NON-COHESIVE SOILS

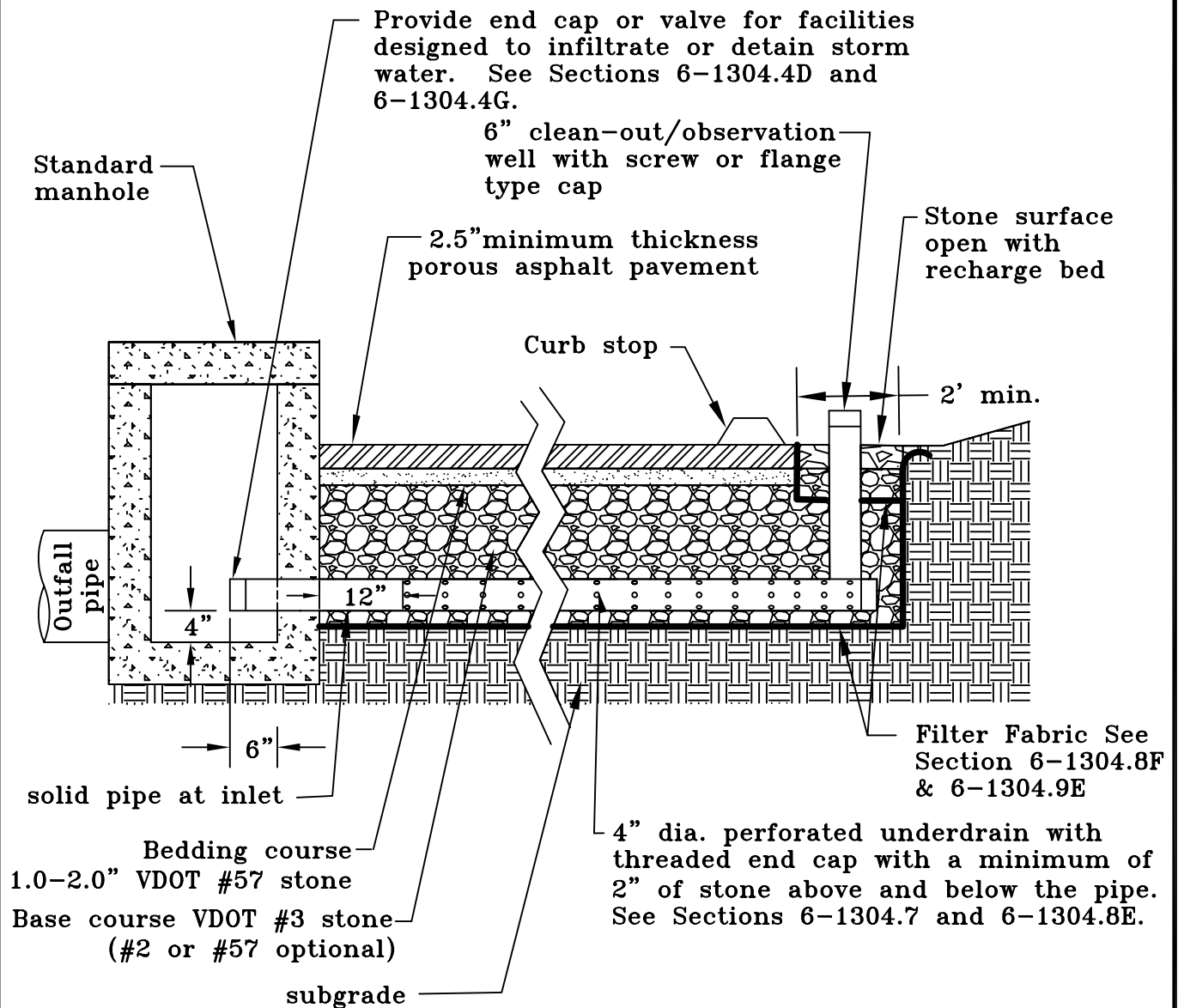
PLATE NO.

STD. NO.

77-6

Rev. 2-06

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



## Notes:

- 1) The Director may approve variations of this design provided the facility meets the requirements of Sec. 6-1304 et seq.
- 2) All pipe shall be in accordance with Section 6-1304.8E.

## CROSS SECTION (NTS)

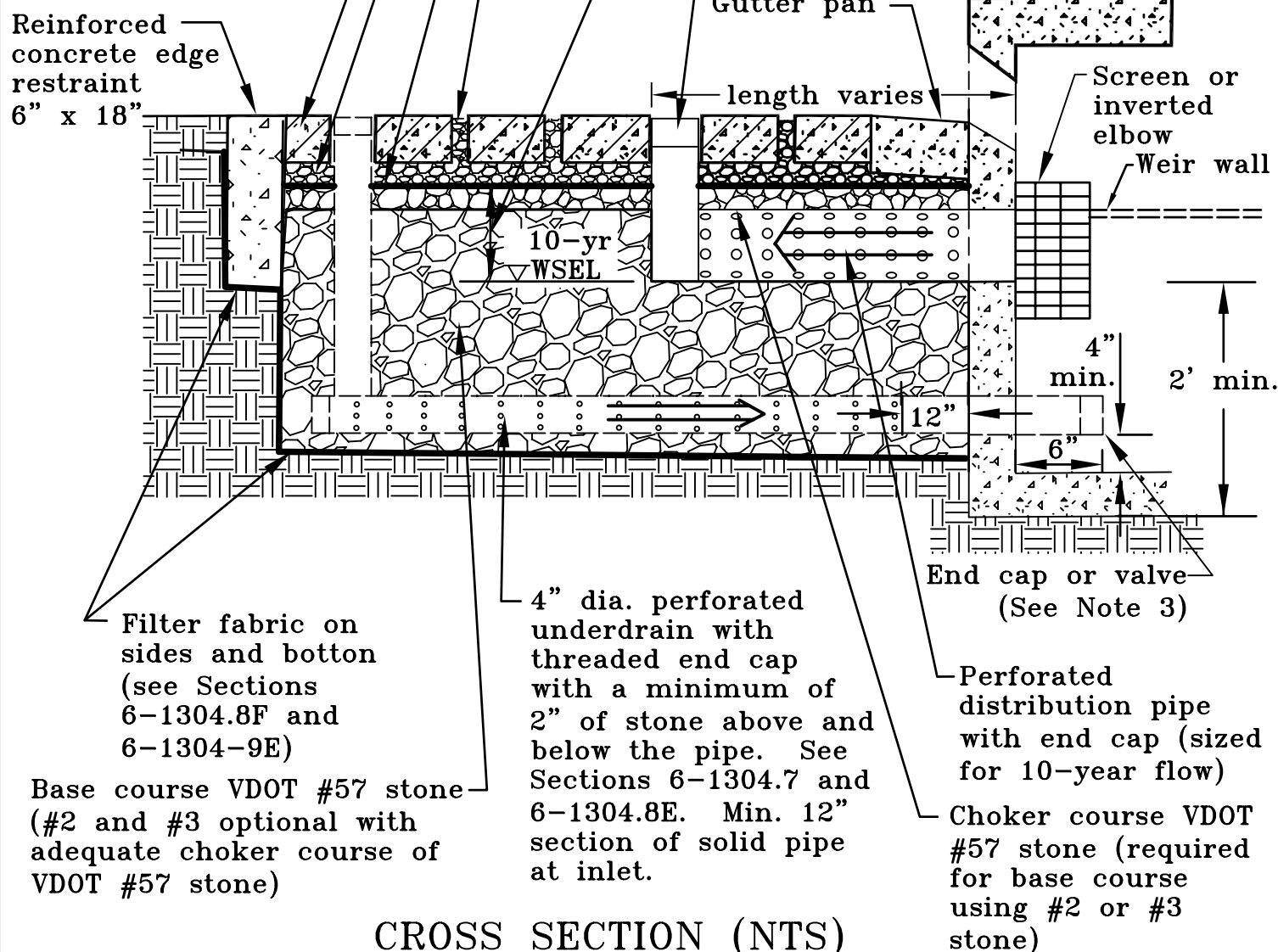
Ref. Sec. 6-1304 et seq.	POROUS ASPHALT PAVEMENT EXTENDED AGGREGATE BASE	PLATE NO.	STD. NO.
		78-6	
Rev. 3-07			



# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL

## Notes:

- 1) The Director may approve variations of this design provided the facility meets the requirements of Sec. 6-1304 et seq.
- 2) All pipe shall be in accordance with 6-1304.8E.
- 3) Provide end cap or valve for facilities designed to infiltrate or detain storm water. See Sections 6-1304.4D and 6-1304.4G.



Ref. Sec. 6-1304 et seq., Plate 80-6

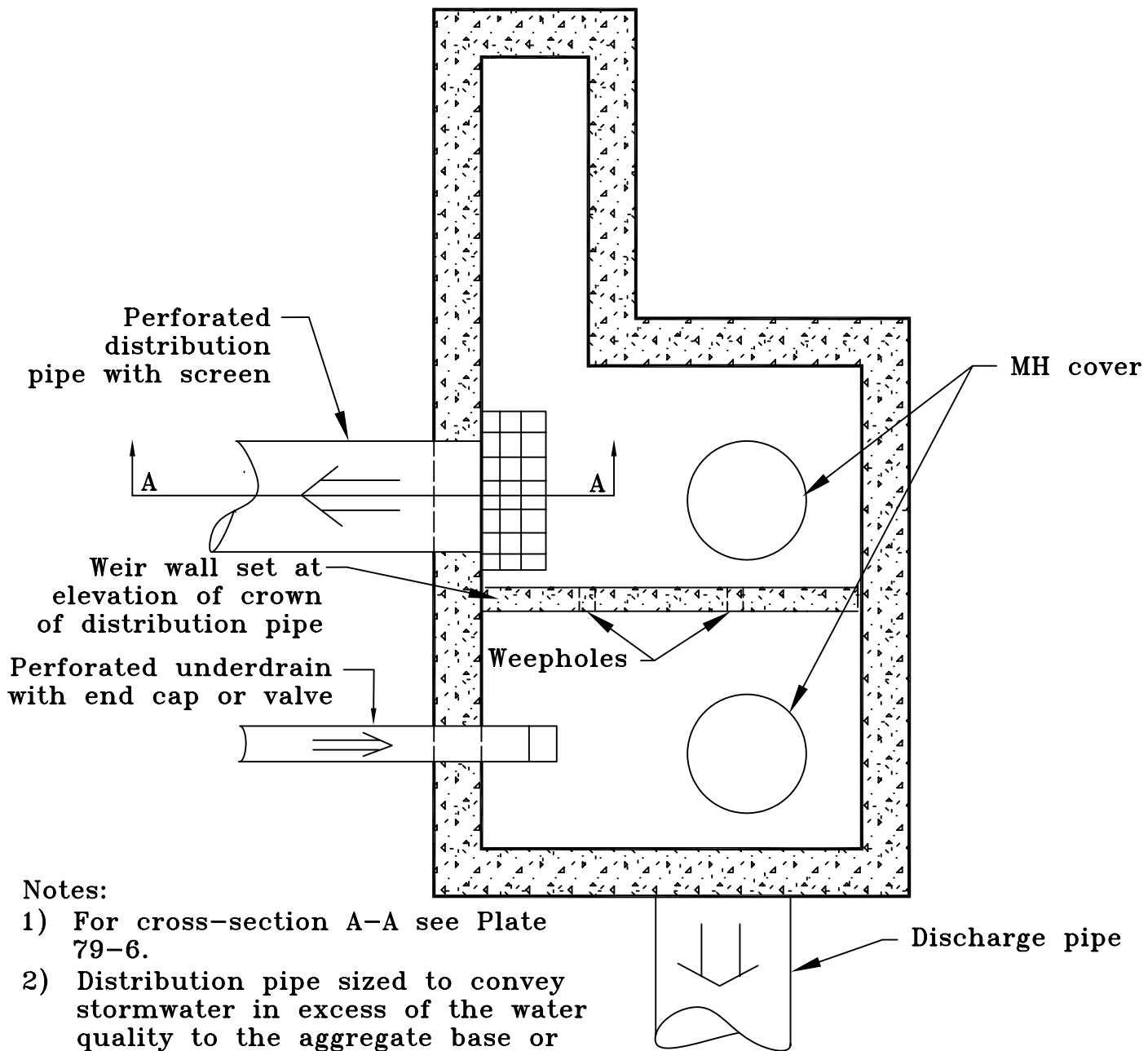
Rev. 3-07

## PERMEABLE OPEN JOINT PAVEMENT BLOCK

PLATE NO.

STD. NO.

79-6



**Notes:**

- 1) For cross-section A-A see Plate 79-6.
- 2) Distribution pipe sized to convey stormwater in excess of the water quality to the aggregate base or storage chambers below the pervious pavement.
- 3) This is intended as an example only. The designer may use other configurations, including separate inflow and outflow structures which may include manufactured water quality inlets.

**PLAN VIEW (NTS)**

Ref. Sec. 6-1304  
et. seq., Plate  
79-6  
Rev. 3-07, 2011  
Reprint

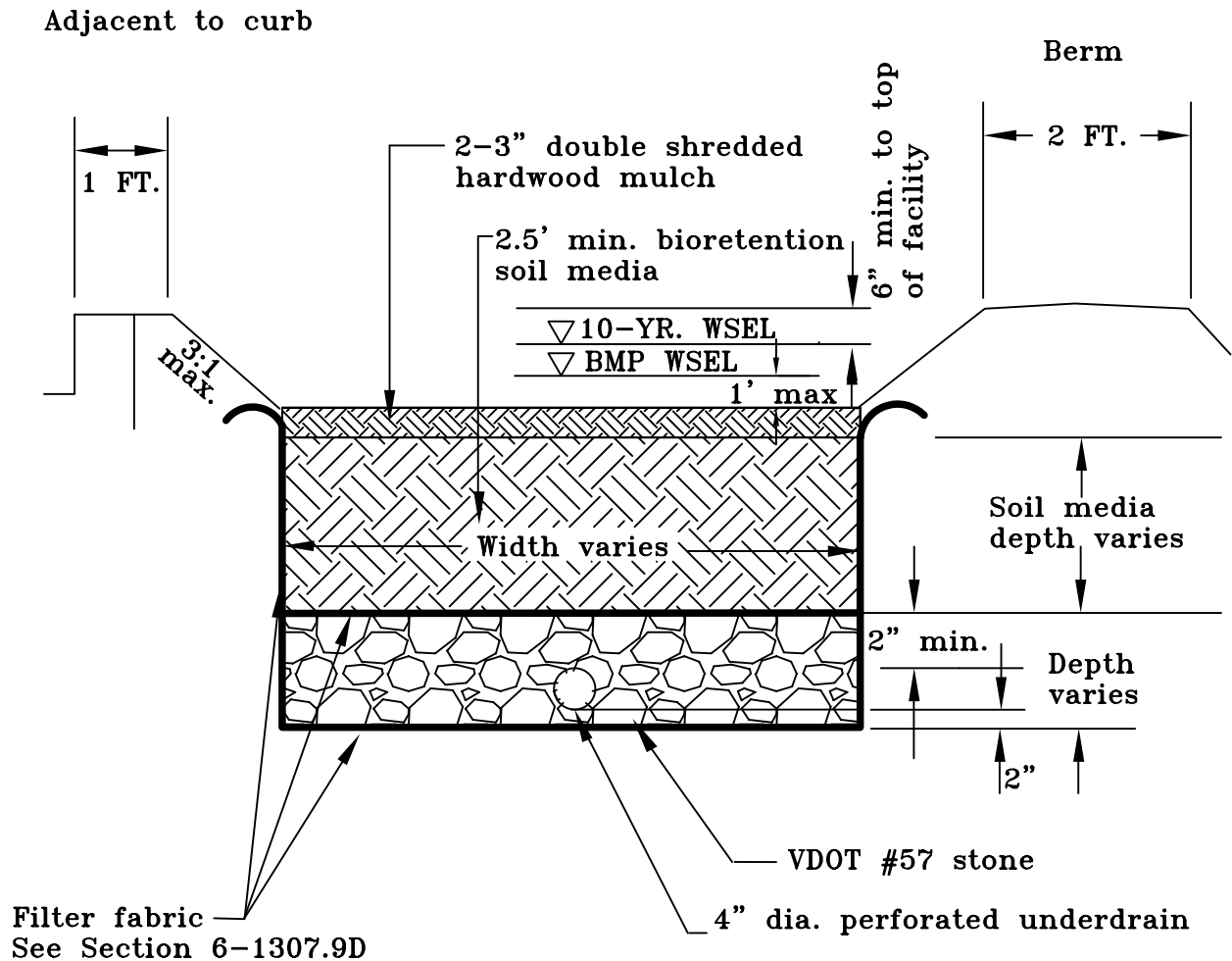
## EXAMPLE INLET SCHEMATIC FOR PERVIOUS PAVEMENT

PLATE NO.

STD. NO.

80-6

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



## Notes:

- 1) Side slopes of the facility excavated below ground may be as steep as the in situ soils will permit. All excavation must be performed in accordance with VOSH requirements.
- 2) All pipe shall be in accordance with Section 6-1307.9C.

## CROSS SECTION VIEW (NTS)

Ref. Sec. 6-1307  
et. seq.

Rev. 3-07

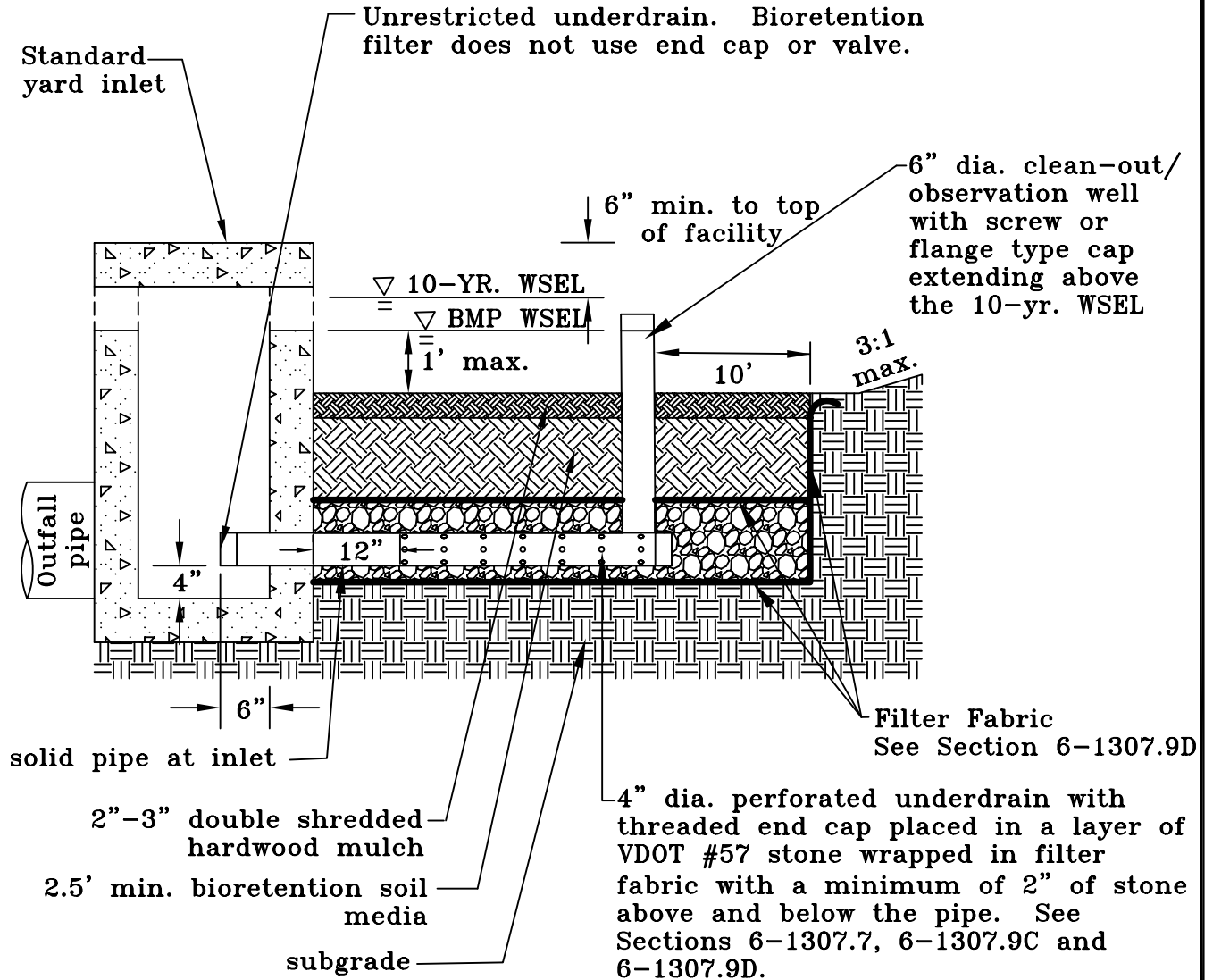
BIORETENTION FILTER OR  
BASIN WITH STONE STORAGE

PLATE NO.

82-6

STD. NO.

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



**Notes:**

- 1) The Director may approve variations of this design provided the facility meets the requirements of Sec. 6-1307 et seq.
- 2) All pipe shall be in accordance with Section 6-1307.9C.

**Soil Media**

10-35%	Topsoil
5-15%	Organic Compost
60-75%	Sand, ASTM C-33

## PROFILE VIEW (NTS)

Ref. Sect. 1307  
et seq.

Rev. 3-07

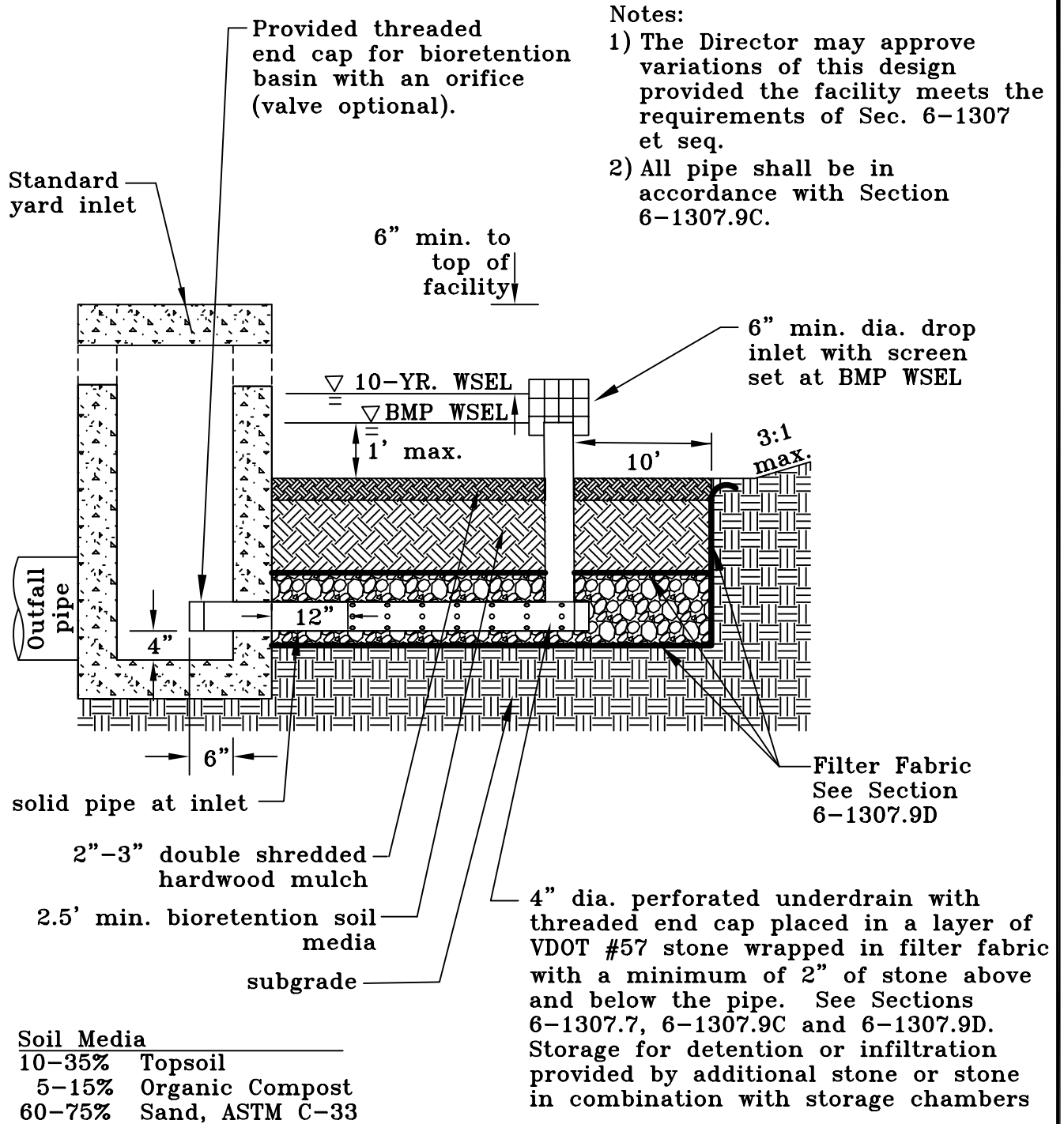
## BIORETENTION FILTER

PLATE NO.

STD. NO.

83-6

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



PROFILE VIEW (NTS)

Ref. Sec. 6-1307 et seq.

## BIORETENTION BASIN

PLATE NO.

STD. NO.

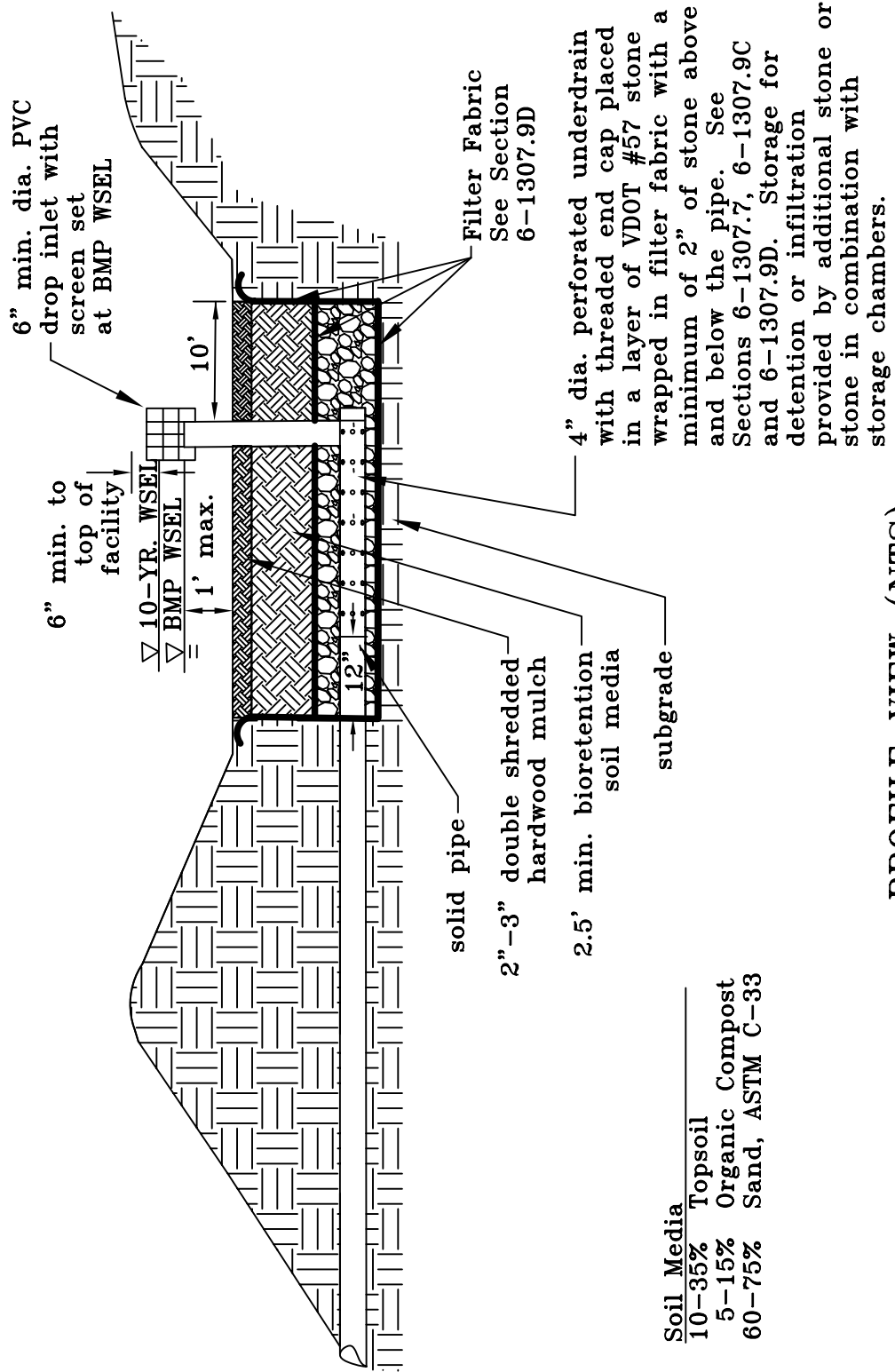
84-6

Rev. 3-07

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL

**Note:**

- 1) The Director may approve variations of this design provided the facility meets the requirements of Sec. 6-1307 et seq.
- 2) All pipe shall be in accordance with Section 6-1307.9C.



Ref. Sec. 6-1307 et seq.

Rev. 3-07

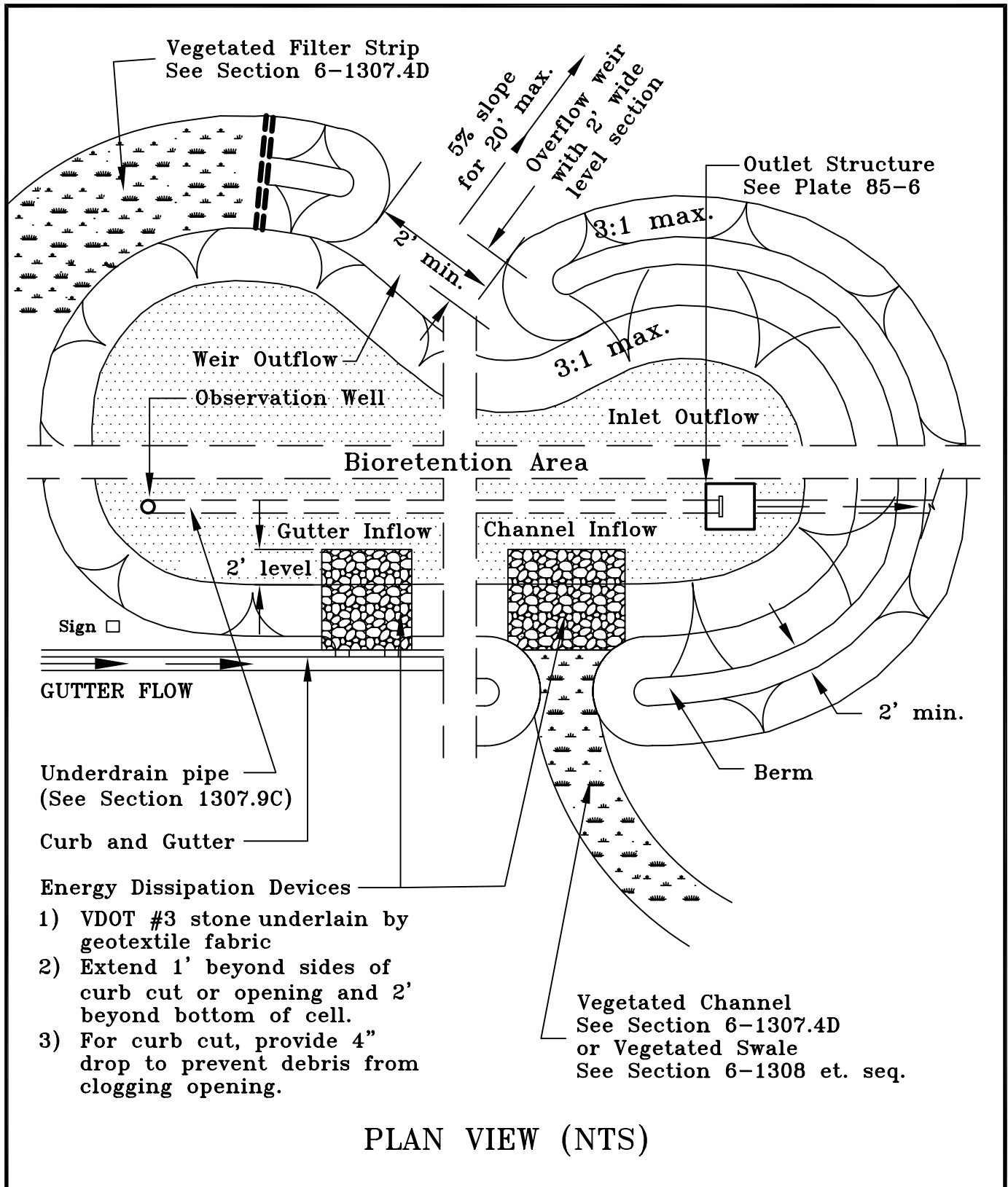
## BIORETENTION FILTER OR BASIN (OUTFALL DAYLIGHTED)

PLATE NO.

STD. NO.

85-6

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



Ref. Sec. 6-1307  
et. seq., Plate  
85-6  
Rev. 3-07, 2011  
Reprint

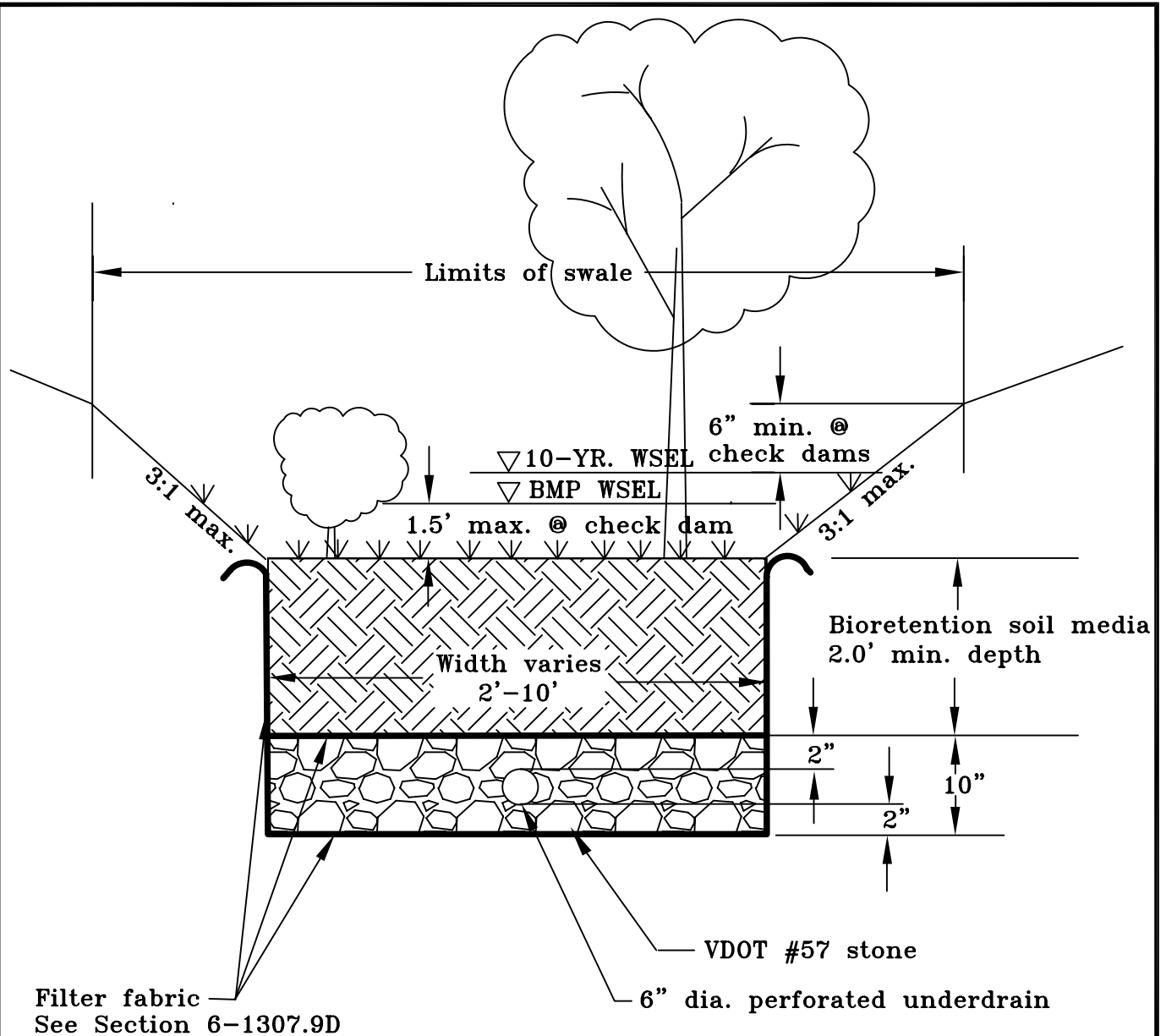
## BIORETENTION FILTER & BASIN

PLATE NO.

STD. NO.

86-6

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



## Soil Media

10-35%	Topsoil
5-15%	Organic compost
60-75%	Sand, ASTM C-33

## Notes:

- 1) Side slopes of the facility excavated below ground may be as steep as the in situ soils will permit. All excavation must be performed in accordance with VOSH requirements.
- 2) All pipe shall be in accordance with Section 6-1307.9C.

## CROSS SECTION VIEW (NTS)

Ref. Sec. 6-1308  
et seq.

Rev. 3-07

## VEGETATED SWALE WITH CHECK DAMS

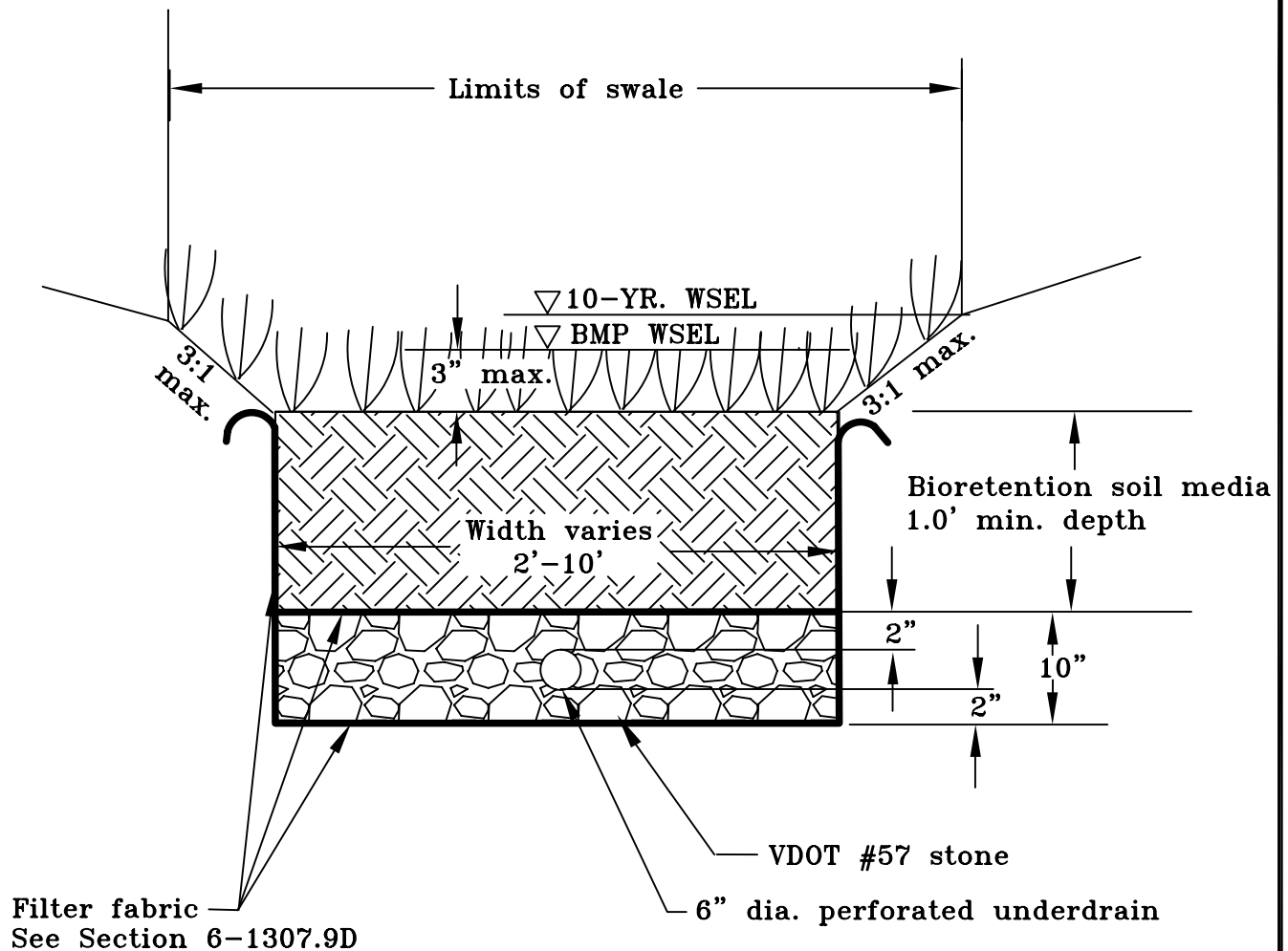
PLATE NO.

STD. NO.

87-6



# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



## Soil Media

10-35% Topsoil  
5-15% Organic compost  
60-75% Sand, ASTM C-33

## Notes:

- 1) Side slopes of the facility excavated below ground may be as steep as the in situ soils will permit. All excavation must be performed in accordance with VOSH requirements.
- 2) All pipe shall be in accordance with Section 6-1307.9C.

## CROSS SECTION VIEW (NTS)

Ref. Sec. 6-1308  
et. seq.

Rev. 3-07

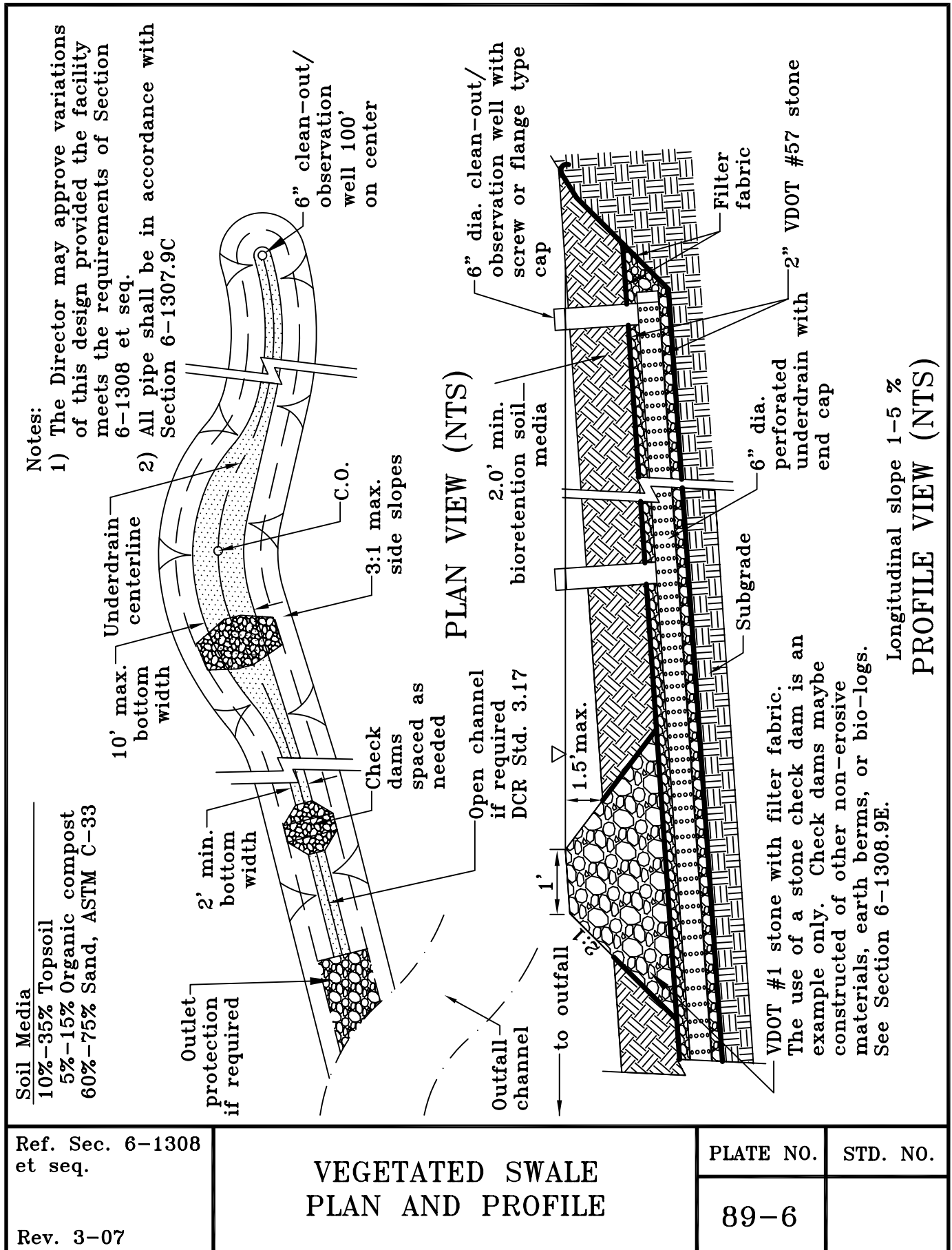
VEGETATED SWALE  
GRASS WITHOUT CHECK DAMS

PLATE NO.

STD. NO.

88-6

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



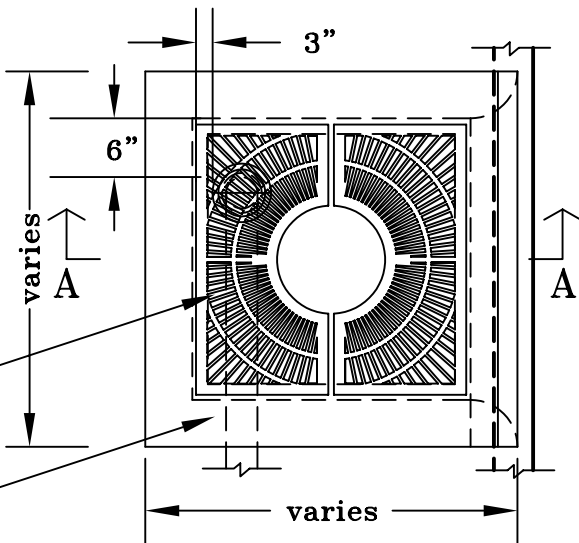
# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL

**Note:**

- 1) The Director may approve variations of this design provided the facility meets the requirements of Sec. 6-1309 et seq.
- 2) All pipe shall be in accordance with Section 6-1307.9C.

4" dia. perf. underdrain pipe

Discharge to approved outfall  
4" dia. solid pipe



**PLAN VIEW**

Vegetation  
See Sec. 6-1309.8

Grate and frame  
H-20 loading

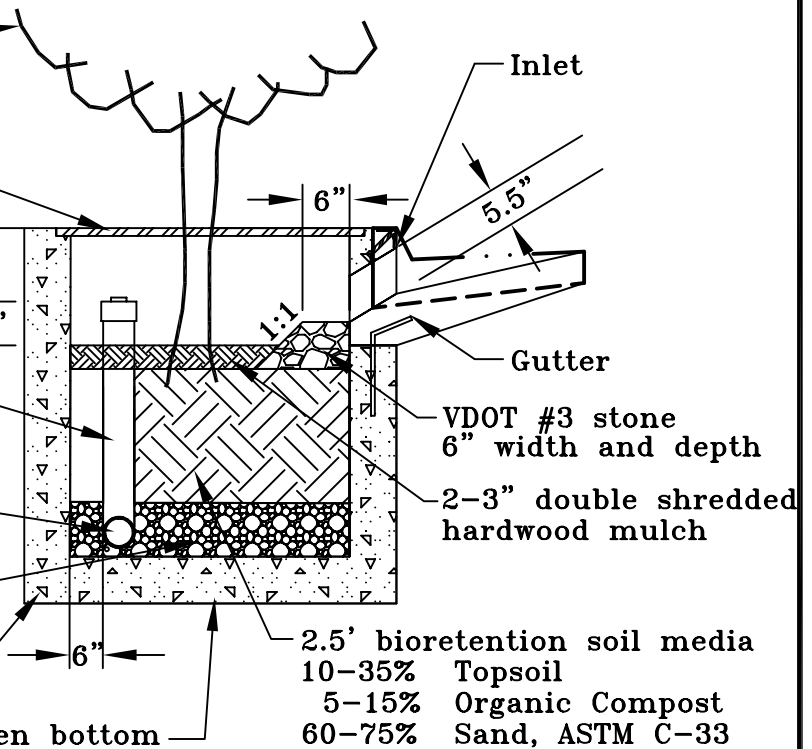
Cleanout 4" dia. pipe  
with screw or flange  
type cap

4" dia. perf. underdrain

VDOT #57 stone with a min. of 2" of stone above and below the pipe. See Secs. 6-1309.6 and 6-1309.7C.

Concrete box:  
pre-cast or cast-in-place  
See Section 6-1309.4F

Open bottom  
(optional)  
See Section 6-1309.4G



**CROSS SECTION A-A'**

Ref. Sec. 6-1309  
et seq.

Rev. 3-07

## TREE BOX FILTER

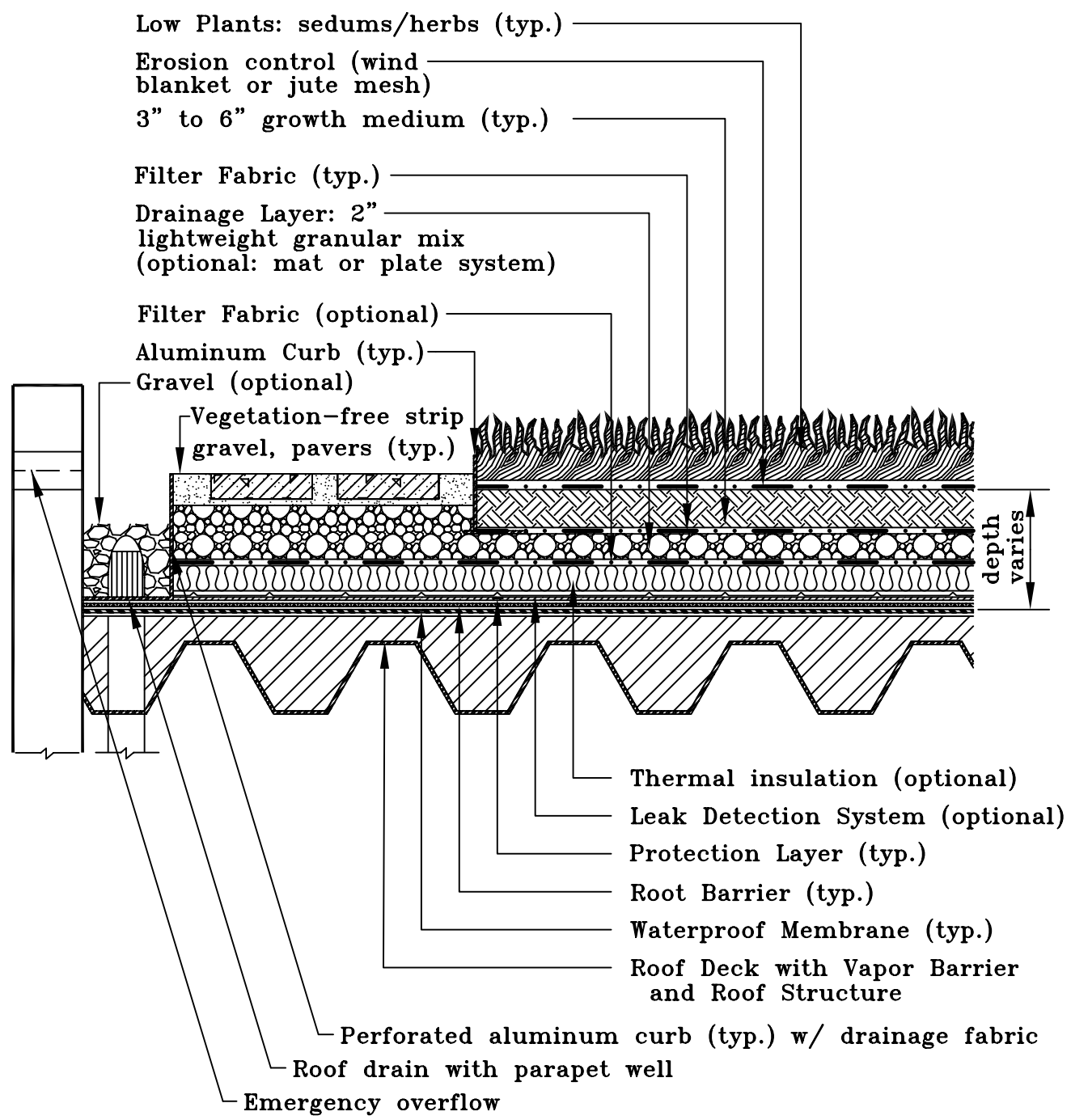
PLATE NO.

STD. NO.

90-6

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL

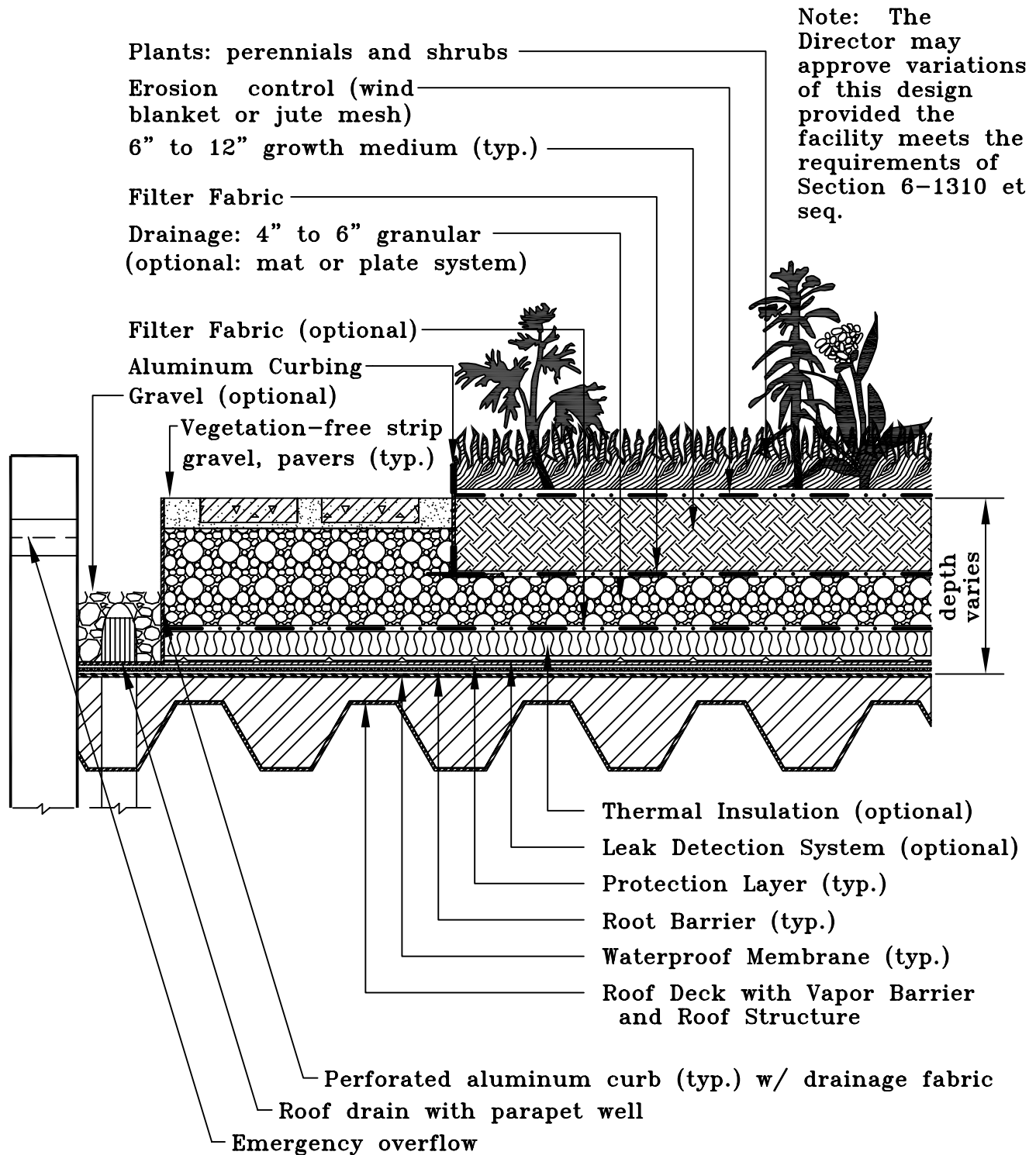
Note: The Director may approve variations of this design provided the facility meets the requirements of Sec. 6-1310 et seq.



CROSS SECTION VIEW (NTS)

Ref. Sec. 6-1310 et seq.  Rev. 3-07	VEGETATED ROOF EXTENSIVE	PLATE NO.	STD. NO.
		91-6	

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



CROSS SECTION (NTS)

Ref. Sec. 6-1310 et seq.

## VEGETATED ROOF INTENSIVE

PLATE NO.

STD. NO.

92-6

Rev. 3-07