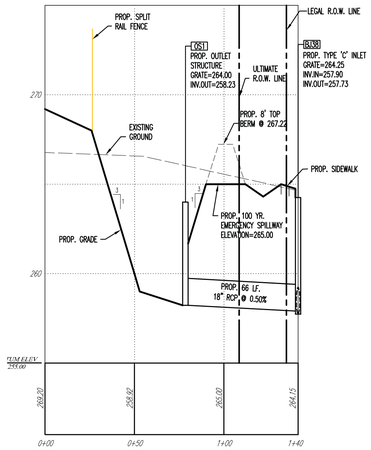
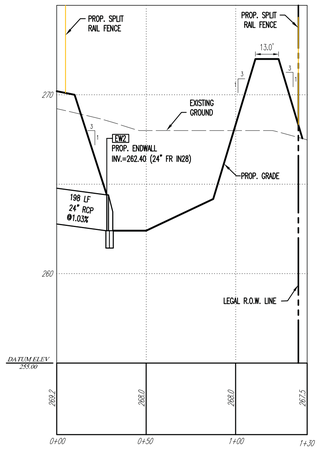


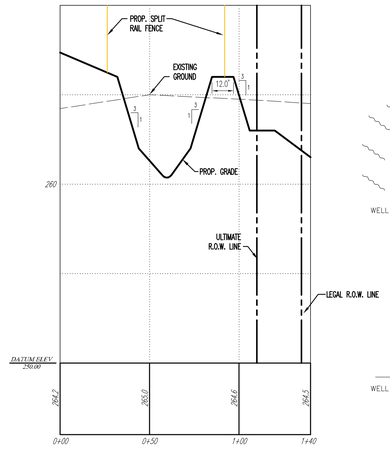
BASIN 1A CROSS-SECTION A-A

HORT. 1"=40'
VERT. 1"=4'



BASIN 1B CROSS-SECTION B-B

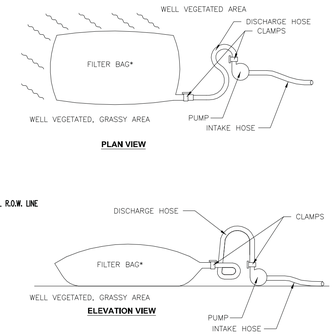
HORT. 1"=40'
VERT. 1"=4'



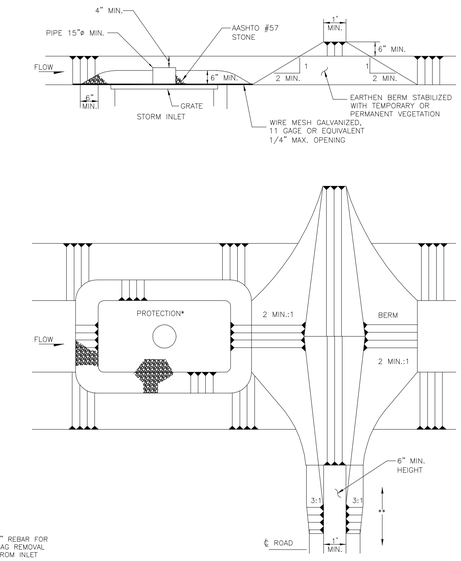
FOREBAY CROSS-SECTION C-C

HORT. 1"=40'
VERT. 1"=4'

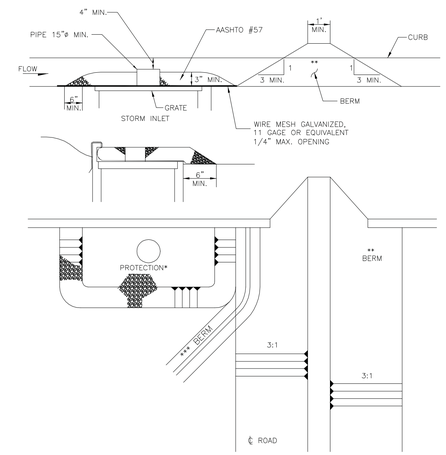
STANDARD CONSTRUCTION DETAIL #26
Pumped Water Filter Bag



STANDARD CONSTRUCTION DETAIL #31
Channel or Roadside Swale
Storm Inlet Protection and Berm(s)



STANDARD CONSTRUCTION DETAIL #32
Curbed Roadway
Storm Inlet Protection and Berm(s)



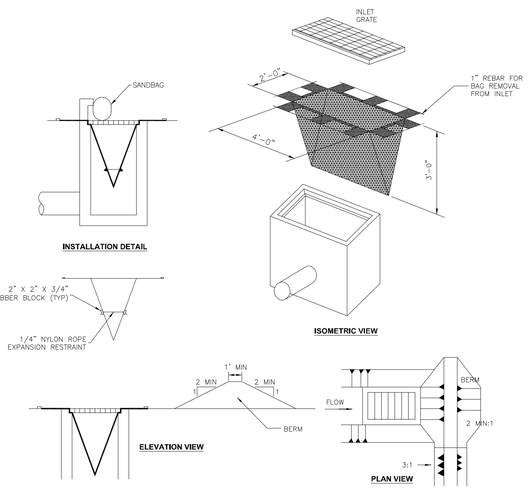
* Stone protection is not required for inlet tributary to sedimentation basin or trap. Berms are required for all installations.

** Earthen berm shall be maintained until roadway is stoned. Road subbase berm shall be maintained until roadway is paved.

*** Six inch minimum height asphalt berm shall be maintained until roadway surface receives final coat.

One acre maximum drainage area with 15" overflow pipe and 4" head.

STANDARD CONSTRUCTION DETAIL #28a
Filter Bag Inlet Protection
Channel or Roadside Swale



* Stone protection is not required for inlet tributary to sedimentation basins and sediment traps. Berms are required for all installations.

** Earthen berm in roadway shall be maintained until roadway is stoned. Road subbase berm on roadway shall be maintained until roadway is paved. Earthen berm in channel shall be maintained until permanent stabilization is completed or to remain permanently.

One acre maximum drainage area with 15" overflow pipe and 4" head.

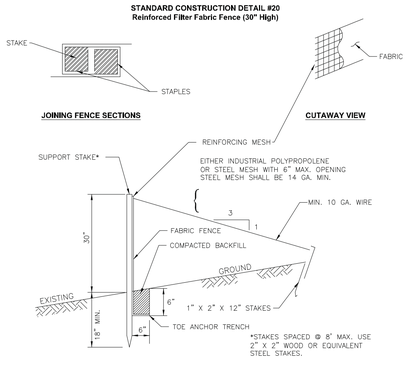
Maximum Drainage Area = 1/2 acre.

Inlet protection is not required for inlet tributary to sediment basin or trap. Berms required for all installations.

Earthen berm in roadway shall be maintained until roadway is stoned. Road subbase berm on roadway shall be maintained until roadway is paved. Earthen berm in channel shall be maintained until permanent stabilization is completed or to remain permanently.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS

STANDARD CONSTRUCTION DETAIL #20
Reinforced Filter Fabric Fence (30" High)



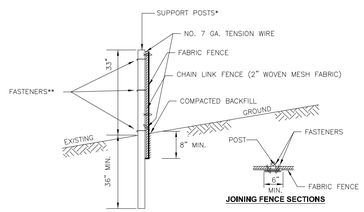
NOTE: SHOW ALL DETAILS AND CONSTRUCTION DIMENSIONS ON PLAN DRAWINGS.

Filter Fabric Fence must be installed at existing level grade. Both ends of each fence section must be extended at least 8 feet upslope at 45 degrees to the main fence alignment.

Sediment must be removed where accumulations reach 1/2 the above ground height of the fence.

Any fence section which has been undermined or topped must be immediately replaced with a Rock Filter Outlet. See Standard Construction Detail #18.

STANDARD CONSTRUCTION DETAIL #22
Super Filter Fabric Fence



*** Posts spaced @ 10' max. Use 2 1/2" dia. galvanized or aluminum posts.**

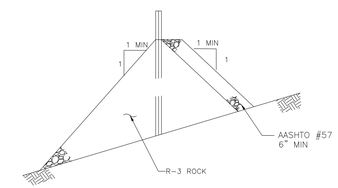
**** Chain Link to Post Fasteners spaced @ 14" max. Use No. 6 Ga. aluminum wire or No. 9 galvanized steel pre-formed clips. Chain Link to Tension Wire Fasteners spaced @ 60" max. Use No. 10 Ga. galvanized steel wire. Fabric to Chain Fasteners spaced @ 24" max. C to C.**

No. 7 Ga. Tension Wire installed horizontally at top and bottom of chain-link fence.

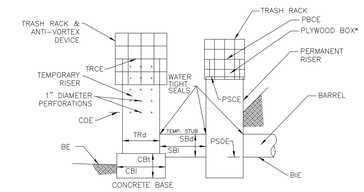
Filter Fabric Fence must be placed at existing level grade. Both ends of the barrier must be extended at least 8 feet upslope at 45 degrees to the main barrier alignment.

Sediment must be removed when accumulations reach 1/2 the above ground height of the fence.

STANDARD CONSTRUCTION DETAIL #18
Rock Filter Outlets



STANDARD CONSTRUCTION DETAIL #6
Sediment Basin Temporary Riser & Permanent Structure*

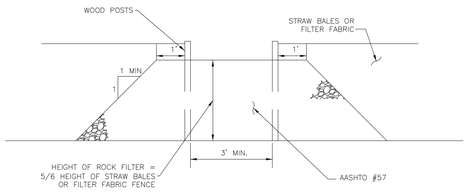


BASIN NO.	TEMPORARY RISER			PERFORATIONS		CONCRETE BASE			BARREL
	DIA TRd (IN)	CREST ELEV TRCE (FT)	MAT'L	NO. HOLES PER ROW	VERTICAL SPACING OF ROWS (FT)	LENGTH CBI (IN)	WIDTH CBw (IN)	THICK. CBt (IN)	INLET ELEV BIE (FT)
1	24	264.21	CMP	6	1	36	36	15	258.29

BASIN NO.	TEMPORARY STUB				PERMANENT STRUCTURE			
	DIA SBd (IN)	INVERT ELEV SBIE (FT)	MAT'L	LENGTH SBI (FT)	CREST ELEV PSCE (FT)	OPENING LENGTH PSOl (IN)	OPENING WIDTH PSOw (IN)	OUTLET ELEV PSOE (FT)
1	18	258.49	RCP	10	264.00	3	3	258.29

* See Trash Rack & Anti-vortex Device and Plywood Box Details.

OUTLET CROSS-SECTION



UP-SLOPE FACE

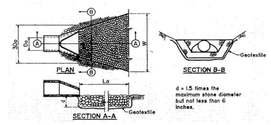
Sediment must be removed when accumulations reach 1/3 the height of the outlet.

Rip-Rap Apron Calculations

EROSION AND SEDIMENTATION CONTROL PLAN

STANDARD WORKSHEET # 23
RIPRAP APRON OUTLET PROTECTION

PROJECT NAME: HBG Gaugler - Single Family Homes
LOCATION: Rt. 663, New Hanover Township, Pa
PREPARED BY: JM DATE: 11/12/2004
CHECKED BY: BEW REV:



OUTLET NO.	PIPE DIA. D_o (in)	TAILWATER CONDITION (Max or Min)	Q (CFS)	V^1 (FPS)	L_a[2] (ft)	W^3 (ft)	T^4 (ft)	RIPRAP SIZE[5]
EW1*	24 x 38	MIN	32.81	7.38	8	17	1.50	R-4
EW2	24	MIN	20.26	9.57	6	15	2.25	R-5
EW5	48	MIN	35.49	2.83	8	28	1.50	R-4
EW6	42	MIN	42.83	7.80	8	19	1.50	R-4

[1] *The anticipated velocity (V) should not exceed the maximum permissible shown in the Program Manual for the proposed riprap protection.*
[2] *For $T_w > 1.0\ D_o$: $L_a = 1.8(1.0D_o/D_w)^{1.5}$ + $1D_o$*
For $T_w < 1.0\ D_o$: $L_a = 3(1.0D_o/D_w)^{1.5}$ + $1D_o$
[3] *For $T_w > 1.0\ D_o$: $W = 3D_o + 0.4L_a$*
For $T_w < 1.0\ D_o$: $W = 3D_o + L_a$

Waterbar Installation

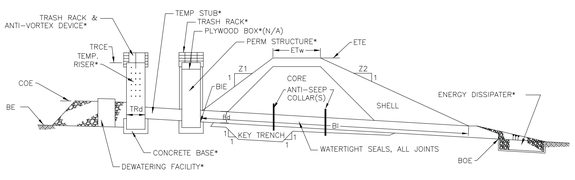
Required Spacing for Permanent Waterbars	
Percent Slope	Spacing (FT)
< 5	250
5 - 15	150
15 - 30	100
> 30	50

* Permanent waterbars are required at all stream, river, and other water-body crossings as well as upslope from roadway and railroad cut slopes. Otherwise not required.

Water bars (slope breakers, interceptor dikes) should be installed across the entire right-of way on all slopes greater than 5%.

Waterbars should be constructed at a slope of 2% and discharge to a well-vegetated area. Waterbars should not discharge into an open trench. Waterbars should be oriented so that the discharge does not flow back onto the right-of-way. Obstructions, (e.g. straw bales, silt fence, rock filters, etc.) should not be placed in any waterbars. Where needed, they should be located below the discharge end of the waterbar.

STANDARD CONSTRUCTION DETAIL #5
Sediment Basins With Permanent Storm Water Structures*



EMBANKMENT SECTION ALONG PRINCIPAL SPILLWAY*

BASIN NO.	Z1 (FT)	Z2 (FT)	TEMPORARY RISER			BARREL				EMBANKMENT		CLEAN OUT ELEV COE (FT)	BOTTOM ELEV BE (FT)
			DIA TRd (IN)	CREST ELEV TRCE (FT)	MAT'L	DIA Bd (IN)	INLET ELEV BIE (FT)	MAT'L	LENGTH BI (FT)	OUTLET ELEV BOE (FT)	TOP ELEV ETE (FT)	TOP WIDTH ETw (FT)		
1	3	3	24	264.21	CMP	18"	258.29	RCP	66	257.90	267.22	8	260.88	258.49

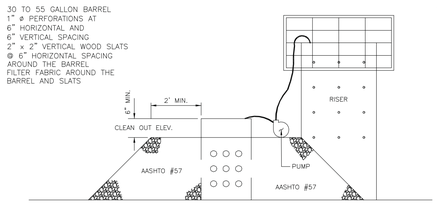
* See Sediment Basin Temporary Riser & Permanent Structure, Emergency Spillway, Trash Rack & Anti-vortex Device, Energy Dissipater, and Sediment Storage Dewatering Facility Details.

A Clean Out Stake shall be placed near the center of each basin. Accumulated sediment shall be removed when it has reached the clean out level marked on the stake.

NOTE:
1.) ALL OUTLET PIPES THROUGH THE DETENTION BASIN BERM SHALL BE RCP WITH O-RING JOINTS.

STANDARD CONSTRUCTION DETAIL #10
Sediment Basin or Sediment Trap Sediment Storage Dewatering Facility

30 TO 55 GALLON BARREL
1" ø PERFORATIONS AT
6" HORIZONTAL AND
6" VERTICAL SPACING
2" x 2" VERTICAL WOOD SLATS
@ 6" HORIZONTAL SPACING
AROUND THE BARREL
FILTER FABRIC AROUND THE
BARREL AND SLATS



REV	DATE	DESCRIPTION	BY
T2	4/10/08	REV PER PADOT PLANS	VJS
T1	1/17/08	REV PER ENGINEERS COMMENTS	VJS
10	9/06/07	REV PER ENGINEERS COMMENTS	JPW
9	12/05/06	REV. PER TOWNSHIP COMMENTS	LC
8	10/09/06	REV. PER TOWNSHIP COMMENTS	LC
7	8/30/06	REV. PER PENNDOT COMMENTS	LC
6	3/31/06	REV. PER TOWNSHIP COMMENTS	LC
5	1/17/06	REV. PER TOWNSHIP REVIEW COMMENTS	LC

FINAL LAND DEVELOPMENT PLANS

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ROUTE 663
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

EROSION & SEDIMENT POLLUTION CONTROL DETAILS

R.D. IRONS

PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE No. 048804-R
NEW JERSEY LICENSE No. GE38890
DELAWARE LICENSE No. 9663
MARYLAND LICENSE No. 21379

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PA 1 one-call
1-800-242-1776
PCCS SERIAL NUMBER

DATE: 12/30/04 | SCALE (H): AS (V): NOTED | SHEET NO: 27 OF 40
DRAWN: LGU | PROJECT No: P03-0109.01
CHECKED: R.D.I. | CAD I.D. #: P03-0109.01DETAILS-12
CONSTRUCTION CHECK | DATE
REV. NO. 12