

ATTACHMENT 4:

Design Calculations and Construction Details


Design Calculations

Erosion and Sedimentation Control Design Supporting Information

The following section contains supporting information and calculations associated with the temporary erosion and sediment control measures required during the construction of the Sunoco Pennsylvania Pipeline Project (PPP). Included in this supporting information are completed Standard E&S Worksheet #22 from the Erosion and Sediment Pollution Control Program Manual, Technical Guidance Number 363-2134-008, March 2012 presenting the Plan Preparer Record of Training and Experience in Erosion and Sediment Pollution Control Methods and Techniques.

The design of the compost filter socks and waterbars was completed in accordance with the information contained within the Erosion and Sediment Pollution Control Program Manual. This information was provided by STV Inc for incorporation onto the project specific E&S design sheets prepared by Tetra Tech, Inc..

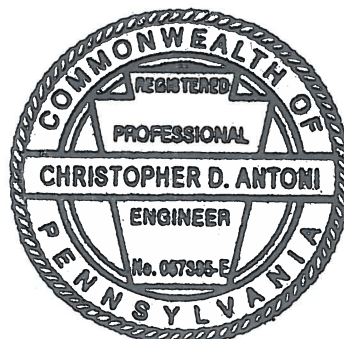
As engineer overseeing the efforts associated with this phase of the design, I certify to the best of my knowledge the information presented in this design package is true and accurate.



Name: Christopher D. Antoni

Professional Engineer No. PE057385

Date: 11/22/2016



**COMPOST FILTER SOCK CALCULATIONS
E&S WORKSHEET #1**

Blair County

Worksheet #1
Compost Filter Sock Table
Blair County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
*	5765+40	5770+05	0.07	109	12
*	5770+30	5774+00	0.14	75	12
	5774+20	5775+00	0.13	71	12
	5775+20	5775+70	0.09	62	12
*	5775+90	5776+90	0.07	104	12
*	5777+10	5777+50	0.04	72	12
*	5777+70	5779+20	0.06	119	12
	5778+60	5779+50	0.10	22	12
*	5779+90	5785+80	0.03	291	12
*	5786+10	5787+50	0.09	87	12
*	5788+00	5788+80	0.14	37	12
	5789+30	5789+80	0.10	137	12
	5790+60	5791+00	0.44	37	18
	5791+15	5791+40	0.52	22	32
	5791+70	5791+95	0.56	29	32
	5792+10	5792+30	0.61	23	32
	5792+50	5792+80	0.57	25	32
	5793+00	5793+25	0.58	28	32
	5793+40	5793+70	0.52	24	32
	5793+95	5794+35	0.48	32	18
	5795+25	5795+25	0.60	41	32
	5796+45	5797+50	0.19	62	12
	5797+60	5798+10	0.46	28	18
	5798+30	5798+70	0.63	16	32
	5799+00	5799+00	0.60	10	32
	5799+40	5799+90	0.77	13	32
	5800+10	5800+50	0.71	14	32
	5800+60	5801+00	0.73	11	32
	5801+10	5801+35	0.67	12	32
	5801+55	5801+90	0.57	14	32
	5802+00	5802+10	0.50	12	12
	5802+30	5802+50	0.43	14	12
	5802+70	5803+00	0.30	30	12
	5803+10	5803+60	0.35	34	12
	5803+75	5804+05	0.52	23	32
	5804+25	5804+80	0.58	24	32
	5804+95	5805+15	0.38	16	12
	5805+30	5805+60	0.38	13	12

Notes:

1. Slopes >50% must have 32" DURASOXX independent of upslope length.
2. CFS installed with jayhook to be upsized one CFS size than slope/length requires.
(Denoted with *)

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Compost Filter Sock Table
Blair County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	5805+80	5806+00	0.35	10	12
	5806+10	5806+45	0.33	21	12
	5806+90	5811+85	0.22	70	18
	5811+95	5814+75	0.14	75	12
	5815+00	5815+30	0.24	29	12
	5815+80	5817+40	0.22	70	18
	5817+40	5820+10	0.12	81	12
	5820+40	5821+70	0.09	150	12
	5822+00	5822+40	0.14	28	12
	5822+70	5823+15	0.14	44	12
	5823+50	5824+10	0.14	58	12
	5824+30	5825+10	0.30	82	24
	5825+30	5826+00	0.22	67	18
	5826+45	5827+15	0.14	85	12
	5827+40	5828+25	0.21	90	18
	5828+45	5829+20	0.32	37	12
	5829+40	5829+40	0.21	14	12
	5829+60	5830+20	0.23	98	18
	5830+60	5831+30	0.25	73	18
	5831+80	5831+80	0.11	75	12
	5832+70	5833+50	0.08	82	12
*	5836+25	5837+90	0.10	126	12
	5838+30	5838+90	0.09	77	12
	5840+35	5841+25	0.12	114	12
	5841+80	5842+10	0.19	64	12
	5842+90	5843+40	0.15	69	12
	5844+00	5845+00	0.09	87	12
	5845+25	5846+25	0.05	255	18
	5846+70	5848+70	0.06	402	24
	5848+85	5851+60	0.07	325	24
	5854+30	5855+00	0.08	138	12
	5856+05	5856+50	0.25	65	18
	5856+70	5857+25	0.33	55	18
	5857+50	5857+85	0.38	42	18
	5858+10	5858+45	0.35	46	18
	5858+75	5859+00	0.44	36	18
	5859+30	5859+70	0.43	47	24
	5859+90	5860+30	0.45	43	24

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Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	5860+60	5860+60	0.68	25	32
	5861+10	5861+10	0.62	26	32
	5861+45	5861+45	0.52	27	32
	5862+25	5862+60	0.19	86	12
	5863+00	5863+35	0.31	71	18
	5863+65	5864+10	0.26	62	18
	5864+35	5864+80	0.24	66	18
	5865+00	5865+50	0.19	61	12
	5865+65	5866+20	0.36	56	18
	5866+50	5867+20	0.43	71	24
	5867+50	5867+85	0.43	51	24
	5868+00	5868+50	0.50	60	32
	5868+75	5869+30	0.38	73	24
	5869+60	5870+15	0.22	74	18
	5870+50	5871+00	0.32	77	24
	5871+30	5871+75	0.31	77	24
	5872+10	5872+85	0.23	96	18
	5873+10	5873+70	0.27	83	18
	5874+00	5874+65	0.20	89	18
	5875+00	5875+90	0.19	103	18
	5876+00	5876+75	0.18	80	12
	5877+00	5878+00	0.19	93	18
	5878+25	5879+50	0.15	82	12
	5880+00	5881+25	0.19	86	18
	5881+40	5882+60	0.13	128	18
*	5882+80	5884+05	0.10	102	12
	5884+40	5885+00	0.09	105	12
	5885+70	5885+70	0.09	81	12
	5888+65	5888+90	0.20	45	12
	5889+00	5889+60	0.67	24	32
	5890+30	5891+05	0.18	143	18
	5891+60	5892+90	0.17	72	12
	5893+05	5895+15	0.15	134	18
	5895+25	5896+90	0.13	299	32
	5904+50	5905+70	0.04	200	12
	5906+00	5907+65	0.10	117	12
	5908+70	5909+20	0.13	67	12
	5909+80	5910+25	0.15	81	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	5910+80	5911+20	0.21	81	18
	5911+40	5911+80	0.25	56	18
	5912+00	5912+30	0.23	44	12
	5912+60	5913+05	0.25	55	18
	5913+20	5914+00	0.26	61	18
	5914+20	5915+00	0.19	58	12
	5915+20	5915+80	0.23	66	18
	5916+10	5916+10	0.00	23	12
	5916+50	5916+80	0.00	34	12
	5917+00	5917+30	0.00	34	12
	5917+55	5917+80	0.00	30	12
	5918+10	5918+55	0.00	48	18
	5918+80	5919+20	0.00	50	18
	5919+50	5919+80	0.00	48	18
	5920+00	5920+40	0.00	48	18
	5920+60	5921+00	0.00	47	18
	5921+30	5921+80	0.00	60	18
	5924+80	5924+80	0.08	79	12
	5925+30	5929+00	0.11	286	24
*	5928+40	5930+00	0.12	66	12
	5931+00	5931+50	0.14	74	12
*	5932+00	5932+35	0.13	75	12
*	5933+90	5934+20	0.16	69	12
*	5934+50	5935+10	0.17	58	12
	5935+40	5936+80	0.18	204	24
	5937+00	5938+00	0.11	55	12
	5940+80	5941+70	0.20	189	24
	5942+00	5943+10	0.15	99	12
	5943+35	5947+70	0.24	76	18
*	5948+00	5949+30	0.16	90	12
	5949+50	5950+20	0.26	39	12
	5950+40	5950+65	0.48	23	12
	5950+90	5951+40	0.40	30	12
	5952+30	5953+20	0.12	208	18
	5955+10	5956+00	0.17	60	12
	5956+15	5957+30	0.10	192	18
	5957+20	5959+80	0.15	311	32
	5960+00	5961+05	0.13	298	32

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	5961+80	5962+20	0.16	45	12
	5962+50	5962+60	0.21	28	12
	5964+70	5964+70	0.17	24	12
	5964+80	5964+80	0.17	18	12
	5967+50	5967+50	0.16	38	12
	5968+10	5969+00	0.19	69	12
	5969+15	5970+05	0.14	88	12
	5970+40	5971+75	0.13	86	12
	5972+00	5973+40	0.09	238	18
	5973+70	5974+15	0.32	44	18
	5974+20	5974+60	0.51	39	32
	5975+40	5975+50	0.20	80	18
*	5977+85	5978+50	0.07	80	12
	5978+90	5980+50	0.12	172	18
	5980+80	5982+00	0.18	80	18
	5982+10	5983+20	0.179	78	12
	5983+55	5984+05	0.14	99	12
	5987+40	5987+40	0.28	25	12
	5987+50	5987+50	0.23	93	18
	6003+70	6006+75	0.081	245	18
	6007+15	6008+40	0.153	72	12
	6008+75	6010+40	0.22	143	24
	6010+50	6012+45	0.26	91	18
	6012+75	6013+65	0.206	87	18
	6013+90	6014+65	0.122	98	12
	6014+95	6015+35	0.262	62	18
	6015+55	6016+60	0.319	69	18
	6016+70	6017+25	0.41	58	24
	6017+50	6018+05	0.379	53	18
	6018+35	6019+05	0.337	47	18
	6019+20	6020+15	0.316	51	18
	6020+25	6021+80	0.3	53	18
	6021+95	6022+80	0.315	51	18
	6022+95	6024+20	0.249	56	18
*	6024+40	6025+40	0.211	57	12
	6025+80	6026+55	0.199	70	18
	6026+85	6028+00	0.25	89	18
	6028+20	6028+50	0.24	83	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	6028+60	6030+25	0.303	79	24
	6030+50	6031+65	0.295	129	32
	6031+90	6033+60	0.276	80	18
	6033+85	6035+35	0.156	115	18
	6035+60	6036+55	0.192	52	12
	6036+85	6040+20	0.14	138	18
	6048+20	6048+60	0.129	93	12
*	6048+80	6049+10	0.15	65	12
*	6049+45	6051+05	0.119	226	18
	6051+10	6051+50	0.107	56	12
	6052+85	6054+15	0.136	183	18
	6054+25	6055+00	0.158	76	12
*	6055+25	6057+50	0.071	183	12
	6057+10	6058+25	0.072	111	12
	6058+50	6059+15	0.148	74	12
	6059+60	6060+75	0.179	72	12
	6061+00	6061+45	0.157	51	12
	6061+85	6062+00	0.159	50	12
	6063+20	6063+50	0.11	57	12
	6063+60	6063+60	0.19	135	12
	6063+70	6064+30	0.22	50	12
	6064+40	6065+00	0.23	48	12
	6065+30	6066+05	0.179	67	12
	6066+25	6067+00	0.208	63	12
	6067+25	6068+00	0.18	94	18
	6068+20	6069+00	0.185	65	12
	6069+10	6070+05	0.164	73	12
	6070+30	6071+10	0.123	81	12
	6071+25	6071+80	0.07	101	12
	6073+55	6074+50	0.121	82	12
	6074+75	6076+40	0.077	206	18
*	6080+65	6081+60	0.09	139	12
	6082+00	6083+00	0.14	271	32
	6083+20	6085+00	0.219	164	24
	6085+20	6087+60	0.213	103	18
	6087+90	6089+10	0.191	52	12
	6089+65	6094+05	0.081	448	32
	6094+50	6095+40	0.161	74	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	6095+60	6097+00	0.126	221	24
	6097+10	6098+40	0.186	64	12
	6098+50	6100+10	0.2	69	18
	6100+20	6101+35	0.17	84	12
	6101+60	6103+10	0.108	110	12
*	6103+50	6104+75	0.105	95	12
*	6104+90	6107+40	0.08	148	12
	6106+80	6106+90	0.08	407	32
	6124+00	6127+00	0.12	139	18
	6137+20	6137+20	0.37	19	18
	6140+50	6141+35	0.16	50	12
	6141+45	6142+00	0.24	62	18
	6142+15	6142+90	0.17	77	12
	6143+00	6143+65	0.177	79	12
	6143+75	6144+35	0.067	119	12
	6144+60	6145+40	0.114	105	12
	6145+60	6147+50	0.10	248	18
	6147+70	6149+00	0.119	215	18
	Pullback		0.10	186	18
	Pullback		0.09	93	12
	Pullback		0.13	79	12
	Pullback		0.19	47	12
	Pullback		0.06	111	12
	Pullback		0.13	98	12
	Pullback		0.16	60	12
	Pullback		0.2	11	12
	6149+20	6149+80	0.103	52	18
	6150+00	6151+50	0.11	126	12
	6151+80	6152+20	0.129	62	12
	6152+60	6153+35	0.134	112	12
	6153+75	6154+30	0.135	88	12
	6157+70	6158+354	0.098	142	12
	6160+10	6160+25	0.43	30	12
	6162+75	6163+40	0.208	105	18
	6163+65	6164+55	0.192	73	12
	6164+85	6165+60	0.232	77	18
	6166+35	6166+35	0.35	43	18
	6166+65	6166+75	0.24	66	18

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	6172+25	6173+35	0.054	146	12
	6174+15	6174+70	0.079	110	12
	6175+15	6175+45	0.13	53	12
	6176+20	6176+45	0.306	60	18
	6176+60	6177+15	0.265	53	12
	6177+30	6178+40	0.114	61	12
	6178+50	6183+35	0.289	76	18
	6183+65	6184+70	0.57	28	32
	6184+90	6188+50	40	68	24
	6188+55	6189+40	0.237	93	18
	6189+70	6190+80	0.201	109	18
	6190+95	6192+00	0.113	158	18
	6192+30	6192+80	0.09	53	12
	6193+00	6194+25	0.089	76	12
	6194+55	6195+55	0.125	77	12
	6195+80	6196+40	0.16	50	12
	6197+00	6197+80	0.14	57	12
	6198+00	6198+90	0.117	49	12
	6199+05	6200+35	0.162	246	32
	6201+30	6201+70	0.049	40	12
	6201+85	6202+75	0.21	67	12
	6202+85	6203+40	0.091	216	18
	6203+45	6204+50	0.124	144	18
	6204+85	6205+30	0.24	70	18
	6205+70	6206+80	0.12	120	18
	6208+15	6208+70	0.199	79	18
	6208+90	6210+40	0.12	64	12
	6211+20	6211+55	0.186	84	18
	6211+80	6212+50	0.317	75	24
	6213+20	6216+35	0.324	68	18
	6216+65	6217+30	0.392	66	24
	6217+50	6218+15	0.212	65	18
	6218+30	6219+60	0.208	73	18
	6219+75	6220+30	0.219	55	12
	6220+30	6221+90	0.123	97	12
	6223+15	6223+60	0.10	121	12
	6224+80	6225+25	0.111	72	12
	6225+90	6226+30	0.09	93	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	6226+50L	6228+10L	0.08	108	12
	6228+20L	6229+70L	0.152	53	12
	6228+30R	6230+90R	0.06	34	12
	6231+00	6232+30	0.10	157	18
	6233+15	6233+90	0.077	77	12
	6234+50	6235+00	0.246	60	18
	6235+20	6236+00	0.154	130	18
	6236+00	6236+50	0.16	269	32
	6236+50	6237+00	0.16	192	24
*	6238+20	6239+30	0.193	83	24
*	6239+50	6240+50	0.115	102	18
	6241+70L	6242+35L	0.185	74	12
	6241+90R	6243+60R	0.152	158	18
	6245+00	6245+55	0.191	63	12
	6246+10	6247+30	0.072	110	12
	6247+45	6248+35	0.265	68	18
	6248+80	6252+90	0.187	107	18
	6253+00	6253+80	0.171	82	12
	6254+00	6255+35	0.2	80	18
	6255+35	6256+85	0.239	67	18
	6256+95	6257+40	0.159	138	18
	6257+50	6258+00	0.311	58	18
	6258+45	6258+70	0.367	71	24
	6258+85	6263+30	0.296	74	18
	6264+20	6265+10	0.12	52	12
	6265+80	6266+90	0.10	63	12
	6267+00	6270+00	0.15	82	12
	6270+80	6271+50	0.15	66	12
	6272+00	6273+10	0.14	73	12
	6273+40	6273+85	0.16	77	12
	6274+00	6276+30	0.11	74	12
	6276+40	6277+70	0.12	69	12
	6278+20	6280+80	0.24	67	18
	6280+80	6284+80	0.18	66	12
	6284+80	6287+00	0.23	77	18
	6290+40	6290+90	0.25	40	12
	6291+90	6292+40	0.13	80	12
	6292+80	6293+70	0.11	90	12

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Blair County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	6297+50	6297+50	0.17	23	12
	6297+70	6297+70	0.12	67	12
	6299+75	6299+75	0.16	86	12
	6300+50	6300+50	0.21	88	18
	6300+80	6300+80	0.22	127	24
	6305+30	6305+30	0.28	78	18
	6305+45	6305+45	0.28	65	18
	6306+40	6307+85	0.18	98	18
	6307+85	6307+85	0.17	93	18
	6308+15	6308+60	0.10	308	32
	6309+00	6309+95	0.04	164	12
	6310+50	6311+10	0.11	102	12
	6311+70	6312+10	0.17	76	18
	6312+60	6313+12	0.17	69	12
	6313+60	6313+95	0.17	60	12
	6316+90	6317+30	0.05	43	12
	6325+20	6325+20	0.19	116	18
	6326+60	6326+60	0.25	48	18
	6326+65	6327+00	0.24	43	12
	6327+70	6327+70	0.29	41	12
	6328+40	6328+70	0.36	56	18
	6330+55	6330+90	0.28	36	12
	6331+50	6332+00	0.31	52	18
	6332+30	6333+00	0.34	49	18
	6333+40	6333+40	0.31	59	18
	6334+00	6334+00	0.17	83	18
	6334+70	6334+90	0.38	35	12
	6335+25	6335+50	0.58	24	32
	6335+70	6336+90	0.64	28	32
	6336+15	6336+40	0.78	23	32
	6336+55	6336+90	0.56	36	32
	6337+25	6337+50	0.44	23	12
	6337+70	6338+20	0.40	35	18
	6338+40	6338+90	0.47	30	18
	6339+10	6339+40	0.48	35	18
	6340+00	6340+80	0.30	60	18
	6341+10	6343+60	0.36	77	24
	6343+70	6348+00	0.31	72	18

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Worksheet #1
Compost Filter Sock Table
Blair County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	6348+00	6350+00	0.15	79	12
	6351+00	6352+00	0.17	95	18
	6353+20	6353+80	0.24	83	18
	6354+00	6354+80	0.22	92	18
	6355+10	6357+50	0.22	64	18
	6357+70	6359+50	0.20	71	18
	6359+90	6360+60	0.17	69	12
	6361+10	6361+70	0.18	67	12
	6362+00	6362+60	0.22	55	12
	6363+20	6363+50	0.22	45	12
	6365+10	6365+70	0.22	65	18
	6366+10	6366+90	0.23	71	18
	6367+30	6367+80	0.23	62	18
	6368+15	6369+00	0.20	81	18
	6369+00	6371+20	0.18	60	12
	6371+50	6373+00	0.13	76	12
	6375+50	6376+40	0.17	95	18
	6377+00	6377+00	0.13	32	12
	6377+30	6378+00	0.14	85	12
	6378+70	6379+00	0.16	45	12
	6380+00	6380+00	0.21	76	18
	6380+20	6381+30	0.13	172	18
	6381+30	6381+90	0.13	190	18
	6383+00	6383+65	0.10	84	12
	6384+20	6385+60	0.13	143	12
	6389+40	6389+40	0.07	41	12
	6389+40	6389+40	0.11	18	12
	6389+75	6390+15	0.07	115	12
	6391+00	6391+70	0.06	83	12
	6392+20	6393+20	0.11	65	12
	6394+90	6394+90	0.09	104	12
	6394+90	6394+90	0.08	122	12
	6396+10	6396+10	0.09	23	12
	6396+00	6397+20	0.07	138	12
	6398+30	6398+30	0.05	85	12
	6398+40	6398+40	0.06	103	12
	6400+40	6400+40	0.01	98	12
	6401+50	6401+50	0.55	60	32

Notes:

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Worksheet #1
Compost Filter Sock Table
Blair County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	6403+00	6403+80	0.26	153	32
	6403+90	6404+30	0.13	181	18
	6405+60	6405+60	0.08	26	12
	6405+70	6407+00	0.14	132	18
	6407+10	6408+00	0.18	66	12
	6407+90	6409+30	0.25	87	18
	6409+85	6410+50	0.22	90	18
	6411+00	6411+95	0.18	122	18
	6412+55	6413+10	0.08	72	12
	6413+30	6414+40	0.08	106	12
	6414+85	6415+80	0.18	100	18
	6416+20	6416+90	0.17	85	18
	6419+40	6420+00	0.15	106	18
	6421+40	6423+00	0.14	88	12
	6423+00	6423+60	0.16	63	12
	6423+60	6423+60	0.25	98	18
	6424+00	6424+40	0.24	68	18
	6425+50	6427+25	0.15	88	12
	6427+80	6428+80	0.14	113	18
	6429+60	6429+70	0.12	66	12
	6429+90	6430+55	0.20	91	18
	6431+00	6432+00	0.14	115	18
	6432+50	6433+50	0.22	117	18
	6434+00	6435+80	0.14	104	12
	6436+60	6437+10	0.13	61	12
	6437+80	6437+90	0.10	100	12
	6438+00	6440+80	0.11	75	12
	6440+80	6442+00	0.13	77	12
	6442+80	6443+80	0.13	75	12
	6444+25	6445+00	0.11	88	12
	6445+65	6447+90	0.05	63	12
	6450+00	6450+55	0.11	57	12
	6451+15	6451+85	0.23	78	18
	6452+25	6452+80	0.26	78	18
	6453+20	6453+50	0.11	75	12
	6453+60	6454+00	0.10	79	12
	6454+80	6457+00	0.23	70	18
	6457+50	6458+00	0.26	61	18

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Worksheet #1
Compost Filter Sock Table
Blair County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	6458+50	6459+10	0.39	57	24
	6459+65	6460+25	0.41	59	24
	6460+80	6461+80	0.12	85	12
	6462+00	6463+90	0.14	66	12
	6466+55	6467+00	0.06	64	12
	6467+85	6468+85	0.15	230	24
	6470+25	6471+40	0.17	83	12
	6471+75	6472+50	0.15	79	12
	6472+90	6473+40	0.15	79	12
	6474+70	6474+70	0.08	60	12
	6476+00	6476+00	0.08	102	12
	6476+80	6476+80	0.05	195	12
	6477+70	6479+00	0.03	306	12
	6481+40	6481+55	0.09	105	12
	6486+30	6487+20	0.16	99	18
	6487+75	6488+10	0.24	50	12
	6488+50	6489+00	0.36	56	18
	6489+50	6489+90	0.36	45	18
	6490+90	6491+80	0.34	106	32
	6492+80	6493+25	0.04	52	12
	6497+80	6498+70	0.31	105	32
	6509+00	6516+50	0.01	149	12
	6516+80	6516+80	0.02	61	12
	6540+50	6540+50	0.29	59	18
*	6542+25	6543+85	0.11	258	24
	6544+10	6544+80	0.17	39	12
*	6547+50	6547+75	0.06	182	12
	6547+90	6548+90	0.05	79	12
	6549+50	6549+65	0.07	30	12
	6551+20	6551+20	0.07	81	12
	6551+60	6552+90	0.07	81	12
	6553+95	6554+25	0.20	61	12
	6554+25	6555+65	0.21	88	18
	6557+25	6558+50	0.27	82	18
	6558+50	6561+25	0.29	83	18
	6561+25	6563+30	0.35	84	24
	6563+35	6565+50	0.40	85	32
	6565+50	6566+00	0.39	62	24

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Worksheet #1
Compost Filter Sock Table
Blair County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	6566+00	6566+70	0.39	87	32
	6566+80	6568+40	0.37	60	24
	6568+40	6569+80	0.38	84	24
	6569+70	6569+90	0.36	61	24
	6569+90	6571+30	0.34	83	24
	6571+30	6571+85	0.30	66	18
	6571+80	6572+70	0.33	92	24
	6573+00	6573+50	0.53	47	32
	6573+60	6573+60	0.57	37	32
	6574+05	6574+15	0.51	45	32
	6574+70	6574+70	0.38	32	12
	6575+30	6575+70	0.30	47	18
	6576+10	6577+60	0.31	116	32
	6577+60	6578+90	0.40	89	32
	6578+90	6579+10	0.39	62	24
	6579+10	6581+50	0.41	84	32
	6581+50	6584+60	0.37	92	32
	6584+60	6585+25	0.49	89	32
	6585+25	6585+80	0.39	102	32
	6585+90	6588+80	0.32	100	32
	6588+80	6591+40	0.26	148	32
	6591+50	6596+00	0.13	166	18
	6596+00	6598+00	0.34	100	32
	6598+45	6599+40	0.38	62	24
	6600+10	6600+60	0.32	63	18
	6602+10	6603+00	0.29	90	24
	6603+60	6603+80	0.25	40	12
	6604+30	6604+60	0.18	60	12
	6605+10	6605+75	0.16	63	12
	6606+10	6606+40	0.13	32	12
	6607+00	6607+00	0.22	72	18
	6607+70	6608+00	0.09	68	12
	6009+00	6010+50	0.05	199	12
	6611+20	6611+80	0.04	78	12
*	6611+85	6612+70	0.05	83	12
	6613+80	6614+50	0.05	280	18
	6614+60	6615+60	0.05	235	12
*	6615+80	6616+20	0.15	134	12

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Compost Filter Sock Table
Blair County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	6619+50	6624+00	0.28	86	18
	6624+75	6624+75	0.08	24	12
	6626+50	6627+00	0.07	108	12
	6627+20	6627+90	0.09	137	12
*	6627+90	6628+30	0.08	50	12
	6628+70	6628+70	0.08	155	12
	6630+90	6630+90	0.03	97	12
	6633+50	6634+00	0.03	225	12
	6634+50	6634+50	0.02	483	12
	6635+00	6635+00	0.21	39	12
	6635+60	6635+60	0.23	26	12
	6657+10	6657+55	0.20	61	12
	6658+20	6658+50	0.21	56	12
	6663+20	6663+40	0.26	38	12
	6663+40	6663+40	0.30	107	32
	6666+55	6666+75	0.32	31	12
	6667+80	6667+80	0.33	18	12
	6678+10	6678+70	0.07	31	12
	6678+00	6678+80	0.04	46	12
	6682+20	6682+20	0.26	31	12
	6682+80	6682+80	0.22	18	12
	6683+50	6683+50	0.24	25	12
	6684+00	6684+00	0.22	18	12
	6684+50	6685+45	0.23	71	18
	6685+60	6688+85	0.18	72	12
	6688+90	6690+00	0.20	78	18
	6690+00	6694+65	0.25	65	18
	6694+65	6697+00	0.19	84	18
	6697+25	6698+85	0.15	66	12
	6698+85	6699+00	0.13	75	12
	6699+00	6700+40	0.15	69	12
	6700+70	6702+35	0.15	69	12
	6703+70	6704+45	0.15	68	12
	6705+10	6706+10	0.15	110	18
	6706+50	6707+00	0.08	106	12
	6707+50	6707+50	0.14	36	12
	6708+00	6709+00	0.13	110	12
	6709+25	6711+30	0.14	90	12

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Compost Filter Sock Table
Blair County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	6711+50	6711+90	0.13	110	12
	6724+20	6724+45	0.30	41	12
	6724+85	6725+60	0.31	72	18
	6733+60	6733+90	0.09	90	12
	6734+00	6735+20	0.09	232	18
	6748+00	6748+50	0.07	208	18
	6751+10	6751+85	0.04	142	12
	6753+25	6753+90	0.04	114	12
*	6754+50	6755+70	0.04	421	18
	6756+90	6758+30	0.07	87	12
	6758+75	6761+70	0.01	225	12
	6762+00	6762+55	0.04	73	12
	6765+40	6765+75	0.05	88	12
	6765+90	6767+00	0.06	94	12
	6767+15	6768+15	0.07	97	12
	6771+40	6771+60	0.04	82	12
	6771+90	6772+50	0.04	92	12
	6773+00	6773+00	0.04	160	12
	6775+30	6777+00	0.03	363	12
	6777+00	6780+50	0.03	384	12
	6780+65	6782+30	0.01	144	12
	6782+30	6783+55	0.04	84	12
	6783+85	6786+75	0.03	87	12
	6786+90	6788+50	0.04	100	12
	6791+25	6796+50	0.13	78	12
	6797+80	6798+60	0.05	13	12
	6799+70	6800+50	0.25	21	12
	6803+00	6803+70	0.17	64	12
	6804+00	6805+30	0.08	120	12
	6808+60	6808+80	0.22	64	18
	6810+80	6811+15	0.11	105	12
	6810+90	6810+90	0.05	61	12
	6814+50	6818+50	0.12	90	12
	6820+00	6821+20	0.15	105	18
	6822+00	6823+40	0.11	128	12
	6824+90	6825+50	0.08	66	12
	6827+30	6827+80	0.23	62	18
	6828+00	6828+25	0.23	35	12

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Compost Filter Sock Table
Blair County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	6830+20 L	6830+20 L	0.21	72	18
	6830+20 R	6830+20 R	0.15	65	12
	6834+60	6835+10	0.16	87	12
	6835+90	6836+30	0.10	132	12
	6836+90	6837+10	0.17	65	12
*	6838+60	6840+05	0.06	50	12
	6840+20	6840+90	0.08	91	12
	6843+00	6844+00	0.06	116	12
*	6844+40 L	6845+60 L	0.04	144	12
*	6844+50 R	6845+70 R	0.06	99	12
*	6848+00	6852+60	0.06	130	12
	6853+00	6853+50	0.16	62	12
	6854+10	6856+15	0.03	95	12
	6856+40	6856+80	0.19	42	12
	6857+10	6857+70	0.30	47	18
	6858+00	6858+50	0.25	36	12
	6858+60	6859+10	0.22	51	12
	6859+40	6860+00	0.26	46	12
	6860+20	6861+10	0.28	53	18
	6861+20	6868+90	0.28	93	24
	6869+15	6869+90	0.09	85	12
	6871+20	6871+50	0.22	58	12
	6872+20	6872+70	0.21	75	18
	6878+00 R	6878+00 R	0.09	121	12
	6878+00 L	6878+00 L	0.07	88	12
	6878+20	6878+30	0.21	54	12
	6879+20	6879+40	0.35	20	12
	6880+40	6889+60	0.17	113	18
	6889+90	6890+20	0.41	39	18
	6890+50	6891+00	0.39	38	12
*	6891+20	6892+60	0.11	89	12
	6896+10	6896+90	0.02	395	12
*	6897+40	6898+20	0.02	160	12
	6898+90	6898+90	0.02	246	12
	6899+80	6899+80	0.02	58	12
	6900+00	6900+00	0.07	15	12
	6900+60	6900+90	0.07	58	12
	6900+80	6900+80	0.11	19	12

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Compost Filter Sock Table
Blair County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	6900+90	6900+90	0.10	107	12
	6902+00	6902+80	0.11	303	32
	6903+20	6903+90	0.11	89	12
	6904+30	6904+60	0.09	66	12
	6906+30	6906+60	0.08	74	12
	6907+20	6908+10	0.06	92	12
	6908+40	6909+00	0.06	77	12
	6909+30	6909+90	0.08	74	12
*	6910+20	6913+40	0.03	294	12
	6914+25	6914+60	0.06	134	12
	6916+50	6917+00	0.11	65	12
	6917+40	6920+40	0.11	88	12
	6920+70	6920+90	0.28	32	12
	6921+10	6921+70	0.21	56	12
	6922+10	6923+30	0.09	361	32
	6923+60	6924+60	0.11	103	12
	6925+00	6925+70	0.07	82	12
	6925+90	6927+50	0.04	319	12
*	6927+60	6929+20	0.05	147	12
	6929+40 R	6931+50 R	0.02	140	12
*	6930+00 L	6932+50 L	0.02	163	12
	6932+80	6933+60	0.08	113	12
	6934+00	6935+00	0.14	122	18
	6935+50	6936+70	0.07	174	12
	6936+90	6940+20	0.07	195	12
	6940+40	6942+50	0.19	100	18
	6942+80	6943+50	0.07	246	18
	6944+90	6948+00	0.13	91	12
	6949+00	6949+50	0.08	72	12
	6949+80	6950+50	0.15	85	12
	6953+00	6955+60	0.04	199	12
*	6956+90	6959+30	0.08	167	12
	6959+20	6959+30	0.13	8	12
	6959+50	6959+75	0.08	175	12
	6963+50	6964+50	0.10	105	12
	6968+00	6968+80	0.17	90	18
	6969+00	6969+80	0.15	98	18
	6976+00	6976+25	0.18	45	12

Notes:

1. Slopes >50% must have 32" DURASOXX independent of upslope length.
2. CFS installed with jayhook to be upsized one CFS size than slope/length requires.
(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Blair County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	6986+30	6991+25	0.02	245	12
	6994+00	6994+55	0.11	125	12
	6995+30	6996+15	0.13	62	12
	6996+75	6997+15	0.18	45	12
	6697+30	6998+30	0.25	55	18

Notes:

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(Denoted with *)

Huntingdon County

Worksheet #1
Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7008+00	7008+00	0.18	34	12
	7009+09	7009+09	0.25	40	12
	7011+00	7011+00	0.36	25	12
	7011+50	7011+50	0.40	30	12
	7013+67	7013+78	0.45	63	24
	7014+82	7014+82	0.27	38	12
	7015+54	7015+54	0.32	31	12
	7018+35	7018+64	0.24	38	12
	7025+57	7025+57	0.28	39	12
	7026+07	7026+07	0.30	37	12
	7026+22	7026+51	0.30	33	12
	7027+40	7027+65	0.20	40	12
	7027+85	7028+05	0.20	31	12
	7029+17	7029+17	0.30	33	12
	7029+46	7029+74	0.42	24	12
	7030+18	7030+18	0.29	32	12
	7031+43	7031+43	0.25	41	12
	7031+79	7031+79	0.24	17	12
	7033+07	7033+07	0.16	51	12
	7033+93	7034+50	0.19	91	18
	7034+84	7035+00	0.19	41	12
	7035+60	7036+25	0.14	79	12
	7037+30	7037+30	0.46	35	18
	7037+60	7037+90	0.37	44	18
	7038+26	7039+20	0.38	66	24
	7041+15	7041+25	0.14	70	12
	7041+50	7042+00	0.07	250	18
	7042+45	7043+20	0.10	109	12
*	7043+39	7044+41	0.09	251	18
	7045+71	7046+32	0.16	76	12
	7046+50	7046+75	0.43	33	12
	7046+93	7049+07	0.38	63	24
	7049+71	7050+37	0.14	65	12
*	7050+45	7053+95	0.13	84	12
	7056+40L	7057+17L	0.04	29	12
	7056+31R	7057+15R	0.03	38	12
	7058+13	7058+13	0.26	67	18
	7058+54	7059+07	0.06	111	12

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7059+34L	7060+40L	0.04	57	12
	7059+22R	7060+42R	0.04	52	12
	7061+83	7062+79	0.10	131	12
	7062+79	7063+38	0.07	378	24
	7063+38	7064+95	0.13	108	12
	7065+00	7065+23	0.12	51	12
*	7065+92	7066+62	0.15	88	12
*	7066+62	7067+76	0.05	98	18
	7069+14	7069+89	0.11	140	12
	7070+40	7071+32	0.07	112	12
*	7071+40	7072+16	0.03	135	18
*	7072+16R	7072+95R	0.06	121	18
	7072+88L	7073+09L	0.10	104	12
	7073+13	7074+00	0.16	81	12
	7074+00	7074+50	0.08	254	18
	7075+50	7076+21	0.07	73	12
	7078+00	7078+20	0.11	136	12
	7078+46	7079+47	0.14	109	12
	7080+50	7081+10	0.09	134	12
	7081+63	7081+63	0.14	36	12
	7083+10	7083+10	0.14	23	12
	7084+09	7084+75	0.11	91	12
	7086+75	7086+75	0.24	17	12
	7087+09	7095+06	0.29	68	18
	7095+06	7101+85	0.26	73	18
	7102+00	7103+00	0.24	52	12
	7103+20	7103+76	0.27	41	12
*	7103+80	7105+60	0.14	108	12
	7105+60	7106+48	0.12	126	18
	7106+48	7107+79	0.11	152	18
	7108+83	7109+52	0.15	63	12
	7108+85	7109+20	0.19	86	18
*	7110+03	7111+10	0.14	96	18
*	7111+15	7112+67	0.12	125	18
	7113+00	7114+00	0.16	304	32
*	7114+35	7115+00	0.20	46	12
	7115+62	7115+62	0.22	41	12
	7115+79	7115+79	0.21	67	18

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7116+27	7116+87	0.06	136	12
	7117+31	7118+17	0.07	238	18
*	7118+60	7120+23	0.08	219	18
*	7121+91	7122+55	0.06	114	12
*	7122+70	7124+00	0.03	132	12
	7124+29	7124+29	0.09	278	24
	7125+00	access	0.08	50	12
*	7125+60	7126+17	0.07	94	12
*	7126+83	7127+33	0.09	48	18
	7127+68	7128+76	0.10	81	12
	7128+80	7130+34	0.10	85	12
	7130+83	7131+71	0.10	64	12
	7132+15	7133+23	0.14	73	12
	7133+23	7135+03	0.16	65	12
	7135+31	7135+46	0.06	82	12
	7135+60	7135+90	0.08	27	12
	7136+18	7137+18	0.08	121	12
	7137+55	7137+55	0.13	128	18
	7138+93	7140+17	0.13	138	18
	7140+49	7140+49	0.14	253	24
	7141+35	7142+00	0.15	47	12
	7142+12	7145+37	0.08	396	32
	7147+00	7147+40	0.09	65	12
	7148+22	7148+78	0.17	71	12
	7149+25	7149+53	0.14	49	12
	7150+59	7150+59	0.14	59	12
	7151+04	7152+07	0.08	128	12
	7152+33	7153+45	0.08	111	12
	7153+79	7154+91	0.07	125	12
	7155+50	7156+76	0.06	164	12
	7157+50	7157+50	0.06	18	12
	7157+75	7157+75	0.06	30	12
	7164+55	7164+55	0.32	69	18
	7164+48	7164+48	0.34	61	18
	7165+58	7165+58	0.43	22	12
	7166+12	7166+12	0.56	18	32
	7166+63	7166+63	0.58	19	32
	7167+08	7167+08	0.56	16	32

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Worksheet #1
Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7167+33	7167+53	0.04	13	12
	7167+77	7167+77	0.32	34	12
	7168+14	7168+36	0.55	31	32
	7168+69	7168+94	0.55	31	32
	7169+45	7169+45	0.48	27	12
	7169+90	7169+90	0.37	21	12
	7170+54	7170+54	0.29	25	12
	7172+93	7174+77	0.21	196	32
	7174+91	7174+91	0.11	188	18
	7175+10	7175+10	0.13	57	12
	7184+33	7185+24	0.08	83	12
	7185+53	7186+39	0.17	76	12
	7186+65	7187+23	0.23	61	18
	7188+81	7188+81	0.50	25	18
	7189+31	7189+31	0.48	25	12
	7189+69	7189+94	0.54	34	32
	7190+17	7190+38	0.52	27	32
	7190+71	7190+92	0.53	32	32
	7191+35	7191+35	0.50	22	12
	7191+84	7191+84	0.56	25	32
	7192+27	7192+27	0.50	20	12
	7192+76	7192+76	0.50	24	18
	7193+75	7193+75	0.14	95	12
	7193+75	7193+90	0.24	34	12
	7193+91	7194+67	0.11	116	12
	7194+59	7194+95	0.06	115	12
	7194+85	7195+38	0.08	129	12
	7206+34	7206+34	0.25	81	18
	7206+34	7207+93	0.24	143	24
	7209+95	7210+26	0.58	36	32
	7210+47	7210+71	0.56	32	32
	7210+97	7211+13	0.48	25	12
	7211+38	7211+38	0.32	22	12
	7211+70	7211+84	0.26	21	12
	7212+25	7212+25	0.22	18	12
	7212+76	7213+38	0.15	83	12
	7213+40	7213+87	0.22	83	18
	7215+13	7215+13	0.28	25	12

Notes:

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Worksheet #1
Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7215+77	7218+79	0.18	109	18
	7221+64	7222+38	0.07	57	12
	7223+13	7223+13	0.09	81	12
	7224+00	7224+00	0.48	22	12
	7224+48	7224+48	0.56	16	32
	7224+92	7224+92	0.47	15	12
	7225+42	7225+42	0.40	25	12
	7229+75	7230+60	0.30	71	18
	7230+87	7232+21	0.29	59	18
	7232+44	7233+04	0.26	35	12
	7233+19	7233+65	0.26	34	12
	7233+86	7234+25	0.20	40	12
	7234+54	7234+94	0.18	49	12
	7235+24	7236+12	0.15	78	12
	7236+37	7237+69	0.14	84	12
	7238+00	7238+74	0.13	76	12
	7239+00	7239+30	0.16	85	12
	7239+51	7240+64	0.20	70	18
	7240+68	7243+75	0.37	79	24
	7245+36	7245+73	0.35	46	18
	7246+00	7246+40	0.45	29	12
	7246+65	7247+10	0.37	38	12
	7247+20	7248+50	0.34	67	24
	7248+60	7249+50	0.27	30	12
	7249+60	7251+70	0.30	71	18
	7251+90	7251+90	0.19	100	18
	7254+00	7254+70	0.20	98	18
	7256+80	7257+30	0.14	74	12
	7258+80	7259+40	0.16	73	12
	7259+80	7261+50	0.07	158	12
	7261+60	7262+70	0.18	82	18
	7262+90	7263+80	0.25	75	18
	7263+90	7264+40	0.25	40	12
	7264+60	7264+90	0.42	33	12
	7265+10	7265+40	0.41	32	12
	7265+50	7266+00	0.33	42	18
	7266+20	7266+50	0.29	31	12
	7266+70	7272+30	0.13	74	12

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Worksheet #1
Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7272+50	7273+80	0.24	86	18
	7273+90	7275+00	0.18	92	18
	7275+10	7275+20	0.11	18	12
	7276+80	7276+80	0.42	31	12
	7277+20	7277+40	0.40	30	12
	7277+80	7277+80	0.39	28	12
	7278+60	7278+95	0.22	64	18
	7279+40	7279+90	0.35	57	18
	7280+20	7281+50	0.22	54	12
	7281+60	7282+80	0.24	90	18
	7283+00	7287+60	0.21	109	18
	7288+00	7288+40	0.07	128	12
*	7289+30	7290+20	0.06	83	12
	7290+40	7291+10	0.19	84	18
	7291+30	7291+50	0.32	28	12
	7291+70	7292+20	0.36	47	18
	7292+60	7292+60	0.28	36	12
	7293+80	7296+60	0.29	68	18
	7296+80	7297+80	0.30	43	12
	7298+10	7298+90	0.29	38	12
	7299+10	7300+40	0.33	43	18
	7300+50	7301+40	0.32	41	18
	7301+50	7302+40	0.34	56	18
	7302+50	7302+60	0.38	24	12
	7304+00	7304+00	0.53	53	32
	7304+20	7304+20	0.73	40	32
	7304+40	7304+40	1.26	27	32
	7306+56	7308+13	0.25	130	24
	7308+13	7309+27	0.24	151	32
	7309+05	7309+35	0.25	71	18
	7313+60	7314+50	0.09	224	18
	7314+60	7314+70	0.15	13	12
	7316+20	7316+80	0.25	60	18
	7317+10	7317+60	0.25	68	18
	7317+80	7318+30	0.27	49	18
*	7318+50	7320+80	0.09	255	18
	7321+00	7321+80	0.18	88	18
	7322+70	7323+10	0.29	35	12

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Worksheet #1
Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7323+20	7323+60	0.34	38	12
	7323+80	7324+40	0.44	43	24
	7324+50	7325+30	0.27	70	18
	7325+80	7326+00	0.28	72	18
	7326+30	7327+20	0.13	52	12
*	7329+70	7329+70	0.13	77	18
	7335+00	7336+00	0.10	113	12
	7336+25	7336+35	0.13	23	12
	7336+50	7338+10	0.29	97	24
	7338+25	7339+80	0.29	129	32
	7340+00	7340+70	0.32	107	32
	7340+90	7342+20	0.16	133	18
	7342+50	7343+30	0.29	35	12
	7343+50	7344+40	0.36	44	18
	7344+50	7345+10	0.43	40	18
	7345+20	7345+80	0.47	38	24
	7346+00	7346+80	0.43	35	18
	7346+90	7347+60	0.46	26	12
	7347+70	7349+10	0.27	62	18
	7348+00	7349+60	0.14	65	12
	7351+60	7353+00	0.46	66	32
	7353+00	7354+10	0.43	56	24
	7354+20	7354+50	0.39	44	18
	7354+70	7355+00	0.44	36	18
	7355+20	7355+60	0.45	42	18
	7355+70	7356+20	0.39	38	12
	7356+40	7357+00	0.28	43	12
	7357+20	7359+00	0.17	126	18
	7358+65	7360+65	0.19	244	32
	7360+65	7364+70	0.14	227	24
	7370+30	7374+48	0.05	467	24
	7408+50	7410+00	0.16	97	18
	7410+30	7411+30	0.18	109	18
	7412+00	7412+80	0.22	94	18
	7413+20	7414+00	0.26	86	18
	7414+20	7415+10	0.27	89	18
	7415+30	7416+20	0.28	90	24
	7416+40	7416+80	0.33	51	18

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Worksheet #1
Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7417+00	7417+50	0.36	50	18
	7417+60	7418+10	0.39	41	18
	7418+30	7418+70	0.43	44	18
	7418+90	7419+40	0.44	43	18
	7419+60	7419+90	0.59	32	32
	7420+10	7420+60	0.56	43	32
	7420+70	7421+20	0.59	39	32
	7421+30	7421+70	0.58	43	32
	7422+00	7422+40	0.68	37	32
	7422+50	7423+00	0.61	41	32
	7423+20	7423+50	0.61	38	32
	7423+70	7424+20	0.56	45	32
	7424+40	7424+80	0.62	37	32
	7425+00	7425+40	0.59	39	32
	7425+60	7426+00	0.63	38	32
	7426+20	7426+60	0.49	41	24
	7426+80	7427+20	0.46	35	18
	7427+30	7427+90	0.41	44	18
	7428+20	7428+50	0.37	38	12
	7428+60	7429+10	0.42	43	18
	7429+30	7429+90	0.33	46	18
	7430+00	7430+60	0.30	43	12
	7430+70	7431+60	0.16	85	12
	7431+80	7433+40	0.12	78	12
	7433+00	7433+40	0.08	103	12
	7433+60	7434+80	0.19	81	18
	7435+10	7435+80	0.14	63	12
	7435+90	7436+70	0.14	59	12
	7436+80	7437+70	0.19	43	12
	7437+80	7438+60	0.22	27	12
	7438+70	7439+60	0.20	15	12
	7439+70	7440+40	0.29	17	12
	7440+50	7441+50	0.14	156	18
	7441+60	7442+70	0.17	18	12
	7443+20	7443+50	0.08	50	12
	7443+60	7444+40	0.20	20	12
	7444+60	7445+40	0.21	38	12
	7445+50	7446+30	0.25	77	18

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Worksheet #1
Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7446+40	7447+50	0.33	24	12
	7447+60 R	7447+90 R	0.10	21	12
	7447+60 L	7448+20 L	0.12	77	12
*	7448+50 L	7449+90 L	0.06	125	18
	7448+90 R	7449+00 R	0.05	42	12
	7450+10 L	7451+00 L	0.09	87	12
	7450+10 R	7450+80 R	0.17	23	12
	7451+20	7451+90	0.14	69	12
*	7452+10	7453+10	0.13	92	12
*	7453+30	7454+30	0.12	75	12
	7454+50	7454+60	0.32	22	12
	7454+80	7454+90	0.27	22	12
*	7455+20	7455+80	0.08	72	12
	7456+20	7459+90	0.10	378	32
	7460+00	7460+90	0.22	65	18
*	7461+30	7462+90	0.11	266	32
	7463+00	7464+30	0.06	100	18
	7465+00	7465+60	0.13	78	12
	7466+00	7466+90	0.23	65	18
	7467+10	7467+50	0.14	59	18
	7467+70	7468+10	0.14	51	12
	7468+90	7469+90	0.05	117	12
	7470+40	7470+70	0.04	72	12
	7475+80	7476+90	0.08	50	12
	7478+00	7478+00	0.09	35	12
	7478+00	7480+50	0.10	346	32
	7482+70	7483+60	0.24	41	12
*	7486+00	7498+70	0.13	99	12
	7499+30	7499+90	0.17	90	18
*	7499+90	7511+40	0.25	116	24
	7511+30	7511+40	0.14	126	18
	7511+60	7519+00	0.16	263	32
	7519+10	7520+25	0.21	82	18
	7520+30	7522+15	0.13	270	24
	7522+15	7523+25	0.33	55	18
	7523+25	7525+20	0.20	250	32
	7525+50 L	7525+50 L	0.18	163	18
	7525+70	7525+70	0.11	27	12

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7525+90	7527+00	0.24	74	18
	7527+25	7529+00	0.15	234	24
	7529+50	7530+00	0.13	72	12
	7530+40	7532+25	0.06	180	12
	7532+60	7534+00	0.07	197	12
	7534+50	7535+20	0.09	280	24
	7535+50	7537+40	0.08	103	12
	7537+80	7537+70	0.13	16	12
	7543+25	7543+50	0.05	163	12
	7543+50 L	7544+50 L	0.09	106	12
	7543+90 R	7545+00 R	0.07	55	12
	7544+90	7545+80	0.11	91	12
	7546+85	7547+90	0.14	77	12
*	7548+00	7550+00	0.05	119	18
	7553+10	7554+00	0.12	254	24
	7562+50 LL	7565+00 LL	0.23	64	18
	7562+50 L	7562+50 L	0.43	46	18
	7565+00 L	7567+00 L	0.15	68	12
	7565+35 R	7566+70 R	0.11	18	18
	7567+10	7567+40	0.17	36	12
	7567+60	7568+35	0.17	48	12
	7568+60	7569+10	0.13	24	18
	7569+25	7569+25	0.35	48	18
	7569+50	7570+10	0.09	58	12
	7570+40	7571+75	0.13	60	12
	7572+00	7572+10	0.15	40	12
	7572+00	7574+00	0.17	185	24
	7574+15	7574+15	0.13	16	12
	7574+50	7575+30	0.20	82	18
	7580+35	7581+00	0.16	69	12
	7588+10	7588+85	0.27	86	18
	7592+55	7593+25	0.27	85	18
	7595+50	7596+00	0.09	34	12
	7596+00	7596+00	0.07	27	12
	7596+10	7596+40	0.38	34	12
	7596+70	7597+10	0.57	44	32
	7597+25	7597+65	0.58	43	32
	7597+80	7598+25	0.65	46	32

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Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7598+35	7598+80	0.64	45	32
	7599+00	7599+50	0.63	43	32
	7599+60	7600+10	0.49	43	24
	7600+20	7600+70	0.53	45	32
	7600+90	7601+40	0.44	43	18
	7601+50	7602+00	0.47	38	18
	7602+15	7602+65	0.43	44	18
	7602+80	7603+30	0.33	42	18
	7603+50	7604+15	0.50	52	24
	7604+30	7604+70	0.49	41	18
	7604+90	7605+30	0.44	41	18
	7605+50	7606+00	0.37	51	18
	7608+20	7608+50	0.33	42	18
	7608+90	7609+20	0.30	47	18
	7609+90	7610+05	0.32	22	12
	7610+25	7610+50	0.23	13	12
	7610+80	7610+95	0.39	28	12
	7611+25	7611+50	0.36	28	12
	7611+80	7612+00	0.32	34	12
	7612+35	7612+90	0.27	61	18
	7613+05	7613+90	0.26	42	12
	7614+00	7614+80	0.26	43	12
	7615+00	7615+90	0.25	61	18
	7616+20	7616+85	0.21	67	12
	7617+25	7617+75	0.18	51	12
	7618+10	7620+60	0.15	151	18
	7620+95	7621+50	0.17	69	12
	7622+00	7622+00	0.24	17	12
	7622+30	7622+90	0.31	74	18
	7623+20	7623+80	0.22	63	18
	7623+80	7624+40	0.20	157	24
	7626+25	7626+60	0.83	18	32
	7626+75	7626+75	0.31	61	18
	7627+25	7627+25	0.91	11	32
	7627+50	7627+50	0.82	28	32
	7628+20	7628+30	0.53	32	32
	7629+00	7629+00	0.38	8	12
	7629+15	7629+90	0.17	121	18

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Worksheet #1
Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7629+90	7630+75	0.21	71	18
	7631+00	7631+00	0.33	18	12
	7631+40	7632+00	0.29	63	18
	7632+30	7633+00	0.29	68	18
	7633+50	7634+00	0.30	60	18
	7634+25	7634+25	0.29	69	18
	7637+30	7638+00	0.10	83	12
	7638+40	7639+00	0.10	62	12
	7639+20	7639+20	0.14	18	12
	7639+50	7639+50	0.13	45	12
	7639+90	7639+90	0.37	19	12
	7640+20	7640+50	0.39	38	12
	7640+70	7641+00	0.38	32	12
	7641+20	7641+40	0.27	22	12
	7641+80	7643+40	0.22	72	18
	7643+40	7645+10	0.41	69	24
	7645+10	7659+20	0.52	103	32
	7659+40	7660+25	0.45	58	24
	7660+95	7661+00	0.25	63	18
	7661+75	7662+65	0.32	65	32
	7662+70	7664+15	0.08	62	12
	7666+10	7670+90	0.33	69	24
	7670+90	7671+60	0.25	169	32
	7671+85	7672+70	0.27	152	32
	7672+70	7674+10	0.09	76	12
	7672+90	7673+30	0.19	52	12
	7674+50	7674+80	0.07	27	12
	7675+20	7675+20	0.08	25	12
	7675+20	7678+20	0.02	192	12
	7679+00	7680+20	0.18	38	12
	7679+20	7681+00	0.07	94	12
	7681+90	7682+00	0.09	288	24
	7682+40	7682+40	0.13	15	12
	7683+00R	7683+50R	0.10	114	12
	7683+00L	7683+50L	0.11	229	18
	7685+00	7685+50	0.12	92	12
	7686+00	7687+00	0.11	109	12
	7687+30	7688+25	0.16	107	18

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Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7688+70	7689+25	0.24	51	12
	7689+70	7690+30	0.22	73	18
	7690+90	7690+90	0.43	37	18
	7692+00	7692+00	0.10	10	12
	7692+50	7692+80	0.18	95	18
	7694+20	7695+40	0.10	104	12
	7695+60	7695+60	0.37	19	12
	7696+10	7696+85	0.07	96	12
	7697+00	7697+00	0.18	22	12
	7697+50	7698+10	0.12	77	12
	7698+60	7698+60	0.17	59	12
	7699+25	7700+00	0.08	64	12
	7700+10	7701+25	0.15	102	18
	7701+40	7701+75	0.18	251	32
	7702+15	7703+35	0.21	115	18
	7702+60	7702+70	0.22	102	18
	7703+90	7705+00	0.12	105	12
	7705+40	7706+00	0.16	82	12
	7706+50	7707+00	0.16	63	12
	7707+30	7708+20	0.14	35	12
	7712+60	7713+20	0.14	50	12
	7713+95	7714+15	0.19	36	12
	7714+70	7716+20	0.13	159	18
	7717+90	7718+15	0.23	40	12
	7721+70	7721+85	0.28	25	12
	7726+75	7726+75	0.44	9	12
	7729+00	7729+00	0.02	8	12
	7731+10	7731+25	0.26	31	12
	7731+50	7732+00	0.40	45	18
	7732+25	7732+50	0.39	41	18
	7734+50	7734+50	0.11	32	12
	7734+90	7734+90	0.12	26	12
	7735+30	7735+70	0.11	49	12
	7736+00	7736+80	0.10	103	12
	7737+10	7738+50	0.08	145	12
	7738+90	7739+50	0.08	63	12
	7740+60	7740+60	0.11	32	12
	7740+95	7741+10	0.28	29	12

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Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7741+30	7741+60	0.43	28	12
	7741+90	7742+05	0.41	29	12
	7742+40	7742+60	0.39	40	18
	7747+25	7749+60	0.16	92	18
	7750+60	7750+60	0.09	48	12
	7750+70	7750+70	0.23	9	12
	7751+25	7751+85	0.14	116	18
	7752+90	7753+85	0.11	94	12
	7754+20	7754+90	0.11	72	12
	7755+10	7755+70	0.10	59	12
*	7756+70	7757+30	0.11	36	12
	7758+00	7758+90	0.13	120	18
	7759+50	7759+50	0.20	42	12
	7760+15	7760+40	0.08	26	12
	7760+60	7760+60	0.33	43	18
	7762+50	7763+00	0.06	17	12
	7766+70	7767+50	0.06	151	12
	7767+75	7768+25	0.04	487	24
	7768+25	7769+00	0.03	70	12
	7769+40	7770+80	0.04	75	12
	7770+80	7772+75	0.10	150	18
	7773+00	7773+15	0.33	21	12
	7773+50	7773+75	0.34	32	12
	7773+65	7774+20	0.39	23	12
	7774+50	7774+60	0.37	30	12
	7775+00	7775+00	0.47	17	12
	7775+30	7775+85	0.28	46	18
	7776+05	7776+90	0.25	59	18
	7777+05	7777+70	0.23	80	18
	7778+00	7778+20	0.39	28	12
	7778+50	7778+70	0.30	33	12
	7778+70	7779+70	0.34	71	24
	7780+05	7780+95	0.22	68	18
	7781+10	7781+30	0.33	21	12
	7781+60	7781+90	0.39	23	12
	7782+10	7782+40	0.46	26	12
	7782+35	7783+35	0.27	62	18
	7783+30	7784+20	0.15	66	12

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Compost Filter Sock Table
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Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7784+55	7785+10	0.14	70	12
	7785+70	7786+85	0.09	67	12
	7787+10	7788+40	0.10	134	18
	7788+60	7796+40	0.07	153	12
	7796+80	7797+75	0.14	63	12
	7798+00	7798+50	0.14	65	12
	7799+00	7799+80	0.19	85	18
	7800+00	7800+80	0.24	54	18
	7801+00	7801+50	0.21	48	12
	7802+00	7802+50	0.21	63	12
	7803+00	7803+70	0.20	81	18
	7804+10	7804+70	0.17	65	12
	7805+00	7805+80	0.26	78	18
	7806+30	7806+30	0.27	34	12
	7806+75	7806+75	0.36	28	12
	7807+30	7807+30	0.29	28	12
	7807+80	7807+80	0.32	36	12
	7808+20	7808+20	0.41	28	12
	7808+80	7808+80	0.43	27	12
	7809+10	7809+10	0.45	22	12
	7809+50	7810+00	0.30	67	18
	7810+50	7810+50	0.28	32	12
	7812+30	7813+10	0.34	56	18
	7815+50	7815+50	0.41	22	12
	7815+80	7815+95	0.33	18	12
	7816+10	7816+30	0.42	33	12
	7816+80	7816+85	0.50	24	12
	7817+10	7817+50	0.39	31	12
	7817+95	7817+95	0.46	26	12
	7821+25	7821+45	34.00	33	12
	7822+25	7822+25	0.27	30	12
	7822+70	7822+90	0.32	31	12
	7823+10	7823+40	0.35	34	12
	7823+70	7823+95	0.35	26	12
	7824+10	7824+30	0.29	34	12
	7824+70	7825+00	0.32	28	12
	7825+25	7825+80	0.28	46	18
	7828+60	7829+10	0.10	91	12

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Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7829+70	7829+95	0.13	54	12
	7830+30	7830+95	0.30	40	12
	7831+25	7831+90	0.13	45	12
	7832+50	7833+50	0.08	122	12
	7833+00	7834+55	0.06	224	12
	7833+95	9834+40	0.03	94	12
	7834+70	7834+70	0.11	104	12
	7838+50	7838+80	0.11	84	12
	7841+00	7841+00	0.23	46	12
	7841+60	7841+60	0.26	27	12
	7842+05	7842+15	0.47	36	18
	7842+00	7842+25	0.44	36	18
	7842+45	7842+70	0.45	31	18
	7842+80	7843+05	0.44	32	18
	7843+50	7843+50	0.42	19	12
	7843+70	7844+00	0.39	31	12
	7844+25	7844+50	0.34	32	12
	7844+85	7845+10	0.34	29	12
	7845+40	7845+40	0.39	14	12
	7845+75	7845+75	0.28	16	12
	7846+05	7846+95	0.24	61	18
	7847+25	7848+00	0.15	65	12
	7848+20	7848+60	0.14	43	12
	7848+90	7850+35	0.12	50	12
	7850+60	7850+95	0.13	54	12
	7851+50	7852+05	0.06	80	12
	7852+50	7852+90	0.16	60	12
*	7853+30	7854+40	0.11	71	12
*	7853+95	7854+00	0.14	60	12
	7854+60	7854+60	0.12	75	12
	7855+00	7856+00	0.20	90	18
	7856+50	7856+50	0.23	35	12
	7856+95	7857+20	0.14	42	12
	7857+30	7857+80	0.31	36	12
	7858+00	7858+20	0.44	25	12
	7858+50	7859+00	0.23	43	12
	7859+20	7860+00	0.09	104	12
	7861+50	7861+50	0.10	20	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
*	7861+90	7863+00	0.06	26	12
	7863+20	7863+90	0.16	80	12
	7864+75	7865+20	0.19	70	12
	7865+40	7865+90	0.05	101	12
	7866+05	7866+30	0.24	33	12
	7866+45	7866+90	0.20	37	12
	7867+00	7867+40	0.18	34	12
	7867+70	7868+10	0.11	72	12
	7868+20	7868+50	0.48	23	12
	7868+70	7869+00	0.67	23	32
	7869+20	7869+60	0.24	45	12
*	7872+25	7874+50	0.01	231	12
*	7875+10	7876+25	0.01	477	12
	7875+75	7875+75	0.30	10	12
	7876+25	7878+40	0.06	89	12
	7877+75	7878+00	0.14	48	12
	7878+50	7879+60	0.15	110	18
*	7879+00	7881+00	0.30	66	18
	7881+20	7881+50	0.29	21	12
	7881+80	7882+10	0.32	25	12
	7882+30	7882+70	0.35	20	12
	7883+05	7885+05	0.20	75	18
	7885+50	7886+10	0.18	52	12
	7886+50	7887+00	0.30	45	18
	7887+25	7888+00	0.44	73	32
	7888+30	7888+30	0.57	14	32
	7890+70	7890+80	0.25	20	12
	7891+10	7891+40	0.24	34	12
	7892+45	7893+10	0.16	89	12
	7893+50	7894+10	0.19	68	12
	7895+25	7895+25	0.42	24	12
	7895+70	7895+70	0.50	12	12
	7895+80	7895+80	0.14	7	12
	7896+00	7896+20	0.37	27	12
	7896+50	7896+85	0.54	28	32
	7897+00	7897+20	0.54	26	32
	7897+40	7897+40	0.50	14	12
	7897+70	7897+95	0.42	24	12

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Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7898+10	7898+10	0.33	12	12
	7898+40	7898+60	0.33	23	12
	7898+95	7899+50	0.36	44	18
	7899+80	7900+00	0.38	32	12
	7900+30	7900+55	0.29	31	12
	7901+05	7901+05	0.25	20	12
	7901+40	7901+70	0.18	37	12
	7905+00	7906+20	0.10	133	12
	7906+80	7907+10	0.15	164	18
	7907+50	7908+80	0.14	78	12
	7909+15	7910+00	0.33	57	18
	7910+30	7912+95	0.19	139	18
	7911+85	7912+75	0.20	45	12
	7912+90	7913+10	0.29	31	12
	7913+40	7913+40	0.30	15	12
	7914+60	7914+60	0.32	63	18
	7915+80	7915+80	0.27	33	12
	7916+30	7916+80	0.25	72	18
	7917+20	7917+60	0.27	49	18
	7918+00	7918+60	0.10	48	12
	7918+00	7921+70	0.15	204	24
*	7922+00	7923+15	0.04	107	12
	7923+70	7924+50	0.13	91	12
	7925+00	7925+90	0.17	64	12
	7926+10	7927+00	0.17	46	12
	7927+15	7931+15	0.14	299	32
	7931+50	7931+75	0.18	22	12
	7932+20	7932+20	0.47	19	12
	7932+50	7932+70	0.36	39	12
	7933+00	7933+00	0.33	36	12
	7933+50	7933+50	0.29	80	18
	7933+55	7934+25	0.19	83	18
	7935+00	7935+25	0.20	48	12
	7935+80	7936+30	0.21	72	18
	7936+90	7937+30	0.17	59	12
*	7937+85	7939+15	0.14	69	12
	7939+40	7940+00	0.11	81	12
*	7940+40	7942+05	0.07	78	12

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Huntingdon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7942+10	7942+40	0.13	31	12
	7942+60	7943+80	0.11	85	12
	7944+15	7945+25	0.14	57	12
	7945+15	7945+15	0.06	34	12
	7945+50	7946+20	0.16	81	12
	7947+30	7947+30	0.36	22	12
	7947+70	7947+90	0.48	25	12
	7948+10	7948+10	0.54	13	32
	7948+40	7948+40	0.57	14	32
	7948+60	7948+60	0.53	15	32
	7948+90	7949+15	0.43	23	12
	7949+35	7949+75	0.50	27	18
	7950+00	7950+50	0.44	48	24
	7950+60	7950+90	0.41	64	24
	7950+90	7951+40	0.37	95	32
	7951+10	7951+10	0.43	56	24
	7951+50	7952+60	0.21	42	12
	7952+70	7953+50	0.24	42	12
	7953+70	7954+50	0.17	41	12
	7954+70	7955+10	0.12	38	12
	7955+10	7955+50	0.12	43	12
	7955+80	7955+80	0.15	13	12
*	7955+80	7959+70	0.24	87	18
*	7959+70	7962+25	0.15	91	12
	7962+95	7962+95	0.18	124	18
	7963+00	7963+10	0.15	138	18
	7963+80	7963+90	0.18	73	12
	7965+00	7966+60	0.06	158	12
	7966+90	7968+05	0.10	102	12
*	7969+20	7969+70	0.13	77	12
	7970+70	7970+70	0.13	206	18
	7970+70	7970+70	0.19	160	24
	7971+20	7973+95	0.18	251	32
	7974+10	7974+90	0.20	59	12
*	7974+90	7978+00	0.14	107	12
*	7978+10	7979+50	0.11	53	12
	7979+70	7980+00	0.09	46	12
	7980+80	7983+40	0.06	247	18

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Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	7983+70	7983+70	0.06	24	12
	7984+25	7986+20	0.04	303	12
	7986+90	7988+20	0.02	115	12
*	7988+25	7990+50	0.04	119	12
*	7991+00	7991+95	0.07	201	12
	7992+25	7993+95	0.07	406	24
	7992+25	7993+80	0.06	192	12
	7994+25	7994+25	0.29	14	12
	7994+55	7996+10	0.08	117	12
	7996+80	7996+80	0.06	167	12
	7997+50	7997+75	0.06	31	12
	7998+05	7999+10	0.08	98	12
	7999+80	8001+00	0.12	104	12
*	8001+05	8002+00	0.06	33	12
	8002+00	8006+05	0.11	327	32
	8006+30	8007+20	0.08	78	12
	8007+40	8008+90	0.09	108	12
	8009+10	8010+70	0.10	123	12
*	8010+95	8015+60	0.06	455	24
	8016+00	8016+70	0.13	52	12
	8016+90	8017+70	0.12	50	12
	8017+75	8018+50	0.11	64	12
	8018+70	8019+50	0.20	79	18
	8019+95	8019+95	0.38	24	12
	8020+50	8020+50	0.37	27	12
	8020+95	8021+15	0.09	90	12
	8023+95	8023+95	0.02	139	12
	8027+43	8027+43	0.17	149	18
	8027+87	8027+87	0.11	276	24
	8028+57	8028+57	0.13	40	12
	8030+80	8031+67	0.17	53	12
	8031+75	8031+90	0.20	117	18
	8032+00	8032+00	0.22	106	18
	8032+67	8032+67	0.24	33	12
	8037+10	8037+50	0.51	41	32
	8041+50	8042+25	0.23	154	24
	8042+27	8042+27	0.22	57	12
	8042+28	8042+28	0.23	64	18

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Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8042+28	8042+28	0.29	64	18
	8048+63	8048+63	0.10	29	12
	8065+10	8065+10	0.13	103	12
	8065+90	8066+55	0.07	95	12
	8068+50	8069+00	0.05	127	12
	8069+13	8069+55	0.07	58	12
	8070+10	8070+50	0.13	78	12
	8070+70	8071+42	0.06	53	12
	8070+77	8071+27	0.06	27	12
	8072+70	8073+37	0.22	77	18
	8073+70	8074+50	0.19	97	18
	8074+90	8074+95	0.13	38	12
	8076+00	8077+20	0.11	115	12
	8078+50	8079+20	0.05	57	12
	8079+50	8080+00	0.11	71	12
	8081+70	8082+17	0.05	97	12
	8082+30	8082+30	0.06	59	12
	8082+50	8082+50	0.19	63	12
	8082+52	8082+52	0.17	67	12
	8083+43	8084+25	0.05	447	24
	8086+12	8086+65	0.07	201	12
	8087+10	8087+63	0.13	110	12
	8087+82	8088+10	0.10	263	24
	8088+00	8088+40	0.10	248	24
	8088+80	8090+00	0.11	123	12
	8090+60	8091+85	0.07	116	12
	8092+50	8093+00	0.04	91	12
	8094+44	8094+44	0.06	223	12
	8094+75	8094+75	0.03	261	12
	8095+00	8095+35	0.01	87	12
	8097+90	8099+15	0.07	97	12
	8099+45	8099+90	0.08	471	32
	8100+00	8101+00	0.06	96	12
	8101+25	8102+30	0.10	110	12
	8102+55	8103+20	0.06	290	18
	8103+50	8104+60	0.15	92	12
	8104+80	8105+32	0.05	70	12
	8105+15	8106+00	0.08	494	32

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Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8106+35	8106+35	0.06	51	12
	8106+40	8106+40	0.02	103	12
	8108+30	8109+10	0.19	209	32
	8109+10	8109+15	0.26	69	18
	8110+00	8110+70	0.20	64	12
	8110+70	8111+35	0.18	291	32
	8111+50	8111+50	0.29	17	12
	8111+90	8111+90	0.36	22	12
	8112+80	8112+80	0.18	33	12
	8113+50	8114+00	0.18	74	12
	8114+50	8116+80	0.04	109	12
	8117+30	8118+20	0.12	76	12
	8118+40	8118+67	0.13	41	12
	8118+95	8119+10	0.38	34	12
	8119+43	8119+43	0.50	20	12
	8120+55	8120+55	0.12	42	12
	8120+84	8120+84	0.10	118	12
	8120+87	8120+87	0.17	78	12
	8121+13	8121+13	0.17	164	18
	8122+50	8122+50	0.28	38	12
	8123+30	8123+30	0.25	36	12
	8123+75	8124+40	0.12	85	12
	8124+72	8125+85	0.12	130	18
	8126+90	8127+70	0.29	72	18
	8127+30	8127+90	0.11	107	12
	8129+70	8130+10	0.07	96	12
	8130+70	8130+70	0.26	38	12
	8131+10	8131+90	0.20	82	18
	8132+20	8132+20	0.08	156	12
	8132+40	8133+48	0.06	123	12
	8133+70	8134+50	0.23	61	18
	8134+80	8135+50	0.11	117	18
	8135+60	8136+00	0.11	96	12
	8136+10	8136+60	0.13	83	12
	8136+70	8137+40	0.14	57	12
	8138+60	8139+00	0.33	42	12
	8139+20	8139+40	0.14	86	12
	8141+50	8141+70	0.11	49	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8142+15	8142+65	0.18	63	12
	8143+00	8143+60	0.28	74	18
	8146+67	8146+67	0.20	46	12
	8147+31	8148+00	0.22	83	18
	8148+47	8148+97	0.21	68	18
	8149+38	8150+06	0.18	88	18
	8150+47	8150+47	0.19	26	12
	8151+15	8151+15	0.18	50	12
	8153+00	8153+00	0.17	169	18
	8156+07	8156+07	0.22	41	12
	8158+00	8158+00	0.63	16	32
	8162+62	8164+30	0.20	95	18
	8165+00	8165+00	0.18	40	12
	8165+15	8166+79	0.14	111	18
	8167+42	8167+42	0.10	36	12
	8168+12	8168+12	0.08	36	12
	8168+57	8171+50	0.08	75	12
	8171+60	8178+07	0.09	144	12
	8178+53	8179+79	0.12	249	24
	8180+00	8181+39	0.13	98	12
	8181+47	8183+31	0.28	123	32
	8133+33	8186+70	0.34	91	24
	8186+70	8189+80	0.15	96	12
	8191+09	8191+61	0.09	122	12
	8191+18	8192+00	0.09	218	18
	8192+58	8193+50	0.12	86	12
	8193+78	8194+67	0.17	78	12
	8194+84	8195+12	0.36	28	12
	8195+62	8195+62	0.53	30	32
	8196+13	8196+55	0.66	29	32
	8196+57	8196+82	0.58	59	32
	8197+13	8197+43	1.00	8	32
	8196+85	8196+85	0.27	33	12
	8197+02	8197+61	0.48	46	24
	8197+79	8198+05	0.44	16	12
	8198+30	8198+58	0.38	29	12
	8198+95	8199+00	0.40	10	12
	8199+10	8199+10	0.29	26	12

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Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8199+66	8199+66	0.29	29	12
	8201+13	8201+13	0.26	25	12
	8201+57	8201+57	0.25	20	12
	8205+77	8206+11	0.18	39	12
	8206+48	8207+50	0.15	93	12
	8207+00 L	8207+00 L	0.19	27	12
	8209+40	8209+40	0.18	84	18
	8209+45	8209+75	0.18	77	12
	8210+35	8211+91	0.09	261	18
	8212+11 R	8212+96 R	0.04	49	12
	8212+79 L	8212+79 L	0.05	56	12
	8212+96 L	8213+68 L	0.04	146	12
	8213+84 R	8213+84 R	0.05	58	12
	8213+98 L	8213+98 L	0.06	34	12
	8215+54	8215+54	0.17	35	12
	8216+05	8216+72	0.20	70	12
	Henry Start				
	8217+60 L	8217+90 L	0.53	30	32
	8218+10 R	8218+25 R	0.39	61	24
	8218+97	8220+03	0.10	76	12
	8220+59	8222+38	0.13	230	24
	8231+26	8231+55	0.08	48	12
	8231+96	8231+96	0.21	19	12
	8230+07	8230+66	0.07	70	12
	8233+09	8233+68	0.06	191	12
	8234+17	8235+95	0.07	136	12
	8236+00	8236+60	0.09	56	12
	8237+50 L	8237+50 L	0.11	164	18
	8237+75	8238+82	0.14	129	18
	8238+60 R	8239+00 R	0.24	37	12
	8242+25	8244+94	0.09	322	24
	8246+29	8246+57	0.13	189	18
	8247+09	8248+34	0.11	127	12
	8248+82	8249+92	0.13	98	12
	8250+48	8251+18	0.13	83	12
	8251+00 R	8251+00 R	0.17	12	12
	8251+46	8251+89	0.15	41	12
	8253+69	8254+23	0.11	36	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8258+61	8258+61	0.20	30	12
	8259+11 LR	8259+26 LR	0.24	27	12
	8259+56 R	8259+82 R	0.24	25	12
	8259+69 L	8259+98 L	0.16	32	12
	8260+00	8260+29	0.25	24	12
	8260+52	8260+52	0.22	34	12
	8261+18	8261+18	0.27	29	12
	8261+74	8261+74	0.27	26	12
	8262+21	8262+21	0.25	28	12
	8263+20	8263+20	0.29	24	12
	8263+66	8263+66	0.35	26	12
	8266+12	8266+12	0.48	25	12
	8268+68	8268+68	0.48	21	12
	8274+13	8274+13	0.25	24	12
	8275+11	8275+11	0.27	30	12
	8276+11	8276+11	0.32	28	12
	8276+69	8276+69	0.36	22	12
	8277+05	8277+32	0.40	35	12
	8277+69	8277+69	0.45	31	18
	8278+27	8278+27	0.44	25	12
	8278+75	8278+75	0.48	27	18
	8279+88	8279+88	0.48	23	12
	8280+45	8280+71	0.52	33	32
	8281+47	8281+47	0.38	20	12
	8281+80	8282+31	0.19	69	12
	8282+45	8282+45	0.13	32	12
	8283+69	8283+69	0.37	35	12
	8284+23	8284+23	0.55	29	32
	8284+70	8284+70	0.71	21	32
	8285+21	8285+21	0.67	24	32
	8285+71	8285+71	0.71	17	32
	8286+25	8286+25	0.50	18	18
	8287+43	8287+43	0.64	22	32
	8287+85	8287+85	0.64	22	32
	8288+28	8288+28	0.63	19	32
	8288+76	8288+76	0.67	18	32
	8289+26	8289+26	0.60	20	32
	8289+83	8289+83	0.44	27	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8290+91	8290+91	0.29	34	12
	8292+14	8292+90	0.26	47	12
	8293+15	8293+62	0.34	32	12
	8293+85	8294+30	0.42	33	12
	8294+50	8295+67	0.29	86	24
	8301+55	8301+55	0.26	35	12
	8302+19	8302+50	.05/.17	67/65	18
	8302+91	8304+30	0.21	151	24
	8303+50 L	8303+50 L	0.15	65	12
	8304+70 R	8304+70 R	0.21	185	24
	8308+27	8308+27	0.16	76	12
	8310+40 L	8310+40 L	0.13	150	18
	8312+43	8312+75	0.12	151	18
	8314+90 L	8314+90 L	0.22	47	12
	8314+90 R	8314+90 R	0.11	54	12
	8320+31	8320+31	0.16	88	12
	8322+00	8322+00	0.23	53	12
	8327+20	8327+20	0.22	27	12
	8327+30	8327+35	0.19	21	12
	8327+60	8328+15	0.08	131	12
	8328+30	8328+70	0.08	72	12
	8328+60	8328+60	0.05	255	18
	8328+75	8329+23	0.09	78	12
	8329+55	8330+95	0.04	331	18
	8331+00	8331+75	0.08	242	18
	8331+60	8332+29	0.09	116	12
	8331+36 RR	8332+06 RR	0.27	26	12
	8332+45	8333+44	.49/.08	18/169	24
	8333+00	8335+93	0.07	203	12
	8337+57	8338+33	0.05	221	12
	8338+47	8339+26	0.10	85	12
	8339+83	8339+83	0.09	41	12
	8340+21	8340+50	0.08	81	12
	8348+34	8350+40	.02/.12	306/75	18
	8350+52	8351+52	0.02	248	12
	8351+77	8352+00	0.02	92	12
	8356+31	8356+31	0.40	24	12
	8356+95	8356+95	0.41	22	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8357+56	8357+56	0.36	28	12
	8358+15	8358+15	0.28	25	12
	8358+89	8359+94	0.06	87	12
	8360+05	8360+38	0.08	279	18
	8360+39	8361+74	0.06	118	12
	8365+38	8365+38	0.33	24	12
	8373+00	8373+00	0.10	51	12
	8373+92	8373+92	0.53	49	32
	8374+83	8374+83	0.52	66	32
	8375+58	8375+92	0.27	28	12
	8376+16	8376+54	0.17	187	24
	8377+00	8377+00	0.56	25	32
	8377+50	8377+50	0.56	16	32
	8378+25	8378+25	0.26	57	18
	8378+75	8378+75	0.33	30	12
	8379+59	8379+59	0.25	24	12
	8380+00	8380+34	0.23	35	12
	8380+63	8381+06	0.28	36	12
	8381+30	8381+72	0.31	29	12
	8382+00	8384+10	0.13	169	18
	8386+27	8387+77	0.07	215	18
	8388+08	8388+08	0.42	19	12
	8388+54	8388+54	0.52	19	32
	8389+15	8389+25	0.54	37	32
	8389+70	8389+85	0.44	57	24
	8390+00	8390+00	0.34	85	24
	8390+30	8390+40	0.26	42	12
	8391+33	8391+33	0.39	23	12
	8391+82	8391+82	0.38	21	12
	8392+30	8392+30	0.40	20	12
	8392+70	8392+70	0.32	19	12
	8393+12	8394+10	0.21	112	18
	8394+57	8395+78	0.12	127	18
	8396+08	8396+78	0.20	73	18
	8397+09	8397+09	0.24	58	18
	8398+13	8398+39	0.16	43	12
	8399+55	8400+58	0.10	132	12
	8401+04	8402+84	0.09	156	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8403+65	8403+65	0.17	35	12
	8404+00	8404+37	0.31	26	12
	8404+45	8405+14	0.24	38	12
	8405+69	8405+69	0.26	35	12
	8406+20	8406+20	0.32	28	12
	8406+63	8406+63	0.33	24	12
	8407+05	8407+05	0.47	17	12
	8408+98	8408+98	0.41	17	12
	8409+52	8409+52	0.29	19	12
	8410+70	8410+70	0.25	47	12
	8411+00	8411+00	0.36	56	24
	8411+20	8411+20	0.05	76	12
	8411+40	8411+87	0.07	111	12
	8411+53	8412+22	0.12	98	12
	8411+87	8412+58	0.08	91	12
	8412+59	8412+92	0.26	115	24
	8313+40	8313+50	0.11	123	12
	8415+94	8415+94	0.29	22	12
	8416+40	8416+40	0.28	25	12
	8416+97	8416+97	0.30	20	12
	8417+38	8417+38	0.35	23	12
	8417+82	8417+82	0.36	22	12
	8418+16	8418+51	0.35	37	18
	8418+85	8419+19	0.29	35	12
	8419+57	8419+57	0.33	19	12
	8420+00	8420+00	0.29	26	12
	8420+44	8420+70	0.28	29	12
	8420+94	8421+88	0.17	87	18
	8422+22	8424+36	0.11	185	18
	8424+40	8425+44	0.20	90	18

Notes:

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(Denoted with *)

Juniata County

Worksheet #1
Compost Filter Sock Table
Juniata County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8426+20	8426+20	0.08	120	12
	8430+15	8431+15	0.10	252	24
	8431+15	8432+35	0.12	244	24
	8432+80	8434+00	0.23	96	18
	8434+50	8435+25	0.25	65	18
	8436+00	8437+55	0.12	120	12
	8438+00	8439+20	0.12	120	12
	8439+20	8440+15	0.14	56	12
	8440+15	8441+60	0.11	70	12
	8441+60	8443+30	0.12	257	24
	8443+30	8445+65	0.16	248	32
	8445+65	8448+10	0.13	290	32
	8448+10	8450+30	0.12	192	18
	8450+30	8453+60	0.24	101	18
	8453+60	8455+75	0.32	101	32
	8455+80	8458+15	0.40	89	32
	8458+15	8460+40	0.57	85	32
	8460+40	8465+40	0.50	83	32
	8467+04	8468+10	0.04	160	12
	8468+25	8469+35	0.23	104	18
	8469+35	8470+00	0.34	68	18
	8477+10	8477+25	0.14	160	18
	8481+70	8482+50	0.12	86	12
	8482+50	8482+50	0.28	45	18
	8482+90	8482+90	0.68	30	32
	8482+40	8483+40	0.57	28	32
	8483+90	8483+90	0.62	29	32
	8484+35	8484+35	0.62	29	32
	8484+80	8484+80	0.56	25	32
	8485+20	8485+20	0.50	24	32
	8485+70	8485+70	0.38	32	12
	8486+35	8486+35	0.31	32	12
	8486+85	8487+35	0.28	79	18
	8487+70	8488+22	0.25	65	18
	8492+30	8492+30	0.06	65	12
	8493+40	8493+40	0.05	65	12
	8494+90	8494+90	0.04	69	12
	8502+00	8504+33	0.01	328	12

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Compost Filter Sock Table
Juniata County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8505+25	8506+80	0.02	81	12
	8508+40	8508+80	0.01	166	12
	8511+30	8512+70	0.03	326	12
	8509+15	8509+15	0.02	105	12
	8510+00	8511+00	0.02	63	12
	8512+40	8512+55	0.03	204	12
	8514+80	8516+65	0.03	227	12
	8516+90	8516+90	0.11	159	18
	8519+10	8519+90	0.05	95	12
	8519+30	8519+30	0.05	60	12
*	8520+90	8521+90	0.04	81	18
*	8525+00	8525+00	0.07	162	12
*	8525+00	8526+00	0.04	81	12
	8526+60	8527+85	0.07	108	12
	8528+25	8531+45	0.11	91	12
*	8531+55	8536+50	0.14	88	12
	8537+20	8538+00	0.13	89	12
	8538+30	8538+80	0.1	40	12
	8540+75	8542+50	0.11	168	18
	8543+00	8545+20	0.10	270	24
	8546+00	8546+40	0.12	85	12
	8547+20	8547+60	0.12	52	12
	8552+00	8552+00	0.13	51	12
	8552+80	8553+45	0.14	136	18
	8549+75	8550+20	0.15	68	12
	8550+70	8551+25	0.13	268	24
	8553+80	8554+10	0.16	64	12
	8554+30	8554+40	0.22	98	18
	8555+00	8557+10	0.18	230	32
	8556+50	8556+50	0.21	67	18
	8557+55	8558+20	0.24	93	18
	8559+50	8559+50	0.27	15	12
	8559+90	8560+80	0.23	94	18
	8561+40	8561+40	0.18	205	24
	8562+90	8562+90	0.21	195	32
	8564+50	8564+50	0.26	29	12
	8566+60	8566+60	0.21	28	12
	8567+80	8567+80	0.29	28	12

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Worksheet #1
Compost Filter Sock Table
Juniata County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8569+00	8569+00	0.25	32	12
	8570+00	8570+00	0.32	31	12
	8570+65	8570+65	0.24	25	12
	8571+15	8571+15	0.21	29	12
	8572+15	8572+15	0.21	28	12
	8572+65	8572+65	0.27	22	12
	8573+80	8573+80	0.29	34	12
	8574+75	8574+75	0.39	31	12
	8575+25	8575+25	0.44	27	12
	8575+75	8575+75	0.44	27	12
	8576+30	8576+30	0.5	28	32
	8576+80	8576+80	0.53	30	32
	8577+35	8577+35	0.5	28	32
	8578+20	8578+20	0.55	29	32
	8578+75	8578+75	0.24	33	12
	8579+20	8579+20	0.52	27	32
	8579+70	8579+70	0.5	24	32
	8580+20	8580+20	0.48	29	18
	8580+70	8580+70	0.46	22	12
	8581+15	8581+15	0.48	21	12
	8581+60	8581+60	0.35	34	12
	8582+15	8582+15	0.44	32	18
	8582+70	8582+70	0.44	30	18
	8583+20	8583+20	0.4	25	12

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Perry County

Worksheet #1
Compost Filter Sock Table
Perry County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8592+10	8592+40	0.24	41	12
	8592+70	8592+90	0.25	40	12
	8593+20	8593+50	0.25	40	12
	8601+30	8601+60	0.31	51	18
	8602+50	8603+80	0.17	103	18
	8604+10	8604+30	0.15	46	12
*	8604+50	8604+60	0.09	23	12
	8605+20	8606+40	0.17	94	18
	8607+00	8607+60	0.15	96	12
	8608+00	8608+70	0.16	88	12
	8609+00	8609+50	0.18	74	12
	8615+80	8616+00	0.12	57	12
	8616+30	8617+50	0.14	114	18
	8617+40	8617+60	0.12	99	12
*	8631+70	8632+20	0.05	129	12
	8633+00	8634+40	0.06	162	12
	8634+90	8636+00	0.07	140	12
	8636+30	8637+60	0.06	160	12
	8638+10	8639+40	0.07	123	12
	8639+80	8640+90	0.12	154	18
	8641+30	8642+40	0.10	118	12
*	8642+60	8643+90	0.09	127	12
	8644+60	8645+50	0.14	179	18
	8647+40	8647+40	0.15	26	12
	8647+80	8648+50	0.20	92	18
	8648+90	8649+70	0.16	97	18
	8650+00	8651+00	0.16	85	12
	8651+20	8652+30	0.21	94	18
	8652+60	8653+00	0.23	78	18
	8653+50	8654+50	0.19	97	18
	8654+60	8654+90	0.30	40	12
	8655+10	8655+50	0.28	50	18
	8655+80	8656+00	0.30	30	12
	8656+30	8656+70	0.24	45	12
	8656+90	8657+10	0.31	39	12
	8657+50	8657+90	0.33	45	18
	8658+00	8658+50	0.46	46	24
	8658+70	8659+00	0.43	40	18

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Compost Filter Sock Table
Perry County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8659+40	8659+70	0.33	43	18
	8660+00	8660+40	0.33	43	18
	8660+70	8661+00	0.31	42	12
	8661+40	8661+80	0.31	49	18
	8662+00	8662+40	0.30	37	12
	8662+70	8663+10	0.28	36	12
	8663+40	8663+70	0.36	39	18
	8664+00	8664+20	0.36	29	12
	8664+50	8664+80	0.39	41	18
	8665+00	8665+30	0.43	37	18
	8665+60	8665+90	0.46	37	18
	8666+30	8666+50	0.52	31	32
	8666+70	8666+90	0.54	37	32
	8667+30	8667+50	0.57	30	32
	8667+80	8668+20	0.56	54	32
	8668+00	8668+40	0.41	68	24
	8668+50	8669+10	0.43	53	24
	8669+50	8669+70	0.40	30	12
	8670+00	8670+20	0.25	36	12
	8670+50	8670+80	0.30	37	12
	8671+10	8671+50	0.25	36	12
	8678+60	8678+80	0.42	60	24
	8679+60	8679+80	0.19	67	12
*	8681+20	8681+90	0.16	67	12
	8683+30	8683+30	0.13	23	12
	8684+10	8685+00	0.11	106	12
	8692+50	8692+70	0.13	99	12
	8697+60	8697+60	0.13	85	12
	8697+90	8697+90	0.09	22	12
	8700+80	8700+80	0.32	66	18
*	8705+50	8706+10	0.14	102	12
	8706+90	8707+90	0.17	100	18
	8714+00	8714+00	0.08	62	12
	8714+20	8714+30	0.31	36	12
*	8716+50	8720+80	0.18	93	18
	8729+40	8732+10	0.05	154	12
	8733+30	8733+30	0.13	15	12
	8738+30	8739+00	0.05	103	12

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Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8739+30	8739+30	0.07	30	12
	8739+70	8744+50	0.01	757	24
	8744+90	8744+90	0.11	142	18
	8745+10	8745+50	0.06	53	12
	8745+70	8747+10	0.11	131	12
*	8747+40	8748+90	0.09	110	12
*	8749+10	8750+80	0.12	105	12
*	8751+20	8752+80	0.11	131	18
*	8753+30	8758+90	0.17	90	18
*	8759+00	8772+00	0.16	90	18
	8773+50	8773+80	0.26	46	12
	8774+20	8774+20	0.48	27	18
	8774+90	8774+90	0.25	60	18
	8775+70	8775+70	0.49	37	18
	8775+80	8775+80	0.48	42	24
	8783+00	8783+25	0.35	46	18
	8783+60	8783+80	0.27	37	12
	8784+20	8784+80	0.19	84	18
	8785+25	8785+50	0.33	39	12
	8785+70	8786+10	0.35	34	12
	8786+40	8786+60	0.28	39	12
	8787+00	8787+20	0.38	32	12
	8787+50	8787+50	0.3	20	12
	8789+00	8789+30	0.34	35	12
	8789+60	8789+60	0.27	21	12
	8790+00	8792+40	0.13	236	24
	8792+60	8793+30	0.34	47	18
	8793+50	8794+10	0.38	42	18
	8794+40	8794+80	0.38	42	18
	8795+10	8795+40	0.34	35	12
*	8795+60	8803+50	0.16	85	18
*	8805+00	8805+80	0.04	250	12
*	8806+20	8810+00	0.2	97	18
	8810+00	8811+50	0.16	68	12
	8811+60	8812+00	0.21	92	24
	8812+00	8816+85	0.16	92	32
	8816+85	8818+22	0.11	88	24
	8818+22	8819+80	0.13	93	32

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Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8820+00	8820+30	0.14	43	12
	8822+50	8822+90	0.13	112	12
	8823+40	8823+80	0.09	138	12
	8824+00	8825+60	0.08	354	24
	8825+70	8826+10	0.25	115	24
	8826+40	8827+20	0.25	56	18
	8827+50	8834+90	0.37	89	32
	8835+10	8835+80	0.17	58	12
	8836+00	8837+10	0.12	100	18
	8841+40	8841+50	0.39	59	24
	8842+20	8842+30	0.28	97	24
	8843+00	8843+30	0.19	43	12
	8844+10	8844+10	0.18	98	18
	8846+50	8846+60	0.17	35	12
	8847+50	8847+50	0.3	30	12
	8848+20	8848+90	0.3	88	24
	8853+25	8853+35	0.01	13	12
*	8855+50	8855+50	0.2	52	12
	8860+60	8861+15	0.13	83	12
	8861+50	8862+50	0.16	100	18
	8862+70	8863+50	0.17	88	18
	8863+70	8864+50	0.18	90	18
	8864+80	8865+60	0.19	93	18
	8865+90	8866+90	0.19	108	18
	8867+30	8868+30	0.18	98	18
	8868+50	8869+50	0.14	85	12
	8869+70	8870+70	0.12	89	12
	8871+00	8871+40	0.23	47	12
	8871+60	8872+10	0.27	37	12
	8872+20	8872+60	0.2	51	12
	8872+80	8873+50	0.23	69	18
	8873+70	8874+70	0.18	106	18
	8875+00	8875+60	0.17	81	12
	8876+20	8876+60	0.39	38	18
	8876+70	8876+90	0.41	34	12
	8876+70 R	8879+20 R	0.3	91	24
	8877+20	8877+90	0.33	43	18
	8879+30	8880+60	0.32	56	18

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Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8880+70	8882+90	0.23	120	24
	8887+40	8887+60	0.31	32	12
	8888+80	8889+20	0.22	46	12
	8889+50	8889+90	0.33	39	12
	8890+00	8890+50	0.28	46	18
	8890+60	8891+20	0.37	41	18
	8891+40	8891+80	0.4	42	18
	8891+90	8892+40	0.33	46	18
	8892+60	8893+00	0.35	34	12
	8893+15	8893+60	0.42	48	24
	8893+85	8894+40	0.44	41	18
	8894+55	8894+90	0.42	40	18
	8895+00	8895+40	0.4	48	24
	8895+60	8896+10	0.6	42	32
	8896+30	8896+50	0.15	33	12
*	8897+00	8897+70	0.15	80	12
*	8898+00	8899+00	0.07	107	12
*	8899+10	8902+80	0.05	169	12
	8902+80	8903+35	0.10	32	12
	8903+90	8904+80	0.03	120	12
	8905+15	8906+60	0.13	116	12
	8908+90	8909+25	0.31	59	18
	8909+50	8910+00	0.47	49	24
	8910+15	8910+50	0.39	41	18
	8910+65	8911+10	0.30	40	12
	8912+00	8912+30	0.26	47	12
	8918+40	8918+60	0.22	45	12
	8919+50	8919+90	0.21	38	12
	8923+50	8923+80	0.29	41	12
	8924+15	8925+00	0.27	103	24
	8925+50	8926+50	0.21	76	18
	8926+90	8927+75	0.20	88	18
	8928+00	8928+40	0.22	37	12
	8929+25	8929+75	0.4	52	18
	8929+90	8930+25	0.28	44	12
	8930+60	8930+90	0.32	44	18
*	8932+90	8935+50	0.04	51	12
	8936+60 R	8936+60 R	0.03	36	12

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Compost Filter Sock Table
Perry County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8937+00 L	8937+00 L	0.09	54	12
	8937+00 R	8937+25 R	0.60	27	32
	8937+35	8937+70	0.33	40	12
	8938+50	8938+50	0.08	119	12
*	8938+85	8941+50	0.13	230	24
	8941+50	8945+00	0.12	236	24
	8945+00	8946+00	0.09	381	32
	8947+90 L	8948+00 L	0.13	203	18
	8948+00 R	8948+40 R	0.17	52	12
	8948+75	8949+40	0.14	74	12
	8949+90	8950+20	0.12	49	12
	8950+50	8950+75	0.20	75	18
	8951+50	8952+75	0.18	194	24
	8956+00	8956+40	0.15	80	12
	8956+80	8956+90	0.13	148	18
	8958+00	8959+00	0.14	101	12
	8959+25	8959+75	0.18	107	18
	8959+85	8959+85	0.19	62	12
	8964+80	8965+15	0.29	45	12
	8965+50	8966+00	0.19	84	18
	8966+75	8967+10	0.21	67	18
	8969+50	8970+80	0.17	92	18
	8971+50	8976+50	0.23	93	18
	8977+03	8977+95	0.14	67	12
	8978+21	8979+29	0.11	100	12
	8979+46	8980+22	0.08	114	12
	8980+75	8981+93	0.07	126	12
*	8982+14	8984+28	0.04	204	12
*	8982+77	8985+62	0.07	127	12
	8985+62	8986+89	0.11	98	12
	8987+13	8989+80	0.24	114	24
	8989+80	8991+50	0.29	113	32
	8991+65	8992+26	0.47	38	18
	8992+40	8993+35	0.44	52	24
	8993+50	8994+26	0.40	45	18
	8994+47	8996+38	0.39	98	32
	8996+38	8997+32	0.49	99	32
	8997+53	8997+89	0.33	33	12

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Perry County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	8998+03	8998+52	0.39	41	18
	8998+67	8998+90	0.38	29	12
	8999+15	8999+43	0.34	38	12
	8999+59	9000+44	0.41	66	24
	9000+58	9001+10	0.42	46	18
	9001+30	9002+00	0.44	39	18
	9002+13	9002+65	0.48	31	18
	9002+77	9003+75	0.35	40	12
	9003+86	9004+56	0.33	37	12
	9004+82	9006+79	0.32	115	32
	9006+83	9007+96	0.48	92	32
	9008+10	9008+55	0.51	39	32
	9008+60	9008+97	0.53	38	32
	9009+33	9009+70	0.53	34	32
	9009+82	9010+45	0.54	41	32
	9010+52	9010+74	0.35	29	12
	9011+00	9012+00	0.10	118	12
	9012+20	9012+61	0.65	34	32
	9012+87	9013+12	0.39	31	12
	9013+36	9013+59	0.45	29	12
	9013+84	9014+08	0.62	26	32
	9014+43	9014+67	0.60	34	32
	9015+07	9015+23	0.24	38	12
	9015+53	9015+53	0.32	26	12
	9016+38	9016+63	0.30	57	18
	9017+07	9017+79	0.31	64	18
	9018+00	9018+92	0.27	94	24
	9019+19	9020+53	0.26	136	24
	9020+93	9021+83	0.40	68	24
	9022+00	9022+60	0.34	65	24
	9022+82	9023+48	0.33	52	18
	9023+56	9024+32	0.37	54	18
	9024+54	9025+00	0.33	46	18
	9025+16	9025+69	0.37	49	18
	9025+82	9026+12	0.28	51	18
	9026+47	9026+47	0.29	49	18
	9027+08	9027+53	0.33	52	18
	9027+72	9028+12	0.27	45	12

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Perry County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	9028+54	9029+22	0.20	95	18
	9030+68	9030+68	0.31	26	12
	9031+76	9032+49	0.22	73	18
	9034+86	9034+89	0.28	29	12
	9037+27	9037+27	0.13	55	12
	9038+30	9038+51	0.11	28	12
*	9038+77	9039+85	0.04	120	12
	9039+55	9042+25	0.10	173	18
	9042+25	9044+06	0.14	107	18
	9044+34	9044+73	0.34	50	18
	9045+35	9045+57	0.52	31	32
	9045+81	9046+11	0.64	36	32
	9046+22	9046+44	0.51	24	32
	9046+67	9046+95	0.54	30	32
	9047+20	9047+47	0.50	32	32
	9048+00	9048+36	0.43	33	12
	9048+44	9048+73	0.40	28	12
	9048+90	9049+29	0.42	29	12
	9049+47	9049+83	0.40	30	12
	9049+97	9050+41	0.41	34	12
	9050+52	9051+00	0.43	35	18
	9051+07	9051+43	0.58	24	32
	9051+59	9052+17	0.48	46	24
	9053+80	9054+00	0.40	58	24
	9054+00	9054+30	0.60	25	32
	9054+42	9055+46	0.49	45	24
	9055+75	9057+00	0.59	104	32
	9057+00	9058+13	0.55	102	32
	9058+75	9059+10	0.42	48	24
	9060+00	9060+40	0.29	49	18
	9060+75	9062+28	0.23	97	18
	9062+45	9063+84	0.12	89	12
	9063+97	9066+68	0.13	104	12
	9066+25	9069+47	0.14	95	12
	9069+55	9070+19	0.32	44	18
	9070+54	9071+69	0.12	98	12
	9072+15	9072+94	0.16	88	12
*	9073+15	9075+30	0.04	192	12

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Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	9076+02	9077+15	0.12	133	18
	9077+48	9078+21	0.16	68	12
	9078+79	9079+23	0.26	47	12
	9079+44	9079+97	0.37	44	18
	9080+14	9080+66	0.37	49	18
	9080+83	9081+31	0.32	44	18
	9081+80	9082+05	0.34	53	18
	9082+32	9082+70	0.45	40	18
	9084+71	9084+95	0.38	32	12
	9085+17	9085+39	0.35	26	12
	9085+65	9085+90	0.36	28	12
	9086+10	9086+51	0.32	44	18
	9086+97	9086+97	0.27	30	12
*	9087+32	9088+18	0.14	85	12
	9088+65	9089+15	0.04	56	12
	9088+80	9088+80	0.09	43	12
*	9089+58L	9092+76L	0.04	58	12
*	9089+43R	9092+43R	0.12	24	12
	9092+95R	9092+95R	0.09	241	18
*	9093+00L	9093+60L	0.09	46	12
	9093+87	9094+06	0.07	70	12
	9094+24	9094+24	0.07	236	18
	9094+59	9095+10	0.04	24	12
	9095+70	9096+00	0.04	24	12
	9096+20	9096+75	0.04	29	12
	9097+85	9098+57	0.54	30	32
	9099+10	9099+10	0.42	24	12
	9099+50	9099+50	0.29	31	12
	9100+40	9101+00	0.29	63	18
	9101+37	9103+63	0.24	141	24
	9103+63	9105+60	0.41	97	32
	9105+79	9107+60	0.17	84	12
*	9107+73	9108+85	0.08	108	12
	9109+22	9110+00	0.25	68	18
	9110+40	9110+53	0.29	80	18
	9110+95	9111+40	0.29	38	12
	9111+55	9111+82	0.17	82	12
	9113+15	9113+45	0.14	42	12

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Perry County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	9113+77	9115+17	0.14	91	12
*	9115+45	9121+28	0.19	104	18
	9121+37	9122+88	0.13	116	12
	9123+12	9123+77	0.12	88	12
*	9124+28	9125+43	0.13	79	12
	9125+62	9126+81	0.12	75	12
	9127+09	9127+72	0.14	43	12
*	9127+95	9129+62	0.18	91	18
	9129+78	9131+00	0.36	22	12
	9131+73	9131+78	0.08	80	12
	9134+55	9135+03	0.11	92	12
	9136+29	9137+15	0.15	89	12
	9137+50	9137+50	0.13	56	12
	9140+10	9140+10	0.15	20	12
	9140+32	9141+12	0.13	93	12
	9141+47	9141+47	0.22	80	18
	9142+65	9142+95	0.30	37	12
	9143+21	9143+54	0.39	23	12
	9143+70	9143+97	0.54	27	32
	9144+18	9144+44	0.55	22	32
	9144+72	9144+72	0.45	11	12
	9145+00	9145+36	0.24	29	12
	9145+54	9146+00	0.42	36	18
	9146+17	9146+41	0.52	21	32
	9146+58	9147+36	0.24	72	18
	9147+49	9148+35	0.22	85	18
	9148+73	9148+73	0.27	26	12
	9149+23	9149+23	0.43	18	12
	9149+57	9150+06	0.28	34	12
	9150+27	9150+27	0.31	24	12
	9150+70	9150+70	0.40	15	12
	9151+00	9151+00	0.30	25	12
	9151+92	9152+43	0.12	68	12
	9152+76	9153+18	0.11	91	12

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Cumberland County

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Compost Filter Sock Table
Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	9157+22	9157+62	0.53	42	32
	9157+80	9158+07	0.48	38	18
	9158+19	9158+55	0.53	38	32
	9159+00	9159+14	0.50	48	18
	9159+27	9159+57	0.53	30	32
	9159+80	9160+10	0.55	36	32
	9160+26	9160+55	0.55	38	32
	9160+66	9160+92	0.43	31	12
	9162+30	9162+61	0.45	47	24
	9164+24	9164+46	0.53	31	32
	9166+18	9166+54	0.44	41	18
	9167+26	9167+58	0.37	44	18
	9167+75	9168+09	0.35	40	12
	9168+34	9168+69	0.39	42	18
	9168+96	9169+22	0.34	42	18
	9169+71	9169+71	0.29	42	12
	9170+50	9170+50	0.32	25	12
	9171+43	9171+43	0.26	23	12
*	9171+70	9174+23	0.17	126	18
	9174+92	9174+92	0.28	40	12
	9175+41	9175+89	0.17	55	12
	9177+33	9177+33	0.15	80	12
	9179+43	9179+43	0.14	85	12
	9179+84	9180+27	0.18	56	12
	9183+07	9183+72	0.16	90	12
	9183+91	9184+55	0.21	63	18
	9184+74	9185+37	0.26	54	18
	9185+55	9186+00	0.35	37	12
	9186+10	9186+56	0.42	24	12
	9186+66	9187+35	0.33	37	12
	9187+52	9188+06	0.24	46	12
	9188+19	9188+85	0.17	54	12
	9189+04	9190+69	0.12	101	12
	9193+28	9193+28	0.20	61	12
	9193+87	9194+56	0.33	46	18
	9194+69	9197+97	0.15	93	12
	9197+97	9199+42	0.11	167	18
*	9199+75	9201+64	0.09	101	12

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Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	9201+81	9202+85	0.17	49	12
	9203+26	9204+06	0.14	85	12
	9204+32	9205+70	0.14	137	18
	9205+86	9207+39	0.11	134	12
	9207+66	9208+80	0.20	102	18
	9209+89	9209+89	0.17	155	18
	9210+48	9211+48	0.15	102	18
	9211+95	9216+83	0.09	136	12
	9217+06	9218+53	0.10	133	12
	9232+13	9232+82	0.06	493	32
*	9232+82	9233+93	0.06	93	12
*	9234+05	9237+93	0.08	230	18
*	9237+93	9241+34	0.10	105	12
	9241+45	9241+84	0.13	284	32
	9243+05	9243+05	0.68	9	32
	9242+85	9243+58	0.12	91	12
	9243+91	9245+50	0.11	164	18
	9245+66	9246+94	0.12	127	18
	9247+17	9248+37	0.18	123	18
	9248+63	9249+86	0.19	111	18
*	9249+86	9252+34	0.09	164	12
	9252+49	9253+53	0.19	100	18
	9253+65	9254+54	0.12	101	12
	9254+82	9255+75	0.06	180	12
	9257+52	9258+71	0.07	46	12
*	9258+84	9260+67	0.05	154	12
*	9260+79	9263+05	0.08	126	12
*	9262+60	9262+60	0.13	48	12
*	9263+50	9263+50	0.11	77	12
*	9263+50	9265+83	0.18	94	18
	9266+00	9266+61	0.22	47	12
*	9266+78	9268+13	0.14	104	12
	9268+23	9269+13	0.25	75	18
	9269+21	9269+21	0.31	52	18
	9269+66	9269+66	0.13	45	12
	9269+94	9270+48	0.09	83	12
	9271+39	9271+39	0.16	59	12
	9272+24	9272+24	0.18	45	12

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Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
*	9274+18	9278+94	0.12	93	12
	9280+20	9281+14	0.11	89	12
	9281+28	9282+33	0.25	68	18
	9282+83	9282+83	0.25	102	24
	9282+70	9282+70	0.37	92	32
	9283+10	9283+10	0.49	15	18
	9283+60	9285+07	0.12	138	18
	9285+18	9286+15	0.12	128	18
	9286+54	9287+38	0.12	88	12
	9287+68	9288+61	0.08	89	12
*	9288+84	9294+00	0.12	104	12
	9294+14	9294+60	0.66	56	32
	9295+00	9295+00	0.23	71	18
	9295+15	9295+15	0.22	49	12
	9297+05	9297+40	0.19	57	12
	9300+55	9300+55	0.20	30	12
*	9303+15	9304+30	0.06	99	12
	9304+70	9306+75	0.04	114	12
	9308+50	9309+20	0.10	91	12
	9312+80	9313+30	0.37	54	24
	9313+30	9313+45	0.40	65	24
	9313+60	9313+85	0.23	26	12
	9314+20	9315+80	0.23	103	18
	9316+05	9316+55	0.20	119	18
	9316+55	9318+85	0.10	104	12
*	9318+85	9320+20	0.18	68	12
*	9320+20	9322+70	0.08	84	12
*	9323+30	9324+70	0.13	88	12
*	9324+70	9325+55	0.13	92	12
	9326+25	9326+95	0.19	109	18
	9327+30	9327+30	0.21	44	12
	9327+10	9327+45	0.18	141	18
	9327+60	9327+85	0.31	71	18
	9328+20	9328+20	0.44	9	12
	9328+75	9328+75	0.20	49	12
*	9331+10	9338+25	0.28	102	24
	9338+85	9339+75	0.16	61	12
	9340+25	9340+65	0.14	42	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	9341+70	9342+00	0.29	98	24
	9342+00	9343+10	0.31	86	24
	9343+10	9345+30	0.14	96	12
	9345+80	9346+65	0.10	80	12
	9347+50	9348+15	0.16	70	12
	9348+90	9349+70	0.18	63	12
	9350+20	9350+60	0.14	51	12
	9351+50	9351+70	0.44	55	24
	9352+30	9352+30	0.38	77	32
	9353+05	9355+45	0.13	354	32
	9355+75	9355+75	0.14	143	18
	9356+50	9356+50	0.08	476	32
	9356+75	9360+95	0.07	305	24
	9361+00	9361+40	0.09	128	12
	9361+65	9362+25	0.08	275	18
	9362+90	9365+40	0.17	87	12
	9365+45	9365+75	0.12	92	12
*	9367+50	9369+20	0.08	87	12
	9369+55	9370+90	0.11	100	12
	9373+30	9374+35	0.03	88	12
	9374+80	9375+25	0.12	61	12
	9376+10	9376+65	0.11	81	12
	9377+20	9377+60	0.14	59	12
	9378+10	9379+65	0.18	76	12
	9380+00	9381+40	0.15	90	12
	9381+90	9382+00	0.18	34	12
	9383+00	9383+00	0.48	21	12
	9383+45	9383+60	0.26	23	12
*	9383+60	9384+20	0.14	71	12
*	9384+25	9386+50	0.10	92	12
*	9386+50	9387+35	0.07	129	12
	9386+90	9386+90	0.18	34	12
	9387+70	9388+70	0.10	92	12
	9388+70	9388+90	0.14	29	12
	9389+30	9392+30	0.07	443	32
	9392+80	9393+40	0.06	85	12
	9394+95	9394+95	0.07	111	12
	9395+60	9396+15	0.04	97	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
*	9396+20	9397+00	0.06	179	12
	9397+00	9397+00	0.04	139	12
	9397+20	9396+60	0.04	124	12
	9398+00	9398+00	0.07	85	12
	9397+60	9398+90	0.06	181	12
	9399+20	9400+40	0.08	164	12
	9400+40	9401+10	0.07	130	12
	9401+10	9401+85	0.10	51	12
	9401+45	9401+40	0.04	228	12
	9402+05	9402+05	0.05	472	24
	9403+30	9403+80	0.02	60	12
	9403+85	9405+10	0.05	318	18
	9405+75	9406+50	0.07	94	12
	9408+20	9408+20	0.05	136	12
	9408+40	9408+40	0.07	57	12
	9408+60	9408+60	0.07	364	24
	9408+70	9410+00	0.05	153	12
	9410+05	9411+55	0.08	83	12
	9412+00	9412+45	0.13	53	12
	9412+90	9416+10	0.14	98	12
	9416+10	9418+65	0.17	104	18
*	9418+65	9420+25	0.07	116	12
	9420+60	9421+60	0.10	90	12
	9422+45	9422+45	0.07	54	12
	9422+65	9422+65	0.10	230	18
	9423+60	9425+60	0.02	204	12
	9426+00	9426+80	0.05	288	18
	9427+10	9428+85	0.06	182	12
*	9429+50	9429+50	0.05	37	12
	9431+50	9435+60	0.04	163	12
	9436+60	9436+80	0.10	100	12
	9437+70	9437+70	0.11	31	12
	9437+50	9438+60	0.08	67	12
*	9439+20	9445+15	0.04	358	12
	9448+10	9451+25	0.03	689	24
	9451+25	9452+50	0.03	443	18
	9454+40	9455+60	0.02	134	12
	9455+70	9457+50	0.01	152	12

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	9457+60	9458+00	0.01	211	12
	9460+05	9459+40	0.08	198	18
	9463+20	9464+00	0.08	212	18
*	9464+40	9469+40	0.03	431	18
*	9470+70	9474+80	0.04	219	12
	9479+05	9479+30	0.09	163	12
	9481+10	9482+30	0.09	274	24
	9482+15	9485+10	0.03	374	12
	9488+20	9490+60	0.02	85	12
*	9494+40	9496+00	0.07	175	12
*	9499+30	9501+50	0.05	263	18
*	9501+60	9507+50	0.07	364	24
	9508+20	9522+10	0.08	442	32
	9523+90	9524+80	0.03	383	12
*	9524+40	9526+90	0.04	283	12
	9527+00	9530+00	0.08	332	24
	9530+50	9530+50	0.07	366	24
	9531+90	9535+83	0.14	232	24
	9536+51	9539+80	0.09	117	12
	9539+80	9543+90	0.07	215	18
	9543+80	9546+70	0.09	193	18
	9546+80	9549+00	0.14	130	18
	9549+10	9550+30	0.10	67	12
	9550+30	9551+60	0.09	268	24
*	9576+20	9580+00	0.13	161	18
	9582+30	9582+40	0.12	250	24
	9583+40	9587+80	0.19	192	24
	9593+10	9593+30	0.15	151	18
	9593+55	9594+40	0.16	51	12
	9594+50	9595+50	0.18	67	12
	9595+60	9597+20	0.21	73	18
	9597+40	9599+20	0.15	223	24
	9599+40	9600+50	0.19	84	18
	9600+90	9603+10	0.19	180	24
	9603+30	9607+80	0.29	119	32
	9608+00	9611+00	0.16	140	18
	9611+30	9611+70	0.11	123	12
	9612+40	9618+40	0.11	274	24

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Worksheet #1
Compost Filter Sock Table
Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	9618+80	9620+00	0.09	192	18
	9620+50R	9620+60 R	0.07	45	12
	9620+50 L	9620+50 L	0.05	22	12
	9621+50	9621+50	0.07	70	12
*	9621+90	9622+00	0.19	27	18
*	9622+10	9622+20	0.18	44	18
	9622+50	9622+50	0.17	41	12
	9623+90	9625+80	0.13	198	18
	9625+90	9632+40	0.09	157	12
	9634+10	9635+90	0.08	182	12
	9636+60	9637+40	0.08	141	12
	9638+50	9639+20	0.04	559	24
	9639+40 L	9640+30 L	0.07	81	12
	9639+40 R	9641+60	0.06	158	12
	9641+70	9643+70	0.16	108	18
	9644+00	9644+30	0.16	57	12
	9645+25 L	9645+25 L	0.09	43	12
	9645+50 R	9645+50 R	0.10	52	12
	9646+10	9647+40	0.10	162	18
	9648+60	9650+00	0.06	192	12
	9650+30	9653+00	0.06	217	12
*	9654+80	9656+00	0.06	284	18
	9655+60	9656+60	0.13	92	12
	9656+90	9656+90	0.14	14	12
	9657+70 R	9657+70 R	0.18	11	12
	9657+75 L	9657+75 L	0.29	7	12
	9658+00 L	9658+20 L	0.27	33	12
	9658+15 R	9658+40 R	0.24	25	12
	9658+50 R	9665+50 R	0.08	167	12
	9658+70 L	9659+30 L	0.09	43	12
	9666+10	9667+00	0.08	236	18
	9667+10	9668+10	0.12	73	12
	9668+50	9668+50	0.13	15	12
	9670+10	9670+10	0.11	298	32
	9670+80	9670+80	0.13	92	12
	9675+20	9676+50	0.08	135	12
	9676+60	9678+10	0.07	57	12
*	9677+90	9679+00	0.04	50	12

Notes:

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Worksheet #1
Compost Filter Sock Table
Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	9678+20	9678+50	0.07	60	12
	9679+10	9679+30	0.04	55	12
	9679+20 R	9681+40 R	0.02	55	12
*	9679+20 L	9681+80 L	0.05	95	12
	9682+00	9683+20	0.12	99	12
	9683+40	9684+50	0.18	92	18
	9684+70	9686+00	0.20	88	18
	9686+20	9686+60	0.32	35	12
	9686+80	9687+30	0.33	30	12
	9687+40	9688+00	0.48	29	18
	9688+20	9689+40	0.22	67	18
	9690+40	9690+50	0.14	118	18
	9691+40	9691+60	0.44	25	12
	9692+00	9692+70	0.44	18	12
	9692+80	9693+40	0.20	61	12
	9693+60	9696+80	0.14	320	32
	9696+90	9698+50	0.17	95	18
	9698+60	9699+30	0.18	50	12
	9700+50	9701+70	0.31	83	24
	9700+60	9700+90	0.22	45	12
	9701+80	9705+10	0.15	89	12
	9705+40	9706+20	0.26	38	12
	9706+60	9706+60	0.20	66	12
	9707+90	9708+40	0.23	60	18
	9708+50	9709+40	0.15	82	12
	9709+50	9711+70	0.07	211	18
	9711+90	9714+70	0.07	420	32
*	9716+40	9717+22	0.07	188	12
	9717+60	9718+48	0.05	178	12
	9719+50	9720+90	0.05	213	12
*	9721+00	9724+50	0.07	342	24
	9725+00	9725+00	0.15	26	12
	9725+40	9725+40	0.18	40	12
	9725+60 L	9725+60 L	0.15	86	12
	9725+60 R	9725+60 R	0.13	116	12
	9727+00	9728+00	0.03	69	12
	9728+80	9728+80	0.07	147	12
	9728+95	9728+95	0.11	88	12

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Worksheet #1
Compost Filter Sock Table
Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	9729+40	9729+40	0.11	115	12
	9729+50	9730+00	0.33	24	12
*	9730+20	9736+80	0.06	385	24
	9736+90	9737+00	0.06	47	12
*	9737+30	9741+10	0.06	208	12
*	9739+40	9744+50	0.04	255	12
*	9741+50	9748+10	0.08	222	18
	9748+20	9749+60	0.31	61	18
*	9750+40	9751+20	0.13	176	18
	9754+30	9756+00	0.23	121	24
*	9757+70	9758+90	0.22	73	18
	9760+40	9764+10	0.08	411	32
	9764+40	9767+90	0.12	275	24
	9768+60	9770+40	0.17	63	12
	9770+40	9771+20	0.23	62	18
	9771+10	9774+20	0.12	92	12
	9774+70	9777+40	0.07	387	24
*	9777+52	9781+20	0.30	66	18
*	9782+50	9787+10	0.28	89	24
	9788+80	9789+60	0.21	62	18
	9789+50	9795+00	0.14	337	32
	9795+00	9795+20	0.10	235	18
	9799+10	9799+10	0.07	29	12
	9800+10	9800+20	0.03	117	12
	9801+40	9802+90	0.08	383	32
*	9804+60	9808+00	0.00	350	24
	9808+30	9812+30	0.00	110	12
	9812+50	9813+50	0.09	387	32
*	9813+90	9815+00	0.00	70	12
	9815+25	9815+25	0.07	441	32
	9816+00	9816+00	0.00	87	12
	9816+80	9817+00	0.00	89	12
	9818+00	9818+75	0.00	203	12
	9820+90	9823+20	0.00	204	12
	9825+90 L	9825+90 L	0.00	243	12
	9825+90 R	9826+10 R	0.00	76	12
	9826+10 L	9826+10 L	0.00	114	12
	9826+75 R	9827+00 R	0.00	50	12

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Worksheet #1
Compost Filter Sock Table
Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	9827+50	9833+60	0.00	118	12
	9833+35 R	9834+50 R	0.00	92	12
	9834+50	9835+00	0.00	67	12
*	9835+70	9841+50	0.00	495	24
	9843+00	9843+00	0.00	143	12
*	9843+50	9845+50	0.00	167	12
*	9844+35 R	9845+00 R	0.00	39	12
	9847+90	9851+00	0.00	254	24
	9851+60 L	9851+60 L	0.00	44	24
	9851+85 R	9852+00 R	0.00	49	24
	9852+00 L	9852+00 L	0.00	52	24
	9852+00 R	9852+00 R	0.00	47	18
	9853+50	9859+00	0.00	89	18
	9859+30	9860+50	0.00	50	32
	9860+90	9861+90	0.00	48	32
	9862+85	9863+00	0.00	28	32
	9863+00 L	9863+00 L	0.00	114	18
	9864+15	9865+50	0.00	79	12
	9866+25	9866+50	0.16	96	12
	9867+10	9869+00	0.00	68	24
	9869+20	9871+90	0.00	88	32
	9871+90	9874+00	0.00	90	24
	9874+00	9875+75	0.00	158	18
	9875+95	9877+00	0.00	68	18
	9876+60 R	9876+60 R	0.00	38	12
	9877+30 L	9877+30 L	0.00	89	24
	9877+20 R	9877+30 R	0.00	23	12
	9877+75 L	9878+75 L	0.00	112	24
	9879+00 L	9879+00 L	0.00	25	12
	9879+40 R	9879+40 R	0.00	49	12
	9880+90 L	9881+00 L	0.00	31	12
	9881+00 R	9881+10 R	0.00	20	12
	9885+00	9886+75	0.00	113	12
	9887+70 L	9887+70 L	0.00	41	18
	9888+05 L	9888+35 L	0.00	49	32
	9890+10	9891+88	0.00	130	12
	9891+85 L	9895+00 L	0.00	141	12
	9893+85 R	9895+00 R	0.00	27	12

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Compost Filter Sock Table
Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	9895+00 R	9896+00 R	0.00	55	12
	9895+50 L	9897+00 L	0.00	74	12
	9897+00	9898+90	0.00	238	12
	9900+00	9900+50	0.00	60	12
	9901+30 R	9901+75 R	0.00	65	12
	9901+85 L	9901+85 L	0.00	57	12
	9902+05 R	9902+05 R	0.00	79	24
	9902+20 L	9902+20 L	0.00	52	18
	9904+25	9904+50	0.00	54	12
	9905+90	9906+80	0.00	257	18
	9906+00	9907+50	0.47	117	12
	9907+70	9908+05	0.08	60	12
	9908+00	9910+20	0.08	57	12
	9908+05	9908+70	0.42	24	12
	9909+05	9909+05	0.20	5	12
*	9910+30	9911+70	0.12	108	12
	9912+00	9912+10	0.30	20	12
	9913+50	9913+50	0.26	54	18
	9914+20	9916+05	0.12	371	32
	9916+90	9916+90	0.09	429	32
	9917+30	9918+30	0.10	210	18
	9918+50	9918+50	0.17	36	12
	9919+00	9919+95	0.05	88	12
*	9920+10	9923+40	0.05	90	12
	9921+90	9923+50	0.09	61	12
	9923+60	9925+90	0.03	159	12
	9926+00	9926+20	0.33	24	12
	9926+90	9927+05	0.32	115	32
	9928+50	9928+50	0.24	21	12
	9929+00	9930+00	0.14	70	12
	9930+20	9934+30	0.16	103	18
	9934+90	9934+90	0.12	37	12
	9935+10	9935+10	0.08	89	12
	9935+50	9936+00	0.09	41	12
	9936+20	9936+70	0.30	33	12
	9937+25	9937+25	0.14	194	18
	9937+30	9937+30	0.35	46	18
	9937+60	9937+60	0.38	34	12

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Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	9938+20	9939+50	0.06	281	32
	9940+00	9940+00	0.05	63	12
	9941+00	9941+00	0.03	163	12
	9941+85	9941+85	0.38	42	18
	9944+30	9945+00	0.04	139	12
*	9944+55	9945+10	0.03	186	12
	9946+00	9946+00	0.09	136	12
	9946+33	9946+56	0.13	61	12
	9947+60	9950+25	0.05	106	12
	9950+37	9951+07	0.31	58	18
	9952+40	9952+72	0.17	121	18
	9954+51	9954+51	0.11	18	12
	9954+74	9954+74	0.20	65	12
	9954+82	9954+82	0.39	59	24
	9955+08	9955+08	0.38	40	18
	9956+40	9958+80	0.13	82	12
	9957+30	9958+76	0.15	67	12
*	9964+00	9971+95	0.04	411	18
	9972+00(work area)	9972+00(work area)	0.37	81	24
*	10014+00	10016+80	0.16	193	24
	10017+10	10017+80	0.15	50	12
	10017+95	10017+95	0.19	115	18
	10018+20	10018+20	0.16	294	32
	10018+90	10018+90	0.41	46	18
	10021+00	10021+00	0.08	25	12
	10021+20	10021+50	0.25	4	12
*	10021+75	10023+95	0.05	226	12
*	10024+05	10025+60	0.05	151	12
*	10025+00	10028+10	0.04	217	12
*	10028+10	10029+20	0.04	332	12
*	10031+00	10031+85	0.24	50	12
*	10032+50	10038+50	0.02	377	12
	10035+85	10036+25	0.06	9	12
	10037+00	10038+40	0.02	33	12
	10038+40	10039+50	0.06	44	12
	10038+75	10039+50	0.01	148	12
	10040+30	10040+30	0.02	205	12
	10040+60	10040+60	0.10	87	12

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Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	10041+00	10041+95	0.10	102	12
	10042+80	10044+50	0.05	551	32
*	10044+55	10047+10	0.05	225	12
	10047+20	10047+50	0.17	246	32
	10047+75	10056+00	0.07	520	32
	10056+00	10058+60	0.05	517	32
	10058+60	10060+40	0.04	134	12
	10061+05	10061+80	0.29	51	18
	10061+90	10062+70	0.36	61	24
	10062+55	10070+10	0.10	364	32
	10070+15	10071+30	0.05	226	12
	10071+80	10073+30	0.16	86	12
*	10072+50	10076+50	0.11	179	18
	10077+55	10078+50	0.29	81	24
*	10078+70	10081+70	0.13	175	18
	10082+05	10085+50	0.05	351	24
	10085+50	10087+30	0.04	84	12
	10087+50	10089+40	0.02	141	12
*	10091+10	10093+00	0.04	413	18
	10093+10	10093+90	0.05	293	18
	10094+10	10094+60	0.10	10	12
	10094+00	10095+50	0.06	67	12
*	10094+60	10096+95	0.06	145	12
	10098+30	10099+30	0.07	358	24
*	10109+50	10110+70	0.06	58	12
	10112+00	10112+00	0.07	8	12
	10113+50	10113+50	0.03	54	12
*	10128+30	10130+00	0.07	118	12
	10130+60	10130+60	0.03	15	12
*	10131+50	10133+50	0.03	204	12
	10131+50	10132+00	0.03	31	12
*	10132+10	10135+00	0.03	440	18
*	10134+00	10138+00	0.02	231	12
	10136+70	10137+40	0.02	32	12
	10140+80	10141+95	0.02	515	12
	10151+00	10152+50	0.13	192	18
*	10153+50	10154+25	0.10	181	18
	10157+30	10157+30	0.09	56	12

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Compost Filter Sock Table
Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	10157+10	10158+40	0.05	61	12
	10159+00	10160+20	0.01	174	12
	10160+50	10160+50	0.04	42	12
	10160+70	10160+70	0.07	7	12
	10162+50	10163+30	0.01	76	12
*	10163+75	10164+15	0.03	17	12
	10164+50	10164+50	0.10	5	12
*	10164+50	10166+00	0.05	322	18
	10170+50	10171+50	0.08	13	12
	10173+50	10179+95	0.02	1082	32
	10175+50	10176+00	0.05	39	12
*	10184+00	10185+50	0.03	202	12
*	10187+10	10188+50	0.03	69	12
*	10188+30	10191+60	0.02	66	12
	10192+60	10193+00	0.01	188	12
	10197+70	10200+50	0.04	79	12
*	10204+70	10206+50	0.03	170	12
	10226+90	10227+15	0.02	134	12
	10227+50	10228+40	0.03	212	12
*	10246+10	10247+95	0.15	121	18
*	10248+21 (pullback)	10248+21 (pullback)	0.09	315	24
	10256+10	10258+00	0.01	208	18
	10259+00	10261+00	0.02	827	24
	10264+20	10264+75	0.04	126	12
	10268+40	10270+30	0.01	565	18
	10272+35	10273+80	0.03	76	12
	10274+40	10276+10	0.03	229	12
	10276+20	10278+80	0.02	378	12
	10281+00	10282+90	0.02	384	12
	10283+25	10286+50	0.02	252	12
	10286+50	10291+00	0.01	1498	32
	10293+80	10300+90	0.02	508	12
	10302+20	10302+70	0.01	104	12
	10302+70	10305+20	0.03	315	12
	10305+40	10305+40	0.03	213	12
	10305+60	10310+20	0.01	481	12
	10311+85	10312+45	0.07	77	12
	10312+75	10314+15	0.02	124	12

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	10313+95	10314+35	0.04	54	18
	10315+00	10315+90	0.05	114	12
	10316+60	10317+30	0.10	101	12
	10318+20	10318+60	0.06	67	12
	10322+70	10323+50	0.01	142	12
	10323+90	10324+20	0.01	202	12
	10324+20	10329+20	0.01	421	12
	10332+30	10333+75	0.05	190	12
	10333+75	10335+18	0.03	157	12
	10335+18	10335+90	0.03	146	12
	10335+90	10336+20	0.03	142	12
	10336+70	10337+00	0.03	29	12
	10337+50	10337+50	0.04	72	12
	10340+00	10340+00	0.05	235	12
	10340+50 L	10340+50 L	0.07	251	18
	10340+50 R	10340+50 R	0.09	162	12
	10342+15 L	10343+60 L	0.02	53	12
	10342+70 R	10342+70 R	0.03	367	12
	10344+85	10344+85	0.04	109	12
	10345+25	10347+40	0.05	128	18
	10348+ 25 L	10349+00 L	0.05	258	18
	10350+62	10350+72	0.06	237	18
	10351+40	10353+00	0.04	154	12
	10353+10	10355+15	0.06	49	12
	10355+15	10357+40	0.03	91	12
	10357+40	10358+00	0.03	627	24
	10359+25	10361+50	0.02	396	18
	10363+95	10365+90	0.03	320	12
	10368+10	10369+90	0.03	101	12
	10370+90	10371+10	0.05	100	12
	10371+10	10373+00	0.02	420	12
	10373+75	10374+90	0.06	89	12
	10375+30	10375+60	0.02	55	12
	10376+15	10379+60	0.02	446	12
	10379+60	10380+90	0.01	278	12
	10381+10	10381+10	0.10	54	12
	10383+80	10386+50	0.05	352	24
	10386+50	10390+10	0.07	122	12

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	10390+15	10390+60	0.07	123	12
	10390+70	10393+50	0.04	790	32
	10393+50	10396+20	0.06	181	12
	10396+75	10397+00	0.09	53	12
	10397+10	10398+60	0.07	185	12
	10398+60	10401+40	0.09	112	12
	10403+10	10404+00	0.04	191	12
	10404+20	10405+00	0.02	146	12
	10405+50	10405+80	0.05	200	12
	10406+10	10407+80	0.06	160	12
	10406+90	10407+50	0.02	64	12
	10410+00	10412+60	0.06	216	12
	10412+80	10418+50	0.02	994	24
	10421+00	10426+40	0.03	80	12
	10427+80	10430+30	0.07	87	12
	10431+40	10431+40	0.06	68	12
	10432+25	10434+25	0.03	102	12
	10438+00	10439+80	0.06	187	18
	10439+80 L	10441+65 L	0.03	35	12
	10439+90 R	10442+00 R	0.02	99	12
	10441+65	10445+20	0.02	520	18
	10445+60	10447+00	0.04	47	12
	10446+90	10457+00	0.01	530	12
	10458+80	10465+70	0.03	535	18
	10465+70	10469+30	0.02	1140	32
	10469+30	10470+00	0.11	70	12
	10470+50	10470+50	0.02	19	12
	10470+85	10471+30	0.12	60	12
	10471+65	10481+50	0.02	289	12
	10481+90	10482+20	0.05	80	12
	10482+30	10483+55	0.03	64	12
	10484+00	10485+40	0.05	141	18
	10489+00	10492+00	0.05	92	12
	10492+50	10494+00	0.05	166	12
	10494+00	10496+20	0.10	109	12
	10498+00	10502+40	0.03	223	12
	10504+30	10505+55	0.03	956	32
	10505+55	10506+20	0.06	73	12

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	10506+85	10509+30	0.04	115	12
	10510+00	10512+45	0.03	540	18
	10513+20	10514+40	0.09	85	12
	10513+40	10514+30	0.04	24	12
	10514+80	10515+15	0.08	75	12
	10515+15	10515+70	0.06	132	12
	10516+00	10516+00	0.04	181	12
	10516+35	10517+70	0.02	44	18
	10516+40 L	10519+00 L	0.03	115	12
	10519+65	10521+25	0.03	531	18
	10525+60 R	10527+90 R	0.03	118	12
	10526+10 L	10527+00 L	0.06	9	12
	10528+00	10533+90	0.02	518	12
	10535+50	10538+80	0.02	824	24
	10540+20	10540+60	0.04	294	12
	10541+30	10542+05	0.08	60	12
	10541+60	10543+90	0.04	103	12
	10542+55	10544+40	0.05	78	12
	10545+15	10546+90	0.11	76	12
	10546+50	10547+15	0.09	76	12
	10547+20	10548+80	0.06	314	18
	10548+75	10550+90	0.07	176	12
	10551+30	10551+60	0.04	128	12
	10551+80	10552+60	0.03	114	12
	10553+32	10553+32	0.05	222	12
	10554+85	10556+30	0.03	89	12
	10560+80	10566+80	0.03	999	32
	10567+00	10571+10	0.04	92	12
	10571+10	10572+90	0.04	115	12
	10572+90	10574+60	0.03	155	12
	10574+50	10575+25	0.03	68	12
	10575+80	10579+00	0.43 / 0.02	32 / 106	18
	10578+50	10579+25	0.05	43	12
	10583+70	10587+30	0.02	420	12
	10599+00	10600+50	0.02	984	24
	10602+00	10602+50	0.03	111	12
	10603+00	10603+00	0.03	204	18
	10603+25	10604+00	0.02	159	12

Notes:

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Worksheet #1
Compost Filter Sock Table
Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	10607+75	10610+50	0.02	174	18
	10611+20	10618+00	0.02	122	12
*	10616+40	10622+30	0.02	696	18
	10622+30	10622+40	0.06	182	12
*	10623+00	10624+80	0.05	167	12
*	10625+80	10629+90	0.05	291	18
	10630+10	10630+20	0.05	62	12
*	10631+20	10636+60	0.03	328	12
	10636+30	10636+90	0.24	34	12
	10640+65	10642+50	0.02	163	12
	10643+00	10643+20	0.02	451	12
	10643+50	10644+80	0.06	412	24
	10661+40	10663+50	0.05	177	12
*	10663+90	10665+90	0.09	127	12
*	10666+30	10675+50	0.21	39	12
	10674+50	10674+70	0.05	8	12
	10676+40	10678+00	0.39	49	24
	10678+00	10678+70	0.30	102	32
*	10678+70	10680+90	0.23	97	18
*	10680+90	10693+00	0.39	80	24
	10693+00	10701+30	0.23 / .01	136 / 289	32
*	10701+30	10702+00	0.08	202	18
*	10713+40	10715+10	0.03	470	18
	10716+00	10716+30	0.07	274	18
	10716+40	10718+70	0.15	92	12
	10719+00	10720+00	0.20	56	12
	10720+30	10722+30	0.06	439	24
	10722+60	10723+50	0.14	80	12
	10723+60	10724+50	0.14	91	12
	10724+60	10725+50	0.14	102	12
*	10731+10	10731+50	0.03	154	12
	10734+40	10734+80	0.02	285	12
	10736+10	10742+50	0.01	198	12
	10742+50	10744+80	0.02	443	12
	10744+70	10744+90	0.03	315	12
	10745+40	10747+00	0.01	279	12
*	10747+00	10751+80	0.04	401	18
*	10752+00	10753+50	0.06	413	24

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
*	10753+70	10755+40	0.08	345	24
*	10755+50	10758+20	0.06	355	24
	10768+00	10768+60	0.10	271	24
	10769+40	10770+30	0.12	215	18
	10770+80	10771+20	0.09	102	12
	10771+50 R	10771+50 R	0.10	256	24
	10771+50 L	10771+80 L	0.10	270	24
	10776+60	10777+10	0.06	69	12
	10777+70	10779+00	0.15	87	12
	10779+20 R	10779+80 R	0.12	59	12
	10779+40 L	10779+90 L	0.18	61	12
	10780+00	10781+00	0.20	45	12
	10781+90	10782+00	0.22	60	12
	10782+10	10783+50	0.17	130	18
	10783+60	10783+90	0.27	37	12
	10784+20	10785+00	0.15	74	12
	10786+20	10786+70	0.30	43	12
	10786+90	10787+10	0.39	33	12
*	10787+85	10788+50	0.16	79	12
*	10788+70	10789+30	0.09	109	12
*	10789+60	10789+80	0.10	178	18
	10790+30	10790+40	0.09	117	12
	10791+60	10792+20	0.18	40	12
	10792+40	10798+90	0.12	249	24
*	10800+90	10807+50	0.06	286	18
*	10808+50	10809+90	0.05	149	12
*	10810+10	10812+00	0.05	132	12
	10812+45 R	10814+85 R	0.08	151	12
	10814+00 L	10515+50 L	0.02	47	12
	10815+90	10816+50	0.10	52	12
	10816+90	10817+40	0.10	151	18
*	10817+50	10820+75	0.07	249	18
	10821+00	10821+50	0.13	61	12
	10821+75	10822+60	0.17	81	12
	10827+00 L	10828+00 L	0.05	113	12
	10828+00 R	10828+00 R	0.10	373	32
*	10828+20	10832+25	0.02	322	12
	10834+15	10834+15	0.05	396	24

Notes:

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Worksheet #1
Compost Filter Sock Table
Cumberland County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	10835+30	10835+30	0.10	255	24

Notes:

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(Denoted with *)

York County

Worksheet #1
Compost Filter Sock Table
York County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	10854+00	10854+50	13%	130	18
	10853+72	10856+31	15%	230	24
	10856+31	10857+85	17%	183	24
	10857+85	10859+80	18%	91	18
	10859+80	10861+95	15%	319	32
	10861+97	10863+73	23%	139	24
	10863+73	10863+91	19%	228	32
	10864+90	10864+90	40%	35	12
	10865+96	10868+20	7%	86	12
	10868+20	10868+79	12%	257	24
	10868+95	10870+40	10%	115	12
	10870+45	10872+09	13%	159	18
	10872+15	10872+29	15%	106	18
	10872+29	10872+69	15%	344	32
	10872+85	10873+19	18%	269	32
	10873+12	10873+44	17%	189	24
	10874+04	10875+72	15%	157	18
	10875+77	10877+00	16%	91	12
	10877+20	10880+96	7%	360	24
	10880+97	10882+35	7%	115	12
	10882+44	10882+84	6%	562	32
	10883+00	10884+65	16%	126	18
	10884+60	10885+53	40%	53	24
	10885+65	10886+76	15%	90	12
	10886+77	10888+25	8%	117	12
	10888+10	10888+17	9%	48	12
	10891+68	10893+67	7%	142	12
	10893+78	10895+25	21%	142	24
	10895+65	10895+74	17%	140	18
	10896+00	10896+00	7%	43	12
	10897+21	10897+65	18%	72	12
*	10897+85	10898+65	3%	284	12
	10907+25	10907+38	13%	313	32
	10909+77	10911+12	15%	53	12
	10911+36	10911+95	10%	327	32
	10912+00	10913+09	13%	106	12
	10913+20	10913+57	9%	201	18
	10914+75	10915+85	9%	92	12

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Compost Filter Sock Table
York County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	10915+41	10915+41	9%	127	12
	10916+36	10917+57	7%	130	12
	10918+21	10920+18	7%	202	12
	10920+38	10921+54	13%	121	18
	10921+80	10921+80	24%	64	18
	10922+93	10922+93	38%	26	12
	10923+37	10923+56	42%	31	12
	10923+82	10924+09	49%	33	18
	10924+56	10925+10	19%	100	18
	10924+95	10925+44	17%	47	12
	10926+18	10926+75	10%	224	18
	10927+05	10929+89	15%	305	32
	10930+00	10930+95	20%	65	12
	10931+05	10932+00	16%	64	12
	10932+32	10934+30	15%	275	32
	10934+30	10939+43	20%	121	18
	10939+52	10939+84	29%	38	12
	10940+08	10940+16	26%	31	12
	10940+60	10942+42	10%	190	18
	10944+48	10944+80	35%	32	12
	10945+06	10945+26	29%	31	12
	10945+68	10945+62	34%	24	12
	10945+95	10946+25	39%	31	12
	10946+50	10946+77	44%	25	12
	10947+00	10947+28	46%	26	12
	10947+40	10947+80	39%	33	12
	10949+00	10949+19	26%	39	12
	10950+10	10951+01	11%	172	18
	10951+11	10951+11	36%	17	12
	10951+44	10951+66	40%	30	12
	10951+91	10952+08	32%	34	12
	10952+35	10956+47	38%	91	32
	10957+73	10959+35	16%	164	18
	10960+10	10960+18	23%	26	12
	10961+10	10961+10	33%	24	12
	10966+78	10967+17	31%	32	12
	10967+32	10974+00	49%	89	32
	10974+00	10974+76	43%	105	32

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Compost Filter Sock Table
York County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	10974+91	10975+77	29%	108	24
	10976+80	10977+66	24%	79	18
	10978+00	10978+00	22%	18	12
	10978+74	10979+07	29%	41	12
	10979+18	10979+48	40%	30	12
	10979+85	10982+49	33%	79	24
	10982+49	10983+54	18%	208	24
	10983+73	10984+55	25%	73	18
	10984+55	10986+20	28%	72	18
	10986+32	10988+36	13%	223	24
	10987+57	10989+38	14%	280	32
	10989+38	10990+43	15%	340	32
	10990+43	10994+75	28%	69	18
	10934+72	10995+89	16%	312	32
	10995+95	10997+87	16%	276	32
	10998+00	10998+59	26%	44	12
	10998+68	11000+20	24%	63	18
	11000+20	11002+45	13%	342	32
	11024+41	11003+08	23%	74	18
	11003+05	11004+35	17%	76	12
	11004+36	11005+38	10%	332	32
	11005+40	11008+84	8%	392	32
	11009+03	11010+09	12%	78	12
	11010+13	11011+21	9%	449	32
	11010+92	11013+63	7%	426	32
	11013+71	11014+93	6%	104	12
	11014+87	11018+05	15%	189	18
	11017+00	11017+78	14%	123	18
	11024+45	11025+40	8%	183	12
*	11025+40	11027+48	6%	292	18
*	11027+48	11027+92	4%	138	12
	11027+92	11028+28	6%	247	18
	11028+60	11029+62	6%	115	12
	11033+74	11036+23	7%	457	32
	11034+78	11035+57	7%	376	24
	11036+08	11036+76	17%	6	12
	11037+00	11037+05	9%	35	12
*	11037+40	11039+12	6%	222	12

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Compost Filter Sock Table
York County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
*	11039+15	11041+48	5%	222	12
	11039+64	11043+29	5%	265	18
*	11043+47L	11044+59L	6%	115	12
	11044+25R	11044+63R	12%	118	12
	11044+62	11047+04	10%	207	18
	11046+87	11047+25	3%	35	12
*	11048+52	11050+68	9%	183	18
	11051+00	11052+16	14%	100	12
	11052+36	11053+31	13%	81	12
	11053+51	11054+42	14%	84	12
	11054+65	11055+49	14%	93	12
	11055+90	11059+70	18%	86	18
	11059+85	11065+87	28%	92	24
	11066+00	11066+66	36%	42	18
	11066+83	11067+47	30%	40	12
	11067+75	11068+85	0.24	100	18
	11069+02	11071+74	0.23	141	24
	11072+53	11074+59	0.20	94	18
	11075+08	11075+81	0.32	47	18
	11075+93	11076+48	0.33	39	12
	11076+69	11078+00	0.26	70	18
	11078+27	11079+12	0.20	46	12
	11079+36	11086+85	0.18	111	18
	11087+22	11088+76	0.14	135	18
	11090+00	11095+23	0.12	139	18
	11095+22	11095+36	0.13	67	12
	11095+58	11096+51	0.08	205	18
	11096+51	11098+67	0.11	129	12
	11099+14	11100+00	0.10	48	12
	11100+20	11101+79	0.08	112	12
	11102+05	11104+64	0.04	117	12
	11106+94	11106+94	0.05	81	12
	11107+21	11111+84	0.10	96	12
	11112+00	11116+22	0.09	130	12
	11117+00	11118+05	0.05	143	12
	11118+16	11119+57	0.06	102	12
	11123+30	11123+30	.26/.05	80/116	24
	11125+19	11126+57	0.03	99	12

Notes:

1. Slopes >50% must have 32" DURASOXX independent of upslope length.
2. CFS installed with jayhook to be upsized one CFS size than slope/length requires.
(Denoted with *)

Worksheet #1
Compost Filter Sock Table
York County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	11127+00	11127+00	0.04	138	12
	11127+52	11129+73	0.102	127	12
	11131+27	11131+95	0.07	81	12
	11132+25	11133+00	0.08	164	12
	11138+66	11139+00	0.12	79	12
	11139+26	11139+26	0.23	22	12
	11139+94	11142+28	0.27	79	18
	11142+28	11144+41	0.24	78	18
	11144+78	11145+86	0.11	73	12
	11146+04	11149+79	0.17	71	12
	11150+10	11151+49	0.15	67	12
	11151+85	11152+75	0.10	78	12
	11152+93	11153+83	0.08	90	12
	11154+38	11155+00	0.06	104	12
	11161+26	11161+40	0.07	84	12
	11162+22	11164+37	0.01	38	12
	11164+72	11165+41	0.09	134	12
	11165+80	11166+50	0.22	72	18
	11167+43	11167+49	0.23	79	18
	11169+18	11169+35	0.19	157	24
	11171+08	11171+16	0.32	84	24
	11143+05	11144+30	0.20	60	12
	11144+50	11145+23	0.33	48	18
	11145+36	11146+07	0.31	39	12
	11146+19	11147+62	0.07	129	12
	11146+54	11149+21	0.09	147	12
	11149+40	11150+05	0.16	75	12
	11150+30	11151+09	0.24	63	18
	11151+26	11151+85	0.22	60	12
	11152+14	11152+81	0.17	69	12
	11153+18	11153+82	0.14	71	12
	11154+08	11155+15	0.09	102	12
	11155+40	11156+51	0.08	101	12

Notes:

1. Slopes >50% must have 32" DURASOXX independent of upslope length.
2. CFS installed with jayhook to be upsized one CFS size than slope/length requires.

(Denoted with *)

Dauphin County

Worksheet #1
Compost Filter Sock Table
Dauphin County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	11227+00	11236+10	0.01	496	12
	11236+10	11242+00	0.01	707	24
	11242+00	11248+00	0.01	607	18
	11248+00	11257+50	0.01	463	12
	HDD WORKSPACE		0.38 / 0.02	16 / 318	12
	HDD PULLBACK		0.04	69	12
	HDD PULLBACK		0.06	67	12
*	HDD PULLBACK		0.08	112	12
	HDD PULLBACK		0.85	14	32
	HDD PULLBACK		0.23	88	18
	HDD PULLBACK		0.03 / 0.55	30 / 22	32
	HDD PULLBACK		0.08 / 0.38	199 / 16	18
	HDD PULLBACK		0.15	13	12
*	HDD PULLBACK		0.04	95	12
*	HDD PULLBACK		0.06	406	24
	11277+24	11278+44	0.04 / 0.29	103 / 45	18
	11278+65	11280+30	0.13	125	18
*	11280+30	11281+78	0.04	93	12
	11282+00	11282+50	0.13	111	12
	11283+10	11284+00	0.04	46	12
	11284+00	11284+50	0.11	72	12
*	11285+30	11285+60	0.07	73	12
	11286+00	11287+75	0.30	54	18
	11286+50	11286+90	0.04	243	12
*	11287+90	11290+75	0.06	172	12
	11290+85	11291+50	0.04	364	18
	11292+40	11292+40	0.08	279	18
*	11294+00	11295+10	0.03	120	12
	11295+30	11297+00	0.01	307	12
*	11296+50	11299+60	0.04	271	12
	11299+70	11300+30	0.18	44	12
	11300+00	11301+35	0.20	70	12
	11302+15	11302+15	0.07	75	12
	11302+30	11304+20	0.08	392	32
	11304+50	11304+50	0.24	148	24
	11306+00	11306+50	0.22	99	18
*	11307+40	11310+69	0.03	295	12
	11310+69	11313+00	0.04	439	18

Notes:

1. Slopes >50% must have 32" DURASOXX independent of upslope length.
2. CFS installed with jayhook to be upsized one CFS size than slope/length requires.
(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Dauphin County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	11320+30	11323+40	0.04	170	12
*	11323+60	11325+40	0.06	131	12
*	11325+57	11327+00	0.04	138	12
	11327+20	11329+30	0.045	603	32
*	11335+70	11339+20	0.02	208	12
*	11337+80	11339+00	0.04	57	12
*	11338+90	11339+10	0.07	247	18
	11339+20	11343+80	0.06	287	18
*	11343+80	11346+00	0.071	84	12
	11346+20	11347+60	0.053	506	32
	11347+80	11348+80	0.08	90	12
	11349+10	11350+00	0.04	402	18
*	11356+77	11359+30	0.05	359	18
	11360+50	11361+10	0.06	289	18
	11360+00	11360+40	0.03	35	12
	11361+44	11361+44	0.17	29	12
	11362+50	11362+50	0.09	63	12
*	11365+60	11366+70	0.02	47	12
	11366+20	11367+50	0.07	134	12
	11367+70	11369+00	0.05	586	32
	11369+20	11370+00	0.07	411	24
*	11370+00	11371+75	0.1	102	12
	11371+50	11373+30	0.04	99	12
	11374+30	11374+60	0.13	68	12
*	11375+30	11376+70	0.04	134	12
	11378+60	11379+10	0.12	97	12
*	11381+70	11382+65	0.09	82	12
	11382+90	11384+90	0.1	192	18
	11384+90	11386+50	0.08	104	12
	11386+50	11391+19	0.082	148	12
	11387+20	11388+90	0.07	164	12
*	11388+60	11391+10	0.09	141	12
	11392+80	11393+60	0.09	89	12
*	11393+70	11395+90	0.07	264	18
	11398+25	11398+40	0.19	193	24
	11398+65	11399+20	0.16	224	24
	11399+20	11400+80	0.13	296	32
*	11401+20	11402+50	0.2	128	18

Notes:

1. Slopes >50% must have 32" DURASOXX independent of upslope length.
2. CFS installed with jayhook to be upsized one CFS size than slope/length requires.
(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Dauphin County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	11401+90	11402+40	0.2	105	18
	11402+40	11403+10	0.2	110	18
	11403+10	11404+55	0.18	93	18
*	11405+00	11408+00	0.18	87	12
	11407+40	11408+00	0.26	47	12
	11408+50	11409+30	0.36	45	18
	11409+57	11409+80	0.29	41	12
	11411+80	11412+35	0.13	73	12
	11412+46	11413+39	0.36	47	18
	11413+46	11414+80	0.22	138	24
	11414+00	11414+00	0.14	311	32
	11414+40	11414+90	0.24	78	18
	11422+40	11425+00	0.01	352	12
	11429+80	11430+10	0.02	229	12
	11430+30	11430+80	0.06	33	12
	11431+40	11431+40	0.02	11	12
	11434+00	11435+50	0.08	121	12
	11435+60	11436+50	0.07	140	12
	11437+70	11438+29	0.24	51	12
*	11438+80	11441+30	0.04	95	12
*	11439+10	11441+80	0.02	48	12
	11441+30	11443+30	0.11	191	18
*	11443+40	11445+35	0.1	163	18
	11445+45	11446+30	0.25	72	18
*	11446+81	11448+72	0.03	158	12
	11447+00	11447+30	0.07	29	12
	11459+50	11460+00	0.14	37	12
*	11460+20	11461+10	0.17	35	12
	11461+35	11461+90	0.23	52	12
	11462+20	11464+00	0.07	298	18
	11464+36	11466+80	0.1	136	12
	11465+20	11467+20	0.08	106	12
	11467+50	11469+00	0.09	423	32
	11469+40	11469+80	0.09	56	12
	11470+00	11470+42	0.08	304	24
	11470+63	11472+10	0.2	80	18
	11472+10	11474+10	0.31	92	24
	11474+10	11745+90	0.38	69	24

Notes:

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2. CFS installed with jayhook to be upsized one CFS size than slope/length requires.
(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Dauphin County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	11745+90	11746+20	0.17	194	24
	11477+10	11477+75	0.08 / 0.28	139 / 65	24
	11477+75	11480+00	0.09 / 0.41	91 / 32	24
	Access Road		0.22	18	12
	Access Road		0.17	36	12
	Access Road		0.24	29	12
	Access Road		0.31	99	32
	Access Road		0.24	184	32
*	11480+40	11482+50	0.17	127	18
	11481+10	11481+60	0.2	40	12
*	11482+30	11483+90	0.17	114	18
	11484+10	11484+70	0.16	51	12
	11484+70	11485+50	0.27	49	18
	11485+75	11486+60	0.19	70	12
	11486+80	11487+28	0.20	60	12
	11487+50	11488+76	0.21	68	18
	11489+53	11492+10	0.30	105	32
	11492+30	11493+05	0.21	84	18
	11495+15	11495+52	0.32	28	12
	11495+65	11497+00	0.28	66	18
	11497+00	11503+30	0.36	94	32
	11503+25	11504+00	0.28	81	18
	11504+00	11505+75	0.31	59	18
	11506+00	11507+50	0.16	82	12
	11507+90	11508+50	0.30	53	18
	11508+95	11509+40	0.23	35	12
	11509+60	11511+85	0.10	143	12
	11513+45	11514+90	0.08	99	12
	11515+20	11516+50	0.07	148	12
	11518+90	11519+20	0.07	81	12
	11520+50	11521+20	0.06	74	12
	11521+20	11522+50	0.07	157	12
	11526+80	11528+40	0.07	70	12
	11533+90	11535+00	0.06	91	12
	11535+70	11542+70	0.07	404	24
	11542+50 L	11545+20 L	0.08	13	12
	11542+70 R	11546+40 R	0.10	75	12
	11546+80 R	11548+00 R	0.09	52	12

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Dauphin County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	11550+80	11550+80	0.04	62	12
	11551+25	11551+70	0.04	77	12
	11552+30	11554+65	0.05	495	24
*	11588+55	11588+55	0.07	213	18
	11589+00	11589+00	0.11	75	12
	11590+60	11591+80	0.08	84	12
	11592+00	11593+00	0.06	140	12
*	11594+30	11594+30	0.14	32	12
	11595+35	11595+35	0.15	6	12
	11596+80	11600+80	0.05	389	24
	11600+60	11602+60	0.06	358	24
	11602+60	11606+00	0.04	469	24
	11607+65	11607+90	0.03	173	12
	11609+40	11609+60	0.02	109	12
	11609+65	11610+00	0.06	71	12
*	11612+40	11617+10	0.07	244	18
	11643+70	11644+50	0.04	291	12
	11646+40	11647+10	0.04	70	12
	11648+00	11648+00	0.07	101	12
	11652+90	11653+25	0.25	57	18
	11653+60	11653+60	0.25	57	18
	11653+85	11654+15	0.16	55	12
	11654+40	11654+40	0.31	43	18
	11654+65	11654+80	0.27	91	18
	11655+00	11655+00	0.36	52	18
	11655+30	11655+90	0.21	112	18
	11655+90	11656+15	0.35	90	24
	11656+30	11656+80	0.28	77	18
	11656+90	11657+75	0.30	87	24
	11658+25	11658+95	0.23	61	18
	11659+40	11659+90	0.31	49	18
	11660+10	11660+65	0.30	50	18
	11662+30	11662+30	0.16	30	12
	11662+65	11662+65	0.38	36	12
	11662+80	11662+80	0.44	40	18
	11663+75	11664+35	0.29	69	18
	11664+50	11664+80	0.20	45	12
	11665+65	11666+10	0.23	35	12

Notes:

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2. CFS installed with jayhook to be upsized one CFS size than slope/length requires.
(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Dauphin County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	11666+25	11667+00	0.29	59	18
	11667+10	11667+40	0.30	30	12
	11667+60	11667+90	0.33	30	12
	11668+10	11668+10	0.38	26	12
	11668+50	11669+00	0.29	45	12
	11669+00	11670+40	0.14	213	24
	11676+25	11677+00	0.12	77	12
	11677+10	11679+80	0.11	278	24
	11681+60	11686+70	0.06	436	24
	11689+55	11689+55	0.25	16	12
	11689+85	11689+85	0.04	133	12
	11690+00	11690+00	0.16	44	12
	11690+75	11691+00	0.12	22	12
	11691+55	11692+30	0.09	246	18
	11692+50	11694+30	0.06	265	18
	10694+65	10695+10	0.13	54	12
	10695+40	10695+45	0.08	51	12
	10695+45	10695+50	0.12	32	12
*	11698+80	11700+00	0.06	96	12
	11700+00	11701+15	0.09	95	12
	11701+40	11702+30	0.13	97	12
	11702+65	11704+40	0.05	195	12
	11706+85	11707+15	0.03	45	12
	11708+30	11708+30	0.03	515	18
	11709+00	11709+00	0.03	85	12
	11712+05	11713+00	0.05	115	12
	11714+90	11715+60	0.02	239	12
	11716+00	11716+50	0.05	141	12
	11716+70	11716+90	0.28	34	12
	11717+85	11717+85	0.25	37	12
	11718+10	11718+30	0.16	18	12
	11719+80	11720+40	0.09	39	12
	11725+50	11727+10	0.03	135	12
	11730+30	11730+70	0.12	107	12
	11730+85	11732+60	0.13	91	12
	11732+60	11734+00	0.12	83	12
	11731+90	11735+20	0.08	273	18
	11735+30	11735+90	0.06	77	12

Notes:

1. Slopes >50% must have 32" DURASOXX independent of upslope length.
2. CFS installed with jayhook to be upsized one CFS size than slope/length requires.
(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Dauphin County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	11736+35	11737+50	0.10	138	12
	11737+65	11739+20	0.09	129	12
	11739+50	11739+65	0.40	17	12
	11741+20	11741+25	0.28	35	12
	11742+20	11743+20	0.03	183	12
	11745+35	11745+80	0.09	43	12
	11746+00	11749+20	0.07	463	32
	11749+20	11753+10	0.06	320	18
	11754+15	11754+40	0.06	31	12
	11754+80	11754+80	0.02	66	12
	11755+75	11756+50	0.07	78	12
	11756+70	11758+30	0.05	483	24
*	11758+30	11759+30	0.05	106	12
	11759+60	11760+12	0.05	296	18
	11760+20	11763+79	0.08	154	12
*	11763+93	11766+50	0.05	87	12
	11766+60	11767+60	0.06	348	24
	11769+90	11769+90	0.12	130	12
	11771+02	11772+20	0.15	127	18
	11772+68	11773+10	0.10	56	12
	11774+55	11775+20	0.07	287	18
	11776+63	11777+40	0.04	446	24
	11777+34	11777+38	0.10	87	12
	11777+62	11777+89	0.05	36	12
	11778+50	11779+30	0.14	77	12
	11779+43	11780+37	0.07	396	24
	11780+37	11781+45	0.09	86	12
	11781+78	11783+12	0.13	75	12
	11783+40	11783+50	0.09	114	12
	11788+90	11788+90	0.14	37	12
	11789+08	11789+29	0.13	43	12
	11789+66	11790+80	0.11	82	12
	11791+00	11792+85	0.07	376	24
	11793+00	11794+90	0.17	89	18
	11795+00	11796+54	0.18	89	18
*	11796+66	11797+77	0.27	37	12
	11797+77	11798+17	0.25	63	18
	11798+30	11798+55	0.29	34	12

Notes:

1. Slopes >50% must have 32" DURASOXX independent of upslope length.
2. CFS installed with jayhook to be upsized one CFS size than slope/length requires.
(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Dauphin County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	11799+40	11799+60	0.22	50	12
	11799+65	11799+65	0.21	56	12
	11800+40	11801+90	0.18	216	24
	11802+00	11803+10	0.23	112	24
	11804+10	11805+25	0.07	151	12

Notes:

1. Slopes >50% must have 32" DURASOXX independent of upslope length.
2. CFS installed with jayhook to be upsized one CFS size than slope/length requires.
(Denoted with *)

Lebanon County

Worksheet #1
Compost Filter Sock Table
Lebanon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	11814+50	11814+90	0.13	60.95	12
	11815+10	11817+15	0.04	231.6	12
	11817+80L	11820+00L	0.04	312	12
	11819+00R	11820+35R	0.06	202.52	12
	11832+00	11833+50	0.14	153.48	18
	11837+20	11838+75	0.09	149.16	18
*	11838+90	11841+80	0.05	354.34	24
	11842+00R	11842+60R	0.03	194.64	12
*	11842+50L	11843+70L	0.03	126.59	18
	11844+65	11846+00	0.07	168.88	12
	11846+30	11847+00	0.05	464.2	24
	11847+00	11848+00	0.13	62.65	12
	11847+95	11849+40	0.05	164.34	12
	11849+40	11851+35	0.04	558.74	24
	11851+30	11854+50	0.035	737	24
	11854+80L	11856+30L	0.08	120.02	12
	11856+35	11857+00	0.08	70.7	12
	11857+10	11857+80	0.09	92.57	12
	11858+15	11859+60	0.14	141.07	18
	11859+65L	11861+00L	0.06	158.3	12
	11859+70R	11862+70R	0.04	202.8	12
	11863+00	11865+00	0.11	124.34	12
	11865+80R	11867+20R	0.04	293.86	12
	11866+85L	11870+15L	0.07	240.91	18
	11875+20	11881+00	0.12	123.42	12
	11881+65	11882+50	0.10	123.81	18
	11894+60	11895+75	14.00	100	12
	11895+80	11898+00	0.16	147.54	18
	11898+10	11899+50	0.15	91.82	12
	11899+50	11901+30	0.19	97	18
	11901+75	11904+45	0.23	127	24
	11904+70	11906+70	0.14	89	12
	11909+90	11912+50	0.12	105	12
	11913+30	11913+60	0.08	106	12
	11914+10	11915+30	0.26	86	18
	11915+50	11915+80	0.10	65	12
	11915+80	11916+00	0.17	36	12
	11916+15	11916+70	0.16	50	12

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Lebanon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	11917+60	11918+10	0.10	106	12
	11918+30	11919+30	0.10	358	32
	11919+50	11920+45	0.10	316	32
	11920+45	11922+25	0.09	418	32
	11924+10	11924+95	0.12	95	12
	11925+00	11927+00	0.06	100	12
	11927+40	11930+25	0.16	95	18
	11930+40	11930+60	0.67	15	32
	11932+50	11932+50	0.61	23	32
	11933+50	11934+60	0.21	170	24
	11935+20	11936+15	0.10	367	32
	11935+85	11935+85	0.25	81	18
	11937+25	11937+75	0.06	228	18
	11947+10	11947+40	0.11	112	12
	11948+25	11948+50	0.01	171	12
	11948+50	11951+15	0.01	232	12
	11951+90	11952+20	0.24	37	12
	11952+25	11953+70	0.18	104	18
	11954+00	11954+60	0.08	48	12
	11955+30	11955+30	0.08	26	12
	11956+70	11957+20	0.18	56	12
	11957+80R	11957+80R	0.10	182	18
	11957+80L	11957+80L	0.15	108	18
	11959+10	11959+10	0.17	23	12
	11959+40	11960+20	0.11	80	12
	11960+60	11961+15	0.15	66	12
	11961+50	11962+60	0.07	129	12
	11962+90	11963+90	0.11	115	12
*	11964+70	11966+05	0.14	149	24
	11966+10	11967+80	0.27	63	18
	11968+20R	11968+20R	0.26	142	32
	11968+30	11968+30	0.33	36	12
	11968+80	11969+10	0.27	45	12
	11969+50	11969+90	0.25	52	18
	11970+25	11970+60	0.22	57	12
	11971+10	11971+85	0.11	114	12
	11972+50	11974+40	0.06	343	24
	11974+50	11976+50	0.09	164	12

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Compost Filter Sock Table
Lebanon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	11976+50	11979+20	0.09	337	32
	11979+20	11981+30	0.15	113	18
*	11981+60	11983+90	0.12	202	18
	11984+00	11985+75	0.07	297	18
	11986+00	11988+30	0.07	176	12
	11989+50	11990+30	0.06	108	18
	11990+30	11992+55	0.10	311	32
	11992+90	11994+45	0.05	115	12
	11994+45	11996+60	0.09	390	32
	11997+10	11998+30	0.12	129	18
	11998+90	11999+40	0.14	64	12
	12000+00	12000+00	0.28	40	12
	12000+60	12000+60	0.29	31	12
	12002+95	12003+40	0.20	133	32
	12004+50	12004+70	0.17	234	32
	12005+05	12005+95	0.25	105	24
	12005+75	12005+75	0.32	70	24
	12007+10	12007+10	0.14	123	18
	12008+15	12008+15	0.08	84	12
	12009+25	12009+35	0.14	117	18
	12010+25	12010+25	0.14	51	12
	12012+10	12014+10	0.07	162	12
	12014+70	12016+70	0.37	38	18
	12016+20	12016+20	0.16	64	12
	12016+75	12018+40	0.50	54	24
	12017+10	12017+10	0.11	84	12
*	12018+00	12019+75	0.08	240	18
	12018+35	12019+80	0.49	37	18
	12019+85	12021+00	0.11	81	12
	12019+80	12022+50	0.09	367	32
	12022+10	12023+05	0.18	64	12
	12023+30	12024+75	0.12	74	12
	12024+80	12025+00	0.13	145	18
	12025+40	12026+85	0.09	394	32
	12026+85	12027+40	0.09	349	32
	12027+50	12027+95	0.23	39	12
	12028+20	12029+00	0.20	74	18
	12029+60	12029+60	0.12	122	12

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Compost Filter Sock Table
Lebanon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	12030+10	12030+25	0.13	366	32
	12031+00	12031+00	0.06	71	12
	12031+60	12032+00	0.05	33	12
	12032+20	12033+30	0.07	512	32
	12033+40	12034+10	0.03	107	12
	12034+65	12035+90	0.05	142	12
	12036+10	12037+15	0.06	124	12
	12037+50	12039+05	0.05	194	12
	12039+15	12040+85	0.03	347	12
	12040+85	12041+70	0.04	102	12
	12042+05	12045+10	0.03	385	12
	12045+10	12047+90	0.05	351	24
	12049+30	12050+10	0.04	153	12
	12050+50	12051+50	0.02	42	12
	12052+50	12054+15	0.04	229	12
	12054+60	12055+55	0.06	130	12
	12055+55	12057+00	0.03	616	24
	12058+70	12059+30	0.04	211	12
	12060+30	12062+10	0.05	65	12
	12062+50	12062+50	0.03	289	12
	12062+80	12067+50	0.02	496	12
	12065+70	12071+20	0.02	420	12
	12071+50	12077+10	0.04	452	18
	12077+10	12079+80	0.05	575	32
	12080+00	12080+60	0.05	108	12
	12081+30	12082+50	0.09	127	12
*	12083+20	12088+70	0.04	475	24
	12089+30	12090+65	0.09	147	12
	12092+00	12092+00	0.02	109	12
	12093+90	12094+80	0.05	167	12
	12095+90	12096+90	0.07	165	12
	12097+00	12099+10	0.07	150	12
	12099+40	12102+70	0.05	86	12
	12102+10	12102+60	0.05	93	12
	12104+70	12104+70	0.06	54	12
	12105+50	12108+10	0.04	280	12
	12108+20	12109+20	0.01	67	12
	12108+70	12111+70	0.03	194	12

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Compost Filter Sock Table
Lebanon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	12112+10	12113+40	0.09	118	12
	12113+50	12114+80	0.07	255	18
	12115+45	12116+30	0.17	79	12
	12117+65	12117+80	0.24	107	24
	12117+95	12118+05	0.02	159	12
	12120+90	12120+90	0.05	98	12
	12122+10	12122+10	0.06	525	32
	12122+10	12123+10	0.03	164	12
	12127+00	12127+80	0.08	74	12
	12127+30	12127+55	0.06	47	12
	12128+10	12134+40	0.04	640	24
	12134+40	12136+80	24	84	18
	12137+25	12141+80	0.07	472	32
	12137+30	12146+60	0.08	436	32
*	12146+70	12151+40	0.05	382	24
	12151+60	12156+70	0.05	397	24
*	12156+70	12158+20	0.07	92	12
*	12158+70	12163+10	0.05	269	18
*	12163+10	12165+30	0.04	274	12
	12165+30	12168+40	0.02	188	12
	12168+45	12170+40	0.02	319	12
	12169+40	12170+40	0.02	152	12
*	12171+00	12171+80	0.06	136	12
*	12172+10	12173+00	0.08	77	12
*	12173+00	12177+60	0.07	246	18
	12177+70	12178+40	0.06	145	12
	12178+90	12178+90	0.08	49	12
	12180+15	12180+15	0.02	141	12
	12180+20	12180+90	0.05	81	12
	12180+90	12182+10	0.04	191	12
	12182+10	12182+20	0.06	96	12
	12182+50	12183+50	0.05	215	12
	12183+60	12186+80	0.04	210	12
	12188+70	12189+10	0.05	262	12
	12189+85	12191+50	0.06	179	12
	12191+90	12192+20	0.05	343	18
*	12192+60	12192+10	0.07	103	12
	12194+20	12194+90	0.05	204	12

Notes:

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Compost Filter Sock Table
Lebanon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	12194+50	12195+40	0.08	133	12
	12195+80	12196+05	0.08	130	12
	12196+60	12197+40	0.07	97	12
	12198+25	12199+20	0.07	132	12
	12200+40	12200+45	0.09	131	12
*	12201+00	12202+80	0.04	49	12
	12202+30	12202+30	0.13	83	12
	12203+00	12203+60	0.15	31	12
	12203+20	12204+00	0.12	266	24
	12204+70	12205+80	0.06	84	12
	12206+70	12208+10	0.05	124	12
	12208+60	12217+90	0.05	157	12
*	12218+90	12220+00	0.06	108	12
*	12220+10	12227+10	0.10	106	12
*	12227+25	12229+00	0.06	108	12
*	12229+20	12233+90	0.04	331	12
*	12234+10	12235+20	0.16	63	12
*	12235+40	12236+90	0.08	98	12
*	12237+15	12245+60	0.11	117	12
*	12246+10	12249+50	0.08	96	12
*	12249+90	12257+00	0.16	120	18
*	12257+10	12261+40	0.06	296	18
	12261+50	12262+50	0.07	340	24
*	12262+70	12264+00	0.09	82	12
*	12264+10	12264+50	0.10	58	12
	12265+00	12265+40	0.22	55	12
*	12268+40 L	12268+90 L	0.03	124	12
*	12268+80 R	12269+30 R	0.03	176	12
*	12271+00	12287+00	0.13	70	12
*	12287+20	12289+40	0.06	207	12
*	12289+20	12289+80	0.03	13	12
	12299+70	12299+70	0.09	149	12
	12300+20	12300+40	0.05	23	12
	12300+10	12303+50	0.39 / 0.03	36 / 289	24
*	12305+40	12306+80	0.04	152	12
	12309+00	12309+90	0.18	56	12
	12310+00	12310+50	0.27	41	12
	12310+70	12312+00	0.17	89	18

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Lebanon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	12312+15	12313+00	0.19	48	12
	12313+20	12315+40	0.14	308	32
	12315+60	12316+20	0.18	40	12
	12316+50	12317+10	0.26	35	12
	12317+30	12320+00	0.09	146	12
*	12320+10	12320+90	0.11	232	18
*	12320+00	12324+40	0.05	411	24
*	12325+60	12326+30	0.04	206	12
*	12326+50	12328+00	0.08	103	12
*	12328+30	12329+10	0.08	80	12
	12329+90	12330+50	0.03	171	12
	12334+85	12335+10	0.07	202	12
	12336+40	12336+80	0.03	639	24
	12339+30	12343+00	0.05	474	24
*	12343+00	12346+00	0.05	432	24
*	12346+10	12348+00	0.04	143	12
*	12348+10	12352+90	0.03	447	18
*	12354+10	12357+30	0.04	358	18
*	12359+50	12363+00	0.04	324	12
*	12362+40	12366+00	0.04	399	18
*	12367+10	12369+40	0.04	419	18
*	12369+50	12371+40	0.05	203	12
*	12371+50	12376+80	0.01	564	18
*	12379+20	12380+70	0.05	201	12
	12380+90	12381+10	0.05	136	12
	12382+30	12383+00	0.04	79	12
*	12385+30	12386+30	0.05	111	12
*	12386+40	12387+80	0.04	306	12
*	12388+00	12390+80	0.02	275	12
	12390+65	12393+30	0.04	45	12
*	12393+40	12394+40	0.04	110	12
*	12394+50	12396+20	0.04	247	12
	12396+30	12399+00	0.01	890	24
*	12410+90	12412+00	0.03	458	18
*	12412+30	12414+70	0.05	304	18
*	12414+90	12416+50	0.05	153	12
*	12418+40	12419+40	0.04	350	18
*	12419+40	12422+50	0.04	307	12

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Lebanon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	12422+50	12422+50	0.04	55	12
	12423+00	12427+50	0.03	174	12
	12428+15	12430+00	0.02	1098	32
	12430+30	12430+30	0.08	12	12
	12430+60	12430+60	0.10	10	12
	12433+00	12434+15	0.05	246	12
	12435+00	12438+00	0.09	118	12
*	12437+75 L	12442+75 L	0.19	62	12
	12438+00 R	12442+00 R	0.06	83	12
	12442+40	12447+10	0.01	407	12
	12449+00	12451+00	0.01	178	12
	12450+50	12451+85	0.03	141	12
	12452+70	12454+50	0.01	334	12
	12455+50	12457+50	0.03	261	12
*	12458+90	12461+90	0.01	142	12
*	12463+00 R	12463+75 R	0.04	61	12
	12463+25 L	12464+75 L	0.04	76	12
	12464+90	12467+50	0.03	715	24
	12467+50	12470+90	0.04	608	24
	12470+90	12473+00	0.03	331	12
	12474+40	12475+20	0.07	115	12
*	12476+00	12477+00	0.07	216	18
*	12477+20	12477+90	0.08	76	12
	12479+00	12481+50	0.04	97	12
	12481+85	12482+25	0.17	35	12
	12452+50	12483+25	0.07	76	12
	12487+75	12488+40	0.06	86	12
	12489+75	12490+25	0.04	126	12
	12490+65 R	12490+65 R	0.02	66	12
	12491+00 L	12491+00 L	0.02	64	12
	12491+50 L	12491+50 L	0.01	8	12
	12501+65	12501+65	0.01	47	12
	12501+90	12503+10	0.04	578	24
	12503+25	12506+20	0.04	859	32
*	12506+35	12507+20	0.01	78	12
	12507+25	12512+00	0.04 / 0.02	253 / 677	32
	12512+10	12516+15	0.02	573	18
	12516+50	12517+00	0.04	25	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	12518+10 R	12518+10 R	0.01	3	12
	12518+30 L	12518+30 L	0.01	109	12
	12518+50 R	12518+50 R	0.03	289	12
	12518+80 L	12518+80 L	0.04	94	12
	12520+00	12522+50	0.03	315	12
	12523+00	12524+75	0.02	160	12
	12525+00	12528+30	0.04	611	24
*	12528+40	12531+34	0.03	220	12
	12531+34	12535+00	0.03	236	12
	12540+48	12541+67	0.02	143	12
	12541+68	12542+70	0.02	961	24
	12542+70	12543+83	0.06	157	12
*	12543+83	12545+40	0.07	140	12
	12545+70	12547+91	0.07	214	18
	12548+06	12550+69	0.05	255	18
	12552+10	12552+20	0.07	214	18
	12552+20	12552+34	0.11	276.3	24
	12552+36	12555+11	0.09	364	32
*	12555+25	12557+91	0.04	276	12
*	12558+09	12558+90	0.04	158	12
*	12558+95	12560+88	0.04	292	12
	12560+88	12562+01	0.03	154	12
*	12562+13	12564+31	0.07	220	18
	12564+52	12566+57	0.07	272	18
	12566+75	12567+67	0.06	107	12
	12567+10	12568+46	0.05	83	12
	12568+84	12569+47	0.15	83	12
	12569+66	12571+66	0.12	156	18
	12571+87	12572+97	0.14	120	18
	12573+10	12574+71	0.13	232	24
	12574+86	12575+37	0.14	197	18
	12576+61	12576+61	0.08	390	32
	12576+65	12578+30	0.03	115	12
*	12578+38	12582+46	0.04	115	12
	12582+50	12586+56	0.09	250	18
*	12586+56	12589+30	0.06	155	12
	12589+60	12590+90	0.11	172	18
	12589+44	12589+89	0.12	215	18

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Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	12589+89	12591+90	0.15	59	12
	12592+26	12593+42	0.08	96	12
	12593+52	12595+18	0.09	92	12
	12595+32	12600+00	0.08	500	32
	12600+55	12602+02	0.14	101	12
*	12602+16	12606+08	0.13	88	12
*	12606+24	12614+00	0.15	69	12
	12614+25	12615+78	0.09	81	12
	12616+30	12616+35	0.09	65	12
	12616+60	12616+70	0.05	85	12
	12616+85	12617+17	0.04	136	12
	12618+85	12618+85	0.06	316	18
*	12622+47	12626+07	0.04	170	12
	12626+07	12627+00	0.07	163	12
	12628+58	12631+13	0.03	292	12
	12632+60	12633+30	0.09	314	24
	12633+56	12634+06	0.05	350	24
	12634+17	12635+57	0.04	360	18
*	12635+71	12639+76	0.04	124	12
*	12639+76	12644+05	0.05	147	12
	12645+78	12646+61	0.07	246	18
	12646+88	12647+56	0.12	195	18
	12649+20	12651+20	0.14	330	32
	12652+00	12652+92	0.18	91	18
	12653+15	12655+00	0.08	215	18
*	12653+46	12656+11	0.04	318	12
	12656+28	12658+56	0.14	139	18
*	12658+56	12660+80	0.15	143	18
*	12660+09	12662+17	0.09	265	18
	12662+62	12667+83	0.05	224	12
	12672+00	12673+48	0.08	450	32
	12673+48	12675+84	0.23	62	18
	12676+58	12678+73	0.06	300	18
	12678+93	12679+59	0.12	61	12
	12679+79	12681+00	0.07	28	12
	12681+75	12682+39	0.08	400	32
	12685+00	12685+50	0.04	47	12
	12686+06	12687+68	0.08	390	32

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Lebanon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	12687+78	12689+58	0.09	291	24
	12690+58	12691+36	0.06	335	24
	12691+40	12693+20	0.05	100	12
	12693+44	12694+09	0.05	99	12
	12694+15	12696+00	0.05	190	12
	12697+44	12698+71	0.07	126	12
	12698+87	12699+32	0.14	93	12
	12699+40	12699+40	0.23	73	18
	12700+12	12703+73	0.10	300	32
*	12703+95	12705+54	0.10	87	12
*	12705+54	12706+47	0.06	162	12
	12707+31	12707+35	0.08	18	12
	12707+69	12708+28	0.23	53	12
	12708+41	12709+14	0.24	77	18
	12709+35	12710+38	0.26	93	18
	12710+52	12711+33	0.23	75	18
	12711+54	12712+61	0.25	87	18
	12712+72	12713+30	0.37	50	18
	12713+46	12714+12	0.47	43	24
	12714+20	12714+56	0.48	29	18
	12714+73	12715+17	0.23	67	18
	12715+51	12716+03	0.14	60	12
*	12716+24	12717+73	0.06	171	12
*	12717+50	12720+39	0.03	262	12
	12721+49	12722+80	0.04	370	18
	12722+91	12724+35	0.06	141	12
	12724+40	12725+05	0.05	413	24
	12725+24	12726+45	0.06	105	12
	12726+45	12728+29	0.06	453	24
*	12728+45	12730+23	0.07	200	12
	12730+00	12730+19	0.07	160	12
	12730+50	12731+53	0.08	123	12
	12731+88	12733+37	0.08	342	24
	12733+62	12734+12	0.15	90	12
	12734+29	12735+98	0.20	132	18
	12736+02	12737+98	0.18	100	18
	12737+98	12738+29	0.16	230	24
	12738+29	12739+11	0.11	354	32

Notes:

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Worksheet #1
Compost Filter Sock Table
Lebanon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	12739+36	12742+45	0.07	440	32
	12743+11	12743+75	0.12	173	18
	12744+19	12744+80	0.20	80	18
	12745+00	12745+50	0.40	48	24
	12746+20	12746+90	0.07	74	12
	12746+65	12747+62	0.20	153	24
*	12747+85	12754+49	0.15	103	18
	12754+64	12762+22	0.17	136	18
	12762+22	12769+13	0.20	93	18
	12769+13	12772+79	0.20	92	18
	12772+89	12773+88	0.25	82	18
	12774+00	12774+86	0.24	91	18
	12775+00	12775+32	0.09	204	18
	12775+59	12776+50	0.15	92	12
	12776+61	12777+33	0.37	41	18
	12777+48	12778+35	0.35	54	18
	12778+45	12779+19	0.37	47	18
	12779+29	12779+81	0.37	37	12
	12779+92	12780+77	0.36	45	18
	12780+91	12781+86	0.33	52	18
	12782+00	12783+14	0.34	64	18
	12783+39	12784+13	0.35	54	18
	12784+50	12784+87	0.32	42	12
	12785+40	12785+40	0.28	30	12
	12785+73	12786+68	0.26	74	18
	12787+15	12787+86	0.18	79	12
	12788+15	12788+90	0.13	79	12
	12794+34	12799+75	0.10	253	24
	12799+75	12805+39	0.10	91	12
	12805+39	12809+22	0.08	304	24
	12808+33	12809+00	0.04	143	12
	12809+52	12810+79	0.10	30	12
	12809+19	12811+81	0.05	143	12
	12812+16	12813+30	0.07	98	12
	12813+58	12814+66	0.05	105	12
	12814+45	12815+31	0.09	67	12
	12816+45	12816+84	0.07	441	32
	12816+96	12817+30	0.07	244	18

Notes:

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Worksheet #1
Compost Filter Sock Table
Lebanon County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	12818+07	12818+60	0.09	211	18
	12818+85	12818+85	0.08	75	12
	12819+33	12819+33	0.08	76	12
	12818+89	12819+86	0.09	58	12
	12822+54	12822+54	0.06	415	24
*	12834+60	12836+90	0.04	601	24
*	12837+50 L	12847+50 L	0.08	130	12
*	12838+00 R	12841+90 R	0.03	87	12
*	12846+10 R	12847+70 R	0.03	33	12
*	12846+70 L	12860+00 L	0.08	208	18
*	12848+00 R	12849+10 R	0.07	14	12

Notes:

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(Denoted with *)

Lancaster County

Worksheet #1
Compost Filter Sock Table
Lancaster County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	12860+45	12864+00	0.07	215	18
	12866+00	12866+80	0.05	128	12
	12867+05	12868+85	0.05	301	18
	12870+70	12873+95	0.02	332	12
*	12872+00	12879+60	0.02	237	12
*	12881+50	12887+00	0.07	67	12
	12887+30	12891+50	0.06	218	12
	12892+70	12893+50	0.10	120	12
	12894+00	12897+30	0.04	341	18
*	12897+40	12902+50	0.08	105	12
	12897+80 R	12901+10 R	0.06	31	12
*	12902+50 L	12903+60 L	0.06	111	12
	12903+35 R	12903+80 R	0.06	126	12
*	12904+00 L	12905+10 L	0.03	86	12
	12904+20 R	12904+90 R	0.06	84	12
*	12905+05 R	12909+80 R	0.08	149	12
*	12907+50 L	12909+80 L	0.02	170	12
	12910+00	12910+65	0.11	61	12
*	12910+80	12912+65	0.08	88	12
*	12912+85	12916+70	0.07	299	18
*	12927+80	12934+90	0.03	556	18
*	12935+20	12941+90	0.02	480	12
	12949+80	12955+00	0.02	291	12
	12955+05	12957+30	0.02	194	12
	12958+80	12959+15	0.04	185	12
	12961+10	12963+90	0.02	677	18
*	12963+90	12966+10	0.03	805	24
	12966+10	12970+00	0.03	859	32
*	12970+10	12971+30	0.03	791	24
*	12971+40	12973+55	0.02	343	12
*	12973+65	12976+80	0.02	474	12
	12982+00	12987+25	0.03	667	24
*	12987+95	12998+20	0.06	229	18
*	12998+70	13003+70	0.04	243	12
*	13003+85	13011+85	0.03	483	18
	13016+00	13016+00	0.06	412	24
*	13016+00	13018+10	0.06	269	18
	13026+60	13026+60	0.03	659	24

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Compost Filter Sock Table
Lancaster County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	13029+75	13033+70	0.04	766	32
	13047+00	13047+00	0.04	215	12
	13047+40	13048+05	0.04	36	12
*	13048+05	13056+30	0.06	200	12
	13057+05	13057+40	0.03	166	12
	13062+70	13063+50	0.12	130	18
	13063+50	13064+20	0.05	65	12
	13065+60	13066+80	0.09	145	12
	13067+90	13068+15	0.07	107	12
	13067+90 L	13068+00 L	0.11	386	32
*	13071+20	13074+00	0.03	369	12
	13075+10	13079+40	0.02	469	12
	13079+40	13081+20	0.03	543	18
	13081+20	13082+90	0.03	516	18
*	13086+20	13087+15	0.04	184	12
	13088+10	13088+50	0.03	709	24
	13089+90	13090+05	0.02	418	12
	13095+30	13096+20	0.01	689	18
*	13096+30	13098+55	0.00	149	12
	13097+55 L	13097+90 L	0.00	43	12
	13099+40	13101+60	0.05	217	12
	13104+40 L	13104+50 L	0.00	34	12
	13105+00	13106+65	0.00	595	24
*	13107+80	13113+00	0.00	360	18
	13112+00 L	13112+15 L	0.00	205	12
	13114+65 L	13114+65 L	0.00	24	12
	13114+90 R	13114+90 R	0.00	23	12
	13116+75	13117+00	0.00	37	12
*	13123+15	13120+75	0.00	194	12
	13125+90	13126+70	0.00	86	12
	13127+90	13127+50	0.00	88	12
	13129+30	13130+80	0.00	109	12
	13130+90	13135+60	0.00	367	18
	13135+85	13138+15	0.04	97	12
	13140+90 R	13142+10 R	0.00	130	12
	13141+15 L	13141+55 L	0.00	99	12
	13142+44	13143+50	0.00	122	12
	13143+85	13144+80	0.00	79	12

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Worksheet #1
Compost Filter Sock Table
Lancaster County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
*	13147+20	13148+50	0.09	107	12
*	13148+85	13150+45	0.08	123	12
*	13150+60	13151+70	0.09	114	12
*	13151+80	13156+20	0.04	151	12
	13157+95	13158+65	0.01	385	12
	13159+35	13160+70	0.03	361	12
	13161+40 L	13161+40 L	0.09	55	12
	13161+40 R	13161+40 R	0.13	45	12
*	13161+55	13169+70	0.04	458	18
	13169+85	13170+55	0.05	185	12
	13174+75	13181+90	0.03	89	12
*	13182+00	13186+10	0.06	174	12
*	13187+45	13202+05	0.04	111	12
*	13202+15	13203+40	0.05	278	18
	13204+40	13204+80	0.06	262	18
	13205+30	13225+30	0.16	90	12

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Berks County

Worksheet #1
Compost Filter Sock Table
Berks County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	13225+30	13229+00	0.20	93	18
	13229+00	13229+35	0.31	94	24
	13229+85	13232+05	0.46	70	32
*	13232+10 R	13233+25 R	0.06	108	12
	13233+00 L	13233+30 L	0.11	40	12
	13233+20	13233+65	0.04	141	12
	13234+10	13234+10	0.06	122	12
	13234+65	13234+65	0.09	87	12
	13242+15	13242+80	0.32	62	18
	13243+10	13243+90	0.21	78	18
	13244+20	13245+70	0.18	101	18
	13245+70	13247+00	0.08	217	18
	13247+00	13249+00	0.38	92	32
	13253+60	13256+25	0.16	111	18
	13256+85	13257+70	0.07	115	18
	13257+70	13259+00	0.29	98	24
	13259+00	13259+75	0.42	71	18
	13259+75	13260+60	0.33	67	24
	13261+15 L	13261+25 L	0.12	26	12
	13261+65 L	13261+65 L	0.28	30	12
	13261+85	13262+45	0.27	44	12
	13262+70	13263+00	0.34	15	12
*	13263+15	13263+80	0.13	115	12
	13264+20 R	13264+20 R	0.07	489	32
	13264+23 L	13264+23 L	8.00	180	12
	13265+30	13267+70	0.11	368	32
	13267+80	13269+30	0.14	279	32
*	13269+30	13270+90	0.11	164	18
*	13270+95	13271+30	0.06	66	12
	13271+85	13272+10	0.23	61	18
	13275+70	13275+70	0.12	17	12
	13278+90 L	13278+90 L	0.08	159	12
	13279+30 R	13279+40 R	0.09	89	12
	13282+00	13282+00	0.37	27	12
*	13282+65	13285+05	0.06	130	12
	13285+00	13286+35	0.15	160	18
	13286+35	13288+45	0.13	149	18
	13288+45	13291+60	0.14	106	18

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Compost Filter Sock Table
Berks County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	13291+60	13295+30	0.14	80	12
	13295+30	13299+30	0.20	98	18
	13299+25	13300+60	0.11	49	12
	13301+20	13302+00	0.18	69	12
	13302+00	13302+70	0.13	130	18
	13302+70	13303+45	0.16	66	12
*	13302+50	13304+75	0.14	85	12
	13305+50	13307+40	0.16	162	18
	13306+60	13306+60	0.18	75	12
	13307+75	13307+90	0.45	31	18
	13308+20	13308+70	0.37	43	18
	13309+10	13310+25	0.19	99	18
	13310+60	13312+70	0.14	96	12
	13313+10	13316+25	0.23	87	18
	13316+50	13322+10	0.30	98	24
	13322+10	13324+00	0.39	89	32
	13325+00	13325+00	0.44	25	12
	13325+70	13326+70	0.29	62	18
	13327+20	13327+55	0.23	70	18
	13328+30	13331+65	0.19	119	18
	13332+15	13332+70	0.25	87	18
	13333+00	13334+00	0.20	93	18
	13335+15	13335+80	0.22	63	18
	13336+20	13336+90	0.19	85	18
	13337+20	13337+50	0.21	39	12
	13337+80	13338+90	0.18	72	12
	13339+00	13339+75	0.19	54	12
	13339+20	13339+40	0.24	25	12
	13341+80	13342+15	0.15	85	12
	13345+25	13345+25	0.25	72	18
	13345+60	13345+80	0.34	35	12
	13346+20	13346+40	0.24	41	12
	13347+10	13347+60	0.18	89	18
	13348+10	13348+35	0.22	60	12
	13348+75	13349+25	0.21	67	18
	13349+40	13349+50	0.20	248	32
	13350+00	13350+65	0.24	68	18
	16351+00	13352+10	0.24	84	18

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Compost Filter Sock Table
Berks County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	13352+50	13354+20	0.15	195	18
	13355+90	13355+90	0.12	60	12
	13356+60	13357+25	0.03	149	12
	13357+70 L	13357+70 L	0.05	199	12
	13358+10	13359+90	0.04	161	12
	13360+50	13361+90	0.03	161	12
	13362+50	13364+20	0.02	177	12
	13364+90	13366+50	0.05	170	12
	13366+80	13368+00	0.05	153	12
	13369+40	13370+60	0.06	165	12
*	13372+40	13383+10	0.02	585	18
	13389+20	13391+00	0.03	901	32
*	13396+50	13403+00	0.05	394	24
*	13404+00	13414+60	0.04	358	18
*	13414+60	13415+70	0.06	138	12
*	13416+90	13417+40	0.06	257	18
*	13417+50	13419+40	0.06	165	12
*	13419+50	13421+10	0.06	223	12
*	13421+20	13422+60	0.04	154	12
	13422+90	13424+00	0.08	488	32
*	13424+10	13425+30	0.01	135	12
	13427+90	13428+20	0.01	415	12
	13428+40	13430+50	0.01	380	12
	13431+50	13431+50	0.20	116	18
	13432+40	13432+80	0.16	50	12
*	13433+00	13434+40	0.13	56	12
	13434+50	13435+15	0.14	74	12
	13435+25	13437+10	0.08	89	12
*	13437+15 L	13438+00 L	0.20	52	12
*	13437+50 R	13438+00 R	0.23	44	12
*	13438+00	13444+70	0.05	318	18
*	13445+20	13445+20	0.05	7	12
*	13345+60	13345+60	0.10	124	12
	13345+60 L	13448+20 L	0.09	180	18
	13447+80 R	13449+00 R	0.05	44	12
	13448+20 L	13449+20 L	0.06	47	12
*	13451+20	13451+20	0.09	117	12
	13456+20	13456+60	0.06	84	12

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Compost Filter Sock Table
Berks County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
*	13457+00	13458+00	0.05	147	12
	13458+00	13458+20	0.08	161	12
	13458+50	13459+20	0.10	69	12
*	13459+40	13460+70	0.09	119	12
*	13460+85	13461+90	0.12	82	12
*	13462+00	13462+20	0.07	140	12
	13462+80	13463+25	0.11	44	12
	13463+50	13464+80	0.08	75	12
	13465+00	13466+50	0.08	121	12
	13466+70	13467+70	0.11	104	12
	13469+50	13473+40	0.14	86	12
*	13473+60	13484+00	0.22	79	18
	13478+20	13479+40	0.11	71	12
	13479+50	13480+10	0.18	172	24
	13480+80	13481+80	0.29	42	12
	13482+00	13482+60	0.12	59	12
	13482+90	13483+40	0.14	49	12
*	13483+50	13484+20	0.11	64	12
	13484+50	13485+10	0.28	36	12
	13485+25	13485+90	0.21	47	12
	13486+10	13486+40	0.41	34	18
	13486+60	13487+40	0.40	50	24
	13487+50	13487+90	0.47	34	18
	13488+10	13488+30	0.24	37	12
	13488+50	13489+25	0.36	59	24
	13489+40	13490+70	0.17	120	18
	13490+80	13490+90	0.12	121	12
	13491+00	13491+30	0.25	32	12
	13491+90	13492+30	0.38	34	12
	13492+60	13492+90	0.43	42	18
	13493+10	13493+40	0.29	49	18
	13493+70	13493+90	0.20	35	12
	13494+70	13494+70	0.13	32	12
	13494+80	13496+00	0.10	197	18
	13496+20	13496+60	0.13	55	12
	13497+20	13497+60	0.11	232	18
*	13497+90	13498+40	0.11	61	12
	13498+70	13498+80	0.26	39	12

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Berks County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	13498+80	13499+80	0.12	219	18
	13500+00	13500+10	0.22	67	18
	13500+60	13502+70	0.20	214	32
	13502+90	13503+70	0.18	73	12
	13504+10	13504+10	0.10	39	12
	13505+50	13506+40	0.07	128	12
	13506+60	13507+00	0.39	36	12
	13507+10	13507+50	0.50	36	18
	13507+70	13508+15	0.36	59	24
	13508+60	13508+80	0.22	45	12
	13509+20	13509+80	0.21	76	18
	13510+10	13510+90	0.20	90	18
	13511+00	13511+90	0.12	90	12
	13512+20	13513+20	0.07	104	12
	13513+40	13514+20	0.09	91	12
	13515+00	13515+60	0.12	380	32
	13516+10	13516+80	0.08	108	12
	13517+10	13517+10	0.14	14	12
	13518+60 R	13518+80 R	0.15	27	12
	13518+60 L	13518+60 L	0.14	11	12
*	13519+00	13520+20	0.11	104	12
*	13520+30	13523+10	0.1	97	12
*	13524+00	13525+10	0.07	67	12
*	13525+20	13526+40	0.12	97	12
	13526+50	13527+30	0.14	86	12
	13527+50	13530+40	0.13	282	32
	13530+50 R	13531+90 R	0.24	85	18
	13531+90 L	13531+90 L	0.28	129	32
	13533+50 R	13533+80 R	0.1	60	12
	13533+50 L	13533+50 L	0.18	90	18
	13534+00	13534+00	0.26	38	12
	13534+50	13534+80	0.26	38	12
	13537+00	13537+70	0.17	35	12
	13537+90	13538+70	0.18	60	12
*	13539+00	13540+00	0.07	106	12
	13540+20	13540+50	0.15	34	12
	13540+70	13543+25	0.19	75	18
	13543+40	13544+50	0.26	85	18

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Berks County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	13544+70	13552+50	0.24	66	18
	13552+70	13553+20	0.33	61	24
	13554+40	13555+10	0.12	367	32
	13555+50	13556+90	0.18	239	32
	13557+40	13562+40	0.22	90	18
	13562+40	13569+30	0.05	440	24
	13569+60	13570+10	0.11	28	12
	13570+75	13570+75	0.05	73	12
*	13571+60	13573+20	0.05	258	18
*	13573+30	13575+60	0.04	428	18
*	13575+70	13576+20	0.06	138	12
	13578+70	13579+30	0.03	30	12
	13588+60	13588+60	0.06	141	12
	13589+70	13590+60	0.1	78	12
*	13591+00	13591+50	0.07	69	12
	13592+20	13593+00	0.07	427	32
	13593+60	13594+90	0.06	187	12
	13595+00	13595+15	0.05	78	12
	13596+00	13596+10	0.04	48	12
	13598+00	13598+90	0.06	62	12
*	13599+10	13600+10	0.11	256	24
	13602+80	13605+20	0.05	514	32
*	13605+30	13606+40	0.06	174	12
	13606+90	13609+90	0.48 / .04	30 / 364	32
	13610+10	13611+70	0.05	85	18
	13611+90	13612+40	0.07	442	32
*	13613+50	13615+70	0.06	78	12
	13616+00	13616+70	0.09	77	12
	13616+80	13622+80	0.06	362	24
	13623+20	13624+70	0.07	149	12
	13624+90	13625+60	0.11	84	12
	13625+80	13628+00	0.07	183	18
	Pullback Area 1		0.16	83	18
	Pullback Area 2		0.15	67	18
	HDD Area		0.12	308	32
	13637+30	HDD Area	0.04	245	12
	13640+60	13643+50	0.05	583	32
*	13645+00	13649+90	0.16 / 0.02	75 / 222	18

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Worksheet #1
Compost Filter Sock Table
Berks County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	13650+00	13650+10	0.1	30	12
	13660+60	13661+90	0.00	141	12
	13664+30	13664+80	0.00	154	18
	13669+90	13670+80	0.00	88	12
	13671+50	13672+00	0.00	48	12
	13672+35	13673+80	0.14	234	24
	13674+85	13676+00	0.07	192	12
	13679+20	13679+20	0.55	47	32
	13679+75	13679+75	0.42	52	24
	13681+65	13682+25	0.24	85	18
	13682+70	13683+30	0.21	76	18
	13683+65	13683+65	0.11	192	18
	13685+00	13687+00	0.07	90	12
	13689+25	13689+90	0.07	70	12
	13692+90	13692+90	0.78	18	32
	13693+40	13693+40	0.33	16	12
	13693+75	13693+75	0.13	78	12
	13694+20	13694+20	0.41	22	12
	13694+60	13694+75	0.32	44	18
	13701+00	13702+15	0.07	73	12
	13703+00	13704+25	0.06	86	12
	13705+15	13705+15	0.07	171	12
	13706+75	13707+40	0.16	122	18
	13708+25	13710+00	0.14	177	18
	13710+00	13711+25	0.09	179	18
*	13711+60	13712+10	0.13	70	12
	13715+75	13716+00	0.26 / 0.06	50 / 93	18
	13716+00	13716+25	0.16	36	12
	13716+00	13716+00	0.11	9	12
	13719+00	13719+50	0.25	69	18
	13720+60	13721+80	0.15	94	12
	13722+00	13722+75	0.12	168	18
	13722+80	13724+40	0.09	193	18
	13729+60 R	13729+60 R	0.11	37	12
	13729+75 L	13729+75 L	0.20	35	12
	13730+00 L	13730+15 L	0.08	38	12
	13730+15 R	13730+15 R	0.16	25	12
	13732+50	13733+00	0.07	123	12

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Compost Filter Sock Table
Berks County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	13733+10	13735+75	0.05	351	24
	13735+80	13736+50	0.10	68	12
	13736+85	13737+30	0.06	95	12
	13737+75	13738+80	0.14	86	12
	13739+75	13740+00	0.13	48	12
	13740+00	13741+75	0.15	103	18
	13741+75	13744+75	0.12	130	18
	13745+20	13746+00	0.16	93	18
	13746+25	13746+75	0.46	37	18
	13747+00	13747+00	0.44	8	12
	13748+60	13748+60	0.10	192	18
	13748+85	13748+85	0.06	143	12
	13750+00	13751+25	0.08	83	12
*	13751+30	13752+50	0.12	83	12
*	13752+50	13753+50	0.09	152	12
	13753+80	13753+80	0.11	205	18
*	13754+40	13756+75	0.07	147	12
*	13756+75	13757+75	0.05	40	12
	13758+00	13759+50	0.20	41	12
	13759+50	13759+75	0.13	64	12
	13761+65	13762+15	0.13	210	18
	13762+50	13766+50	0.08	372	24
	13763+67	13764+37	0.10	131	12
	13764+37	13764+87	0.08	256	18
	13764+87	13765+44	0.06	38	12
	13765+44	13765+87	0.09	46	12
	13766+14	13768+02	0.08	290	24
	13771+39	13771+39	0.08	27	12
	13771+76	13772+85	0.04	90	12
	13773+08	13774+35	0.19	54	12
	13774+55	13778+79	0.08	432	32
	13779+51	13779+94	0.10	221	18
	13780+24	13782+61	0.07	270	18
	13782+61	13783+25	0.09	60	12
	13783+85	13784+85	0.17	135	18
	13784+85	13786+35	0.07	157	12
	13785+51	13786+35	0.11	134	12
	13786+55	13786+97	0.26	43	12

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Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	13787+24	13787+96	0.27	92	24
	13787+96	13788+79	0.15	140	18
	13788+90	13790+35	0.24	118	24
	13790+47	13791+02	0.19	235	32
	13791+12	13791+35	0.11	29	12
	13792+70	13792+70	0.17	309	32
	ACCESS 1	13793+85	0.15	355	32
	ACCESS 2	13793+85	0.07	132	12
	13793+30	13793+70	0.07	496	32
	13793+60	13794+85	0.12	134	18
	13794+85	13796+27	0.12	250	24
	13796+46	13796+85	0.07	79	12
	13797+40	13797+71	0.20	115	18
	13799+46	13799+85	0.20	46	12
	13799+96	13800+72	0.21	74	18
	13800+88	13802+30	0.11	85	12
	13802+89	13803+11	0.30	51	18
	13803+29	13803+85	0.09	56	12
	13804+40	13804+40	0.22	16	12
	13804+54	13805+73	0.15	67	12
	13805+85	13807+37	0.17	157	18
	13807+66	13810+63	0.14	108	18
	13810+85	13811+85	0.12	91	12
	13811+85	13813+85	0.16	87	12
	13812+85	13814+10	0.13	114	12
	13814+08	13814+39	0.52	35	32
	13814+52	13816+48	0.11	130	12
	13816+76	13817+27	0.21	112	18
	13817+30	13818+35	0.23	113	18
	13819+64	13821+40	0.06	313	18
	13821+41	13821+93	0.13	110	12
	13822+13	13822+68	0.20	53	12
	13824+25	13824+45	0.20	62	12
	13824+45	13824+75	0.22	75	18
	13824+75	13826+49	0.12	322	32
	13826+94	13827+37	0.18	57	12
	13827+63	13828+66	0.18	63	12
	13828+46	13828+92	0.28	36	12

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Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	13829+31	13830+52	0.22	87	18
	13830+41	13831+65	0.14	109	18
	13831+65	13833+39	0.07	377	24
	13833+63	13834+45	0.12	70	12
	13834+45	13835+86	0.08	319	24
	13836+19	13836+85	0.07	157	12
	13837+19	13838+47	0.03	124	12
	13838+66	13840+33	0.07	141	12
	13840+69	13840+85	0.09	23	12
	13842+07	13844+40	0.04	255	12
	13844+82	13847+35	0.06	259	18
	13847+58	13848+60	0.07	118	12
	13848+72	13849+81	0.09	95	12
	13849+96	13850+45	0.27	45	18
	13850+75	13850+85	0.24	29	12
	13851+65	13852+25	0.18	75	12
	13851+95	13852+00	0.07	329	24
	13852+55	13857+51	0.05	409	24
	13857+51	13857+93	0.04	104	12
	13858+53	13858+57	0.04	54	12
	13858+21	13860+27	0.03	70	12
	13859+25	13860+44	0.02	112	12
	13860+45	13862+23	0.04	86	12
	13860+42	13861+69	0.04	119	12
	13862+37	13865+22	0.03	212	12
	13866+65	13866+65	0.13	72	12
	13867+49	13867+49	0.09	46	12
	13869+43	13869+43	0.11	83	12
	13870+12	13872+40	0.07	417	32
	13872+40	13876+97	0.05	500	24
	13876+97	13878+85	0.03	253	12
	13878+85	13883+05	0.06	209	12
	13883+25	13885+12	0.07	265	18
	13885+12	13886+43	0.08	104	12
	13886+53	13888+85	0.07	169	18
	13890+55	13891+42	0.04	96	12
	13891+42	13891+95	0.06	459	24
	13892+12	13893+43	0.10	101	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	13893+43	13893+80	0.18	72	12
	13893+98	13895+35	0.11	96	12
	13895+45	13896+35	0.11	96	12
	13896+49	13896+78	0.15	264	32
	13897+14	13897+35	0.13	62	12
	13897+62	13897+95	0.09	84	12
	13898+32	13898+69	0.04	62	12
	13899+65	13900+35	0.03	151	12
	13901+72	13901+95	0.03	32	12
	13903+01	13903+85	0.05	40	12
	13904+29	13904+29	0.17	122	18
	13905+47	13905+85	0.07	100	12
	13906+45	13908+85	0.13	109	12
	13908+21	13908+21	0.08	248	18
	13909+31	13909+79	0.12	62	12
	13909+35	13909+85	0.12	100	12
	13910+09	13910+28	0.15	40	12
	13910+64	13912+95	0.12	150	18
	13912+70	13913+35	0.08	289	18
	13913+04	13915+75	0.05	219	12
	13922+57	13923+16	0.37	66	24
	13923+34	13924+53	0.15	103	18
	13924+65	13925+59	0.13	86	12
	13925+68	13926+45	0.23	79	18
	13926+69	13927+60	0.25	83	18
	13927+71	13928+65	0.29	77	18
	13928+75	13929+41	0.18	67	12
	13929+58	13930+70	0.17	59	12
	13930+08	13930+08	0.15	93	12
	13930+08	13930+08	0.17	234	32
	13930+92	13931+85	0.17	84	12
	13931+85	13933+62	0.15	121	18
	13933+79	13935+12	0.15	114	18
	13935+38	13936+35	0.17	96	18
	13937+36	13937+36	0.23	13	12
	13938+42	13938+42	0.32	13	12
	13938+68	13939+09	0.18	72	12
	13939+55	13939+85	0.15	336	32

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	13939+85	13940+59	0.22	70	18
	13941+15	13941+85	0.19	106	18
	13942+31	13942+96	0.12	69	12
	13942+27	13943+14	0.10	41	12
	13943+20	13943+85	0.07	100	12
	13943+95	13943+95	0.10	50	12
	13944+46	13945+50	0.13	133	18
	13945+69	13946+07	0.24	38	12
	13946+50	13946+50	0.26	39	12
	13950+56	13950+95	0.13	106	12
	13951+13	13952+69	0.10	163	12
	13952+93	13953+77	0.13	106	12
	13954+77	13956+78	0.19	82	18
	13956+85	13957+85	0.20	97	18
	13957+91	13958+91	0.23	90	18
	13959+70	13959+70	0.26	20	12
	13960+32	13961+21	0.16	66	12
	13961+42	13961+62	0.14	203	18
	13961+62	13962+85	0.19	81	18
	13963+00	13964+85	0.05	176	12
	13964+85	13965+57	0.12	97	12
	13965+43	13965+43	0.10	43	12
	13965+79	13966+90	0.12	68	12
	13967+55	13967+55	0.17	61	12
	13968+56	13968+85	0.19	86	18
	13969+05	13969+30	0.28	36	12
	13969+56	13969+99	0.20	45	12
	13970+72	13970+92	0.18	82	12
	13971+64	13971+92	0.13	127	18
	13973+07	13973+63	0.14	67	12
	13973+85	13974+45	0.10	117	12
	13974+85	13974+85	0.08	149	12
	13975+95	13976+45	0.07	48	12
	13976+85	13976+85	0.10	62	12
	13978+23	13978+23	0.15	14	12
	13978+85	13979+01	0.16	51	12
	13980+45	13980+45	0.13	23	12
	13980+78	13981+01	0.12	87	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	13984+04	13986+13	0.06	199	12
	13986+98	13986+98	0.09	36	12
	13987+54	13988+15	0.09	101	12
	13988+85	13990+05	0.11	136	12
	13990+17	13990+95	0.18	79	12
	13991+23	13992+38	0.11	116	12
	13992+63	13993+89	0.10	118	12
	13994+78	13996+55	0.11	200	18
	13996+85	13996+85	0.22	66	18
	13997+55	13998+45	0.32	47	18
	13999+04	13999+35	0.28	51	18
	14000+41	14000+41	0.10	22	12
	14000+70	14000+85	0.11	91	12
	14000+32	14001+95	0.08	37	12
	14001+95	14002+75	0.09	113	12
	14002+90	14003+70	0.01	49	12
	14004+00	14008+62	0.09	87	12
	14008+62	14010+55	0.05	400	24
	14011+10	14011+10	0.03	68	12
	14011+59	14012+35	0.06	108	12
	14013+95	14013+95	0.02	100	12
	14013+85	14014+43	0.04	112	12
	14015+07	14016+31	0.05	122	12
	14016+64	14018+18	0.08	134	12
	14018+39	14020+43	0.10	160	18
	14021+05	14021+85	0.13	80	12
	14021+92	14023+55	0.14	118	18
	14023+85	14025+70	0.12	51	12
	14026+01	14027+75	0.12	121	12
	14027+93	14029+63	0.15	109	18
	14029+98	14030+85	0.16	97	18
	14030+93	14032+85	0.10	141	12
	14033+05	14036+08	0.11	93	12
	14036+08	14036+85	0.11	90	12
	14036+85	14039+97	0.10	177	18
	14040+07	14040+07	0.29	42	12
	14041+90	14041+90	0.14	28	12
	14043+07	14043+66	0.10	112	12

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	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	14044+17	14045+21	0.09	123	12
	14045+50	14046+57	0.10	130	12
	14047+35	14048+23	0.10	98	12
	14048+85	14049+05	0.15	50	12
	14049+47	14050+56	0.16	94	18
	14050+94	14053+15	0.09	204	18
	14053+31	14054+19	0.07	95	12
	14055+49	14056+20	0.16	83	12
	14056+37	14056+63	0.30	27	12
	14056+77	14057+10	0.36	25	12
	14060+95	14061+58	0.11	112	12
	14061+99	14062+85	0.08	50	12
	14063+41	14063+85	0.08	210	18
	14064+38	14064+38	0.15	20	12
	14064+85	14065+17	0.06	36	12
	14066+20	14066+20	0.10	31	12
	14066+77	14067+55	0.13	72	12
	14067+75	14068+85	0.10	92	12
	14069+11	14070+85	0.09	164	12
	14071+07	14072+68	0.11	139	12
	14072+85	14074+85	0.10	158	18
	14075+02	14075+55	0.11	330	32
	14075+55	14077+35	0.09	100	12
	14077+49	14082+42	0.12	87	12
	14082+65	14083+77	0.15	116	12
	14083+85	14085+15	0.08	106	12
	14085+94	14088+47	0.08	90	12
	14088+47	14089+15	0.10	100	12
	14090+27	14090+65	0.15	41	12
	14091+54	14092+36	0.12	75	12
	14092+36	14093+66	0.11	151	12
	14094+16	14095+58	0.07	154	12
	14095+85	14098+34	0.08	181	12
	14096+85	14098+51	0.07	47	12
	14098+33	14099+39	0.02	104	12
	14098+57	14099+88	0.08	115	12
	14099+88	14100+71	0.07	108	12
	14100+71	14102+97	0.09	69	12

Notes:

1. Slopes >50% must have 32" DURASOXX independent of upslope length.
2. CFS installed with jayhook to be upsized one CFS size than slope/length requires.
(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Berks County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	14101+63	14102+66	0.05	87	12
	14103+31	14104+58	0.11	129	12
	14104+85	14105+70	0.09	106	12
	14106+15	14106+95	0.18	82	18
	14107+08	14108+00	0.22	87	18
	14108+28	14108+99	0.19	80	18
	14109+15	14110+04	0.17	88	18
	14110+22	14110+96	0.15	74	12
	14111+16	14111+95	0.19	74	18
	14112+21	14112+68	0.23	44	12
	14112+85	14113+25	0.34	42	18
	14113+35	14114+15	0.20	69	12
	14114+35	14115+05	0.11	63	12
	14115+85	14115+85	0.15	47	12
	14117+31	14117+31	0.12	67	12
	14120+50	14123+31	0.13	110	12
	14123+31	14124+62	0.14	100	12
	14124+85	14126+02	0.15	82	12
	14126+28	14129+59	0.11	90	12
	14129+85	14131+18	0.09	98	12
	14131+35	14133+15	0.16	155	18
	14133+15	14133+36	0.11	335	32
	14133+36	14133+95	0.11	29	12
	14133+67	14133+90	0.38	22	12
	14134+00	14134+34	0.39	29	12
	14134+46	14134+97	0.38	39	12
	14135+10	14135+61	0.30	43	12
	14135+80	14136+40	0.25	61	18
	14136+43	14137+35	0.22	132	24
	14136+90	14136+90	0.19	75	18
	14137+68	14138+30	0.24	59	12
	14139+76	14141+84	0.16	93	12
	14142+00	14142+78	0.23	82	18
	14142+93	14143+33	0.29	45	12
	14143+44	14144+34	0.28	77	18
	14145+09	14145+36	0.18	44	12
	14145+60	14145+84	0.19	16	12
	14146+14	14146+26	0.51	30	32

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Berks County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	14149+30	14150+50	0.08	41	12
	14150+77	14154+00	0.15	100	12
	14154+00	14156+37	0.23	93	18
	14156+37	14159+17	0.31	118	32
	14159+40	14160+60	0.23	84	18
	14160+85	14162+00	0.16	100	18
	14162+35	14164+60	0.17	115	18
	14164+50	14165+10	0.11	101	12
	14165+80	14166+25	0.11	64	12
	14166+65	14174+70	0.06	598	32
	14174+70	14179+70	0.06	488	24
*	14179+70	14183+05	0.08	111	12
	14183+40	14183+40	0.31	16	12
	14183+70	14184+00	0.32	22	12
	14184+35	14185+25	0.18	57	12
	14186+35	14186+35	0.20	10	12
	14187+40	14187+40	0.14	7	12
	14188+05	14188+20	0.13	69	12
	14188+30	14188+55	0.12	354	24
*	14188+55	14188+80	0.29	52	18
*	14189+20 R	14190+00 R	0.16	224	24
*	14189+15 L	14194+15 L	0.06	154	12
*	14189+70 R	14189+95 R	0.15	53	12
	14195+50	14195+50	0.03	96	12
	14197+10	14198+20	0.02	130	12
	14198+20	14199+35	0.04	844	32
	14199+35	14199+70	0.03	982	32
	14200+75	14200+75	0.22	18	12
	14201+10	14201+10	0.03	173	12
	14201+12	14201+12	0.03	798	24
*	14203+90	14206+40	0.04	177	12
	14204+50	14204+55	0.04	434	18
	14205+20	14208+15	0.02	328	12
	14208+35	14209+00	0.05	19	12
*	14210+30	14211+05	0.05	87	12
*	14211+70	14214+45	0.03	275	12
	14214+54	14216+55	0.05	98	12
*	14216+80	14218+00	0.08	132	12

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Berks County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	14218+30	14218+75	0.13	38	12
	14219+00	14219+40	0.17	30	12
	14220+00	14220+60	0.09	248	18
*	14226+25	14229+15	0.04	602	24
	14231+35	14235+00	0.02	193	12
*	14233+45	14235+35	0.03	102	12
*	14236+40	14236+90	0.03	101	12
*	14236+57 L	142237+25 L	0.03	396	12
*	14238+20	14240+90	0.04	415	18
	14241+40	14242+10	0.10	105	12
	14242+10	14242+30	0.08	485	24
	14242+30	14242+60	0.13	91	12
*	14242+90	14245+25	0.02	145	12
*	14245+25 R	14247+36 R	0.02	105	12
*	14247+36 L	14248+60 L	0.09	22	12
*	14246+60 R	14248+60 R	0.05	61	12
	14248+89	14249+20	0.64	13	32
	14249+26	14249+40	0.75	11	32
	14249+45	14249+70	0.52	18	32
	14250+45	14250+50	0.60	8	32
	14250+63	14250+80	0.58	12	32
	14250+89	14251+08	0.70	12	32
	14251+20	14251+50	0.13	16	12
	14250+85	14252+77	0.13	100	12
	14253+18	14253+60	0.07	60	12
	14256+40	14256+69	0.09	45	12
	14257+00	14257+38	0.05	95	12
	14256+72	14256+90	0.16	200	24
*	14277+05	14278+41	0.13	135	12
	14278+41	14281+85	0.16	100	18
	14281+85	14286+70	0.18	90	18
	14286+70	14287+18	0.19	68	12
*	14288+49	14290+00	0.09	103	12
*	14290+00	14291+41	0.09	106	12
	14291+62	14295+31	0.09	330	24
	14295+63	14297+14	0.11	245	24
	14297+16	14301+58	0.10	111	12
	14301+58	14302+35	0.13	106	18

Notes:

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(Denoted with *)

Worksheet #1
Compost Filter Sock Table
Berks County

Compost Filter Sock Table					
	Begin Sta.	End Sta.	Upstream Slope, (ft/ft)	Slope Length Above Measure, ft	Compost Filter Sock Size, in
	14302+75	14304+14	0.17	132	18
	14304+33	14305+48	0.15	102	12
	14305+63	14306+85	0.13	101.1	12
	14306+97	14308+41	0.16	90	12
	14306+63	14308+26	0.10	114	12
	14308+32	14309+49	0.12	91	12
	14308+58	14309+16	0.05	67	12
	14310+08	14311+55	0.12	182	18
*	14311+75	14313+18	0.15	126	18
	14313+18	14313+60	0.11	330	32
	14313+80	14315+18	0.24	94	18
	14315+35	14316+75	0.11	110	12
*	14317+05	14318+62	0.08	128	12
*	14318+75	14320+49	0.07	170	12
*	14320+65	14321+23	0.07	74	12
*	14323+03	14324+71	0.03	220	12
*	14325+33	14330+30	0.05	128	12
*	14330+57	14331+45	0.09	152	12
*	14333+05	14334+05	0.11	54	12
*	14334+40	14335+00	0.27	30	12
*	14334+97	14335+54	0.08	184	12

Notes:

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2. CFS installed with jayhook to be upsized one CFS size than slope/length requires.
(Denoted with *)

CLEAN WATER DIVERSION BERM CALCULATIONS

Blair County

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)					
6779+85	6788+20	2,589,157	100	0.05	Type D	0.300	8.17	4875	0.05	0.50	162.50	170.67	0.56	0.16				12	0.01	12					
		1,311,612																			0.23	0.01	40:1	1.49	0.01
																					0.02	35:1	1.49	12	
6771+40	6772+25	68,162	100	0.03	Type D	0.400	10.52	1700	0.01	0.45	62.96	73.49	1.17	0.23	0.04	24:1	0.42	12	0.02	6					
6763+70	6764+00	863,246	100	0.01	Type D	0.400	13.60	2820	0.04	0.80	58.75	72.35	1.19	0.23	0.13	22.5:1	5.41	12	0.03	2 - 12"					
6764+00	6766+05	133,117	100	0.01	Type D	0.400	13.60	3685	0.03	0.80	76.77	90.37	0.99	0.23	0.002	12.5:1	0.69	12	0.04	8					
6766+05	6767+70	215,550	100	0.02	Type D	0.400	11.57	2270	0.05	0.90	42.04	53.61	1.50	0.23	0.03	15.5:1	1.71	12	0.06	8					
6747+50	6749+00	204,776	100	0.03	Type D	0.400	10.52	3405	0.01	0.45	126.11	136.63	0.69	0.18	0.02	9:1	0.58	12	NO PIPE						
6749+00	6749+95	213,098	100	0.03	Type D	0.400	10.52	2055	0.02	0.65	52.69	63.22	1.32	0.23	0.08	17.5:1	1.49	12	0.02	12					
6710+55	6712+25	87,390	100	0.18	Type D	0.300	6.05	475	0.11	0.75	10.56	16.61	3.15	0.20	0.05	10.5:1	1.27	12	0.19	6					
6708+65	6710+55	37,615	100	0.12	Type D	0.300	6.65	405	0.12	0.75	9.00	15.65	3.25	0.20	0.08	11.5:1	0.56	12	0.15	6					
6700+95	6703+40	33,766	100	0.23	Type D	0.300	5.72	280	0.16	0.90	5.19	10.90	3.80	0.20	0.02	7:1	0.59	12	0.13	6					
6695+00	6696+80	20,581	100	0.12	Type D	0.300	6.65	170	0.26	1.30	2.18	8.83	4.10	0.20	0.03	4:1	0.39	12	0.16	6					
6690+10	6695+00	185,544	100	0.34	Type D	0.300	5.22	510	0.34	1.40	6.07	11.29	3.75	0.20	0.04	7:1	3.19	12	0.18	12					
6698+35	6699+15	130,028	100	0.20	Type D	0.300	5.91	670	0.30	1.30	8.59	14.50	3.37	0.20	0.08	6.5:1	0.39	12	0.12	6					
6699+15	6699+70	106,045	100	0.05	Type D	0.300	8.17	715	0.29	1.30	9.17	17.33	3.09	0.20	0.09	6.5:1	1.50	12	0.12	8					
6689+30	6690+10	43,048	100	0.40	Type D	0.300	5.02	315	0.51	1.70	3.09	8.11	4.22	0.20	0.23	2:1	0.83	12	0.26	6					
6685+30	6687+30	117,920	100	0.14	Type D	0.300	6.42	360	0.49	1.70	3.53	9.95	3.93	0.20	0.05	10:1	2.13	12	0.19	8					
6687+30	6689+30	135,039	100	0.42	Type D	0.300	4.97	350	0.49	1.70	3.43	8.40	4.17	0.20	0.06	10:1	2.59	12	0.19	12					
6620+15	6621+75	29,579	100	0.35	Type D	0.300	5.18	305	0.32	1.30	3.91	9.09	4.06	0.20	0.06	3:1	0.55	12	0.25	6					
6621+75	6623+35	41,119	100	0.33	Type D	0.300	5.25	260	0.39	1.60	2.71	7.96	4.25	0.20	0.06	3:1	0.80	12	0.23	6					
6616+85	6620+15	50,282 15,970	100	0.16	Type D	0.800	9.84	340	0.39	4.30	1.32	11.16	3.76	0.20											
														0.35	0.07	10.5:1	0.27	12	0.06	6					
6611+20	6612+40	135,887	100	0.13	Type D	0.300	6.53	1135	0.16	0.90	21.02	27.55	2.38	0.20	0.02	12.5:1	1.48	12	0.03	12					

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
6612+40	6612+55	131,111	100	0.15	Type D	0.300	6.32	815	0.06	1.80	7.55	13.86	3.43	0.20	0.13	12.5:1	0.65	12	0.03	8
		43,353												0.35						
6612+55	6612+75	104,737	100	0.20	Type D	0.300	5.91	1030	0.16	0.90	19.07	24.98	2.53	0.20	0.03	12.5:1	0.50	12	0.03	6
		62,583												0.35						
6612+75	6613+70	178,618	100	0.13	Type D	0.300	6.53	905	0.18	1.10	13.71	20.24	2.85	0.20	0.02	12.5:1	0.52	12	0.04	6
		11,390												0.35						
6595+75	6597+70	11,690	95	0.14	Type D	0.300	6.30	0			0.00	6.30	4.55	0.20	0.02	3.5:1	0.24	12	0.49	6
6586+25	6588+95	86,083	100	0.12	Type D	0.300	6.65	320	0.26	1.30	4.10	10.76	3.82	0.20	0.08	3.5:1	1.51	12	0.34	6
6584+25	6586+25	76,444	100	0.12	Type D	0.300	6.65	215	0.43	1.70	2.11	8.76	4.11	0.20	0.11	2:1	1.44	18	0.46	6
														0.35						
6581+55	6584+25	59,258	100	0.12	Type D	0.400	7.61	245	0.31	1.30	3.14	10.75	3.82	0.20	0.05	2.5:1	0.33	12	0.38	6
		13,710												0.50						
6579+20	6581+55	53,245	100	0.10	Type D	0.400	7.94	185	0.33	1.30	2.37	10.32	3.88	0.20	0.03	4:1	0.31	12	0.40	6
		13,980												0.50						
6578+75	6579+20	9,784	100	0.09	Type D	0.400	8.14	195	0.34	1.30	2.50	10.64	3.83	0.20	0.02	3:1	0.06	12	0.39	6
		3,175												0.50						
6577+70	6578+75	17,734	100	0.11	Type D	0.400	7.77	175	0.30	1.30	2.24	10.01	3.92	0.20	0.10	3:1	0.10	12	0.40	6
		3,682												0.50						
6576+75	6577+70	15,516	100	0.10	Type D	0.400	7.94	205	0.29	1.30	2.63	10.57	3.84	0.20	0.22	4:1	0.07	12	0.32	6
		2,156												0.50						
6573+30	6573+70	1,599	100	0.54	Type D	0.400	5.36	10	0.70	3.00	0.06	5.41	4.73	0.20	0.30	2.5:1	0.03	12	NO PIPE	
6571+70	6572+35	32,657	100	0.09	Type D	0.400	8.14	445	0.30	1.30	5.71	13.85	3.44	0.20	0.03	2.5:1	0.15	12	0.21	6
		5,865												0.50						
6571+35	6571+70	5,125	100	0.42	Type D	0.300	4.97	75	0.32	1.30	0.96	5.93	4.62	0.20	0.03	2:1	0.11	12	0.32	6
6570+05	6571+35	40,909	100	0.13	Type D	0.400	7.47	385	0.34	1.40	4.58	12.05	3.65	0.20	0.02	2.5:1	0.17	12	0.35	6
		4,097												0.50						
6569+65	6570+05	17,760	100	0.12	Type D	0.400	7.61	405	0.35	1.40	4.82	12.43	3.60	0.20	0.03	2:1	0.09	12	0.38	6
		3,811												0.50						
6568+45	6569+65	38,999	100	0.12	Type D	0.400	7.61	385	0.34	1.40	4.58	12.20	3.63	0.20	0.02	2:1	0.19	12	0.39	6
		7,030												0.50						

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
6566+70	6568+45	64,351 16,102	100	0.06	Type D	0.400	8.95	410	0.36	1.40	4.88	13.83	3.44	0.20 0.50	0.04	2.5:1	0.33	12	0.37	6
6566+05	6566+70	28,927 7,840	100	0.16	Type D	0.400	7.12	365	0.37	1.50	4.06	11.17	3.76	0.20 0.50	0.05	2.5:1	0.17	12	0.38	6
6565+55	6566+05	23,678 7,058	100	0.14	Type D	0.400	7.34	385	0.39	1.60	4.01	11.35	3.74	0.20 0.50	0.04	3:1	0.14	12	0.38	6
6563+35	6565+55	81,396 13,861	100	0.16	Type D	0.400	7.12	385	0.37	1.50	4.28	11.40	3.73	0.20 0.50	0.03	2.5:1	0.40	12	0.38	6
6561+30	6563+35	89,048	100	0.26	Type D	0.300	5.55	375	0.37	1.50	4.17	9.72	3.97	0.20	0.01	3:1	1.62	18	0.31	6
6558+65	6561+30	155,483	100	0.19	Type D	0.300	5.98	455	0.33	1.30	5.83	11.81	3.68	0.20	0.03	4:1	2.63	18	0.27	8
6555+95	6558+65	186,148	100	0.15	Type D	0.300	6.32	965	0.23	1.20	13.40	19.72	2.89	0.20	0.01	6.5:1	2.47	18	0.25	8
6554+35	6555+96	60,905	100	0.10	Type D	0.300	6.94	495	0.30	1.30	6.35	13.29	3.50	0.20	0.01	6.5:1	0.98	12	0.34	6
6553+80	6554+00	36,817	100	0.15	Type D	0.300	6.32	935	0.25	1.30	11.99	18.30	3.00	0.20	0.10	5.5:1	0.51	12	0.13	6
6554+00	6554+35	200,447	100	0.12	Type D	0.300	6.65	930	0.25	1.30	11.92	18.58	2.98	0.20	0.11	12.5:1	2.74	12	0.15	8
6551+30	6552+00	61,410 114,436	100	0.22	Type D	0.400	6.61	975	0.25	1.30	12.50	19.11	2.94	0.20 0.50	0.06	13.5:1	0.94	12	0.10	6
6552+00	6553+15	96,797 8,821	100	0.16	Type D	0.400	7.12	975	0.25	1.30	12.50	19.62	2.89	0.20 0.50	0.03	8:1	0.32	12	0.08	6
6460+95	6463+70	32,259	100	0.24	Type D	0.300	5.66	200	0.25	1.30	2.56	8.22	4.20	0.20	0.07	10.5:1	0.62	12	0.05	6
6454+85	6456+55	41,621	100	0.11	Type D	0.300	6.79	210	0.10	0.70	5.00	11.79	3.68	0.20	0.01	6.5:1	0.70	12	0.56	6
6453+55	6454+15	9,806	100	0.25	Type D	0.300	5.61	80	0.33	1.30	1.03	6.63	4.49	0.20	0.05	14.5:1	0.20	12	0.08	6
6446+00	6450+15	137,150	100	0.14	Type D	0.300	6.42	455	0.19	1.20	6.32	12.74	3.56	0.20	0.005	14:1	2.24	12	0.07	12
6438+50	6440+00	189,784	100	0.26	Type D	0.300	5.55	875	0.12	0.75	19.44	25.00	2.52	0.20	0.01	9:1	2.20	12	0.11	8
6440+00	6441+55	215,941	100	0.71	Type D	0.300	4.39	530	0.18	1.10	8.03	12.42	3.60	0.20	0.03	10:1	3.57	12	0.13	12

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
6438+45	6438+50	29,604 3,600	100	0.05	Type D	0.300	8.17	735	0.21	1.20	10.21	18.37	3.00	0.20 0.31	0.60	10:1	0.10	12	0.11	6
6427+80	6430+60	1,118,596 623,601	100	0.08	Type D	0.400	8.37	2085	0.11	0.70	49.64	58.01	1.41	0.20 0.31	0.04	9:1	2.71	12	0.11	12
6425+85	6427+05	8,013	100	0.09	Type D	0.400	8.14	0			0.00	8.14	4.22	0.31	0.01	9:1	0.24	12	0.11	6
6525+00	6525+85	8,853	100	0.09	Type D	0.400	8.14	25	0.12	1.60	0.26	8.40	4.17	0.31	0.12	8.5:1	0.26	12	NO PIPE	
6421+00	6423+50	5,949,340	100	0.03	Type D	0.400	10.52	4615	0.06	1.20	64.10	74.62	1.16	0.31	0.06	15.5:1	48.98	18	0.02	16 - 12"
6406+65	6408+80	58,698	100	0.10	Type D	0.300	6.94	70	0.90	3.00	0.39	7.33	4.36	0.20	0.02	3.5:1	1.17	12	0.17	6
6378+80	6379+70	65,885 25,760	100	0.25	Type D	0.300	5.61	1495	0.18	1.10	22.65	28.26	2.34	0.20 0.31	0.18	13.5:1	0.23	12	0.08	6
6379+70	6380+90	186,558 18,283	100	0.25	Type D	0.300	5.61	1590	0.16	0.95	27.89	33.50	2.10	0.20 0.31	0.10	13.5:1	0.41	12	0.08	6
6371+10	6371+80	207,138	100	0.11	Type D	0.300	6.79	3490	0.16	0.95	61.23	68.02	1.25	0.20	0.09	6:1	1.19	12	0.18	6
6371+80	6372+75	212,192	100	0.11	Type D	0.300	6.79	3515	0.16	0.95	61.67	68.46	1.24	0.20	0.08	5:1	1.21	12	0.14	6
6372+75	6373+35	207,661	100	0.11	Type D	0.300	6.79	3550	0.16	0.95	62.28	69.07	1.23	0.20	0.05	6.5:1	1.17	12	0.20	6
6368+70	6369+40	62,393	100	0.12	Type D	0.300	6.65	1110	0.19	1.20	15.42	22.07	2.71	0.20	0.06	3:1	0.78	12	0.19	6
6369+40	6370+20	213,661	100	0.16	Type D	0.300	6.22	3170	0.16	0.95	55.61	61.84	1.34	0.20	0.05	5.5:1	1.32	12	0.24	6
6370+20	6371+10	200,876	100	0.16	Type D	0.300	6.22	3210	0.16	0.95	56.32	62.54	1.33	0.20	0.13	6.5:1	1.23	12	0.18	6
6356+30	6357+65	129,271	100	0.17	Type D	0.300	6.13	875	0.15	0.95	15.35	21.49	2.75	0.20	0.15	3.5:1	1.63	12	0.32	6
6357+65	6359+10	43,795	100	0.17	Type D	0.300	6.13	940	0.14	0.95	16.49	22.63	2.68	0.20	0.03	8.5:1	0.54	12	0.16	6
6354+45	6356+00	216,489	100	0.16	Type D	0.300	6.22	2685	0.13	0.90	49.72	55.94	1.45	0.20	0.06	5:1	1.44	12	0.15	8
6356+00	6356+30	215,151	100	0.16	Type D	0.300	6.22	2690	0.13	0.90	49.81	56.04	1.45	0.20	0.03	5.5:1	1.43	12	0.18	6
6352+75	6354+45	2,022,828	100	0.15	Type D	0.300	6.32	3990	0.16	0.95	70.00	76.32	1.14	0.20	0.11	6.5:1	10.55	18	0.12	2 - 12"
6347+35	6349+95	91,720	100	0.18	Type D	0.300	6.05	715	0.19	1.20	9.93	15.98	3.21	0.20	0.08	9.5:1	1.35	12	0.15	8
6343+80	6345+70	155,139	100	0.20	Type D	0.300	5.91	1480	0.18	1.20	20.56	26.46	2.44	0.20	0.04	5.5:1	1.74	12	0.18	8

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
6345+70	6347+35	172,777	100	0.20	Type D	0.300	5.91	1530	0.18	1.20	21.25	27.16	2.40	0.20	0.07	5.5:1	1.90	12	0.18	8
6341+50	6343+80	54,521	100	0.18	Type D	0.300	6.05	500	0.23	1.20	6.94	13.00	3.53	0.20	0.08	4:1	0.88	12	0.32	6
6285+20	6287+00	182,898	100	0.14	Type D	0.300	6.42	1340	0.12	0.75	29.78	36.20	1.99	0.20	0.04	12.5:1	1.67	12	0.21	8
6281+05	6285+20	22,913 43,702	100	0.36	Type D	0.300	5.15	130	0.16	0.95	2.28	7.43	4.34	0.20 0.35	0.01	13.5:1	0.40	12	0.25	6
6278+55	6281+05	49,042 35,106	100	0.24	Type D	0.300	5.66	390	0.18	1.10	5.91	11.57	3.71	0.20 0.50	0.07	4:1	0.47	12	0.14	6
6274+15	6275+00	100,329 63,739	100	0.21	Type D	0.300	5.84	800	0.20	1.20	11.11	16.95	3.12	0.20 0.50	0.05	9.5:1	0.74	12	0.13	6
6275+00	6276+70	44,430 110,375	100	0.26	Type D	0.300	5.55	620	0.17	1.20	8.61	14.17	3.40	0.20 0.50	0.05	9.5:1	1.00	12	0.10	6
6272+75	6273+75	11,759 21,805	100	0.40	Type D	0.300	5.02	250	0.18	1.10	3.79	8.81	4.11	0.20 0.31	0.06	6.5:1	0.17	12	0.16	6
6266+60	6369+75	102,965 27,538	100	0.17	Type D	0.300	6.13	490	0.32	1.40	5.83	11.97	3.66	0.20 0.31	0.04	6.5:1	0.49	12	0.18	6
															0.06	6.5:1	0.49	12		

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
6814+75	6817+65	73,073	100	0.40	Type D	0.300	5.02	150	0.19	1.10	2.27	7.30	4.36	0.20	0.03	8:1	1.46	12	0.07	8
6835+27	6836+00	43,315	100	0.26	Type D	0.300	5.55	326	0.18	1.05	5.17	10.73	3.82	0.20	0.04	8:1	0.76	12	0.08	6
6847+00	6851+90	65,423	100	0.06	Type D	0.300	7.82	46	0.09	0.75	1.02	8.85	4.10	0.20	0.01	11:1	1.23	12	0.06	8
6853+65	6855+70	14,715,247	100	0.03	Type D	0.300	9.20	6669	0.05	0.55	202.09	211.29	0.46	0.20	0.02	11:1	31.37	18	0.02	12(3)
6861+70	6868+05	155,821	100	0.16	Type D	0.300	6.22	429	0.18	1.05	6.81	13.03	3.53	0.20	0.02	12:1	2.53	12	0.11	12
6877+25	6877+25	28,741	100	0.22	Type D	0.300	5.78	495	0.19	1.10	7.50	13.28	3.50	0.20	0.02	8:1	0.46	12	0.07	6
6880+65	6884+85	178,926	100	0.11	Type D	0.300	6.79	667	0.13	0.85	13.08	19.87	2.87	0.20	0.02	7:1	2.36	12	0.14	8
6884+85	6889+15	143,783	100	0.10	Type D	0.300	6.94	524	0.16	0.95	9.19	16.14	3.20	0.20	0.05	7:1	2.11	12	0.24	8
6892+95	6890+05	268,129	100	0.32	Type D	0.300	5.29	904	0.15	0.90	16.74	22.03	2.72	0.20	0.02	14:1	3.34	12	n/a	n/a
6893+00	6896+90	330,999	100	0.18	Type D	0.300	6.05	1054	0.12	0.85	20.67	26.72	2.42	0.20	0.01	50:1	3.68	12	n/a	n/a
6917+25	6920+10	489,997	100	0.03	Type D	0.300	9.20	861	0.07	0.65	22.08	31.28	2.20	0.20	0.05	8:1	4.94	12	0.07	12
6935+25	6936+90	121,400	100	0.02	Type D	0.300	10.11	463	0.08	0.80	9.65	19.76	2.88	0.20	0.05	11:1	1.61	12	0.04	12
6936+90	6938+60	238,545	100	0.04	Type D	0.300	8.60	545	0.07	0.65	13.97	22.58	2.68	0.20	0.01	8:1	2.93	18	0.03	12
6940+35	6942+20	35,670	100	0.03	Type D	0.300	9.20	370	0.05	0.55	11.21	20.41	2.83	0.20	0.01	10:1	0.46	12	0.12	6(2)
6943+70	6944+80	1,684,648	100	0.03	Type D	0.300	9.20	1720	0.06	0.06	477.78	486.98	0.21	0.20	0.04	9:1	1.63	12	0.03	12
6943+70	6948+50	131,343	100	0.04	Type D	0.300	8.60	401	0.08	0.80	8.35	16.96	3.12	0.20	0.04	15:1	1.88	12	n/a	n/a
6956+85	6959+35	10,155,012	100	0.20	Type D	0.300	5.91	5323	0.18	1.05	84.49	90.40	0.99	0.20	0.03	15:1	46.02	18	0.09	
6959+80	6960+80	2,054,756	100	0.22	Type D	0.300	5.78	2564	0.23	1.20	35.61	41.39	1.82	0.20	0.04	8:1	17.13	18	0.04	12(2)
6987+18	6989+90	205,502	100	0.30	Type D	0.300	5.37	1600	0.18	1.05	25.40	30.77	2.22	0.20	0.01	50:1	2.09	12	n/a	n/a

**Blair County
Temporary Diversion Berm Calculations**

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Flow Type
5755+85 - 5768+60	0.025	0.01	0.25	0.1	25	1.16	0.8	6.56	0.12	6.33	0.22	0.0199	1.45	0.03	0.28	0.72	Subcritical
5768+55 - 5769+75	0.025	0.02	0.22	0.1	25	1.11	0.59	5.66	0.1	5.46	0.22	0.02	1.87	0.05	0.27	1	Subcritical
5771+30 - 5795+30	0.025	0.02	0.19	0.1	20	0.61	0.36	3.98	0.09	3.8	0.19	0.0213	1.7	0.04	0.23	0.97	Subcritical
5794+15 - 5795+25	0.025	0.53	0.19	0.1	1.5	0.17	0.03	0.52	0.05	0.3	0.31	0.0359	6.12	0.58	0.77	3.54	Supercritical
5807+70 - 5811+30	0.025	0.03	0.52	0.1	5	2.55	0.69	3.17	0.22	2.65	0.57	0.0176	3.71	0.21	0.73	1.29	Supercritical
5811+30 - 5814+25	0.025	0.03	0.35	0.1	9	1.74	0.57	3.57	0.16	3.23	0.39	0.0179	3.04	0.14	0.5	1.27	Supercritical
5830+50 - 5830+95	0.025	0.03	0.37	0.1	7	1.46	0.48	2.96	0.16	2.61	0.4	0.0185	3.05	0.14	0.51	1.26	Supercritical
5890+95 - 5893+16	0.025	0.01	0.8	0.1	5	4.65	1.63	4.87	0.33	4.07	0.73	0.0162	2.86	0.13	0.93	0.8	Subcritical
5893+16 - 5899+50	0.025	0.06	0.41	0.1	9	3.68	0.77	4.15	0.19	3.75	0.53	0.0162	4.75	0.35	0.76	1.85	Supercritical
5896+80 - 5899+30	0.025	0.14	0.23	0.1	9	1.18	0.24	2.31	0.1	2.09	0.33	0.0189	4.92	0.38	0.61	2.56	Supercritical
5943+60 - 5947+50	0.025	0.12	0.24	0.1	8	1.14	0.24	2.22	0.11	1.98	0.35	0.019	4.71	0.34	0.59	2.37	Supercritical
5987+30 - 5987+60	0.025	0.23	0.18	0.1	3	0.24	0.05	0.75	0.07	0.56	0.27	0.0263	4.73	0.35	0.53	2.77	Supercritical
6037+80 - 6040+50	0.025	0.05	0.32	0.1	6	1.14	0.32	2.29	0.14	1.97	0.39	0.0192	3.57	0.2	0.52	1.56	Supercritical
6080+10 - 6080+65	0.025	0.09	0.21	0.1	8	0.68	0.18	1.93	0.1	1.72	0.28	0.0204	3.71	0.21	0.43	2.01	Supercritical
6080+60 - 6081+50	0.025	0.02	0.25	0.1	10	0.61	0.31	2.74	0.11	2.5	0.25	0.0207	1.97	0.06	0.31	0.98	Subcritical
6122+85 - 6124+75	0.025	0.02	0.3	0.1	9	0.88	0.4	2.98	0.13	2.7	0.3	0.0197	2.2	0.08	0.37	1.01	Supercritical
6124+85 - 6125+75	0.025	0.02	0.29	0.1	9	0.85	0.39	2.94	0.13	2.66	0.29	0.0197	2.18	0.07	0.37	1.01	Supercritical
6178+40 - 6181+70	0.025	0.08	0.74	0.1	2	3.73	0.58	2.4	0.24	1.55	0.95	0.0208	6.49	0.65	1.39	1.88	Supercritical
6184+90 - 6187+95	0.025	0.03	0.57	0.1	4	2.58	0.67	2.93	0.23	2.34	0.63	0.0181	3.85	0.23	0.8	1.27	Supercritical
6212+85 - 6216+20	0.025	0.05	0.47	0.1	3	1.39	0.34	1.94	0.17	1.44	0.55	0.0208	4.13	0.27	0.73	1.51	Supercritical
6249+30 - 6252+45	0.025	0.07	0.31	0.1	7	1.47	0.35	2.54	0.14	2.23	0.4	0.0184	4.2	0.27	0.59	1.87	Supercritical
6254+00 - 6256+57	0.025	0.01	0.32	0.1	9	0.74	0.46	3.18	0.14	2.88	0.28	0.0201	1.63	0.04	0.36	0.72	Subcritical
6258+40 - 6260+80	0.025	0.07	0.5	0.1	3	1.96	0.38	2.07	0.19	1.54	0.63	0.0199	5.11	0.41	0.9	1.81	Supercritical
6260+80 - 6263+30	0.025	0.12	0.49	0.1	3	2.5	0.38	2.05	0.18	1.53	0.69	0.0192	6.64	0.69	1.18	2.36	Supercritical
6266+60 to 6269+75 CHN	0.025	0.04	0.24	0.1	6.5	0.49	0.19	1.8	0.1	1.57	0.27	0.0214	2.62	0.11	0.34	1.34	Supercritical
6266+60 to 6269+75 CHN	0.025	0.06	0.22	0.1	6.5	0.49	0.16	1.67	0.1	1.46	0.27	0.0214	3.05	0.14	0.37	1.62	Supercritical
6272+75 to 6273+75 CHN	0.025	0.06	0.15	0.1	6.5	0.17	0.07	1.12	0.06	0.98	0.18	0.0247	2.34	0.09	0.23	1.52	Supercritical
6274+15 to 6275+00 CHN	0.025	0.05	0.23	0.1	9.5	0.74	0.25	2.42	0.1	2.2	0.27	0.0201	2.95	0.13	0.36	1.54	Supercritical
6275+00 to 6276+70 CHN	0.025	0.05	0.26	0.1	9.5	1	0.32	2.71	0.12	2.46	0.31	0.0193	3.17	0.16	0.41	1.56	Supercritical
6278+55 to 6281+05 CHN	0.025	0.07	0.26	0.1	4	0.47	0.14	1.32	0.1	1.06	0.32	0.0227	3.45	0.19	0.44	1.7	Supercritical
6281+05 to 6285+20 CHN	0.025	0.01	0.21	0.1	13.5	0.4	0.31	3.12	0.1	2.91	0.18	0.022	1.28	0.03	0.24	0.69	Subcritical
6285+20 to 6287+00 CHN	0.025	0.04	0.29	0.1	12.5	1.67	0.53	3.94	0.14	3.66	0.34	0.0182	3.13	0.15	0.44	1.45	Supercritical
6341+50 to 6343+80 CHN	0.025	0.08	0.32	0.1	4	0.88	0.21	1.63	0.13	1.3	0.41	0.0208	4.25	0.28	0.6	1.88	Supercritical
6343+80 to 6345+70 CHN	0.025	0.04	0.41	0.1	5.5	1.74	0.47	2.7	0.17	2.29	0.47	0.0183	3.7	0.21	0.62	1.44	Supercritical
6345+70 to 6347+35 CHN	0.025	0.07	0.38	0.1	5.5	1.9	0.41	2.51	0.16	2.13	0.49	0.0181	4.67	0.34	0.72	1.89	Supercritical
6347+35 to 6349+95 CHN	0.025	0.08	0.29	0.1	9.5	1.74	0.4	3.05	0.13	2.77	0.38	0.018	4.35	0.29	0.58	2.02	Supercritical
6352+75 to 6354+45 CHN	0.025	0.11	0.62	0.1	6.5	10.55	1.28	4.72	0.27	4.11	0.91	0.0142	8.25	1.06	1.68	2.61	Supercritical
6354+45 to 6356+00 CHN	0.025	0.06	0.37	0.1	5	1.44	0.34	2.24	0.15	1.88	0.46	0.0189	4.18	0.27	0.64	1.72	Supercritical
6356+00 to 6356+30 CHN	0.025	0.03	0.4	0.1	5.5	1.43	0.45	2.65	0.17	2.25	0.44	0.0188	3.17	0.16	0.56	1.25	Supercritical
6356+30 to 6359+10 CHN	0.025	0.15	0.38	0.1	3.5	1.63	0.26	1.75	0.15	1.36	0.55	0.0197	6.38	0.63	1.01	2.59	Supercritical
6357+65 to 6359+10 CHN	0.025	0.03	0.23	0.1	8.5	0.54	0.24	2.24	0.11	2.01	0.25	0.021	2.3	0.08	0.32	1.18	Supercritical
6368+70 to 6369+40 CHN	0.025	0.06	0.36	0.1	3	0.78	0.2	1.51	0.13	1.12	0.44	0.0225	3.83	0.23	0.59	1.59	Supercritical
6369+40 to 6370+20 CHN	0.025	0.05	0.35	0.1	5.5	1.32	0.35	2.34	0.15	1.98	0.42	0.019	3.76	0.22	0.57	1.57	Supercritical
6370+20 to 6371+10 CHN	0.025	0.13	0.27	0.1	6.5	1.23	0.24	2.04	0.12	1.78	0.39	0.019	5.13	0.41	0.68	2.47	Supercritical
6371+10 to 6371+80 CHN	0.025	0.09	0.29	0.1	6	1.19	0.26	2.09	0.13	1.8	0.39	0.0191	4.5	0.31	0.61	2.07	Supercritical
6371+80 to 6372+75 CHN	0.025	0.08	0.33	0.1	5	1.21	0.27	1.99	0.14	1.66	0.43	0.0194	4.45	0.31	0.63	1.94	Supercritical
6372+75 to 6373+35 CHN	0.025	0.05	0.32	0.1	6.5	1.17	0.33	2.4	0.14	2.09	0.38	0.0191	3.54	0.2	0.51	1.57	Supercritical
6378+80 to 6379+70 CHN	0.025	0.18	0.1	0.1	13.5	0.23	0.07	1.47	0.05	1.38	0.15	0.0237	3.29	0.17	0.27	2.58	Supercritical
6379+70 to 6380+90 CHN	0.025	0.1	0.14	0.1	13.5	0.41	0.13	2.04	0.07	1.91	0.19	0.022	3.07	0.15	0.29	2.04	Supercritical
6406+65 to 6408+80 CHN	0.025	0.02	0.49	0.1	3.5	1.17	0.42	2.25	0.19	1.75	0.48	0.0206	2.76	0.12	0.6	0.99	Subcritical
6421+00 to 6423+50 CHN	0.025	0.06	0.88	0.1	15.5	48.98	6.04	14.56	0.42	13.73	1.2	0.0117	8.1	1.02	1.9	2.15	Supercritical
6425+85 to 6427+05 CHN	0.025	0.01	0.21	0.1	9	0.24	0.2	2.09	0.09	1.89	0.18	0.0234	1.23	0.02	0.23	0.67	Subcritical
6427+80 to 6430+60 CHN	0.025	0.04	0.4	0.1	9	2.71	0.72	3.99	0.18	3.61	0.47	0.0169	3.78	0.22	0.62	1.5	Supercritical
6438+45 to 6438+50 CHN	0.025	0.6	0.07	0.1	10	0.1	0.02	0.73	0.03	0.67	0.12	0.0263	4.49	0.31	0.38	4.34	Supercritical
6438+50 to 6440+00 CHN	0.025	0.01	0.48	0.1	9	2.2	1.03	4.79	0.22	4.33	0.43	0.0174	2.13	0.07	0.55	0.77	Subcritical
6440+00 to 6441+55 CHN	0.025	0.03	0.45	0.1	10	3.57	1	4.93	0.2	4.5	0.5	0.0163	3.56	0.2	0.64	1.33	Supercritical
6446+00 to 6450+15 CHN	0.025	0.005	0.46	0.1	14	2.24	1.48	6.9	0.22	6.47	0.36	0.0175	1.51	0.04	0.49	0.56	Subcritical
6453+55 to 6454+15 CHN	0.025	0.05	0.12	0.1	14.5	0.2	0.1	1.85	0.06	1.74	0.14	0.0242	1.94	0.06	0.18	1.4	Supercritical
6454+85 to 6456+55 CHN	0.025	0.01	0.35	0.1	6.5	0.7	0.41	2.68	0.15	2.33	0.31	0.0204	1.7	0.05	0.4	0.71	Subcritical
6460+95 to 6463+70 CHN	0.025	0.07	0.19	0.1	10.5	0.62	0.2	2.23	0.09	2.05	0.24	0.0206	3.13	0.15	0.35	1.77	Supercritical
6525+00 to 6525+85 CHN	0.025	0.12	0.14	0.1	8.5	0.26	0.08	1.31	0.06	1.18	0.19	0.0231	3.23	0.16	0.3	2.17	Supercritical
6551+30 to 6552+00 CHN	0.025	0.06	0.21	0.1	13.5	0.94	0.3	3.07	0.1	2.87	0.26	0.0197	3.11	0.15	0.36	1.69	Supercritical
6552+00 to 6553+15 CHN	0.025	0.03	0.2	0.1	8	0.32	0.16	1.79	0.09	1.6	0.21	0.0225	2.04	0.06	0.26	1.14	Supercritical
6553+80 to 6554+00 CHN	0.025	0.1	0.22	0.1	5.5	0.51	0.13	1.44	0.09	1.22	0.29	0.0216	3.84	0.23	0.45	2.05	Supercritical
6554+00 to 6554+35 CHN	0.025	0.11	0.29	0.1	12.5	2.74	0.53	3.92	0.13	3.65	0.41	0.017	5.18	0.42	0.71	2.4	Supercritical
6554+35 to 6555+95 CHN	0.025	0.01	0.4	0.1	6.5	0.98	0.53	3.03	0.17	2.64	0.35	0.0195	1.86	0.05	0.45	0.73	Subcritical
6555+95 to 6558+65 CHN	0.025	0.01	0.57	0.1	6.5	2.47	1.06	4.29	0.25	3.74	0.51	0.0173	2.34	0.08	0.65	0.77	Subcritical
6558+65 to 6561+30 CHN	0.025	0.03	0.58	0.1	4	2.63	0.68	2.95	0.23	2.36	0.63	0.018	3.87	0			

**Blair County
Temporary Diversion Berm Calculations**

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Flow Type
6563+35 to 6565+55 CHN	0.025	0.03	0.35	0.1	2.5	0.4	0.16	1.29	0.12	0.9	0.36	0.0259	2.54	0.1	0.45	1.07	Supercritical
6565+55 to 6566+05 CHN	0.025	0.04	0.21	0.1	3	0.14	0.07	0.86	0.08	0.64	0.22	0.0282	2.14	0.07	0.28	1.18	Supercritical
6566+05 to 6566+70 CHN	0.025	0.05	0.23	0.1	2.5	0.17	0.07	0.85	0.08	0.6	0.25	0.029	2.49	0.1	0.33	1.29	Supercritical
6566+70 to 6568+45 CHN	0.025	0.04	0.31	0.1	2.5	0.33	0.12	1.13	0.11	0.8	0.33	0.0265	2.69	0.11	0.42	1.21	Supercritical
6568+45 to 6569+65 CHN	0.025	0.02	0.31	0.1	2	0.19	0.1	1.02	0.1	0.66	0.29	0.0309	1.83	0.05	0.37	0.82	Subcritical
6569+65 to 6570+05 CHN	0.025	0.03	0.22	0.1	2	0.09	0.05	0.71	0.07	0.46	0.21	0.0342	1.77	0.05	0.27	0.94	Subcritical
6570+05 to 6571+35 CHN	0.025	0.02	0.27	0.1	2.5	0.17	0.1	1.01	0.1	0.71	0.25	0.029	1.76	0.05	0.32	0.84	Subcritical
6571+35 to 6571+70 CHN	0.025	0.03	0.24	0.1	2	0.11	0.06	0.77	0.08	0.5	0.23	0.0333	1.86	0.05	0.29	0.95	Subcritical
6571+70 to 6572+35 CHN	0.025	0.03	0.24	0.1	2.5	0.15	0.08	0.89	0.08	0.63	0.24	0.0295	1.99	0.06	0.3	1.01	Supercritical
6573+30 to 6573+70 CHN	0.025	0.3	0.09	0.1	2.5	0.03	0.01	0.32	0.03	0.22	0.13	0.0365	3.15	0.15	0.24	2.68	Supercritical
6576+75 to 6577+70 CHN	0.025	0.22	0.1	0.1	4	0.07	0.02	0.52	0.04	0.42	0.15	0.0292	3.3	0.17	0.27	2.58	Supercritical
6577+70 to 6578+75 CHN	0.025	0.1	0.15	0.1	3	0.1	0.04	0.64	0.06	0.47	0.19	0.0295	2.77	0.12	0.27	1.77	Supercritical
6578+75 to 6579+20 CHN	0.025	0.02	0.17	0.1	3	0.06	0.04	0.71	0.06	0.53	0.16	0.0316	1.33	0.03	0.2	0.81	Subcritical
6579+20 to 6581+55 CHN	0.025	0.03	0.26	0.1	4	0.31	0.14	1.32	0.1	1.06	0.27	0.0239	2.27	0.08	0.34	1.11	Supercritical
6581+55 to 6584+25 CHN	0.025	0.05	0.29	0.1	2.5	0.33	0.11	1.09	0.1	0.77	0.33	0.0265	2.93	0.13	0.43	1.35	Supercritical
6584+25 to 6586+25 CHN	0.025	0.11	0.49	0.1	2	1.44	0.25	1.58	0.16	1.02	0.65	0.0236	5.76	0.52	1	2.06	Supercritical
6584+25 to 6586+25 CHN	0.025	0.04	0.59	0.1	2	1.44	0.37	1.91	0.19	1.24	0.65	0.0236	3.94	0.24	0.83	1.28	Supercritical
6586+25 to 6588+95 CHN	0.025	0.08	0.41	0.1	3.5	1.51	0.31	1.91	0.16	1.48	0.53	0.0199	4.95	0.38	0.79	1.92	Supercritical
6595+75 to 6597+70 CHN	0.025	0.02	0.27	0.1	3.5	0.24	0.13	1.24	0.1	0.96	0.26	0.0254	1.86	0.05	0.32	0.89	Subcritical
6611+20 to 6612+40 CHN	0.025	0.02	0.32	0.1	12.5	1.48	0.63	4.29	0.15	3.99	0.32	0.0185	2.34	0.09	0.4	1.04	Supercritical
6611+20 to 6612+40 CHN	0.025	0.07	0.25	0.1	12.5	1.48	0.4	3.39	0.12	3.16	0.32	0.0185	3.74	0.22	0.47	1.86	Supercritical
6612+40 to 6612+55 CHN	0.025	0.13	0.16	0.1	12.5	0.65	0.17	2.22	0.08	2.06	0.23	0.0206	3.85	0.23	0.39	2.37	Supercritical
6612+55 to 6612+75 CHN	0.025	0.03	0.2	0.1	12.5	0.5	0.24	2.65	0.09	2.46	0.21	0.0213	2.08	0.07	0.26	1.17	Supercritical
6612+75 to 6613+70 CHN	0.025	0.02	0.21	0.1	12.5	0.52	0.29	2.9	0.1	2.7	0.21	0.0212	1.8	0.05	0.26	0.97	Subcritical
6616+85 to 6620+15 CHN	0.025	0.07	0.14	0.1	10.5	0.27	0.11	1.63	0.06	1.5	0.17	0.023	2.55	0.1	0.24	1.69	Supercritical
6620+15 to 6621+75 CHN	0.025	0.06	0.32	0.1	3	0.55	0.16	1.33	0.12	0.99	0.38	0.0235	3.51	0.19	0.51	1.55	Supercritical
6685+30 to 6687+30 CHN	0.025	0.05	0.33	0.1	10	2.13	0.56	3.69	0.15	3.37	0.41	0.0175	3.79	0.22	0.56	1.64	Supercritical
6687+30 to 6689+30 CHN	0.025	0.06	0.35	0.1	10	2.59	0.61	3.84	0.16	3.5	0.44	0.017	4.26	0.28	0.63	1.8	Supercritical
6689+30 to 6690+10 CHN	0.025	0.23	0.35	0.1	2	0.83	0.13	1.12	0.11	0.73	0.52	0.0254	6.62	0.68	1.03	2.81	Supercritical
6690+10 to 6695+00 CHN	0.025	0.04	0.47	0.1	7	3.19	0.77	3.77	0.2	3.31	0.55	0.0166	4.13	0.27	0.73	1.51	Supercritical
6695+00 to 6696+80 CHN	0.025	0.03	0.28	0.1	4	0.39	0.16	1.44	0.11	1.15	0.3	0.0232	2.4	0.09	0.37	1.13	Supercritical
6698+35 to 6699+15 CHN	0.025	0.08	0.19	0.1	6.5	0.39	0.12	1.45	0.08	1.27	0.24	0.0221	3.21	0.16	0.35	1.83	Supercritical
6699+15 to 6699+70 CHN	0.025	0.09	0.31	0.1	6.5	1.5	0.32	2.36	0.14	2.05	0.42	0.0185	4.7	0.34	0.65	2.1	Supercritical
6700+95 to 6703+40 CHN	0.025	0.02	0.28	0.1	7	0.59	0.28	2.28	0.12	2	0.28	0.0208	2.09	0.07	0.35	0.98	Subcritical
6708+65 to 6710+95 CHN	0.025	0.08	0.18	0.1	11.5	0.56	0.18	2.2	0.08	2.03	0.23	0.0209	3.14	0.15	0.33	1.87	Supercritical
6710+50 to 6712+25 CHN	0.025	0.05	0.27	0.1	10.5	1.27	0.39	3.11	0.12	2.86	0.32	0.0187	3.3	0.17	0.44	1.58	Supercritical
6747+50 to 6749+00 CHN	0.025	0.02	0.25	0.1	9	0.58	0.29	2.55	0.11	2.31	0.25	0.0208	1.98	0.06	0.31	0.98	Subcritical
6749+00 to 6749+95 CHN	0.025	0.08	0.21	0.1	17.5	1.49	0.41	3.98	0.1	3.78	0.28	0.0188	3.67	0.21	0.42	1.97	Supercritical
6763+70 to 6764+00 CHN	0.025	0.13	0.29	0.1	22.5	5.41	0.94	6.79	0.14	6.52	0.43	0.0161	5.74	0.51	0.8	2.67	Supercritical
6764+00 to 6766+05 CHN	0.025	0.002	0.37	0.1	12.5	0.69	0.84	4.96	0.17	4.61	0.24	0.0204	0.82	0.01	0.38	0.34	Subcritical
6766+05 to 6767+70 CHN	0.025	0.03	0.28	0.1	15.5	1.71	0.63	4.71	0.13	4.44	0.31	0.0183	2.7	0.11	0.4	1.26	Supercritical
6771+40 to 6772+25 CHN	0.025	0.04	0.13	0.1	24	0.42	0.22	3.38	0.06	3.25	0.15	0.0227	1.91	0.06	0.19	1.3	Supercritical
6779+85 to 6788+20 CHN	0.025	0.01	0.23	0.1	40	1.49	1.07	9.48	0.11	9.27	0.2	0.0201	1.39	0.03	0.26	0.72	Subcritical
6779+85 to 6788+20 CHN	0.025	0.02	0.21	0.1	35	1.49	0.8	7.7	0.1	7.5	0.21	0.0199	1.86	0.05	0.27	1	Supercritical
6814+75 - 6817+65	0.025	0.03	0.35	0.1	8	1.46	0.49	3.15	0.16	2.82	0.38	0.0184	2.98	0.14	0.49	1.26	Supercritical
6835+27 - 6836+00	0.025	0.04	0.26	0.1	8	0.76	0.27	2.34	0.12	2.09	0.29	0.0201	2.82	0.12	0.38	1.38	Supercritical
6847+00 - 6851+90	0.025	0.01	0.35	0.1	11	1.23	0.69	4.26	0.16	3.93	0.31	0.0188	1.77	0.05	0.4	0.74	Subcritical
6853+65 - 6855+70	0.025	0.02	1.05	0.1	11	31.37	6.07	12.6	0.48	11.61	1.15	0.0122	5.17	0.41	1.46	1.26	Supercritical
6861+70 - 6868+05	0.025	0.02	0.39	0.1	12	2.53	0.94	5.13	0.18	4.76	0.4	0.0172	2.7	0.11	0.51	1.07	Supercritical
6877+25 - 6877+25	0.025	0.02	0.24	0.1	8	0.46	0.24	2.21	0.11	1.97	0.24	0.0215	1.92	0.06	0.3	0.97	Subcritical
6880+65 - 6884+85	0.025	0.02	0.47	0.1	7	2.36	0.8	3.83	0.21	3.37	0.49	0.0173	2.96	0.14	0.61	1.07	Supercritical
6884+85 - 6889+15	0.025	0.05	0.38	0.1	7	2.11	0.52	3.09	0.17	2.72	0.47	0.0176	4.05	0.26	0.64	1.63	Supercritical
6892+95 - 6890+05	0.025	0.02	0.41	0.1	14	3.34	1.19	6.18	0.19	5.8	0.43	0.0166	2.8	0.12	0.53	1.09	Supercritical
6893+00 - 6896+90	0.025	0.01	0.3	0.1	50	3.68	2.23	15.23	0.15	14.95	0.27	0.0183	1.65	0.04	0.34	0.75	Subcritical
6917+25 - 6920+10	0.025	0.05	0.5	0.1	8	4.94	1.01	4.53	0.22	4.05	0.62	0.0156	4.89	0.37	0.87	1.73	Supercritical
6935+25 - 6936+90	0.025	0.05	0.29	0.1	11	1.61	0.46	3.49	0.13	3.21	0.35	0.0182	3.47	0.19	0.48	1.61	Supercritical
6936+90 - 6938+60	0.025	0.01	0.56	0.1	8	2.93	1.25	5.04	0.25	4.5	0.5	0.0168	2.34	0.09	0.64	0.78	Subcritical
6940+35 - 6942+20	0.025	0.01	0.25	0.1	10	0.46	0.33	2.81	0.12	2.56	0.22	0.0214	1.41	0.03	0.28	0.7	Subcritical
6943+70 - 6944+80	0.025	0.04	0.33	0.1	9	1.63	0.49	3.3	0.15	2.98	0.38	0.0181	3.33	0.17	0.5	1.45	Supercritical
6943+70 - 6948+50	0.025	0.04	0.28	0.1	15	1.88	0.61	4.54	0.13	4.28	0.33	0.018	3.1	0.15	0.43	1.45	Supercritical
6959+80 - 6960+80	0.025	0.04	0.83	0.1	8	17.13	2.79	7.53	0.37	6.72	1.02	0.0132	6.14	0.59	1.42	1.68	Supercritical
6987+18 - 6989+90	0.025	0.01	0.24	0.1	50	2.09	1.46	12.3	0.12	12.08	0.21	0.0197	1.43	0.03	0.27	0.73	Subcritical
6956+85 - 6959+35	0.025	0.03	0.99	0.1	15	46.02	7.43	15.91	0.47	14.98	1.18	0.0118	6.19	0.6	1.59	1.55	Supercritical

**Blair County
Temporary Slope Pipe Calculations**

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Diameter (ft)	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Percent Full (%)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Maximum Discharge (ft ³ /s)	Discharge Full (ft ³ /s)	Slope Full (ft/ft)	Flow Type
5768+55 - 5769+75	0.023	0.04	0.45	0.67	1.11	0.25	1.3	0.2	0.63	0.5	67.8	0.0314	4.36	0.3	0.75	1.21	1.49	1.38	0.02572	SuperCritical
5771+30 - 5795+30	0.023	0.07	0.32	0.5	0.61	0.13	0.92	0.14	0.48	0.4	63.3	0.0393	4.66	0.34	0.65	1.58	0.9	0.84	0.037	SuperCritical
5807+70 - 5811+30	0.023	0.17	0.49	0.67	2.55	0.28	1.38	0.2	0.59	0.65	73.7	0.1203	9.16	1.3	1.8	2.35	3.07	2.85	0.13574	SuperCritical
5811+30 - 5814+25	0.023	0.15	0.39	0.67	1.74	0.22	1.17	0.18	0.66	0.6	58.7	0.0555	8.09	1.02	1.41	2.5	2.88	2.68	0.0632	SuperCritical
5815+60 - 5820+35	0.025	0.03	0.47	1	1.46	0.37	1.52	0.24	1	0.51	47.3	0.0229	3.99	0.25	0.72	1.16	3.45	3.21	0.00621	SuperCritical
5890+95 - 5893+16	0.023	0.13	0.58	1	4.65	0.47	1.74	0.27	0.99	0.9	58.2	0.0471	9.81	1.49	2.08	2.49	7.81	7.26	0.05333	SuperCritical
5893+16 - 5899+50	0.023	0.17	0.47	1	3.68	0.36	1.5	0.24	1	0.82	46.6	0.0336	10.25	1.63	2.1	3.01	8.93	8.3	0.0334	SuperCritical
5943+60 - 5947+50	0.023	0.16	0.37	0.5	1.14	0.16	1.04	0.15	0.44	0.48	74.1	0.1132	7.31	0.83	1.2	2.16	1.36	1.27	0.12922	SuperCritical
6037+80 - 6040+50	0.023	0.09	0.35	0.67	1.14	0.19	1.09	0.17	0.67	0.51	52.9	0.0321	6.03	0.56	0.92	2	2.23	2.08	0.02713	SuperCritical
6080+10 - 6080+65	0.023	0.07	0.34	0.5	0.68	0.14	0.97	0.15	0.47	0.42	68.3	0.0446	4.76	0.35	0.69	1.51	0.9	0.84	0.04598	SuperCritical
6124+85 - 6125+75	0.023	0.06	0.34	0.67	0.85	0.18	1.05	0.17	0.67	0.44	50.1	0.0263	4.81	0.36	0.7	1.65	1.82	1.7	0.01508	SuperCritical
6178+40 - 6181+70	0.023	0.15	0.49	1	3.73	0.38	1.54	0.25	1	0.82	48.7	0.0341	9.82	1.5	1.99	2.81	8.39	7.8	0.03431	SuperCritical
6184+90 - 6187+95	0.023	0.27	0.42	0.67	2.58	0.23	1.22	0.19	0.65	0.65	62.7	0.1233	11.09	1.91	2.33	3.26	3.87	3.6	0.13895	SuperCritical
6212+85 - 6216+20	0.023	0.22	0.38	0.5	1.39	0.16	1.07	0.15	0.42	0.49	67.6	0.1738	8.61	1.15	1.54	2.46	1.6	1.49	0.19211	SuperCritical
6249+30 - 6252+45	0.023	0.11	0.39	0.67	1.47	0.21	1.16	0.18	0.66	0.57	58.2	0.0427	6.91	0.74	1.13	2.15	2.47	2.3	0.04511	SuperCritical
6254+00 - 6256+57	0.023	0.21	0.25	0.5	0.74	0.1	0.79	0.13	0.5	0.43	50.5	0.0502	7.44	0.86	1.11	2.94	1.56	1.45	0.05445	SuperCritical
6258+40 - 6260+80	0.023	0.25	0.36	0.67	1.96	0.19	1.1	0.18	0.67	0.62	53.9	0.0693	10.12	1.59	1.95	3.31	3.72	3.46	0.08019	SuperCritical
6262+80 - 6263+30	0.023	0.1	0.44	1	2.5	0.33	1.44	0.23	0.99	0.68	43.5	0.024	7.62	0.9	1.34	2.34	6.85	6.37	0.01541	SuperCritical
5595+00 to 6696+80 PIPE	0.023	0.16	0.19	0.5	0.39	0.07	0.66	0.1	0.49	0.32	38	0.0282	5.69	0.5	0.69	2.67	1.36	1.27	0.01512	SuperCritical
6266+60 to 6369+75 PIPE	0.023	0.18	0.21	0.5	0.49	0.08	0.7	0.11	0.49	0.36	41.7	0.0323	6.31	0.62	0.83	2.81	1.45	1.35	0.02387	SuperCritical
6272+75 to 6273+75 PIPE	0.023	0.16	0.12	0.5	0.17	0.04	0.52	0.07	0.43	0.21	24.8	0.0228	4.49	0.31	0.44	2.67	1.36	1.27	0.00287	SuperCritical
6274+15 to 6275+00 PIPE	0.023	0.13	0.29	0.5	0.74	0.12	0.87	0.14	0.49	0.43	58.6	0.0502	6.19	0.6	0.89	2.22	1.23	1.14	0.05445	SuperCritical
6275+00 to 6276+70 PIPE	0.023	0.1	0.41	0.5	1	0.17	1.13	0.15	0.39	0.47	81.7	0.086	5.82	0.53	0.94	1.54	1.08	1	0.09943	SuperCritical
6278+55 to 6281+05 PIPE	0.023	0.14	0.22	0.5	0.47	0.08	0.72	0.11	0.5	0.35	43.7	0.0315	5.7	0.5	0.72	2.46	1.28	1.19	0.02196	SuperCritical
6281+05 to 6285+20 PIPE	0.023	0.25	0.17	0.5	0.4	0.06	0.62	0.09	0.47	0.32	34.2	0.0286	6.74	0.71	0.88	3.36	1.71	1.59	0.01591	SuperCritical
6285+20 to 6287+00 PIPE	0.023	0.21	0.35	0.67	1.67	0.18	1.07	0.17	0.67	0.6	51.6	0.0518	9.1	1.29	1.63	3.07	3.41	3.17	0.05822	SuperCritical
6341+50 to 6343+80 PIPE	0.023	0.32	0.25	0.5	0.88	0.1	0.78	0.12	0.5	0.46	49.4	0.067	9.1	1.29	1.53	3.65	1.93	1.79	0.077	SuperCritical
6343+80 to 6345+70 PIPE	0.023	0.18	0.37	0.67	1.74	0.2	1.12	0.18	0.67	0.6	55.4	0.0555	8.68	1.17	1.54	2.79	3.16	2.94	0.0632	SuperCritical
6345+70 to 6347+35 PIPE	0.023	0.18	0.39	0.67	1.9	0.21	1.17	0.18	0.66	0.62	58.6	0.0653	8.86	1.22	1.61	2.74	3.16	2.94	0.07536	SuperCritical
6347+35 to 6349+95 PIPE	0.023	0.15	0.34	0.67	1.35	0.18	1.06	0.17	0.67	0.55	50.2	0.0383	7.62	0.9	1.24	2.61	2.88	2.68	0.03805	SuperCritical
6352+75 to 6354+45 PIPE	0.023	0.12	0.65	1	5.28	0.54	1.88	0.29	0.95	0.93	65	0.0595	9.76	1.48	2.13	2.29	7.5	6.98	0.06875	SuperCritical
6354+45 to 6356+00 PIPE	0.023	0.16	0.23	0.5	0.54	0.09	0.74	0.12	0.5	0.37	45.5	0.0349	6.2	0.6	0.83	2.62	1.36	1.27	0.02899	SuperCritical
6356+00 to 6356+30 PIPE	0.023	0.15	0.35	0.67	1.44	0.19	1.08	0.17	0.67	0.56	52.2	0.0415	7.74	0.93	1.28	2.59	2.88	2.68	0.04329	SuperCritical
6356+30 to 6357+65 PIPE	0.023	0.32	0.37	0.5	1.63	0.16	1.04	0.15	0.43	0.5	74.8	0.2449	10.35	1.66	2.04	3.03	1.93	1.79	0.26418	SuperCritical
6357+65 to 6359+10 PIPE	0.023	0.32	0.37	0.5	1.63	0.16	1.04	0.15	0.43	0.5	74.8	0.2449	10.35	1.66	2.04	3.03	1.93	1.79	0.26418	SuperCritical
6368+70 to 6369+40 PIPE	0.023	0.19	0.27	0.5	0.78	0.11	0.82	0.13	0.5	0.44	53.7	0.0544	7.25	0.82	1.09	2.75	1.49	1.38	0.06049	SuperCritical
6369+40 to 6370+20 PIPE	0.023	0.24	0.35	0.5	1.32	0.15	1	0.15	0.45	0.49	70.8	0.1555	8.88	1.23	1.58	2.74	1.67	1.55	0.17325	SuperCritical
6370+20 to 6371+10 PIPE	0.023	0.18	0.38	0.5	1.23	0.16	1.05	0.15	0.43	0.49	75.2	0.1333	7.77	0.94	1.31	2.26	1.45	1.35	0.15043	SuperCritical
6371+10 to 6271+80 PIPE	0.023	0.18	0.37	0.5	1.19	0.15	1.03	0.15	0.44	0.49	73.1	0.1241	7.74	0.93	1.3	2.32	1.45	1.35	0.14081	SuperCritical
6371+80 to 6372+75 PIPE	0.023	0.14	0.42	0.5	1.21	0.18	1.16	0.15	0.37	0.49	83.8	0.1287	6.88	0.74	1.16	1.76	1.28	1.19	0.14558	SuperCritical
6372+75 to 6373+35 PIPE	0.023	0.2	0.35	0.5	1.17	0.15	0.98	0.15	0.46	0.48	69.2	0.1197	8.06	1.01	1.36	2.54	1.53	1.42	0.13611	SuperCritical
6378+80 to 6379+70 PIPE	0.023	0.08	0.17	0.5	0.23	0.06	0.63	0.1	0.48	0.24	34.5	0.0239	3.83	0.23	0.4	1.9	0.96	0.9	0.00526	SuperCritical
6379+70 to 6380+90 PIPE	0.023	0.08	0.24	0.5	0.41	0.09	0.76	0.12	0.5	0.33	47.4	0.029	4.47	0.31	0.55	1.84	0.96	0.9	0.01671	SuperCritical
6406+65 to 6408+80 PIPE	0.023	0.17	0.37	0.5	1.17	0.16	1.03	0.15	0.44	0.48	73.9	0.1197	7.53	0.88	1.25	2.23	1.41	1.31	0.13611	SuperCritical
6421+00 to 6423+50 PIPE	0.023	0.02	0.93	1	3.06	0.76	2.59	0.29	0.52	0.75	92.6	0.0278	4.03	0.25	1.18	0.59	3.06	2.85	0.02309	SubCritical
6425+85 to 6427+05 PIPE	0.023	0.11	0.16	0.5	0.24	0.06	0.61	0.09	0.47	0.25	32.5	0.0241	4.34	0.29	0.46	2.23	1.13	1.05	0.00573	SuperCritical
6427+80 to 6430+60 PIPE	0.023	0.11	0.44	1	2.71	0.34	1.46	0.23	0.99	0.71	44.4	0.0253	8.05	1.01	1.45	2.44	7.18	6.68	0.01811	SuperCritical
6438+45 to 6438+50 PIPE	0.023	0.1	0.11	0.5	0.1	0.03	0.48	0.06	0.41	0.16	21.3	0.0221	3.26	0.17	0.27	2.1	1.08	1	0.00099	SuperCritical
6438+50 to 6440+00 PIPE	0.023	0.11	0.53	0.67	2.2	0.3	1.46	0.2	0.55	0.64	78.5	0.0877	7.41	0.85	1.38	1.78	2.47	2.3	0.10104	SuperCritical
6440+00 to 6441+55 PIPE	0.023	0.13	0.49	1	3.57	0.39	1.56	0.25	1	0.81	49.5	0.0324	9.21	1.32	1.81	2.61	7.81	7.26	0.03143	SuperCritical
6446+00 to 6450+15 PIPE	0.023	0.07	0.45	1	2.24	0.34	1.47	0.23	1	0.64	45.2	0.0226	6.49	0.66	1.11	1.95	5.73	5.33	0.01237	SuperCritical
6453+55 to 6454+15 PIPE	0.023	0.08	0.16	0.5	0.2	0.05	0.6	0.09	0.47	0.22	32.1	0.0233	3.68	0.21	0.37	1.9	0.96	0.9	0.00398	SuperCritical
6454+85 to 6456+55 PIPE	0.023	0.56	0.19	0.5	0.7	0.07	0.66	0.1	0.48	0.42	37.2	0.0464	10.52	1.72	1.91	5	2.55	2.37	0.04872	SuperCritical
6460+95 to 6463+70 PIPE	0.023	0.05	0.36	0.5	0.62	0.15	1.02	0.15	0.45	0.4	72.4	0.04	4.07	0.26	0.62	1.23	0.76	0.71	0.03822	SuperCritical
6551+30 to 6552+00 PIPE	0.023	0.1	0.38	0.5	0.94	0.16	1.07	0.15	0.42	0.47	76.8	0.076	5.81	0.52	0.91	1.65	1.08	1	0.08786	SuperCritical
6552+00 to 6553+15 PIPE	0.023	0.08	0.21	0.5	0.32	0.08	0.7	0.11	0.49	0.29	41.2	0.026	4.19	0.27	0.48	1.87	0.96	0.9	0.01018	SuperCritical
6553+80 to 6554+00 PIPE	0.023	0.13	0.23	0.5	0.51	0.09	0.75	0.12	0.5	0.36	46.8	0.0334	5.66	0.5	0.73	2.35	1.23	1.14	0.02586	SuperCritical
6554+00 to 6554+35 PIPE	0.023	0.15	0.56	0.67	2.74	0.32	1.56	0.2	0.49	0.66	84.2	0.1405	8.65	1.16	1.73	1.9	2.88	2.68	0.15672	SuperCritical
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Blair County
Temporary Slope Pipe Calculations

6581+55 to 6584+25 PIPE	0.023	0.38	0.14	0.5	0.33	0.04	0.56	0.08	0.45	0.29	27.8	0.0263	7.42	0.85	0.99	4.15	2.1	1.95	0.01083	SuperCritical
6584+25 to 6586+25 PIPE	0.023	0.46	0.3	0.5	1.44	0.12	0.88	0.14	0.49	0.49	59.9	0.1876	11.74	2.14	2.44	4.14	2.31	2.15	0.20618	SuperCritical
6586+25 to 6588+95 PIPE	0.023	0.34	0.34	0.5	1.51	0.14	0.98	0.15	0.46	0.49	68.7	0.2079	10.5	1.71	2.06	3.32	1.99	1.85	0.22671	SuperCritical
6595+75 to 6597+70 PIPE	0.023	0.49	0.11	0.5	0.24	0.03	0.49	0.07	0.42	0.25	22.2	0.024	7.39	0.85	0.96	4.66	2.39	2.22	0.00573	SuperCritical
6611+20 to 6612+40 PIPE	0.023	0.03	0.45	1	1.48	0.35	1.48	0.23	1	0.52	45.5	0.0195	4.26	0.28	0.74	1.27	3.75	3.49	0.0054	SuperCritical
6612+40 to 6612+55 PIPE	0.023	0.03	0.35	0.67	0.65	0.19	1.09	0.17	0.67	0.38	52.5	0.0234	3.47	0.19	0.54	1.16	1.29	1.2	0.00882	SuperCritical
6612+55 to 6612+75 PIPE	0.023	0.03	0.37	0.5	0.5	0.16	1.05	0.15	0.43	0.36	74.9	0.0329	3.17	0.16	0.53	0.93	0.59	0.55	0.02486	SubCritical
6612+75 to 6613+70 PIPE	0.023	0.04	0.34	0.5	0.52	0.14	0.98	0.15	0.46	0.37	68.9	0.0338	3.6	0.2	0.55	1.14	0.68	0.63	0.02689	SuperCritical
6616+85 to 6620+15 PIPE	0.023	0.06	0.2	0.5	0.27	0.07	0.69	0.11	0.49	0.26	40.6	0.0247	3.6	0.2	0.4	1.63	0.84	0.78	0.00725	SuperCritical
6620+15 to 6621+75 PIPE	0.023	0.25	0.2	0.5	0.55	0.07	0.69	0.11	0.49	0.38	40.6	0.0355	7.35	0.84	1.04	3.32	1.71	1.59	0.03008	SuperCritical
6621+75 to 6623+35 PIPE	0.023	0.23	0.26	0.5	0.8	0.1	0.8	0.13	0.5	0.44	51.5	0.0567	7.85	0.96	1.22	3.07	1.64	1.52	0.06364	SuperCritical
6685+30 to 6687+30 PIPE	0.023	0.19	0.42	0.67	2.13	0.23	1.22	0.19	0.65	0.64	62	0.082	9.27	1.34	1.75	2.75	3.25	3.02	0.09471	SuperCritical
6687+30 to 6689+30 PIPE	0.023	0.19	0.37	1	2.59	0.27	1.31	0.2	0.97	0.69	37.2	0.0245	9.73	1.47	1.84	3.27	9.44	8.78	0.01654	SuperCritical
6689+30 to 6690+10 PIPE	0.023	0.26	0.25	0.5	0.83	0.1	0.79	0.13	0.5	0.45	50.8	0.0603	8.29	1.07	1.32	3.27	1.74	1.62	0.0685	SuperCritical
6690+10 to 6695+00 PIPE	0.023	0.18	0.42	1	3.19	0.32	1.42	0.22	0.99	0.77	42.3	0.0289	10.09	1.58	2	3.14	9.19	8.54	0.0251	SuperCritical
6698+35 to 6699+15 PIPE	0.023	0.12	0.21	0.5	0.39	0.08	0.7	0.11	0.49	0.32	41.1	0.0282	5.12	0.41	0.61	2.3	1.18	1.1	0.01512	SuperCritical
6699+15 to 6699+70 PIPE	0.023	0.12	0.38	0.67	1.5	0.21	1.15	0.18	0.66	0.57	57.3	0.0439	7.18	0.8	1.18	2.25	2.58	2.4	0.04697	SuperCritical
6700+95 to 6703+40 PIPE	0.023	0.13	0.25	0.5	0.59	0.1	0.79	0.13	0.5	0.39	50.9	0.038	5.87	0.54	0.79	2.31	1.23	1.14	0.03461	SuperCritical
6708+65 to 6710+55 PIPE	0.023	0.15	0.24	0.5	0.56	0.09	0.76	0.12	0.5	0.38	47.4	0.0361	6.11	0.58	0.82	2.52	1.32	1.23	0.03118	SuperCritical
6710+55 to 6712+25 PIPE	0.023	0.19	0.38	0.5	1.27	0.16	1.05	0.15	0.43	0.49	75.5	0.1429	7.98	0.99	1.37	2.31	1.49	1.38	0.16037	SuperCritical
6749+00 to 6749+95 PIPE	0.023	0.02	0.51	1	1.49	0.41	1.6	0.25	1	0.52	51.4	0.0195	3.67	0.21	0.72	1.01	3.06	2.85	0.00548	SuperCritical
6763+70 to 6764+00 PIPE	0.023	0.03	0.66	1	2.71	0.55	1.9	0.29	0.95	0.71	66.3	0.0253	4.91	0.37	1.04	1.13	3.75	3.49	0.01811	SuperCritical
6764+00 to 6766+05 PIPE	0.023	0.04	0.33	0.67	0.69	0.18	1.05	0.17	0.67	0.39	49.9	0.024	3.92	0.24	0.57	1.35	1.49	1.38	0.00994	SuperCritical
6766+05 to 6767+70 PIPE	0.023	0.06	0.55	0.67	1.71	0.31	1.53	0.2	0.51	0.6	82.8	0.0539	5.48	0.47	1.02	1.23	1.82	1.7	0.06104	SuperCritical
6771+40 to 6772+25 PIPE	0.023	0.02	0.38	0.5	0.42	0.16	1.07	0.15	0.42	0.33	76.8	0.0294	2.6	0.1	0.49	0.74	0.48	0.45	0.01754	SubCritical
6779+85 to 6788+20 PIPE	0.023	0.01	0.64	1	1.49	0.53	1.86	0.29	0.96	0.52	64	0.0195	2.81	0.12	0.76	0.66	2.17	2.01	0.00548	SubCritical
6814+75 - 6817+65	0.023	0.07	0.45	0.67	1.46	0.25	1.29	0.2	0.63	0.57	67.5	0.0423	5.76	0.52	0.97	1.6	1.97	1.83	0.0445	SuperCritical
6835+27 - 6836+00	0.023	0.08	0.35	0.5	0.76	0.15	1	0.15	0.46	0.44	70.7	0.0522	5.12	0.41	0.76	1.58	0.96	0.9	0.05743	SuperCritical
6847+00 - 6851+90	0.023	0.06	0.42	0.67	1.23	0.23	1.23	0.19	0.65	0.52	63.2	0.0345	5.24	0.43	0.85	1.53	1.82	1.7	0.03158	SuperCritical
6853+65 - 6855+70	0.023	0.02	1.96	2.5	31.37	4.13	5.43	0.76	2.06	1.91	78.3	0.0212	7.6	0.9	2.86	0.95	35.27	32.78	0.01831	SubCritical
6861+70 - 6868+05	0.023	0.11	0.43	1	2.53	0.32	1.42	0.22	0.99	0.68	42.7	0.0242	7.92	0.97	1.4	2.46	7.18	6.68	0.01579	SuperCritical
6877+25 - 6877+25	0.023	0.07	0.26	0.5	0.46	0.11	0.81	0.13	0.5	0.35	52.8	0.031	4.37	0.3	0.56	1.68	0.9	0.84	0.02104	SuperCritical
6880+65 - 6884+85	0.023	0.14	0.5	0.67	2.36	0.28	1.4	0.2	0.58	0.65	75	0.1018	8.32	1.08	1.58	2.1	2.79	2.59	0.11627	SuperCritical
6884+85 - 6889+15	0.023	0.24	0.38	0.67	2.11	0.21	1.15	0.18	0.66	0.64	57.1	0.0804	10.14	1.6	1.98	3.19	3.65	3.39	0.09294	SuperCritical
6917+25 - 6920+10	0.023	0.07	0.76	1	4.94	0.64	2.12	0.3	0.85	0.91	76.1	0.0524	7.7	0.92	1.68	1.57	5.73	5.33	0.06018	SuperCritical
6935+25 - 6936+90	0.023	0.04	0.44	1	1.61	0.33	1.45	0.23	0.99	0.54	44	0.0199	4.84	0.36	0.8	1.47	4.33	4.03	0.00639	SuperCritical
6936+90 - 6938+60	0.023	0.03	0.7	1	2.93	0.59	1.99	0.3	0.91	0.73	70.2	0.0268	4.97	0.38	1.09	1.09	3.75	3.49	0.02117	SuperCritical
6940+35 - 6942+20	0.023	0.12	0.23	0.5	0.46	0.09	0.74	0.12	0.5	0.35	45.1	0.031	5.35	0.44	0.67	2.27	1.18	1.1	0.02104	SuperCritical
6943+70 - 6944+80	0.023	0.03	0.48	1	1.63	0.37	1.53	0.24	1	0.54	48.1	0.02	4.37	0.3	0.78	1.26	3.75	3.49	0.00655	SuperCritical
6959+80 - 6960+80	0.023	0.04	1.2	2	17.13	1.96	3.54	0.55	1.96	1.49	59.9	0.0219	8.72	1.18	2.38	1.54	27.51	25.57	0.01795	SuperCritical
Circular Pipe - 15	0.023	0.09	1.33	3	46.02	3.03	4.38	0.69	2.98	2.21	44.4	0.0187	15.18	3.58	4.91	2.65	121.7	113.1	0.0149	SuperCritical

Huntingdon County

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
7042+25	7043+05	14,813	100	0.04	Type D	0.300	8.60	272	0.09	0.70	6.48	15.08	3.30	0.20	0.12	11:1	0.22	12	0.08	6
7045+90	7046+00	30,830	100	0.16	Type D	0.300	6.22	284	0.26	1.30	3.64	9.86	3.95	0.20	0.24	12:1	0.56	12	0.21	6
7047+50	7049+20	14,009	100	0.24	Type D	0.300	5.66	76	0.22	1.15	1.10	6.76	4.46	0.20	0.02	5:1	0.29	12	0.20	6
7087+40	7095+20	384,888	100	0.14	Type D	0.300	6.42	493	0.25	1.20	6.85	13.27	3.50	0.20	0.01	3:1	6.19	24	0.13	12
7095+20	7106+60	164,383	100	0.12	Type D	0.300	6.65	265	0.30	1.40	3.15	9.81	3.95	0.20	0.01	3:1	2.98	18	0.25	8
7105+33	7106+20	10,340	100	0.20	Type D	0.300	5.91	192	0.27	1.30	2.46	8.37	4.18	0.20	0.03	4:1	0.20	12	0.05	6
7116+00	7117+70	126,847	100	0.02	Type D	0.300	10.11	300	0.03	1.20	4.17	14.28	3.39	0.20	0.04	12:1	1.97	12	0.02	12
7122+65	7123+80	91,118	100	0.06	Type D	0.300	7.82	503	0.08	2.00	4.19	12.02	3.65	0.20	0.02	22:1	1.53	12	n/a	n/a
7125+25	7125+25	12,113	100	0.08	Type D	0.300	7.32	170	0.07	1.80	1.57	8.89	4.09	0.20	0.04	13:1	0.23	12	0.08	6
7126+00	7126+65	36,955	100	0.04	Type D	0.300	8.60	515	0.14	2.50	3.43	12.04	3.65	0.20	0.01	12:1	0.62	12	n/a	n/a
7130+70	7131+05	3,188	100	0.19	Type D	0.300	5.98	197	0.06	1.65	1.99	7.97	4.25	0.20	0.03	22:1	0.06	12	0.06	6
7131+05	7131+50	9,308	100	0.11	Type D	0.300	6.79	418	0.14	2.50	2.79	9.58	3.99	0.20	0.03	22:1	0.17	12	0.07	6
7132+90	7135+15	104,659	100	0.13	Type D	0.300	6.53	480	0.15	2.55	3.14	9.67	3.97	0.20	0.04	11:1	1.91	12	0.10	6
7174+90	7174+90	7,569	100	0.22	Type D	0.300	5.78	175	0.12	2.40	1.22	6.99	4.42	0.20	0.02	19:1	0.15	12	0.21	6
7194+00	7194+00	126,188	100	0.08	Type D	0.300	7.32	882	0.30	1.40	10.50	17.82	3.04	0.20	0.06	8:1	1.76	12	0.08	0.67
7201+30	7208+00	27,142	100	0.14	Type D	0.300	6.42	215	0.19	1.10	3.26	9.68	3.97	0.20	0.03	4:1	0.50	12	0.39	6
7213+20	7214+20	6,246	100	0.16	Type D	0.300	6.22	58	0.17	1.05	0.92	7.14	4.39	0.20	0.01	5:1	0.13	12	0.24	6
7217+35	7219+40	53,890	100	0.07	Type D	0.300	7.55	165	0.16	1.00	2.75	10.30	3.88	0.20	0.05	5:1	0.96	12	0.11	6
7228+81	7229+30	270,696	100	0.11	Type D	0.300	6.79	927	0.12	0.85	18.18	24.97	2.53	0.20	0.04	8:1	3.14	12	0.18	8
7239+50	7240+48	20,539	100	0.11	Type D	0.300	6.79	203	0.12	0.85	3.98	10.77	3.82	0.20	0.04	7:1	0.36	12	0.16	6
7240+48	7243+25	24,174	100	0.09	Type D	0.300	7.12	210	0.12	0.85	4.12	11.23	3.75	0.20	0.10	7:1	0.42	12	0.31	6

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
7249+75	7252+20	75,429	100	0.10	Type D	0.30	6.94	424	0.24	1.25	5.65	12.60	3.58	0.20	1.24	12	0.15	6
7267+70	7269+25	190,781	100	0.14	Type D	0.30	6.42	677	0.20	1.10	10.26	16.68	3.15	0.20	2.76	18	0.12	12
7269+25	7272+10	128,501	100	0.13	Type D	0.30	6.53	788	0.17	1.00	13.13	19.66	2.89	0.20	1.71	12	0.13	8
7283+85	7287+70	118,038	100	0.08	Type D	0.30	7.32	389	0.14	0.90	7.20	14.52	3.36	0.20	1.82	12	0.19	8
7293+80	7296+40	69,875	100	0.12	Type D	0.30	6.65	247	0.24	1.25	3.29	9.95	3.93	0.20	1.26	12	0.29	6
7308+65	7310+75	49,681	100	0.05	Type D	0.80	12.91	226	0.13	2.40	1.57	14.48	3.37	0.50	1.92	12	N/A	N/A
7325+05	7325+95	6,932	100	0.17	Type D	0.30	6.13	113	0.30	1.30	1.45	7.58	4.31	0.20	0.14	12	N/A	N/A
7326+10	7327+25	377,134	100	0.06	Type D	0.80	12.37	1705	0.09	2.10	13.53	25.91	2.47	0.50	10.69	12 (2)	0.06 & 0.13	12 (3)
7338+85	7339+55	7,320	100	0.15	Type D	0.02	1.78	170	0.16	2.75	1.03	5.00	4.82	0.50	0.40	12	0.29	6
7340+50	7341+45	208,709	100	0.02	Type D	0.02	2.85	1013	0.05	4.30	3.93	6.78	4.46	0.50	10.68	12	0.11	8 (2)
7341+45	7342+05	17,313	100	0.07	Type D	0.80	11.94	218	0.12	2.30	1.58	13.52	3.47	0.50	0.69	12	0.20	6
7348+85	7349+25	8,805	100	0.19	Type D	0.30	5.98	419	0.28	1.30	5.37	11.35	3.74	0.20	0.15	12	0.13	6
7351+20	7353+35	55,113	100	0.11	Type D	0.02	1.92	334	0.33	1.35	4.12	6.04	4.60	0.20	1.16	12	0.19	6
7486+10	7488+55	155,050	100	0.06	Type D	0.80	12.37	565	0.10	0.77	12.23	24.60	2.55	0.20	1.81	12	0.07	8
7488+55	7493+40	217,589	100	0.06	Type D	0.80	12.37	508	0.09	0.73	11.60	23.97	2.59	0.20	2.58	12	0.16	8
7493+40	7497+10	75,066	100	0.04	Type D	0.30	8.60	234	0.10	0.77	5.06	13.67	3.46	0.20	1.19	12	0.16	6
7497+10	7497+95	8,308	100	0.12	Type D	0.30	6.65	79	0.08	0.70	1.88	8.54	4.15	0.20	0.16	12	0.15	6
7499+20	7502+25	171,061	100	0.05	Type D	0.80	12.91	1308	0.05	2.20	9.91	22.82	2.66	0.40	4.18	12	0.22	12
7502+25	7506+70	161,146	100	0.03	Type D	0.30	9.20	369	0.08	2.75	2.24	11.44	3.73	0.20	2.76	12	0.19	8
7506+70	7510+50	42,483	100	0.04	Type D	0.30	8.60	236	0.10	0.77	5.11	13.71	3.45	0.40	1.35	12	0.24	6
7519+45	7520+50	220,042	100	0.06	Type D	0.30	7.82	550	0.12	1.60	5.73	13.55	3.47	0.40	7.01	18	0.12	12
7546+00	7547+60	139,741	100	0.05	Type D	0.30	8.17	383	0.08	0.70	9.12	17.28	3.09	0.20	1.98	12	0.08	8
7551+45	7553+80	115,757	100	0.04	Type D	0.30	8.60	489	0.09	0.73	11.16	19.77	2.88	0.20	1.53	12	N/A	N/A

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
7641+91	7650+41	274,279	100	0.03	Type D	0.300	9.20	1281	0.84	2.55	8.37	17.57	3.07	0.40	0.13	20:1	7.72	12	0.31	12
7650+41	7654+18	234,969	100	0.03	Type D	0.300	9.20	1566	0.69	2.65	9.85	19.05	2.94	0.40	0.04	30:1	6.34	12	0.50	12
7654+18	7655+33	26,800	100	0.03	Type D	0.300	9.20	1552	0.70	2.65	9.76	18.96	2.95	0.40	0.07	20:1	0.73	12	0.50	6
7655+33	7659+21	49,378	100	0.03	Type D	0.300	9.20	1925	0.61	2.65	12.11	21.31	2.77	0.40	0.25	30:1	1.25	12	0.39	6
7661+90	7662+37	2,150	100	0.33	Type D	0.300	5.25	27	0.26	3.50	0.13	5.38	4.74	0.20	0.04	3.5:1	0.05	12	0.50	6
7665+88	7668+37	198,320	100	0.03	Type D	0.300	9.20	815	0.23	2.65	5.13	14.33	3.38	0.40	0.01	20:1	6.16	18	0.13	12
7668+37	7670+45	29,149	100	0.03	Type D	0.300	9.20	1153	0.16	2.65	7.25	16.45	3.17	0.40	0.03	15:1	0.85	12	0.30	6
7672+35	7673+37	957,734	100	0.14	Type D	0.300	6.47	1850	0.14	2.60	11.86	18.33	3.00	0.40	0.12	18:1	26.38	18	N/A	N/A
7747+75	7749+75	99,128	100	0.17	Type D	0.300	6.13	667	0.21	3.10	3.59	9.72	3.97	0.20	0.05	0.33	1.81	32	0.13	8
7789+20	7791+51	158,368	100	0.10	Type D	0.300	6.94	3174	0.06	2.40	22.04	28.99	2.31	0.40	0.03	5:1	3.35	18	0.06	12
7791+51	7795+49	190,895	100	0.10	Type D	0.300	6.94	3189	0.06	2.40	22.15	29.09	2.30	0.40	0.03	15:1	4.03	12	0.04	12
7834+12	7834+38	19,611	100	0.08	Type D	0.300	7.32	473	0.10	1.00	7.88	15.20	3.29	0.30	0.03	1:1	0.44	18	0.02	6
7853+49	7853+87	144,437	100	0.05	Type D	0.400	9.57	1483	0.17	2.75	8.99	18.56	2.98	0.40	0.14	5:1	3.95	12	N/A	N/A
7854+15	7854+72	141,584	100	0.07	Type D	0.400	8.63	1131	0.19	2.25	8.38	17.01	3.12	0.40	0.11	7:1	4.05	12	N/A	N/A
7860+07	7861+06	91,985	100	0.01	Type D	0.400	13.60	613	0.14	2.50	4.09	17.69	3.06	0.40	0.02	4:1	2.58	18	0.03	12
7865+30	7865+70	880,971	100	0.07	Type D	0.400	8.63	1080	0.05	2.55	7.06	15.69	3.24	0.30	0.05	5:1	19.67	24	0.03	24
7871+25	7873+16	1,317,370	100	0.07	Type D	0.400	8.63	2254	0.04	1.80	20.87	29.50	2.28	0.30	0.03	0.5:1	20.68	32	0.01	2 X 24
7876+37	7878+39	241,822	100	0.03	Type D	0.400	10.52	1677	0.22	1.65	16.94	27.46	2.38	0.40	0.02	4:1	5.29	18	N/A	N/A
7878+92	7879+51	32,566	100	0.03	Type D	0.300	9.20	1573	0.22	1.50	17.48	26.68	2.43	0.40	0.25	15:1	0.73	12	N/A	N/A
7883+00	7884+27	64,879	100	0.03	Type D	0.400	10.52	1480	0.19	1.50	16.44	26.97	2.41	0.40	0.03	20:1	1.44	12	0.22	8
7904+51	7906+26	160,861	100	0.04	Type D	0.300	8.60	1123	0.21	1.50	12.48	21.08	2.78	0.40	0.06	5:1	4.11	18	0.06	12
7922+75	7923+53	225,079	100	0.04	Type D	0.300	8.60	853	0.09	1.50	9.48	18.08	3.02	0.40	0.01	8:1	6.25	18	0.05	2 X 12
7932+73	7933+10	8,531	100	0.01	Type D	0.300	11.89	368	0.21	1.50	4.09	15.98	3.21	0.40	0.27	23:1	0.25	12	N/A	N/A
7950+55	7951+06	11,109	100	0.08	Type D	0.300	7.32	665	0.24	1.50	7.39	14.70	3.34	0.40	0.45	4:1	0.34	12	N/A	N/A
7951+58	7952+42	16,877	100	0.21	Type D	0.300	5.84	218	0.22	3.15	1.15	6.99	4.42	0.20	0.05	4.5:1	0.34	12	0.20	6
7955+08	7955+55	3,667	100	0.24	Type D	0.300	5.66	71	0.15	2.70	0.44	6.10	4.59	0.20	0.02	12.5:1	0.08	12	N/A	N/A
7955+69	7958+71	66,312	100	0.09	Type D	0.400	8.14	312	0.25	1.50	3.47	11.61	3.71	0.40	0.05	20:1	0.38	12	0.11	6
7958+71	7962+31	76,342	100	0.06	Type D	0.400	8.95	582	0.14	1.50	6.47	15.42	3.27	0.40	0.04	14:1	1.99	12	0.15	8
7968+73	7969+04	7,816	100	0.02	Type D	0.800	16.00	282	0.32	1.50	3.13	19.13	2.93	0.40	0.06	0.5:1	1.79	24	0.13	8
7969+38	7969+91	7,490	100	0.04	Type D	0.400	9.84	291	0.34	1.50	3.23	13.07	3.52	0.40	0.15	1:1	0.25	12	0.23	6
7974+63	7977+32	59,789	100	0.03	Type D	0.400	10.52	614	0.13	1.50	6.82	17.35	3.09	0.40	0.04	4:1	1.69	12	0.16	8

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
8030+50	8032+00	152,034	100	0.24	HSG D	0.300	5.66	1006	0.42	1.55	10.82	16.48	3.17	0.20	0.04	5:1	2.21	12	0.16	6
8068+25*	8069+50*	304,642	100	0.14	HSG D	0.300	6.42	1574	0.20	1.10	23.85	30.27	2.24	0.20	0.03	35:1	3.14	12	0.02	12
8095+40	8096+25	75,419	100	0.11	HSG D	0.400	7.77	642	0.08	1.25	8.56	16.33	3.18	0.31	0.01	70:1	1.71	12	0.02	8
8106+40	8107+00	9,425	100	0.11	HSG D	0.300	6.79	214	0.20	1.10	3.24	10.03	3.92	0.23	0.05	22:1	0.20	12	N/A	N/A
8127+80 L	8128+30 L	3,985	100	0.17	HSG D	0.300	6.13	73	0.16	1.00	1.22	7.35	4.35	0.20	0.07	8:1	0.08	12	0.10	6
8128+30 L	8129+00 L	35,520	100	0.11	HSG D	0.300	6.79	471	0.15	0.90	8.72	15.51	3.26	0.20	0.06	6:1	0.53	12	0.09	6
8128+00 R	8128+75 R	5,695	100	0.13	HSG D	0.300	6.53	144	0.18	1.00	2.40	8.93	4.09	0.20	0.15	6:1	0.11	12	N/A	N/A
8135+37	8136+00	157,524	100	0.41	HSG D	0.300	4.99	1558	0.15	2.60	9.99	14.98	3.31	0.20	0.05	12:1	2.40	12	0.11	8
8136+30	8136+86	13,239	100	0.18	HSG D	0.300	6.05	264	0.16	2.70	1.63	7.68	4.29	0.20	0.05	10:1	0.26	12	N/A	N/A
8162+75	8163+50	288,688	100	0.04	HSG D	0.800	13.60	786	0.07	1.80	7.28	20.88	2.80	0.30	0.06	5:1	5.56	18	0.20	8
8163+50	8164+25	294,372	100	0.02	HSG D	0.800	16.00	658	0.07	1.80	6.09	22.09	2.71	0.20	0.09	7:1	3.67	12	0.08	8
8165+25	8166+75	23,456	100	0.36	HSG D	0.300	5.15	303	0.33	1.40	3.61	8.76	4.12	0.20	0.09	4:1	0.44	12	0.13	6
8168+50	8171+25	102,780	100	0.40	HSG D	0.300	5.02	644	0.38	1.50	7.16	12.18	3.63	0.20	0.02	16:1	1.71	12	0.07	6
8181+00	8182+90	259,733	100	0.31	HSG D	0.300	5.33	1100	0.33	1.40	13.10	18.43	2.99	0.20	0.04	5:1	3.57	18	0.30	6
8182+90	8184+90	51,984	100	0.48	HSG D	0.300	4.81	888	0.25	1.25	11.84	16.65	3.15	0.20	0.15	3:1	0.75	12	0.20	6
8184+90*	8186+75*	1,047,630	32	0.01	HSG D	0.300	6.98	2207	0.21	1.10	33.44	40.42	1.85	0.20	0.03	5:1	8.88	18	0.17	12
8186+75	8189+00	15,206	95	0.11	HSG D	0.300	6.63	0	N/A	N/A	0.00	6.63	4.49	0.20	0.05	6:1	0.31	12	0.11	6
8189+00	8190+00	65,551	56	0.06	HSG D	0.300	5.97	453	0.11	0.85	8.88	14.85	3.33	0.20	0.04	6:1	1.00	12	0.10	6
8218+25	8220+00	48,000	100	0.07	HSG D	0.400	8.63	454	0.12	1.50	5.04	13.68	3.46	0.25	0.03	11:1	0.95	12	0.04	6
8220+15	8220+50	29,534	100	0.08	HSG D	0.400	8.37	331	0.09	1.30	4.24	12.61	3.58	0.31	0.05	15:1	0.75	12	0.06	6
8382+50	8383+50	11,497	100	0.08	HSG D	0.300	7.32	56	0.17	1.00	0.93	8.25	4.20	0.20	0.04	5:1	0.22	12	0.21	6
8383+50	8385+50	26,822	100	0.10	HSG D	0.300	6.94	91	0.09	0.75	2.02	8.97	4.08	0.20	0.05	9:1	0.50	12	0.17	6
8389+30	8389+90	4,303	100	0.12	HSG D	0.300	6.65	147	0.50	3.20	0.77	7.42	4.34	0.20	0.41	2:1	0.09	12	N/A	N/A
8413+45	8414+35	13,426	100	0.19	HSG D	0.300	5.98	338	0.26	3.50	1.61	7.59	4.31	0.20	0.13	2:1	0.27	12	N/A	N/A

**Huntingdon County
Temporary Diversion Berm Calculations**

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Flow Type
7042+25 - 7043+05	0.025	0.12	0.12	0.1	11	0.22	0.08	1.4	0.05	1.29	0.16	0.0237	2.92	0.13	0.25	2.13	Supercritical
7045+90 - 7046+00	0.025	0.24	0.14	0.1	12	0.56	0.12	1.83	0.06	1.69	0.22	0.021	4.72	0.35	0.49	3.14	Supercritical
7047+50 - 7049+20	0.025	0.02	0.25	0.1	5	0.29	0.16	1.51	0.1	1.26	0.24	0.0235	1.85	0.05	0.3	0.93	Subcritical
7087+40 - 7095+20	0.025	0.01	1.1	0.1	3	6.19	1.89	4.6	0.41	3.42	1	0.017	3.28	0.17	1.27	0.78	Subcritical
7095+20 - 7106+60	0.025	0.01	0.84	0.1	3	2.98	1.09	3.49	0.31	2.6	0.75	0.0188	2.73	0.12	0.95	0.74	Subcritical
7105+33 - 7106+20	0.025	0.03	0.22	0.1	4	0.2	0.1	1.12	0.09	0.9	0.23	0.0254	2.03	0.06	0.28	1.08	Supercritical
7116+00 - 7117+70	0.025	0.04	0.31	0.1	12	1.97	0.6	4.1	0.15	3.8	0.37	0.0177	3.29	0.17	0.48	1.46	Supercritical
7122+65 - 7123+80	0.025	0.02	0.26	0.1	22	1.53	0.73	5.93	0.12	5.69	0.26	0.019	2.09	0.07	0.33	1.02	Supercritical
7125+25 - 7125+25	0.025	0.04	0.14	0.1	13	0.23	0.12	1.92	0.06	1.79	0.15	0.0237	1.89	0.06	0.19	1.27	Supercritical
7126+00 - 7126+65	0.025	0.01	0.26	0.1	12	0.62	0.42	3.45	0.12	3.2	0.23	0.0207	1.47	0.03	0.3	0.71	Subcritical
7130+70 - 7131+05	0.025	0.03	0.07	0.1	22	0.06	0.06	1.63	0.03	1.56	0.07	0.0293	1.08	0.02	0.09	1.01	Supercritical
7131+05 - 7131+50	0.025	0.03	0.1	0.1	22	0.17	0.12	2.41	0.05	2.32	0.11	0.0255	1.4	0.03	0.14	1.08	Supercritical
7132+90 - 7135+15	0.025	0.04	0.32	0.1	11	1.91	0.57	3.88	0.15	3.57	0.37	0.0178	3.33	0.17	0.49	1.46	Supercritical
7174+90 - 7174+90	0.025	0.02	0.11	0.1	19	0.15	0.12	2.29	0.05	2.18	0.11	0.0256	1.2	0.02	0.14	0.89	Subcritical
7194+00 - 7194+00	0.025	0.06	0.33	0.1	8	1.76	0.43	2.97	0.15	2.65	0.41	0.0179	4.05	0.25	0.58	1.76	Supercritical
7201+30 - 7208+00	0.025	0.03	0.31	0.1	4	0.5	0.2	1.58	0.12	1.27	0.33	0.0225	2.55	0.1	0.41	1.15	Supercritical
7213+20 - 7214+20	0.025	0.01	0.21	0.1	5	0.13	0.11	1.27	0.09	1.07	0.17	0.0261	1.17	0.02	0.23	0.64	Subcritical
7217+35 - 7219+40	0.025	0.05	0.33	0.1	5	0.96	0.27	1.99	0.14	1.67	0.39	0.02	3.53	0.19	0.52	1.54	Supercritical
7228+81 - 7229+30	0.025	0.04	0.44	0.1	8	3.14	0.78	3.98	0.2	3.56	0.52	0.0166	4.02	0.25	0.69	1.51	Supercritical
7239+50 - 7240+48	0.025	0.04	0.21	0.1	7	0.36	0.15	1.66	0.09	1.46	0.23	0.0223	2.4	0.09	0.29	1.32	Supercritical
7240+48 - 7243+25	0.025	0.1	0.18	0.1	7	0.42	0.12	1.48	0.08	1.3	0.24	0.0218	3.52	0.19	0.38	2.05	Supercritical
724975-725220 BERM	0.025	0.095	0.34	4.17	0.1	1.24	0.25	1.82	0.14	1.47	0.46	0.0198	4.91	0.37	0.72	2.09	Supercritical
726770-726925 BERM	0.025	0.02	0.58	0.1	5	2.76	0.85	3.52	0.24	2.94	0.59	0.0174	3.25	0.16	0.74	1.07	Supercritical
726925-727210 BERM	0.025	0.033	0.41	0.1	5.88	1.71	0.5	2.86	0.18	2.46	0.46	0.0183	3.39	0.18	0.59	1.32	Supercritical
728385-728770 BERM	0.025	0.036	0.38	0.1	7.14	1.82	0.53	3.14	0.17	2.77	0.44	0.0179	3.44	0.18	0.57	1.39	Supercritical
729380-729640 BERM	0.025	0.02	0.46	4.17	0.1	1.26	0.46	2.45	0.19	1.98	0.46	0.0197	2.75	0.12	0.58	1.01	Supercritical
730865-731075 BERM	0.025	0.032	0.39	0.1	7.69	1.92	0.58	3.39	0.17	3.02	0.43	0.0177	3.29	0.17	0.56	1.32	Supercritical
732505-732595 BERM	0.025	0.296	0.14	0.1	3.33	0.14	0.03	0.61	0.05	0.46	0.21	0.0276	4.47	0.31	0.45	3.03	Supercritical
732610-732725 BERM1	0.025	0.061	0.44	11.11	0.1	5.35	1.06	5.3	0.2	4.88	0.56	0.0155	5.03	0.39	0.83	1.9	Supercritical
732610-732725 BERM2	0.025	0.119	0.38	0.1	11.11	5.35	0.83	4.67	0.18	4.31	0.56	0.0155	6.47	0.65	1.03	2.6	Supercritical
733885-733955 BERM	0.025	0.026	0.24	0.1	6.25	0.4	0.19	1.78	0.11	1.54	0.25	0.0221	2.14	0.07	0.31	1.08	Supercritical
734050-734145 BERM	0.025	0.118	0.4	0.1	20	10.68	1.59	8.35	0.19	7.98	0.59	0.0146	6.74	0.7	1.1	2.66	Supercritical
734145-734205 BERM	0.025	0.035	0.25	8.33	0.1	0.69	0.27	2.36	0.11	2.12	0.28	0.0203	2.6	0.1	0.36	1.29	Supercritical
734885-734925 BERM	0.025	0.178	0.15	3.57	0.1	0.15	0.04	0.7	0.06	0.54	0.21	0.0269	3.74	0.22	0.37	2.42	Supercritical
735120-735335 BERM	0.025	0.15	0.35	0.1	3.03	1.16	0.2	1.48	0.13	1.1	0.51	0.0212	5.95	0.55	0.9	2.5	Supercritical
748610-748855 BERM	0.025	0.018	0.38	10	0.1	1.81	0.73	4.2	0.17	3.84	0.38	0.0179	2.48	0.1	0.48	1	Supercritical
748855-749340 BERM	0.025	0.047	0.35	0.1	11.11	2.58	0.68	4.23	0.16	3.9	0.42	0.0171	3.8	0.22	0.57	1.6	Supercritical
749340-749710 BERM	0.025	0.0068	0.39	0.1	10	1.19	0.77	4.31	0.18	3.94	0.32	0.0189	1.55	0.04	0.43	0.62	Subcritical
749710-749795 BERM	0.025	0.012	0.15	0.1	12.5	0.16	0.14	2.05	0.07	1.91	0.13	0.0248	1.11	0.02	0.17	0.71	Subcritical
749920-750225 BERM	0.025	0.062	0.32	0.1	20	4.18	1	6.63	0.15	6.33	0.4	0.0165	4.19	0.27	0.59	1.86	Supercritical
750225-750670 BERM	0.025	0.013	0.43	0.1	12.5	2.76	1.18	5.87	0.2	5.46	0.41	0.017	2.33	0.08	0.52	0.88	Subcritical
750670-751050 BERM	0.025	0.042	0.29	0.1	10	1.35	0.43	3.21	0.13	2.93	0.34	0.0186	3.17	0.16	0.45	1.47	Supercritical
751945-752050 BERM	0.025	0.08	0.51	0.1	8.33	7.01	1.11	4.82	0.23	4.33	0.7	0.0149	6.32	0.62	1.13	2.2	Supercritical
754600-754760 BERM	0.025	0.091	0.27	12.5	0.1	1.98	0.45	3.6	0.12	3.35	0.36	0.0177	4.45	0.31	0.57	2.15	Supercritical
755145-755380 BERM	0.025	0.107	0.25	0.1	11.11	1.53	0.34	2.98	0.11	2.75	0.34	0.0183	4.54	0.32	0.57	2.29	Supercritical
7641+91 - 7650+41 CHN-	0.025	0.13	0.35	20	0.1	7.72	1.2	7.26	0.16	6.94	0.52	0.0152	6.45	0.65	0.99	2.74	Supercritical
7650+41 - 7654+18 CHN -	0.025	0.04	0.34	30	0.1	6.34	1.76	10.62	0.17	10.31	0.41	0.0161	3.59	0.2	0.54	1.53	Supercritical
7654+18 - 7655+33 CHN-	0.025	0.07	0.16	20	0.1	0.73	0.26	3.37	0.08	3.22	0.2	0.0208	2.83	0.12	0.28	1.77	Supercritical
7655+33 - 7659+21 CHN-	0.023	0.25	0.13	30	0.1	1.25	0.25	3.98	0.06	3.86	0.21	0.017	5.05	0.4	0.52	3.52	Supercritical
7661+90 - 7662+37 CHN -	0.025	0.04	0.13	3.5	0.1	0.05	0.03	0.61	0.05	0.47	0.14	0.0313	1.63	0.04	0.17	1.12	Supercritical
7665+88 - 7668+37 CHN -	0.025	0.01	0.51	20	0.1	6.16	2.65	10.79	0.25	10.31	0.47	0.0157	2.33	0.08	0.6	0.81	Subcritical
7668+37 - 7670+45 CHN-	0.025	0.03	0.22	15	0.1	0.85	0.37	3.56	0.1	3.35	0.24	0.02	2.28	0.08	0.3	1.21	Supercritical
7672+35 - 7673+37 CHN	0.025	0.12	0.58	18	0.1	26.38	3.03	11.01	0.28	10.47	0.88	0.0128	8.71	1.18	1.76	2.86	Supercritical
7747+75 - 7749+75 CHN -	0.025	0.05	1.48	0.33	0.1	1.81	0.47	3.05	0.15	0.64	1.35	0.0838	3.83	0.23	1.71	0.78	Subcritical
7789+20 - 7791+51 CHN-	0.025	0.03	0.57	5	0.1	3.35	0.84	3.51	0.24	2.93	0.64	0.0169	3.98	0.25	0.82	1.31	Supercritical
7834+12 - 7834+38 CHN-	0.025	0.03	0.56	1	0.1	0.44	0.17	1.34	0.13	0.61	0.52	0.0407	2.59	0.1	0.66	0.87	Subcritical
7853+49 - 7853+87 CHN-	0.025	0.14	0.46	5	0.1	3.95	0.53	2.8	0.19	2.34	0.68	0.0166	7.38	0.85	1.31	2.72	Supercritical
7854+15 - 7854+72 CHN	0.025	0.11	0.42	7	0.1	4.05	0.63	3.41	0.19	3	0.6	0.0161	6.41	0.64	1.06	2.46	Supercritical
7860+07 - 7861+06 CHN-	0.025	0.02	0.62	4	0.1	2.58	0.78	3.16	0.25	2.53	0.63	0.0181	3.31	0.17	0.79	1.05	Supercritical
7865+30 - 7865+70 CHN-	0.025	0.05	1.01	5	0.1	19.67	2.62	6.19	0.42	5.17	1.3	0.0134	7.5	0.87	1.89	1.86	Supercritical
7871+25 - 7873+16 CHN -	0.025	0.03	3.33	0.5	0.1	20.68	3.32	7.06	0.47	2	3.12	0.0423	6.23	0.6	3.93	0.85	Subcritical
7876+37 - 7878+39 CHN	0.025	0.02	0.81	4	0.1	5.29	1.34	4.14	0.32	3.31	0.84	0.0164	3.95	0.24	1.05	1.1	Supercritical
7878+92 - 7879+51 CHN	0.025	0.25	0.14	15	0.1	0.73	0.15	2.26	0.07	2.13	0.23	0.0204	4.88	0.37	0.51	3.24	Supercritical
7883+00 - 7884+27 CHN -	0.025	0.033	0.24	20	0.1	1.44	0.57	5	0.11	4.78	0.26	0.019	2.53	0.1	0.34	1.3	Supercritical
7904+51 - 7906+26 CHN -	0.025	0.06	0.55	5	0.1	4.11	0.76	3.33	0.23	2.78	0.69	0.0165	5.43	0.46	1	1.83	Supercritical
7922+75 - 7923+53 CHN -	0.025	0.01	0.74	8	0.1	6.25	2.2	6.69	0.33	5.98	0.68	0.0152	2.84	0.12	0.86	0.82	Subcritical
7932+73 - 7933+10 CHN	0.025	0.27	0.08	23	0.1	0.25	0.07	1.89	0.04	1.82	0.12	0.0243	3.49	0.19	0.27	3.1	Supercritical
7950+55 - 7951+06 CHN	0.025	0.45	0.16	4	0.1	0.34	0.05	0.83	0.06	0.66	0.28	0.0237	6.4	0.64	0.8		

Huntingdon County
Temporary Diversion Berm Calculations

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Flow Type
7955+08 - 7955+55 CHN	0.025	0.02	0.11	12.5	0.1	0.08	0.07	1.44	0.05	1.34	0.1	0.0272	1.13	0.02	0.13	0.86	Subcritical
7955+69 - 7958+71 CHN -	0.025	0.05	0.13	20	0.1	0.38	0.18	2.81	0.06	2.69	0.15	0.0227	2.12	0.07	0.2	1.44	Supercritical
7968+73 - 7969+04 CHN -	0.025	0.06	1.17	0.5	0.1	1.79	0.41	2.48	0.16	0.7	1.17	0.0587	4.38	0.3	1.47	1.01	Supercritical
7969+38 - 7969+91 CHN -	0.025	0.15	0.33	1	0.1	0.25	0.06	0.8	0.08	0.37	0.42	0.0439	4.12	0.26	0.6	1.78	Supercritical
7974+63 - 7977+32 CHN-	0.025	0.04	0.46	4	0.1	1.69	0.44	2.37	0.18	1.9	0.53	0.0191	3.86	0.23	0.69	1.41	Supercritical
7791+51 - 7795+49 CHN -	0.025	0.03	0.4	15	0.1	4.03	1.19	6.38	0.19	6.01	0.45	0.0163	3.37	0.18	0.57	1.33	Supercritical
7958+71 - 7962+31 CHN	0.025	0.04	0.3	14	0.1	1.99	0.62	4.47	0.14	4.19	0.35	0.0178	3.19	0.16	0.46	1.46	Supercritical
8030+50 to 8032+00 CHN	0.025	0.04	0.47	0.1	5	2.21	0.55	2.84	0.19	2.38	0.54	0.0179	3.99	0.25	0.71	1.46	Supercritical
8068+25 to 8069+50 CHN	0.025	0.03	0.26	0.1	35	3.14	1.2	9.43	0.13	9.19	0.29	0.018	2.61	0.11	0.37	1.27	Supercritical
8095+40 to 8096+25 CHN	0.025	0.01	0.2	0.1	70	1.71	1.36	13.99	0.1	13.81	0.17	0.021	1.26	0.02	0.22	0.71	Subcritical
8106+40 to 8107+00 CHN	0.025	0.05	0.1	0.1	22	0.2	0.11	2.33	0.05	2.24	0.12	0.0249	1.76	0.05	0.15	1.38	Supercritical
8127+80 to 8128+30 CHN	0.025	0.07	0.1	0.1	8	0.08	0.04	0.91	0.04	0.81	0.12	0.0271	1.98	0.06	0.16	1.56	Supercritical
8128+00 to 8128+75 CHN	0.025	0.15	0.11	0.1	6	0.11	0.04	0.78	0.05	0.67	0.15	0.0263	3	0.14	0.25	2.26	Supercritical
8128+30 to 8129+00 CHN	0.025	0.06	0.23	0.1	6	0.53	0.17	1.66	0.1	1.43	0.28	0.0213	3.16	0.16	0.39	1.63	Supercritical
8135+37 to 8136+00 CHN	0.025	0.05	0.32	0.1	12	2.4	0.64	4.24	0.15	3.93	0.4	0.0173	3.76	0.22	0.54	1.65	Supercritical
8136+30 to 8136+86 CHN	0.025	0.05	0.15	0.1	10	0.26	0.12	1.68	0.07	1.53	0.18	0.0231	2.24	0.08	0.23	1.43	Supercritical
8162+75 to 8163+50 CHN	0.025	0.06	0.61	0.1	5	5.56	0.95	3.73	0.25	3.11	0.78	0.0158	5.85	0.53	1.14	1.87	Supercritical
8163+50 to 8164+25 CHN	0.025	0.09	0.42	0.1	7	3.67	0.63	3.41	0.19	3	0.58	0.0163	5.8	0.52	0.95	2.23	Supercritical
8165+25 to 8166+75 CHN	0.025	0.09	0.24	0.1	4	0.44	0.12	1.23	0.1	0.98	0.31	0.0229	3.74	0.22	0.46	1.9	Supercritical
8168+50 to 8171+25 CHN	0.025	0.02	0.3	0.1	16	1.71	0.74	5.17	0.14	4.89	0.31	0.0183	2.3	0.08	0.39	1.04	Supercritical
8181+00 to 8182+90 CHN	0.025	0.04	0.56	0.1	5	3.57	0.79	3.4	0.23	2.84	0.66	0.0168	4.5	0.31	0.87	1.5	Supercritical
8182+90 to 8184+90 CHN	0.025	0.15	0.3	0.1	3	0.75	0.14	1.25	0.11	0.93	0.43	0.0226	5.35	0.44	0.75	2.43	Supercritical
8184+90 to 8186+75 CHN	0.025	0.03	0.83	0.1	5	8.88	1.75	5.06	0.35	4.22	0.95	0.0149	5.07	0.4	1.23	1.39	Supercritical
8186+75 to 8189+00 CHN	0.025	0.05	0.2	0.1	6	0.31	0.12	1.41	0.09	1.21	0.23	0.0229	2.57	0.1	0.3	1.44	Supercritical
8189+00 to 8190+00 CHN	0.025	0.04	0.32	0.1	6	1	0.31	2.28	0.14	1.96	0.37	0.0196	3.18	0.16	0.48	1.4	Supercritical
8218+25 to 8220+00 CHN	0.025	0.03	0.26	0.1	11	0.95	0.38	3.15	0.12	2.9	0.28	0.0195	2.51	0.1	0.36	1.22	Supercritical
8220+15 to 8220+50 CHN	0.025	0.05	0.19	0.1	15	0.75	0.28	3.09	0.09	2.91	0.23	0.0204	2.68	0.11	0.3	1.52	Supercritical
8382+50 to 8383+50 CHN	0.025	0.04	0.2	0.1	5	0.22	0.1	1.2	0.08	1	0.22	0.0243	2.24	0.08	0.27	1.26	Supercritical
8383+50 to 8385+50 CHN	0.025	0.05	0.2	0.1	9	0.5	0.19	2.03	0.09	1.84	0.24	0.0212	2.69	0.11	0.31	1.49	Supercritical
8389+30 to 8389+90 CHN	0.025	0.13	0.25	0.1	2	0.27	0.07	0.82	0.08	0.53	0.33	0.0295	4.03	0.25	0.51	2	Supercritical
8413+45 to 8414+35 CHN	0.025	0.05	0.32	0.1	12	2.4	0.64	4.24	0.15	3.93	0.4	0.0173	3.76	0.22	0.54	1.65	Supercritical

Huntingdon County
Temporary Slope Pipe Calculations

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Diameter (ft)	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Percent Full (%)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Maximum Discharge (ft ³ /s)	Discharge Full (ft ³ /s)	Slope Full (ft/ft)	Flow Type
7042+25 - 7043+05	0.023	0.08	0.17	0.5	0.22	0.06	0.62	0.09	0.47	0.24	33.7	0.0237	3.78	0.22	0.39	1.9	0.96	0.9	0.00481	SuperCritical
7045+90 - 7046+00	0.023	0.21	0.22	0.5	0.56	0.08	0.72	0.11	0.5	0.38	43.1	0.0361	6.92	0.75	0.96	3.02	1.56	1.45	0.03118	SuperCritical
7047+50 - 7049+20	0.023	0.2	0.15	0.5	0.29	0.05	0.59	0.09	0.46	0.27	30.7	0.0252	5.67	0.5	0.65	3	1.53	1.42	0.00836	SuperCritical
7087+40 - 7095+20	0.023	0.13	0.71	1	6.19	0.6	2	0.3	0.91	0.96	71	0.0823	10.39	1.68	2.39	2.26	7.81	7.26	0.0945	SuperCritical
7095+20 - 7106+60	0.023	0.25	0.48	0.67	2.98	0.27	1.35	0.2	0.6	0.66	71.5	0.1686	11.05	1.9	2.38	2.92	3.72	3.46	0.18538	SuperCritical
7105+33 - 7006+20	0.023	0.05	0.18	0.5	0.2	0.06	0.65	0.1	0.48	0.22	36.3	0.0233	3.11	0.15	0.33	1.5	0.76	0.71	0.00398	SuperCritical
7116+00 - 7117+70	0.023	0.02	0.61	1	1.97	0.5	1.8	0.28	0.97	0.6	61.2	0.0213	3.91	0.24	0.85	0.96	3.06	2.85	0.00957	SubCritical
7125+25 - 7125+25	0.023	0.08	0.17	0.5	0.23	0.06	0.63	0.1	0.48	0.24	34.5	0.0239	3.83	0.23	0.4	1.9	0.96	0.9	0.00526	SuperCritical
7130+70 - 7131+05	0.023	0.06	0.09	0.5	0.06	0.03	0.45	0.06	0.39	0.12	18.8	0.0223	2.35	0.09	0.18	1.62	0.84	0.78	0.00036	SuperCritical
7131+05 - 7131+50	0.023	0.07	0.15	0.5	0.17	0.05	0.59	0.09	0.46	0.21	30.6	0.0228	3.34	0.17	0.33	1.77	0.9	0.84	0.00287	SuperCritical
7132+90 - 7135+15	0.023	0.10	0.15	0.5	1.91	0.05	0.58	0.08	0.46	0.5	29.6	0.0349	39.26	24	24.1	21.2	10.79	10.03	0.36274	SuperCritical
7174+90 - 7174+90	0.023	0.21	0.11	0.5	0.15	0.03	0.48	0.06	0.41	0.19	21.7	0.0225	4.78	0.35	0.46	3.05	1.56	1.45	0.00224	SuperCritical
7194+00 - 7194+00	0.023	0.08	0.5	0.67	1.76	0.28	1.39	0.2	0.59	0.61	74.1	0.0567	6.29	0.61	1.11	1.61	2.11	1.96	0.06466	SuperCritical
7201+30 - 7208+00	0.023	0.39	0.17	0.5	0.5	0.06	0.62	0.1	0.47	0.36	34.2	0.0329	8.42	1.1	1.27	4.2	2.13	1.98	0.02486	SuperCritical
7213+20 - 7214+20	0.023	0.24	0.1	0.5	0.13	0.03	0.46	0.06	0.4	0.18	19.6	0.0223	4.79	0.36	0.45	3.23	1.67	1.55	0.00168	SuperCritical
7217+35 - 7219+40	0.023	0.11	0.38	0.5	0.96	0.16	1.05	0.15	0.43	0.47	75	0.0792	6.07	0.57	0.95	1.77	1.13	1.05	0.09164	SuperCritical
7228+81 - 7229+30	0.023	0.18	0.61	0.67	3.14	0.34	1.69	0.2	0.39	0.66	90.8	0.1886	9.34	1.35	1.96	1.77	3.16	2.94	0.20582	SuperCritical
7239+50 - 7240+48	0.023	0.16	0.18	0.5	0.36	0.06	0.65	0.1	0.48	0.3	36.4	0.0272	5.57	0.48	0.66	2.68	1.36	1.27	0.01289	SuperCritical
7240+48 - 7243+25	0.023	0.31	0.17	0.5	0.42	0.06	0.61	0.09	0.47	0.33	33.2	0.0293	7.38	0.85	1.01	3.74	1.97	1.77	0.01754	SuperCritical
724975-725220 PIPE	0.024	0.15	0.44	0.5	1.24	0.18	1.22	0.15	0.33	0.49	87.9	0.1477	6.78	0.71	1.15	1.6	1.27	1.18	0.16647	SuperCritical
726770-726925 PIPE	0.024	0.12	0.45	1	2.76	0.34	1.47	0.23	0.99	0.71	44.8	0.0279	8.1	1.02	1.47	2.44	7.19	6.68	0.02046	SuperCritical
726925-727210 PIPE	0.024	0.13	0.42	0.67	1.71	0.23	1.22	0.19	0.65	0.6	62.6	0.0587	7.37	0.84	1.26	2.17	2.57	2.39	0.06646	SuperCritical
728385-728770 PIPE	0.024	0.19	0.39	0.67	1.82	0.21	1.15	0.18	0.66	0.61	57.5	0.0656	8.67	1.17	1.55	2.71	3.11	2.89	0.07529	SuperCritical
729380-729640 PIPE	0.024	0.29	0.33	0.5	1.26	0.14	0.95	0.14	0.47	0.49	65.8	0.1529	9.19	1.31	1.64	3.02	1.76	1.64	0.17188	SuperCritical
732610-732725 PIPE1	0.024	0.06	0.57	2	5.35	0.74	2.26	0.33	1.81	0.82	28.6	0.0156	7.22	0.81	1.38	1.99	32.29	30.01	0.00191	SuperCritical
732610-732725 PIPE2	0.024	0.13	0.66	1	5.35	0.55	1.89	0.29	0.95	0.93	65.8	0.0665	9.77	1.48	2.14	2.27	7.48	6.96	0.07686	SuperCritical
733885-733955 PIPE	0.024	0.29	0.13	1	0.4	0.06	0.75	0.08	0.68	0.26	13.4	0.0192	6.38	0.63	0.77	3.71	11.18	10.39	0.00043	SuperCritical
734050-734145 PIPE	0.024	0.11	0.88	1.33	10.68	0.98	2.54	0.39	1.26	1.23	66.4	0.0579	10.89	1.84	2.73	2.17	14.73	13.69	0.06693	SuperCritical
734145-734205 PIPE	0.024	0.2	0.25	0.5	0.69	0.1	0.79	0.13	0.5	0.42	50.4	0.0495	6.95	0.75	1	2.75	1.46	1.36	0.05155	SuperCritical
734885-734925 PIPE	0.024	0.13	0.13	0.5	0.15	0.04	0.52	0.07	0.43	0.19	25	0.0245	3.91	0.24	0.36	2.31	1.18	1.1	0.00244	SuperCritical
735120-735335 PIPE	0.024	0.19	0.36	0.5	1.16	0.15	1.02	0.15	0.45	0.48	72.5	0.128	7.61	0.9	1.26	2.3	1.43	1.32	0.14568	SuperCritical
748610-748855 PIPE	0.024	0.07	0.57	0.67	1.81	0.32	1.57	0.2	0.48	0.61	85.1	0.0649	5.66	0.5	1.07	1.22	1.89	1.75	0.07447	SuperCritical
748855-749340 PIPE	0.024	0.16	0.53	0.67	2.58	0.3	1.48	0.2	0.54	0.65	79.6	0.1344	8.57	1.14	1.68	2.03	2.85	2.65	0.1513	SuperCritical
749340-749710 PIPE	0.024	0.16	0.4	0.5	1.19	0.17	1.11	0.15	0.4	0.49	80.2	0.1352	7.05	0.77	1.17	1.91	1.31	1.22	0.15332	SuperCritical
749710-749795 PIPE	0.024	0.15	0.12	0.5	0.16	0.04	0.52	0.07	0.43	0.2	24.9	0.0247	4.19	0.27	0.4	2.48	1.27	1.18	0.00277	SuperCritical
749920-750225 PIPE	0.024	0.22	0.48	1	4.18	0.37	1.53	0.24	1	0.86	47.7	0.0433	11.3	1.98	2.46	3.27	9.74	9.05	0.04692	SuperCritical
750225-750670 PIPE	0.024	0.19	0.52	0.67	2.76	0.3	1.45	0.2	0.55	0.66	78.2	0.1555	9.34	1.35	1.88	2.25	3.11	2.89	0.17315	SuperCritical
750670-751050 PIPE	0.024	0.24	0.37	0.5	1.35	0.16	1.04	0.15	0.43	0.49	74.7	0.1775	8.59	1.15	1.52	2.52	1.6	1.49	0.19371	SuperCritical
751945-752050 PIPE	0.024	0.12	0.87	1	7.01	0.73	2.41	0.3	0.67	0.98	87.2	0.1171	9.65	1.45	2.32	1.63	7.19	6.68	0.13196	SuperCritical
754600-754760 PIPE	0.024	0.08	0.59	0.67	1.98	0.33	1.63	0.2	0.43	0.63	88.2	0.077	6.02	0.56	1.15	1.22	2.02	1.88	0.08911	SuperCritical
7641+91 - 7650+41 PIPE	0.023	0.31	0.61	1	7.72	0.5	1.79	0.28	0.98	0.98	61	0.1325	15.39	3.68	4.29	3.79	12.06	11.21	0.14698	SuperCritical
7650+41 - 7654+18 PIPE	0.023	0.5	0.47	1	6.34	0.36	1.51	0.24	1	0.96	46.7	0.0866	17.61	4.82	5.28	5.17	15.32	14.24	0.09913	SuperCritical
7654+18 - 7655+33 PIPE	0.023	0.5	0.2	0.5	0.73	0.07	0.68	0.11	0.49	0.43	39.2	0.0492	10.22	1.62	1.82	4.71	2.41	2.24	0.05299	SuperCritical
7655+33 - 7659+21 PIPE	0.023	0.39	0.29	0.5	1.25	0.12	0.86	0.14	0.49	0.49	57.6	0.1381	10.67	1.77	2.06	3.86	2.13	1.98	0.15536	SuperCritical
7661+90 - 7662+37 PIPE	0.023	0.5	0.05	0.5	0.05	0.01	0.33	0.03	0.11	0.10	10.3	0.0225	4.67	0.34	0.39	4.39	2.41	2.24	0.00025	SuperCritical
7665+88 - 7668+37 PIPE	0.023	0.13	0.71	1	6.16	0.59	2	0.3	0.91	0.96	70.7	0.0815	10.37	1.67	2.38	2.26	7.81	7.26	0.09358	SuperCritical
7668+37 - 7670+45 PIPE	0.023	0.3	0.25	0.5	0.85	0.1	0.78	0.12	0.5	0.45	49.4	0.0629	8.8	1.2	1.45	3.53	1.87	1.74	0.07184	SuperCritical
7747+75 - 7749+75 PIPE	0.023	0.13	0.42	0.67	1.81	0.23	1.23	0.19	0.65	0.61	62.2	0.0596	7.71	0.92	1.35	2.26	2.68	2.5	0.06839	SuperCritical
7789+20 - 7791+51 PIPE	0.023	0.06	0.6	1	3.35	0.5	1.78	0.28	0.98	0.78	60.4	0.0302	6.75	0.71	1.31	1.67	5.31	4.93	0.02768	SuperCritical
7791+51 - 7795+49 PIPE	0.023	0.04	0.82	1	4.03	0.69	2.27	0.3	0.77	0.85	82	0.0377	5.85	0.53	1.35	1.09	4.33	4.03	0.04005	SuperCritical
7834+12 - 7834+38 PIPE	0.023	0.02	0.4	0.5	0.44	0.17	1.11	0.15	0.4	0.34	80.3	0.0302	2.6	0.11	0.51	0.7	0.48	0.45	0.01925	SubCritical
7860+07 - 7861+06 PIPE	0.023	0.03	0.64	1	2.58	0.53	1.85	0.29	0.96	0.69	64	0.0245	4.86	0.37	1.01	1.15	3.75	3.49	0.01642	SuperCritical
7865+30 - 7865+70 PIPE	0.023	0.03	1.47	2	19.67	2.47	4.11	0.6	1.77	1.59	73.4	0.025	7.96	0.99	2.45	1.19	23.82	22.15	0.02367	SuperCritical
7871+25 - 7873+16 PIPE	0.023	0.01	1.36	2	10.34	2.28	3.89	0.59	1.86	1.15	68.2	0.0165	4.53	0.32	1.68	0.72	13.75	12.79	0.00654	SubCritical
7883+00 - 7884+27 PIPE	0.023	0.22	0.31	0.67	1.44	0.16	1.01	0.16	0.67	0.56	46.6	0.0415	8.93	1.24	1.55	3.21	3.49	3.25	0.04329	SuperCritical
7904+51 - 7906+26 PIPE	0.023	0.06	0.7	1	4.11	0.59	1.98	0.3	0.92	0.86	69.8	0.0388	7.02	0.77	1.46	1.55	5.31	4.93	0.04166	SuperCritical
7922+75 - 7923+53 PIPE	0.023	0.05	0.61	1	3.13	0.51	1.8	0.28	0.97	0.76	61.4	0.0283	6.19	0.6	1.21	1.52	4.84	4.5	0.02416	SuperCritical
7951+58 - 7952+42 PIPE	0.023	0.2	0.17	0.5	0.34	0.06	0.62	0.09	0.47	0.3	33.3	0.0266	5.94	0.55	0.71	3	1.53	1.42	0.01149	SuperCritical
7955+69 - 7958+71 PIPE	0.023	0.11																		

Huntingdon County
Temporary Slope Pipe Calculations

8182+90 to 8184+90 PIPE	0.012	0.2	0.18	0.5	0.75	0.06	0.64	0.1	0.48	0.43	35.9	0.0139	11.85	2.18	2.36	5.75	2.92	2.72	0.01522	SuperCritical
8184+90 to 8186+75 PIPE	0.012	0.17	0.53	1	8.88	0.43	1.64	0.26	1	0.99	53.4	0.0488	20.82	6.74	7.27	5.61	17.12	15.91	0.05294	SuperCritical
8186+75 to 8189+00 PIPE	0.012	0.11	0.13	0.5	0.31	0.04	0.54	0.08	0.44	0.28	26.5	0.007	7.43	0.86	0.99	4.26	2.17	2.02	0.0026	SuperCritical
8189+00 to 8190+00 PIPE	0.012	0.1	0.26	0.5	1	0.1	0.8	0.13	0.5	0.47	51.2	0.0234	9.89	1.52	1.78	3.88	2.07	1.92	0.02707	SuperCritical
8218+25 to 8220+00 PIPE	0.012	0.04	0.33	0.5	0.95	0.14	0.95	0.15	0.47	0.47	66.5	0.0211	6.85	0.73	1.06	2.23	1.31	1.22	0.02443	SuperCritical
8220+15 to 8220+50 PIPE	0.012	0.06	0.25	0.5	0.75	0.1	0.79	0.13	0.5	0.43	50.2	0.0139	7.6	0.9	1.15	3.02	1.6	1.49	0.01522	SuperCritical
8382+50 to 8383+50 PIPE	0.012	0.21	0.09	0.5	0.22	0.03	0.45	0.06	0.39	0.24	19	0.0064	8.48	1.12	1.21	5.81	3	2.79	0.00131	SuperCritical
8383+50 to 8385+50 PIPE	0.012	0.17	0.15	0.5	0.5	0.05	0.58	0.09	0.46	0.36	30.3	0.0089	9.94	1.54	1.69	5.3	2.7	2.51	0.00677	SuperCritical

Juniata County

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
8450+00	8453+25	30,080	100	0.09	Type D	0.400	8.14	43	0.14	1.70	0.42	8.56	4.15	0.20	0.024	16:1	0.57	12	0.22	6
8453+25	8455+20	24,660	100	0.05	Type D	0.400	9.34	302	0.13	1.65	3.05	12.39	3.61	0.20	0.092	22:1	0.41	12	0.31	6
8455+20	8457+75	53,500	100	0.10	Type D	0.400	7.94	228	0.15	1.70	2.24	10.18	3.90	0.20	0.110	33.5:1	0.96	12	0.41	6
8457+75	8460+15	57,270	100	0.04	Type D	0.400	9.84	344	0.18	1.80	3.19	13.02	3.53	0.20	0.025	5:1	0.93	12	0.47	6
8460+15	8464+03	41,512	100	0.08	Type D	0.400	8.37	464	0.23	2.30	3.36	11.73	3.69	0.20	0.155	22:1	0.70	12	0.38	6
8477+55	8478+54	109,577	100	0.05	Type D	0.400	9.34	535	0.15	1.70	5.25	14.58	3.36	0.20	0.061	33:1	1.69	12	0.08	8
8522+57	8525+77	193,814	100	0.01	Type D	0.300	11.89	1016	0.07	1.50	11.29	23.18	2.64	0.31	0.022	4:1	3.64	18	0.05	12
8528+76	8531+83	66,400	100	0.02	Type D	0.300	10.11	420	0.10	2.30	3.04	13.16	3.51	0.31	0.059	22:1	1.66	12	0.10	8
8531+83	8536+45	181,074	100	0.07	Type D	0.400	8.63	1032	0.09	1.90	9.05	17.69	3.06	0.31	0.017	17:1	3.94	12	0.16	12

**Juniata County
Temporary Diversion Berm Calculations**

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Flow Type
8450+00 - 8453+25 CHN	0.025	0.024	0.19	16	0.1	0.57	0.3	3.31	0.09	3.13	0.2	0.0212	1.87	0.05	0.25	1.06	Supercritical
8453+25 - 8455+20 CHN	0.025	0.092	0.12	22	0.1	0.41	0.15	2.72	0.06	2.61	0.15	0.0226	2.65	0.11	0.23	1.92	Supercritical
8455+20 - 8457+75 CHN	0.025	0.11	0.13	33.5	0.1	0.96	0.3	4.62	0.07	4.5	0.18	0.021	3.18	0.16	0.29	2.17	Supercritical
8457+75 - 8460+15 CHN	0.025	0.025	0.37	5	0.1	0.93	0.34	2.25	0.15	1.88	0.38	0.0201	2.7	0.11	0.48	1.11	Supercritical
8460+15 - 8464+03 CHN	0.025	0.155	0.13	22	0.1	0.7	0.19	3.02	0.06	2.89	0.19	0.0211	3.69	0.21	0.34	2.55	Supercritical
8477+55 - 8478+54 CHN	0.025	0.061	0.19	33	0.1	1.69	0.57	6.32	0.09	6.15	0.23	0.0194	2.96	0.14	0.32	1.71	Supercritical
8522+57 - 8525+77 CHN	0.025	0.022	0.69	4	0.1	3.64	0.97	3.54	0.28	2.83	0.72	0.0172	3.73	0.22	0.91	1.12	Supercritical
8528+76 - 8531+83 CHN	0.025	0.059	0.22	22	0.1	1.66	0.52	4.99	0.1	4.79	0.27	0.0188	3.19	0.16	0.38	1.71	Supercritical
8531+83 - 8536+45 CHN	0.025	0.017	0.42	17	0.1	3.94	1.5	7.54	0.2	7.15	0.42	0.0164	2.63	0.11	0.53	1.02	Supercritical

Juniata County
Temporary Slope Pipe Calculations

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Diameter (ft)	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Percent Full (%)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Maximum Discharge (ft ³ /s)	Discharge Full (ft ³ /s)	Slope Full (ft/ft)	Flow Type
8450+00 - 8453+25 PIPE	0.023	0.22	0.21	0.5	0.57	0.08	0.71	0.11	0.49	0.38	42.9	0.0367	7.08	0.78	0.99	3.09	1.6	1.49	0.03231	SuperCritical
8453+25 - 8455+20 PIPE	0.023	0.31	0.16	0.5	0.41	0.06	0.61	0.09	0.47	0.33	32.7	0.029	7.34	0.84	1	3.75	1.9	1.77	0.01671	SuperCritical
8455+20 - 8457+75 PIPE	0.023	0.41	0.24	0.5	0.96	0.09	0.77	0.12	0.5	0.47	48.4	0.0792	10.2	1.62	1.86	4.14	2.18	2.03	0.09164	SuperCritical
8457+75 - 8460+15 PIPE	0.023	0.47	0.23	0.5	0.93	0.09	0.74	0.12	0.5	0.46	45.7	0.0744	10.65	1.76	1.99	4.48	2.34	2.17	0.086	SuperCritical
8460+15 - 8464+03 PIPE	0.023	0.38	0.21	0.5	0.7	0.08	0.7	0.11	0.49	0.42	41.3	0.0464	9.14	1.3	1.5	4.08	2.1	1.95	0.04872	SuperCritical
8477+55 - 8478+54 PIPE	0.023	0.08	0.48	0.67	1.69	0.27	1.35	0.2	0.6	0.6	71.7	0.0528	6.25	0.61	1.09	1.65	2.11	1.96	0.05962	SuperCritical
8522+57 - 8525+77 PIPE	0.023	0.05	0.68	1	3.64	0.57	1.94	0.29	0.93	0.81	68.2	0.0331	6.38	0.63	1.31	1.44	4.84	4.5	0.03268	SuperCritical
8528+76 - 8531+83 PIPE	0.023	0.1	0.44	0.67	1.66	0.24	1.26	0.19	0.64	0.59	65.1	0.0513	6.83	0.72	1.16	1.95	2.35	2.19	0.05752	SuperCritical
8531+83 - 8536+45 PIPE	0.023	0.16	0.49	1	3.94	0.39	1.56	0.25	1	0.84	49.3	0.0366	10.2	1.62	2.11	2.89	8.66	8.05	0.03828	SuperCritical

Perry County

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
8972+00	8976+70	107,937	100	0.15	Type D	0.300	6.32	255	0.20	1.20	3.54	9.86	3.95	0.20	0.06	4:1	1.96	12	0.20	8
8942+20	8944+05	206,512	100	0.27	Type D	0.300	5.51	1220	0.14	0.95	21.40	26.91	2.41	0.20	0.02	24:1	2.29	12	0.06	12
8935+70	8936+35	27,341	100	0.02	Type D	0.300	10.11	337	0.01	0.35	16.05	26.16	2.46	0.16	0.02	20:1	0.25	12	NO PIPE	
8881+60	8882+20	175,872	100	0.13	Type D	0.300	6.53	710	0.14	0.95	12.46	18.99	2.95	0.20	0.17	3.5:1	2.38	12	0.18	8
8877+95	8878+90	2,325	45	0.31	Type D	0.300	3.67					5.00	4.82	0.20	0.13	2.5:1	0.05	12	0.30	6
8827+75	8829+70	52,169	100	0.10	Type D	0.300	6.94	90	0.26	1.30	1.15	8.10	4.22	0.20	0.08	3.5:1	1.01	12	0.24	6
8829+70	8833+85	16,655	100	0.15	Type D	0.300	6.32	60	0.37	1.50	0.67	6.98	4.42	0.20	0.04	4.5:1	0.34	12	0.15	6
8825+05	8825+60	10,490	100	0.12	Type D	0.300	6.65	370	0.21	1.20	5.14	11.79	3.68	0.20	0.09	6:1	0.18	12	0.09	6
8806+45	8807+60	98,999	100	0.10	Type D	0.300	6.94	780	0.16	0.95	13.68	20.63	2.82	0.20	0.03	7.5:1	1.28	12	0.08	8
8807+60	8809+40	138,583	100	0.12	Type D	0.300	6.65	755	0.16	0.95	13.25	19.90	2.87	0.20	0.07	7.5:1	1.83	12	0.08	8
8811+85	8815+85	115,328	100	0.09	Type D	0.300	7.12	875	0.09	0.80	18.23	25.35	2.50	0.20	0.04	6:1	1.33	12	0.19	6
8815+85	8818+30	120,911	100	0.10	Type D	0.300	6.94	715	0.10	0.80	14.90	21.84	2.73	0.20	0.06	6.5:1	1.52	12		
															0.01	6.5:1	1.52	12	0.13	8
8818+30	8819+25	13,417	100	0.10	Type D	0.300	6.94	260	0.11	0.80	5.42	12.36	3.61	0.20	0.05	4.5:1	0.22	12	0.11	6
8796+40	8799+45	182,142	100	0.09	Type D	0.300	7.12	540	0.26	1.30	6.92	14.04	3.41	0.20	0.04	8:1	2.86	12	0.16	8
8799+45	8803+45	207,054	100	0.07	Type D	0.300	7.55	720	0.22	1.20	10.00	17.55	3.07	0.20	0.02	11.5:1	2.92	12	0.07	12
8803+45	8804+05	61,371	100	0.08	Type D	0.300	7.32	790	0.21	1.20	10.97	18.29	3.00	0.20	0.32	9:1	0.85	12	NO PIPE	
8759+45	8761+10	158,190	100	0.11	Type D	0.300	6.79	1200	0.19	0.95	21.05	27.84	2.36	0.20	0.04	11.5:1	1.72	12	0.11	8
8761+10	8765+60	189,723	100	0.24	Type D	0.300	5.66	630	0.20	1.20	8.75	14.41	3.37	0.20	0.04	10:1	2.94	12		
															0.05	10:1	2.94	12	0.07	8
8765+60	8771+30	222,047	100	0.15	Type D	0.300	6.32	960	0.17	1.00	16.00	22.32	2.70	0.20	0.05	6.5:1	2.75	12	0.14	8
															0.07	8.5:1	2.75	12	0.14	8
8753+60	8755+50	206,296	100	0.11	Type D	0.300	6.79	1255	0.20	1.20	17.43	24.22	2.57	0.20	0.05	9:1	2.44	12	0.13	8
8755+50	8757+45	159,879	100	0.11	Type D	0.300	6.79	1060	0.24	1.30	13.59	20.38	2.84	0.20	0.08	9:1	2.08	12	0.11	8
8729+55	8731+25	127,192	100	0.18	Type D	0.300	6.05	435	0.13	0.90	8.06	14.11	3.41	0.20	0.004	17.5:1	1.99	12	0.05	12
8717+15	8720+75	60,296	100	0.08	Type D	0.300	7.32	260	0.15	0.95	4.56	11.88	3.67	0.20	0.06	10.5:1	1.02	12	0.11	6
8706+20	8706+55	183,337	100	0.40	Type D	0.300	5.02	3235	0.23	1.20	44.93	49.95	1.58	0.20	0.13	9:1	1.33	12	0.11	8
8706+55	8706+65	104,134	100	0.39	Type D	0.300	5.05	3280	0.22	1.20	45.56	50.61	1.57	0.20	0.05	9:1	0.75	12	0.11	6
8706+65	8707+20	101,703	100	0.40	Type D	0.300	5.02	3470	0.22	1.20	48.19	53.22	1.51	0.20	0.07	6.5:1	0.70	12	0.12	6
8668+10	8668+75	1,475	100	0.34	Type D	0.300	5.22	20	0.40	1.60	0.21	5.43	4.73	0.20	0.58	1.5:1	0.03	12	NO PIPE	
8644+90	8646+80	130,528	100	0.42	Type D	0.300	4.97	1670	0.23	1.30	21.41	26.38	2.44	0.20	0.09	10:1	1.46	12	0.09	8
8616+65	8617+75	34,231	100	0.16	Type D	0.400	7.12	705	0.11	1.50	7.83	14.95	3.32	0.31	0.09	10.5:1	0.81	12	NO PIPE	

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
8984+72	8986+88	233,119	100	0.04	Type D	0.400	9.84	1826	0.32	2.55	11.93	21.77	2.73	0.40	0.03	5:1	5.85	24	0.08	12
8988+06	8990+24	303,803	100	0.03	Type D	0.400	10.98	1714	0.34	2.65	10.78	21.76	2.73	0.40	0.08	17:1	7.63	24	0.15	12
8994+77	8997+05	707,517	100	0.10	Type D	0.300	6.94	1422	0.33	2.60	9.12	16.06	3.21	0.40	0.08	16:1	20.83	24	0.41	18
9005+33	9007+27	171,402	100	0.08	Type D	0.300	7.32	806	0.28	2.40	5.60	12.91	3.54	0.40	0.22	12:1	5.58	18	0.34	12
9041+74	9043+65	82,582	100	0.04	Type D	0.300	8.87	641	0.05	1.00	10.68	19.56	2.90	0.30	0.05	10:1	1.65	18	0.14	8
9057+01	9058+54	205,816	100	0.06	Type D	0.300	7.82	1194	0.36	2.75	7.24	15.06	3.31	0.40	0.01	50:1	6.25	18	0.52	8
9065+77	9069+39	242,859	100	0.01	Type D	0.300	11.89	2328	0.25	2.25	17.24	29.14	2.30	0.40	0.03	8:1	5.12	24	0.33	8
9101+86	9104+93	27,725	100	0.44	Type D	0.400	5.62	182	0.30	2.50	1.21	6.83	4.45	0.40	0.11	13:1	1.13	18	0.23	6
9107+01	9109+06	72,329	100	0.11	Type D	0.300	6.79	550	0.32	2.55	3.59	10.39	3.87	0.40	0.04	27:1	2.57	18	0.08	8
9116+33	9122+08	104,788	100	0.02	Type D	0.300	10.11	1339	0.18	1.80	12.40	22.51	2.68	0.40	0.03	4:1	2.58	24	-	-
9128+36	9130+77	289,122	100	0.01	Type D	0.300	11.89	1455	0.14	1.65	14.70	26.59	2.43	0.40	0.10	17:1	6.46	18	0.17	12
9131+08	9132+86	256,618	100	0.02	Type D	0.400	11.57	1537	0.09	1.70	15.07	26.64	2.43	0.40	0.01	5:1	5.72	42	0.13	12
1326+50	1336+00	179,521	100	0.06	Type D	0.400	8.95	1339	0.10	1.50	14.88	23.83	2.60	0.40	0.01	7:1	4.28	30	-	-

Perry County
Temporary Diversion Berm Calculations

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Flow Type
8616+65 to 8617+75 CHN	0.025	0.09	0.2	0.1	10.5	0.81	0.22	2.36	0.09	2.16	0.27	0.0199	3.67	0.21	0.41	2.03	Supercritical
8644+90 to 8646+80 CHN	0.025	0.09	0.26	0.1	10	1.46	0.34	2.87	0.12	2.62	0.35	0.0184	4.3	0.29	0.55	2.11	Supercritical
8668+10 to 8668+75 CHN	0.025	0.58	0.1	0.1	1.5	0.03	0.01	0.27	0.03	0.15	0.15	0.0453	4.11	0.26	0.36	3.31	Supercritical
8706+20 to 8706+55 CHN	0.025	0.13	0.24	0.1	9	1.33	0.27	2.45	0.11	2.22	0.35	0.0186	4.93	0.38	0.62	2.49	Supercritical
8706+55 to 8706+65 CHN	0.025	0.05	0.23	0.1	9	0.75	0.25	2.36	0.11	2.14	0.28	0.0201	2.99	0.14	0.37	1.54	Supercritical
8706+65 to 8706+65 CHN	0.025	0.07	0.24	0.1	6.5	0.7	0.2	1.86	0.11	1.62	0.31	0.0204	3.54	0.19	0.44	1.78	Supercritical
8706+65 to 8707+20 CHN	0.025	0.07	0.24	0.1	6.5	0.7	0.2	1.86	0.11	1.62	0.31	0.0204	3.54	0.19	0.44	1.78	Supercritical
8717+15 to 8720+75 CHN	0.025	0.06	0.24	0.1	10.5	1.02	0.3	2.77	0.11	2.54	0.3	0.0193	3.35	0.17	0.41	1.7	Supercritical
8729+55 to 8731+25 CHN	0.025	0.004	0.42	0.1	17.5	1.99	1.55	7.78	0.2	7.39	0.32	0.018	1.28	0.03	0.45	0.49	Subcritical
8753+60 to 8755+50 CHN	0.025	0.05	0.37	0.1	9	2.44	0.61	3.68	0.17	3.33	0.45	0.0172	4.01	0.25	0.62	1.65	Supercritical
8755+50 to 8757+45 CHN	0.025	0.08	0.32	0.1	9	2.08	0.45	3.17	0.14	2.87	0.42	0.0175	4.59	0.33	0.64	2.04	Supercritical
8759+45 to 8761+10 CHN	0.025	0.04	0.3	0.1	11.5	1.72	0.54	3.81	0.14	3.53	0.35	0.018	3.21	0.16	0.46	1.45	Supercritical
8761+10 to 8765+60 CHN	0.025	0.04	0.39	0.1	10	2.94	0.78	4.34	0.18	3.96	0.46	0.0167	3.78	0.22	0.61	1.5	Supercritical
8761+10 to 8765+60 CHN	0.025	0.05	0.38	0.1	10	2.94	0.72	4.16	0.17	3.8	0.46	0.0167	4.11	0.26	0.64	1.67	Supercritical
8765+60 to 8771+30 CHN	0.025	0.05	0.44	0.1	6.5	2.75	0.63	3.3	0.19	2.88	0.53	0.017	4.39	0.3	0.74	1.66	Supercritical
8765+60 to 8771+30 CHN	0.025	0.07	0.37	0.1	8.5	2.75	0.58	3.51	0.17	3.16	0.48	0.0169	4.74	0.35	0.72	1.95	Supercritical
8796+40 to 8799+45 CHN	0.025	0.04	0.42	0.1	8	2.86	0.73	3.85	0.19	3.44	0.5	0.0168	3.92	0.24	0.66	1.5	Supercritical
8799+45 to 8803+45 CHN	0.025	0.02	0.42	0.1	11.5	2.92	1.03	5.3	0.2	4.9	0.44	0.0168	2.83	0.12	0.55	1.09	Supercritical
8803+45 to 8804+05 CHN	0.025	0.32	0.17	0.1	9	0.85	0.14	1.75	0.08	1.58	0.29	0.0197	6.17	0.59	0.77	3.69	Supercritical
8806+45 to 8807+60 CHN	0.025	0.03	0.34	0.1	7.5	1.28	0.44	2.91	0.15	2.58	0.37	0.0187	2.92	0.13	0.47	1.25	Supercritical
8807+60 to 8809+40 CHN	0.025	0.07	0.33	0.1	7.5	1.83	0.42	2.84	0.15	2.52	0.43	0.0179	4.38	0.3	0.63	1.9	Supercritical
8811+85 to 8815+85 CHN	0.025	0.04	0.36	0.1	6	1.33	0.39	2.53	0.15	2.18	0.41	0.0188	3.41	0.18	0.54	1.42	Supercritical
8815+85 to 8818+30 CHN	0.025	0.06	0.34	0.1	6.5	1.52	0.38	2.56	0.15	2.23	0.42	0.0184	4.05	0.26	0.59	1.74	Supercritical
8815+85 to 8818+30 CHN	0.025	0.01	0.47	0.1	6.5	1.52	0.73	3.58	0.21	3.11	0.42	0.0184	2.07	0.07	0.54	0.75	Subcritical
8818+30 to 8819+25 CHN	0.025	0.05	0.2	0.1	4.5	0.22	0.09	1.1	0.08	0.9	0.22	0.0246	2.48	0.1	0.29	1.39	Supercritical
8825+05 to 8825+60 CHN	0.025	0.09	0.14	0.1	6	0.18	0.06	1.03	0.06	0.88	0.18	0.0246	2.81	0.12	0.27	1.84	Supercritical
8827+75 to 8829+70 CHN	0.025	0.08	0.35	0.1	3.5	1.01	0.23	1.65	0.14	1.28	0.46	0.021	4.47	0.31	0.66	1.87	Supercritical
8829+70 to 8833+85 CHN	0.025	0.04	0.24	0.1	4.5	0.34	0.13	1.35	0.1	1.11	0.27	0.0232	2.54	0.1	0.34	1.29	Supercritical
8877+95 to 8878+90 CHN	0.025	0.13	0.12	0.1	2.5	0.05	0.02	0.45	0.04	0.32	0.16	0.0341	2.61	0.11	0.23	1.86	Supercritical
8881+60 to 8882+20 CHN	0.025	0.17	0.42	0.1	3.5	2.38	0.32	1.97	0.16	1.53	0.64	0.0187	7.35	0.84	1.26	2.81	Supercritical
8935+70 to 8936+35 CHN	0.025	0.02	0.14	0.1	20	0.25	0.19	2.85	0.06	2.73	0.13	0.024	1.35	0.03	0.16	0.91	Subcritical
8942+20 to 8944+05 CHN	0.025	0.02	0.29	0.1	24	2.29	1.01	7.25	0.14	6.99	0.3	0.0181	2.26	0.08	0.37	1.05	Supercritical
8972+00 to 8976+70 CHN	0.025	0.06	0.45	0.1	4	1.96	0.42	2.32	0.18	1.86	0.56	0.0187	4.66	0.34	0.79	1.73	Supercritical
8894+72 - 8986+88	0.025	0.03	0.71	0.1	5	5.85	1.28	4.32	0.3	3.61	0.8	0.0157	4.57	0.32	1.03	1.35	Supercritical
8988+06 - 8990+24	0.025	0.08	0.4	0.1	17	7.63	1.37	7.23	0.19	6.85	0.55	0.0151	5.56	0.48	0.88	2.19	Supercritical
8994+77 - 8997+05	0.025	0.08	0.6	0.1	16	20.83	2.88	10.18	0.28	9.62	0.84	0.0131	7.24	0.82	1.41	2.34	Supercritical
9005+33 - 9007+27	0.025	0.22	0.34	0.1	12	5.58	0.69	4.4	0.16	4.08	0.56	0.0154	8.1	1.02	1.36	3.48	Supercritical
9041+74 - 9043+65	0.025	0.05	0.3	0.1	10	1.65	0.46	3.35	0.14	3.06	0.37	0.0181	3.55	0.2	0.5	1.61	Supercritical
9057+01 - 9058+54	0.025	0.01	0.36	0.1	50	6.25	3.32	18.56	0.18	18.23	0.33	0.017	1.89	0.06	0.42	0.78	Subcritical
9065+77 - 9069+39	0.025	0.03	0.56	0.1	8	5.12	1.26	5.05	0.25	4.51	0.63	0.0156	4.07	0.26	0.81	1.36	Supercritical
9101+86 - 9104+93	0.025	0.11	0.2	0.1	13	1.13	0.27	2.87	0.1	2.68	0.28	0.0192	4.12	0.26	0.47	2.27	Supercritical
9107+01 - 9109+06	0.025	0.04	0.25	0.1	27	2.57	0.87	7.12	0.12	6.89	0.3	0.018	2.94	0.13	0.39	1.45	Supercritical
9116+33 - 9122+08	0.025	0.03	0.57	0.1	4	2.58	0.67	2.93	0.23	2.34	0.63	0.0181	3.85	0.23	0.8	1.27	Supercritical
9128+36 - 9130+77	0.025	0.1	0.36	0.1	17	6.46	1.11	6.51	0.17	6.17	0.51	0.0154	5.79	0.52	0.88	2.4	Supercritical
9131+08 - 9132+86	0.025	0.01	0.86	0.1	5	5.72	1.9	5.27	0.36	4.4	0.79	0.0158	3.01	0.14	1	0.81	Subcritical

Perry County
Temporary Slope Pipe Calculations

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Diameter (ft)	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Percent Full (%)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Maximum Discharge (ft ³ /s)	Discharge Full (ft ³ /s)	Slope Full (ft/ft)	Flow Type
8644+90 to 8646+80 PIPE	0.023	0.09	0.41	0.67	1.46	0.23	1.21	0.19	0.65	0.57	61.8	0.0423	6.38	0.63	1.05	1.9	2.23	2.08	0.0445	SuperCritical
8706+20 to 8706+55 PIPE	0.023	0.11	0.37	0.67	1.33	0.2	1.11	0.18	0.67	0.54	54.6	0.0376	6.75	0.71	1.07	2.19	2.47	2.3	0.03693	SuperCritical
8706+55 to 8706+65 PIPE	0.023	0.11	0.31	0.5	0.75	0.13	0.91	0.14	0.48	0.43	62.4	0.0512	5.82	0.53	0.84	1.99	1.13	1.05	0.05593	SuperCritical
8706+65 to 8706+65 PIPE	0.023	0.12	0.43	1	2.67	0.32	1.43	0.23	0.99	0.7	42.9	0.025	8.29	1.07	1.5	2.56	7.5	6.98	0.01758	SuperCritical
8706+65 to 8707+20 PIPE	0.023	0.12	0.29	0.5	0.7	0.12	0.87	0.14	0.49	0.42	58	0.0464	5.93	0.55	0.84	2.14	1.18	1.1	0.04872	SuperCritical
8717+15 to 8720+75 PIPE	0.023	0.11	0.4	0.5	1.02	0.17	1.1	0.15	0.4	0.47	79.4	0.0896	6.1	0.58	0.98	1.67	1.13	1.05	0.10345	SuperCritical
8729+55 to 8731+25 PIPE	0.023	0.05	0.47	1	1.99	0.36	1.5	0.24	1	0.6	46.5	0.0214	5.56	0.48	0.95	1.64	4.84	4.5	0.00977	SuperCritical
8753+60 to 8755+50 PIPE	0.023	0.13	0.54	0.67	2.44	0.3	1.48	0.2	0.54	0.65	80.1	0.1093	8.06	1.01	1.55	1.89	2.68	2.5	0.12428	SuperCritical
8755+50 to 8757+45 PIPE	0.023	0.11	0.5	0.67	2.08	0.28	1.4	0.2	0.58	0.63	74.6	0.0781	7.37	0.84	1.34	1.87	2.47	2.3	0.09032	SuperCritical
8759+45 to 8761+10 PIPE	0.023	0.11	0.43	0.67	1.72	0.24	1.25	0.19	0.64	0.6	64.6	0.0544	7.14	0.79	1.23	2.05	2.47	2.3	0.06176	SuperCritical
8761+10 to 8765+60 PIPE	0.023	0.07	0.53	1	2.94	0.42	1.63	0.26	1	0.74	53	0.0269	6.95	0.75	1.28	1.88	5.73	5.33	0.02132	SuperCritical
8765+60 to 8771+30 PIPE	0.023	0.14	0.6	0.67	2.75	0.33	1.66	0.2	0.41	0.66	89.3	0.1416	8.28	1.07	1.66	1.63	2.79	2.59	0.15787	SuperCritical
8796+40 to 8799+45 PIPE	0.023	0.16	0.57	0.67	2.86	0.32	1.58	0.2	0.47	0.66	85.3	0.1542	8.93	1.24	1.81	1.92	2.98	2.77	0.17075	SuperCritical
8799+45 to 8803+45 PIPE	0.023	0.07	0.53	1	2.92	0.42	1.63	0.26	1	0.73	52.8	0.0267	6.94	0.75	1.28	1.88	5.73	5.33	0.02103	SuperCritical
8806+45 to 8807+60 PIPE	0.023	0.08	0.4	0.67	1.28	0.22	1.17	0.18	0.66	0.53	59	0.036	5.92	0.54	0.94	1.82	2.11	1.96	0.0342	SuperCritical
8807+60 to 8809+40 PIPE	0.023	0.08	0.51	0.67	1.83	0.29	1.43	0.2	0.57	0.61	76.7	0.0608	6.31	0.62	1.13	1.56	2.11	1.96	0.06991	SuperCritical
8811+85 to 8815+85 PIPE	0.023	0.19	0.39	0.5	1.33	0.17	1.09	0.15	0.41	0.49	78.7	0.1581	8.02	1	1.39	2.22	1.49	1.38	0.17589	SuperCritical
8815+85 to 8818+30 PIPE	0.023	0.13	0.38	0.67	1.52	0.2	1.14	0.18	0.66	0.58	56.4	0.0447	7.42	0.86	1.23	2.36	2.68	2.5	0.04823	SuperCritical
8815+85 to 8818+30 PIPE	0.023	0.13	0.38	0.67	1.52	0.2	1.14	0.18	0.66	0.58	56.4	0.0447	7.42	0.86	1.23	2.36	2.68	2.5	0.04823	SuperCritical
8818+30 to 8819+25 PIPE	0.023	0.11	0.16	0.5	0.22	0.05	0.59	0.09	0.46	0.24	31.1	0.0237	4.23	0.28	0.43	2.22	1.13	1.05	0.00481	SuperCritical
8825+05 to 8825+60 PIPE	0.023	0.09	0.15	0.5	0.18	0.05	0.57	0.08	0.46	0.21	29.5	0.023	3.72	0.21	0.36	2.01	1.02	0.95	0.00322	SuperCritical
8827+75 to 8829+70 PIPE	0.023	0.24	0.29	0.5	1.01	0.12	0.87	0.14	0.49	0.47	58.7	0.0878	8.42	1.1	1.4	3.01	1.67	1.55	0.10143	SuperCritical
8829+70 to 8833+85 PIPE	0.023	0.15	0.18	0.5	0.34	0.06	0.64	0.1	0.48	0.3	35.9	0.0266	5.36	0.45	0.63	2.6	1.32	1.23	0.01149	SuperCritical
8877+95 to 8878+90 PIPE	0.023	0.3	0.06	0.5	0.05	0.01	0.35	0.04	0.32	0.11	11.7	0.0225	3.91	0.24	0.3	3.45	1.87	1.74	0.00025	SuperCritical
8881+60 to 8882+20 PIPE	0.023	0.18	0.46	0.67	2.38	0.26	1.3	0.2	0.62	0.65	68.3	0.1036	9.27	1.34	1.79	2.55	3.16	2.94	0.11825	SuperCritical
8942+20 to 8944+05 PIPE	0.023	0.06	0.48	1	2.29	0.37	1.53	0.24	1	0.65	47.9	0.0229	6.17	0.59	1.07	1.78	5.31	4.93	0.01293	SuperCritical
8972+00 to 8976+70 PIPE	0.023	0.2	0.39	0.67	1.96	0.21	1.16	0.18	0.66	0.62	57.8	0.0693	9.29	1.34	1.73	2.9	3.33	3.1	0.08019	SuperCritical
8894+72 - 8986+88	0.023	0.08	0.85	1	5.85	0.71	2.34	0.3	0.72	0.95	84.6	0.0731	8.25	1.06	1.9	1.47	6.13	5.7	0.0844	SuperCritical
8988+06 - 8990+24	0.023	0.15	0.8	1	7.63	0.67	2.22	0.3	0.8	0.98	80.1	0.1292	11.32	1.99	2.79	2.17	8.39	7.8	0.14358	SuperCritical
8994+77 - 8997+05	0.023	0.41	0.68	1	10.42	0.57	1.94	0.29	0.93	0.99	68.1	0.2519	18.28	5.19	5.87	4.12	13.87	12.89	0.26777	SuperCritical
9005+33 - 9007+27	0.023	0.34	0.49	1	5.58	0.38	1.54	0.25	1	0.94	48.5	0.0664	14.77	3.39	3.87	4.23	12.63	11.74	0.07679	SuperCritical
9041+74 - 9043+65	0.023	0.14	0.39	0.67	1.65	0.21	1.16	0.18	0.66	0.59	58	0.0508	7.78	0.94	1.33	2.42	2.79	2.59	0.05683	SuperCritical
9057+01 - 9058+54	0.023	0.52	0.46	1	6.25	0.35	1.49	0.24	1	0.96	45.8	0.0841	17.81	4.93	5.38	5.29	15.62	14.52	0.09634	SuperCritical
9065+77 - 9069+39	0.023	0.33	0.47	1	5.12	0.36	1.5	0.24	1	0.92	46.6	0.0561	14.28	3.17	3.64	4.2	12.44	11.57	0.06465	SuperCritical
9101+86 - 9104+93	0.023	0.23	0.32	0.5	1.13	0.13	0.93	0.14	0.48	0.48	64.2	0.1111	8.48	1.12	1.44	2.84	1.64	1.52	0.12696	SuperCritical
9107+01 - 9109+06	0.023	0.08	0.47	1	2.57	0.36	1.51	0.24	1	0.69	47.1	0.0244	7.07	0.78	1.25	2.06	6.13	5.7	0.01629	SuperCritical
9128+36 - 9130+77	0.023	0.17	0.66	1	6.46	0.55	1.9	0.29	0.95	0.97	66.3	0.0902	11.68	2.12	2.78	2.69	8.93	8.3	0.10292	SuperCritical
9131+08 - 9132+86	0.023	0.13	0.67	1	5.72	0.56	1.92	0.29	0.94	0.95	66.9	0.0698	10.25	1.63	2.3	2.35	7.81	7.26	0.08069	SuperCritical

Cumberland County

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
9172+32	9174+18	135,464	100	0.01	Type D	0.300	11.89	1838	0.39	2.55	12.01	23.91	2.59	0.40	0.18	10:1	3.22	12	0.13	8
9189+39	9190+16	32,060	100	0.01	Type D	0.300	11.89	3510	0.27	2.65	22.08	33.97	2.08	0.40	0.10	5:1	0.61	12	0.14	6
9191+23	9193+38	49,540	100	0.01	Type D	0.300	11.89	3836	0.26	2.65	24.13	36.02	2.00	0.40	0.14	20:1	0.91	12	-	-
9194+86	9197+80	855,561	100	0.12	Type D	0.300	6.65	4076	0.24	2.65	25.64	32.29	2.15	0.40	0.01	10:1	16.90	18	0.14	18
9199+12	9201+20	60,619	100	0.15	Type D	0.300	6.32	4291	0.23	2.65	26.99	33.30	2.11	0.40	0.04	12:1	1.17	12	0.10	6
9210+32	9211+52	45,006	100	0.02	Type D	0.800	16.00	1438	0.09	2.65	9.04	25.04	2.52	0.50	0.02	4:1	1.30	12	0.15	6
9212+93	9214+96	157,350	100	0.02	Type D	0.800	16.00	1683	0.08	2.65	10.58	26.58	2.43	0.50	0.04	10:1	4.39	12	0.16	12
9237+83	9241+27	238,987	100	0.07	Type D	0.800	11.94	3991	0.11	2.40	27.72	39.65	1.87	0.50	0.01	3:1	5.13	18	0.05	12
9257+47	9258+16	87,594	100	0.07	Type D	0.800	11.94	2616	0.12	2.40	18.17	30.10	2.25	0.50	0.04	15:1	2.26	12	-	-
9262+67	9265+58	124,981	100	0.07	Type D	0.400	8.63	2247	0.13	1.00	37.45	46.08	1.68	0.30	0.02	15:1	1.45	12	0.19	6
9275+08	9276+97	205,912	100	0.04	Type D	0.300	8.60	4038	0.27	2.25	29.91	38.51	1.91	0.40	0.01	15:1	3.61	12	0.09	-
9276+97	9278+55	241,570	100	0.04	Type D	0.300	8.60	3964	0.27	2.25	29.36	37.96	1.93	0.40	0.04	10:1	4.28	18	0.10	-
9280+23	9281+18	63,029	100	0.04	Type D	0.300	8.60	3887	0.28	2.50	25.91	34.52	2.06	0.40	0.03	10:1	1.19	12	-	-
9289+26	9291+74	131,314	100	0.04	Type D	0.300	8.60	3565	0.28	2.55	23.30	31.90	2.17	0.30	0.04	10:1	1.96	12	0.10	12
9291+74	9293+62	100,764	100	0.04	Type D	0.300	8.60	3461	0.29	2.55	22.62	31.22	2.20	0.30	0.01	10:1	1.53	12	0.13	8
9313+70	9314+83	45,920	100	0.06	Type D	0.300	7.82	3573	0.30	1.65	36.09	43.92	1.74	0.40	0.19	29:1	0.73	12	-	-
9314+83	9315+86	66,239	100	0.06	Type D	0.300	7.82	3533	0.30	1.50	39.26	47.08	1.65	0.40	0.05	18:1	1.01	12	-	-
9316+65	9318+53	528,762	100	0.04	Type D	0.300	8.60	3533	0.30	1.50	39.26	47.86	1.63	0.40	0.004	20:1	7.94	18	0.08	12
9318+53	9320+10	224,327	100	0.03	Type D	0.300	9.20	3476	0.31	1.50	38.62	47.82	1.64	0.40	0.01	15:1	3.37	12	0.09	12
9320+10	9322+48	336,644	100	0.03	Type D	0.300	9.20	3450	0.31	1.50	38.33	47.53	1.64	0.40	0.05	11:1	5.08	12	0.09	12
9324+51	9325+25	70,869	100	0.05	Type D	0.300	8.17	3503	0.31	1.50	38.92	47.09	1.65	0.40	0.06	11:1	1.08	12	0.12	6
9326+36	9327+33	45,416	100	0.04	Type D	0.300	8.60	3604	0.29	1.50	40.04	48.65	1.61	0.40	0.20	14:1	0.67	12	-	-
9332+04	9334+92	55,021	100	0.07	Type D	0.300	7.55	471	0.11	1.50	5.23	12.78	3.56	0.40	0.08	15:1	1.80	12	0.17	6
9334+92	9337+80	60,936	100	0.07	Type D	0.300	7.55	361	0.19	1.50	4.01	11.56	3.71	0.40	0.06	25:1	2.08	12	0.29	8
9341+33	9342+53	54,743	100	0.07	Type D	0.300	7.55	662	0.21	1.50	7.36	14.90	3.32	0.40	0.09	35:1	1.67	12	0.23	6
9342+53	9344+79	91,063	100	0.07	Type D	0.300	7.55	925	0.16	1.50	10.28	17.83	3.04	0.40	0.06	15:1	2.55	12	0.12	8
9359+80	9360+94	1,001,407	100	0.02	Type D	0.300	10.11	4648	0.04	1.50	51.64	61.76	1.35	0.40	0.04	15:1	12.38	18	0.08	6
9363+08	9363+68	54,915	100	0.02	Type D	0.300	10.11	4745	0.04	1.50	52.72	62.84	1.33	0.30	0.01	4:1	0.50	12	0.09	6
9363+68	9365+13	185,203	100	0.02	Type D	0.300	10.11	4730	0.04	1.50	52.56	62.67	1.33	0.30	0.02	4:1	1.70	12	0.08	8
9365+13	9366+56	73,285	100	0.02	Type D	0.300	10.11	4764	0.04	1.50	52.93	63.05	1.32	0.30	0.06	3:1	0.67	12	-	-
9384+13	9386+80	163,362	100	0.02	Type D	0.300	10.11	5957	0.04	1.50	66.19	76.30	1.14	0.30	0.04	2:1	1.28	12	0.09	6
9388+20	9388+88	871,018	100	0.04	Type D	0.300	8.60	6528	0.03	1.50	72.53	81.14	1.08	0.30	0.06	4:1	6.48	18	0.07	12
9410+16	9411+91	460,663	100	0.02	Type D	0.400	11.57	1275	0.06	1.50	14.17	25.74	2.48	0.40	0.02	4:1	10.49	18	0.07	18
9413+12	9417+05	74,287	100	0.08	Type D	0.300	7.32	426	0.08	1.50	4.73	12.05	3.65	0.40	0.03	5:1	2.49	12	0.08	8
9417+05	9418+11	31,540	100	0.07	Type D	0.300	7.55	377	0.08	1.50	4.19	11.74	3.69	0.40	0.04	15:1	1.07	12	0.17	6
9418+11	9419+77	31,246	100	0.07	Type D	0.300	7.55	486	0.10	1.50	5.40	12.95	3.54	0.40	0.10	11:1	1.02	12	0.06	6
9447+71	9448+63	845,687	100	0.02	Type D	0.800	16.00	2994	0.03	1.50	33.27	49.26	1.60	0.40	0.01	5:1	12.42	24	0.01	24

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Class	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Peak Runoff Rate (CFS)	Size of Diversion Berm (in)	CWD Pipe Slope (ft/ft)	CWD Pipe Size (in)
9600+35	9600+75	44,460	100	0.04	D	0.40	9.84	177	0.21	3.10	0.95	10.79	3.81	0.40	1.56	12	0.150	8
9602+65	9603+90	60,163	100	0.02	D	0.80	16.00	243	0.17	2.80	1.45	17.44	3.08	0.50	2.13	12	0.199	8
9603+90	9607+25	118,763	100	0.05	D	0.80	12.91	375	0.13	2.50	2.50	15.41	3.27	0.20	1.78	12	0.076	8
9611+70	9612+50	91,711	100	0.04	D	0.40	9.84	259	0.11	1.50	2.88	12.72	3.57	0.50	3.75	12	0.109	12
9689+35	9690+40	46,491	100	0.04	D	0.30	8.60	428	0.19	2.00	3.57	12.17	3.63	0.50	1.94	12	N/A	N/A
9691+40	9691+65	2,021	100	0.24	D	0.30	5.66	19	0.42	1.60	0.20	5.86	4.64	0.40	0.09	12	N/A	N/A
9702+30	9703+00	18,244	100	0.04	D	0.40	9.84	392	0.11	1.50	4.36	14.20	3.40	0.31	0.44	12	0.152	6
9703+00	9705+05	87,221	100	0.05	D	0.40	9.34	421	0.11	1.50	4.68	14.02	3.42	0.31	2.12	12	0.105	8
9706+60	9707+40	14,192	100	0.07	D	0.40	8.63	346	0.11	1.50	3.84	12.48	3.60	0.31	0.36	12	N/A	N/A
9753+15	9755+05	52,886	100	0.06	D	0.40	8.95	336	0.09	1.40	4.00	12.95	3.54	0.31	1.33	12	N/A	N/A
9755+05	9760+15	119,850	100	0.03	D	0.40	10.52	312	0.15	1.75	2.97	13.50	3.48	0.31	2.96	12	N/A	N/A
9768+30	9770+55	53,110	100	0.02	D	0.40	11.57	489	0.09	1.40	5.82	17.39	3.08	0.31	1.16	12	0.134	6
9771+50	9772+80	20,444	100	0.08	D	0.40	8.37	221	0.10	1.40	2.63	11.00	3.79	0.31	0.55	12	0.171	6
9772+80	9773+70	8,301	100	0.08	D	0.40	8.37	222	0.10	1.40	2.64	11.01	3.78	0.31	0.22	12	N/A	N/A
9778+20	9779+00	134,901	100	0.04	D	0.80	13.60	518	0.09	1.30	6.64	20.24	2.85	0.31	2.73	12	0.111	12
9779+00	9780+95	12,909	100	0.05	D	0.80	12.91	87	0.11	3.20	0.45	13.37	3.49	0.50	0.52	12	0.188	6
9782+70	9784+25	45,851	100	0.05	D	0.40	9.34	264	0.15	1.75	2.51	11.85	3.67	0.31	1.20	12	0.332	6
9784+25	9786+75	54,686	100	0.05	D	0.40	9.34	293	0.15	1.75	2.79	12.13	3.64	0.31	1.42	12	0.300	6
9802+90	9804+60	19,423	100	0.05	D	0.80	12.91	224	0.08	1.90	1.96	14.88	3.33	0.40	0.59	12	N/A	N/A
9808+75	9811+50	73,416	100	0.06	D	0.80	12.37	235	0.13	1.60	2.45	14.82	3.33	0.31	1.74	12	0.046	12
9826+70	9830+00	200,444	100	0.02	D	0.40	11.57	549	0.02	0.65	14.08	25.65	2.49	0.31	3.55	12	0.034	12
9830+00	9833+00	47,413	100	0.02	D	0.40	11.57	287	0.03	0.80	5.98	17.55	3.07	0.31	1.04	12	0.049	8
9864+50	9865+40	276,335	100	0.08	D	0.30	7.32	817	0.10	0.76	17.92	25.23	2.51	0.20	3.18	12	0.050	12
9867+20	9868+55	53,568	100	0.06	D	0.30	7.82	483	0.16	0.96	8.39	16.21	3.19	0.20	0.79	12	N/A	N/A
9868+55	9872+05	116,840	100	0.04	D	0.30	8.60	301	0.17	1.00	5.02	13.62	3.46	0.20	1.86	12	0.188	6
9872+05	9874+05	35,276	100	0.05	D	0.30	8.17	250	0.14	0.92	4.53	12.69	3.57	0.20	0.58	12	0.271	6
9877+25	9878+85	28,910	100	0.87	D	0.30	4.19	426	0.14	0.92	7.72	11.91	3.67	0.20	0.49	12	0.131	6

**Cumberland County
Temporary Diversion Berm Calculations**

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Flow Type
9172+32 - 9174+18	0.025	0.18	0.29	1	10	3.22	0.47	3.36	0.14	3.22	0.46	0.0157	6.82	0.72	1.02	3.14	Supercritical
9189+39 - 9190+16	0.025	0.1	0.22	1	5	0.61	0.15	1.45	0.1	1.33	0.3	0.0191	4.11	0.26	0.49	2.17	Supercritical
9191+23 - 9193+38	0.025	0.14	0.15	1	20	0.91	0.23	3.2	0.07	3.13	0.22	0.0197	3.9	0.24	0.39	2.52	Supercritical
9194+86 - 9197+80	0.025	0.01	0.94	1	10	16.9	4.84	10.76	0.45	10.32	0.9	0.0126	3.49	0.19	1.13	0.9	Subcritical
9199+12 - 9201+20	0.025	0.04	0.25	1	12	1.17	0.4	3.35	0.12	3.24	0.29	0.0182	2.9	0.13	0.38	1.45	Supercritical
9210+32 - 9211+52	0.025	0.02	0.43	1	4	1.3	0.46	2.38	0.19	2.15	0.44	0.0173	2.82	0.12	0.55	1.07	Supercritical
9212+93 - 9214+96	0.025	0.04	0.44	1	10	4.39	1.05	5	0.21	4.8	0.52	0.015	4.19	0.27	0.71	1.58	Supercritical
9237+83 - 9241+27	0.025	0.01	0.9	1	3	5.13	1.61	4.11	0.39	3.59	0.84	0.0146	3.19	0.16	1.06	0.84	Subcritical
9257+47 - 9258+16	0.025	0.04	0.29	1	15	2.26	0.69	4.85	0.14	4.71	0.35	0.017	3.26	0.16	0.46	1.5	Supercritical
9262+67 - 9265+58	0.025	0.02	0.28	1	15	1.45	0.65	4.67	0.14	4.54	0.29	0.018	2.25	0.08	0.36	1.05	Supercritical
9275+08 - 9276+97	0.025	0.01	0.46	1	15	3.61	1.66	7.49	0.22	7.29	0.42	0.0159	2.18	0.07	0.53	0.8	Subcritical
9276+97 - 9278+55	0.025	0.04	0.35	1	15	3.61	0.99	5.77	0.17	5.62	0.42	0.0159	3.66	0.21	0.56	1.54	Supercritical
9280+23 - 9281+18	0.025	0.04	0.27	1	10	1.19	0.39	3.07	0.13	2.94	0.31	0.0179	3.02	0.14	0.41	1.46	Supercritical
9289+26 - 9291+74	0.025	0.04	0.32	1	10	1.96	0.57	3.7	0.15	3.55	0.38	0.0167	3.43	0.18	0.5	1.5	Supercritical
9291+74 - 9293+62	0.025	0.01	0.38	1	10	1.53	0.8	4.37	0.18	4.19	0.34	0.0173	1.92	0.06	0.44	0.77	Subcritical
9313+70 - 9314+83	0.025	0.19	0.11	1	29	0.73	0.19	3.45	0.06	3.4	0.17	0.0211	3.78	0.22	0.34	2.8	Supercritical
9314+83 - 9315+86	0.025	0.05	0.2	1	18	1.01	0.36	3.8	0.1	3.72	0.23	0.0192	2.78	0.12	0.32	1.57	Supercritical
9316+65 - 9318+53	0.025	0.004	0.66	1	20	7.94	4.51	14.05	0.32	13.76	0.51	0.0147	1.76	0.05	0.7	0.54	Subcritical
9318+53 - 9320+10	0.025	0.01	0.44	1	15	3.37	1.58	7.3	0.22	7.1	0.41	0.0161	2.14	0.07	0.51	0.8	Subcritical
9320+10 - 9322+48	0.025	0.05	0.43	1	11	5.08	1.1	5.33	0.21	5.13	0.54	0.0148	4.63	0.33	0.76	1.77	Supercritical
9324+51 - 9325+25	0.025	0.06	0.23	1	11	1.08	0.32	2.88	0.11	2.77	0.29	0.0182	3.37	0.18	0.41	1.75	Supercritical
9326+36 - 9327+33	0.025	0.2	0.14	1	14	0.67	0.15	2.18	0.07	2.12	0.22	0.0198	4.47	0.31	0.45	2.96	Supercritical
9332+04 - 9334+92	0.025	0.08	0.24	1	15	1.8	0.45	3.91	0.12	3.8	0.32	0.0175	3.99	0.25	0.48	2.04	Supercritical
9334+92 - 9337+80	0.025	0.06	0.22	1	25	2.08	0.63	5.82	0.11	5.72	0.28	0.018	3.3	0.17	0.39	1.76	Supercritical
9341+33 - 9342+53	0.025	0.09	0.17	1	35	1.67	0.5	6.05	0.08	5.98	0.22	0.0193	3.36	0.18	0.34	2.06	Supercritical
9342+53 - 9344+79	0.025	0.06	0.29	1	15	2.55	0.65	4.7	0.14	4.57	0.36	0.0167	3.91	0.24	0.52	1.82	Supercritical
9359+80 - 9360+94	0.025	0.04	0.56	1	15	12.38	2.49	9.17	0.27	8.92	0.68	0.0135	4.98	0.39	0.94	1.66	Supercritical
9363+08 - 9363+68	0.025	0.01	0.34	1	4	0.5	0.29	1.89	0.15	1.71	0.3	0.0196	1.71	0.05	0.39	0.73	Subcritical
9363+68 - 9365+13	0.025	0.02	0.48	1	4	1.7	0.56	2.63	0.21	2.38	0.49	0.0167	3.01	0.14	0.62	1.09	Supercritical
9365+13 - 9366+56	0.025	0.06	0.3	1	3	0.67	0.18	1.37	0.13	1.2	0.37	0.0191	3.75	0.22	0.52	1.71	Supercritical
9384+13 - 9386+80	0.025	0.04	0.47	1	2	1.28	0.32	1.7	0.19	1.4	0.54	0.0183	3.94	0.24	0.71	1.44	Supercritical
9388+20 - 9388+88	0.025	0.06	0.64	1	4	6.48	1.02	3.54	0.29	3.19	0.84	0.0139	6.35	0.63	1.27	1.98	Supercritical
9410+16 - 9411+91	0.025	0.18	0.62	1	4	10.49	0.97	3.45	0.28	3.11	1.02	0.0131	10.82	1.82	2.44	3.42	Supercritical
9413+12 - 9417+05	0.025	0.03	0.47	1	5	2.49	0.67	3.08	0.22	2.83	0.53	0.0158	3.72	0.22	0.69	1.35	Supercritical
9417+05 - 9418+11	0.025	0.04	0.22	1	15	1.07	0.4	3.66	0.11	3.56	0.26	0.0187	2.7	0.11	0.34	1.43	Supercritical
9418+11 - 9419+77	0.025	0.1	0.21	1	11	1.02	0.25	2.56	0.1	2.47	0.28	0.0184	4.02	0.25	0.46	2.21	Supercritical
9447+71 - 9448+63	0.025	0.01	1.06	1	5	12.42	3.37	6.9	0.49	6.36	1.01	0.0128	3.69	0.21	1.27	0.89	Subcritical
960035-960075 BERM	0.025	0.167	0.32	4.76	0.1	1.56	0.25	1.87	0.13	1.55	0.48	0.0188	6.3	0.62	0.94	2.78	Supercritical
960265-960390 BERM	0.025	0.25	0.3	5.88	0.1	2.13	0.28	2.13	0.13	1.82	0.5	0.0177	7.66	0.91	1.22	3.46	Supercritical
960390-960725 BERM	0.025	0.19	0.27	0.1	7.69	1.78	0.28	2.36	0.12	2.1	0.42	0.0179	6.3	0.62	0.89	3.02	Supercritical
961170-961250 BERM	0.025	0.105	0.37	9.09	0.1	3.75	0.64	3.78	0.17	3.42	0.53	0.0162	5.88	0.54	0.91	2.4	Supercritical
968935-969040 BERM	0.025	0.137	0.34	0.1	5.26	1.94	0.32	2.19	0.15	1.85	0.5	0.0181	6.08	0.58	0.92	2.58	Supercritical
969140-969165 BERM	0.025	0.3	0.13	0.1	2.38	0.09	0.02	0.47	0.05	0.33	0.2	0.0321	4.15	0.27	0.4	2.85	Supercritical
970230-970300 BERM	0.025	0.036	0.2	9.09	0.1	0.44	0.19	2.07	0.09	1.87	0.22	0.0216	2.3	0.08	0.29	1.27	Supercritical
970300-970505 BERM	0.025	0.073	0.32	0.1	9.09	2.12	0.48	3.27	0.15	2.96	0.42	0.0175	4.45	0.31	0.63	1.95	Supercritical
970660-970740 BERM	0.025	0.19	0.14	0.1	9.09	0.36	0.09	1.4	0.06	1.27	0.21	0.0221	4.1	0.26	0.4	2.75	Supercritical
975315-975505 BERM	0.025	0.011	0.36	11.11	0.1	1.33	0.71	4.33	0.16	3.99	0.32	0.0186	1.87	0.05	0.41	0.78	Subcritical
975505-976015 BERM	0.025	0.06	0.43	0.1	6.67	2.96	0.62	3.32	0.19	2.9	0.54	0.0168	4.76	0.35	0.78	1.81	Supercritical
976830-977055 BERM	0.025	0.022	0.3	0.1	11.11	1.16	0.5	3.62	0.14	3.33	0.31	0.019	2.34	0.09	0.38	1.07	Supercritical
977150-977280 BERM	0.025	0.024	0.23	0.1	10	0.55	0.27	2.54	0.11	2.33	0.24	0.0209	2.06	0.07	0.3	1.07	Supercritical
977280-977370 BERM	0.025	0.059	0.14	10	0.1	0.22	0.1	1.52	0.06	1.39	0.16	0.0237	2.29	0.08	0.22	1.54	Supercritical
977820-977900 BERM	0.025	0.114	0.3	0.1	11.11	2.73	0.51	3.66	0.14	3.37	0.43	0.0169	5.38	0.45	0.75	2.45	Supercritical
977900-978095 BERM	0.025	0.058	0.2	9.09	0.1	0.52	0.18	2.02	0.09	1.83	0.24	0.0211	2.87	0.13	0.33	1.6	Supercritical
978270-978425 BERM	0.025	0.035	0.34	6.67	0.1	1.2	0.39	2.62	0.15	2.29	0.38	0.019	3.11	0.15	0.49	1.33	Supercritical
978425-978675 BERM	0.025	0.059	0.33	0.1	6.67	1.42	0.36	2.53	0.14	2.21	0.41	0.0186	3.94	0.24	0.57	1.72	Supercritical
980290-980460 BERM	0.025	0.128	0.16	0.1	12.5	0.59	0.16	2.14	0.07	2	0.22	0.0209	3.73	0.22	0.38	2.34	Supercritical
980875-981150 BERM	0.025	0.024	0.39	7.69	0.1	1.74	0.6	3.45	0.18	3.07	0.42	0.018	2.88	0.13	0.52	1.15	Supercritical
982670-983000 BERM	0.025	0.01	0.29	0.1	50	3.55	2.17	15.01	0.14	14.74	0.26	0.0184	1.64	0.04	0.34	0.75	Subcritical
986450-986540 BERM	0.025	0.024	0.43	0.1	10	2.89	0.93	4.74	0.2	4.33	0.46	0.0168	3.11	0.15	0.58	1.18	Supercritical
986720-986855 BERM	0.025	0.127	0.23	6.25	0.1	0.79	0.17	1.71	0.1	1.48	0.33	0.0201	4.59	0.33	0.56	2.37	Supercritical
986855-987205 BERM	0.025	0.118	0.33	5.88	0.1	1.86	0.33	2.33	0.14	2	0.47	0.018	5.59	0.49	0.82	2.41	Supercritical
987205-987405 BERM	0.025	0.031	0.26	0.1	7.14	0.58	0.24	2.1	0.11	1.85	0.28	0.0209	2.44	0.09	0.35	1.2	Supercritical
987725-987885 BERM	0.025	0.185	0.17	0.1	7.14	0.49	0.11	1.41	0.08	1.25	0.26	0.0213	4.57	0.33	0.5	2.75	Supercritical
983000-983300 BERM	0.025	0.014	0.2	0.1	33.33	1.04	0.69	6.99	0.1	6.8	0.19	0.0207	1.5	0.04	0.24	0.83	Subcritical
9931+73 - 9933+63	0.025	0.03	0.34	0.1	7	1.19	0.41	2.75	0.15	2.41	0.37	0.019	2.9	0.13	0.47	1.24	Supercritical
10324+20 - 10325+50	0.025	0.02	0.24	0.1	60	3.69	1.8	14.93	0.12	14.71	0.25	0.0186	2.05	0.07	0.31	1.03	Supercritical
10325+50 - 10322+15	0.025	0.01	0.33	0.1	60	5.97	3.35	20.36	0.16	20.06	0.3	0.0175	1.78	0.05	0.38	0.77	Subcritical
10328+15 - 10332+20	0.025	0.01	0.24	0.1	60	2.42	1.7	14.51	0.12	14.29	0.21	0.0197	1.42	0.03	0.27	0.73	Subcritical
10351+20 - 10351+20	0.025	0.15	0.28	0.1	6	1.38	0.24	2									

**Cumberland County
Temporary Diversion Berm Calculations**

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Flow Type
10406+15 - 10407+70	0.025	0.03	0.56	0.1	22	14.73	3.44	12.85	0.27	12.34	0.64	0.014	4.28	0.28	0.84	1.43	Supercritical
10420+70 - 10427+00	0.025	0.02	0.48	0.1	50	18.51	5.77	24.48	0.24	24.05	0.51	0.0147	3.21	0.16	0.64	1.15	Supercritical
10432+90 - 10434+15	0.025	0.03	0.47	0.1	21	8.84	2.32	10.34	0.22	9.9	0.53	0.015	3.81	0.23	0.69	1.38	Supercritical
10470+50 - 10477+25	0.025	0.02	0.48	0.1	30	11.06	3.47	14.9	0.23	14.46	0.51	0.015	3.18	0.16	0.64	1.15	Supercritical
10493+55 - 10497+20	0.025	0.06	0.9	0.1	7	22.5	2.87	7.26	0.4	6.38	1.2	0.0128	7.84	0.96	1.85	2.06	Supercritical
10579+50 - 10588+70	0.025	0.01	0.56	0.1	32	12.73	5.08	18.58	0.27	18.06	0.52	0.0148	2.5	0.1	0.66	0.83	Subcritical
10630+25 - 10634+90	0.025	0.02	0.32	0.1	44	5.45	2.24	14.34	0.16	14.05	0.33	0.0171	2.44	0.09	0.41	1.08	Supercritical
10634+90 - 10635+90	0.025	0.02	0.22	0.1	30	1.44	0.75	6.94	0.11	6.73	0.22	0.0197	1.91	0.06	0.28	1.01	Supercritical
10638+50 - 10639+62	0.025	0.01	0.25	0.1	36	1.67	1.14	9.29	0.12	9.06	0.22	0.0196	1.47	0.03	0.28	0.73	Subcritical
10661+40 - 10664+60	0.025	0.01	0.33	0.1	10	0.89	0.53	3.59	0.15	3.28	0.29	0.0196	1.67	0.04	0.37	0.73	Subcritical
10676+50 - 10681+10	0.025	0.11	0.31	0.1	7	1.72	0.33	2.47	0.13	2.17	0.43	0.0181	5.17	0.42	0.72	2.33	Supercritical
10702+45 - 10739+20	0.025	0.01	0.2	0.1	29	0.71	0.57	5.94	0.1	5.76	0.17	0.0215	1.25	0.02	0.22	0.7	Subcritical
10716+70 - 10717+80	0.025	0.06	0.69	0.1	4	6.11	0.99	3.56	0.28	2.85	0.89	0.0161	6.19	0.6	1.29	1.85	Supercritical
10735+45 - 10739+20	0.025	0.01	0.59	0.1	70	32.27	12.32	42.1	0.29	41.56	0.56	0.0142	2.62	0.11	0.7	0.85	Subcritical
10739+20 - 10742+50	0.025	0.01	0.62	0.1	34	17.19	6.46	21.55	0.3	20.99	0.58	0.0143	2.66	0.11	0.73	0.85	Subcritical
10746+50 - 10747+90	0.025	0.02	0.31	0.1	56	6.45	2.69	17.66	0.15	17.37	0.32	0.0172	2.4	0.09	0.4	1.07	Supercritical
10664+60 - 10674+50	0.025	0.02	0.68	0.1	3	2.45	0.73	2.85	0.25	2.12	0.69	0.0193	3.38	0.18	0.86	1.02	Supercritical

Cumberland County
Temporary Slope Pipe Calculations

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Diameter (ft)	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Percent Full (%)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Maximum Discharge (ft ³ /s)	Discharge Full (ft ³ /s)	Slope Full (ft/ft)	Flow Type
9172+32 - 9174+18	0.01	0.13	0.54	0.54	3.22	0.23	1.69	0.13	0	0.54	100	0.127	14.1	3.09	3.63	0	3.46	3.22	0.13032	SubCritical
9189+39 - 9190+16	0.01	0.14	0.28	0.28	0.61	0.06	0.9	0.07	0	0.28	100	0.1352	9.57	1.42	1.71	0	0.66	0.61	0.14031	SubCritical
9194+86 - 9197+80	0.01	0.14	0.99	0.99	16.96	0.77	3.12	0.25	0	0.99	100	0.137	21.95	7.48	8.48	0	18.24	16.96	0.13999	SubCritical
9199+12 - 9201+20	0.01	0.1	0.39	0.39	1.17	0.12	1.22	0.1	0	0.39	100	0.0962	9.92	1.53	1.92	0	1.26	1.17	0.10021	SubCritical
9210+32 - 9211+52	0.01	0.15	0.37	0.37	1.3	0.11	1.17	0.09	0	0.37	100	0.1447	11.84	2.18	2.55	0	1.4	1.3	0.14958	SubCritical
9212+93 - 9214+96	0.01	0.16	0.58	0.58	4.39	0.27	1.83	0.15	0	0.58	100	0.155	16.44	4.2	4.79	0	4.73	4.39	0.15966	SubCritical
9237+83 - 9241+27	0.01	0.05	0.77	0.77	5.13	0.46	2.41	0.19	0	0.76	100	0.0468	11.06	1.9	2.67	0	5.52	5.13	0.05	SubCritical
9262+67 - 9265+58	0.01	0.19	0.37	0.37	1.45	0.11	1.17	0.09	0	0.37	100	0.1822	13.29	2.74	3.12	0	1.56	1.45	0.18932	SubCritical
9289+26 - 9291+74	0.01	0.1	0.63	0.63	4.28	0.31	1.98	0.16	0	0.63	100	0.0963	13.7	2.92	3.55	0	4.61	4.28	0.09986	SubCritical
9291+74 - 9293+62	0.01	0.13	0.41	0.41	1.53	0.13	1.28	0.1	0	0.41	100	0.1252	11.71	2.13	2.54	0	1.64	1.53	0.1303	SubCritical
9316+65 - 9318+53	0.01	0.08	0.83	0.83	7.94	0.54	2.6	0.21	0	0.83	100	0.0768	14.72	3.37	4.19	0	8.54	7.94	0.07999	SubCritical
9318+53 - 9320+10	0.01	0.09	0.59	0.59	3.37	0.27	1.85	0.15	0	0.59	100	0.0863	12.41	2.39	2.98	0	3.63	3.37	0.08987	SubCritical
9320+10 - 9322+48	0.01	0.09	0.69	0.69	5.08	0.37	2.15	0.17	0	0.68	100	0.0865	13.75	2.94	3.62	0	5.47	5.08	0.08988	SubCritical
9324+51 - 9325+25	0.01	0.12	0.36	0.36	1.08	0.1	1.14	0.09	0	0.36	100	0.1151	10.41	1.69	2.05	0	1.16	1.08	0.12027	SubCritical
9332+04 - 9334+92	0.01	0.17	0.41	0.41	1.8	0.13	1.3	0.1	0	0.41	100	0.1637	13.48	2.83	3.24	0	1.93	1.8	0.17043	SubCritical
9334+92 - 9337+80	0.01	0.29	0.39	0.39	2.08	0.12	1.24	0.1	0	0.39	100	0.2891	17.04	4.51	4.91	0	2.24	2.08	0.28906	Critical
9341+33 - 9342+53	0.01	0.23	0.38	0.38	1.67	0.11	1.19	0.09	0	0.38	100	0.2222	14.8	3.4	3.78	0	1.8	1.67	0.22966	SubCritical
9342+53 - 9344+79	0.01	0.12	0.5	0.5	2.55	0.2	1.58	0.13	0	0.5	100	0.1162	12.89	2.58	3.08	0	2.75	2.55	0.11976	SubCritical
9359+80 - 9360+94	0.01	0.08	0.98	0.98	12.38	0.75	3.08	0.24	0	0.98	100	0.0769	16.44	4.2	5.18	0	13.32	12.38	0.07995	SubCritical
9363+08 - 9363+68	0.01	0.09	0.29	0.29	0.5	0.06	0.9	0.07	0	0.29	100	0.0859	7.72	0.93	1.21	0	0.54	0.5	0.0904	SubCritical
9363+68 - 9365+13	0.01	0.08	0.47	0.47	1.7	0.17	1.46	0.12	0	0.46	100	0.0761	10.01	1.56	2.02	0	1.83	1.7	0.07993	SubCritical
9384+13 - 9386+80	0.01	0.09	0.41	0.41	1.28	0.13	1.28	0.1	0	0.41	100	0.0861	9.75	1.48	1.89	0	1.38	1.28	0.0902	SubCritical
9388+20 - 9388+88	0.01	0.07	0.79	0.79	6.48	0.49	2.47	0.2	0	0.78	100	0.0667	13.3	2.75	3.54	0	6.97	6.48	0.07	SubCritical
9410+16 - 9411+91	0.01	0.07	0.94	0.94	10.49	0.7	2.96	0.24	0	0.94	100	0.0669	15.01	3.5	4.44	0	11.28	10.49	0.06999	SubCritical
9413+12 - 9417+05	0.01	0.08	0.54	0.54	2.49	0.23	1.69	0.13	0	0.54	100	0.0761	11	1.88	2.42	0	2.68	2.49	0.07981	SubCritical
9417+05 - 9418+11	0.01	0.17	0.34	0.34	1.07	0.09	1.07	0.08	0	0.34	100	0.1635	11.84	2.18	2.52	0	1.15	1.07	0.17055	SubCritical
9418+11 - 9419+77	0.01	0.06	0.4	0.4	1.02	0.13	1.27	0.1	0	0.4	100	0.0562	7.92	0.97	1.38	0	1.1	1.02	0.06017	SubCritical
9447+71 - 9448+63	0.01	0.06	1.03	1.03	12.42	0.84	3.25	0.26	0	1.03	100	0.057	14.77	3.39	4.43	0	13.36	12.42	0.05996	SubCritical
960035-960075 PIPE	0.024	0.15	0.38	0.67	1.56	0.2	1.14	0.18	0.66	0.58	56.3	0.0506	7.63	0.91	1.28	2.43	2.76	2.57	0.05532	SuperCritical
960265-960390 PIPE	0.024	0.199	0.42	0.67	2.13	0.23	1.23	0.19	0.65	0.64	62.8	0.0893	9.13	1.3	1.72	2.68	3.18	2.96	0.10312	SuperCritical
960390-960725 PIPE	0.024	0.076	0.53	0.67	1.78	0.3	1.48	0.2	0.54	0.61	79.7	0.063	5.91	0.54	1.08	1.39	1.97	1.83	0.07202	SuperCritical
961170-691250 PIPE	0.024	0.109	0.55	1	3.75	0.44	1.67	0.27	0.99	0.82	55.2	0.0374	8.44	1.11	1.66	2.23	6.85	6.37	0.03776	SuperCritical
970230-970300 PIPE	0.024	0.152	0.21	0.5	0.44	0.08	0.71	0.11	0.49	0.34	42.2	0.0328	5.59	0.48	0.7	2.47	1.27	1.18	0.02096	SuperCritical
970300-970505 PIPE	0.024	0.105	0.54	0.67	2.12	0.31	1.5	0.2	0.53	0.64	80.8	0.0884	6.95	0.75	1.29	1.61	2.31	2.15	0.10216	SuperCritical
976830-977055 PIPE	0.024	0.134	0.43	0.5	1.16	0.18	1.19	0.15	0.34	0.48	86.5	0.1279	6.43	0.64	1.07	1.56	1.2	1.11	0.14568	SuperCritical
977150-977280 PIPE	0.024	0.171	0.23	0.5	0.55	0.09	0.75	0.12	0.5	0.38	46.3	0.0387	6.19	0.6	0.83	2.58	1.35	1.26	0.03275	SuperCritical
977820-977900 PIPE	0.024	0.111	0.45	1	2.73	0.35	1.48	0.23	1	0.71	45.5	0.0277	7.86	0.96	1.41	2.34	6.92	6.43	0.02001	SuperCritical
977900-978095 PIPE	0.024	0.188	0.22	0.5	0.52	0.08	0.72	0.11	0.5	0.37	43.6	0.0369	6.32	0.62	0.84	2.74	1.42	1.32	0.02928	SuperCritical
978270-978425 PIPE	0.024	0.332	0.3	0.5	1.2	0.12	0.89	0.14	0.49	0.49	60.8	0.1376	9.61	1.43	1.74	3.35	1.88	1.75	0.1559	SuperCritical
978425-978675 PIPE	0.024	0.3	0.36	0.5	1.42	0.15	1	0.15	0.45	0.49	71	0.1982	9.52	1.41	1.76	2.93	1.79	1.66	0.21831	SuperCritical
980875-981150 PIPE	0.024	0.046	0.45	1	1.74	0.34	1.47	0.23	1	0.56	45.2	0.0222	5.05	0.4	0.85	1.51	4.45	4.14	0.00813	SuperCritical
982670-983000 PIPE	0.024	0.034	0.82	1	3.55	0.69	2.26	0.3	0.77	0.8	81.8	0.035	5.16	0.41	1.23	0.97	3.83	3.56	0.03384	SubCritical
986450-986540 PIPE	0.024	0.05	0.6	1	2.89	0.49	1.77	0.28	0.98	0.73	59.9	0.0289	5.89	0.54	1.14	1.47	4.64	4.32	0.02243	SuperCritical
986855-987205 PIPE	0.024	0.188	0.28	0.5	0.79	0.11	0.84	0.13	0.5	0.44	55.8	0.0605	7.01	0.76	1.04	2.6	1.42	1.32	0.06757	SuperCritical
987205-987405 PIPE	0.024	0.271	0.21	0.5	0.58	0.08	0.7	0.11	0.49	0.39	41.9	0.0406	7.44	0.86	1.07	3.3	1.7	1.58	0.03642	SuperCritical
987725-987885 PIPE	0.024	0.131	0.23	0.5	0.49	0.09	0.75	0.12	0.5	0.36	46.8	0.0353	5.44	0.46	0.69	2.26	1.18	1.1	0.02599	SuperCritical
983000-983300 PIPE	0.024	0.049	0.42	0.67	1.04	0.23	1.22	0.19	0.65	0.48	62.2	0.0325	4.52	0.32	0.73	1.34	1.58	1.47	0.02458	SuperCritical
9931+73 - 9933+63	0.023	0.12	0.33	0.67	1.19	0.18	1.05	0.17	0.67	0.52	49.8	0.0334	6.79	0.72	1.05	2.34	2.58	2.4	0.02956	SuperCritical
10324+20 - 10325+50	0.023	0.02	0.7	1.5	3.69	0.8	2.25	0.36	1.5	0.73	46.4	0.0166	4.6	0.33	1.02	1.11	9.03	8.4	0.00386	SuperCritical
10325+50 - 10322+15	0.023	0.02	0.93	1.5	5.97	1.16	2.73	0.42	1.45	0.94	62.3	0.0194	5.16	0.41	1.35	1.02	9.03	8.4	0.01011	SuperCritical
10328+15 - 10322+20	0.023	0.02	0.71	1	2.42	0.59	2	0.3	0.91	0.67	70.8	0.0235	4.07	0.26	0.97	0.89	3.06	2.85	0.01444	SubCritical
10351+20 - 10351+20	0.023	0.02	0.49	1	1.38	0.38	1.55	0.25	1	0.5	49.1	0.0192	3.6	0.2	0.69	1.02	3.06	2.85	0.0047	SuperCritical
10406+15 - 10407+70	0.023	0.02	1.37	2	14.73	2.3	3.9	0.59	1.86	1.38	68.6	0.0195	6.42	0.64	2.01	1.02	19.45	18.08	0.01327	SuperCritical
10420+70 - 10427+00	0.023	0.02	1.69	2	18.51	2.82	4.65	0.61	1.46	1.55	84.3	0.0235	6.55	0.67	2.35	0.83	19.45	18.08	0.02096	SubCritical
10432+90 - 10434+15	0.023	0.02	1.32	1.5	8.84	1.64	3.64	0.45	0.98	1.15	87.8	0.0253	5.38	0.45	1.77	0.73	9.03	8.4	0.02217	SubCritical
10470+50 - 10477+25	0.023	0.02	1.13	2	11.06	1.83	3.4	0.54	1.98	1.19	56.5	0.0169	6.04	0.57	1.7	1.11	19.45	18.08	0.00748	SuperCritical
10493+55 - 10497+20	0.023	0.02	1.52	2.5	22.5	3.13	4.47	0.7	2.44	1.61	60.8	0.0168	7.2	0.8	2.33	1.12	35.27	32.78	0.00942	SuperCritical
10579+50 - 10588+70	0.023	0.01	1.63	2	12.73	2.74	4.51	0.61	1.55	1.28	81.6	0.018	4.64	0.33	1.97	0.61	13.75	12.79	0.00991	SubCritical
10630+25 - 10634+90	0.023	0.02	0.88	1.5	5.45	1.08	2.62	0.41	1.48	0.9	58.7	0.0187	5.06	0.4	1.28	1.04	9.03	8.4	0.	

York County

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
10861+75	10863+50	29,008	100	0.07	Type D	0.300	7.55	196	0.10	0.85	3.84	11.39	3.73	0.30	0.06	7:1	0.75	12	0.25	6
10869+60	10872+00	45,151	100	0.06	Type D	0.300	7.82	287	0.13	0.90	5.31	13.14	3.52	0.30	0.06	5:1	1.09	12	n/a	n/a
10872+25	10872+90	649,705	100	0.02	Type D	0.300	10.11	1165	0.07	0.70	27.74	37.85	1.93	0.30	0.04	5:1	8.65	18	0.13	12(2)
10917+10	10917+75	292,330	100	0.18	Type D	0.300	6.05	1367	0.15	1.70	13.40	19.46	2.91	0.40	0.05	15:1	7.81	12	0.07	12(2)
10934+34	10938+95	347,319	100	0.15	Type D	0.300	6.32	839	0.18	1.10	12.71	19.03	2.94	0.30	0.04	5:1	7.04	18	0.11	12(2)
10948+90	10948+90	10,905	100	0.30	Type D	0.300	5.37	328	0.40	1.60	3.42	8.79	4.11	0.30	0.04	6:1	0.31	12	0.07	6
10950+25	10951+15	467,225	100	0.32	Type D	0.300	5.29	1770	0.13	0.90	32.78	38.07	1.92	0.30	0.09	5:1	6.19	18	n/a	n/a
10953+20	10956+55	72,634	100	0.38	Type D	0.300	5.08	252	0.41	1.60	2.63	7.71	4.29	0.30	0.06	3:1	2.15	18	0.18	8
10967+80	10969+90	28,080	100	0.36	Type D	0.300	5.15	88	0.38	1.50	0.98	6.13	4.58	0.30	0.01	2:1	0.89	18	0.38	6
10969+90	10973+45	63,164	100	0.34	Type D	0.300	5.22	91	0.44	1.70	0.89	6.11	4.59	0.30	0.10	2:1	2.00	18	0.44	6
10980+20	10982+40	78,927	100	0.12	Type D	0.300	6.65	300	0.20	1.10	4.55	11.20	3.76	0.30	0.06	3:1	2.04	18	0.25	8
10984+15	10984+90	62,378	100	0.03	Type D	0.300	9.20	241	0.19	1.10	3.65	12.85	3.55	0.30	0.05	5:1	1.53	12	0.24	6
10990+20	10994+65	101,798	100	0.05	Type D	0.300	8.17	182	0.28	1.30	2.33	10.50	3.85	0.30	0.04	5:1	2.70	12	0.22	8
11024+45	11026+40	84,860	100	0.08	Type D	0.300	7.32	435	0.12	2.20	3.30	10.61	3.84	0.80	0.02	12:1	5.98	18	0.14	12
11048+50	11049+30	72,919	100	0.10	Type D	0.300	6.94	608	0.11	2.00	5.07	12.01	3.65	0.80	0.07	8:1	4.89	12	n/a	n/a
11049+30	11049+80	26,816	100	0.12	Type D	0.300	6.65	498	0.12	2.20	3.77	10.43	3.86	0.80	0.09	8:1	1.90	12	0.07	8
11056+30	11059+80	112,474	100	0.15	Type D	0.300	6.32	515	0.14	0.90	9.54	15.85	3.23	0.30	0.02	5:1	2.50	18	0.11	12
11059+80	11062+90	103,005	100	0.20	Type D	0.300	5.91	385	0.16	0.95	6.75	12.66	3.57	0.30	0.05	11:1	2.54	12	0.19	8
11062+90	11065+50	95,533	100	0.08	Type D	0.300	7.32	353	0.20	1.10	5.35	12.66	3.57	0.30	0.01	3:1	2.35	18	0.21	8
11068+30	11071+00	145,394	100	0.34	Type D	0.300	5.22	358	0.35	1.40	4.26	9.48	4.00	0.30	0.07	7:1	4.01	12	0.22	12
11072+60	11073+85	11,952	100	0.17	Type D	0.300	6.13	88	0.18	1.05	1.40	7.53	4.32	0.30	0.02	3:1	0.36	12	0.22	6
11073+85	11074+60	11,506	100	0.12	Type D	0.300	6.65	123	0.20	1.10	1.86	8.52	4.15	0.30	0.03	3:1	0.33	12	0.30	6
11080+90	11085+15	211,488	100	0.13	Type D	0.300	6.53	643	0.18	1.05	10.21	16.74	3.14	0.30	0.03	14:1	4.58	12	0.11	12
11085+15	11086+30	6,872	100	0.16	Type D	0.300	6.22	131	0.28	1.30	1.68	7.90	4.26	0.30	0.06	14:1	0.20	12	0.17	6
11086+50	11088+75	78,394	100	0.22	Type D	0.300	5.78	213	0.08	0.70	5.07	10.85	3.81	0.30	0.05	3:1	2.06	12	0.15	8
11089+90	11095+10	114,566	100	0.14	Type D	0.300	6.42	382	0.12	0.90	7.07	13.49	3.48	0.30	0.05	5:1	2.74	12	0.14	8
11096+70	11098+50	13,189	100	0.08	Type D	0.300	7.32	115	0.05	0.55	3.48	10.80	3.81	0.30	0.02	10:1	0.35	12	0.10	6
11102+10	11104+10	66,309	100	0.12	Type D	0.300	6.65	287	0.06	0.60	7.97	14.63	3.35	0.30	0.01	18:1	1.53	12	0.03	12
11106+00	11107+00	16,159	100	0.14	Type D	0.300	6.42	200	0.12	0.90	3.70	10.12	3.91	0.30	0.01	13:1	0.43	12	0.03	6
11107+45	11111+55	125,107	100	0.07	Type D	0.300	7.55	312	0.14	0.90	5.78	13.33	3.50	0.30	0.01	9:1	3.01	18	0.09	12
11111+70	11115+60	54,876	100	0.10	Type D	0.300	6.94	192	0.12	0.90	3.56	10.50	3.85	0.30	0.01	18:1	1.46	12	0.10	8
11116+90	11117+95	17,803	100	0.04	Type D	0.300	8.60	185	0.05	0.55	5.61	14.21	3.40	0.30	0.02	18:1	0.42	12	0.08	6
11117+95	11118+80	10,259	100	0.03	Type D	0.300	9.20	121	0.06	0.60	3.36	12.56	3.59	0.30	0.02	16:1	0.25	12	0.05	6
11118+80	11119+60	96,172	100	0.17	Type D	0.300	6.13	854	0.10	0.85	16.75	22.88	2.66	0.30	0.01	25:1	1.76	12	0.06	8
11128+18	11130+25	26,027	100	0.06	Type D	0.300	7.82	188	0.06	0.60	5.22	13.05	3.53	0.30	0.01	7:1	0.63	12	0.13	6
11140+20	11142+20	30,790	100	0.04	Type D	0.300	8.60	240	0.70	0.70	5.71	14.32	3.38	0.30	0.04	8:1	0.72	12	0.22	6
11142+20	11144+00	28,668	100	0.05	Type D	0.300	8.17	274	0.06	0.60	7.61	15.78	3.23	0.30	0.09	8:1	0.64	12	0.20	6
11144+90	11145+80	44,337	100	0.07	Type D	0.300	7.55	314	0.18	1.05	4.98	12.53	3.59	0.30	0.03	6:1	1.10	12	0.06	8
11156+00	11145+55	74,641	100	0.04	Type D	0.300	8.60	379	0.15	0.90	7.02	15.62	3.25	0.30	0.07	8:1	1.67	12	0.10	8
11157+45	11160+50	122,354	100	0.02	Type D	0.300	10.11	397	0.06	0.60	11.03	21.14	2.78	0.30	0.03	18:1	2.34	12	0.03	12
11168+40	11170+41	32,581	100	0.25	Type D	0.300	5.61	25	0.24	3.45	0.12	5.73	4.66	0.30	0.11	3:1	1.05	12	0.16	6
11170+41	11171+07	1,130	67	0.27	Type D	0.300	4.57	0	0.00	0.00	0.00	5.00	4.82	0.30	0.18	4:1	0.04	12	0.35	6

**York County
Temporary Diversion Berm Calculations**

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Flow Type
10861+75-10863+50	0.025	0.06	0.25	0.1	7	0.75	0.22	2.03	0.11	1.78	0.31	0.0202	3.35	0.17	0.43	1.67	Supercritical
10869+60-10872+00	0.025	0.06	0.33	0.1	5	1.09	0.28	2.02	0.14	1.69	0.41	0.0197	3.9	0.24	0.57	1.69	Supercritical
10872+25-10872+90	0.025	0.04	0.78	0.1	5	8.65	1.54	4.74	0.32	3.96	0.94	0.0149	5.62	0.49	1.27	1.59	Supercritical
10917+10-10917+75	0.025	0.05	0.46	0.1	15	7.81	1.62	7.43	0.22	7	0.58	0.0149	4.82	0.36	0.82	1.76	Supercritical
10934+34-10938+95	0.025	0.04	0.72	0.1	5	7.04	1.32	4.39	0.3	3.67	0.86	0.0153	5.33	0.44	1.16	1.57	Supercritical
10948+90-10948+90	0.025	0.04	0.21	0.1	6	0.31	0.13	1.47	0.09	1.26	0.23	0.0229	2.37	0.09	0.29	1.3	Supercritical
10950+25-10951+15	0.025	0.09	0.59	0.1	5	6.19	0.88	3.59	0.25	3	0.82	0.0156	7	0.76	1.35	2.27	Supercritical
10953+20-10956+55	0.025	0.06	0.53	0.1	3	2.15	0.44	2.21	0.2	1.64	0.65	0.0196	4.93	0.38	0.91	1.69	Supercritical
10967+80-10969+90	0.025	0.01	0.64	0.1	2	0.89	0.43	2.07	0.21	1.34	0.54	0.0252	2.08	0.07	0.71	0.65	Subcritical
10969+90-10973+45	0.025	0.1	0.56	0.1	2	2	0.33	1.82	0.18	1.18	0.74	0.0226	6.04	0.57	1.13	2.01	Supercritical
10980+20-10982+40	0.025	0.06	0.52	0.1	3	2.04	0.42	2.17	0.19	1.61	0.64	0.0198	4.87	0.37	0.89	1.68	Supercritical
10984+15-10984+90	0.025	0.05	0.39	0.1	5	1.53	0.39	2.38	0.16	1.99	0.47	0.0188	3.96	0.24	0.63	1.58	Supercritical
10990+20-10994+65	0.025	0.04	0.5	0.1	5	2.7	0.64	3.06	0.21	2.56	0.59	0.0174	4.2	0.27	0.78	1.48	Supercritical
11024+45-11026+40	0.025	0.02	0.54	0.1	12	5.98	1.78	7.08	0.25	6.57	0.57	0.0153	3.35	0.17	0.72	1.13	Supercritical
11048+50-11049+30	0.025	0.07	0.47	0.1	8	4.89	0.88	4.24	0.21	3.78	0.62	0.0157	5.53	0.48	0.94	2.02	Supercritical
11048+50-11049+30	0.025	0.07	0.47	0.1	8	4.89	0.88	4.24	0.21	3.78	0.62	0.0157	5.53	0.48	0.94	2.02	Supercritical
11049+30-11049+80	0.025	0.09	0.31	0.1	8	1.9	0.4	2.83	0.14	2.53	0.42	0.0178	4.8	0.36	0.67	2.14	Supercritical
11056+30-11059+80	0.025	0.02	0.56	0.1	5	2.5	0.79	3.39	0.23	2.83	0.57	0.0176	3.17	0.16	0.71	1.06	Supercritical
11059+80-11062+90	0.025	0.05	0.34	0.1	11	2.54	0.65	4.14	0.16	3.81	0.42	0.0171	3.89	0.23	0.58	1.65	Supercritical
11062+90-11065+50	0.025	0.01	0.77	0.1	3	2.35	0.91	3.2	0.29	2.38	0.68	0.0194	2.58	0.1	0.87	0.73	Subcritical
11068+30-11071+00	0.025	0.07	0.46	0.1	7	4.01	0.74	3.69	0.2	3.25	0.6	0.0161	5.4	0.45	0.91	1.99	Supercritical
11072+60-11073+85	0.025	0.02	0.33	0.1	3	0.36	0.17	1.39	0.12	1.03	0.32	0.0249	2.09	0.07	0.4	0.9	Subcritical
11073+85-11074+60	0.025	0.03	0.3	0.1	3	0.33	0.14	1.25	0.11	0.93	0.31	0.0252	2.38	0.09	0.39	1.09	Supercritical
11080+90-11085+15	0.025	0.03	0.43	0.1	14	4.58	1.3	6.45	0.2	6.05	0.48	0.0159	3.53	0.19	0.62	1.35	Supercritical
11085+15-11086+30	0.025	0.06	0.12	0.1	14	0.2	0.1	1.75	0.05	1.64	0.14	0.0242	2.09	0.07	0.18	1.53	Supercritical
11086+50-11088+75	0.025	0.05	0.54	0.1	3	2.06	0.45	2.25	0.2	1.67	0.64	0.0197	4.56	0.32	0.86	1.55	Supercritical
11089+90-11095+10	0.025	0.05	0.48	0.1	5	2.74	0.6	2.96	0.2	2.47	0.59	0.0174	4.58	0.33	0.81	1.64	Supercritical
11096+70-11098+50	0.025	0.02	0.2	0.1	10	0.35	0.2	2.22	0.09	2.03	0.2	0.0222	1.72	0.05	0.25	0.95	Subcritical
11102+10-11104+10	0.025	0.01	0.32	0.1	18	1.53	0.91	6.03	0.15	5.74	0.28	0.0187	1.68	0.04	0.36	0.75	Subcritical
11106+00-11107+00	0.025	0.01	0.22	0.1	13	0.43	0.33	3.14	0.1	2.93	0.19	0.0218	1.32	0.03	0.25	0.69	Subcritical
11107+45-11111+55	0.025	0.01	0.54	0.1	9	3.01	1.3	5.39	0.24	4.87	0.49	0.0167	2.31	0.08	0.62	0.79	Subcritical
11111+70-11115+60	0.025	0.01	0.31	0.1	18	1.46	0.88	5.93	0.15	5.64	0.28	0.0188	1.66	0.04	0.35	0.74	Subcritical
11116+90-11117+95	0.025	0.02	0.17	0.1	18	0.42	0.27	3.26	0.08	3.1	0.17	0.0222	1.58	0.04	0.21	0.95	Subcritical
11117+95-11118+80	0.025	0.02	0.15	0.1	16	0.25	0.18	2.52	0.07	2.38	0.14	0.0237	1.42	0.03	0.18	0.92	Subcritical
11118+80-11119+60	0.025	0.01	0.29	0.1	25	1.76	1.09	7.66	0.14	7.39	0.26	0.0188	1.62	0.04	0.34	0.74	Subcritical
11128+18-11130+25	0.025	0.01	0.33	0.1	7	0.63	0.38	2.66	0.14	2.34	0.29	0.0207	1.64	0.04	0.37	0.71	Subcritical
11140+20-11142+20	0.025	0.04	0.25	0.1	8	0.72	0.25	2.27	0.11	2.03	0.29	0.0194	2.82	0.12	0.37	1.41	Supercritical
11142+20-11144+00	0.025	0.09	0.21	0.1	8	0.64	0.18	1.89	0.09	1.68	0.27	0.0205	3.66	0.21	0.42	2	Supercritical
11144+90-11145+80	0.025	0.03	0.35	0.1	6	1.1	0.38	2.49	0.15	2.14	0.38	0.0193	2.92	0.13	0.48	1.23	Supercritical
11156+00-11145+55	0.025	0.07	0.31	0.21	8	1.67	0.39	2.81	0.14	2.54	0.4	0.0178	4.24	0.28	0.59	1.9	Supercritical
11157+45-11160+50	0.025	0.03	0.3	0.1	18	2.34	0.83	5.76	0.14	5.48	0.33	0.0177	2.82	0.12	0.43	1.28	Supercritical
11168+40-11170+41	0.025	0.11	0.36	0.1	3	1.05	0.2	1.51	0.13	1.12	0.49	0.0216	5.18	0.42	0.78	2.15	Supercritical
11170+41-11171+07	0.025	0.18	0.09	0.1	4	0.04	0.02	0.44	0.03	0.35	0.12	0.0315	2.66	0.11	0.2	2.26	Supercritical

**York County
Temporary Slope Pipe Calculations**

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Diameter (ft)	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Percent Full (%)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Maximum Discharge (ft ³ /s)	Discharge Full (ft ³ /s)	Slope Full (ft/ft)	Flow Type
10861+75-10863+50	0.023	0.25	0.24	0.5	0.75	0.09	0.77	0.12	0.5	0.43	48.4	0.0512	7.97	0.99	1.23	3.24	1.71	1.59	0.05593	SuperCritical
10872+25-10872+90	0.023	0.13	0.66	1.5	8.65	0.75	2.18	0.35	1.49	1.14	44.2	0.0248	11.47	2.04	2.71	2.84	23.03	21.41	0.02123	SuperCritical
10917+10-10917+75	0.023	0.07	0.75	1.5	7.81	0.88	2.35	0.37	1.5	1.08	49.8	0.0228	8.88	1.23	1.97	2.04	16.9	15.71	0.01731	SuperCritical
10934+34-10938+95	0.023	0.07	0.7	1.5	7.04	0.81	2.26	0.36	1.5	1.03	46.9	0.0212	8.64	1.16	1.86	2.07	16.9	15.71	0.01406	SuperCritical
10948+90-10948+90	0.023	0.07	0.21	0.5	0.31	0.08	0.71	0.11	0.49	0.28	42.1	0.0258	3.95	0.24	0.45	1.75	0.9	0.84	0.00956	SuperCritical
10953+20-10956+55	0.023	0.18	0.43	0.67	2.15	0.24	1.24	0.19	0.64	0.64	63.6	0.0836	9.09	1.28	1.71	2.65	3.16	2.94	0.0965	SuperCritical
10967+80-10969+90	0.023	0.38	0.24	0.5	0.89	0.09	0.76	0.12	0.5	0.46	47.3	0.0684	9.72	1.47	1.71	4	2.1	1.95	0.07876	SuperCritical
10969+90-10973+45	0.023	0.44	0.39	0.5	2	0.16	1.08	0.15	0.42	0.5	77.8	0.3786	12.19	2.31	2.7	3.42	2.26	2.1	0.39773	SuperCritical
10980+20-10982+40	0.023	0.25	0.37	0.67	2.04	0.2	1.12	0.18	0.67	0.63	55.2	0.0751	10.22	1.62	1.99	3.29	3.72	3.46	0.08687	SuperCritical
10984+15-10984+90	0.023	0.24	0.4	0.5	1.53	0.17	1.11	0.15	0.4	0.49	80.6	0.2139	9.02	1.26	1.67	2.43	1.67	1.55	0.23276	SuperCritical
10990+20-10994+65	0.023	0.22	0.47	0.67	2.7	0.26	1.32	0.2	0.62	0.66	69.7	0.1362	10.3	1.65	2.11	2.78	3.49	3.25	0.15218	SuperCritical
11024+45-11026+40	0.023	0.14	0.67	1	5.98	0.56	1.92	0.29	0.94	0.95	67.3	0.0766	10.65	1.76	2.43	2.43	8.1	7.53	0.08819	SuperCritical
11049+30-11049+80	0.023	0.07	0.58	0.67	1.9	0.32	1.59	0.2	0.47	0.62	85.8	0.0653	5.9	0.54	1.12	1.25	1.97	1.83	0.07536	SuperCritical
11056+30-11059+80	0.023	0.11	0.42	1	2.5	0.32	1.42	0.22	0.99	0.68	42.4	0.024	7.89	0.97	1.39	2.46	7.18	6.68	0.01541	SuperCritical
11029+80-11062+90	0.023	0.19	0.47	0.67	2.54	0.26	1.33	0.2	0.61	0.65	70.3	0.1193	9.59	1.43	1.9	2.57	3.25	3.02	0.13468	SuperCritical
11062+90-11065+50	0.023	0.21	0.43	0.67	2.35	0.24	1.24	0.19	0.64	0.65	64.1	0.1009	9.85	1.51	1.94	2.85	3.41	3.17	0.11528	SuperCritical
11068+30-11071+00	0.023	0.22	0.45	1	4.01	0.35	1.48	0.23	1	0.85	45.5	0.0375	11.54	2.07	2.52	3.44	10.16	9.44	0.03966	SuperCritical
11072+60-11073+65	0.023	0.22	0.17	0.5	0.36	0.06	0.62	0.09	0.47	0.3	33.5	0.0272	6.25	0.61	0.77	3.15	1.6	1.49	0.01289	SuperCritical
11073+85-11074+60	0.023	0.3	0.15	0.5	0.33	0.05	0.57	0.08	0.46	0.29	29.6	0.0263	6.79	0.72	0.87	3.67	1.87	1.74	0.01083	SuperCritical
11080+90-11085+15	0.023	0.11	0.61	1	4.58	0.5	1.79	0.28	0.98	0.89	60.8	0.0459	9.16	1.3	1.91	2.26	7.18	6.68	0.05173	SuperCritical
11085+15-11086+30	0.023	0.17	0.13	0.5	0.2	0.04	0.54	0.08	0.44	0.22	26.5	0.0233	4.81	0.36	0.49	2.76	1.41	1.31	0.00398	SuperCritical
11086+50-11088+75	0.023	0.15	0.44	0.67	2.06	0.25	1.27	0.19	0.64	0.63	65.7	0.0766	8.38	1.09	1.53	2.38	2.88	2.68	0.08859	SuperCritical
11089+90-11095+10	0.023	0.14	0.59	0.67	2.74	0.33	1.64	0.2	0.43	0.66	88.6	0.1405	8.3	1.07	1.66	1.66	2.79	2.59	0.15672	SuperCritical
11096+70-11098+50	0.023	0.1	0.2	0.5	0.35	0.08	0.69	0.11	0.49	0.3	40.7	0.0269	4.66	0.34	0.54	2.1	1.08	1	0.01218	SuperCritical
11102+10-11104+10	0.023	0.03	0.46	1	1.53	0.36	1.5	0.24	1	0.52	46.3	0.0197	4.3	0.29	0.75	1.27	3.75	3.49	0.00577	SuperCritical
11106+00-11107+00	0.023	0.03	0.33	0.5	0.43	0.14	0.95	0.15	0.47	0.33	66.6	0.0298	3.09	0.15	0.48	1	0.59	0.55	0.01838	SuperCritical
11107+45-11111+55	0.023	0.09	0.5	1	3.01	0.39	1.57	0.25	1	0.74	49.9	0.0274	7.69	0.92	1.42	2.17	6.5	6.04	0.02234	SuperCritical
11111+70-11115+60	0.023	0.1	0.4	0.67	1.46	0.22	1.18	0.19	0.66	0.57	59.7	0.0423	6.65	0.69	1.09	2.03	2.35	2.19	0.0445	SuperCritical
11116+90-11117+95	0.023	0.08	0.24	0.5	0.42	0.09	0.77	0.12	0.5	0.33	48.1	0.0294	4.49	0.31	0.55	1.83	0.96	0.9	0.01754	SuperCritical
11117+95-11118+80	0.023	0.05	0.2	0.5	0.25	0.08	0.69	0.11	0.49	0.25	41	0.0243	3.3	0.17	0.37	1.48	0.76	0.71	0.00621	SuperCritical
11118+80-11119+60	0.023	0.06	0.58	0.67	1.76	0.32	1.59	0.2	0.47	0.61	85.9	0.0567	5.46	0.46	1.04	1.16	1.82	1.7	0.06466	SuperCritical
11128+18-11130+25	0.023	0.13	0.26	0.5	0.63	0.11	0.82	0.13	0.5	0.4	53	0.0407	5.97	0.55	0.82	2.29	1.23	1.14	0.03946	SuperCritical
11140+20-11142+20	0.023	0.22	0.25	0.5	0.72	0.1	0.78	0.12	0.5	0.43	49	0.0482	7.52	0.88	1.12	3.03	1.6	1.49	0.05155	SuperCritical
11142+20-11144+00	0.023	0.2	0.24	0.5	0.64	0.09	0.76	0.12	0.5	0.41	47.1	0.0414	7.04	0.77	1.01	2.91	1.53	1.42	0.04073	SuperCritical
11144+90-11145+80	0.023	0.06	0.39	0.67	1.1	0.21	1.17	0.18	0.66	0.5	58.7	0.0312	5.12	0.41	0.8	1.58	1.82	1.7	0.02526	SuperCritical
11156+00-11145+55	0.023	0.1	0.44	0.67	1.67	0.24	1.26	0.19	0.64	0.6	65.4	0.0518	6.84	0.73	1.16	1.95	2.35	2.19	0.05822	SuperCritical
11157+45-11160+50	0.023	0.03	0.6	1	2.34	0.49	1.77	0.28	0.98	0.65	60	0.0231	4.76	0.35	0.95	1.19	3.75	3.49	0.0135	SuperCritical
11168+40-11170+41	0.023	0.16	0.35	0.5	1.05	0.15	0.98	0.15	0.46	0.48	69.4	0.0951	7.22	0.81	1.16	2.26	1.36	1.27	0.10962	SuperCritical
11170+41-11171+07	0.023	0.35	0.05	0.5	0.04	0.01	0.32	0.03	0.3	0.1	10.1	0.0228	3.86	0.23	0.28	3.66	2.02	1.88	0.00016	SuperCritical

Dauphin County

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
11278+00	11282+00	53,778	100	0.13	HSG D	0.800	10.33	195	0.18	1.00	3.25	13.58	3.47	0.20	0.03	36:1	0.86	12	0.02	6
11291+00	11292+00	164,180	100	0.03	HSG D	0.800	14.55	396	0.08	2.00	3.30	17.85	3.04	0.35	0.06	24:1	4.01	12	0.04	12
11320+50	11322+75	71,110	100	0.02	HSG D	0.400	11.57	426	0.03	0.80	8.88	20.44	2.83	0.31	0.01	20:1	1.43	12	0.04	8
11349+50	11352+00	77,255	100	0.09	HSG D	0.800	11.26	396	0.10	2.10	3.14	14.40	3.38	0.28	0.02	10:1	1.68	12	0.06	8
11371+25	11374+25	215,482	100	0.07	HSG D	0.400	8.63	470	0.09	1.30	6.03	14.66	3.35	0.31	0.06	9:1	5.13	12	0.04	12
11472+00	11473+50	32,011	100	0.02	HSG D	0.800	16.00	198	0.09	0.75	4.40	20.40	2.83	0.40	0.06	9:1	0.83	12	0.20	6
11473+50	11476+25	95,072	100	0.13	HSG D	0.800	10.33	465	0.12	0.85	9.12	19.45	2.91	0.30	0.07	3:1	1.90	12	0.12	6
11478+00	11480+50	47,588	100	0.05	HSG D	0.400	9.34	129	0.16	1.00	2.15	11.49	3.72	0.30	0.05	26:1	1.22	12	0.19	6
11481+75	11483+00	2,038	109	0.10	HSG D	0.300	7.23	0	0.10	0.80	0.00	7.23	4.37	0.20	0.09	18:1	0.04	12	N/A	N/A
11489+75	11493+00	28,481	100	0.48	HSG D	0.300	4.81	359	0.26	1.25	4.79	9.60	3.98	0.20	0.18	8:1	0.52	12	0.11	6
11497+80	11503+50	135,606	100	0.27	HSG D	0.300	5.51	315	0.16	1.00	5.25	10.76	3.82	0.20	0.08	2:1	2.38	18	0.34	6
11803+00	11805+00	55,401	100	0.09	HSG D	0.300	7.12	260	0.08	0.70	6.19	13.31	3.50	0.20	0.01	9:1	0.89	12	N/A	N/A

Dauphin County
Temporary Diversion Berm Calculations

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Flow Type
11278+00 to 11282+00 Ch	0.025	0.03	0.16	0.1	36	0.86	0.46	5.9	0.08	5.76	0.17	0.0214	1.87	0.05	0.21	1.17	Supercritical
11291+00 to 11292+00 Ch	0.025	0.06	0.29	0.1	24	4.01	1.02	7.28	0.14	7.01	0.37	0.0168	3.93	0.24	0.53	1.82	Supercritical
11320+50 to 11322+75 Ch	0.025	0.01	0.3	0.1	20	1.43	0.88	6.24	0.14	5.96	0.26	0.019	1.62	0.04	0.34	0.74	Subcritical
11349+50 to 11352+00 Ch	0.025	0.02	0.36	0.1	10	1.68	0.66	4.01	0.17	3.66	0.37	0.018	2.53	0.1	0.46	1.05	Supercritical
11371+25 to 11374+25 Ch	0.025	0.06	0.47	0.1	9	5.13	0.99	4.7	0.21	4.25	0.6	0.0155	5.16	0.41	0.88	1.88	Supercritical
11472+00 to 11473+50 Ch	0.025	0.06	0.24	0.1	9	0.83	0.25	2.37	0.11	2.15	0.29	0.0198	3.28	0.17	0.4	1.68	Supercritical
11473+50 to 11476+25 Ch	0.025	0.07	0.49	0.1	3	1.9	0.37	2.05	0.18	1.52	0.62	0.0199	5.07	0.4	0.89	1.8	Supercritical
11478+00 to 11480+50 Ch	0.025	0.05	0.19	0.1	26	1.22	0.46	5.05	0.09	4.88	0.22	0.0198	2.68	0.11	0.3	1.54	Supercritical
11481+75 to 11483+00 Ch	0.025	0.09	0.05	0.1	18	0.04	0.03	1.02	0.03	0.97	0.07	0.0305	1.54	0.04	0.09	1.66	Supercritical
11489+75 to 11493+00 Ch	0.025	0.18	0.17	0.1	8	0.52	0.12	1.53	0.08	1.37	0.25	0.0211	4.5	0.31	0.48	2.73	Supercritical
11497+80 to 11503+50 Ch	0.025	0.08	0.63	0.1	2	2.38	0.41	2.03	0.2	1.31	0.8	0.0221	5.8	0.52	1.15	1.83	Supercritical
11803+00 to 11805+00 Ch	0.025	0.01	0.34	0.1	9	0.89	0.52	3.41	0.15	3.08	0.3	0.0196	1.7	0.05	0.38	0.73	Subcritical

Dauphin County
Temporary Slope Pipe Calculations

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Diameter (ft)	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Percent Full (%)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Maximum Discharge (ft ³ /s)	Discharge Full (ft ³ /s)	Slope Full (ft/ft)	Flow Type
11278+00 to 11282+00 P	0.012	0.02	0.41	0.5	0.86	0.17	1.13	0.15	0.38	0.45	82	0.0175	4.99	0.39	0.8	1.31	0.92	0.86	0.02002	SuperCritical
11291+00 to 11292+00 P	0.012	0.04	0.51	1	4.01	0.4	1.59	0.25	1	0.85	51.1	0.0102	9.92	1.53	2.04	2.75	8.3	7.72	0.0108	SuperCritical
11320+50 to 11322+75 P	0.012	0.04	0.35	0.67	1.43	0.19	1.08	0.17	0.67	0.56	52.3	0.0112	7.67	0.91	1.26	2.56	2.85	2.65	0.01162	SuperCritical
11349+50 to 11352+00 P	0.012	0.06	0.34	0.67	1.68	0.18	1.07	0.17	0.67	0.6	51	0.0142	9.3	1.34	1.68	3.15	3.5	3.25	0.01604	SuperCritical
11371+25 to 11374+25 P	0.012	0.04	0.6	1	5.13	0.49	1.76	0.28	0.98	0.92	59.6	0.0153	10.51	1.72	2.31	2.63	8.3	7.72	0.01767	SuperCritical
11472+00 to 11473+50 P	0.012	0.2	0.19	0.5	0.83	0.07	0.66	0.1	0.49	0.45	37.9	0.0164	12.17	2.3	2.49	5.72	2.92	2.72	0.01865	SuperCritical
11473+50 to 11476+25 P	0.012	0.12	0.37	0.5	1.9	0.16	1.04	0.15	0.44	0.5	74.4	0.0926	12.13	2.29	2.66	3.57	2.26	2.11	0.09771	SuperCritical
11478+00 to 11480+50 P	0.012	0.19	0.24	0.5	1.22	0.09	0.76	0.12	0.5	0.49	47.6	0.0357	13.22	2.72	2.95	5.42	2.85	2.65	0.04029	SuperCritical
11489+75 to 11493+00 P	0.012	0.11	0.17	0.5	0.52	0.06	0.63	0.1	0.48	0.37	34.7	0.0092	8.59	1.15	1.32	4.25	2.17	2.02	0.00732	SuperCritical
11497+80 to 11503+50 P	0.012	0.34	0.3	0.5	2.38	0.12	0.89	0.14	0.49	0.5	60	0.1475	19.35	5.82	6.12	6.81	3.81	3.54	0.15332	SuperCritical

Lebanon County

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
11881+80	11884+60	89,889	100	0.05	Type D	0.30	8.17	353	0.14	0.90	6.54	14.70	3.34	0.20	1.38	12	0.13	8
11884+60	11890+00	209,406	100	0.05	Type D	0.30	8.17	336	0.14	0.90	6.22	14.39	3.38	0.20	3.25	12	0.13	12
11890+00	11893+75	134,970	100	0.06	Type D	0.30	7.82	406	0.14	0.90	7.52	15.34	3.28	0.20	2.03	12	0.11	8

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
11901+50	11904+80	167,002	100	0.10	HSG D	0.300	6.94	697	0.13	0.85	13.67	20.61	2.82	0.20	0.05	4:1	2.16	12	0.22	6
11904+80	11906+90	180,791	100	0.03	HSG D	0.300	9.20	1166	0.09	0.65	29.90	39.10	1.89	0.20	0.04	5:1	1.57	12	0.21	6
11906+90	11909+00	102,677	100	0.09	HSG D	0.300	7.12	728	0.12	0.90	13.48	20.60	2.82	0.20	0.06	5:1	1.33	12	0.12	6
11911+00	11913+00	182,698	100	0.08	HSG D	0.300	7.32	874	0.11	0.80	18.21	25.52	2.49	0.20	0.04	10:1	2.09	12	0.04	8
11932+50	11933+25	6,842	100	0.03	HSG D	0.300	9.20	77	0.27	1.20	1.07	10.27	3.89	0.20	0.25	4:1	0.12	12	N/A	N/A
11954+75	11955+30	3,710	100	0.37	HSG D	0.400	5.85	72	0.14	0.95	1.26	7.11	4.40	0.20	0.10	9:1	0.07	12	N/A	N/A
11993+25	11994+75	20,508	100	0.08	HSG D	0.300	7.32	195	0.12	0.80	4.06	11.38	3.74	0.20	0.03	10:1	0.35	12	0.05	6
12002+50	12004+00	9,107	100	0.17	HSG D	0.300	6.13	212	0.21	1.10	3.21	9.35	4.02	0.20	0.09	3:1	0.17	12	0.17	6
12035+75*	12037+00*	517,673	100	0.01	HSG D	0.400	13.60	722	0.04	0.95	12.67	26.27	2.45	0.31	0.02	35:1	9.02	12	0.05	12
12095+30	12099+00	146,663	100	0.03	HSG D	0.400	10.52	354	0.07	1.25	4.72	15.24	3.29	0.31	0.04	12:1	3.43	12	0.06	8
12099+00	12101+00	121,919	74	0.05	HSG D	0.800	11.22	436	0.08	1.30	5.59	16.81	3.14	0.31	0.02	20:1	2.72	12	0.04	8
12101+00	12103+00	256,988	100	0.03	HSG D	0.800	14.55	402	0.09	1.40	4.79	19.34	2.92	0.13	0.02	25:1	2.24	12	0.04	8
12116+90	12117+85	54,740	100	0.07	HSG D	0.400	8.63	544	0.07	1.25	7.25	15.89	3.22	0.31	0.02	30:1	1.26	12	N/A	N/A
12134+50	12137+50	107,552	100	0.04	HSG D	0.400	9.84	286	0.06	1.10	4.33	14.17	3.40	0.31	0.01	7:1	2.60	18	0.23	6
12209+80	12213+25	111,663	100	0.03	HSG D	0.400	10.52	668	0.05	1.00	11.13	21.66	2.74	0.31	0.01	25:1	2.18	12	0.02	12
12213+25	12215+75	184,687	100	0.03	HSG D	0.400	10.52	604	0.05	1.00	10.07	20.59	2.82	0.31	0.01	33:1	3.71	12	0.03	12
12215+75	12217+90	458,036	100	0.03	HSG D	0.800	14.55	897	0.04	0.90	16.61	31.16	2.20	0.31	0.01	18:1	7.17	18	0.02	2 x 12

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
12220+80	12225+20	189,011	100	0.04	Type D	0.300	8.60	617	0.05	1.55	6.63	15.24	3.29	0.40	0.02	20:1	5.71	12	0.09	12
12225+50	12226+40	470,726	100	0.02	Type D	0.300	10.11	1122	0.04	1.40	13.36	23.47	2.62	0.40	0.02	20:1	11.32	18	0.07	12(2)
12237+50	12238+80	151,511	100	0.03	Type D	0.300	9.20	598	0.08	1.90	5.25	14.45	3.37	0.40	0.03	8:1	4.69	18	0.10	12
12238+80	12240+60	195,348	100	0.04	Type D	0.300	8.60	829	0.07	1.80	7.68	16.28	3.19	0.40	0.02	5:1	5.71	18	0.12	12
12240+60	12242+20	128,314	100	0.02	Type D	0.300	10.11	820	0.07	1.80	7.59	17.71	3.05	0.40	0.02	5:1	3.60	18	0.15	12
12242+20	12244+30	164,384	100	0.03	Type D	0.300	9.20	768	0.08	1.90	6.74	15.94	3.22	0.40	0.03	6:1	4.86	18	0.02	12(2)
12244+30	12245+30	341,470	100	0.02	Type D	0.300	10.11	835	0.07	1.80	7.73	17.85	3.04	0.40	0.02	15:1	9.54	18	0.02	12
12250+25	12253+25	145,456	100	0.07	Type D	0.300	7.55	534	0.06	1.70	5.24	12.78	3.56	0.40	0.05	6:1	4.75	18	0.05	12
12253+25	12255+85	115,127	100	0.04	Type D	0.300	8.60	359	0.06	1.70	3.52	12.12	3.64	0.40	0.06	9:1	3.85	12	0.16	12
12270+00	12270+80	106,547	100	0.06	Type D	0.300	7.82	707	0.08	2.00	5.89	13.72	3.45	0.80	0.03	10:1	6.75	18	0.06	12(2)
12270+80	12271+95	155,492	100	0.07	Type D	0.300	7.55	883	0.08	1.90	7.75	15.29	3.28	0.80	0.02	20:1	9.37	18	0.03	12(2)
12271+95	12273+70	206,071	100	0.11	Type D	0.300	6.79	679	0.09	2.00	5.66	12.45	3.60	0.80	0.01	34:1	13.62	18	0.02	12(2)
12273+70	12275+10	79,033	100	0.10	Type D	0.300	6.94	707	0.09	2.00	5.89	12.84	3.55	0.80	0.01	22:1	5.16	12	0.06	12
12275+10	12276+35	360,343	100	0.12	Type D	0.300	6.65	707	0.09	2.00	5.89	12.55	3.59	0.80	0.03	20:1	23.74	18	0.07	12(2)
12276+35	12279+95	183,675	100	0.08	Type D	0.300	7.32	1025	0.04	1.40	12.20	19.52	2.90	0.80	0.02	38:1	9.79	12	0.12	12(2)
12279+75	12284+10	231,799	100	0.04	Type D	0.300	8.60	918	0.04	1.40	10.93	19.53	2.90	0.80	0.01	30:1	12.35	18	0.02	12(2)
12284+10	12286+60	437,219	100	0.04	Type D	0.300	8.60	796	0.04	1.40	9.48	18.08	3.02	0.80	0.01	45:1	24.26	18	0.05	12(2)
12306+00	12307+90	569,571	100	0.06	Type D	0.300	7.82	1025	0.06	0.60	28.47	36.30	1.99	0.30	0.01	13:1	7.80	18	0.02	12(2)
12318+60	12320+10	83,571	100	0.06	Type D	0.300	7.82	442	0.13	1.60	4.60	12.43	3.60	0.40	0.04	10:1	2.76	12	0.08	12
12329+40	12331+35	216,697	100	0.10	Type D	0.300	6.94	559	0.04	0.95	9.81	16.75	3.14	0.40	0.03	8:1	6.25	18	0.01	12(2)
12363+10	12366+90	296,547	100	0.02	Type D	0.300	10.11	1965	0.01	0.45	72.78	82.89	1.06	0.40	0.02	23:1	2.89	12	0.01	12(2)
12416+85	12419+70	561,642	100	0.02	Type D	0.300	10.11	3621	0.03	0.80	75.44	85.55	1.03	0.40	0.01	65:1	5.33	12	0.01	12(2)
12458+30	12460+20	116,531	100	0.04	Type D	0.300	8.60	574	0.02	0.65	14.72	23.32	2.63	0.40	0.03	36:1	2.81	12	0.01	12(2)
12460+20	12462+65	329,790	100	0.04	Type D	0.300	8.60	747	0.02	0.65	19.15	27.76	2.37	0.40	0.01	30:1	7.17	12	0.01	12(2)
12478+95	12480+18	36,179	100	0.21	Type D	0.300	5.84	129	0.08	1.30	1.65	7.49	4.33	0.40	0.01	12:1	1.44	12	0.04	8

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
12528+30	12529+60	49,971	100	0.04	Type D	0.40	9.84	738	0.05	1.10	11.18	21.02	2.79	0.31	0.99	12	0.02	8
12536+00	12537+80	2,046,260	100	0.09	Type D	0.40	8.14	2672	0.04	0.93	48.14	56.29	1.45	0.31	21.06	24	0.01	12 (3)
12537+80	12544+90	793,321	100	0.03	Type D	0.40	10.52	1385	0.05	1.10	20.98	31.51	2.19	0.31	12.34	18	0.02	12 (2)
12549+60	12551+85	157,972	100	0.09	Type D	0.40	8.14	494	0.05	1.10	7.48	15.63	3.25	0.31	3.65	12	0.08	12
12558+10	12562+10	559,625	100	0.04	Type D	0.40	9.84	1427	0.04	0.93	25.71	35.55	2.02	0.31	8.03	12	0.01	12 (2)
12578+70	12582+30	171,635	100	0.02	Type D	0.40	11.57	630	0.07	1.25	8.40	19.97	2.87	0.31	3.50	12	0.06	12
12586+50	12588+50	4,933,456	100	0.04	Type D	0.40	9.84	3840	0.02	0.65	98.46	108.30	0.85	0.31	29.70	12	0.04	12 (3)
12592+50	12593+80	36,259	100	0.06	Type D	0.40	8.95	382	0.08	1.30	4.90	13.85	3.44	0.31	0.89	12	0.09	6
12601+35	12604+05	176,165	100	0.04	Type D	0.40	9.84	462	0.08	1.30	5.92	15.76	3.24	0.31	4.06	18	0.10	12
12604+05	12605+55	37,725	100	0.04	Type D	0.40	9.84	319	0.09	1.40	3.80	13.64	3.46	0.31	0.93	12	0.12	6
12607+30	12609+30	128,152	100	0.03	Type D	0.40	10.52	482	0.09	1.40	5.74	16.26	3.19	0.31	2.91	18	0.07	12
12609+30	12612+40	115,650	100	0.03	Type D	0.40	10.52	487	0.07	1.25	6.49	17.02	3.12	0.31	2.56	12	0.09	12
12612+40	12613+65	18,705	100	0.04	Type D	0.40	9.84	289	0.08	1.30	3.71	13.54	3.47	0.31	0.46	12	0.14	6
12636+25	12639+00	87,319	100	0.10	Type D	0.40	7.94	734	0.06	2.40	5.10	13.04	3.53	0.50	3.54	12	0.04	12
12639+00	12640+85	140,387	100	0.08	Type D	0.40	8.37	722	0.08	1.30	9.26	17.62	3.06	0.31	3.06	12	0.03	12
12640+85	12644+60	262,540	100	0.03	Type D	0.40	10.52	1147	0.06	1.20	15.93	26.45	2.44	0.31	4.56	12	0.03	8 (2)
12644+60	12645+30	1,155,593	100	0.05	Type D	0.40	9.34	1617	0.05	1.10	24.50	33.84	2.08	0.31	17.15	18	0.02	12 (3)
12669+75	12673+00	141,876	100	0.04	Type D	0.40	9.84	502	0.08	1.30	6.44	16.28	3.19	0.31	3.22	12	0.08	12
12673+00	12676+45	385,222	100	0.05	Type D	0.40	9.34	560	0.08	1.30	7.18	16.52	3.16	0.31	8.67	18	0.03	12 (2)
12694+50	12693+15	64,289	100	0.05	Type D	0.40	9.34	270	0.06	1.20	3.75	13.09	3.52	0.31	1.61	12	0.07	8
12693+75	12694+65	64,138	100	0.07	Type D	0.40	8.63	536	0.06	1.20	7.44	16.08	3.20	0.31	1.46	12	0.04	12
12694+85	12696+35	210,512	100	0.02	Type D	0.40	11.57	877	0.07	1.25	11.69	23.26	2.63	0.31	3.94	12	0.04	12
12705+35	12707+30	491,444	100	0.18	Type D	0.80	9.57	1302	0.14	1.70	12.76	22.34	2.69	0.31	9.42	18	0.06	8 (2)
12732+95	12733+10	27,797	100	0.10	Type D	0.80	10.98	396	0.07	1.80	3.67	14.65	3.35	0.40	0.85	12	0.11	6
12735+10	12736+65	84,153	100	0.11	Type D	0.40	7.77	615	0.09	1.40	7.32	15.09	3.30	0.40	2.55	12	0.15	8
12736+65	12737+85	96,176	100	0.08	Type D	0.40	8.37	822	0.08	1.30	10.54	18.91	2.95	0.40	2.61	12	0.12	12
12748+75	12751+40	208,936	100	0.13	Type D	0.30	6.53	1155	0.15	0.95	20.26	26.79	2.42	0.20	2.32	12	0.10	12
12751+40	12753+10	121,562	100	0.11	Type D	0.30	6.79	734	0.21	1.20	10.19	16.99	3.12	0.20	1.74	12	0.15	8
12753+10	12755+15	32,693	100	0.21	Type D	0.30	5.84	230	0.24	1.25	3.07	8.91	4.09	0.20	0.61	12	0.16	6
12755+15	12759+75	184,101	100	0.15	Type D	0.30	6.32	390	0.30	1.35	4.81	11.13	3.77	0.20	3.19	18	0.19	12
12759+75	12763+30	111,558	100	0.20	Type D	0.30	5.91	274	0.36	1.50	3.04	8.95	4.08	0.20	2.09	18	0.18	8
12763+30	12766+55	152,686	100	0.09	Type D	0.30	7.12	707	0.16	1.00	11.78	18.90	2.95	0.20	2.07	18	0.11	8
12766+55	12768+30	184,813	100	0.07	Type D	0.30	7.55	542	0.18	1.10	8.21	15.76	3.24	0.20	2.75	12	0.06	12
12768+30	12770+50	113,817	100	0.05	Type D	0.30	8.17	496	0.21	1.20	6.89	15.05	3.31	0.20	1.73	12	0.10	8
12770+50	12771+95	102,550	100	0.08	Type D	0.30	7.32	486	0.20	1.20	6.75	14.07	3.41	0.20	1.61	12	0.18	8
12799+55	12805+70	137,515	100	0.09	Type D	0.30	7.12	158	0.08	1.25	2.11	9.22	4.04	0.31	3.96	12	0.07	12

**Lebanon County
Temporary Diversion Berm Calculations**

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Flow Type
1188180-1188460 BERM	0.025	0.014	0.41	0.1	7.14	1.38	0.61	3.38	0.18	2.98	0.39	0.0186	2.25	0.08	0.49	0.88	Subcritical
1188460-1189000 BERM	0.025	0.035	0.48	7.14	0.1	3.25	0.83	3.92	0.21	3.46	0.55	0.0166	3.94	0.24	0.72	1.42	Supercritical
1189000-1189375 BERM	0.025	0.03	0.41	0.1	7.14	2.03	0.61	3.39	0.18	2.98	0.46	0.0177	3.3	0.17	0.58	1.28	Supercritical
11901+50 to 11904+80 Ch	0.025	0.05	0.49	0.1	4	2.16	0.48	2.49	0.19	1.99	0.59	0.0185	4.46	0.31	0.8	1.59	Supercritical
11904+80 to 11906+90 Ch	0.025	0.04	0.41	0.1	5	1.57	0.43	2.5	0.17	2.09	0.47	0.0187	3.67	0.21	0.62	1.43	Supercritical
11906+90 to 11909+00 Ch	0.025	0.06	0.36	0.1	5	1.33	0.32	2.18	0.15	1.82	0.44	0.0191	4.09	0.26	0.62	1.71	Supercritical
11911+00 to 11913+00 Ch	0.025	0.04	0.35	0.1	10	2.09	0.6	3.82	0.16	3.49	0.4	0.0175	3.47	0.19	0.53	1.47	Supercritical
11932+50 to 11933+25 Ch	0.025	0.25	0.12	0.1	4	0.12	0.03	0.62	0.05	0.5	0.18	0.0272	3.95	0.24	0.36	2.82	Supercritical
11954+75 to 11955+30 Ch	0.025	0.1	0.08	0.1	9	0.07	0.03	0.85	0.04	0.77	0.11	0.0276	2.14	0.07	0.16	1.83	Supercritical
11993+25 to 11994+75 Ch	0.025	0.03	0.19	0.1	10	0.35	0.18	2.06	0.09	1.88	0.2	0.0222	2	0.06	0.25	1.15	Supercritical
12002+50 to 12004+00 Ch	0.025	0.09	0.19	0.1	3	0.17	0.06	0.79	0.07	0.59	0.24	0.0275	3.05	0.14	0.33	1.74	Supercritical
12035+75 to 12037+00 Ch	0.025	0.02	0.42	0.1	35	9.02	3.09	15.12	0.2	14.73	0.44	0.0156	2.92	0.13	0.55	1.12	Supercritical
12095+30 to 12099+00 Ch	0.025	0.04	0.39	0.1	12	3.43	0.91	5.05	0.18	4.68	0.46	0.0165	3.78	0.22	0.61	1.52	Supercritical
12099+00 to 12101+00 Ch	0.025	0.02	0.33	0.1	20	2.72	1.1	6.97	0.16	6.66	0.34	0.0175	2.46	0.09	0.43	1.07	Supercritical
12101+00 to 12103+00 Ch	0.025	0.02	0.28	0.1	25	2.24	1	7.36	0.14	7.1	0.29	0.0182	2.23	0.08	0.36	1.05	Supercritical
12116+90 to 12117+85 Ch	0.025	0.02	0.21	0.1	30	1.26	0.68	6.6	0.1	6.4	0.21	0.02	1.85	0.05	0.27	1	Subcritical
12134+50 to 12137+50 Ch	0.025	0.01	0.56	0.1	7	2.6	1.11	4.52	0.25	3.98	0.51	0.0171	2.33	0.08	0.64	0.78	Subcritical
12209+80 to 12213+25 Ch	0.025	0.01	0.32	0.1	25	2.18	1.28	8.3	0.15	8.01	0.28	0.0183	1.71	0.05	0.36	0.75	Subcritical
12213+25 to 12215+75 Ch	0.025	0.01	0.35	0.1	33	3.71	2.03	11.92	0.17	11.6	0.32	0.0175	1.82	0.05	0.4	0.77	Subcritical
12215+75 to 12217+90 Ch	0.025	0.01	0.57	0.1	18	7.17	2.9	10.77	0.27	10.24	0.52	0.0152	2.48	0.1	0.66	0.82	Subcritical
12220+80-12225+20	0.025	0.02	0.44	0.1	20	5.71	1.93	9.21	0.21	8.8	0.46	0.0158	2.96	0.14	0.57	1.12	Supercritical
12225+50-12226+40	0.025	0.02	0.57	0.1	20	11.32	3.22	11.9	0.27	11.38	0.6	0.0144	3.52	0.19	0.76	1.17	Supercritical
12237+50-12238+80	0.025	0.03	0.54	0.1	8	4.69	1.18	4.89	0.24	4.37	0.61	0.0157	3.98	0.25	0.79	1.35	Supercritical
12238+80-12240+60	0.025	0.02	0.76	0.1	5	5.71	1.46	4.62	0.32	3.86	0.79	0.0158	3.9	0.24	0.99	1.12	Supercritical
12240+60-12242+20	0.025	0.02	0.64	0.1	5	3.6	1.04	3.89	0.27	3.25	0.66	0.0168	3.48	0.19	0.83	1.09	Supercritical
12242+20-12244+30	0.025	0.03	0.61	0.1	6	4.86	1.15	4.35	0.26	3.74	0.69	0.0159	4.24	0.28	0.89	1.35	Supercritical
12244+30-12245+30	0.025	0.02	0.59	0.1	15	9.54	2.66	9.51	0.28	8.96	0.63	0.0145	3.59	0.2	0.79	1.16	Supercritical
12250+25-12253+25	0.025	0.05	0.55	0.1	6	4.75	0.93	3.92	0.24	3.37	0.69	0.0159	5.1	0.4	0.96	1.71	Supercritical
12253+25-12255+85	0.025	0.06	0.42	0.1	9	3.85	0.8	4.22	0.19	3.82	0.54	0.0161	4.81	0.36	0.78	1.85	Supercritical
12270+00-12270+80	0.025	0.03	0.57	0.1	10	6.75	1.62	6.25	0.26	5.71	0.64	0.015	4.18	0.27	0.84	1.38	Supercritical
12270+80-12271+95	0.025	0.02	0.53	0.1	20	9.37	2.79	11.09	0.25	10.6	0.56	0.0148	3.35	0.17	0.7	1.15	Supercritical
12271+95-12273+70	0.025	0.01	0.56	0.1	34	13.62	5.42	19.75	0.27	19.23	0.52	0.0147	2.51	0.1	0.66	0.83	Subcritical
12273+70-12275+10	0.025	0.01	0.46	0.1	22	5.16	2.37	10.66	0.22	10.23	0.42	0.0162	2.18	0.07	0.54	0.8	Subcritical
12273+70-12275+10	0.025	0.03	0.69	0.1	20	23.74	4.82	14.57	0.33	13.92	0.81	0.0131	4.92	0.38	1.07	1.48	Supercritical
12276+35-12279+95	0.025	0.02	0.42	0.1	38	9.79	3.35	16.37	0.2	15.98	0.44	0.0156	2.92	0.13	0.55	1.12	Supercritical
12279+75-12284+10	0.025	0.01	0.57	0.1	30	12.35	4.89	17.69	0.28	17.16	0.53	0.0148	2.52	0.1	0.67	0.83	Subcritical
12284+10-12286+60	0.025	0.01	0.63	0.1	45	24.26	8.94	28.97	0.31	28.39	0.59	0.0141	2.71	0.11	0.74	0.85	Subcritical
12306+00-12307+90	0.025	0.01	0.66	0.1	13	7.8	2.87	9.3	0.31	8.67	0.62	0.0148	2.72	0.11	0.78	0.83	Subcritical
12318+60-12320+10	0.025	0.04	0.38	0.1	10	2.76	0.74	4.24	0.18	3.87	0.45	0.0169	3.72	0.22	0.6	1.5	Supercritical
12329+40-12331+35	0.025	0.03	0.6	0.1	8	6.25	1.46	5.44	0.27	4.86	0.68	0.0152	4.28	0.28	0.89	1.38	Supercritical
12363+10-12366+90	0.025	0.02	0.32	0.1	23	2.89	1.19	7.72	0.15	7.43	0.33	0.0175	2.42	0.09	0.41	1.06	Supercritical
12416+85-12419+70	0.025	0.01	0.31	0.1	65	5.33	3.13	20.49	0.15	20.2	0.28	0.0179	1.7	0.04	0.36	0.76	Subcritical
12458+30-12460+20	0.025	0.03	0.25	0.1	36	2.81	1.12	9.21	0.12	8.98	0.27	0.0183	2.52	0.1	0.35	1.26	Supercritical
12460+20-12462+65	0.025	0.01	0.47	0.1	30	7.17	3.26	14.43	0.23	14	0.43	0.0159	2.2	0.08	0.54	0.81	Subcritical
12478+95-12480+18	0.025	0.01	0.36	0.1	12	1.44	0.8	4.73	0.17	4.39	0.32	0.0185	1.81	0.05	0.41	0.75	Subcritical
1252830-1252960 BERM	0.025	0.0125	0.25	0.1	0.1	0.99	0.62	5.22	0.12	4.99	0.23	0.02	1.6	0.04	0.29	0.8	Subcritical
1253600-1253780 BERM	0.025	0.00172	1.04	25	0.1	21.06	13.54	27.04	0.5	26.08	0.71	0.0135	1.55	0.04	1.08	0.38	Subcritical
1253780-1254490 BERM	0.025	0.008	0.69	0.1	20	12.34	4.85	14.6	0.33	13.96	0.62	0.0143	2.55	0.1	0.8	0.76	Subcritical
1254960-1255185 BERM	0.025	0.048	0.31	0.1	20	3.65	0.99	6.61	0.15	6.32	0.38	0.0168	3.68	0.21	0.52	1.64	Supercritical
1255810-1256210 BERM	0.025	0.024	0.44	0.1	25	8.03	2.45	11.49	0.21	11.08	0.48	0.0154	3.28	0.17	0.61	1.23	Supercritical
1257870-1258230 BERM	0.025	0.057	0.34	14.3	0.1	3.5	0.84	5.23	0.16	4.91	0.43	0.0165	4.18	0.27	0.61	1.79	Supercritical
1258650-1258850 BERM	0.025	0.053	0.48	0.1	50	29.7	5.71	24.35	0.23	23.92	0.61	0.0138	5.2	0.42	0.9	1.88	Supercritical
1259250-1259380 BERM	0.025	0.028	0.25	0.1	12.5	0.89	0.38	3.33	0.11	3.09	0.26	0.0197	2.34	0.09	0.33	1.18	Supercritical
1260135-1260405 BERM	0.025	0.012	0.51	12.5	0.1	4.06	1.63	6.89	0.24	6.41	0.48	0.0161	2.49	0.1	0.61	0.87	Subcritical
1260405-1260555 BERM	0.025	0.02	0.28	11.11	0.1	0.93	0.43	3.39	0.13	3.12	0.28	0.0196	2.14	0.07	0.35	1.01	Supercritical
1260730-1260930 BERM	0.025	0.007	0.52	0.1	11.11	2.91	1.52	6.32	0.24	5.83	0.44	0.0168	1.92	0.06	0.58	0.66	Subcritical
1260930-1261240 BERM	0.025	0.024	0.36	14.3	0.1	2.56	0.92	5.47	0.17	5.13	0.38	0.0172	2.8	0.12	0.48	1.17	Supercritical
1261240-1261365 BERM	0.025	0.038	0.18	12.5	0.1	0.46	0.21	2.45	0.08	2.28	0.2	0.0216	2.23	0.08	0.26	1.31	Supercritical
1263625-1263900 BERM	0.025	0.029	0.37	0.1	16.67	3.54	1.12	6.48	0.17	6.14	0.41	0.0167	3.15	0.15	0.52	1.3	Supercritical
1263900-1264085 BERM	0.025	0.028	0.39	0.1	12.5	3.06	0.96	5.29	0.18	4.92	0.43	0.0167	3.19	0.16	0.55	1.27	Supercritical
1264085-1264460 BERM	0.025	0.011	0.48	0.1	16.67	4.56	1.96	8.55	0.23	8.1	0.45	0.0161	2.33	0.08	0.57	0.84	Subcritical
1264460-1264530 BERM	0.025	0.029	0.62	0.1	20	17.15	3.83	12.97	0.29	12.4	0.71	0.0137	4.48	0.31	0.93	1.42	Supercritical
1266975-1267300 BERM	0.025	0.037	0.38	12.5	0.1	3.22	0.9	5.11	0.18	4.76	0.44	0.0166	3.59	0.2	0.58	1.46	Supercritical
1267300-1267645 BERM	0.025	0.055	0.51	0.1	12.5	8.67	1.63	6.88	0.24	6.4	0.65	0.0146	5.33	0.44	0.95	1.86	Supercritical
1269450-1269315 BERM	0.025	0.028	0.27	0.1	16.67	1.61	0.63	4.86	0.13	4.6	0.3	0.0185	2.55	0.1	0.38	1.21	Supercritical
1269375-1269465 BERM	0.025	0.022	0.28	0.1	16.67	1.46	0.64	4.9	0.13	4.64	0.29	0.0187	2.27	0.08	0.36	1.08	Supercritical
1269485-1269635 BERM	0.025	0.027	0.41	0.1	14.3	3.94	1.21	6.29	0.19	5.9	0.45	0.0163	3.26	0.16	0.57	1.27	Supercritical
1270535-1270730 BERM	0.025																

**Lebanon County
Temporary Diversion Berm Calculations**

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Flow Type
1273510-1273665 BERM	0.025	0.1	0.3	11.11	0.1	2.55	0.51	3.65	0.14	3.37	0.42	0.0171	5.04	0.39	0.69	2.29	Supercritical
1273665-1273785 BERM	0.025	0.025	0.38	12.5	0.1	2.61	0.89	5.09	0.17	4.73	0.4	0.0171	2.94	0.13	0.51	1.19	Supercritical
1274875-1275140 BERM	0.025	0.034	0.43	6.67	0.1	2.32	0.64	3.37	0.19	2.94	0.49	0.0174	3.62	0.2	0.64	1.37	Supercritical
1275140-1275310 BERM	0.025	0.057	0.41	4.76	0.1	1.74	0.4	2.39	0.17	1.98	0.5	0.0186	4.33	0.29	0.7	1.69	Supercritical
1275310-1275515 BERM	0.025	0.15	0.24	4.17	0.1	0.61	0.12	1.28	0.1	1.03	0.35	0.0217	4.88	0.37	0.61	2.47	Supercritical
1275515-1275975 BERM	0.025	0.078	0.56	3.33	0.1	3.19	0.54	2.51	0.21	1.92	0.74	0.0182	5.94	0.55	1.11	1.98	Supercritical
1275975-1276330 BERM	0.025	0.065	0.54	2.7	0.1	2.09	0.41	2.1	0.2	1.52	0.67	0.0203	5.1	0.4	0.94	1.73	Supercritical
1276330-1276655 BERM	0.025	0.011	0.53	6.25	0.1	2.07	0.89	3.88	0.23	3.36	0.48	0.0177	2.33	0.08	0.61	0.8	Subcritical
1276655-1276830 BERM	0.025	0.036	0.49	0.1	5.56	2.75	0.69	3.29	0.21	2.8	0.57	0.0172	3.98	0.25	0.74	1.41	Supercritical
1276830-1277050 BERM	0.025	0.019	0.5	4.76	0.1	1.73	0.6	2.93	0.21	2.42	0.5	0.0186	2.86	0.13	0.63	1.01	Supercritical
1277050-1277195 BERM	0.025	0.028	0.44	5	0.1	1.61	0.5	2.7	0.18	2.26	0.48	0.0187	3.23	0.16	0.6	1.21	Supercritical
1279955-1280570 BERM	0.025	0.019	0.46	0.1	12.5	3.96	1.35	6.26	0.22	5.83	0.48	0.0162	2.94	0.13	0.6	1.08	Supercritical

**Lebanon County
Temporary Slope Pipe Calculations**

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Diameter (ft)	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Percent Full (%)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Maximum Discharge (ft ³ /s)	Discharge Full (ft ³ /s)	Slope Full (ft/ft)	Flow Type
1188180-1188460 PIPE	0.024	0.13	0.37	0.67	1.38	0.2	1.11	0.18	0.67	0.55	54.5	0.0428	7.03	0.77	1.13	2.28	2.57	2.39	0.04329	SuperCritical
1188460-1189000 PIPE	0.024	0.13	0.48	1	3.25	0.37	1.53	0.24	1	0.77	48	0.032	8.71	1.18	1.66	2.51	7.48	6.96	0.02836	SuperCritical
1189000-1189375 PIPE	0.024	0.11	0.51	0.67	2.03	0.29	1.41	0.2	0.57	0.63	75.8	0.081	7.08	0.78	1.29	1.77	2.37	2.2	0.09367	SuperCritical
11901+50 to 11904+80 P	0.012	0.22	0.33	0.5	2.16	0.14	0.94	0.14	0.48	0.5	65.1	0.1204	15.96	3.96	4.29	5.28	3.07	2.85	0.12628	SuperCritical
11904+80 to 11906+90 P	0.012	0.21	0.27	0.5	1.57	0.11	0.82	0.13	0.5	0.5	53.7	0.0616	14.61	3.32	3.59	5.55	3	2.79	0.06672	SuperCritical
11906+90 to 11909+00 P	0.012	0.12	0.29	0.5	1.33	0.12	0.86	0.14	0.49	0.49	57.7	0.043	11.34	2	2.29	4.1	2.26	2.11	0.04788	SuperCritical
11911+00 to 11913+00 P	0.012	0.04	0.45	0.67	2.09	0.25	1.28	0.2	0.63	0.63	66.9	0.0215	8.33	1.08	1.53	2.33	2.85	2.65	0.02482	SuperCritical
11993+25 to 11994+75 P	0.012	0.05	0.17	0.5	0.35	0.06	0.63	0.1	0.48	0.3	34.7	0.0073	5.79	0.52	0.69	2.86	1.46	1.36	0.00332	SuperCritical
12002+50 to 12004+00 P	0.012	0.17	0.09	0.5	0.17	0.02	0.43	0.05	0.38	0.21	17.6	0.0062	7.28	0.82	0.91	5.19	2.7	2.51	0.00078	SuperCritical
12035+75 to 12037+00 P	0.012	0.05	0.87	1	9.02	0.72	2.4	0.3	0.68	0.99	86.7	0.0505	12.46	2.41	3.28	2.13	9.28	8.63	0.05462	SuperCritical
12095+30 to 12099+00 P	0.012	0.06	0.59	0.67	3.43	0.33	1.64	0.2	0.43	0.66	88.2	0.0622	10.42	1.69	2.28	2.1	3.5	3.25	0.06685	SuperCritical
12099+00 to 12101+00 P	0.012	0.04	0.57	0.67	2.72	0.32	1.56	0.2	0.49	0.66	84.4	0.0376	8.57	1.14	1.71	1.87	2.85	2.65	0.04204	SuperCritical
12101+00 to 12103+00 P	0.012	0.04	0.47	0.67	2.24	0.27	1.33	0.2	0.61	0.64	70.5	0.0248	8.44	1.11	1.58	2.26	2.85	2.65	0.02851	SuperCritical
12134+50 to 12137+50 P	0.012	0.23	0.37	0.5	2.6	0.16	1.03	0.15	0.44	0.5	73.7	0.1771	16.77	4.37	4.74	4.98	3.14	2.92	0.18297	SuperCritical
12209+80 to 12213+25 P	0.012	0.02	0.44	1	2.18	0.33	1.45	0.23	0.99	0.63	44	0.0061	6.56	0.67	1.11	2	5.87	5.46	0.00319	SuperCritical
12213+25 to 12215+75 P	0.012	0.03	0.53	1	3.71	0.42	1.64	0.26	1	0.82	53.2	0.0092	8.73	1.19	1.72	2.36	7.19	6.68	0.00924	SuperCritical
12215+75 to 12217+90 P	0.012	0.03	0.53	1	3.71	0.42	1.64	0.26	1	0.82	53.2	0.0092	8.73	1.19	1.72	2.36	7.19	6.68	0.00924	SuperCritical
12217+90 to 12217+90 C	0.012	0.02	1	1	5.46	0.79	3.14	0.25	0	0.94	100	0.0173	6.95	0.75	1.75	0	5.87	5.46	0.02	SubCritical
12217+90 to 12217+90 P	0.012	0.02	0.59	1	3.59	0.48	1.76	0.28	0.98	0.81	59.2	0.0089	7.42	0.85	1.45	1.86	5.87	5.46	0.00865	SuperCritical
12220+80-12225+20	0.023	0.09	0.77	1	5.71	0.65	2.15	0.3	0.84	0.95	77.4	0.0696	8.75	1.19	1.96	1.75	6.5	6.04	0.08041	SuperCritical
12225+50-12226+40	0.023	0.07	0.94	1.5	11.32	1.17	2.75	0.43	1.45	1.29	62.9	0.0339	9.68	1.46	2.4	1.9	16.9	15.71	0.03636	SuperCritical
12237+50-12238+80	0.023	0.1	0.64	1	4.69	0.53	1.85	0.29	0.96	0.9	63.8	0.0478	8.86	1.22	1.86	2.11	6.85	6.37	0.05425	SuperCritical
12238+80-12240+60	0.023	0.12	0.69	1	5.71	0.58	1.96	0.29	0.93	0.95	68.8	0.0696	9.91	1.53	2.21	2.22	7.5	6.98	0.08041	SuperCritical
12240+60-12242+20	0.023	0.15	0.48	1	3.6	0.37	1.53	0.24	1	0.81	47.7	0.0327	9.73	1.47	1.95	2.82	8.39	7.8	0.03196	SuperCritical
12242+20-12244+30	0.023	0.02	0.82	1.5	4.86	0.99	2.49	0.4	1.49	0.85	54.6	0.0179	4.92	0.38	1.2	1.07	9.03	8.4	0.0067	SuperCritical
12244+30-12245+30	0.023	0.02	0.58	1.2	9.54	2	5.31	0.38	5.14	0.67	4.8	0.0106	4.77	0.35	0.93	1.35	2312	2149	0	SuperCritical
12250+25-12253+25	0.023	0.05	0.88	1	4.75	0.73	2.44	0.3	0.65	0.9	88.1	0.0489	6.48	0.65	1.53	1.07	4.84	4.5	0.05564	SuperCritical
12253+25-12255+85	0.023	0.16	0.49	1	3.85	0.38	1.54	0.25	1	0.83	48.9	0.0355	10.14	1.6	2.09	2.9	8.66	8.05	0.03656	SuperCritical
12270+00-12270+80	0.023	0.06	0.72	1.5	6.75	0.84	2.29	0.36	1.5	1.01	47.7	0.0207	8.08	1.01	1.73	19.16	14.54	14.05	0.01293	SuperCritical
12270+80-12271+95	0.023	0.03	1.12	1.5	9.37	1.42	3.14	0.45	1.3	1.18	75	0.0268	6.59	0.68	1.8	1.11	11.06	10.28	0.02491	SuperCritical
12271+95-12273+70	0.023	0.02	1.3	2	13.62	2.15	3.74	0.58	1.91	1.33	64.8	0.0186	6.32	0.62	1.92	1.05	19.45	18.08	0.01135	SuperCritical
12273+70-12275+10	0.023	0.06	0.34	12	5.16	0.89	4.03	0.22	3.96	0.49	2.8	0.0116	5.79	0.52	0.86	2.15	40.05	3723	0	SuperCritical
12273+70-12275+10	0.023	0.07	1.24	2	23.74	2.04	3.62	0.56	1.94	1.73	61.8	0.0317	11.65	2.11	3.35	2.01	36.39	33.83	0.03447	SuperCritical
12276+35-12279+95	0.023	0.12	0.73	1.5	9.79	0.85	2.31	0.37	1.5	1.21	48.6	0.0281	11.5	2.06	2.78	2.69	22.12	20.57	0.02719	SuperCritical
12279+75-12284+10	0.023	0.02	1.21	2	12.35	1.99	3.57	0.56	1.95	1.26	60.7	0.0177	6.19	0.6	1.81	1.08	19.45	18.08	0.00933	SuperCritical
12284+10-12286+60	0.023	0.05	1.41	2	24.26	2.38	4	0.59	1.82	1.74	70.7	0.0328	10.21	1.62	3.04	1.58	30.75	28.59	0.036	SuperCritical
12306+00-12307+90	0.023	0.02	1.14	1.5	7.8	1.45	3.18	0.45	1.28	1.08	76.2	0.0228	5.4	0.45	1.6	0.89	9.03	8.4	0.01726	SubCritical
12318+60-12320+10	0.023	0.08	0.49	1	2.76	0.38	1.55	0.25	1	0.71	49.1	0.0256	7.2	0.81	1.3	2.05	6.13	5.7	0.01879	SuperCritical
12329+40-12331+35	0.023	0.01	1.32	1.5	6.25	1.64	3.64	0.45	0.98	0.97	87.8	0.0199	3.8	0.22	1.54	0.52	6.39	5.94	0.01108	SubCritical
12363+10-12366+90	0.023	0.01	0.74	1.5	2.89	0.87	2.33	0.37	1.5	0.65	49.2	0.016	3.34	0.17	0.91	0.77	6.39	5.94	0.00237	SubCritical
12316+85-12419+70	0.023	0.01	1.11	1.5	5.33	1.4	3.11	0.45	1.32	0.89	74	0.0185	3.8	0.22	1.33	0.65	6.39	5.94	0.00806	SubCritical
12458+30-12460+20	0.023	0.01	0.73	1.5	2.81	0.85	2.31	0.37	1.5	0.64	48.4	0.0159	3.31	0.17	0.9	0.78	6.39	5.94	0.00224	SubCritical
12460+20-12462+65	0.023	0.01	1.07	2	7.17	1.71	3.28	0.52	1.99	0.95	53.5	0.015	4.19	0.27	1.34	0.8	13.75	12.79	0.00314	SubCritical
12478+95-12480+18	0.023	0.04	0.58	0.67	1.44	0.32	1.59	0.2	0.46	0.56	86.2	0.0415	4.46	0.31	0.89	0.94	1.49	1.38	0.04329	SubCritical
1252830-1252960 PIPE	0.024	0.02	0.59	0.67	0.99	0.33	1.63	0.2	0.43	0.47	88.2	0.0314	3.01	0.14	0.73	0.61	1.01	0.94	0.02228	SubCritical
1253600-1253780 PIPE	0.024	0.01	1.65	3	21.06	3.97	5	0.79	2.99	1.47	54.8	0.0144	5.31	0.44	2.08	0.81	38.86	36.13	0.0034	SubCritical
1253780-1254490 PIPE	0.024	0.02	1.25	2	12.34	2.06	3.64	0.57	1.94	1.26	62.4	0.0193	5.99	0.56	1.8	1.02	18.64	17.33	0.01014	SuperCritical
1254960-1255185 PIPE	0.024	0.08	0.6	1	3.65	0.49	1.77	0.28	0.98	0.81	59.8	0.0362	7.44	0.86	1.46	1.86	5.87	5.46	0.03578	SuperCritical
1255810-1256210 PIPE	0.024	0.01	1.18	2	8.03	1.93	3.51	0.55	1.97	1.01	59	0.0167	4.16	0.27	1.45	0.74	13.18	12.25	0.00429	SubCritical
1257870-1258230 PIPE	0.024	0.06	0.64	1	3.5	0.53	1.86	0.29	0.96	0.8	64.1	0.0345	6.59	0.67	1.31	1.56	5.08	4.73	0.0329	SuperCritical
1258650-1258850 PIPE	0.024	0.04	1.34	3	29.7	3.06	4.39	0.7	2.98	1.77	44.7	0.0159	9.72	1.47	2.81	1.69	77.22	72.25	0.00676	SuperCritical
1259250-1259380 PIPE	0.024	0.09	0.4	0.5	0.89	0.17	1.11	0.15	0.4	0.46	79.9	0.0745	5.29	0.44	0.83	1.44	0.98	0.91	0.08576	SuperCritical
1260135-1260405 PIPE	0.024	0.1	0.6	1	4.06	0.49	1.76	0.28	0.98	0.85	59.6	0.0415	8.31	1.07	1.67	2.08	6.56	6.1	0.04426	SuperCritical
1260405-1260555 PIPE	0.024	0.12	0.36	0.5	0.93	0.15	1.02	0.15	0.44	0.46	73	0.081	6.06	0.57	0.94	1.82	1.13	1.05	0.09364	SuperCritical
1260730-1260930 PIPE	0.024	0.07	0.54	1	2.91	0.43	1.65	0.26	1	0.73	54.1	0.029	6.71	0.7	1.24	1.79	5.49	5.11	0.02274	SuperCritical
1260930-1261240 PIPE	0.024	0.09	0.47	1	2.56	0.36	1.5	0.24	1	0.69	46.6	0.0265	7.15	0.79	1.26	2.1	6.23	5.79	0.0176	SuperCritical
1261240-1261365 PIPE	0.024	0.14	0.22	0.5	0.46	0.08	0.73	0.12	0.5	0.35	44.2	0.0337	5.49	0.47	0.69	2.36	1.22	1.14	0.02291	SuperCritical
1263625-1263900 PIPE	0.024	0.04	0.75	1	3.54	0.64	2.1	0.3	0.86	0.8	75.4	0.0349	5.57	0.48	1.24	1.14	4.15	3.86	0.03365	SuperCritical
1263900																				

**Lebanon County
Temporary Slope Pipe Calculations**

1276330-1276655 PIPE	0.024	0.11	0.52	0.67	2.07	0.29	1.44	0.2	0.56	0.63	77.1	0.0842	7.09	0.78	1.3	1.74	2.37	2.2	0.0974	SuperCritical
1276655-1276830 PIPE	0.024	0.06	0.55	1	2.75	0.44	1.67	0.26	1	0.71	54.8	0.0278	6.25	0.61	1.15	1.66	5.08	4.73	0.02031	SuperCritical
1276830-1277050 PIPE	0.024	0.1	0.46	0.67	1.73	0.26	1.32	0.2	0.62	0.6	69.2	0.0599	6.64	0.69	1.15	1.8	2.26	2.1	0.06803	SuperCritical
1277050-1277195 PIPE	0.024	0.18	0.36	0.67	1.61	0.2	1.11	0.18	0.67	0.59	54.2	0.0531	8.25	1.06	1.42	2.69	3.03	2.81	0.05892	SuperCritical
1279955-1280570 PIPE	0.024	0.07	0.66	1	3.96	0.55	1.9	0.29	0.95	0.84	66.2	0.0401	7.18	0.8	1.46	1.66	5.49	5.11	0.04211	SuperCritical

Lancaster County

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
12881+50	12887+00	267,867	100	0.02	Type D	0.300	10.11	832	0.05	1.55	8.95	19.06	2.94	0.40	0.02	13:1	7.23	18	0.06	12(2)
12889+10	12892+15	111,689	100	0.02	Type D	0.300	10.11	359	0.08	1.90	3.15	13.26	3.50	0.40	0.01	17:1	3.59	12	0.09	12
12947+15	12951+40	626,064	100	0.02	Type D	0.300	10.11	1337	0.03	1.30	17.14	27.26	2.40	0.40	0.01	80:1	13.77	12	0.01	12(3)
12951+40	12955+10	2,129,034	100	0.02	Type D	0.300	10.11	3157	0.02	1.00	52.62	62.73	1.33	0.40	0.01	80:1	25.99	18	0.02	12(3)
12947+60	12949+70	137,679	100	0.02	Type D	0.300	10.11	604	0.04	1.40	7.19	17.30	3.09	0.40	0.02	30:1	3.91	12	n/a	n/a
13025+75	13029+00	139,714	100	0.02	Type D	0.300	10.11	693	0.04	1.40	8.25	18.36	3.00	0.40	0.02	25:1	3.85	12	0.03	12(2)
13049+10	13052+20	99,004	100	0.02	Type D	0.300	10.11	400	0.04	1.40	4.76	14.88	3.33	0.40	0.05	50:1	3.02	12	0.03	12
13052+20	13056+20	169,322	100	0.05	Type D	0.300	8.17	674	0.04	1.40	8.02	16.19	3.19	0.40	0.01	50:1	4.97	12	0.03	12(2)
13057+30	13058+30	55,721	100	0.13	Type D	0.300	6.53	495	0.05	1.55	5.32	11.85	3.67	0.40	0.03	35:1	1.88	12	n/a	n/a
13071+30	13074+90	246,529	100	0.02	Type D	0.300	10.11	815	0.02	1.00	13.58	23.70	2.60	0.40	0.03	48:1	5.90	12	0.02	12(2)
13074+90	13076+50	39,134	100	0.02	Type D	0.300	10.11	414	0.02	1.00	6.90	17.01	3.12	0.40	0.01	32:1	1.12	12	0.02	12
13121+10	13123+60	77,270	100	0.04	Type D	0.300	8.60	571	0.06	1.60	5.95	14.55	3.36	0.40	0.04	9:1	2.38	12	n/a	n/a
13137+00	13138+70	1,346,787	100	0.32	Type D	0.300	5.29	2019	0.08	1.90	17.71	23.00	2.65	0.40	0.02	23:1	32.77	18	0.02	12(3)

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
13152+15	13153+70	107,032	100	0.12	HSG D	0.400	7.61	927	0.10	1.45	10.66	18.27	3.01	0.31	0.030	42:1	2.29	12	0.023	12
13153+70	13155+35	181,877	100	0.11	HSG D	0.400	7.77	1155	0.09	1.40	13.75	21.52	2.75	0.31	0.020	38:1	3.56	12	0.022	2x12
13157+70	13158+00	224,903	100	0.11	HSG D	0.400	7.77	1321	0.08	1.30	16.94	24.70	2.54	0.31	0.020	57:1	4.07	12	0.016	2x12
13158+00	13158+10	155,320	100	0.07	HSG D	0.400	8.63	1448	0.09	1.40	17.24	25.87	2.47	0.31	0.001	56:1	2.73	12	0.015	2x12
13176+65	13177+90	12,474	100	0.03	HSG D	0.400	10.52	339	0.03	0.80	7.06	17.59	3.06	0.23	0.008	42:1	0.20	12	0.021	6
13177+90	13180+85	180,812	100	0.05	HSG D	0.400	9.34	1497	0.04	0.93	26.97	36.31	1.99	0.23	0.005	46:1	1.90	12	0.023	12
13182+20	13182+80	219,946	100	0.04	HSG D	0.400	9.84	1445	0.05	1.05	22.94	32.78	2.13	0.23	0.030	18:1	2.47	12	0.068	12
13182+80	13185+70	203,849	100	0.06	HSG D	0.400	8.95	1070	0.05	1.05	16.98	25.93	2.47	0.23	0.010	15:1	2.66	12	0.060	12
13188+90	13193+80	203,848	100	0.07	HSG D	0.400	8.63	741	0.06	1.15	10.74	19.37	2.91	0.31	0.010	26:1	4.23	12	0.035	2x12
13193+80	13197+30	220,547	100	0.09	HSG D	0.400	8.14	924	0.06	1.15	13.39	21.53	2.75	0.31	0.010	25:1	4.32	12	0.038	2x12
13197+30	13200+75	209,499	100	0.26	HSG D	0.300	5.55	1918	0.15	1.76	18.16	23.72	2.60	0.20	0.008	21:1	2.50	12	0.037	12
13200+75	13201+55	126,166	100	0.25	HSG D	0.300	5.61	1788	0.16	1.80	16.56	22.16	2.71	0.20	0.020	42:1	1.57	12	0.037	12
13206+45	13210+80	98,205	100	0.35	HSG D	0.400	5.93	821	0.08	1.30	10.53	16.45	3.17	0.31	0.030	53:1	2.21	12	0.033	12
13210+80	13215+25	226,237	100	0.19	HSG D	0.300	5.98	1079	0.17	1.95	9.22	15.20	3.29	0.20	0.020	15:1	3.42	12	0.055	12
13215+25	13217+75	226,717	100	0.17	HSG D	0.300	6.13	1036	0.18	2.01	0.00	6.13	4.58	0.20	0.020	18:1	4.77	12	0.064	12
13217+75	13219+15	229,509	100	0.12	HSG D	0.300	6.65	1062	0.18	2.01	8.81	15.46	3.27	0.20	0.007	23:1	3.44	12	0.086	12
13219+15	13221+10	231,336	100	0.15	HSG D	0.300	6.32	1009	0.19	2.05	8.20	14.52	3.36	0.20	0.020	15:1	3.57	12	0.090	12
13221+10	13225+30	208,380	100	0.13	HSG D	0.300	6.53	733	0.20	2.10	5.82	12.35	3.61	0.20	0.060	16:1	3.46	12	0.093	12

**Lancaster County
Temporary Diversion Berm Calculations**

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Flow Type
12881+50-12887+00	0.025	0.02	0.57	0.1	13	7.23	2.09	7.94	0.26	7.4	0.6	0.015	3.46	0.19	0.75	1.15	Supercritical
12889+10-12892+15	0.025	0.01	0.45	0.1	17	3.59	1.7	8.05	0.21	7.63	0.41	0.0166	2.11	0.07	0.52	0.79	Subcritical
12947+15-12951+40	0.025	0.01	0.41	0.1	80	13.77	6.72	33.18	0.2	32.81	0.37	0.0162	2.05	0.07	0.47	0.8	Subcritical
12947+60-12949+70	0.025	0.02	0.33	0.1	30	3.91	1.59	10.09	0.16	9.79	0.33	0.0172	2.45	0.09	0.42	1.07	Supercritical
12951+40-12955+10	0.025	0.01	0.52	0.1	80	25.99	10.82	42.11	0.26	41.63	0.48	0.0149	2.4	0.09	0.61	0.83	Subcritical
13025+75-13029+00	0.025	0.02	0.35	0.1	25	3.85	1.51	9.03	0.17	8.71	0.36	0.017	2.55	0.1	0.45	1.08	Supercritical
13049+10-13052+20	0.025	0.05	0.2	0.1	50	3.02	1.05	10.45	0.1	10.26	0.25	0.0188	2.87	0.13	0.33	1.58	Supercritical
13052+20-13056+20	0.025	0.01	0.33	0.1	50	4.97	2.79	17.03	0.16	16.72	0.3	0.0176	1.78	0.05	0.38	0.77	Subcritical
13057+30-13058+30	0.025	0.03	0.22	0.1	35	1.88	0.82	7.78	0.11	7.58	0.23	0.0193	2.29	0.08	0.3	1.23	Supercritical
13071+30-13074+90	0.025	0.03	0.29	0.1	48	5.9	2.08	14.42	0.14	14.15	0.33	0.0171	2.83	0.12	0.42	1.3	Supercritical
13074+90-13076+50	0.025	0.01	0.23	0.1	32	1.12	0.82	7.47	0.11	7.26	0.2	0.0205	1.36	0.03	0.26	0.71	Subcritical
13121+10-13123+60	0.025	0.04	0.38	0.1	9	2.38	0.65	3.8	0.17	3.44	0.44	0.0172	3.66	0.21	0.59	1.49	Supercritical
13137+00-13138+70	0.025	0.02	0.8	0.1	23	32.77	7.38	19.2	0.38	18.46	0.87	0.0127	4.44	0.31	1.11	1.24	Supercritical
13152+15 - 13153+70	0.025	0.03	0.22	0.1	42	2.29	0.99	9.34	0.11	9.14	0.24	0.0191	2.31	0.08	0.3	1.24	Supercritical
13153+70 - 13155+35	0.025	0.02	0.29	0.1	38	3.56	1.57	11.2	0.14	10.93	0.29	0.0178	2.27	0.08	0.37	1.06	Supercritical
13157+70 - 13158+00	0.025	0.02	0.26	0.1	57	4.07	1.91	15.02	0.13	14.78	0.26	0.0183	2.13	0.07	0.33	1.04	Supercritical
13158+00 - 13158+10	0.025	0.001	0.39	0.1	56	2.73	4.34	22.43	0.19	22.07	0.23	0.0193	0.63	0.01	0.4	0.25	Subcritical
13176+65 - 13177+90	0.025	0.008	0.11	0.1	42	0.2	0.26	4.8	0.05	4.7	0.09	0.0264	0.76	0.01	0.12	0.57	Subcritical
13177+90 - 13180+85	0.025	0.005	0.27	0.1	46	1.9	1.73	12.86	0.13	12.61	0.21	0.0198	1.1	0.02	0.29	0.52	Subcritical
13182+20 - 13182+80	0.025	0.03	0.31	0.1	18	2.47	0.86	5.87	0.15	5.59	0.34	0.0176	2.86	0.13	0.44	1.29	Supercritical
13182+80 - 13185+70	0.025	0.01	0.42	0.1	15	2.66	1.32	6.71	0.2	6.32	0.38	0.0172	2.01	0.06	0.48	0.78	Subcritical
13188+90 - 13193+80	0.025	0.01	0.4	0.1	26	4.23	2.12	10.9	0.19	10.52	0.37	0.0168	1.99	0.06	0.46	0.78	Subcritical
13193+80 - 13197+30	0.025	0.01	0.41	0.1	25	4.32	2.13	10.73	0.2	10.35	0.37	0.0167	2.02	0.06	0.48	0.79	Subcritical
13197+30 - 13200+75	0.025	0.008	0.37	0.1	21	2.5	1.48	8.25	0.18	7.9	0.32	0.0177	1.69	0.04	0.42	0.69	Subcritical
13200+75 - 13201+55	0.025	0.02	0.2	0.1	42	1.57	0.87	8.75	0.1	8.56	0.2	0.0201	1.8	0.05	0.25	1	Subcritical
13206+45 - 13210+80	0.025	0.03	0.2	0.1	53	2.21	1.02	10.59	0.1	10.41	0.21	0.0197	2.16	0.07	0.27	1.22	Supercritical
13210+80 - 13215+25	0.025	0.02	0.4	0.1	15	3.42	1.23	6.48	0.19	6.1	0.42	0.0166	2.78	0.12	0.52	1.09	Supercritical
13215+25 - 13217+75	0.025	0.02	0.43	0.1	18	4.77	1.64	8.11	0.2	7.71	0.44	0.0161	2.9	0.13	0.56	1.11	Supercritical
13217+75 - 13219+15	0.025	0.007	0.42	0.1	23	3.44	2.02	10.04	0.2	9.65	0.35	0.0171	1.71	0.05	0.46	0.66	Subcritical
13219+15 - 13221+10	0.025	0.02	0.41	0.1	15	3.57	1.27	6.58	0.19	6.2	0.43	0.0165	2.81	0.12	0.53	1.09	Supercritical
13221+10 - 13225+30	0.025	0.06	0.32	0.1	16	3.46	0.83	5.48	0.15	5.18	0.41	0.0167	4.15	0.27	0.59	1.82	Supercritical

Lancaster County
Temporary Slope Pipe Calculations

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Diameter (ft)	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Percent Full (%)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Maximum Discharge (ft ³ /s)	Discharge Full (ft ³ /s)	Slope Full (ft/ft)	Flow Type
12881+50-12887+00	0.023	0.06	0.75	1.5	7.23	0.88	2.35	0.37	1.5	1.04	49.8	0.0216	8.22	1.05	1.8	1.89	15.64	14.54	0.01483	SuperCritical
12889+10-12882+15	0.023	0.09	0.55	1	3.59	0.45	1.68	0.27	0.99	0.81	55.5	0.0326	8.02	1	1.55	2.11	6.5	6.04	0.03178	SuperCritical
12947+15-12951+40	0.023	0.01	1.39	2.5	13.77	2.8	4.2	0.67	2.48	1.25	55.5	0.0142	4.92	0.38	1.76	0.82	24.94	23.18	0.00353	SubCritical
12951+40-12955+10	0.023	0.02	1.48	3	25.99	3.47	4.67	0.74	3	1.65	49.3	0.014	7.49	0.87	2.35	1.23	57.35	53.31	0.00475	SuperCritical
13025+75-13029+00	0.023	0.03	0.64	1.5	3.85	0.71	2.13	0.34	1.48	0.75	42.4	0.0168	5.4	0.45	1.09	1.37	11.06	10.28	0.00421	SuperCritical
13049+10-13052+20	0.023	0.03	0.72	1	3.02	0.6	2.02	0.3	0.9	0.75	71.9	0.0275	5	0.39	1.11	1.08	3.75	3.49	0.02249	SuperCritical
13052+20-13056+20	0.023	0.03	0.73	1.5	4.97	0.86	2.33	0.37	1.5	0.86	49	0.018	5.77	0.52	1.25	1.34	11.06	10.28	0.00701	SuperCritical
13071+30-13074+90	0.023	0.02	0.93	1.5	5.9	1.15	2.71	0.42	1.46	0.94	61.8	0.0193	5.14	0.41	1.34	1.02	9.03	8.4	0.00988	SuperCritical
13074+90-13076+50	0.023	0.02	0.44	1	1.12	0.33	1.44	0.23	0.99	0.45	43.5	0.0185	3.41	0.18	0.62	1.05	3.06	2.85	0.00309	SuperCritical
13137+00-13138+70	0.023	0.02	1.7	3	32.77	4.13	5.11	0.81	2.97	1.86	56.7	0.0152	7.93	0.98	2.68	1.19	57.35	53.31	0.00756	SuperCritical
13152+15 - 13153+70	0.024	0.016	0.7	1	2.04	0.59	1.98	0.3	0.92	0.61	69.9	0.0236	3.48	0.19	0.89	0.77	2.63	2.44	0.01118	SubCritical
13153+70 - 13155+35	0.024	0.022	0.57	1	1.78	0.46	1.71	0.27	0.99	0.57	57.1	0.0224	3.84	0.23	0.8	0.99	3.08	2.86	0.00851	SubCritical
13157+70 - 13158+00	0.024	0.023	0.67	1	2.29	0.56	1.91	0.29	0.94	0.65	66.6	0.0249	4.12	0.26	0.93	0.95	3.15	2.93	0.01408	SubCritical
13158+00 - 13158+10	0.024	0.015	0.55	1	1.37	0.44	1.66	0.26	1	0.5	54.6	0.0208	3.12	0.15	0.7	0.83	2.54	2.36	0.00504	SubCritical
13176+65 - 13177+90	0.024	0.021	0.24	0.5	0.2	0.09	0.76	0.12	0.5	0.22	47.3	0.0255	2.19	0.07	0.31	0.9	0.47	0.44	0.00433	SubCritical
13177+90 - 13180+85	0.024	0.023	0.59	1	1.9	0.48	1.75	0.27	0.98	0.59	58.7	0.0229	3.97	0.24	0.83	1	3.15	2.93	0.00969	SuperCritical
13182+20 - 13182+80	0.024	0.068	0.49	1	2.47	0.39	1.56	0.25	1	0.67	49.4	0.0259	6.38	0.63	1.13	1.81	5.41	5.03	0.01638	SuperCritical
13182+80 - 13185+70	0.024	0.06	0.25	12	2.66	0.58	3.49	0.17	3.44	0.35	2.1	0.0139	4.58	0.33	0.58	1.97	3838	3568	0	SuperCritical
13188+90 - 13193+80	0.024	0.035	0.55	1	2.12	0.44	1.67	0.27	0.99	0.62	55.1	0.024	4.78	0.36	0.91	1.26	3.88	3.61	0.01207	SuperCritical
13193+80 - 13197+30	0.024	0.038	0.54	1	2.16	0.44	1.66	0.26	1	0.63	54.3	0.0242	4.96	0.38	0.92	1.32	4.05	3.76	0.01253	SuperCritical
13197+30 - 13200+75	0.024	0.037	0.6	1	2.5	0.49	1.77	0.28	0.98	0.68	60.1	0.0261	5.07	0.4	1	1.26	3.99	3.71	0.01678	SuperCritical
13200+75 - 13201+55	0.024	0.033	0.58	1	2.21	0.47	1.72	0.27	0.99	0.64	57.6	0.0244	4.72	0.35	0.92	1.21	3.77	3.51	0.01312	SuperCritical
13206+45 - 13210+80	0.024	0.037	0.45	1	1.57	0.35	1.48	0.23	1	0.53	45.4	0.0215	4.53	0.32	0.77	1.35	3.99	3.71	0.00662	SuperCritical
13210+80 - 13215+25	0.024	0.055	0.65	1	3.42	0.54	1.87	0.29	0.95	0.79	65	0.0336	6.33	0.62	1.27	1.48	4.87	4.53	0.03141	SuperCritical
13215+25 - 13217+75	0.024	0.064	0.8	1	4.77	0.67	2.21	0.3	0.8	0.9	79.9	0.0536	7.09	0.78	1.58	1.36	5.25	4.88	0.0611	SuperCritical
13217+75 - 13219+15	0.024	0.086	0.56	1	3.44	0.46	1.7	0.27	0.99	0.79	56.3	0.0338	7.55	0.89	1.45	1.97	6.09	5.66	0.03178	SuperCritical
13219+15 - 13221+10	0.024	0.09	0.57	1	3.57	0.46	1.71	0.27	0.99	0.81	56.8	0.0353	7.75	0.93	1.5	2.01	6.23	5.79	0.03422	SuperCritical
13221+10 - 13225+30	0.024	0.093	0.55	1	3.46	0.44	1.67	0.27	0.99	0.8	55.1	0.0341	7.8	0.94	1.5	2.06	6.33	5.88	0.03215	SuperCritical

Berks County

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
13225+27	13229+30	135,482	100	0.14	Type D	0.300	6.42	450	0.21	1.10	6.82	13.24	3.51	0.30	0.16	3:1	3.27	18	0.08	12
13231+00	13232+05	8,349	100	0.36	Type D	0.300	5.15	111	0.41	1.60	1.16	6.30	4.55	0.30	0.34	3:1	0.26	12	n/a	n/a
13248+30	13251+05	71,089	100	0.13	Type D	0.300	6.53	290	0.30	1.30	3.72	10.25	3.89	0.30	0.14	3:1	1.90	12	0.20	8
13248+90	13251+10	40,640	100	0.14	Type D	0.300	6.42	110	0.26	1.30	1.41	7.83	4.27	0.30	0.15	2:1	1.19	12	n/a	n/a
13251+00	13251+75	230,696	100	0.24	Type D	0.300	5.66	491	0.20	1.10	7.44	13.10	3.52	0.30	0.10	7:1	5.60	12	0.10	12
13257+00	13258+50	21,060	100	0.32	Type D	0.300	5.29	57	0.18	1.00	0.95	6.24	4.56	0.30	0.05	5:1	0.66	12	0.28	6
13258+50	13259+90	13,800	100	0.20	Type D	0.300	5.91	92	0.35	1.40	1.10	7.00	4.42	0.30	0.20	3:1	0.42	12	0.35	6
13259+90	13260+30	2,300	100	0.22	Type D	0.300	5.78	16	0.25	1.30	0.21	5.98	4.61	0.30	0.09	3:1	0.07	12	0.33	6
13260+30	13261+15	49,325	100	0.07	Type D	0.300	7.55	238	0.21	1.10	3.61	11.15	3.77	0.30	0.15	4:1	1.28	12	n/a	n/a
13283+10	13284+75	30,467	100	0.07	Type D	0.300	7.55	371	0.08	0.70	8.83	16.38	3.18	0.30	0.02	11:1	0.67	12	0.05	6
13284+75	13286+25	113,928	100	0.10	Type D	0.300	6.94	486	0.09	0.70	11.57	18.52	2.98	0.30	0.11	5:1	2.34	12	0.14	8
13286+25	13288+35	85,123	100	0.12	Type D	0.300	6.65	362	0.11	0.90	6.70	13.36	3.49	0.30	0.03	5:1	2.05	12	0.20	8
13288+35	13291+90	120,938	100	0.04	Type D	0.300	8.60	383	0.12	0.90	7.09	15.69	3.24	0.30	0.04	4:1	2.70	18	0.18	8
13291+90	13294+85	166,918	100	0.12	Type D	0.300	6.65	330	0.13	0.85	6.47	13.13	3.52	0.30	0.01	8:1	4.04	18	0.12	12
13294+85	13299+30	77,805	100	0.06	Type D	0.300	7.82	231	0.13	0.85	4.53	12.35	3.61	0.30	0.05	7:1	1.93	12	0.13	8
13299+30	13300+50	22,330	100	0.14	Type D	0.300	6.42	95	0.13	0.85	1.86	8.28	4.19	0.30	0.05	6:1	0.64	12	0.11	6
13302+45	13304+70	141,871	100	0.12	Type D	0.300	6.65	748	0.28	1.30	9.59	16.24	3.19	0.30	0.04	5:1	3.12	18	0.03	12
13316+85	13321+80	174,103	100	0.12	Type D	0.300	6.65	656	0.17	0.95	11.51	18.16	3.01	0.30	0.02	5:1	3.61	18	0.29	8
13321+80	13324+50	510,501	100	0.14	Type D	0.300	6.42	1136	0.28	1.30	14.56	20.98	2.79	0.30	0.08	3:1	9.81	18	0.23	12
13328+60	13331+10	54,415	100	0.34	Type D	0.300	5.22	427	0.20	1.10	6.47	11.69	3.70	0.30	0.03	5:1	1.38	12	0.12	8
13338+75	13339+60	4,622	100	0.16	Type D	0.300	6.22	99	0.16	2.60	0.63	6.86	4.44	0.80	0.12	8:1	0.38	12	n/a	n/a
13368+28	13370+95	101,181	100	0.02	Type D	0.300	10.11	685	0.03	1.20	9.51	19.63	2.89	0.80	0.01	70:1	5.38	12	0.02	12(2)

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
13764+50	13765+56	135,977	100	0.07	Type D	0.800	11.94	671.2	0.08	2.00	5.59	17.53	3.07	0.33	0.03	12:1	3.12	12	0.11	8
13773+22	13774+61	492,445	100	0.06	Type D	0.800	12.37	1207.9	0.07	1.80	11.18	23.56	2.61	0.35	0.10	17:1	10.34	12	0.04	18
13794+22	access	136,936	100	0.02	Type D	0.400	11.57	783	0.08	2.00	6.53	18.09	3.02	0.29	0.05	13:1	2.80	12	0.12	8
13804+64	13805+71	359,142	100	0.02	Type D	0.600	13.98	1131	0.08	0.70	26.93	40.91	1.83	0.20	0.04	6:1	3.02	18	0.06	8
13807+86	13810+10	470,979	100	0.10	Type D	0.300	6.94	966.5	0.11	0.80	20.14	27.08	2.40	0.20	0.12	8.5:1	5.20	12	0.06	12
13814+90	13816+50	800,073	100	0.03	Type D	0.300	9.20	1635.7	0.08	0.70	38.95	48.15	1.63	0.20	0.14	4:1	5.98	18	0.05	12
13817+45	13818+65	10,463	100	0.14	Type D	0.300	6.42	60.3	0.36	1.50	0.67	7.09	4.40	0.20	0.08	3:1	0.21	12	0.22	6
13830+49	13831+64	260,446	100	0.05	Type D	0.300	8.17	1061.5	0.12	0.85	20.81	28.98	2.31	0.30	0.07	3.5:1	4.11	18	0.06	12
13856+25	13857+42	67,966	100	0.11	Type D	0.800	10.74	939.2	0.07	1.30	12.04	22.78	2.66	0.50	0.04	15:1	2.08	12	0.04	8
13951+12	13952+62	647,474	100	0.07	Type D	0.300	7.55	1048.2	0.13	0.90	19.41	26.96	2.41	0.64	0.09	10:1	22.97	18	n/a	n/a
13952+90	13953+63	181,814	100	0.10	Type D	0.300	6.94	714.9	0.13	0.90	13.24	20.18	2.85	0.20	0.07	15:1	2.38	12	0.14	6
13955+00	13956+18	64,477	100	0.09	Type D	0.300	7.12	419	0.22	1.20	5.82	12.94	3.54	0.20	0.09	6.5:1	1.05	12	0.16	6
13998+37	13999+47	20,862	100	0.08	Type D	0.300	7.32	339.6	0.14	0.85	6.66	13.97	3.42	0.20	0.15	4.5:1	0.33	12	n/a	n/a
14003+20	14008+51	286,734	100	0.07	Type D	0.300	7.55	1045.1	0.09	0.75	23.22	30.77	2.22	0.20	0.01	6.5:1	2.92	18	0.02	12
14015+00	14016+12	50,689	100	0.12	Type D	0.300	6.65	1022.8	0.10	0.77	22.14	28.79	2.31	0.20	0.05	17.5:1	0.54	12	0.05	6
14024+05	14025+21	122,763	100	0.06	Type D	0.300	7.82	1457.2	0.13	0.90	26.99	34.81	2.05	0.20	0.05	8:1	1.15	12	0.13	6
14033+50	14035+75	35,517	100	0.12	Type D	0.300	6.65	381.1	0.11	0.80	7.94	14.59	3.36	0.20	0.02	7:1	0.55	12	0.09	6
14036+10	14040+00	262,406	100	0.04	Type D	0.300	8.60	1156.3	0.12	0.85	22.67	31.27	2.20	0.20	0.03	5:1	2.65	18	0.09	8
14077+75	14078+42	12,133	100	0.08	Type D	0.300	7.32	231.5	0.11	0.81	4.76	12.08	3.65	0.20	0.02	7.5:1	0.20	12	0.12	6
14078+42	14081+20	59,442	100	0.07	Type D	0.300	7.55	313.4	0.12	0.90	5.80	13.35	3.49	0.20	0.01	7.5:1	0.95	12	0.09	6
14086+34	14089+09	115,071	100	0.06	Type D	0.300	7.82	890.5	0.08	0.70	21.20	29.03	2.30	0.20	0.04	7.5:1	1.22	12	0.08	6
14122+25	14123+70	107,730	100	0.10	Type D	0.300	6.94	1142	0.10	0.78	24.40	31.35	2.19	0.20	0.06	4:1	1.08	12	0.15	6
14126+25	14127+50	20,175	100	0.09	Type D	0.300	7.12	267.3	0.10	0.78	5.71	12.83	3.55	0.20	0.04	5:1	0.33	12	0.17	6
14127+50	14129+00	31,534	100	0.07	Type D	0.300	7.55	265.5	0.09	0.75	5.90	13.45	3.48	0.20	0.01	10:1	0.50	12	0.11	6
14137+95	14138+34	19,359	100	0.27	Type D	0.300	5.51	204.4	0.18	1.10	3.10	8.60	4.14	0.20	0.05	1.5:1	0.37	12	0.13	6
14151+65	14159+09	207,707	100	0.14	Type D	0.300	6.42	408.5	0.13	0.90	7.56	13.98	3.42	0.20	0.05	4:1	3.26	18	0.08	8

TABLE FOR CALCULATING THE PEAK RUNOFF RATE FOR DRAINAGE PIPES USED FOR CLEAN WATER DIVERSION

Start Sta.	End Sta.	Area of Drainage (sq ft)	Length of Sheet Flow (ft)	Slope of Ground during Sheet Flow (ft/ft)	Soil Type	Roughness Coefficient (n)	Time of Concentration in Sheet Flow (min)	Length of Shallow Concentrated Flow (ft)	Slope of Ground during Shallow Concentrated Flow (ft/ft)	Shallow Concentrated Flow Velocity (ft/sec)	Time of Concentration in Shallow Concentrated Flow (min)	Total Time of Concentration (min)	2-Year Storm Rainfall Intensity (in/hr)	Runoff Coefficients for the Rational Equation	Channel Longitudinal Slope (ft/ft)	Channel Side Slope (H:V) (ft/ft)	Peak Runoff Rate (CFS)	Size of Diversion Sock (in)	Pipe Slope (ft/ft)	Size of Slope Pipe (in)
14165+75	14168+00	265,704	100	0.02	HSG D	0.300	10.11	569	0.05	0.55	17.24	27.36	2.39	0.20	0.04	14:1	2.92	12	0.12	8
14182+50	14185+50	74,347	100	0.02	HSG D	0.800	16.00	263	0.06	0.60	7.31	23.30	2.63	0.20	0.02	20:1	0.90	12	0.07	6
14189+25	14191+00	42,193	100	0.07	HSG D	0.300	7.55	152	0.21	1.10	2.30	9.85	3.95	0.20	0.06	2:1	0.76	12	0.07	6
14199+90	14202+00	261,819	100	0.04	HSG D	0.300	8.60	994	0.04	0.50	33.13	41.74	1.80	0.28	0.01	70:1	3.04	12	0.02	12
14202+90	14203+90	36,133	100	0.05	HSG D	0.800	12.91	527	0.05	1.50	5.86	18.77	2.96	0.28	0.03	57:1	0.69	12	0.02	6
14214+50	14216+00	233,295	100	0.06	HSG D	0.300	7.82	1433	0.07	0.65	36.74	44.57	1.72	0.20	0.01	23:1	1.84	12	0.02	8
14216+00	14217+25	87,933	100	0.06	HSG D	0.300	7.82	733	0.08	0.70	17.45	25.28	2.51	0.20	0.01	20:1	1.01	12	0.05	6
14220+25	14220+50	20,652	100	0.06	HSG D	0.300	7.82	297	0.07	0.65	7.62	15.44	3.27	0.20	0.06	15:1	0.31	12	0.06	6
14220+50	14220+75	3,629	100	0.09	HSG D	0.300	7.12	102	0.10	0.75	2.27	9.38	4.02	0.20	0.05	14:1	0.07	12	0.07	6
14280+15	14282+50	138,735	100	0.02	HSG D	0.400	11.57	576	0.11	0.80	12.00	23.57	2.61	0.20	0.06	7:1	1.66	12	N/A	N/A
14282+50	14285+00	418,356	100	0.01	HSG D	0.800	18.81	870	0.07	1.10	13.18	31.99	2.16	0.24	0.06	29:1	4.99	12	0.11	12
14285+00	14288+00	238,343	100	0.01	HSG D	0.800	18.81	654	0.08	1.20	9.08	27.89	2.36	0.24	0.04	4:1	3.10	18	0.15	8
14288+00	14290+00	42,236	100	0.06	HSG D	0.300	7.82	156	0.17	1.00	2.60	10.42	3.87	0.20	0.01	5:1	0.75	12	0.15	6
14292+00	14293+90	339,750	100	0.03	HSG D	0.800	14.55	551	0.08	2.00	4.59	19.14	2.93	0.28	0.01	10:1	6.41	18	0.14	12
14300+00	14305+50	313,663	100	0.08	HSG D	0.400	8.37	458	0.09	1.40	5.45	13.82	3.44	0.31	0.02	12:1	7.68	18	0.06	12
14326+00*	14329+25*	1,311,251	100	0.01	HSG D	0.400	13.60	966	0.06	1.10	14.64	28.24	2.34	0.31	0.02	48:1	21.86	18	0.03	4 x 12
14329+25*	14333+50*	494,682	100	0.03	HSG D	0.800	14.55	898	0.06	1.10	13.61	28.16	2.35	0.31	0.03	25:1	8.26	12	0.03	2 x 12

Berks County
Temporary Diversion Berm Calculations

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Flow Type
13225+27-13229+30	0.025	0.16	0.52	0.1	3	3.27	0.41	2.15	0.19	1.6	0.77	0.0186	7.91	0.97	1.49	2.75	Supercritical
13231+00-13232+05	0.025	0.34	0.17	0.1	3	0.26	0.05	0.72	0.06	0.54	0.28	0.026	5.57	0.48	0.66	3.33	Supercritical
13248+30-13251+05	0.025	0.14	0.43	0.1	3	1.9	0.29	1.8	0.16	1.34	0.62	0.0199	6.57	0.67	1.1	2.49	Supercritical
13248+90-13251+10	0.025	0.15	0.43	0.1	2	1.19	0.19	1.39	0.14	0.9	0.6	0.0242	6.17	0.59	1.02	2.35	Supercritical
13251+00-13251+75	0.025	0.1	0.48	0.1	7	5.6	0.83	3.92	0.21	3.44	0.69	0.0154	6.71	0.7	1.18	2.4	Supercritical
13257+00-13258+50	0.025	0.05	0.28	0.1	5	0.66	0.21	1.73	0.12	1.45	0.33	0.021	3.21	0.16	0.44	1.5	Supercritical
13258+50-13259+90	0.025	0.2	0.23	0.1	3	0.42	0.08	0.96	0.09	0.71	0.34	0.0244	5.16	0.41	0.64	2.69	Supercritical
13259+90-13260+30	0.025	0.09	0.14	0.1	3	0.07	0.03	0.57	0.05	0.42	0.17	0.031	2.43	0.09	0.23	1.64	Supercritical
13260+30-13261+15	0.025	0.15	0.33	0.1	4	1.28	0.22	1.67	0.13	1.33	0.48	0.0198	5.91	0.54	0.87	2.58	Supercritical
13283+10-13284+75	0.025	0.02	0.25	0.1	11	0.67	0.34	2.98	0.11	2.74	0.25	0.0204	1.97	0.06	0.31	0.99	Subcritical
13284+75-13286+25	0.025	0.11	0.39	0.1	5	2.34	0.4	2.4	0.16	2.01	0.55	0.0178	5.92	0.54	0.94	2.35	Supercritical
13286+25-13288+35	0.025	0.03	0.48	0.1	5	2.05	0.58	2.92	0.2	2.44	0.53	0.0181	3.52	0.19	0.67	1.27	Supercritical
13288+35-13291+90	0.025	0.04	0.55	0.1	4	2.7	0.62	2.83	0.22	2.26	0.64	0.0179	4.34	0.29	0.84	1.46	Supercritical
13291+90-13294+85	0.025	0.01	0.63	0.1	8	4.04	1.59	5.68	0.28	5.07	0.57	0.0161	2.54	0.1	0.73	0.8	Subcritical
13294+85-13299+30	0.025	0.05	0.37	0.1	7	1.93	0.49	2.99	0.16	2.63	0.45	0.0178	3.96	0.24	0.61	1.62	Supercritical
13299+30-13300+50	0.025	0.05	0.26	0.1	6	0.64	0.21	1.85	0.11	1.59	0.31	0.0208	3.09	0.15	0.41	1.51	Supercritical
13302+45-13304+70	0.025	0.04	0.53	0.1	5	3.12	0.72	3.24	0.22	2.7	0.62	0.0171	4.35	0.29	0.82	1.49	Supercritical
13316+85-13321+80	0.025	0.02	0.64	0.1	5	3.61	1.04	3.89	0.27	3.25	0.66	0.0168	3.48	0.19	0.83	1.09	Supercritical
13321+80-13324+50	0.025	0.08	0.89	0.1	3	9.81	1.22	3.7	0.33	2.75	1.2	0.016	8.03	1	1.89	2.12	Supercritical
13328+60-13331+10	0.025	0.03	0.41	0.1	5	1.38	0.43	2.52	0.17	2.1	0.45	0.0191	3.19	0.16	0.57	1.24	Supercritical
13338+75-13339+60	0.025	0.12	0.16	0.1	8	0.38	0.11	1.47	0.07	1.31	0.22	0.022	3.57	0.2	0.36	2.21	Supercritical
13368+28-13370+95	0.025	0.01	0.3	0.1	70	5.38	3.22	21.52	0.15	21.24	0.27	0.018	1.67	0.04	0.35	0.76	Subcritical
13424+00-13427+95	0.025	0.01	0.42	0.1	21	3.89	1.9	9.34	0.2	8.94	0.38	0.0167	2.05	0.07	0.49	0.79	Subcritical
13457+70-13458+25	0.025	0.02	0.14	0.1	16	0.2	0.15	2.32	0.06	2.19	0.13	0.0244	1.34	0.03	0.16	0.91	Subcritical
13469+80-13470+70	0.025	0.03	0.38	0.1	7	1.55	0.5	3.03	0.17	2.67	0.41	0.0183	3.1	0.15	0.52	1.26	Supercritical
13469+80-13471+32	0.025	0.05	0.24	0.1	9	0.78	0.26	2.4	0.11	2.17	0.28	0.02	3.01	0.14	0.38	1.54	Supercritical
13473+70-13475+60	0.025	0.05	0.29	0.1	9	1.27	0.37	2.88	0.13	2.61	0.34	0.0187	3.4	0.18	0.47	1.59	Supercritical
13473+75-13476+25	0.025	0.025	0.35	0.1	9	1.51	0.55	3.5	0.16	3.16	0.37	0.0183	2.74	0.12	0.46	1.16	Supercritical
13475+60-13476+65	0.025	0.09	0.42	0.1	8	4.17	0.71	3.81	0.19	3.4	0.58	0.016	5.84	0.53	0.95	2.25	Supercritical
13476+25-13478+10	0.025	0.05	0.26	0.1	6	0.63	0.2	1.84	0.11	1.58	0.31	0.0208	3.08	0.15	0.41	1.51	Supercritical
13476+65-13478+28	0.025	0.05	0.37	0.1	6	1.68	0.43	2.65	0.16	2.28	0.45	0.0183	3.93	0.24	0.61	1.6	Supercritical
13478+10-13481+75	0.025	0.04	0.37	0.1	9	2.23	0.62	3.71	0.17	3.36	0.43	0.0174	3.6	0.2	0.57	1.48	Supercritical
13478+28-13481+62	0.025	0.05	0.42	0.1	13	5.25	1.17	5.93	0.2	5.53	0.53	0.0156	4.5	0.31	0.74	1.73	Supercritical
13481+62-13483+48	0.025	0.05	0.42	0.1	8	3.11	0.71	3.81	0.19	3.4	0.52	0.0166	4.35	0.29	0.71	1.68	Supercritical
13481+75-13483+45	0.025	0.05	0.35	0.1	9	2.11	0.55	3.49	0.16	3.15	0.42	0.0175	3.86	0.23	0.58	1.64	Supercritical
13520+85-13523+10	0.025	0.01	0.46	0.1	5	1.07	0.54	2.81	0.19	2.35	0.41	0.0197	1.98	0.06	0.52	0.73	Subcritical
13524+10-13524+60	0.025	0.03	0.16	0.1	13	0.31	0.17	2.26	0.08	2.11	0.17	0.0228	1.83	0.05	0.21	1.14	Supercritical
13541+20-13542+80	0.025	0.1	0.43	0.1	5	2.78	0.47	2.61	0.18	2.18	0.59	0.0174	5.96	0.55	0.98	2.27	Supercritical
13545+50-13546+10	0.025	0.1	0.27	0.1	6	1.01	0.22	1.92	0.12	1.66	0.37	0.0196	4.49	0.31	0.59	2.15	Supercritical
13546+10-13555+50	0.025	0.02	0.42	0.1	8	1.99	0.72	3.82	0.19	3.42	0.43	0.0177	2.76	0.12	0.54	1.06	Supercritical
13550+55-13552+20	0.025	0.04	0.21	0.1	13	0.76	0.3	2.99	0.1	2.79	0.24	0.0202	2.55	0.1	0.31	1.38	Supercritical
13557+90-13562+25	0.025	0.04	0.43	0.1	14	5.35	1.31	6.48	0.2	6.07	0.51	0.0156	4.09	0.26	0.69	1.55	Supercritical
13610+20-13611+85	0.025	0.02	0.54	0.1	9	4.46	1.35	5.48	0.25	4.96	0.57	0.0158	3.3	0.17	0.71	1.12	Supercritical
13613+50-13615+90	0.025	0.02	0.37	0.1	7	1.22	0.49	2.99	0.16	2.63	0.37	0.0189	2.51	0.1	0.47	1.03	Supercritical
13627+00A-13627+00A	0.025	0.05	0.37	0.1	25	6.99	1.67	9.5	0.18	9.17	0.45	0.0157	4.18	0.27	0.64	1.72	Supercritical
13627+00B-13627+00B	0.025	0.04	0.53	0.1	7	4.48	1	4.28	0.23	3.76	0.63	0.0159	4.5	0.31	0.84	1.54	Supercritical
13696+90-13670+30	0.025	0.03	0.18	0.1	11	0.37	0.19	2.21	0.08	2.03	0.19	0.0221	1.99	0.06	0.24	1.16	Supercritical
13696+90-13670+30	0.025	0.09	0.38	0.1	7	2.87	0.53	3.11	0.17	2.73	0.53	0.0169	5.46	0.46	0.85	2.19	Supercritical
13714+90-13715+70	0.025	0.17	0.28	0.1	7	1.75	0.29	2.29	0.12	2.01	0.43	0.018	6.12	0.58	0.87	2.87	Supercritical
13736+80-13737+30	0.025	0.13	0.31	0.1	13	3.7	0.63	4.35	0.14	4.05	0.46	0.0164	5.9	0.54	0.85	2.64	Supercritical
13740+15-13744+10	0.025	0.06	0.32	0.1	14	3.04	0.74	4.86	0.15	4.55	0.41	0.0168	4.13	0.27	0.59	1.81	Supercritical
13764+50-13765+56	0.025	0.03	0.39	0.1	12	3.12	0.94	5.14	0.18	4.77	0.44	0.0167	3.32	0.17	0.57	1.32	Supercritical
13772+22-13774+61	0.025	0.1	0.43	0.1	17	10.34	1.59	7.77	0.2	7.37	0.62	0.0145	6.52	0.66	1.09	2.48	Supercritical
13794+22-access	0.025	0.05	0.33	0.1	13	2.8	0.73	4.68	0.16	4.37	0.41	0.017	3.85	0.23	0.56	1.66	Supercritical
13804+64-13805+71	0.025	0.04	0.49	0.1	6	3.02	0.72	3.45	0.21	2.97	0.57	0.0169	4.19	0.27	0.76	1.5	Supercritical
13807+86-13810+10	0.025	0.12	0.42	0.1	8.5	5.2	0.77	4.03	0.19	3.63	0.62	0.0155	6.8	0.72	1.14	2.61	Supercritical
13814+90-13816+50	0.025	0.14	0.59	0.1	4	5.98	0.71	3.01	0.23	2.41	0.88	0.0161	8.46	1.11	1.7	2.75	Supercritical
13817+45-13818+65	0.025	0.08	0.21	0.1	3	0.21	0.07	0.88	0.08	0.65	0.26	0.0267	3.07	0.15	0.36	1.67	Supercritical
13830+49-13831+64	0.025	0.08	0.6	0.1	3.5	4.11	0.65	2.78	0.23	2.16	0.8	0.0174	6.35	0.63	1.23	2.05	Supercritical
13856+25-13957+42	0.025	0.04	0.29	0.1	15	2.08	0.65	4.72	0.14	4.44	0.34	0.0178	3.18	0.16	0.45	1.46	Supercritical
13951+12-13952+62	0.025	0.09	0.73	0.1	10	22.97	2.68	8.06	0.33	7.36	1.05	0.0127	8.57	1.14	1.87	2.5	Supercritical
13952+90-13953+63	0.025	0.07	0.28	0.1	15	2.38	0.59	4.47	0.13	4.21	0.36	0.0175	4.06	0.26	0.54	1.92	Supercritical
13955+00-13956+18	0.025	0.09	0.27	0.1	6.5	1.05	0.24	2.06	0.12	1.8	0.36	0.0194	4.3	0.29	0.56	2.05	Supercritical
13998+37-13998+47	0.025	0.15	0.19	0.1	4.5	0.33	0.08	1.04	0.08	0.86	0.26	0.0233	4.15	0.27	0.45	2.4	Supercritical
14003+20-14008+51	0.025	0.01	0.6	0.1	6.5	2.92	1.2	4.57	0.26	3.98	0.55	0.0169	2.44	0.09	0.69	0.78	Subcritical
14015+00-14016+12	0.025	0.05	0.16	0.1	17.5	0.54	0.23	2.97	0.08	2.82	0.19	0.0215	2.39	0.09	0.25	1.49	Supercritical
14024+05-14025+21	0.025	0.05	0.29	0.1	8	1.15	0.34	2.62	0.13	2.34	0.35	0.019	3.4	0.18	0.47	1.58	Supercritical
14033+50-14035+75	0.025	0.02	0.27	0.1	7	0.55	0.27	2.22	0.12	1.95	0.27	0.021	2.05	0.07	0.34	0.98	Subcritical
14036+																	

Berks County
Temporary Diversion Berm Calculations

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Flow Type
14077+75-14078+42	0.025	0.02	0.18	0.1	7.5	0.2	0.13	1.57	0.08	1.39	0.18	0.024	1.58	0.04	0.22	0.92	Subcritical
14078+42-14081+20	0.025	0.01	0.37	0.1	7.5	0.95	0.53	3.2	0.17	2.84	0.33	0.0195	1.79	0.05	0.42	0.73	Subcritical
14086+34-14089+09	0.025	0.04	0.32	0.1	7.5	1.22	0.38	2.71	0.14	2.4	0.36	0.0189	3.21	0.16	0.48	1.42	Supercritical
14122+25-14123+70	0.025	0.06	0.36	0.1	4	1.08	0.27	1.86	0.14	1.49	0.44	0.0203	4.01	0.25	0.61	1.66	Supercritical
14126+25-14127+50	0.025	0.04	0.23	0.1	5	0.33	0.13	1.39	0.1	1.16	0.25	0.0231	2.49	0.1	0.32	1.3	Supercritical
14127+50-14129+00	0.025	0.01	0.26	0.1	10	0.5	0.35	2.9	0.12	2.65	0.23	0.0212	1.44	0.03	0.29	0.7	Subcritical
14137+95-14138+34	0.025	0.05	0.39	0.1	1.5	0.37	0.12	1.09	0.11	0.62	0.42	0.0324	3.06	0.15	0.53	1.23	Supercritical
14151+65-14159+09	0.025	0.05	0.57	0.1	4	3.26	0.66	2.91	0.23	2.33	0.69	0.0175	4.94	0.38	0.95	1.64	Supercritical
14165+75 to 14168+00 Ch	0.025	0.04	0.34	0.1	14	2.92	0.83	5.16	0.16	4.84	0.4	0.0169	3.52	0.19	0.54	1.5	Supercritical
14182+50 to 14185+50 Ch	0.025	0.02	0.22	0.1	20	0.9	0.48	4.61	0.1	4.4	0.22	0.0202	1.87	0.05	0.27	0.99	Subcritical
14189+25 to 14191+00 Ch	0.025	0.06	0.43	0.1	2	0.76	0.19	1.39	0.14	0.9	0.5	0.0257	3.91	0.24	0.67	1.49	Supercritical
14199+90 to 14202+00 Ch	0.025	0.01	0.24	0.1	70	3.04	2.09	17.36	0.12	17.14	0.22	0.0195	1.45	0.03	0.28	0.73	Subcritical
14202+90 to 14203+90 Ch	0.025	0.03	0.12	0.1	57	0.69	0.44	7.17	0.06	7.05	0.13	0.0232	1.58	0.04	0.16	1.12	Supercritical
14214+50 to 14216+00 Ch	0.025	0.01	0.31	0.1	23	1.84	1.1	7.43	0.15	7.14	0.28	0.0186	1.67	0.04	0.35	0.75	Subcritical
14216+00 to 14217+25 Ch	0.025	0.01	0.26	0.1	20	1.01	0.68	5.48	0.12	5.23	0.23	0.0199	1.48	0.03	0.29	0.72	Subcritical
14220+25 to 14220+50 Ch	0.025	0.06	0.13	0.1	15	0.31	0.13	2.14	0.06	2.02	0.16	0.0229	2.3	0.08	0.22	1.57	Supercritical
14220+50 to 14220+75 Ch	0.025	0.05	0.08	0.1	14	0.07	0.05	1.22	0.04	1.14	0.09	0.0279	1.51	0.04	0.12	1.32	Supercritical
14280+15 to 14282+50 Ch	0.025	0.06	0.34	0.1	7	1.66	0.41	2.73	0.15	2.4	0.42	0.0182	4.09	0.26	0.6	1.75	Supercritical
14282+50 to 14285+00 Ch	0.025	0.06	0.29	0.1	29	4.99	1.26	8.82	0.14	8.55	0.37	0.0166	3.97	0.25	0.54	1.83	Supercritical
14285+00 to 14288+00 Ch	0.025	0.04	0.58	0.1	4	3.1	0.69	2.98	0.23	2.38	0.68	0.0176	4.49	0.31	0.89	1.47	Supercritical
14288+00 to 14290+00 Ch	0.025	0.01	0.4	0.1	5	0.75	0.41	2.46	0.17	2.06	0.35	0.0207	1.81	0.05	0.45	0.71	Subcritical
14292+00 to 14293+90 Ch	0.025	0.01	0.68	0.1	10	6.41	2.35	7.54	0.31	6.89	0.63	0.0151	2.73	0.12	0.8	0.82	Subcritical
14300+00 to 14305+50 Ch	0.025	0.02	0.6	0.1	12	7.68	2.15	7.78	0.28	7.21	0.63	0.0148	3.57	0.2	0.79	1.15	Supercritical
14326+00 to 14329+25 Ch	0.025	0.02	0.52	0.1	48	21.86	6.47	25.43	0.25	24.96	0.55	0.0143	3.38	0.18	0.7	1.17	Supercritical
14329+25 to 14333+50 Ch	0.025	0.03	0.43	0.1	25	8.26	2.3	11.13	0.21	10.74	0.49	0.0153	3.6	0.2	0.63	1.37	Supercritical

Berks County
Temporary Slope Pipe Calculations

STATION	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Diameter (ft)	Discharge (ft ³ /s)	Flow Area (ft ²)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Top Width (ft)	Critical Depth (ft)	Percent Full (%)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)	Froude Number	Maximum Discharge (ft ³ /s)	Discharge Full (ft ³ /s)	Slope Full (ft/ft)	Flow Type
13225+27-13229+30	0.023	0.08	0.54	1	3.27	0.44	1.66	0.26	1	0.77	54.3	0.0295	7.5	0.87	1.42	2	6.13	5.7	0.02637	SuperCritical
13248+30-13251+05	0.023	0.2	0.38	0.67	1.9	0.21	1.14	0.18	0.66	0.62	56.6	0.0653	9.22	1.32	1.7	2.92	3.33	3.1	0.07536	SuperCritical
13251+00-13251+75	0.023	0.1	0.73	1	5.6	0.61	2.04	0.3	0.89	0.94	72.8	0.0669	9.15	1.3	2.03	1.94	6.85	6.37	0.07734	SuperCritical
13257+00-13258+50	0.023	0.28	0.22	0.5	0.66	0.08	0.72	0.11	0.5	0.41	43.5	0.043	8.04	1	1.22	3.48	1.81	1.68	0.04331	SuperCritical
13258+50-13259+90	0.023	0.28	0.17	0.5	0.42	0.06	0.62	0.09	0.47	0.33	34.1	0.0293	7.12	0.79	0.96	3.56	1.81	1.68	0.01754	SuperCritical
13259+90-13260+30	0.023	0.33	0.07	0.5	0.07	0.02	0.37	0.04	0.34	0.13	13.4	0.0222	4.47	0.31	0.38	3.68	1.96	1.82	0.00049	SuperCritical
13283+10-13284+75	0.023	0.05	0.39	0.5	0.67	0.16	1.08	0.15	0.42	0.41	77.4	0.0438	4.11	0.26	0.65	1.16	0.76	0.71	0.04463	SuperCritical
13284+75-13286+25	0.023	0.14	0.5	0.67	2.34	0.28	1.39	0.2	0.58	0.65	74.4	0.1	8.31	1.07	1.57	2.11	2.79	2.59	0.1143	SuperCritical
13286+25-13288+35	0.023	0.2	0.4	0.67	2.05	0.22	1.18	0.19	0.66	0.63	59.5	0.0758	9.38	1.37	1.77	2.87	3.33	3.1	0.08773	SuperCritical
13288+35-13291+90	0.023	0.18	0.51	0.67	2.7	0.29	1.41	0.2	0.58	0.66	75.6	0.1362	9.45	1.39	1.89	2.36	3.16	2.94	0.15218	SuperCritical
13291+90-13294+85	0.023	0.12	0.55	1	4.04	0.44	1.66	0.26	1	0.85	54.6	0.0378	9.21	1.32	1.86	2.45	7.5	6.98	0.04025	SuperCritical
13294+85-13299+30	0.023	0.13	0.44	0.67	1.93	0.25	1.27	0.19	0.63	0.62	66	0.0673	7.81	0.95	1.39	2.21	2.68	2.5	0.07776	SuperCritical
13299+30-13300+50	0.023	0.11	0.28	0.5	0.64	0.11	0.85	0.13	0.5	0.41	56.3	0.0414	5.62	0.49	0.77	2.07	1.13	1.05	0.04073	SuperCritical
13302+45-13304+70	0.023	0.03	0.74	1	3.12	0.62	2.07	0.3	0.88	0.76	73.8	0.0283	5.02	0.39	1.13	1.05	3.75	3.49	0.02401	SuperCritical
13316+85-13321+80	0.023	0.29	0.53	0.67	3.61	0.3	1.47	0.2	0.54	0.67	79.3	0.2545	12.04	2.25	2.78	2.86	4.01	3.73	0.27205	SuperCritical
13321+80-13324+50	0.023	0.23	0.83	1	9.81	0.7	2.3	0.3	0.74	0.99	83.5	0.2219	14.01	3.05	3.88	2.54	10.39	9.66	0.23734	SuperCritical
13328+60-13331+10	0.023	0.12	0.36	0.67	1.38	0.2	1.11	0.18	0.67	0.55	54.4	0.0393	7.04	0.77	1.13	2.29	2.58	2.4	0.03975	SuperCritical
13368+28-13370+95	0.023	0.02	1.08	1.25	5.38	1.13	2.98	0.38	0.86	0.94	86.3	0.0259	4.78	0.35	1.43	0.74	5.55	5.16	0.02171	SubCritical
13269+80-13470+70	0.023	0.1	0.42	0.67	1.55	0.23	1.22	0.19	0.65	0.58	62.1	0.046	6.73	0.7	1.12	1.99	2.35	2.19	0.05015	SuperCritical
13424+00-13427+95	0.023	0.01	1.12	1.25	3.89	1.16	3.12	0.37	0.75	0.8	89.9	0.0209	3.35	0.17	1.3	0.47	3.93	3.65	0.01135	SubCritical
13457+70-13458+25	0.023	0.06	0.17	0.5	0.2	0.06	0.63	0.1	0.48	0.22	34.7	0.0232	3.31	0.17	0.34	1.64	0.84	0.78	0.00398	SuperCritical
13469+80-13471+32	0.023	0.1	0.33	0.5	0.78	0.14	0.95	0.15	0.47	0.44	66.3	0.0544	5.64	0.49	0.83	1.84	1.08	1.1	0.06049	SuperCritical
13473+70-13475+60	0.023	0.11	0.36	0.67	1.27	0.19	1.09	0.17	0.67	0.53	53.1	0.0357	6.68	0.69	1.05	2.21	2.47	2.3	0.03367	SuperCritical
13473+75-13476+25	0.023	0.11	0.4	0.67	1.51	0.22	1.18	0.18	0.66	0.57	59.2	0.0443	6.95	0.75	1.15	2.13	2.47	2.3	0.0476	SuperCritical
13475+60-13476+65	0.023	0.08	0.64	1	4.17	0.53	1.85	0.29	0.96	0.86	63.6	0.0396	7.92	0.97	1.61	1.89	6.13	5.7	0.04288	SuperCritical
13476+25-13478+10	0.023	0.19	0.24	0.5	0.63	0.09	0.76	0.12	0.5	0.4	47.4	0.0407	6.88	0.74	0.97	2.83	1.49	1.38	0.03946	SuperCritical
13476+65-13478+28	0.023	0.18	0.36	0.67	1.68	0.2	1.11	0.18	0.67	0.6	54.2	0.0523	8.61	1.15	1.51	2.81	3.16	2.94	0.05892	SuperCritical
13478+10-13481+75	0.023	0.11	0.53	0.67	2.23	0.3	1.48	0.2	0.54	0.64	79.5	0.0903	7.42	0.86	1.39	1.75	2.47	2.3	0.10381	SuperCritical
13478+28-13481+62	0.023	0.11	0.67	1	5.25	0.56	1.91	0.29	0.94	0.93	66.8	0.0588	9.41	1.38	2.05	2.16	7.18	6.68	0.06798	SuperCritical
13481+62-13483+48	0.023	0.11	0.48	1	3.11	0.37	1.53	0.24	1	0.76	48	0.0282	8.35	1.08	1.56	2.41	7.18	6.68	0.02385	SuperCritical
13481+75-13483+45	0.023	0.11	0.51	0.67	2.11	0.29	1.41	0.2	0.58	0.63	75.6	0.0804	7.38	0.85	1.35	1.85	2.47	2.3	0.09294	SuperCritical
13520+85-13523+10	0.023	0.07	0.37	0.67	1.07	0.2	1.12	0.18	0.67	0.49	54.9	0.0305	5.4	0.45	0.82	1.74	1.97	1.83	0.0239	SuperCritical
13524+10-13524+60	0.023	0.07	0.19	0.6	0.31	0.08	0.73	0.11	0.56	0.27	32.4	0.0219	3.91	0.24	0.43	1.83	1.47	1.36	0.00361	SuperCritical
13541+50-13542+80	0.023	0.11	0.45	1	2.78	0.34	1.47	0.23	1	0.71	45	0.0258	8.11	1.02	1.47	2.44	7.18	6.68	0.01906	SuperCritical
13545+50-13546+10	0.023	0.035	0.45	0.67	1.01	0.25	1.28	0.19	0.63	0.48	66.4	0.0292	4.06	0.26	0.7	1.14	1.39	1.29	0.02129	SuperCritical
13546+10-13555+50	0.023	0.22	0.38	0.67	1.99	0.21	1.14	0.18	0.66	0.63	56.6	0.0715	9.67	1.45	1.83	3.06	3.49	3.25	0.08267	SuperCritical
13550+55-13552+20	0.023	0.13	0.3	0.5	0.76	0.12	0.88	0.14	0.49	0.44	59.6	0.0522	6.23	0.6	0.9	2.2	1.23	1.14	0.05743	SuperCritical
13557+90-13562+25	0.023	0.22	0.54	1	5.35	0.43	1.65	0.26	1	0.93	53.9	0.061	12.4	2.39	2.93	3.32	10.16	9.44	0.07059	SuperCritical
13610+20-13611+85	0.023	0.03	0.77	1.25	4.46	0.8	2.27	0.35	1.21	0.86	62	0.0226	5.58	0.48	1.26	1.21	6.8	6.32	0.01492	SuperCritical
13613+50-13615+90	0.023	0.06	0.42	0.67	1.22	0.23	1.23	0.19	0.65	0.52	62.8	0.0342	5.23	0.43	0.85	1.54	1.82	1.7	0.03107	SuperCritical
13627+00A-13627+00A	0.023	0.04	0.83	1.5	6.99	1	2.51	0.4	1.49	1.02	55.2	0.0212	6.99	0.76	1.59	1.51	12.77	11.87	0.01386	SuperCritical
13627+00B-13627+00B	0.023	0.15	0.54	1	4.48	0.44	1.66	0.26	1	0.89	54.3	0.0443	10.27	1.64	2.18	2.74	8.39	7.8	0.0495	SuperCritical
13696+90-13670+30	0.023	0.03	0.3	0.5	0.37	0.12	0.89	0.14	0.49	0.31	60.1	0.0276	3	0.14	0.44	1.05	0.59	0.55	0.01361	SuperCritical
13696+90-13670+30	0.023	0.11	0.46	1	2.87	0.35	1.49	0.24	1	0.73	45.8	0.0264	8.19	1.04	1.5	2.43	7.18	6.88	0.02031	SuperCritical
13714+90-13715+70	0.023	0.07	0.52	0.67	1.75	0.3	1.45	0.2	0.55	0.61	78.2	0.0561	5.91	0.54	1.07	1.42	1.97	1.83	0.06393	SuperCritical
13736+80-13737+30	0.023	0.05	0.69	1	3.7	0.58	1.96	0.29	0.93	0.82	69	0.0338	6.4	0.64	1.33	1.43	4.84	4.5	0.03376	SuperCritical
13740+15-13744+10	0.023	0.09	0.5	1	3.04	0.39	1.57	0.25	1	0.75	50.2	0.0276	7.71	0.92	1.42	2.16	6.5	6.04	0.02279	SuperCritical
13764+50-13765+56	0.012	0.11	0.42	0.67	3.12	0.23	1.22	0.19	0.65	0.66	62.2	0.0507	13.54	2.85	3.26	4.01	4.73	4.4	0.05532	SuperCritical
13772+22-13774+61	0.012	0.04	0.71	1.5	10.34	0.82	2.27	0.36	1.5	1.24	47.3	0.0082	12.57	2.46	3.17	2.99	24.48	22.76	0.00826	SuperCritical
13794+22-access	0.012	0.12	0.38	0.67	2.8	0.2	1.14	0.18	0.66	0.66	56.4	0.0401	13.67	2.91	3.28	4.34	4.94	4.6	0.04455	SuperCritical
13804+64-13805+71	0.012	0.57	0.25	0.67	3.02	0.12	0.89	0.14	0.65	0.66	37.7	0.0472	24.87	9.61	9.86	10.14	10.77	10.02	0.05183	SuperCritical
13807+86-13810+10	0.012	0.06	0.53	1	5.2	0.42	1.63	0.26	1	0.93	52.9	0.0157	12.32	2.36	2.89	3.34	10.17	9.45	0.01815	SuperCritical
13814+90-13816+50	0.012	0.045	0.63	1	5.98	0.53	1.84	0.29	0.96	0.95	63.5	0.0208	11.38	2.01	2.65	2.71	8.81	8.19	0.02401	SuperCritical
13817+45-13818+65	0.012	0.22	0.09	0.5	0.21	0.02	0.44	0.06	0.39	0.23	18.4	0.0064	8.45	1.11	1.2	5.89	3.07	2.85	0.00119	SuperCritical
13830+49-13831+64	0.012	0.06	0.46	1	4.11	0.35	1.49	0.24	1	0.86	46.1	0.0106	11.62	2.1	2.56	3.44	10.17	9.45	0.01134	SuperCritical
13856+25-13957+42	0.012	0.04	0.45	0.67	2.08	0.25	1.28	0.2	0.63	0.63	66.7	0.0213	8.33	1.08	1.52	2.33	2.85	2.65	0.02458	SuperCritical
13952+90-13953+63	0.012	0.14	0.43	0.5	2.35	0.18	1.18	0.15	0.35	0.5	85.3	0.1443	13.17	2.69	3.12	3.27	2.45	2.27	0.14947	SuperCritical
13955+00-13956+18	0.012	0.16	0.23	0.5	1.05	0.09	0.74	0.12	0.5	0.48	45.9	0.0259	11.94	2.21	2.44	5.01	2.62	2.43		

Berks County
Temporary Slope Pipe Calculations

14202+90 to 14203+90 P	0.012	0.02	0.34	0.5	0.69	0.14	0.97	0.15	0.47	0.42	67.9	0.0124	4.86	0.37	0.71	1.56	0.92	0.86	0.01289	SuperCritical
14214+50 to 14216+00 P	0.012	0.02	0.54	0.67	1.84	0.3	1.49	0.2	0.53	0.61	80.3	0.0167	6.07	0.57	1.11	1.42	2.02	1.88	0.01924	SuperCritical
14216+00 to 14217+25 P	0.012	0.05	0.32	0.5	1.01	0.13	0.93	0.14	0.48	0.47	64.2	0.0239	7.58	0.89	1.21	2.53	1.46	1.36	0.02761	SuperCritical
14220+25 to 14220+50 P	0.012	0.06	0.16	0.5	0.31	0.05	0.59	0.09	0.46	0.28	31	0.007	5.98	0.56	0.71	3.15	1.6	1.49	0.0026	SuperCritical
14220+50 to 14220+75 P	0.012	0.07	0.07	0.5	0.07	0.02	0.39	0.04	0.35	0.13	14.2	0.006	4.1	0.26	0.33	3.27	1.73	1.61	0.00013	SuperCritical
14282+50 to 14285+00 P	0.012	0.11	0.43	1	4.99	0.33	1.44	0.23	0.99	0.92	43.3	0.0145	15.3	3.64	4.07	4.7	13.77	12.8	0.01672	SuperCritical
14285+00 to 14288+00 P	0.012	0.15	0.38	0.67	3.1	0.2	1.13	0.18	0.67	0.66	56	0.05	15.25	3.62	3.99	4.86	5.53	5.14	0.05461	SuperCritical
14288+00 to 14290+00 P	0.012	0.15	0.19	0.5	0.75	0.07	0.67	0.1	0.49	0.43	38.8	0.0139	10.67	1.77	1.96	4.95	2.53	2.35	0.01522	SuperCritical
14292+00 to 14293+90 P	0.012	0.14	0.47	1	6.41	0.36	1.5	0.24	1	0.97	46.7	0.0241	17.84	4.95	5.41	5.24	15.53	14.44	0.02758	SuperCritical
14300+00 to 14305+50 P	0.012	0.06	0.68	1	7.68	0.57	1.95	0.29	0.93	0.98	68.4	0.0357	13.41	2.8	3.48	3.01	10.17	9.45	0.0396	SuperCritical
14326+00 to 14329+25 C	0.012	0.03	1	1	6.68	0.79	3.14	0.25	0	0.97	100	0.0264	8.51	1.13	2.13	0	7.19	6.68	0.03	SubCritical
14326+00 to 14329+25 P	0.012	0.03	0.69	1	5.47	0.58	1.96	0.29	0.93	0.94	68.8	0.0174	9.5	1.4	2.09	2.12	7.19	6.68	0.02009	SuperCritical
14329+25 to 14333+50 C	0.012	0.03	1	1	6.68	0.79	3.14	0.25	0	0.97	100	0.0264	8.51	1.13	2.13	0	7.19	6.68	0.03	SubCritical
14329+25 to 14333+50 P	0.012	0.03	0.57	1	4.13	0.46	1.71	0.27	0.99	0.86	56.9	0.0106	8.96	1.25	1.82	2.31	7.19	6.68	0.01145	SuperCritical

**E&S WORKSHEET #22 AND
RESUMES OF PLAN PREPARERS**

**STANDARD E&S WORKSHEET # 22
 PLAN PREPARER RECORD OF TRAINING AND EXPERIENCE IN EROSION AND
 SEDIMENT POLLUTION CONTROL METHODS AND TECHNIQUES**

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Dates of Attendance: **From:** 08/1989 **To:** 05/1994

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Date:	<u> 05/2014 </u>	<u> 08/2012 </u>	<u> 02/2012 </u>

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Telephone: 610-385-8312

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County:	<u> Delaware County </u>	<u> Lycoming County </u>	<u> Lehigh County </u>
Municipality:	<u> Borough of Marcus Hook </u>	<u> Wolf & Muncy Creek </u>	<u> Upper Macungie, Lower Macungie, Upper Milford, Lower Milford </u>
Permit Number:	<u> Pending </u>	<u> PAG02004116012 </u>	<u> PAI023912025 </u>
Approving Agency:	<u> PADEP </u>	<u> PADEP </u>	<u> Lehigh County/PADEP </u>

Jessica D. Adams, PE

CIVIL ENGINEER

Ms. Adams is a civil engineer with more than 15 years of experience providing energy, commercial, industrial, and municipal land development design. Her expertise includes site evaluation, planning, and construction cost estimation, with a focus on stormwater management, site grading, erosion and sediment control facilities, utilities layout, and roadway design. With a wealth of experience in the Lehigh Valley and eastern Pennsylvania, Ms. Adams manages and prepares documents for permitting. She maintains a thorough knowledge of local, state, and federal codes regarding documentation and regulations.

FIRM
STV

EDUCATION
BACHELOR OF
SCIENCE, CIVIL
ENGINEERING; LEHIGH
UNIVERSITY

BACHELOR OF ARTS,
ARCHITECTURE;
LEHIGH UNIVERSITY

**PROFESSIONAL
REGISTRATIONS**
PROFESSIONAL
ENGINEER, PA

COMPUTER SKILLS
HYDRAFLOW STORM
SEWERS, HYDRAFLOW
HYDROGRAPHS,
VTPSUHM, HEC-RAS

Project Experience

Colonial Pipeline Company Fire Suppression - Civil Engineer

Providing civil site design and designs for stormwater management facilities and erosion and sediment controls for fire suppression projects at various Colonial Pipeline liquid petroleum tank farms throughout the eastern United States. Ms. Adams is providing detention basin and outlet control design for fire water supply. She is also coordinating the other disciplines involved in the projects as well as attending client review meetings and construction pre-bid meetings. In addition, Ms. Adams assists in preparing construction cost estimates.

UGI 12-Inch Natural Gas Pipeline Susquehanna River Crossing - Civil Engineer

Designing the erosion and sediment controls for a 12-inch natural gas pipeline to be installed underground by horizontal directional drill (HDD) across the Susquehanna River in Steelton, PA. Ms. Adams is preparing designs for post-construction stormwater management. In addition, Ms. Adams is managing and preparing the required civil engineering, as well as required permitting for the Pennsylvania Department of Environmental Protection, National Pollutant Discharge Elimination System, FAA, and Pennsylvania Department of Transportation to help maintain the project schedule.

PPL Transmission Line Rebuild - Civil Engineer

Evaluating and finalizing the location of temporary construction access routes, pull pad areas, and temporary staging areas along various PPL transmission line corridors in eastern Pennsylvania. Ms. Adams is preparing designs for erosion and sediment control and post-construction stormwater management. She is also managing and preparing the required Pennsylvania Department of Environmental Protection and National Pollutant Discharge Elimination System permitting to help keep the project on schedule.

Sunoco Eagle Point Rail Extension - Civil Engineer

Providing site layout design and grading for a railroad upgrade and realignment project in Westville, NJ. Ms. Adams is designing stormwater management and erosion and sediment controls. She is also preparing the reports for an on-site detention basin, outlet structures, and conveyance systems required for local and state permitting. In addition, Ms. Adams assisted in evaluating and relocating existing utilities to accommodate the rail realignment.

PPL Transmission ROW Encroachment - Civil Engineer

Reconfigured the ground grade below transmission lines to establish proper vertical clearance for compliance with state and federal standards. Ms. Adams prepared grading plans and erosion and sediment control design at PPL sites across seven counties in eastern PA. She is also documenting

Jessica D. Adams, PE

CIVIL ENGINEER

her reports for presentation to the client.

Sunoco Wallis Run Road Washout - Civil Engineer

Determined the alignment for the relocation of 1,000 feet of new 8-inch petroleum pipeline for the Wallis Run Road washout in Gamble Township, PA. The temporary relocation was above ground and buried in stone. Ms. Adams provided the final relocation, which featured an open trench design and replaced the pipeline underground. In addition, she designed the associated pavement restoration, roadway drainage, and erosion and sediment control. Ms. Adams also obtained permitting from PennDOT and the Pennsylvania Department of Environmental Protection as needed.

PPL Transmission Line Rebuild - Civil Engineer

Evaluating and finalizing the location of temporary construction access routes, pull pad areas, and temporary staging areas along various PPL transmission line corridors in eastern Pennsylvania. Ms. Adams is preparing designs for erosion and sediment control and post-construction stormwater management. She is also managing and preparing the required Pennsylvania Department of Environmental Protection and National Pollutant Discharge Elimination System permitting to help keep the project on schedule.

LVIP, Inc. Lehigh Valley Industrial Park VI - Civil Design Engineer

Prepared stormwater management reports for four interconnected stormwater detention basin/outlet structures and associated collection systems for a new 44-lot, 180-acre industrial park in Bethlehem, PA, for Lehigh Valley Industrial Park (LVIP), Inc. Ms. Adams' stormwater designs involved tying into existing PennDOT roadway detention basins.

STANDARD E&S WORKSHEET # 22
PLAN PREPARER RECORD OF TRAINING AND EXPERIENCE IN EROSION AND
SEDIMENT POLLUTION CONTROL METHODS AND TECHNIQUES

NAME OF PLAN PREPARER: Christopher D. Antoni, P.E., P.Eng.

FORMAL EDUCATION:

Name of College or Technical Institute: Pennsylvania State University // Villanova University

Curriculum or Program: Civil Engineering, Environmental Engineering Minor // Civil Engineering

Dates of Attendance: **From:** 08/1991 // 08/2002 **To:** 05/1995 // 05/2006

Degree Received Bachelor of Science // Master of Engineering

OTHER TRAINING:

Name of Training: Oil and Gas Industry Training (ESCGP-2) _____

Presented By: PADEP _____

Date: 03/2011 and 05/2013 _____

EMPLOYMENT HISTORY:

Current Employer: STV Energy Services, Inc.

Telephone: 610-385-8233

Former Employer: STV Incorporated

Telephone: 610-385-8200

RECENT E&S PLANS PREPARED:

Name of Project: SXL-PPP/OPP Oversight SXL-Allegheny Access PNGPC-Delaware River Crossing

County: Delaware County Lawrence & Beaver Counties Delaware County

Municipality: Borough of Marcus Hook Darlington, S. Beaver, Chippewa and Brighton Townships Tinicum Township

Permit Number: Pending OG0413003 ESG00045160001

Approving Agency: PADEP PADEP DCCD

Christopher Antoni, PE

CHIEF PIPELINE ENGINEER | ENGINEERING CHIEF | SENIOR VICE PRESIDENT

Mr. Antoni is the Senior Vice President of STV Energy Services, reporting directly to the Executive Vice President and Energy National Practice Leader. He is responsible for overseeing the civil and environmental engineering of multi-discipline pipeline and facility projects related to the petroleum and gas pipeline industries. Mr. Antoni is a seasoned project manager with more than 20 years of experience in site development, hydrologic and hydraulic (H&H) analyses, environmental permitting, stormwater management, floodplain analysis, geotechnical and subsurface investigations, wastewater collection and treatment, wetland mitigation, and stream restoration. Most of his background focuses on the design of natural gas and petroleum product pipelines. Mr. Antoni has also worked on highway and bridge projects and a wide range of commercial, government, transportation, and industrial facilities.

Project Experience

Sunoco Allegheny Access Pipeline Project - Project Engineer

Designing a 160-mile-long natural gas/liquids pipeline between Tiffin, OH, and Vanport, PA. The two-phase project includes the return to service of the Inland Line to allow deliveries to Mogadore, OH. Eighty miles of the line are being replaced with 12-inch piping; the remaining portions are being repaired as necessary. In addition, a number of facility upgrades are being made. Phase II includes increasing the rate from Cedar Point to Mogadore to 80,000 barrels per day and the installation of a new line from Mogadore to Vanport. The Sunoco Logistics line from Vanport to Delmont, PA, will be used for this project. A number of facility upgrades were necessary during the project.

Sunoco Logistics Pipeline Total Spur - Project Engineer

Developing conceptual pipeline routes for a feasibility study and providing environmental permitting and detailed design for a 6-mile-long, 30-inch crude oil spur line from the proposed Motiva Crude oil pipeline in Port Arthur, TX. Mr. Antoni is the responsible engineer-in-charge of the civil and pipeline engineering team that is designing and providing permitting for the new pipeline.

Sunoco WTG South Project - Project Engineer

Developed the design of a new pipeline system for delivering crude oil from the West Texas Gulf (WTG) 26-inch-diameter pipeline to Mid-Valley Pipeline Company's Longview Station and Oiltanking's (OTI) terminal in Houston. Mr. Antoni oversaw the design of the grading plans for Goodrich Station, which will serve as an intermediate storage area along the delivery route. He directed the preparation of grading plans for earthen dikes to contain two 80,000-bbl storage tanks, as well as a station roadway and pump and equipment pad areas. Additionally, Mr. Antoni managed the stormwater pollution and prevention, as well as erosion control plans, for the site work and the pipeline design for a 3.6-mile, 26-inch pipeline that carries West Texas Intermediate and West Texas Sour crudes from the storage tanks to the Longview and OTI stations via the Kilgore 10-inch pipeline.

Regency Energy Partners (formerly PVR) Marcellus Gas Gathering Meshoppen Pipeline - Project Manager/Project Engineer

Designing and permitting a 9.5-mile-long, 16-inch natural gas gathering pipeline in Wyoming and Susquehanna counties, PA. Mr. Antoni is managing all efforts of the pipeline project, including

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EDUCATION
MASTER OF
ENGINEERING,
CIVIL ENGINEERING;
VILLANOVA UNIVERSITY

BACHELOR OF SCIENCE,
CIVIL ENGINEERING,
ENVIRONMENTAL
ENGINEERING MINOR;
PENNSYLVANIA STATE
UNIVERSITY

**PROFESSIONAL
ENGINEER**
ALABAMA, CALIFORNIA,
COLORADO, DISTRICT
OF COLUMBIA, GEORGIA,
IDAHO, INDIANA,
ILLINOIS, IOWA, KANSAS,
KENTUCKY, LOUISIANA,
MAINE, MARYLAND,
MICHIGAN, MINNESOTA,
MISSISSIPPI,
MISSOURI, MONTANA,
NEBRASKA, NEW
YORK, NEW MEXICO,
NORTH CAROLINA,
NORTH DAKOTA,
OHIO, OKLAHOMA,
PENNSYLVANIA, SOUTH
DAKOTA, TENNESSEE,
TEXAS, UTAH, VIRGINIA,
WASHINGTON,
WEST VIRGINIA, AND
WYOMING

CERTIFICATIONS
STREAM RESTORATION
COURSE CERTIFICATION;
RUTGERS

TRAINING
OSHA 40-HOUR
HAZWOPER

OSHA 1910.119 PROCESS
SAFETY MANAGEMENT;
MEGA SAFETY INSTITUTE

FRESHWATER WETLANDS
CONSTRUCTION;
LEARNING CENTER
OF APPLIED
ENVIRONMENTAL
TECHNOLOGY

MEMBERSHIPS
AMERICAN SOCIETY OF
CIVIL ENGINEERS

Christopher Antoni, PE

CHIEF PIPELINE ENGINEER | ENGINEERING CHIEF | SENIOR VICE PRESIDENT

the land development permit for a new compressor station. He is also developing project specifications and bid documents for the project.

Regency Energy Partners (formerly PVR) Marcellus Gas Gathering Loyalsock Gathering System - Project Engineer

Providing pipeline routing and civil engineering design for three compressor stations and approximately 27 miles of pipeline in Lycoming County, PA. Mr. Antoni is responsible for managing the civil and pipeline engineering teams that are designing and providing permitting for the system.

Regency Energy Partners (formerly PVR) Marcellus Gas Gathering Wellsboro - Project Engineer

Providing designs for the installation of an approximately 22-mile-long, 24-inch natural gas gathering pipeline in Tioga and Lycoming counties, PA. Mr. Antoni is the responsible engineer-in-charge of the civil and pipeline engineering team that is designing and providing permitting for the installation of the pipeline.

Sunoco Pipeline, L.P. Wales Road Pipeline Relocation - Project Manager

Evaluating impacts to Sunoco's 22-inch crude oil pipeline resulting from road improvements to Wales Road in Wood County, Ohio. Mr. Antoni is managing the design and permitting of the relocation route for the pipeline. This project involves detailed coordination with ODOT on their proposed construction methodologies and their design of the stormwater management system.

Sunoco Pipeline Menards Store Pipeline Relocation - Project Manager

Managed a multi-office effort on the design and permitting of this pipeline relocation in Toledo, OH. STV designed and permitted a 1,500-foot relocation of Sunoco's two 8-inch Toledo to Inkster petroleum products pipelines, which resulted from the encroachment of a Menards Home Improvement Center on the Sunoco right-of-way. Mr. Antoni was responsible for the pipeline design, erosion and sediment controls, and specifications. He coordinated with Menards and Sunoco right-of-way.

Buckeye Partners L.P. Union Lake Road Pipeline Relocation - Project Manager/Project Engineer

Directed the preliminary and final design for the relocation of 900 feet of Buckeye's existing 8-inch petroleum products pipeline, because of impacts from the reconstruction of Union Lake Road in Oakland County, MI. Mr. Antoni collaborated with the owner, pipeline contractor, and highway design engineer. He also applied for highway and erosion and sedimentation pollution control permits, as well as directed survey subconsultants.

Sunoco Pipeline Motiva Crude Terminaling Project - Project Civil Engineer

Evaluated the feasibility of several pipeline routes and developed preliminary and final design plans for an 8.3-mile, 30-inch crude oil pipeline from Sunoco's Nederland Marine Terminal to Motiva's Port Arthur Refinery in Nederland and Port Arthur, TX. Mr. Antoni developed permit documentation for Texas DOT (TxDOT), Jefferson County Drainage District #7, Kansas City Southern Railroad, the Jefferson County Road Commission, and the Lower Neches Valley Authority. He also developed project specifications and managed the projection of the project plans. In addition,

Christopher Antoni, PE

CHIEF PIPELINE ENGINEER | ENGINEERING CHIEF | SENIOR VICE PRESIDENT

Mr. Antoni optimized the site layout of a new crude oil tank farm comprising six new 550,000-bbl tanks. He provided grading for secondary containment and access roads.

Sunoco Pipeline, L.P. US 24 Pipeline Relocation - Project Manager/Project Engineer

Evaluating impacts to 2.5 miles of Sunoco's 6-inch DSPL petroleum products pipeline resulting from road improvements to Telegraph Road (US24) in Monroe County, Michigan. Mr. Antoni is overseeing the design and permitting of the relocation route for the pipeline. This project involves detailed coordination with MDOT on their proposed construction methodologies and their design of the stormwater management system, because the existing pipeline lies with the road right-of-way.

Buckeye Pipe Line Taylor to Northwest Airlines Jet Line - Project Engineer

Directed engineering design and a feasibility study for a 2-mile pipeline connection from Taylor, MI, to an existing Northwest Airline jet line at the Detroit Metro Airport in Romulus, MI. The project extends from the Buckeye Taylor Tank Terminal, along an existing Norfolk Southern railroad corridor, to a connection point in the Northwest pipeline within the railroad's right-of-way. Mr. Antoni was the lead civil engineer and oversaw pipeline design and layout, erosion and sediment control plans, and Norfolk Southern railroad occupancy permitting.

Sunoco Pipeline Little Schuylkill Pipeline Relocation - Project Engineer

Provided engineering and permitting services for the relocation of approximately 200 feet of a 6-inch petroleum products pipeline within the Little Schuylkill River in Tamaqua, PA. The project necessitated a streambank restoration to regrade the disturbed embankment. The plan seeded and covered the embankment with an erosion control blanket. Mr. Antoni participated in the development of an erosion and sedimentation pollution control plan, pipe layout, and design. He also oversaw the development of all plans.

Sunoco Pipeline Geddes Brook Pipeline Maintenance - Project Engineer

Provided civil and environmental engineering for the design of a 1-to-1 bank stabilization and the replacement of a 90-foot section of exposed pipeline in Camillus, NY. Mr. Antoni oversaw design of the pipeline replacement, development of erosion and sediment control plans, and development of permit and construction drawings and specifications. He coordinated with geotechnical engineers to design a stabilization method for the severe slopes and with local agencies to obtain permits. He also aided in the preparation of the environmental permit packages for the New York State DEP (NYSDEP) and the USACE.

ExxonMobil Pipeline Delaware River Crossing Replacement - Project Engineer

Oversaw the conceptual design and feasibility study for ExxonMobil's Paulsboro to Malvern 12-inch petroleum products pipeline in Philadelphia. As the lead civil engineer, Mr. Antoni oversaw pipeline design and layout, which included a 5,200-foot-long directional drill across the Delaware River. He was responsible for erosion and sediment pollution control design; and national pollutant discharge elimination system, Conrail, and local municipal permitting. Mr. Antoni also coordinated with the Philadelphia International Airport and UPS to obtain temporary workspace for the drill.

**STANDARD E&S WORKSHEET # 22
 PLAN PREPARER RECORD OF TRAINING AND EXPERIENCE IN EROSION AND
 SEDIMENT POLLUTION CONTROL METHODS AND TECHNIQUES**

NAME OF PLAN PREPARER: Samuel P. Gilbert, P.E.

FORMAL EDUCATION:

Name of College or Technical Institute: University of Pittsburgh

Curriculum or Program: Civil Engineering

Dates of Attendance: From: 08/2002 **To:** 05/2006

Degree Received Bachelor of Science

OTHER TRAINING:

Name of Training: Oil and Gas Industry Training E&S Manual Training

Presented By: PADEP PADEP

Date: 2013 2012 and 2015

EMPLOYMENT HISTORY:

Current Employer: STV Energy Services, Inc.

Telephone: 610-385-8434

Former Employer: NePo Associates, Inc.

Telephone: 610-296-3080

RECENT E&S PLANS PREPARED:

Name of Project: SXL-PPP/OPP Oversight PPL-Linden 69kV PPL-Lackawanna X4-048 IPP

County: Delaware County Lycoming County Lackawanna County

Municipality: Borough of Marcus Hook City of Williamsport Archbald, Jessup & Blakely Boroughs

Permit Number: Pending PAG02004116010 PAI023515003

Approving Agency: PADEP Lycoming County Conservation District PADEP

Samuel Gilbert, PE

CIVIL ENGINEER

Mr. Gilbert is a civil designer with 10 years of experience in designing grading, roadway layout, utility placement, erosion and sediment control (ES&C) and stormwater management plans. He has worked on a number of land development projects, which involved presenting at municipal government meetings, coordinating with subcontractors, consulting with clients, and obtaining state, local, and environmental permits.

Project Experience

Energy Transfer Partners (formerly Regency Energy Partners) Inflection Phase II - Project Engineer

Completed plans and permitting for an approximately 10-mile pipeline in Lycoming County, PA. Mr. Gilbert provided plans and profile drawings, E&SC plans, and post construction stormwater management plans. He designed the crossing and restoration methods for several township roads, streams, and wetlands. Mr. Gilbert also performed pipe stress calculations for the 12-inch steel pipeline and classification per 49 CFR Part 192.

Colonial Pipeline Company Linden Junction Manifold, Linden, NJ - Civil Engineer

Providing civil engineering support for the upgrade of a 178-acre tank farm in Linden, NJ. Mr. Gilbert is performing stormwater management and storm drainage calculations for the proposed driveway and other site improvements. He is also assisting in obtaining the required township and state environmental permits. Mr. Gilbert performed pipeline stress calculations for all existing and proposed piping on the site to make certain that the redesign of the driveways would not overstress the petroleum product pipelines.

Colonial Pipeline Company Cobbs Creek Reservoir Relocation - Project Engineer

Provided civil engineering services for the 2.5-mile relocation of 32-inch and 36-inch high-pressure Colonial petroleum product pipelines in Cumberland County, VA. Mr. Gilbert assisted in the design of the pipeline route based on the terrain. He conducted an additional engineering analysis of pipe logistics for the project and is designing the E&SC facilities along the pipeline alignment. Mr. Gilbert also developed a cost estimate for the project.

Colonial Pipeline Company Cobbs Creek Reservoir Relocation - Project Engineer

Provided civil engineering services for the 2.5-mile relocation of 32-inch and 36-inch high-pressure Colonial petroleum product pipelines in Cumberland County, VA. Mr. Gilbert assisted in the design of the pipeline route based on the terrain. He conducted an additional engineering analysis of pipe logistics for the project and is designing the E&SC facilities along the pipeline alignment. Mr. Gilbert also developed a cost estimate for the project.

PPL Electric Utilities Susquehanna-Harwood Reconductor Project - Civil Engineer

Provided civil engineering for the replacement of all conductor cable, conductor splices, and dead-end assemblies along the 14 mile length of PPL's Susquehanna-Harwood #1 and #2 230 kV line corridor in Luzerne County, PA. STV began the project with a secondary source data review to identify potential civil and environmental permits and approvals that might be required. The firm conducted wetland delineations on all proposed access roads for pull point locations and staging areas. The team also provided all resource agency coordination and developed a permitting needs assessment document. STV then performed all civil design and environmental permitting services.

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EDUCATION
BACHELOR OF SCIENCE,
CIVIL ENGINEERING;
UNIVERSITY OF
PITTSBURGH

**PROFESSIONAL
ENGINEER**
PENNSYLVANIA

CERTIFICATIONS

OSHA 40-HOUR
HEALTH AND SAFETY
TRAINING FOR WORK
AT HAZARDOUS WASTE
SITES

TRAINING

OIL AND GAS
INDUSTRY TRAINING;
PENNSYLVANIA
DEPARTMENT OF
ENVIRONMENTAL
PROTECTION (PADEP)
E&S MANUAL TRAINING;
PADEP

COMPUTER SKILLS

AUTOCAD, CIVIL
3D, SURVCADD,
HYDRAFLOW,
HYDROGRAPHS,
STORMSEWERS, HEC-
RAS, HEC-HMS, WIN-
TR20, AND AUTOTURN

Samuel Gilbert, PE

CIVIL ENGINEER

PPL Lock Haven Switchyard - Project Engineer

Leading the site design and permitting for the construction of an electrical switchyard in Lock Haven, PA. Mr. Gilbert performed stormwater management, storm drainage, and stream capacity calculations. Because of wetland and stream impacts on the site, PPL was required to mitigate the impacts at an offsite location. Mr. Gilbert led the civil engineering design for the offsite mitigation, which included the creation of two wetland areas and stream bank improvements. During the planning phase, he provided extensive coordination between county, state, and federal regulatory agencies. Prior to final design, Mr. Gilbert was involved in the conceptual design and was the lead civil engineer during the feasibility study.

PPL Lycoming - Lock Haven No. 1 and No. 2 Transmission Line Rebuild - Project Engineer

Designing E&SC plans for a 12-mile, 69-kV transmission line rebuild between Lycoming and Lock Haven, PA. Mr. Gilbert is responsible for designing all access roads and work pads, including associated grading. He is also obtaining necessary permitting including National Pollutant Discharge Elimination System, a U.S. Army Corps of Engineers joint permit, and all required Pennsylvania Department of Transportation highway occupancy permits for the proposed structures and driveways.

Colonial Pipeline Company Lee Hall Reservoir Relocation - Project Engineer

Completed issued for bid plans, documents, and specifications for the relocation of a 10-inch petroleum products pipeline in Newport News, VA. Mr. Gilbert presented the project to bidders at the pre-bid meeting and addressed requests for information. He also incorporated all project and construction documents into a project closure book for Colonial Pipeline's official corporate records.

Linde Evraz Oxygen and Nitrogen Pipelines - Civil Engineering Specialist

Provided civil engineering for the installation of a 6-inch oxygen and 6-inch nitrogen pipeline between the Linde plant and the Evraz Claymont steel mill, in New Castle County, DE. Mr. Gilbert coordinated with the New Castle County Department of Land Use to obtain a permit for construction within the floodplain and worked with Amtrak to construct the pipelines within the railroad right-of-way. Mr. Gilbert was also involved in coordination efforts between the external utilities and the subsurface utility engineer, to determine the most favorable route.

PPL Hershey Reese 138/69-kV Tie Line - Civil Engineering Specialist

Designed E&SC plans for PPL electricity poles statewide as part of the North American Electric Reliability Corporation (NERC) compliance program in Pennsylvania for PPL. The utility retained the firm to address height issues after surveys determined that the power lines were too close to the ground. Mr. Gilbert assisted in developing plans to grade the surrounding right-of-way to provide the proper clearance.

**STANDARD E&S WORKSHEET # 22
 PLAN PREPARER RECORD OF TRAINING AND EXPERIENCE IN EROSION AND
 SEDIMENT POLLUTION CONTROL METHODS AND TECHNIQUES**

NAME OF PLAN PREPARER: Heath Kearney, P.E. (NJ)

FORMAL EDUCATION:

Name of College or Technical Institute: Norwich University Military College of Vermont // Drexel University

Curriculum or Program: Civil Engineering // Finance

Dates of Attendance: **From:** 08/1997 // 08/2010 **To:** 12/2001 // 05/2014

Degree Received Bachelor of Science // Master of Business Administration

OTHER TRAINING:

Name of Training: Oil and Natural Gas Training Stormwater BMP Manual Training

Presented By: PADEP PADEP

Date: 10/2012 03/2007

EMPLOYMENT HISTORY:

Current Employer: STV Energy Services, Inc.

Telephone: 610-385-8568

Former Employer: STV Incorporated

Telephone: 610-385-8200

RECENT E&S PLANS PREPARED:

Name of Project: SXL-PPP/OPP Oversight SXL-Allegheny Access Brunner Island Gas Co.-Firing

County: Delaware County Lawrence & Beaver Counties York County

Municipality: Borough of Marcus Hook Darlington, S. Beaver, Chippewa and Brighton Townships East Manchester Township

Permit Number: Pending OG0413003 ESG0013315002

Approving Agency: PADEP PADEP YCCD

Heath Kearney, PE

CIVIL/PIPELINE LEAD ENGINEER

Mr. Kearney is a civil and pipeline lead engineer with more than 14 years of experience in pipeline design, site development, stormwater management, and project management. He has worked on a wide range of natural gas and petroleum pipeline, site contamination, and sediment control projects. Mr. Kearney has calculated and analyzed pipeline stress from data provided, and has developed erosion and sediment control measures and the associated narratives for permitting agencies. He frequently conducts research and communicates with multiple agencies to facilitate the permitting process. Mr. Kearney also oversees multiple short- and long-range horizontal directional drills (HDD) through various types of terrain, including streams, rivers, wetlands, parks, railroad tracks, and shipyards. His prior experience as a combat leader, a chief company logistical officer, and assistant operations officer in the U.S. Army, for which he received commendations, augments his skills in adeptly managing and deploying heavy equipment and personnel.

Project Experience

PBF PRC Delaware River Natural Gas Pipeline - Project Engineer

Designing the replacement and relocation of an 8-inch natural gas pipeline supplying the Paulsboro Refining Co.; the pipeline extends from Tinicum Township, PA, and crosses the Delaware River to PBF Energy's Paulsboro, NJ, refinery. It will be replaced with a 24-inch pipeline, and will be relocated from an existing meter pad across the Delaware River to the Paulsboro Refining Company's property. The total relocation is 3.5 miles and the intercept horizontal directional drill (HDD) is approximately 8,000 lf.

Mears Noresco UGI 12-inch Susquehanna Crossing - Project Manager

Coordinated the 4,100-foot-long directional drill of a 12-inch natural gas pipeline crossing the Susquehanna River in Harrisburg, PA. Mr. Kearney provided oversight for permitting, including National Pollutant Discharge Elimination System (NPDES), Pennsylvania Department of Transportation (PennDOT), Norfolk Southern Railroad, Amtrak, and the Pennsylvania Department of Environmental Protection (PADEP) GP-5 approvals. During installation, it was discovered that 40 feet of casing that was used to facilitate the drill broke off and remained in the hole 30 feet belowground. Mr. Kearney then led the permitting effort to excavate 30 feet below a PennDOT state highway to remove the casing and prepare a major modification to the NPDES permit.

Sunoco Logistics Allegheny Access - Lead Pipeline Engineer

Managed pipeline engineering services for the design and construction management of a Sunoco Logistics pipeline in Ohio and Pennsylvania. Because of the rapid timeline for permitting, the project was executed and broken into roughly two segments that proceed on a parallel path. Segment 1 runs for 86 miles, from Inland Fostoria West, OH, to Tiffin, OH, and then on to Easton, OH. Segment 2 runs for 74 miles, from Mogadore, OH, to Vanport Junction, PA. Mr. Kearney led a team of 10 engineers in the field, approved contractor HDD execution plans, and performed HDD oversight for 65 drills. He also reviewed and provided recommendations for RFIs and field adjustments. During the design phase, Mr. Kearney coordinated, supervised, and approved the complex designs between 6 of the firm's offices, including 20 CAD operators, 18 engineers, 18 surveyors, and 11 environmental scientists. He also led the effort for the pipeline's land development approval in South Beaver Township, PA, and the approval for using First Energy's ROW by attending multiple meetings and negotiations.

FIRM

STV

EDUCATION

MASTER OF BUSINESS ADMINISTRATION, FINANCE; DREXEL UNIVERSITY

BACHELOR OF SCIENCE, CIVIL ENGINEERING; NORWICH UNIVERSITY MILITARY COLLEGE OF VERMONT

PROFESSIONAL ENGINEER

NEW JERSEY

TRAINING

TRANSMISSION PIPELINE DESIGN WORKSHOP; SOUTHERN GAS ASSOCIATION

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STORMWATER BMP MANUAL TRAINING SESSION; DELAWARE AND CHESTER COUNTY CONSERVATION DISTRICT

OSHA 40-HOUR HAZWOPER

RECIPROCAL COURSE 21 BASIC PLUS; DELAWARE VALLEY SAFETY COUNCIL

Heath Kearney, PE CIVIL/PIPELINE LEAD ENGINEER

Sunoco Logistics/NJTA New Jersey Turnpike Interchanges 6 to 9 Widening Program - Project Engineer

Supported the project engineer in the design and installation of 3.25 miles of 16-inch high-pressure high pressure petroleum pipeline for the proposed pipeline relocation along the New Jersey Turnpike for Sunoco Logistics and the New Jersey Turnpike Authority (NJTA). Mr. Kearney assisted the design of erosion and sedimentation control measures and in the generation of an erosion and sedimentation/storm water pollution prevention plan narrative, specifically during the multiple design revisions to obtain approval for numerous large construction staging areas. Mr. Kearney also performed both off-site and on-site HDD oversight during the construction phase. The project consists of widening the New Jersey Turnpike from interchanges 6 to 9 and covers the Townships of Mansfield, Bordentown, and Chesterfield in Burlington County as well as the Township of Hamilton in Mercer County, NJ.

Omega Partners New Transfer Pipelines and Dock Connections - Lead Project Engineer

Led engineering services for a crude expansion project that consisted of designing multiple pipelines to connect Omega Partners' terminal in Hartford, IL, to a barge loading dock on the Mississippi River. The connected pipelines, which were referred to as the West Pipelines, included three 16-inch crude oil pipelines and one 4-inch natural gas pipeline. Additional pipelines were referred to as the East and North Pipelines, and included one 6-inch natural gas line, one 30-inch crude oil pipeline, one 20-inch crude oil pipeline, and a 4-inch PVC conduit line. Mr. Kearney also led the effort to obtain permits from all federal, state, and local authorities, including approvals from the U.S. Army Corps of Engineers for crossing a Mississippi River levee via HDD.

Sunoco Logistics US 24 (Telegraph Road) Pipeline Relocation - Project Engineer

Designed the fast-track, 1.5-mile relocation of a 6-inch pipeline along the shoulder of US 24 (Telegraph Road) north of Monroe, MI. The full-depth pavement installation of an expanded shoulder on U.S. 24 impacted the exiting Sunoco pipeline, requiring its relocation for the duration of the project. Mr. Kearney designed the relocation as three HDDs ranging from 800 to 1,400 feet with connecting trench-installed pipeline to avoid conflicts.

Buckeye Pipeline Kleen Energy Ultra Low Sulfur Diesel Pipeline - Project Engineer

Responsible for the preliminary and final engineering and permitting support services associated with the installation of 4.6 miles of 12-inch high-pressure ultra low sulfur diesel pipeline from Buckeye's Middletown Junction, through the City of Middletown, CT, to the Kleen Energy Power Generating Facility. He then coordinated design review permit efforts with the City of Middletown Planning and Zoning Commission, City of Middletown Inland Wetland and Waterways Commission, City of Middletown Economic Development Commission, Providence & Worcester Railroad, Connecticut River Coastal Conservation District, and Connecticut Department of Environmental Protection. Multiple methods of installation were used in this project, including three HDDs of wetlands, streams, roadways, and longitudinal occupancy of a railroad corridor, as well as miles of standard trench installation through roadways and cross country. During the construction phase, Mr. Kearney oversaw all four HDD installations, including three of the four drills using gyroscopic steering technology.

STANDARD E&S WORKSHEET # 22
PLAN PREPARER RECORD OF TRAINING AND EXPERIENCE IN EROSION AND
SEDIMENT POLLUTION CONTROL METHODS AND TECHNIQUES

NAME OF PLAN PREPARER: Robert J. Lindgren, P.E.

FORMAL EDUCATION:

Name of College or Technical Institute: Virginia Military Institute

Curriculum or Program: Civil/Structural Engineering

Dates of Attendance: **From:** 08/1981 **To:** 05/1985

Degree Received Bachelor of Science

OTHER TRAINING:

Name of Training: ESCGP-2 _____

Presented By: PADEP _____

Date: 5/23/2013 _____

EMPLOYMENT HISTORY:

Current Employer: STV Energy Services, Inc.

Telephone: 610-385-8435

Former Employer: STV Incorporated

Telephone: 610-385-8200

RECENT E&S PLANS PREPARED:

Name of Project: SXL-PPP/OPP Oversight SXL-Allegheny Access SXL-Glen Riddle

County: Delaware County Lawrence & Beaver Counties Delaware County

Municipality: Borough of Marcus Hook Darlington, S. Beaver, Chippewa and Brighton Townships Tinicum Township

Permit Number: Pending OG0413003 _____

Approving Agency: PADEP PADEP Delaware County SCD

Robert Lindgren, PE

QUALITY ASSURANCE

Mr. Lindgren is a senior civil and structural engineer with experience in all aspects of structural analysis, testing, and design, as well as site planning, civil design and construction project management. His civil engineering expertise includes topographic surveys, stormwater drainage and detention pond design, pavement design, environmental remediation, permit application preparation, underground storage tank removals/replacements, site grading, and geometric layout of access roadways and parking lots. His structural design background consists of masonry, steel, concrete, and timber structures. Mr. Lindgren has a top secret U.S. Navy clearance.

FIRM
STV

EDUCATION
BACHELOR OF SCIENCE,
CIVIL/STRUCTURAL
ENGINEERING; VIRGINIA
MILITARY INSTITUTE

**PROFESSIONAL
ENGINEER**
PENNSYLVANIA

Project Experience

Sunoco Logistics Pipeline Allegheny Access Project - QA Reviewer

Providing quality assurance (QA) review for the development of a front end engineering and design study for the installation of three pipeline segments within existing rights-of-way through Ohio and Western Pennsylvania. Totaling 160 miles, the pipelines will enable Sunoco to enhance product deliveries throughout Ohio and Western Pennsylvania.

Sunoco Logistics Pipeline SEPTA/Wawa - QA Reviewer

Provided quality assurance (QA) review for the feasibility study and conceptual cost estimate for the half-mile relocation of Sunoco Logistics' existing 8-inch pipeline in Delaware County, PA. The pipeline relocation was necessary to avoid property conflicts with commercial retailer Wawa Dairy Farms and to allow SEPTA to build a new commuter train station.

PPL Lock Haven Switchyard Replacement - QA Reviewer

Provided quality assurance (QA) review for a feasibility study to provide PPL with a preliminary assessment of the alternatives for the replacement of the switchyard in Lock Haven, PA, to a location south of the existing switchyard on existing PPL property. STV was responsible for all civil and land development, environmental, and project management services. The new switchyard design would conform to 138-kV standards (operated at 69 kV) and would be a PPL standard breaker-and-a-half open air configuration, capable of terminating eight 69-kV transmission lines.

PPL Hershey 69-kV Underground Transmission Line - QA Reviewer

Provided quality assurance (QA) review of a feasibility study regarding routing a 69-kV underground transmission line through Hershey, PA. Installation of the underground transmission line was required because of local restrictions on overhead transmission lines through downtown Hershey. The study evaluated several route options with respect to constructability, avoidance of existing and proposed utilities, and identification of environmental and cultural resource concerns for the 2-mile transmission line, which was required to improve reliability of an electrical substation serving in excess of 4,000 electric service customers.

Sunoco Logistics Pipeline Corson's Lane Sinkhole Pipeline Relocation - QA Reviewer

Provided quality assurance (QA) review for the relocation of a 14-inch pipeline in Montgomery County, PA. The relocation was necessary as a result of a sinkhole that had undermined the pipeline. The project involved an extensive geotechnical investigation, including geophysical and subsurface investigations to determine a viable relocation route.

Robert Lindgren, PE

QUALITY ASSURANCE

PPL Susquehanna-Harwood Reconductor Project - Project Manager

Coordinated the replacement of all conductor cable, conductor splices, and dead-end assemblies along the length of the PPL Susquehanna-Harwood 230-kV line corridor. The transmission line corridor extends from the Susquehanna switchyard, located on Ruckle Hill Road in Wapwallopen, PA, for approximately 14 miles to the Harwood substation, located on Commerce Drive in Harwood, PA. The project also included the rehabilitation and replacement of various structures along the line.

PPL Lycoming-Lock Haven No. 1 and No. 2 69-kV Rebuild - Assistant Project Manager

Coordinating a feasibility study and permitting needs analysis for the Lycoming-Lock Haven No. 1 and No. 2 rebuild project, which involves the replacement of approximately 335 structures and a conductor from Jersey Shore to Castanea, PA. The project corridor extends approximately 12 miles from PPL's Jersey Shore switchyard to the Lock Haven substation in Castanea.

PPL NERC Ground-to-Conductor Clearance Program - Project Manager

Coordinated the site visit planning, site investigations, and field review report generation for more than 175 ground-to-clearance violations requiring investigation for remediation in accordance with new North American Electric Reliability Corporation (NERC) standards to improve reliability of the electrical grid.

STANDARD E&S WORKSHEET # 22
PLAN PREPARER RECORD OF TRAINING AND EXPERIENCE IN EROSION AND
SEDIMENT POLLUTION CONTROL METHODS AND TECHNIQUES

NAME OF PLAN PREPARER: Henry D. Wills, P.E., S.I.T.

FORMAL EDUCATION:

Name of College or Technical Institute: Pennsylvania State University

Curriculum or Program: Civil Engineering

Dates of Attendance: **From:** 08/2003 **To:** 05/2007

Degree Received Bachelor of Science

OTHER TRAINING:

Name of Training:	<u>NPDES & PCSM Permitting</u>	<u>Oil and Gas Seminar</u>	<u>Chapter 102 Regulations</u>
Presented By:	<u>SEPRCDC</u>	<u>PADEP</u>	<u>PADEP</u>
Date:	<u>2014</u>	<u>2012 and 2013</u>	<u>2011</u>

EMPLOYMENT HISTORY:

Current Employer: STV Energy Services, Inc.

Telephone: 610-385-8390

Former Employer: SSM Group, Inc.

Telephone: 610-621-2000

RECENT E&S PLANS PREPARED:

Name of Project:	<u>SXL-PPP/OPP Oversight</u>	<u>PNGPC-Del. River Crossing</u>	<u>Brunner Island Gas Co.-Firing Project</u>
County:	<u>Delaware County</u>	<u>Delaware County</u>	<u>York County</u>
Municipality:	<u>Borough of Marcus Hook</u>	<u>Tinicum Township</u>	<u>East Manchester Township</u>
Permit Number:	<u>Pending</u>	<u>ESG00045160001</u>	<u>ESG0013315002</u>
Approving Agency:	<u>PADEP</u>	<u>DCCD</u>	<u>YCCD</u>

Henry Wills, PE

CIVIL ENGINEER

Mr. Wills is a civil engineer with experience in the energy and pipeline industries, municipal engineering, and land development. He is skilled at translating preliminary draft designs to field conditions through on-site inspections to determine practical design solutions. With a strong background in stormwater management, erosion and sediment control (E&SC), and utility work, Mr. Wills specializes in utility test tools and horizontal directional drill (HDD) oversight, as well as software programs such as VTPSUHM, Hydraflow, and HEC-RAS. He is also experienced with obtaining environmental and engineering permits from various entities, including the Pennsylvania Department of Transportation (PennDOT), the Pennsylvania Department of Environmental Protection (PADEP), and county conservation districts.

Project Experience

PBF Energy Delaware River Natural Gas Pipeline Replacement - Project Engineer

Providing civil engineering services for the replacement and relocation of an 8-inch natural gas pipeline extending from Tinicum Township, PA, and crossing the Delaware River to PBF Energy's Paulsboro, NJ, refinery. The pipeline will be replaced with a 24-inch pipeline starting at an existing meter junction, going 3,500 lf southwest to a point where it will cross the Delaware River and exit on the Paulsboro Refining Company's property. From there, the pipe will neck down to 12 inches and traverse 1,500 lf to an existing manifold. The existing meter junction is located northwest of the Philadelphia International Airport (PHL) in Tinicum Township. The pipeline must be relocated to accommodate the expanding of the navigation channel by the U.S. Army Corps of Engineers. Mr. Wills assisted with a feasibility study and natural gas pipeline design from the Paulsboro refinery to a 16-inch Spectra transmission line adjacent to PHL. The design includes a 24-inch pipe route, access, temporary workspace, HDD layout, cost estimates, and AA for relocating the pipeline. He also assisted the preparation of RFPs for subsurface utility engineering services, as well as the HDD contractor design consulting, and early bid for HDD construction. Mr. Wills is currently assisting with completion of the Resource Report for submission to the Federal Energy Regulatory Commission (FERC). Additional permitting includes Conrail occupation, an ESCGP-2 from the Delaware County Conservation District, an erosion and sediment submission to the Gloucester County Soil Conservation District, and a New Jersey DEP permit, as well as additional permits from local municipalities.

Energy Transfer Partners (formerly Regency Energy Partners) Midstream Pipeline Projects - Project Engineer

Completed plans and permitting for various midstream pipelines in Lycoming, Tioga, and Wyoming counties, PA. Mr. Wills created preliminary alignment options by conducting field surveys and taking notes and photographs to determine constructability methods, such as HDD, auger bores, and trenching. He also assisted in preparing pipe stress calculations and class location studies, and provided support for stakeouts, as-built surveys, and environmental studies.

Sunoco Logistics Ohio and Pennsylvania Pipeline RUMAs - Project Engineer

Assisting with the determination of construction haul routes and the creation of haul route plans and road use maintenance agreements (RUMAs) for a 350-mile Sunoco Logistics project that extends from Scio, OH, to Marcus Hook, PA. The agreements are obtained from local municipalities, PennDOT, the state, counties, and U.S. Army Corps of Engineers. Mr. Wills is researching ordinances and coordinating with municipalities. He is also attending meetings and conducting site visits to look for potential issues. In addition, Mr. Wills is assisting with the creation of a spreadsheet to track

FIRM STV

EDUCATION
BACHELOR OF
SCIENCE, CIVIL
ENGINEERING; PENN
STATE UNIVERSITY

**PROFESSIONAL
REGISTRATIONS**
PROFESSIONAL
ENGINEER, PA
SURVEYOR IN
TRAINING, PA

**TRAINING/
CERTIFICATIONS**
NPDES & PCSM
PERMITTING
WORKSHOP;
SOUTHEASTERN
PENNSYLVANIA
RESOURCE
CONSERVATION
& DEVELOPMENT
COUNCIL
OIL & GAS SEMINAR;
PENNSYLVANIA
DEPARTMENT OF
ENVIRONMENTAL
PROTECTION
CHAPTER 102
REGULATIONS;
PENNSYLVANIA
DEPARTMENT OF
ENVIRONMENTAL
PROTECTION (PADEP)
OSHA 40-HOUR
HAZWOPER
CERTIFICATION

Henry Wills, PE

CIVIL ENGINEER

local roads, state routes, posted weight limits, bridges, and structures that would impact routes, and he drives routes to document existing conditions.

PPL Brunner Island Gas Supply Pipeline - Project Engineer

Providing engineering and permitting services for the conversion of the Brunner Island Steam Electric Station to use natural gas in York County, PA. Supplying natural gas to Brunner Island requires construction of an 18-inch or 24-inch pipeline connecting to a Texas Eastern line approximately 3.5 miles from the island. Mr. Wills is completing pipe stress calculations and a class location study for the transmission line. He is also designing the HDD, erosion and sediment control, and the grading of the meter site. In addition, Mr. Wills coordinated with surveyors for the topographic survey and wrote the RFP for the subsurface utilities engineering investigation. He also provided permitting assistance and obtained railroad occupancy licenses from Norfolk Southern for HDD and auger bore pipeline crossings, highway occupancy permits from PennDOT, an ESCGP-2 permit from the York County Conservation District, and a Special Exception for a Public Utility Facility Use in an Agricultural Zoning District from East Manchester Township.

Glenn Springs Holdings Delaware River Outfall Replacement - Project Engineer

Providing plans and permitting services for the replacement of an outfall pipe and diffuser in the Delaware River in New Castle County, DE, for Glenn Springs Holdings, Inc. The outfall discharges some stormwater runoff and treated groundwater effluent. Mr. Wills is responsible for Standard Plan and Floodplain Permit application submissions to the New Castle County Department of Land Use. A new 8.6-inch pipe will be used to tie-in to an existing 10-inch pipe. Design considerations include trenched portions, surface lay, and an HDD option.

Colonial Pipeline Company Buckeye Perth Amboy Terminal Relocation - Project Engineer

Prepared plans and profiles for a pipeline relocation to satisfy requirements by Colonial Pipeline and Conrail for a proposed ladder track at the Buckeye Perth Amboy Terminal in Perth Amboy, NJ. Mr. Wills also conducted pipe stress calculations, prepared the submission to Conrail, and coordinated with surveyors and a geotechnical engineer.

Buckeye Partners LP One-Call Reviews - Junior Project Engineer

Assisted with the completion of various one-call reviews for potential conflicts with development projects in New York and Pennsylvania. Mr. Wills reviewed plans in accordance with Buckeye Partners' Right-of-Way Use Restrictions Specification. He also drafted a review memo and performed pipe stress calculations, as needed.

Buckeye Partners LP 124th Street Reconstruction - Junior Project Engineer

Provided engineering services for the relocation of an approximately 1.5-mile, 16-inch high pressure petroleum pipeline along 124th Street in New Berlin, WI. Mr. Wills estimated the number of test holes required and determined approximate locations. He also observed the utility locations, took notes and photographs, and coordinated information with the surveyor.

Construction Details

**STANDARD E&S WORKSHEET # 22
 PLAN PREPARER RECORD OF TRAINING AND EXPERIENCE IN EROSION AND
 SEDIMENT POLLUTION CONTROL METHODS AND TECHNIQUES**

NAME OF PLAN PREPARER: Robert F. Simcik

FORMAL EDUCATION:

Name of College or Technical Institute: University of Pittsburgh

Curriculum or Program: Civil Engineering

Dates of Attendance: From: 1984 To: 1989

Degree Received Bachelor of Science in Engineering
PA PE 050435 E Feb 22, 2001

OTHER TRAINING:

Name of Training: PA DEP 102 Training WMCCD Engineers' Workshop

Presented By: DEP Region 1, Greensburg, PA "Erosion Control & Stormwater Management INPDES" Training

Date: 04/03/2014 3/18/16 (and years previous)

EMPLOYMENT HISTORY:

Current Employer: Tetra Tech

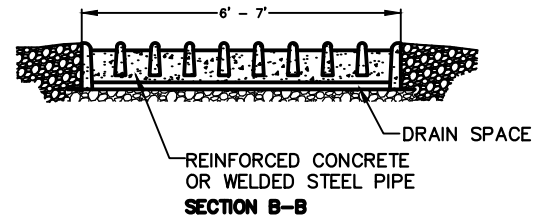
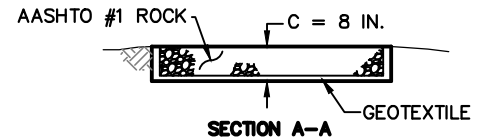
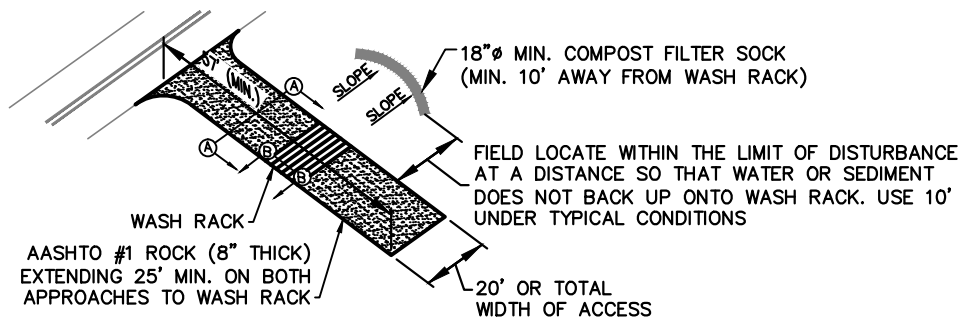
Telephone: (412) 921-8163
Last 25 years

Former Employer: N/A

Telephone: -

RECENT E&S PLANS PREPARED:

Name of Project:	<u>Sunoco ME1</u>	<u>OPP (Ohio Pipeline)</u>	<u>Ranick to Shields</u>
County:	<u>Allegheny, Washington and Westmoreland</u>	<u>OH and WV PA - Washington</u>	<u>Butler (SE interchange Appl.)</u>
Municipality:	<u>multiple</u>	<u>Boarder to Houston, Eagle Independence -> Chestnut</u>	<u>Center, Oakland, and Clay</u>
Permit Number:	<u>ESG 6513806</u>	<u>ESG 0012515002</u>	<u>ESG 16-019-0008</u>
Approving Agency:	<u>WMCCD/SURO</u>	<u>WMCCD</u>	<u>NWRO</u>



NOTE:

REASONABLE METHODS WHICH ARE SANCTIONED BY THE PADEP AS ALTERNATIVES TO INSTALLATION OF TIRE WASH STATIONS ON PUBLIC ROAD ACCESS POINTS FOR GATHERING PIPELINE PROJECTS IN EV/HQ WATERSHEDS INCLUDE:

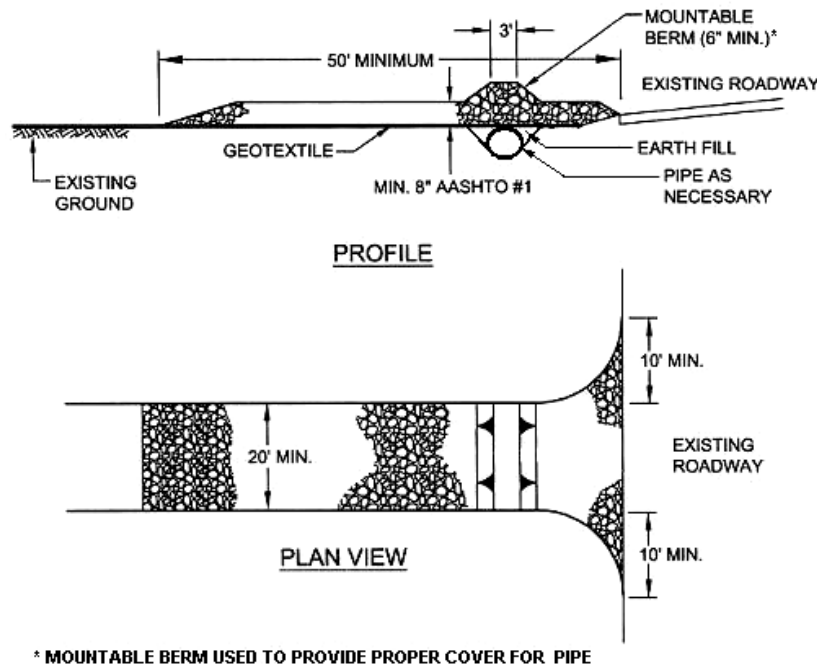
1. FOR PAVED SURFACE PUBLIC ROADS: USE OF A VACUUM TRUCK SWEEPER OR SWEEPER WITH A CATCH BIN ATTACHMENT.
2. FOR DIRT OR GRAVEL SURFACE PUBLIC ROADS: RIGOROUS MANUAL REMOVAL OF MUD/DIRT FROM VEHICLE/EQUIPMENT TIRES PRIOR TO EXITING CONSTRUCTION SITE, SUPPLEMENTED BY IMMEDIATE RECOVER, BY MANUAL OR MECHANICAL MEANS, OF SOIL WHICH MAY BECOME DISCHARGED ONTO PUBLIC ROADWAYS. DUST CONTROL AND/OR COMPACTION VIA ROLLING OF THE DIRT PUBLIC ROAD SURFACE WILL BE IMPLEMENTED AS NEEDED.

A PREDICATE FOR UTILIZING ALTERNATIVE 1 AND 2 ABOVE IS THAT THE ROCK PAD CONSTRUCTION ENTRANCE MUST BE EXTENDED TO A MINIMUM TOTAL LENGTH OF 100 FEET AND MUST BE CONSTANTLY MAINTAINED INCLUDING STRUCTURE THICKNESS TO INSURE ITS EFFECTIVENESS REMAINS INTACT AT ALL TIMES.

FREQUENCY OF MECHANICAL AND/OR MANUAL CONTROLS WILL BE DEPENDENT UPON CONSTRUCTION TRAFFIC INTENSITY, WEATHER AND SOIL MOISTURE CONDITIONS. AT A MINIMUM FOR PAVED ROADS - ANY DAY IN WHICH CONSTRUCTION TRAFFIC IS EXITING THE ROCK CONSTRUCTION ENTRANCE, THE VACUUM TRUCK SWEEPER OR SWEEPER WITH A CATCH BIN ATTACHMENT SHALL CLEAN THE ROADWAY AT THE END OF THE WORK DAY AND PRIOR TO ANY FORECASTED RAIN EVENT. THE REQUIREMENT IS TO NOT INTRODUCE SEDIMENT LOAD FROM CONSTRUCTION TRAFFIC ONTO PUBLIC ROAD SURFACES AND INTO ROAD DITCHES WHICH WILL FLOW INTO THE EV/HQ WATER RESOURCES WHICH ARE THE SUBJECT OF THE INCREASED PROTECTION MEASURES.

AASHTO #1 ROCK CONSTRUCTION ENTRANCE
NOT TO SCALE

STANDARD CONSTRUCTION DETAIL # 3-1 Rock Construction Entrance



Modified from Maryland DOE

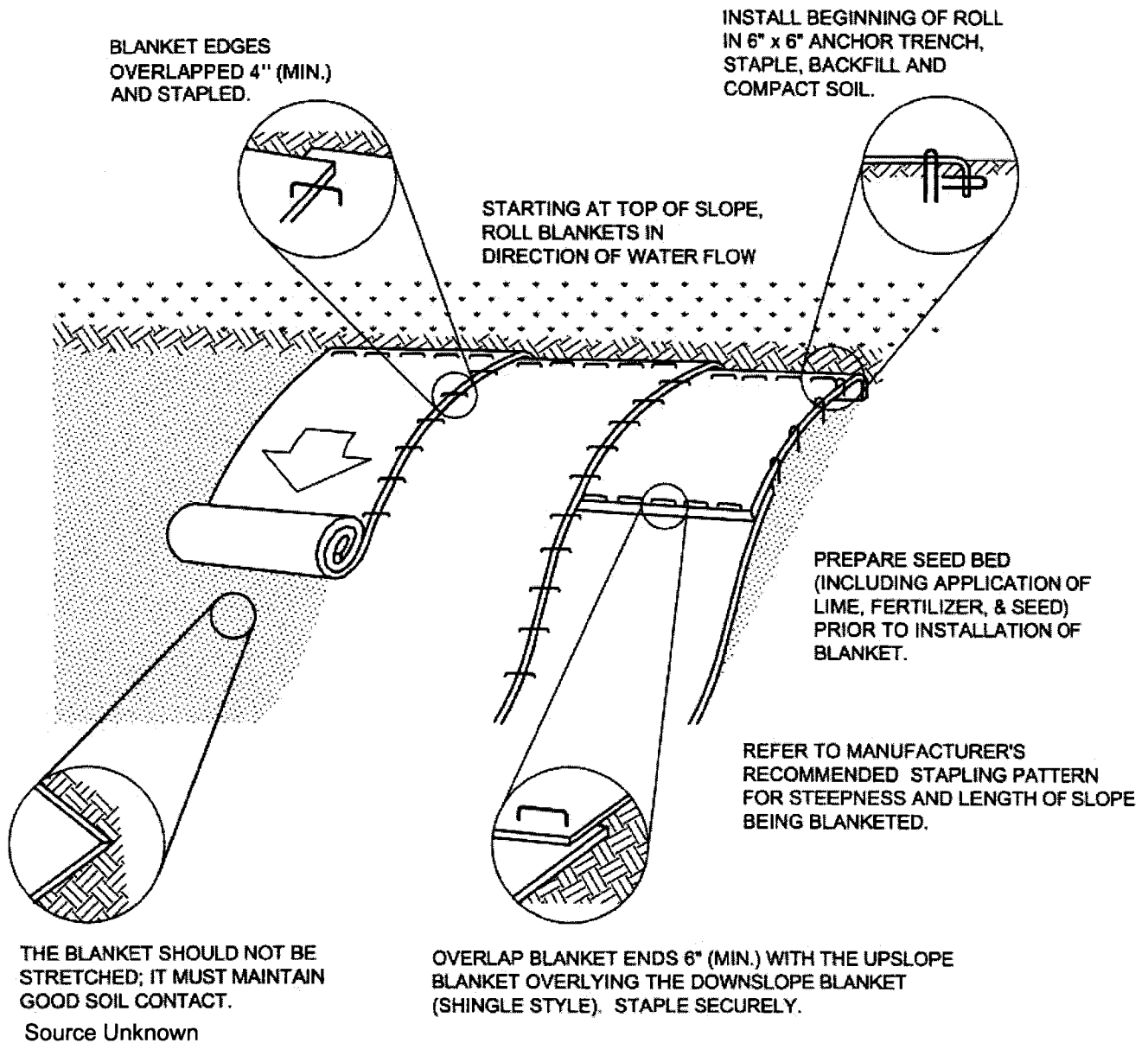
Remove topsoil prior to installation of rock construction entrance. Extend rock over full width of entrance.

Runoff shall be diverted from roadway to a suitable sediment removal BMP prior to entering rock construction entrance.

Mountable berm shall be installed wherever optional culvert pipe is used and proper pipe cover as specified by manufacturer is not otherwise provided. Pipe shall be sized appropriately for size of ditch being crossed.

MAINTENANCE: Rock construction entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile shall be maintained on site for this purpose. All sediment deposited on paved roadways shall be removed and returned to the construction site immediately. If excessive amounts of sediment are being deposited on roadway, extend length of rock construction entrance by 50 foot increments until condition is alleviated or install wash rack. Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable.

**STANDARD CONSTRUCTION DETAIL # 11-1
Erosion Control Blanket Installation**



Seed and soil amendments shall be applied according to the rates in the plan drawings prior to installing the blanket.

Provide anchor trench at toe of slope in similar fashion as at top of slope.

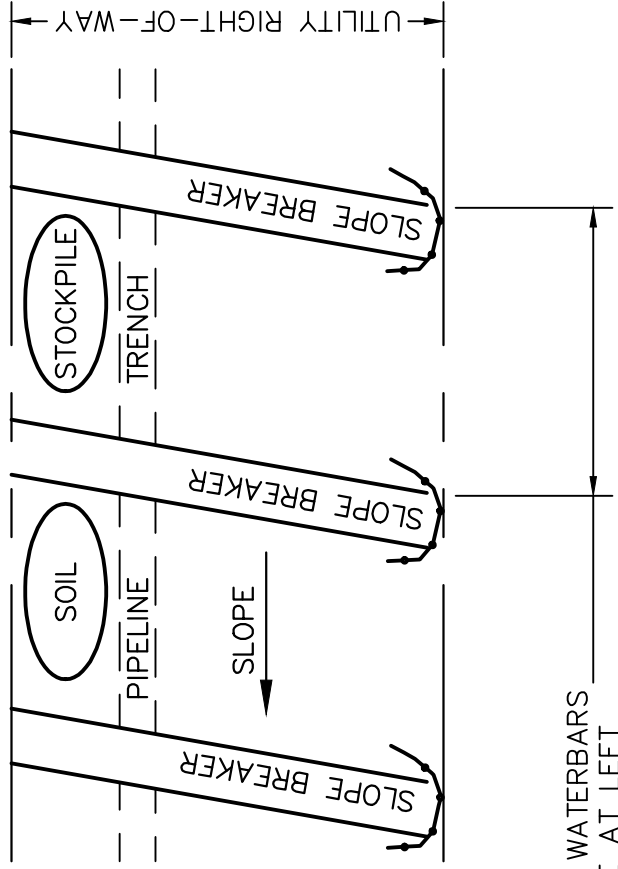
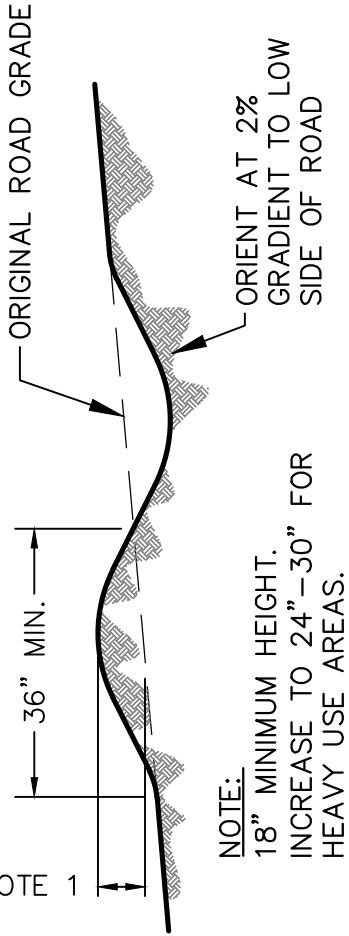
Slope surface shall be free of rocks, clods, sticks, and grass.

Blanket shall have good continuous contact with underlying soil throughout entire length. Lay blanket loosely and stake or staple to maintain direct contact with soil. Do not stretch blanket.

The blanket shall be stapled in accordance with the manufacturer's recommendations.

Blanketed areas shall be inspected weekly and after each runoff event until perennial vegetation is established to a minimum uniform 70% coverage throughout the blanketed area. Damaged or displaced blankets shall be restored or replaced within 4 calendar days.

SEE NOTE 1



MAXIMUM SPACING FOR WATERBAR'S	
% SLOPE	SPACING (FT)
<5	250
5-15	150
15-30	100
>30	50

NOTE:

WATERBARS SHALL DISCHARGE TO A STABLE AREA. WATERBARS SHALL BE INSPECTED WEEKLY (DAILY ON ACTIVE ROADS) AND AFTER EACH RUNOFF EVENT. DAMAGED OR ERODED WATERBARS SHALL BE RESTORED TO ORIGINAL DIMENSIONS WITHIN 24 HOURS OF INSPECTION. MAINTENANCE OF WATERBARS SHALL BE PROVIDED UNTIL ROADWAY, SKIDTRAIL, OR RIGHT OF WAY HAS ACHIEVED PERMANENT STABILIZATION.

WATERBAR DETAIL
NOT TO SCALE

COMPOST FILTER SOCK - **Sediment Removal Efficiency: HIGH. This device is an ABACT for HQ and EV watersheds.** Compost filter socks are a type of contained compost filter berm. They consist of a biodegradable or photodegradable mesh tube filled, typically using a pneumatic blower, with a coarse compost filter media that meets certain performance criteria (e.g. hydraulic flow through rate, total solids removal efficiency, total suspended solids removal efficiency, turbidity reduction, nutrient removal efficiency, metals removal efficiency, and motor oil removal efficiency).



York County Conservation District

Compost filter socks are flexible and can be filled in place or in some cases filled and moved into position. They are especially useful on steep slopes. Heavy vegetation should be removed prior to installing the sock. Compost socks can also be used on rocky slopes if sufficient preparation is made to ensure good contact of the sock with the underlying soil along its entire length. They may also be used on pavement as a perimeter control. Socks used in this manner range in diameter from 8” to 32”.

Note: The flat dimension of the sock should be at least 1.5 times the nominal diameter. Also, some settlement of the tube typically occurs after installation. The nominal diameter of the tube is the dimension to be used for design purposes (i.e. Figure 4.2). Socks with diameters less than 12” should only be used for residential housing lots of ¼ acre or less that are tributary to a sediment basin or sediment trap.

As with other sediment barriers, filter socks should be placed parallel to contour with both ends of the sock extended upslope at a 45 degree angle to the rest of the sock to prevent end-arounds (Figure 4.1). Socks placed on earthen slopes should be anchored with stakes driven through the center of the sock (Standard Construction Detail #4-1) or immediately downslope of the sock at intervals recommended by the manufacturer. Where socks are placed on paved surfaces, concrete blocks should be used immediately downslope of the socks (at the same intervals recommended for the stakes) to help hold the sock in place.

The maximum slope length above a compost filter sock should not exceed those shown in Figure 4.2. **NOTE: Slope length is not addressed by use of multiple rows of compost socks.** The anticipated functional life of a biodegradable filter sock should be 6 months; for photodegradable socks it is 1 year. Some other types may last longer. Projects with disturbances anticipated to last longer than the functional life of a sock should plan to replace the socks periodically or use another type of BMP.

Upon stabilization of the tributary area, the filter sock may be left in place and vegetated or removed. In the latter case, the mesh is typically cut open and the mulch spread as a soil supplement. In either case, the stakes should be removed.

Filter socks using other fillers may be approved on a case-by-case basis if sufficient supporting information (including manufacturer's specs and independent test data) is provided. However, they might not qualify as ABACTs. Wherever compost socks are used, Table 4.1 should be placed on a detail sheet.

**TABLE 4.1
Compost Sock Fabric Minimum Specifications**

Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)
Material Characteristics	Photo-degradable	Photo-degradable	Bio-degradable	Photo-degradable	Photo-degradable
Sock Diameters	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Tensile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years
Two-ply systems					
Inner Containment Netting	HDPE biaxial net				
	Continuously wound				
	Fusion-welded junctures				
	3/4" X 3/4" Max. aperture size				
Outer Filtration Mesh	Composite Polypropylene Fabric (Woven layer and non-woven fleece mechanically fused via needle punch)				
	3/16" Max. aperture size				
Sock fabrics composed of burlap may be used on projects lasting 6 months or less.					

Filtrex & JMD

Compost should be a well decomposed, weed-free organic matter derived from agriculture, food, stump grindings, and yard or wood/bark organic matter sources. The compost should be aerobically composted. The compost should possess no objectionable odors and should be reasonably free (<1%

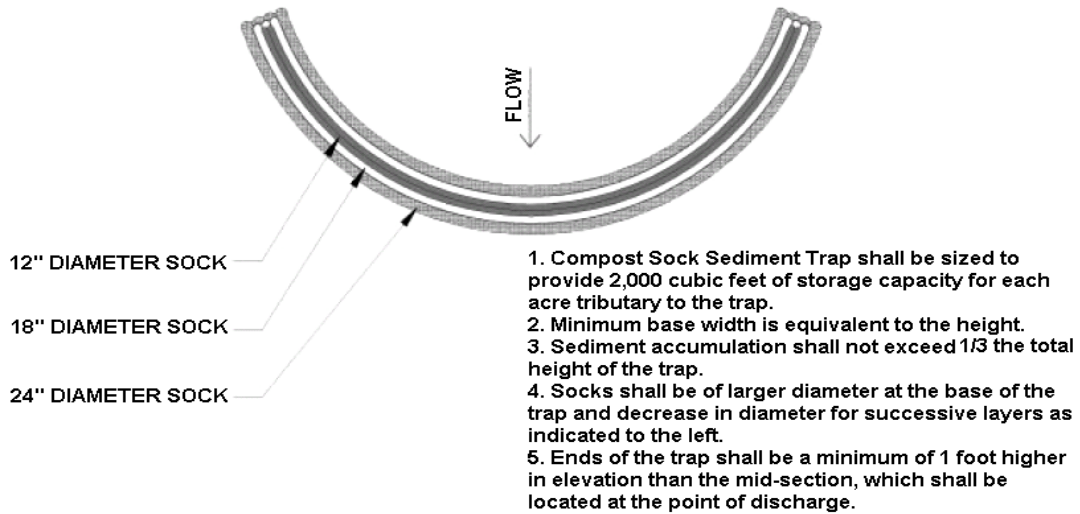
by dry weight) of man-made foreign matter. The compost product should not resemble the raw material from which it was derived. Wood and bark chips, ground construction debris or reprocessed wood products are not acceptable as the organic component of the mix.

The physical parameters of the compost should comply with the standards in Table 4.2. The standards contained in the PennDOT Publication 408 are an acceptable alternative.

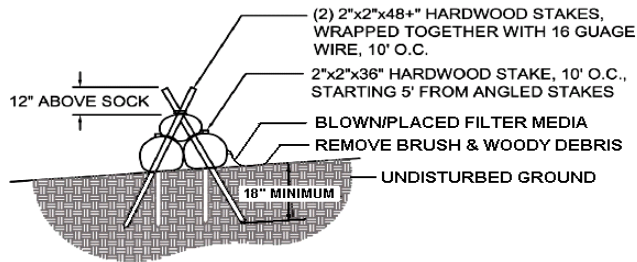
TABLE 4.2
Compost Standards

Organic Matter Content	25% - 100% (dry weight basis)
Organic Portion	Fibrous and elongated
pH	5.5 - 8.5
Moisture Content	30% - 60%
Particle Size	30% - 50% pass through 3/8" sieve
Soluble Salt Concentration	5.0 dS/m (mmhos/cm) Maximum

**STANDARD CONSTRUCTION DETAIL #3-11
Compost Sock Sediment Trap**



PLAN VIEW



Adapted from Filtrexx

STAKING DETAIL

Sock material shall meet the standards of Table 4.1. Compost shall meet the standards of Table 4.2.

Compost sock sediment traps shall not exceed three socks in height and shall be stacked in pyramidal form as shown above. Minimum trap height is one 24" diameter sock. Additional storage may be provided by means of an excavated sump 12" deep extending 1 to 3 feet upslope of the socks along the lower side of the trap.

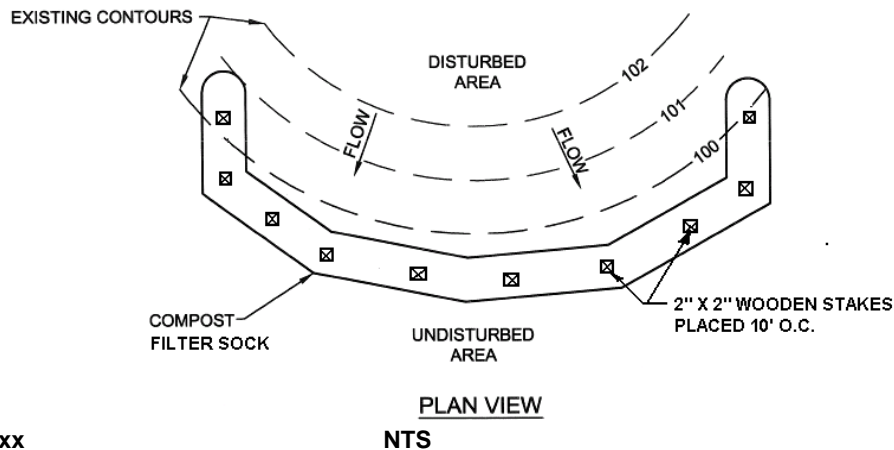
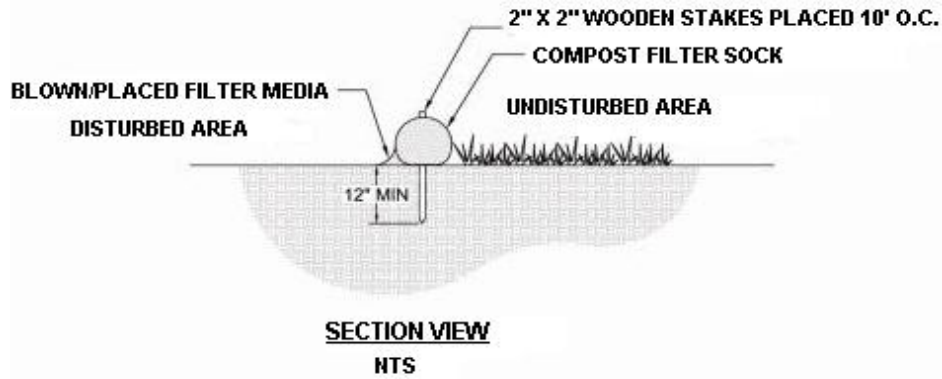
Compost sock sediment traps shall provide 2,000 cubic feet storage capacity with 12" freeboard for each tributary drainage acre. (See manufacturer for anticipated settlement.)

The maximum tributary drainage area is 5.0 acres. Since compost socks are "flow-through," no spillway is required.

Compost sock sediment traps shall be inspected weekly and after each runoff event. Sediment shall be removed when it reaches 1/3 the height of the socks.

Photodegradable and biodegradable socks shall not be used for more than 1 year.

STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK



Filtrexx

Sock fabric shall meet standards of Table 4.1. Compost shall meet the standards of Table 4.2.

Compost filter sock shall be placed at existing level grade. Both ends of the sock shall be extended at least 8 feet up slope at 45 degrees to the main sock alignment (Figure 4.1). Maximum slope length above any sock shall not exceed that shown on Figure 4.2. Stakes may be installed immediately downslope of the sock if so specified by the manufacturer.

Traffic shall not be permitted to cross filter socks.

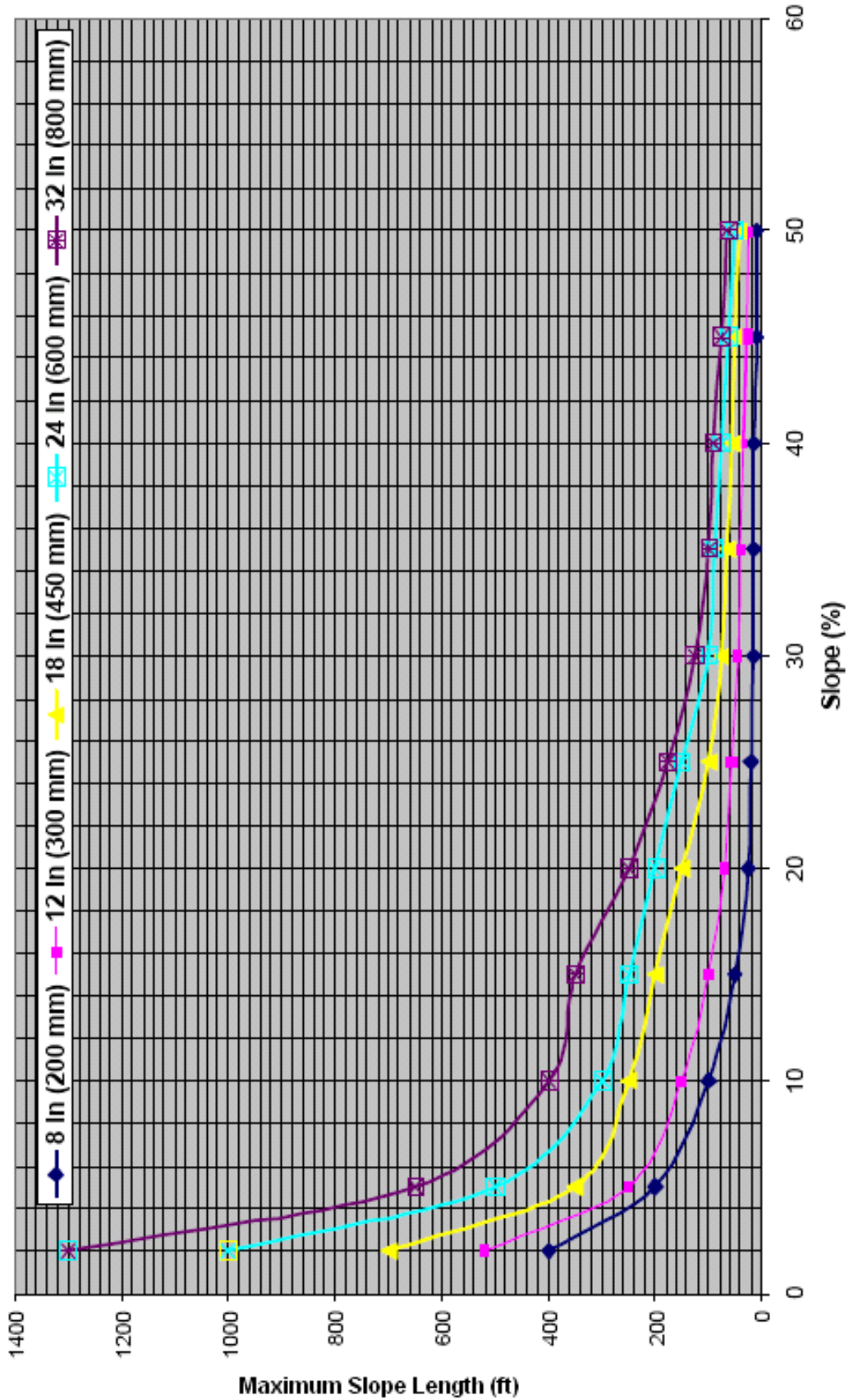
Accumulated sediment shall be removed when it reaches half the aboveground height of the sock and disposed in the manner described elsewhere in the plan.

Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired according to manufacturer's specifications or replaced within 24 hours of inspection.

Biodegradable filter socks shall be replaced after 6 months; photodegradable socks after 1 year. Polypropylene socks shall be replaced according to manufacturer's recommendations.

Upon stabilization of the area tributary to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed. In the latter case, the mesh shall be cut open and the mulch spread as a soil supplement.

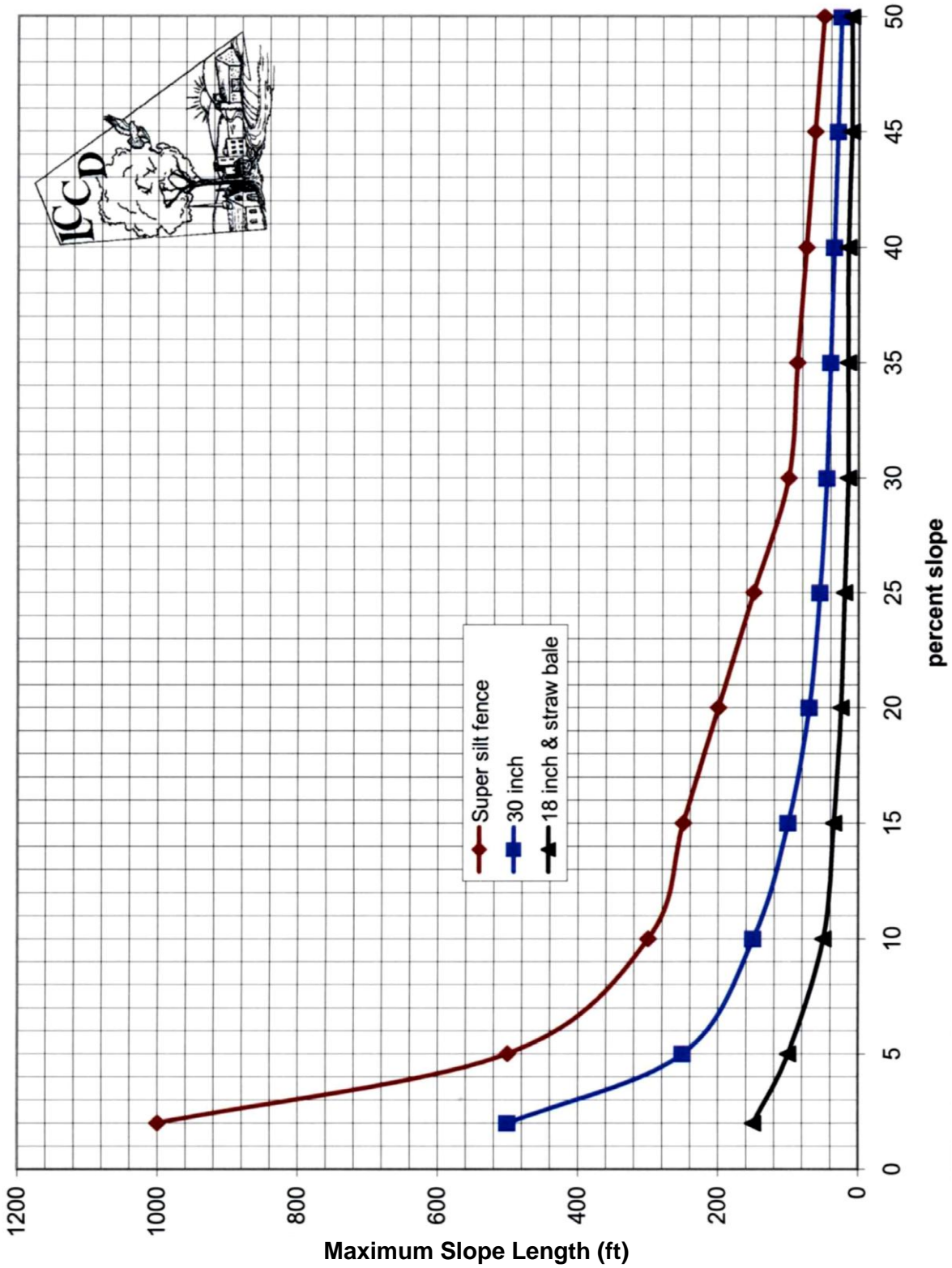
FIGURE 4.2
MAXIMUM PERMISSIBLE SLOPE LENGTH ABOVE COMPOST FILTER SOCKS



NOTE: 8" diameter socks should only be used to control small ($\leq 1/4$ acre) disturbed areas on individual house lots).

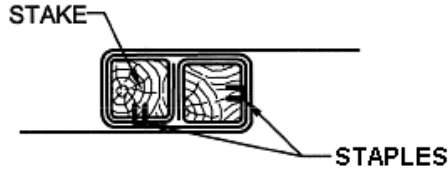
Adapted from Filtrexx

FIGURE 4.3
Maximum Permissible Slope Length above Silt Fence and Straw Bale Barriers

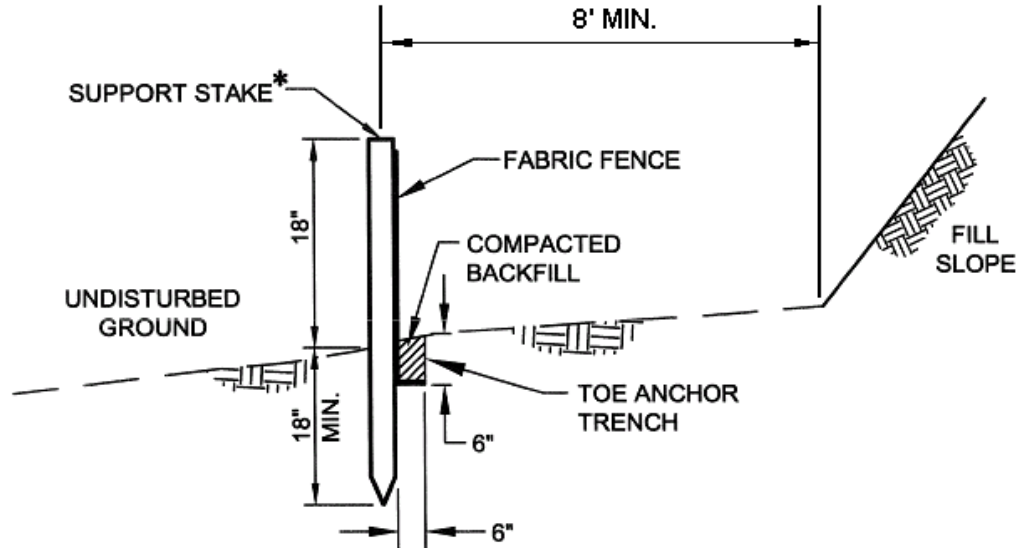


STANDARD CONSTRUCTION DETAIL # 4-7
Standard Silt Fence (18" High)

*STAKES SPACED @ 8' MAX.
USE 2" x 2" ($\pm 3/8$ ") WOOD
OR EQUIVALENT STEEL
(U OR T) STAKES



JOINING FENCE SECTIONS



ELEVATION VIEW

PA DEP

Fabric shall have the minimum properties as shown in Table 4.3.

Fabric width shall be 30" minimum. Stakes shall be hardwood or equivalent steel (U or T) stakes.

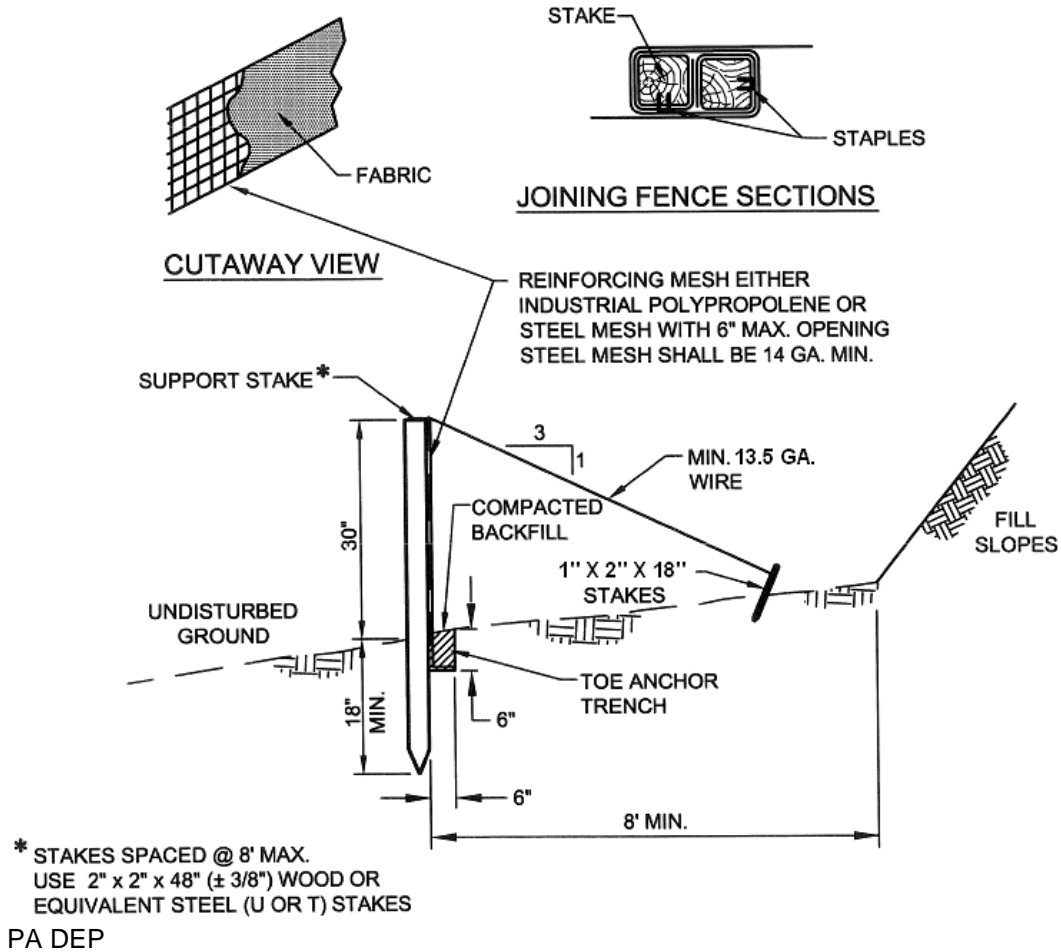
Silt fence shall be placed at level existing grade. Both ends of the fence shall be extended at least 8 feet up slope at 45 degrees to the main fence alignment (see Figure 4.1).

Sediment shall be removed when accumulations reach half the aboveground height of the fence.

Any section of silt fence which has been undermined or topped shall be immediately replaced with a rock filter outlet (Standard Construction Detail # 4-6).

Fence shall be removed and properly disposed of when tributary area is permanently stabilized.

**STANDARD CONSTRUCTION DETAIL # 4-8
Reinforced Silt Fence (30" High)**



Fabric shall have the minimum properties as shown in Table 4.3.

Fabric width shall be 42" minimum. Stakes shall be hardwood or equivalent steel (U or T) stakes. An 18" support stake shall be driven 12" minimum into undisturbed ground.

Silt fence shall be installed at existing level grade. Both ends of each fence section shall be extended at least 8 feet upslope at 45 degrees to the main fence alignment (Figure 4.1).

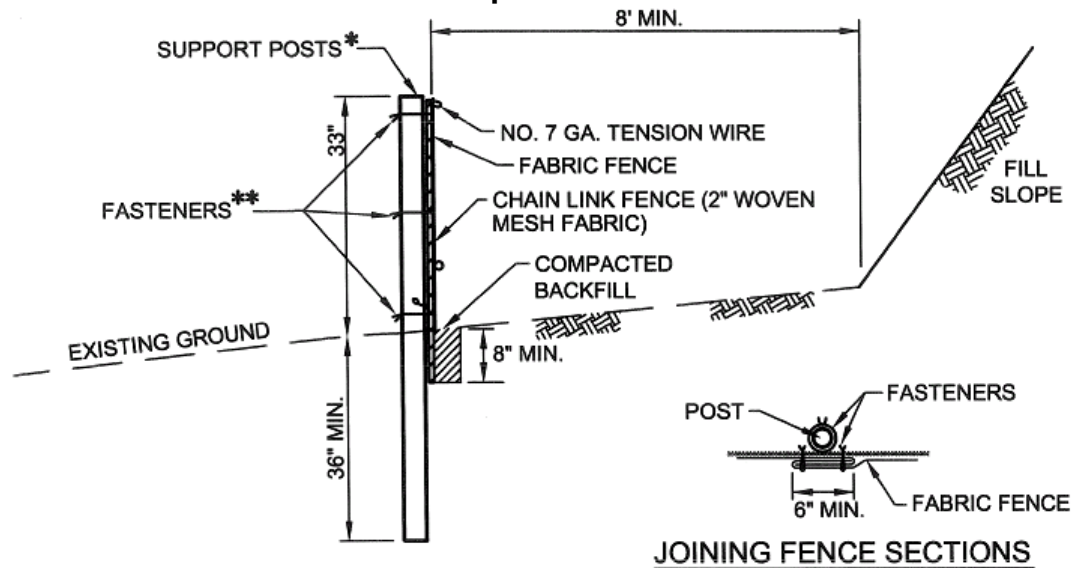
Sediment shall be removed where accumulations reach half the aboveground height of the fence.

Any section of silt fence which has been undermined or topped shall be immediately replaced with a rock filter outlet (Standard Construction Detail # 4-6).

Fence shall be removed and properly disposed of when tributary area is permanently stabilized.

STANDARD CONSTRUCTION DETAIL # 4-10

Super Silt Fence



* POSTS SPACED @ 10' MAX. USE 2 1/2" DIA. HEAVY DUTY GALVANIZED OR ALUMINUM POSTS.

** CHAIN LINK TO POST FASTENERS SPACED @ 14" MAX. USE NO. 9 GA. ALUMINUM WIRE OR NO. 9 GALVANIZED STEEL PRE-FORMED CLIPS. CHAIN LINK TO TENSION WIRE FASTENERS SPACED @ 60" MAX. USE NO. 13.5 GA. GALVANIZED STEEL WIRE. FABRIC TO CHAIN FASTENERS SPACED @ 24" MAX C. TO C.

PA DEP

Fabric shall have the minimum properties as shown in Table 4.3.

Filter fabric width shall be 42" minimum.

Posts shall be installed using a posthole drill.

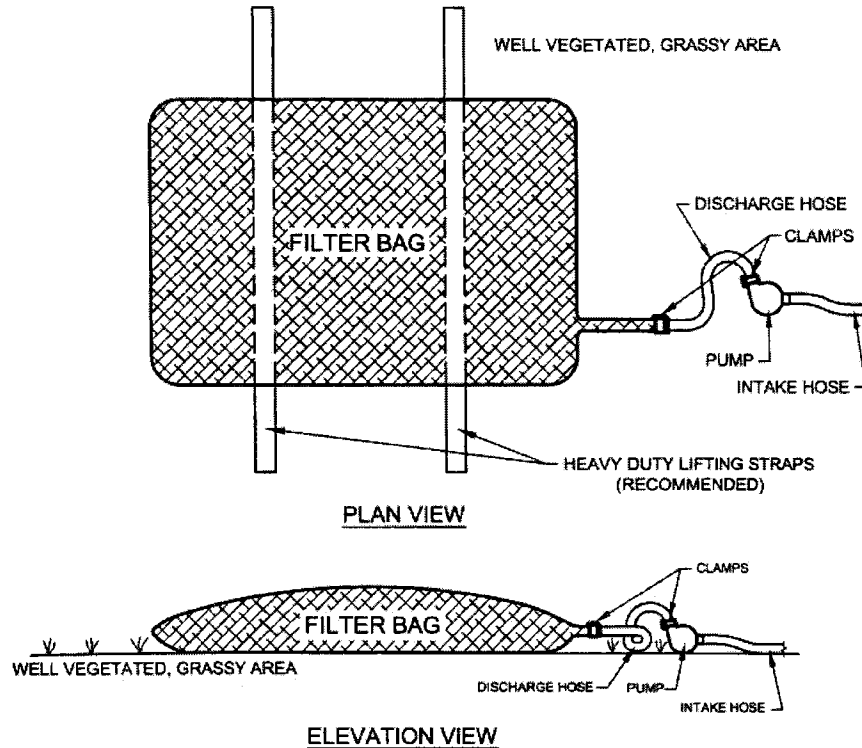
Chain link shall be galvanized No. 11.5 Ga. steel wire with 2 1/4" opening, No. 11 Ga. aluminum coated steel wire in accordance with ASTM-A-491, or galvanized No. 9 Ga. steel wire top and bottom with galvanized No. 11 Ga. steel intermediate wires. No. 7 gage tension wire to be installed horizontally through holes at top and bottom of chain-link fence or attached with hog rings at 5' (max.) centers.

Silt fence shall be placed at existing level grade. Both ends of the fence shall be extended at least 8 feet upslope at 45 degrees to main barrier alignment (Figure 4.1).

Sediment shall be removed when accumulations reach half the aboveground height of the fence.

Fence shall be removed and properly disposed of when tributary area is permanently stabilized.

STANDARD CONSTRUCTION DETAIL # 3-16 Pumped Water Filter Bag



PA DEP

Low volume filter bags shall be made from non-woven geotextile material sewn with high strength, double stitched “J” type seams. They shall be capable of trapping particles larger than 150 microns. High volume filter bags shall be made from woven geotextiles that meet the following standards:

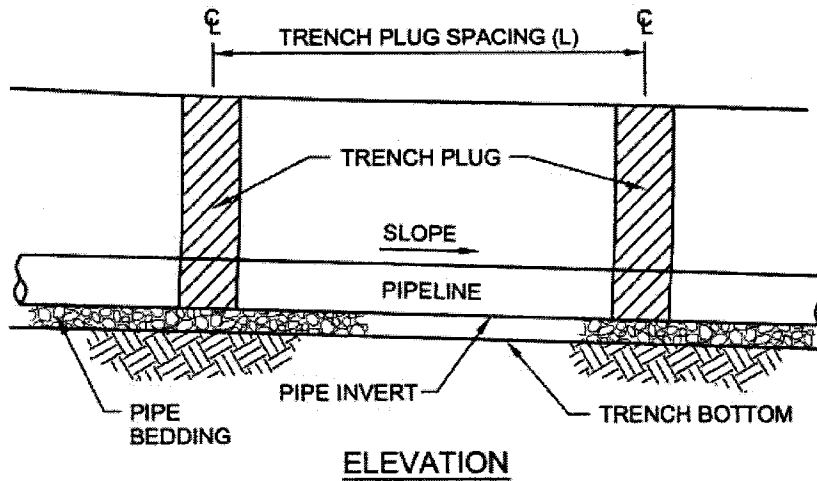
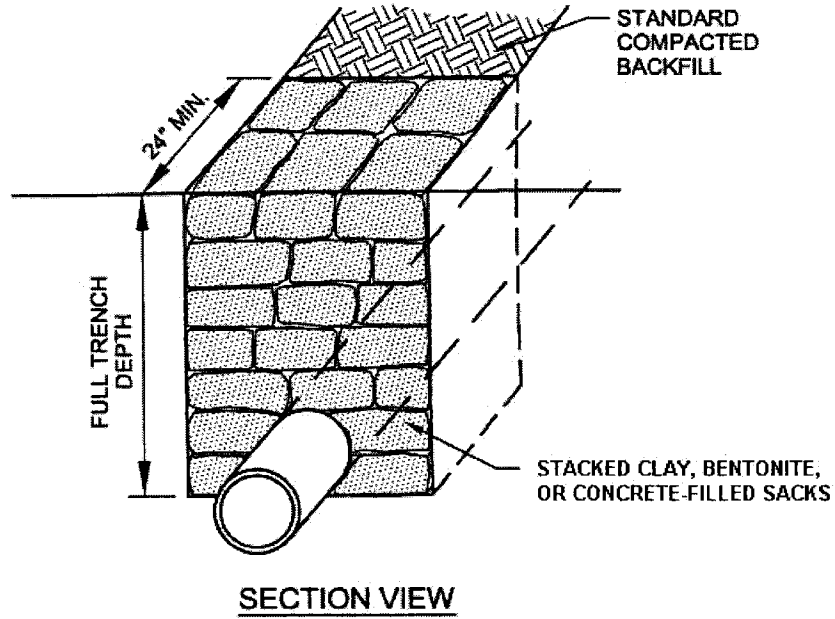
Property	Test Method	Minimum Standard
Avg. Wide Width Strength	ASTM D-4884	60 lb/in
Grab Tensile	ASTM D-4632	205 lb
Puncture	ASTM D-4833	110 lb
Mullen Burst	ASTM D-3786	350 psi
UV Resistance	ASTM D-4355	70%
AOS % Retained	ASTM D-4751	80 Sieve

A suitable means of accessing the bag with machinery required for disposal purposes shall be provided. Filter bags shall be replaced when they become ½ full of sediment. Spare bags shall be kept available for replacement of those that have failed or are filled. Bags shall be placed on straps to facilitate removal unless bags come with lifting straps already attached.

Bags shall be located in well-vegetated (grassy) area, and discharge onto stable, erosion resistant areas. Where this is not possible, a geotextile underlayment and flow path shall be provided. Bags may be placed on filter stone to increase discharge capacity. Bags shall not be placed on slopes greater than 5%. For slopes exceeding 5%, clean rock or other non-erodible and non-polluting material may be placed under the bag to reduce slope steepness.

No downslope sediment barrier is required for most installations. Compost berm or compost filter sock shall be installed below bags located in HQ or EV watersheds, within 50 feet of any receiving surface water or where grassy area is not available.

**STANDARD CONSTRUCTION DETAIL # 13-4
Typical Trench Plug Installation**



PA DEP

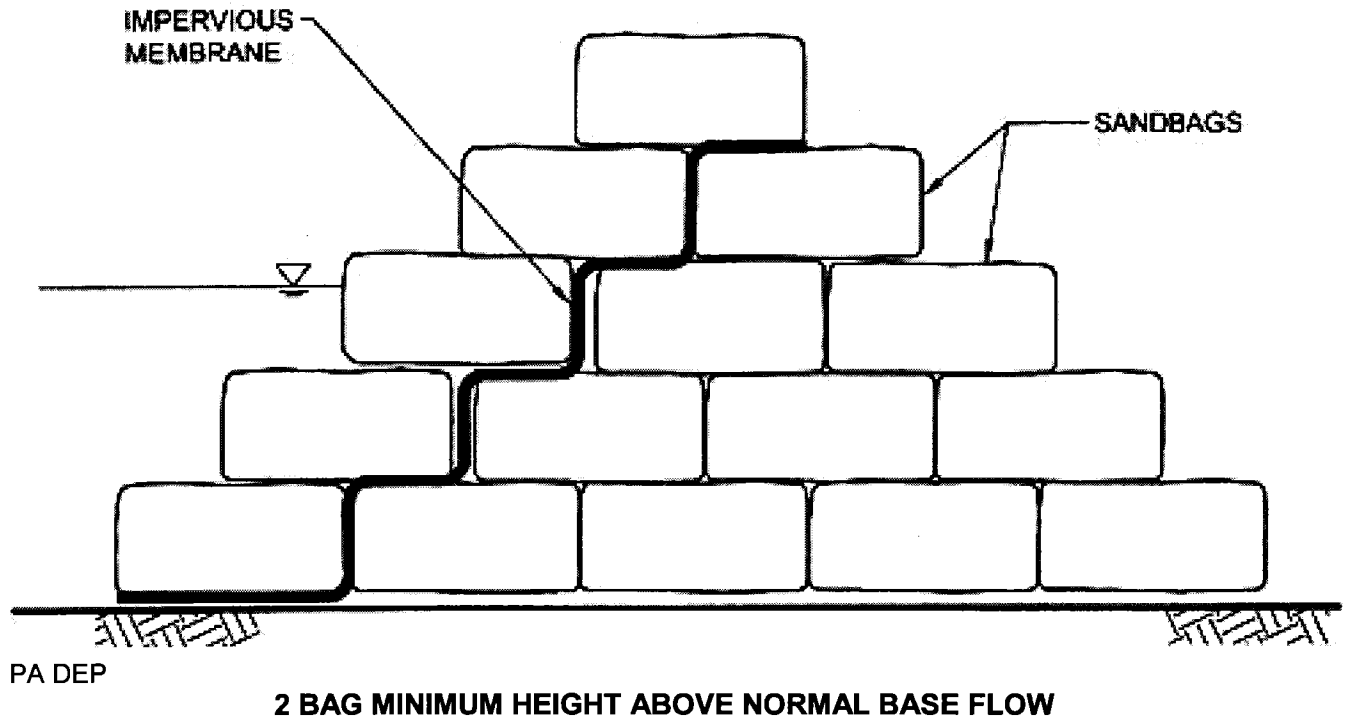
**TABLE 13.1
Maximum Spacing and Materials for Trench Plugs**

Trench Slope (%)	Spacing L (FT)	Plug Material
< 5	1,000	* Clay, Bentonite, or Concrete Filled Sacks
5 - 15	500	* Clay, Bentonite, or Concrete Filled Sacks
15 - 25	300	* Clay, Bentonite, or Concrete Filled Sacks
25 - 35	200	* Clay, Bentonite, or Concrete Filled Sacks
35 - 100	100	* Clay, Bentonite, or Concrete Filled Sacks
> 100	50	Cement Filled Bags (Wetted) or Mortared Stone

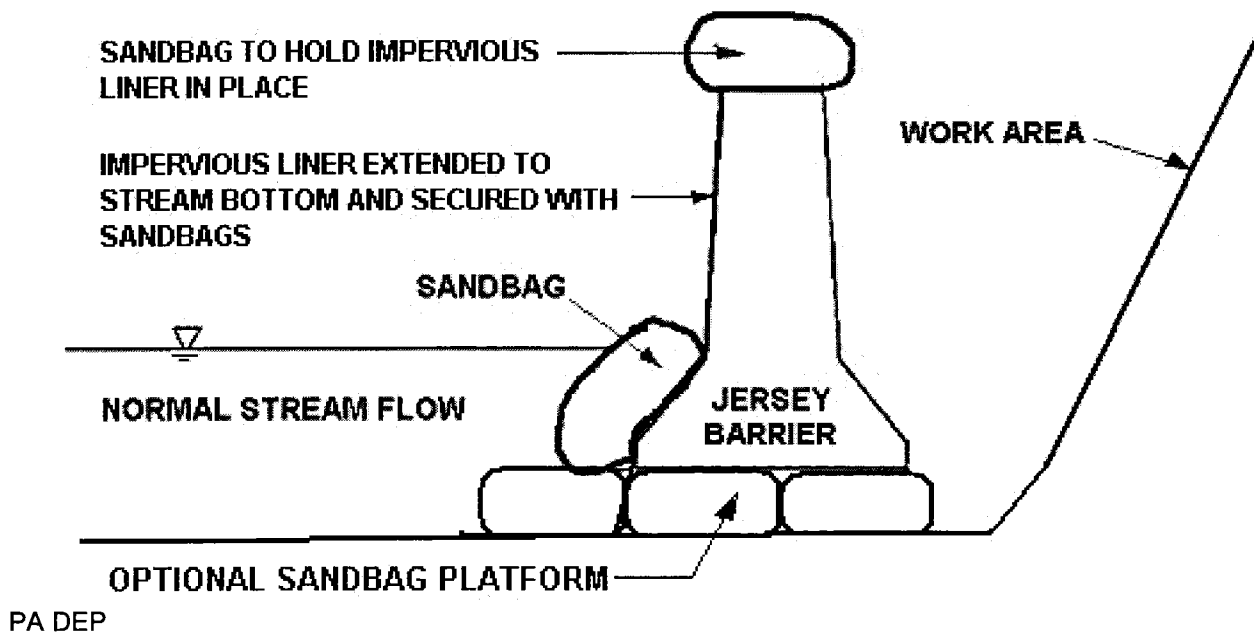
***TOPSOIL MAY NOT BE USED TO FILL SACKS.**

Impervious trench plugs are required for all stream, river, wetland, or other water body crossings.

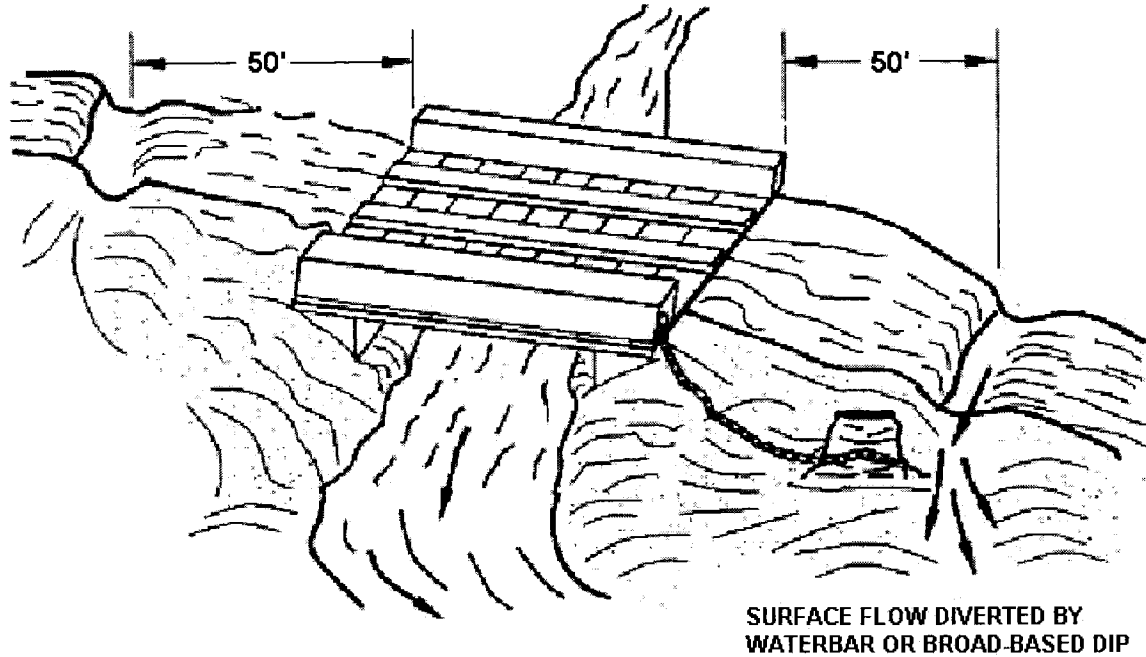
**STANDARD CONSTRUCTION DETAIL #3-15
Sandbag Diversion Dam or Cofferdam**



**FIGURE 3.13
Jersey Barrier Cofferdam – End View**



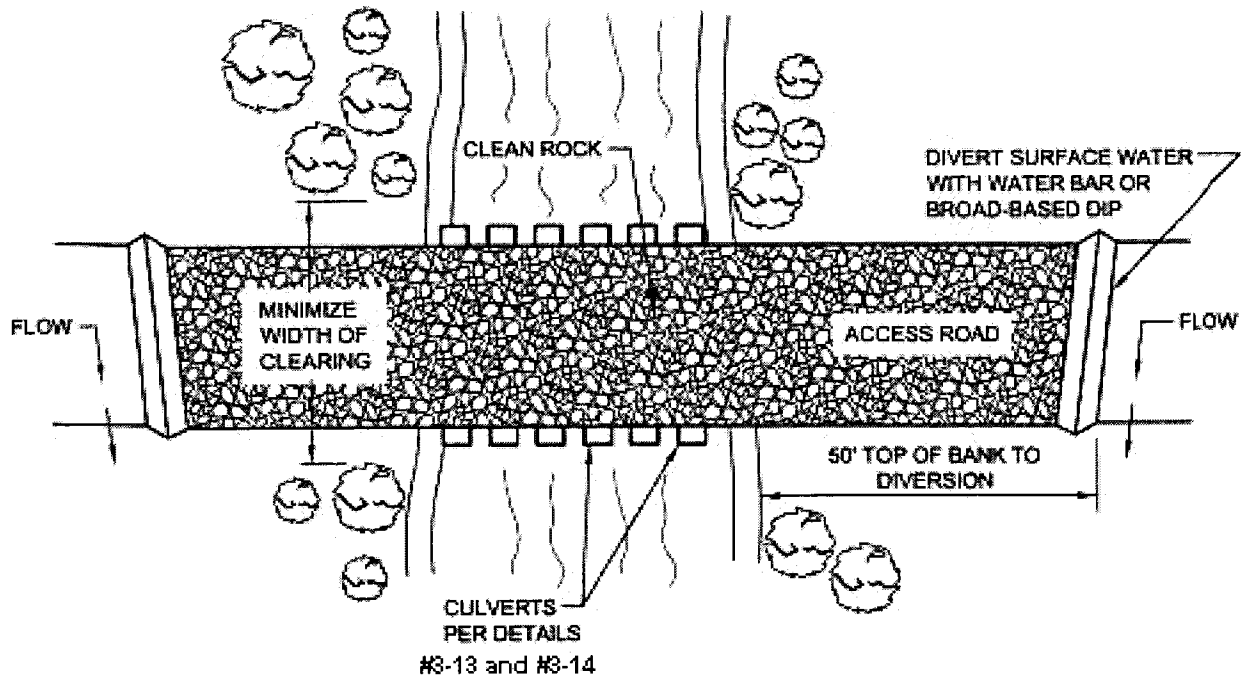
**FIGURE 3.4
Temporary Bridge Stream Crossing**



Adapted from Maryland DOE

Waterbars and broad-based dips shall discharge to sediment removal facilities.

**STANDARD CONSTRUCTION DETAIL # 3-12
Temporary Stream Crossing - Plan View**

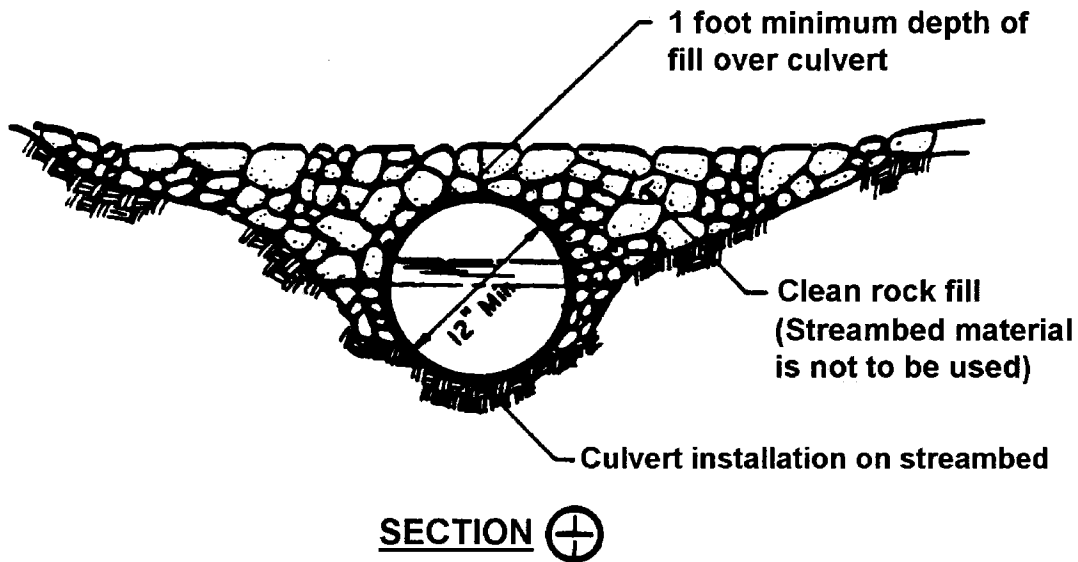


Adapted from Ohio EPA

**Waterbars and broad-based dips shall discharge to sediment removal facility.
Clean rock shall conform to Chapter 105 permitting requirements.**

Follow permit conditions regarding removal of crossing.

**STANDARD CONSTRUCTION DETAIL # 3-13
Temporary Stream Crossing**



PA DEP

Provide 50' stabilized access to crossing on both sides of stream channel (see Standard Construction Detail #3-12).

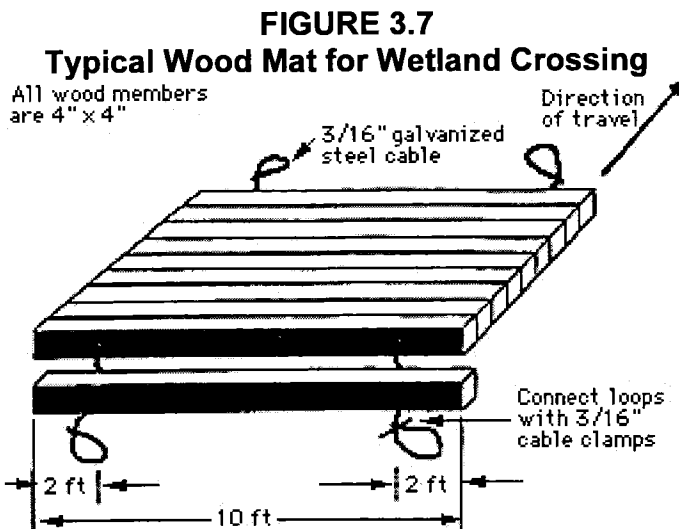
Pipes shall extend beyond the toe of the roadway.

Runoff from the roadway shall be diverted off the roadway and into a sediment removal BMP before it reaches the rock approach to the crossing.

MAINTENANCE

- 1. Temporary stream crossings shall be inspected on a daily basis.**
- 2. Damaged crossings shall be repaired within 24 hours of the inspection and before any subsequent use.**
- 3. Sediment deposits on the crossing or its approaches shall be removed within 24 hours of the inspection**

As soon as the temporary crossing is no longer needed, it shall be removed. All materials shall be disposed of properly and disturbed areas stabilized.



University of Minnesota FS 07009
A geotextile underlayment shall be used under the wood mat.

EARTHWORK WITHIN STREAM CHANNELS

NOTE: Wherever the structures described in this section are installed, the appropriate Chapter 105 permits must be obtained from the Department. Designs must adhere to the conditions of those permits.

Whenever possible, work should be scheduled for low flow seasons. Base flows for minor stream channels are to be diverted past the work area. For major stream channels (normal flow width > 10 feet) base flow shall be diverted wherever possible. All such bypasses must be completed and stabilized prior to diverting flow. Where diversion is not possible or where it can be shown that the potential environmental damage would be greater with diverted flow, this requirement may be waived. In either case, the duration of the disturbance must be minimized. All disturbed areas within the channel must be stabilized prior to returning base flow to the portion of the channel affected by the earthwork (Chapter 15).

Any in-channel excavations should be done from top of bank wherever possible unless this would require removal of mature trees to access the channel. Where it is not possible to work from top of bank, a temporary crossing or causeway (Figure 3.8) may be used to provide a working pad for any equipment within the channel. Upon completion, the crossing or causeway must be removed and all channel entrances restored, as much as possible, to pre-construction configurations, and stabilized. If it can be shown that there would be less disturbance to the channel by not using work pads (e.g. certain stream restorations), work within a live stream channel may be approved by the Department on a case-by-case basis.

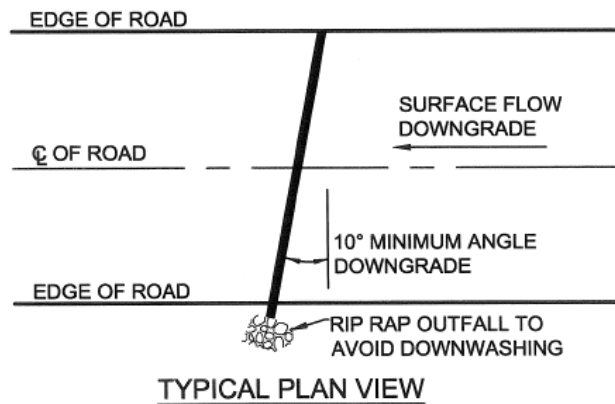
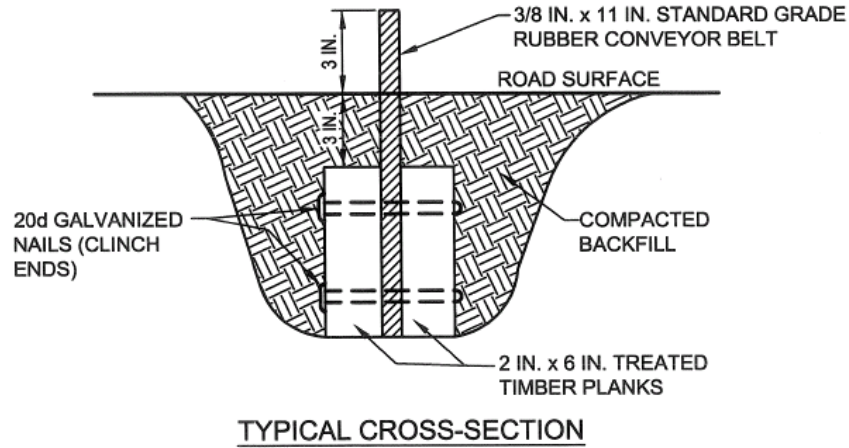
Except for pipeline & utility line projects (Chapter 13), all excavated channel materials that subsequently will be used as backfill are to be placed in a temporary stockpile located outside the channel floodway. A sediment barrier must be installed between the storage pile and the stream channel.

All excavated materials that will not be used on site shall be immediately removed to a disposal site having an approved E&S plan.

Any water pumped from excavated areas must be filtered prior to discharging into surface waters.

Suitable protection must be provided for the stream channel from any disturbed areas that have not yet achieved stabilization.

STANDARD CONSTRUCTION DETAIL #3-9 Water Deflector



USDA Forest Service

Deflector shall be inspected weekly and after each runoff event.

Accumulated sediment shall be removed from deflector within 24 hours of inspection.

Belt shall be replaced when worn and no longer effective.

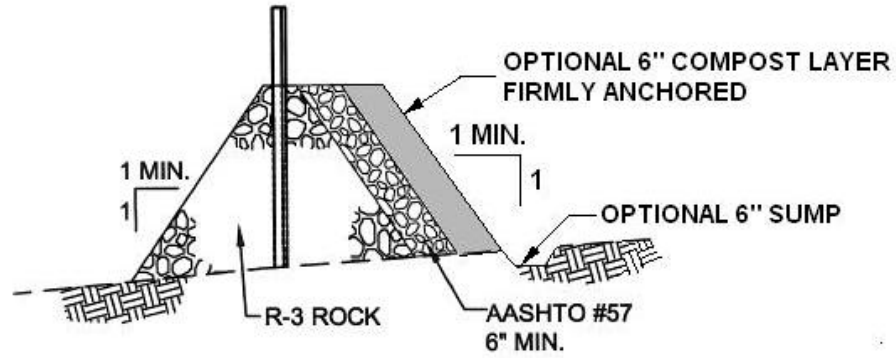
Maximum spacing of deflectors shall be as shown in Table 3.2.

TABLE 3.2 – Maximum Spacing of Broad-based Dips, Open-top Culverts and Deflectors

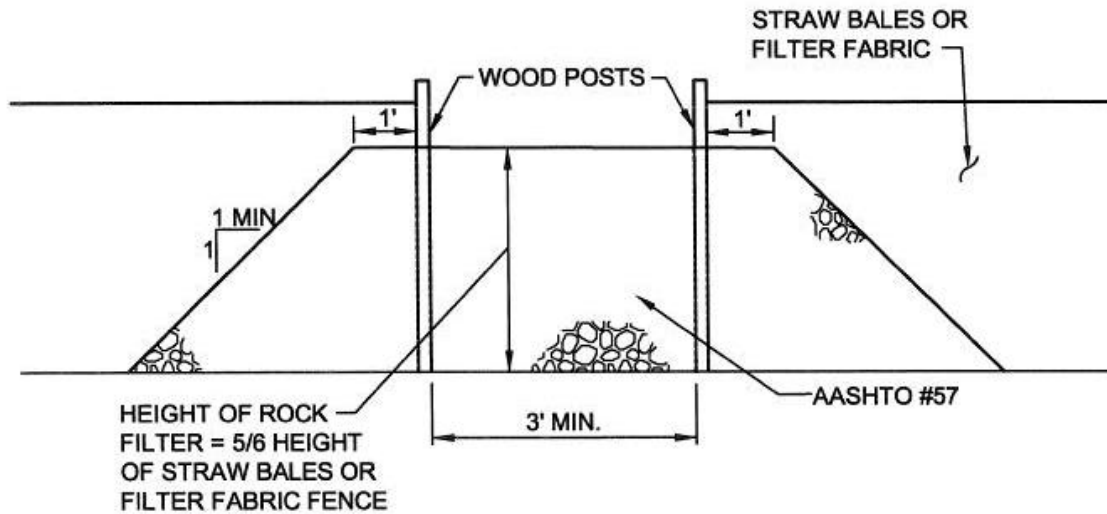
Road Grade (Percent)	Spacing Between Dips, Culverts, or Deflectors (feet)
<2	300
3	235
4	200
5	180
6	165
7	155
8	150
9	145
10	140

USDA Forest Service

**STANDARD CONSTRUCTION DETAIL # 4-6
Rock Filter Outlet**



OUTLET CROSS-SECTION



UP-SLOPE FACE

PA DEP

A rock filter outlet shall be installed where failure of a silt fence or straw bale barrier has occurred due to concentrated flow. Anchored compost layer shall be used on upslope face in HQ and EV watersheds.

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