



APPENDIX A –SEDIMENT BARRIER TEST REPORTS



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 18-Apr-12 12-Apr-12 20-Apr-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: BSRF

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.15	7.34	7.46	0.025	0.002
	4.00	50.93	52.21	0.489	0.052
	6.00	102.15	164.81	1.185	0.171
Bare Soil Controls			7.46		0.946
			52.21		6.620
			164.81		20.898

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.05	6.51	6.74	0.043	0.004
	4.04	55.61	51.53	0.597	0.065
	6.04	114.99	165.66	1.194	0.185
Bare Soil Controls			6.74		0.855
			51.53		6.535
			165.66		21.006

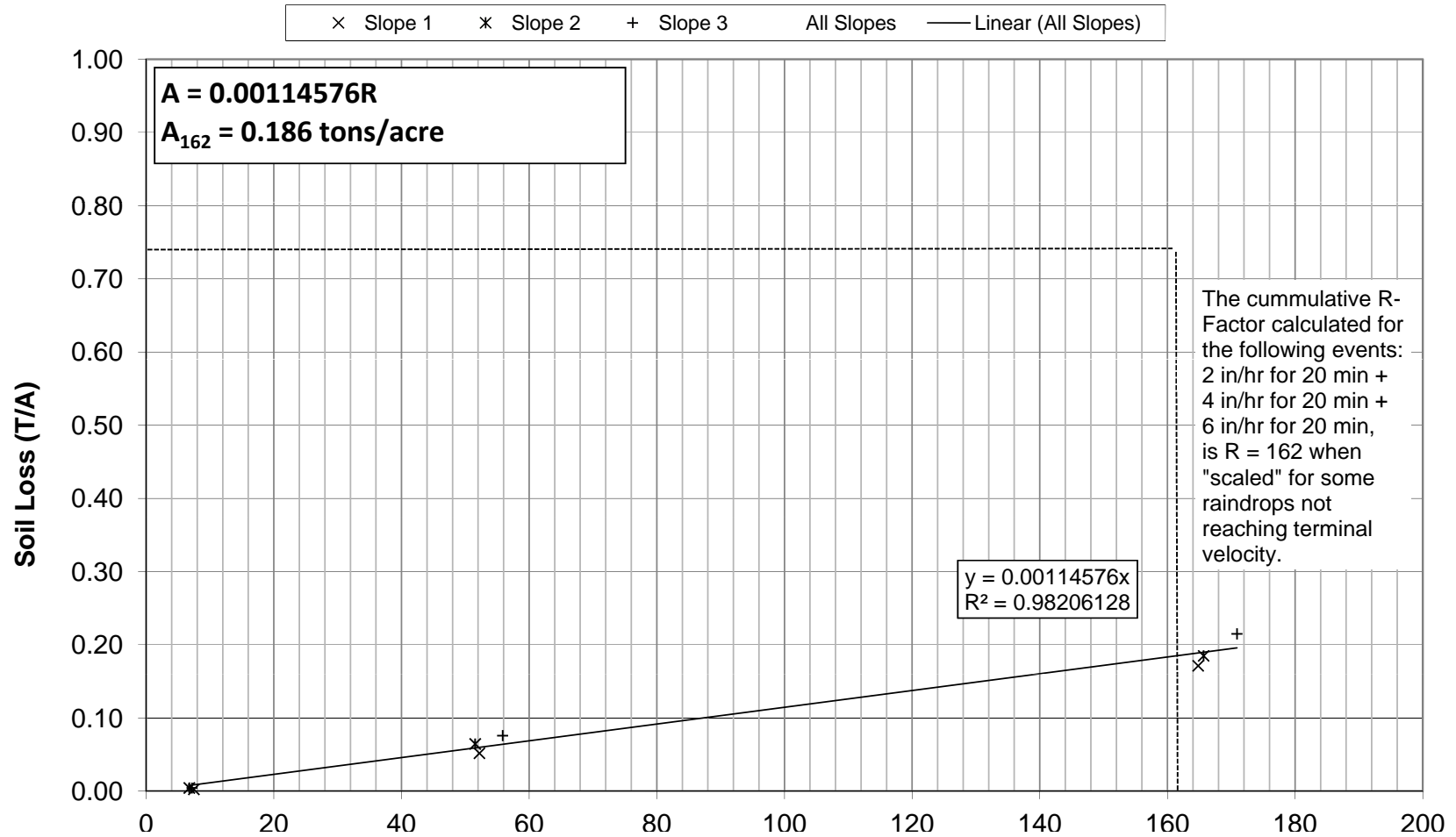
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.11	3.69	7.17	0.044	0.004
	4.21	67.86	55.84	0.709	0.076
	6.04	125.84	170.89	1.379	0.215
Bare Soil Controls			7.17		0.909
			55.84		7.081
			170.89		21.669

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)

 Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)





TYPICAL TESTING PICTURES



Test Slope Prepared and Fence Installed



After 2 in/hr Event



After 4 in/hr Event



After 6 in/hr Event



Typical Control Run - Before and After

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 2 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	18-Apr-12	Start Rain: 7:21 AM	End Rain: 7:41 AM	7:24	X	X
		Sampling interval: 0:03	End Runoff: 7:43 AM	7:27	X	X
		Rain Time (min): 20.00	Test Time (min): 22.00	7:30	X	X
Product:	BSRF	Descr.: Silt Saver - Belted Sediment Retention Fence		7:33	X	X
Lot #:		Posts:	Spacing:	7:36	X	X
TOP OF SLOPE				7:39	X	X
(circle "x" for open valves)				7:42	X	X

w_{c1} = 19.2%

d = 20 18 mm

i = 2.36 2.13 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x

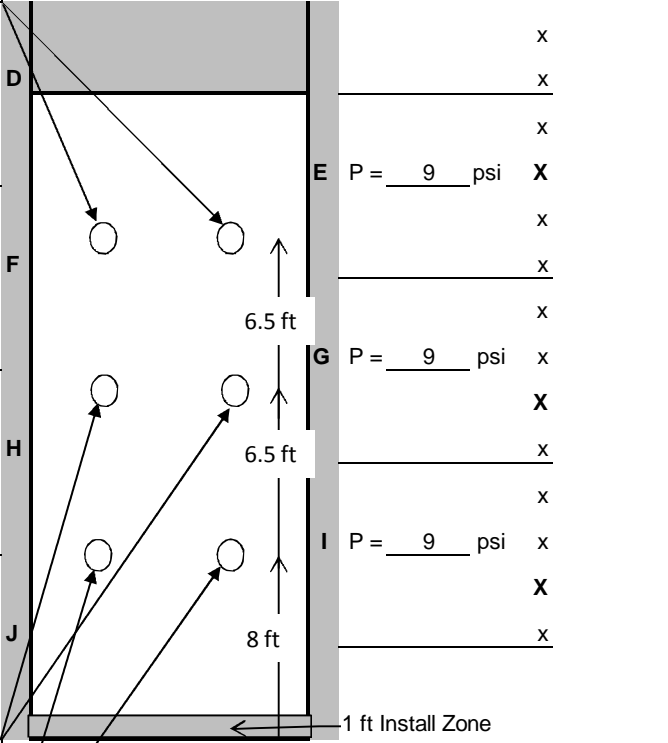
X P = 9 psi

x

x

X P = 9 psi

x



Runoff Rate Measurements

Min.	Volume	Seconds
1	250	37
2	250	28
3	250	22
4	250	20
5	250	20
6	250	18
7	250	18
8	250	18
9	250	18
10	250	18
11	250	16
12	250	14
13	250	12
14	250	10
15	250	9
16	250	7
17	250	7
18	250	7
19	250	7
20	250	6
21	250	6
22	250	0

d = 19 18 mm

i = 2.24 2.13 in/hr

w_{c2} = 20.6%

d = 17 17 mm

i = 2.01 2.01 in/hr

w_{c3} = 21.9%

x x X x

P = 9 psi Temp. 59 deg

Hum. 89 %

Average Depth: 18 mm

Avg Rainfall Intensity: 2.15 in/hr

NOTES:
 Wind: 0 mph. Direction: E
 Approx 8 gallons collected.

DDRF Rainfall Testing

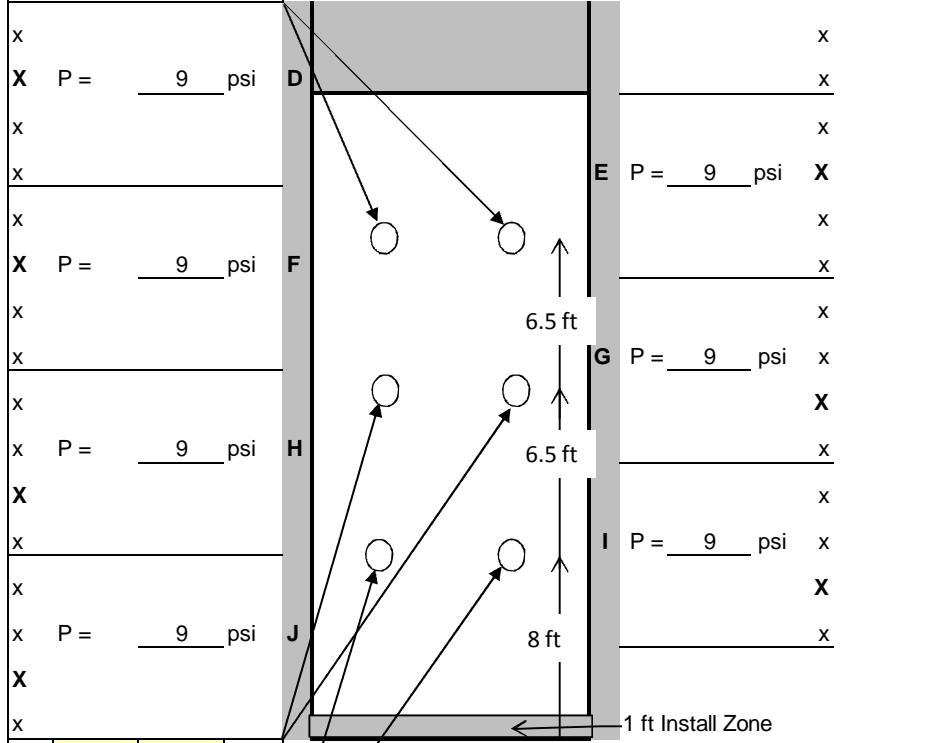
Slope #: 1	Target Rain: 4 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date: 18-Apr-12	Start Rain: 7:50 AM	End Rain: 8:10 AM	Time: 7:53	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
	Sampling interval: 0:03	End Runoff: 8:14 AM	7:56	X	X
	Rain Time (min): 20.00	Test Time (min): 24.00	7:59	X	X
Product: BSRF	Descr.: Silt Saver - Belted Sediment Retention Fence		8:02	X	X
Lot #:	Posts:	Spacing:	8:05	X	X
TOP OF SLOPE			8:08	X	X
(circle "x" for open valves)			8:11	X	X

w_{c1} = 19.2%

d = 34 33 mm

i = 4.02 3.90 in/hr



Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	250	6
2	250	4
3	3785	47
4	3785	36
5	3785	32
6	3785	30
7	3785	30
8	3785	30
9	3785	30
10	3785	26
11	3785	24
12	3785	20
13	3785	20
14	3785	20
15	3785	20
16	3785	20
17	3785	19
18	3785	19
19	3785	19
20	3785	19
21	3785	19
24	3785	0

d = 34 34 mm

i = 4.02 4.02 in/hr

w_{c2} = 20.6%

d = 35 33 mm

i = 4.13 3.90 in/hr

w_{c3} = 21.9%

Average Depth: 34 mm

Avg Rainfall Intensity: 4.00 in/hr

P = 9 psi Temp. 59 deg Hum. 89 %

NOTES:
 Wind: 1-2 mph. Direction: E
 Approx 50 gallons collected.

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	18-Apr-12	Start Rain:	8:18 AM	End Rain:	8:38 AM	8:21	X	X
		Sampling interval:	0:03	End Runoff:	8:48 AM	8:24	X	X
		Rain Time (min):	20.00	Test Time (min):	30.00	8:27	X	X
Product:	BSRF	Descr.:	Silt Saver - Belted Sediment Retention Fence		8:30	X	X	
Lot #:		Posts:		Spacing:	8:33	X	X	
TOP OF SLOPE				8:36	X	X		
(circle "x" for open valves)				8:39	X	X		

w_{c1} = 19.2%

d = 48 53 mm

i = 5.67 6.26 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

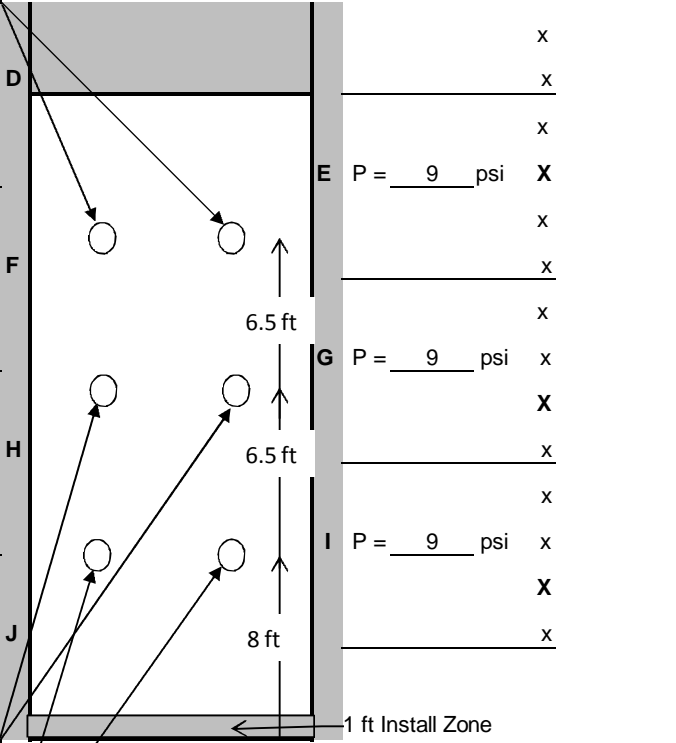
X

x

x P = 9 psi

X

x



d = 53 51 mm

i = 6.26 6.02 in/hr

w_{c2} = 20.6%

d = 49 51 mm

i = 5.79 6.02 in/hr

w_{c3} = 21.9%

x x X x

P = 9 psi Temp. 57 deg

Hum. 93 %

Average Depth: 51 mm

Avg Rainfall Intensity: 6.00 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	40
2	3785	16
3	3785	12
4	3785	12
5	3785	12
6	3785	13
7	3785	11
8	3785	12
9	3785	12
10	3785	12
11	3785	12
12	3785	12
13	3785	12
14	3785	12
15	3785	12
16	3785	12
17	3785	12
18	3785	12
19	3785	12
20	3785	12
21	3785	11
30	3785	0

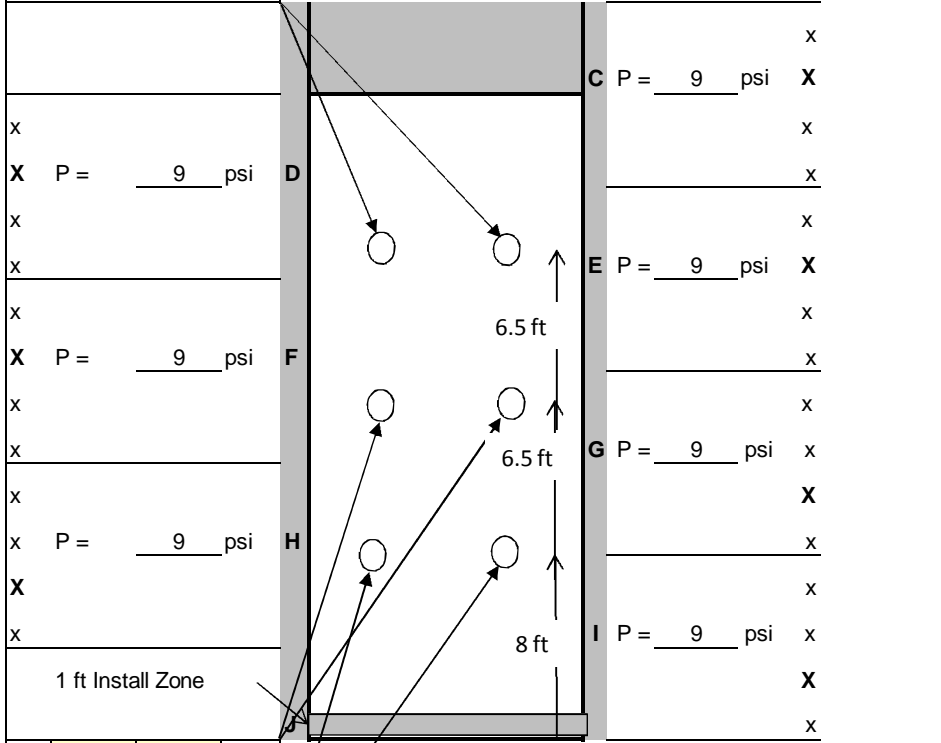
NOTES:
 Wind: 0 mph. Direction: N
 Approx 100 gallons collected.

DDRF Rainfall Testing

Slope #: 2	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date: 12-Apr-12	Start Rain: 7:00 AM	End Rain: 7:20 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
	Sampling interval: 0:03	End Runoff: 7:23 AM	7:03	X	X
	Rain Time (min): 20.00	Test Time (min): 23.00	7:06	X	X
Product: BSRF	Descr.: Silt Saver - Belted Sediment Retention Fence		7:09	X	X
Lot #:	Posts:	Spacing:	7:12	X	X
			7:15	X	X
			7:18	X	X
$w_{c1} = 19.2\%$	TOP OF SLOPE	Set valves to 16 psi.	7:21	X	X
	(circle "x" for open valves)				

d = 19 18 mm
i = 2.24 2.13 in/hr



Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	60
2	250	45
3	250	40
4	250	40
5	250	30
6	250	24
7	250	24
8	250	24
9	250	24
10	250	24
11	250	24
12	250	24
13	250	24
14	250	15
15	250	13
16	250	9
17	250	8
18	250	5
19	250	5
20	250	5
21	250	5
23	250	0

d = 18 18 mm
i = 2.13 2.13 in/hr
 $w_{c2} = 20.6\%$

x x X x
P = 9 psi Temp. deg
Hum. %

Average Depth: 17 mm
Avg Rainfall Intensity: 2.05 in/hr

d = 14 17 mm
i = 1.65 2.01 in/hr
 $w_{c3} = 21.9\%$

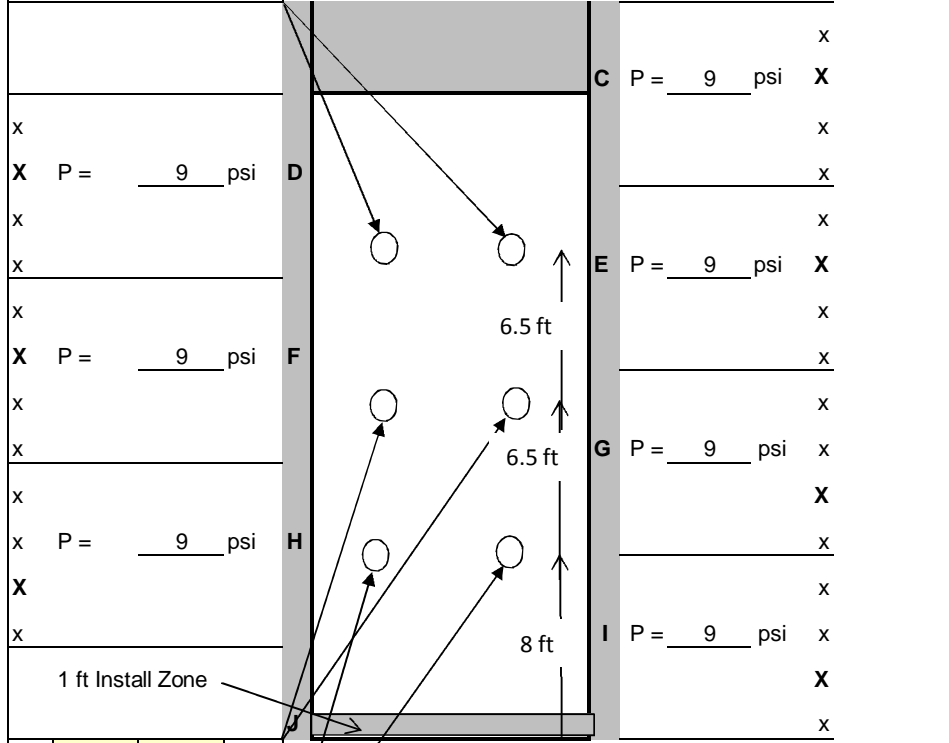
NOTES:
Wind: 0 mph. Direction: E
Approx 6 gallons collected.

DDRF Rainfall Testing

Slope #: <u>2</u>	Target Rain: <u>4 in/hr</u>	Sediment Concentration & Turbidity Grab Samples	
		Time	Sed Conc Samples Taken
		Turbidity Samples Taken	

Date:	12-Apr-12	Start Rain:	7:34 AM	End Rain:	7:54 AM	7:37	X	X
		Sampling interval:	0:03	End Runoff:	7:59 AM	7:40	X	X
		Rain Time (min):	20.00	Test Time (min):	25.00	7:43	X	X
Product:	BSRF	Descr.:	Silt Saver - Belted Sediment Retention Fence			7:46	X	X
Lot #:		Posts:		Spacing:		7:49	X	X
		TOP OF SLOPE				7:52	X	X
		(circle "x" for open valves)			Set valves to 16 psi.	7:55	X	X

$w_{c1} =$	19.2%
d =	33 35 mm
i =	3.90 4.13 in/hr



Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	250	10
2	250	6
3	250	3
4	3785	30
5	3785	24
6	3785	17
7	3785	20
8	3785	26
9	3785	25
10	3785	24
11	3785	24
12	3785	20
13	3785	20
14	3785	20
15	3785	18
16	3785	18
17	3785	18
18	3785	18
19	3785	18
20	3785	18
21	3785	18
25	3785	0

d =	34 35 mm	x x X x	P = 9 psi	Temp. 36 deg
i =	4.02 4.13 in/hr			Hum. 76 %
$w_{c2} =$	20.6%			
d =	33 35 mm			
i =	3.90 4.13 in/hr			
$w_{c3} =$	21.9%			
Average Depth: 34 mm				
Avg Rainfall Intensity: 4.04 in/hr				

NOTES:
 Wind: 0 mph. Direction: E
 Approx 55 gallons collected.

DDRF Rainfall Testing

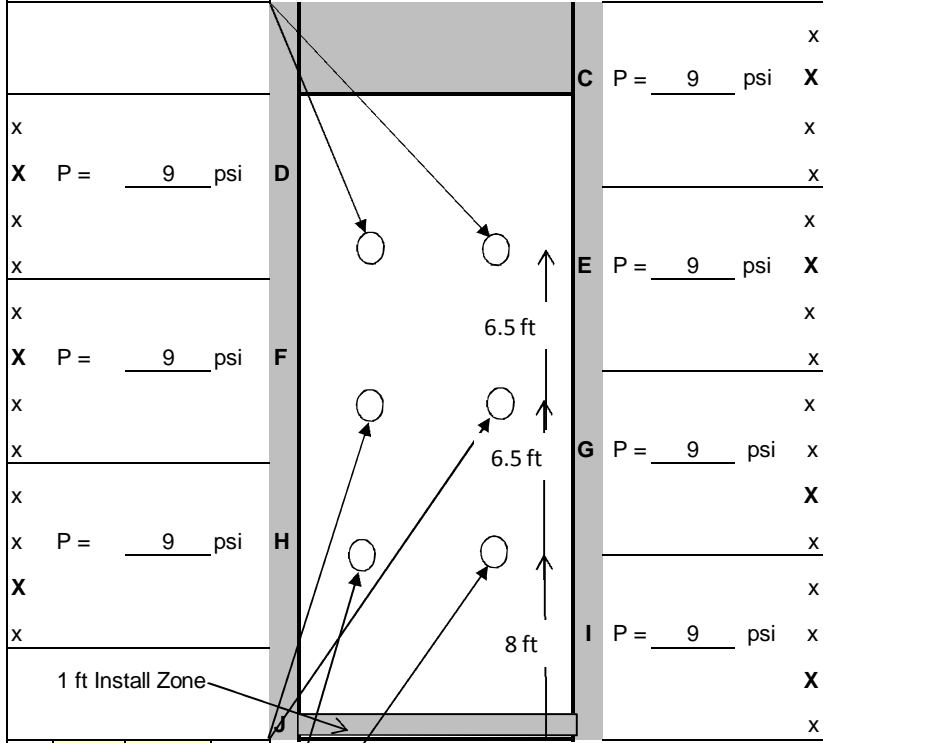
Slope #: 2 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples				
				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	12-Apr-12	Start Rain:	8:12 AM	End Rain:	8:32 AM	8:15	X	X
		Sampling interval:	0:03	End Runoff:	8:42 AM	8:18	X	X
		Rain Time (min):	20.00	Test Time (min):	30.00	8:21	X	X
Product:	BSRF	Descr.:	Silt Saver - Belted Sediment Retention Fence		8:24	X	X	
Lot #:		Posts:		Spacing:	8:27	X	X	
TOP OF SLOPE				8:30	X	X		
(circle "x" for open valves)				8:33	X	X		

w_{c1} = 19.2%

d = 51 54 mm

i = 6.02 6.38 in/hr



d = 50 52 mm

i = 5.91 6.14 in/hr

w_{c2} = 20.6%

d = 49 51 mm

i = 5.79 6.02 in/hr

w_{c3} = 21.9%

x x X x

P = 9 psi Temp. 36 deg

Hum. 76 %

Average Depth: 51 mm

Avg Rainfall Intensity: 6.04 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	3
2	3785	17
3	3785	14
4	3785	14
5	3785	14
6	3785	10
7	3785	10
8	3785	10
9	3785	10
10	3785	10
11	3785	10
12	3785	10
13	3785	10
14	3785	10
15	3785	10
16	3785	10
17	3785	10
18	3785	10
19	3785	10
20	3785	10
21	3785	10
30	3785	0

NOTES:
 Wind: 0 mph. Direction: E
 Approx 110 gallons collected.

DDRF Rainfall Testing

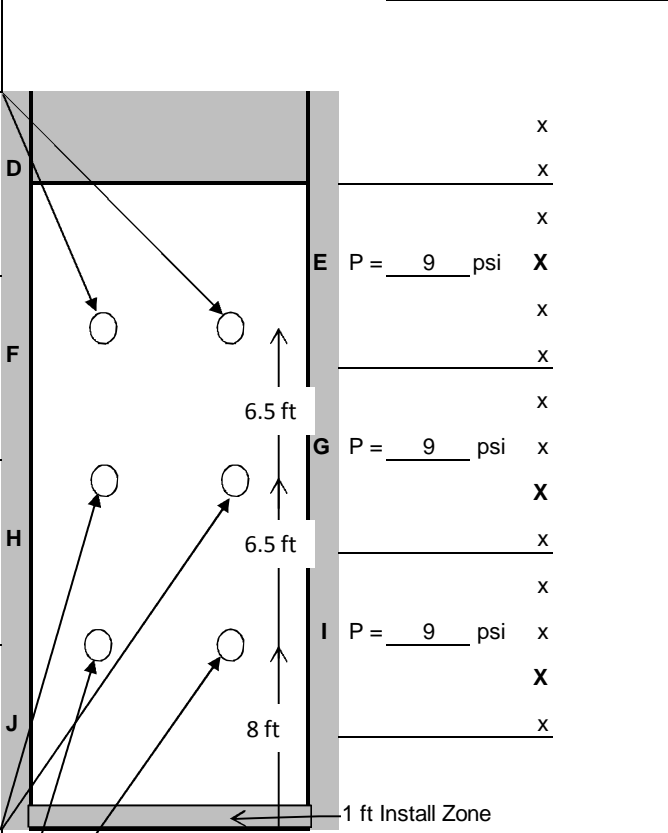
Slope #: 3	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date:	20-Apr-12	Start Rain:	6:54 AM	End Rain:	7:14 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
		Sampling interval:	0:03	End Runoff:	7:15 AM	6:57	X	X
		Rain Time (min):	20.00	Test Time (min):	21.00	7:00	X	X
Product:	BSRF	Descr.:	Silt Saver - Belted Sediment Retention Fence			7:03	X	X
Lot #:		Posts:		Spacing:		7:06	X	X
						7:09	X	X
						7:12	X	X
						7:15	X	X

w_{c1} = 19.2%

d = 17 18 mm

i = 2.01 2.13 in/hr



Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	60
2	250	50
3	250	48
4	250	47
5	250	44
6	250	38
7	250	35
8	250	35
9	250	34
10	250	32
11	250	30
12	250	30
13	250	30
14	250	28
15	250	26
16	250	24
17	250	18
18	250	16
19	250	12
20	250	8
21	250	8
21	250	0

d = 17 18 mm

i = 2.01 2.13 in/hr

w_{c2} = 20.6%

d = 18 19 mm

i = 2.13 2.24 in/hr

w_{c3} = 21.9%

Average Depth: 18 mm

Avg Rainfall Intensity: 2.11 in/hr

P = 9 psi

Temp. 57 deg

Hum. 94 %

NOTES:

Wind: 0 mph. Direction: N

Approx 4 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	20-Apr-12	Start Rain: Sampling interval:	7:24 AM 0:03	End Rain:	7:44 AM	X
				End Runoff:	7:46 AM	X
		Rain Time (min):	20.00	Test Time (min):	22.00	X
Product:	BSRF	Descr.:	Silt Saver - Belted Sediment Retention Fence			X
Lot #:		Posts:		Spacing:		X
TOP OF SLOPE						X
(circle "x" for open valves)						X
Set valves to 16 psi.						X

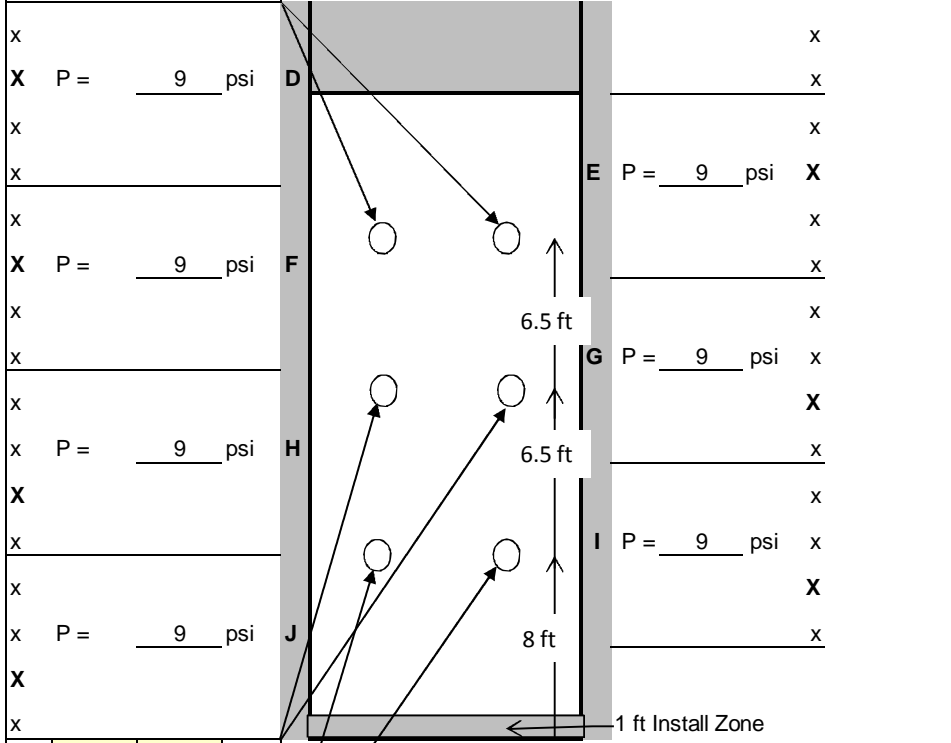
w_{c1} = 19.2%

d = 35 35 mm

i = 4.13 4.13 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	10
2	250	10
3	3785	33
4	3785	25
5	3785	23
6	3785	22
7	3785	20
8	3785	20
9	3785	18
10	3785	18
11	3785	18
12	3785	16
13	3785	15
14	3785	15
15	3785	15
16	3785	14
17	3785	14
18	3785	14
19	3785	14
20	3785	14
21	3785	14
22	3785	0



d = 37 36 mm

i = 4.37 4.25 in/hr

w_{c2} = 20.6%

d = 36 35 mm

i = 4.25 4.13 in/hr

w_{c3} = 21.9%

Average Depth: 36 mm

Avg Rainfall Intensity: 4.21 in/hr

P = 9 psi Temp. 57 deg Hum. 93 %

NOTES:
 Wind: 0 mph. Direction: N
 Approx 65 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	20-Apr-12	Start Rain: Sampling interval:	7:54 AM 0:03	End Rain: 8:14 AM	7:57	X	X	
		End Runoff:	8:24 AM	8:00	X	X		
		Rain Time (min):	20.00	Test Time (min):	30.00	8:03	X	X
Product:	BSRF	Descr.:	Silt Saver - Belted Sediment Retention Fence	8:06	X	X		
Lot #:		Posts:		Spacing:	8:09	X	X	
TOP OF SLOPE				8:12	X	X		
(circle "x" for open valves)				8:15	X	X		

w_{c1} = 19.2%

d = 50 50 mm

i = 5.91 5.91 in/hr

x

X P = 9 psi

x

x

x P = 9 psi

x

x

x P = 9 psi

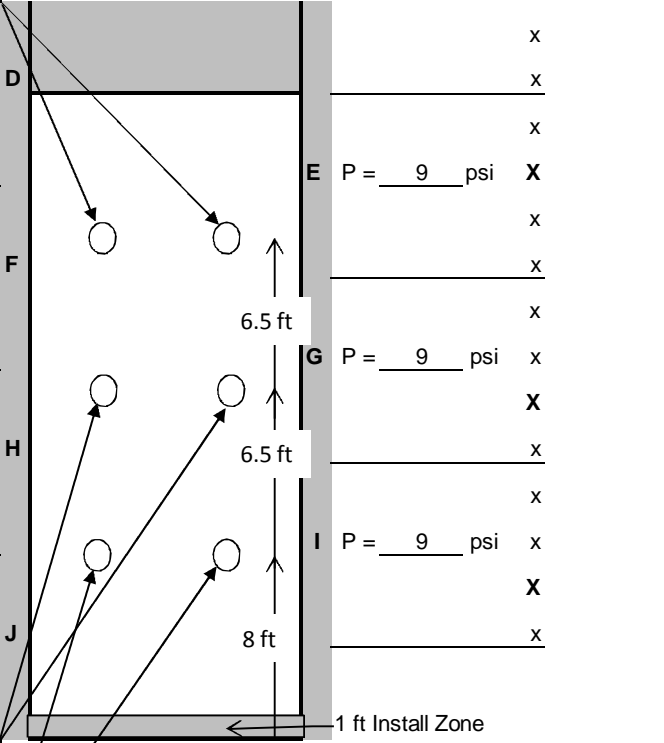
X

x

x P = 9 psi

X

x



d = 56 50 mm

i = 6.61 5.91 in/hr

w_{c2} = 20.6%

d = 51 50 mm

i = 6.02 5.91 in/hr

w_{c3} = 21.9%

x x X x

P = 9 psi

Temp. 57 deg

Hum. 93 %

Average Depth: 51 mm

Avg Rainfall Intensity: 6.04 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	250	8
2	3785	18
3	3785	13
4	3785	11
5	3785	11
6	3785	11
7	3785	10
8	3785	10
9	3785	10
10	3785	9
11	3785	9
12	3785	9
13	3785	9
14	3785	9
15	3785	8
16	3785	8
17	3785	8
18	3785	8
19	3785	8
20	3785	8
21	3785	15
30	3785	0

NOTES:
 Wind: 0 mph. Direction: N
 Approx 125 gallons collected.

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	231
2	20	78.4
3	20	121

BSRF Silt Saver - Belted Sediment Retention Fence

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	580	2-1	3.00	457	2-1	3.00	209
2-2	6.00	508	2-2	6.00	185	2-2	6.00	333
2-3	9.00	574	2-3	9.00	126	2-3	9.00	265
2-4	12.00	566	2-4	12.00	119	2-4	12.00	616
2-5	15.00	910	2-5	15.00	1067	2-5	15.00	401
2-6	18.00	1268	2-6	18.00	787	2-6	18.00	322
2-7	21.00	667	2-7	21.00	1588	2-7	21.00	1209
avg		725	avg		618	avg		479
4-1	3.00	859	4-1	2.00	1510	4-1	2.00	1844
4-2	6.00	669	4-2	4.00	1492	4-2	4.00	1585
4-3	9.00	806	4-3	6.00	1173	4-3	6.00	1366
4-4	12.00	881	4-4	8.00	1141	4-4	8.00	1233
4-5	15.00	690	4-5	10.00	1082	4-5	10.00	1185
4-6	18.00	648	4-6	12.00	1068	4-6	12.00	1212
4-7	21.00	534	4-7	21.00	995	4-7	21.00	1123
avg		727	avg		1209	avg		1364
6-1	3.00	767	6-1	3.00	960	6-1	3.00	1106
6-2	6.00	797	6-2	6.00	1017	6-2	6.00	1145
6-3	9.00	838	6-3	9.00	899	6-3	9.00	1101
6-4	12.00	674	6-4	12.00	979	6-4	12.00	1060
6-5	15.00	844	6-5	15.00	925	6-5	15.00	1147
6-6	18.00	749	6-6	18.00	864	6-6	18.00	1011
6-7	21.00	561	6-7	21.00	832	6-7	21.00	749
avg		747	avg		925	avg		1046

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.15	in/hr	avg														
18-Apr-12		2-1	3.00	277.87	152.41	150.14	149.99	150.00	127.73	0.13	1174.35	3.00	333.12	0.49	1174.35	0.00
		2-2	6.00	325.21	153.39	150.63	150.55	80.00	174.58	0.17	458.24	6.00	272.55	0.60	458.24	0.00
		2-3	9.00	341.78	152.87	149.80	149.79	10.00	191.98	0.19	52.09	9.00	272.55	0.66	52.09	0.00
		2-4	12.00	336.78	157.50	152.04	151.78	260.00	184.74	0.18	1407.38	12.00	211.98	0.72	1407.38	0.01
		2-5	15.00	344.39	153.56	149.63	149.44	190.00	194.76	0.19	975.56	15.00	136.27	1.08	975.56	0.01
		2-6	18.00	327.39	158.42	150.17	149.90	270.00	177.22	0.18	1523.53	18.00	105.99	1.63	1523.53	0.02
		2-7	21.00	324.54	154.44	150.23	149.87	360.00	174.31	0.17	2065.29	21.00	90.85	1.84	2065.29	0.03
										AVG =	1093.78	22.00	0	0.33	2065.29	0.01
4.00	in/hr	avg									1093.78			Total Solids Lost:		0.08
18-Apr-12		4-1	3.00	344.11	155.59	150.29	149.93	360.00	193.82	0.19	1857.39	3.00	47.01	3.23	1857.39	0.05
		4-2	6.00	309.19	156.19	151.66	151.33	330.00	157.53	0.16	2094.84	6.00	30.00	5.15	2094.84	0.09
		4-3	9.00	324.89	154.87	147.95	147.65	300.00	176.94	0.18	1695.49	9.00	30.00	6.00	1695.49	0.08
		4-4	12.00	335.14	154.64	149.43	149.17	260.00	185.71	0.19	1400.03	12.00	20.00	7.27	1400.03	0.08
		4-5	15.00	357.17	156.45	149.85	149.50	350.00	207.32	0.21	1688.21	15.00	20.00	9.00	1688.21	0.13
		4-6	18.00	344.66	151.69	149.30	149.01	290.00	195.36	0.20	1484.44	18.00	19.00	9.23	1484.44	0.11
		4-7	21.00	285.68	153.57	150.83	150.60	230.00	134.85	0.13	1705.60	21.00	19.00	9.47	1705.60	0.13
										AVG =	1703.71	24.00	0.00	1.58	1705.60	0.02
6.00	in/hr	avg									1703.71			Total Solids Lost:		0.71
18-Apr-12		6-1	3.00	342.28	152.98	147.77	147.45	320.00	194.51	0.19	1645.16	3.00	12.00	9.43	1645.16	0.13
		6-2	6.00	342.19	155.49	149.99	149.58	410.00	192.20	0.19	2133.19	6.00	13.00	14.80	2133.19	0.26
		6-3	9.00	339.21	154.85	148.36	148.06	300.00	190.85	0.19	1571.92	9.00	12.00	15.22	1571.92	0.20
		6-4	12.00	357.83	154.72	150.57	150.36	210.00	207.26	0.21	1013.22	12.00	12.00	15.00	1013.22	0.13
		6-5	15.00	340.38	154.79	151.29	150.83	460.00	189.09	0.19	2432.70	15.00	12.00	15.00	2432.70	0.30
		6-6	18.00	343.06	155.67	148.11	147.75	360.00	194.95	0.19	1846.63	18.00	12.00	15.00	1846.63	0.23
		6-7	21.00	360.21	152.29	146.86	146.65	210.00	213.35	0.21	984.30	21.00	11.00	15.22	984.30	0.12
										AVG =	1661.02	30.00	0.00	2.50	984.30	0.02
										1661.02				Total Solids Lost:		1.40

18-Apr-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.15 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	560	0.21	0.21	0.21
2-2	2.00	424	0.12	0.12	0.34
2-3	3.00	333	0.16	0.16	0.49
2-4	4.00	303	0.19	0.19	0.68
2-5	5.00	303	0.20	0.20	0.88
2-6	6.00	273	0.21	0.21	1.09
2-7	7.00	273	0.22	0.22	1.31
2-8	8.00	273	0.22	0.22	1.53
2-9	9.00	273	0.22	0.22	1.75
2-10	10.00	273	0.22	0.22	1.97
2-11	11.00	242	0.23	0.23	2.20
2-12	12.00	212	0.26	0.26	2.47
2-13	13.00	182	0.30	0.30	2.77
2-14	14.00	151	0.36	0.36	3.13
2-15	15.00	136	0.42	0.42	3.55
2-16	16.00	106	0.50	0.50	4.05
2-17	17.00	106	0.57	0.57	4.61
2-18	18.00	106	0.57	0.57	5.18
2-19	19.00	106	0.57	0.57	5.74
2-20	20.00	91	0.61	0.61	6.35
2-21	21.00	91	0.66	0.66	7.01
2-end	22.00	0	0.33	0.33	7.34
					7.34
					Total Collected Runoff (approx)

4.00 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	91	1.32	1.32	1.32
4-2	2	61	0.79	0.79	2.11
4-3	3	47	1.12	1.12	3.23
4-4	4	36	1.45	1.45	4.67
4-5	5	32	1.76	1.76	6.44
4-6	6	30	1.94	1.94	8.37
4-7	7	30	2.00	2.00	10.37
4-8	8	30	2.00	2.00	12.37
4-9	9	30	2.00	2.00	14.37
4-10	10	26	2.14	2.14	16.52
4-11	11	24	2.40	2.40	18.92
4-12	12	20	2.73	2.73	21.64
4-13	13	20	3.00	3.00	24.64
4-14	14	20	3.00	3.00	27.64
4-15	15	20	3.00	3.00	30.64
4-16	16	20	3.00	3.00	33.64
4-17	17	19	3.08	3.08	36.72
4-18	18	19	3.16	3.16	39.88
4-19	19	19	3.16	3.16	43.03
4-20	20	19	3.16	3.16	46.19
4-21	21	19	3.16	3.16	49.35
4-end	24.00	0	1.58	1.58	50.93
					50.93
					Total Collected Runoff (approx)

6.00 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	40	3.00	3.00	3.00
6-2	2	16	2.14	2.14	5.14
6-3	3	12	4.29	4.29	9.43
6-4	4	12	5.00	5.00	14.43
6-5	5	12	5.00	5.00	19.43
6-6	6	13	4.80	4.80	24.23
6-7	7	11	5.00	5.00	29.23
6-8	8	12	5.22	5.22	34.44
6-9	9	12	5.00	5.00	39.44
6-10	10	12	5.00	5.00	44.44
6-11	11	12	5.00	5.00	49.44
6-12	12	12	5.00	5.00	54.44
6-13	13	12	5.00	5.00	59.44
6-14	14	12	5.00	5.00	64.44
6-15	15	12	5.00	5.00	69.44
6-16	16	12	5.00	5.00	74.44
6-17	17	12	5.00	5.00	79.44
6-18	18	12	5.00	5.00	84.44
6-19	19	12	5.00	5.00	89.44
6-20	20	12	5.00	5.00	94.44
6-21	21	11	5.22	5.22	99.65
6-end	30.00	0	2.50	2.50	102.15
					102.15
					Total Collected Runoff (approx)

12-Apr-12
Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.05 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	908	0.13	0.13	0.13
2-2	2.00	681	0.08	0.08	0.21
2-3	3.00	606	0.09	0.09	0.30
2-4	4.00	606	0.10	0.10	0.40
2-5	5.00	454	0.11	0.11	0.51
2-6	6.00	363	0.15	0.15	0.66
2-7	7.00	363	0.17	0.17	0.82
2-8	8.00	363	0.17	0.17	0.99
2-9	9.00	363	0.17	0.17	1.16
2-10	10.00	363	0.17	0.17	1.32
2-11	11.00	363	0.17	0.17	1.49
2-12	12.00	363	0.17	0.17	1.65
2-13	13.00	363	0.17	0.17	1.82
2-14	14.00	227	0.20	0.20	2.02
2-15	15.00	197	0.28	0.28	2.30
2-16	16.00	136	0.36	0.36	2.66
2-17	17.00	121	0.47	0.47	3.13
2-18	18.00	76	0.61	0.61	3.74
2-19	19.00	76	0.79	0.79	4.53
2-20	20.00	76	0.79	0.79	5.32
2-21	21.00	76	0.79	0.79	6.12
2-end	23.00	0	0.40	0.40	6.51
					6.51
					Total Collected Runoff (approx)

4.04 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	151	0.79	0.79	0.79
4-2	2	91	0.50	0.50	1.29
4-3	3	45	0.88	0.88	2.17
4-4	4	30	1.59	1.59	3.76
4-5	5	24	2.22	2.22	5.98
4-6	6	17	2.93	2.93	8.91
4-7	7	20	3.24	3.24	12.15
4-8	8	26	2.61	2.61	14.76
4-9	9	25	2.35	2.35	17.11
4-10	10	24	2.45	2.45	19.56
4-11	11	24	2.50	2.50	22.06
4-12	12	20	2.73	2.73	24.79
4-13	13	20	3.00	3.00	27.79
4-14	14	20	3.00	3.00	30.79
4-15	15	18	3.16	3.16	33.94
4-16	16	18	3.33	3.33	37.28
4-17	17	18	3.33	3.33	40.61
4-18	18	18	3.33	3.33	43.94
4-19	19	18	3.33	3.33	47.28
4-20	20	18	3.33	3.33	50.61
4-21	21	18	3.33	3.33	53.94
4-end	25	0	1.67	1.67	55.61
					55.61
					Total Collected Runoff (approx)

6.04 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	45	2.64	2.64	2.64
6-2	2	17	1.92	1.92	4.56
6-3	3	14	3.87	3.87	8.43
6-4	4	14	4.29	4.29	12.72
6-5	5	14	4.29	4.29	17.01
6-6	6	10	5.00	5.00	22.00
6-7	7	10	6.00	6.00	28.00
6-8	8	10	6.00	6.00	34.00
6-9	9	10	6.00	6.00	40.00
6-10	10	10	6.00	6.00	46.00
6-11	11	10	6.00	6.00	52.00
6-12	12	10	6.00	6.00	58.00
6-13	13	10	6.00	6.00	64.00
6-14	14	10	6.00	6.00	70.00
6-15	15	10	6.00	6.00	76.00
6-16	16	10	6.00	6.00	82.00
6-17	17	10	6.00	6.00	88.00
6-18	18	10	6.00	6.00	94.00
6-19	19	10	6.00	6.00	100.00
6-20	20	10	6.00	6.00	106.00
6-21	21	10	6.00	6.00	111.99
6-end	30	0	3.00	3.00	114.99
					114.99
					Total Collected Runoff (approx)

20-Apr-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.11 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	908	0.13	0.13	0.13
2-2	2.00	757	0.07	0.07	0.20
2-3	3.00	727	0.08	0.08	0.29
2-4	4.00	712	0.08	0.08	0.37
2-5	5.00	666	0.09	0.09	0.46
2-6	6.00	575	0.10	0.10	0.55
2-7	7.00	530	0.11	0.11	0.66
2-8	8.00	530	0.11	0.11	0.77
2-9	9.00	515	0.11	0.11	0.89
2-10	10.00	485	0.12	0.12	1.01
2-11	11.00	454	0.13	0.13	1.14
2-12	12.00	454	0.13	0.13	1.27
2-13	13.00	454	0.13	0.13	1.40
2-14	14.00	424	0.14	0.14	1.54
2-15	15.00	394	0.15	0.15	1.68
2-16	16.00	363	0.16	0.16	1.84
2-17	17.00	273	0.19	0.19	2.03
2-18	18.00	242	0.23	0.23	2.26
2-19	19.00	182	0.28	0.28	2.55
2-20	20.00	121	0.40	0.40	2.94
2-21	21.00	121	0.50	0.50	3.44
2-end	21.00	0	0.25	0.25	3.69
					3.69
					Total Collected Runoff (approx)

4.21 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	151	0.79	0.79	0.79
4-2	2	151	0.40	0.40	1.19
4-3	3	33	0.65	0.65	1.84
4-4	4	25	2.07	2.07	3.91
4-5	5	23	2.50	2.50	6.41
4-6	6	22	2.67	2.67	9.07
4-7	7	20	2.86	2.86	11.93
4-8	8	20	3.00	3.00	14.93
4-9	9	18	3.16	3.16	18.09
4-10	10	18	3.33	3.33	21.42
4-11	11	18	3.33	3.33	24.75
4-12	12	16	3.53	3.53	28.28
4-13	13	15	3.87	3.87	32.15
4-14	14	15	4.00	4.00	36.15
4-15	15	15	4.00	4.00	40.15
4-16	16	14	4.14	4.14	44.29
4-17	17	14	4.29	4.29	48.58
4-18	18	14	4.29	4.29	52.86
4-19	19	14	4.29	4.29	57.15
4-20	20	14	4.29	4.29	61.43
4-21	21	14	4.29	4.29	65.72
4-end	22	0	2.14	2.14	67.86
					67.86
					Total Collected Runoff (approx)

6.04 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	121	0.99	0.99	0.99
6-2	2	18	0.86	0.86	1.85
6-3	3	13	3.87	3.87	5.72
6-4	4	11	5.00	5.00	10.72
6-5	5	11	5.45	5.45	16.18
6-6	6	11	5.45	5.45	21.63
6-7	7	10	5.71	5.71	27.34
6-8	8	10	6.00	6.00	33.34
6-9	9	10	6.00	6.00	39.34
6-10	10	9	6.32	6.32	45.66
6-11	11	9	6.67	6.67	52.32
6-12	12	9	6.67	6.67	58.99
6-13	13	9	6.67	6.67	65.66
6-14	14	9	6.67	6.67	72.32
6-15	15	8	7.06	7.06	79.38
6-16	16	8	7.50	7.50	86.88
6-17	17	8	7.50	7.50	94.38
6-18	18	8	7.50	7.50	101.88
6-19	19	8	7.50	7.50	109.38
6-20	20	8	7.50	7.50	116.88
6-21	21	15	5.22	5.22	122.09
6-end	30	0	3.75	3.75	125.84
					125.84
					Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	18-Apr-12	12-Apr-12	20-Apr-12
Avg Moisture Content:	20.57%	19.09%	21.68%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	247.97	252.99	257.21
Wt. Of cup + dry soil, g	242.92	247.23	249.9
Wt. Of cup, g	216.6	216.6	216.5
Wt. Of dry soil, g	26.32	30.63	33.4
Wt. Of water, g	5.05	5.76	7.31
Water Content, w%	19.2%	18.8%	21.9%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	259.51	257.22	263.76
Wt. Of cup + dry soil, g	252.19	250.72	255.31
Wt. Of cup, g	216.71	216.71	216.56
Wt. Of dry soil, g	35.48	34.01	38.75
Wt. Of water, g	7.32	6.5	8.45
Water Content, w%	20.6%	19.1%	21.8%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	250.41	247.63	259.05
Wt. Of cup + dry soil, g	244.42	242.67	251.64
Wt. Of cup, g	217.06	217.06	216.93
Wt. Of dry soil, g	27.36	25.61	34.71
Wt. Of water, g	5.99	4.96	7.41
Water Content, w%	21.9%	19.4%	21.3%

Soil Loss Data

Slope No.	1	2	3
Test Date:	18-Apr-12	12-Apr-12	20-Apr-12
Total Soil Loss	1.70	1.83	2.13

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	11.2	19.5	19.9
Sub-Sample	Wt. Of cup + wet soil, g	11.2	19.5
	Wt. Of cup + dry soil, g	11.2	19.5
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	11.2	19.5
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.025	0.043	0.044

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	222	271	322
Sub-Sample	Wt. Of cup + wet soil, g	222	271
	Wt. Of cup + dry soil, g	222	271
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	222	271
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.489	0.597	0.709

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	538	542	626
Sub-Sample	Wt. Of cup + wet soil, g	538	542
	Wt. Of cup + dry soil, g	538	542
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	538	542
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	1.185	1.194	1.379



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 13-Apr-12 17-Apr-12 20-Apr-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: GA-CSA

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.01	4.26	6.47	0.130	0.013
	4.06	78.96	51.34	2.380	0.253
	6.00	139.78	164.20	4.530	0.710
Bare Soil Controls			6.47		0.820
			51.34		6.510
			164.20		20.821

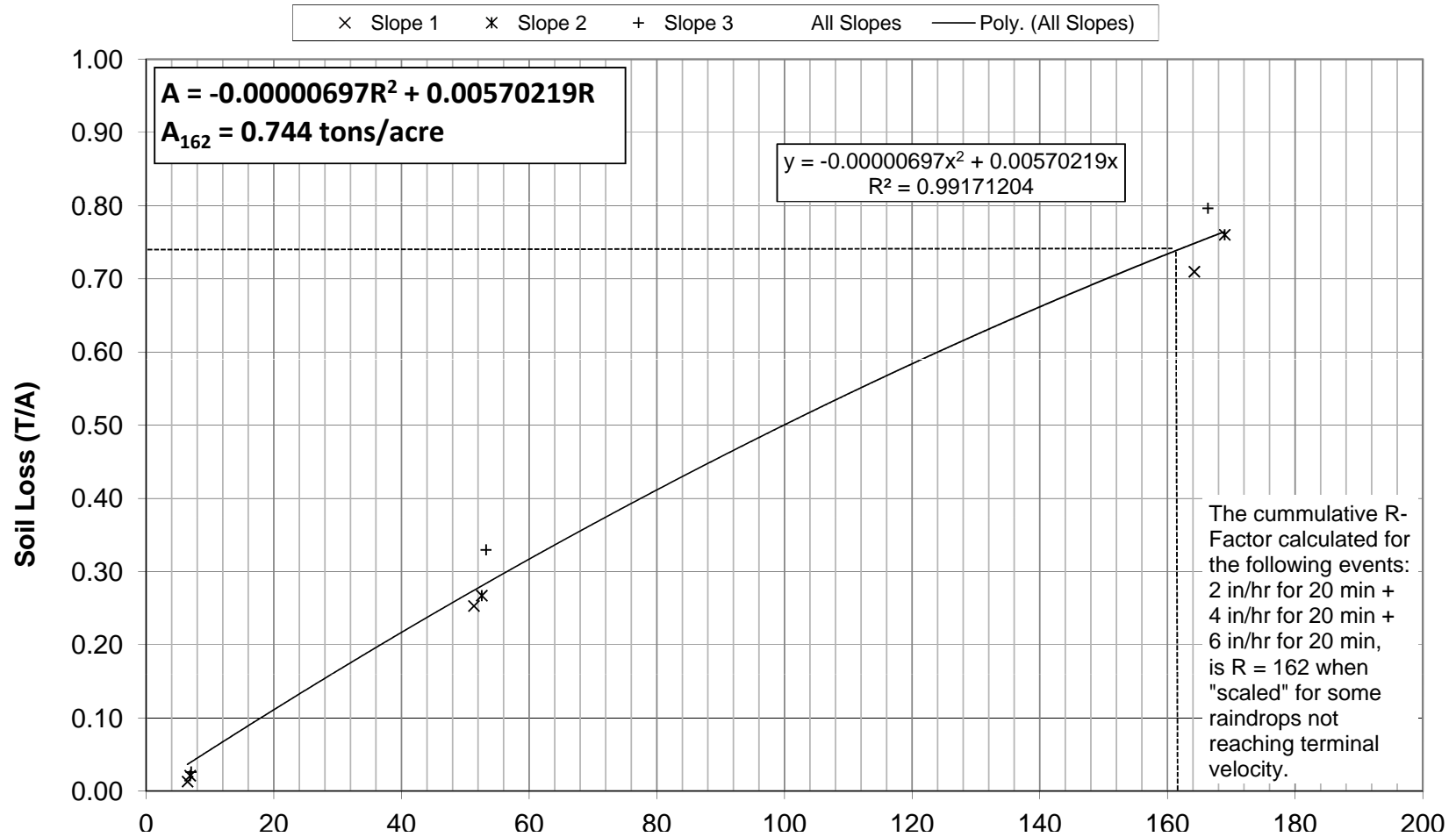
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.07	9.28	6.88	0.210	0.021
	4.07	73.64	52.57	2.440	0.267
	6.10	146.29	168.96	4.890	0.760
Bare Soil Controls			6.88		0.873
			52.57		6.666
			168.96		21.424

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.09	4.50	7.03	0.260	0.026
	4.09	77.94	53.24	3.010	0.330
	6.00	145.25	166.33	4.630	0.797
Bare Soil Controls			7.03		0.891
			53.24		6.751
			166.33		21.091

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)
Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)





TYPICAL TESTING PICTURES



Test Slope Prepared and Fence Installed



After 2 in/hr Event



After 4 in/hr Event



After 6 in/hr Event



Typical Control Run - Before and After

DDRF Rainfall Testing		Sediment Concentration & Turbidity Grab Samples	
Slope #: <u>1</u>	Target Rain: <u>2 in/hr</u>		

Date:	<u>13-Apr-12</u>	Start Rain:	<u>7:16 AM</u>	End Rain:	<u>7:36 AM</u>
		Sampling interval:	<u>0:03</u>	End Runoff:	<u>7:39 AM</u>
		Rain Time (min):	<u>20.00</u>	Test Time (min):	<u>23.00</u>
Product:	<u>GA-CSA</u>	Descr.:	<u>C-System Silt Fence</u>		
Lot #:		Posts:		Spacing:	

TOP OF SLOPE
(circle "x" for open valves)

Set valves to 16 psi.

d = <u>16</u> <u>20</u> mm i = <u>1.89</u> <u>2.36</u> in/hr		
P = <u>9</u> psi	x x X x P = <u>9</u> psi	Temp. <u>47</u> deg Hum. <u>78</u> %
w _{c1} = <u>22.1%</u>	Average Depth: <u>17</u> mm Avg Rainfall Intensity: <u>2.01</u> in/hr	
d = <u>18</u> <u>16</u> mm i = <u>2.13</u> <u>1.89</u> in/hr w _{c2} = <u>22.5%</u>		
d = <u>16</u> <u>16</u> mm i = <u>1.89</u> <u>1.89</u> in/hr w _{c3} = <u>21.7%</u>		

Time	Sed Conc Samples Taken	Turbidity Samples Taken
7:19	X	X
7:22	X	X
7:25	X	X
7:28	X	X
7:31	X	X
7:34	X	X
7:37	X	X

Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	60
2	250	38
3	250	30
4	250	31
5	250	30
6	250	30
7	250	30
8	250	30
9	250	28
10	250	26
11	250	25
12	250	25
13	250	25
14	250	25
15	250	22
16	250	18
17	250	15
18	250	13
19	250	10
20	250	7
21	250	14
23	250	0

NOTES:
 Wind: 0 mph. Direction: W
 Approx 4 gallons collected.

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	13-Apr-12	Start Rain: Sampling interval:	7:47 AM 0:03	End Rain:	8:07 AM	7:50 X	X	
		End Runoff:	8:17 AM		7:53	X	X	
		Rain Time (min):	20.00	Test Time (min):	30.00	7:56	X	X
Product:	GA-CSA	Descr.:	C-System Silt Fence		7:59	X	X	
Lot #:		Posts:		Spacing:		8:02	X	X
TOP OF SLOPE					8:05	X	X	
(circle "x" for open valves)					8:08	X	X	

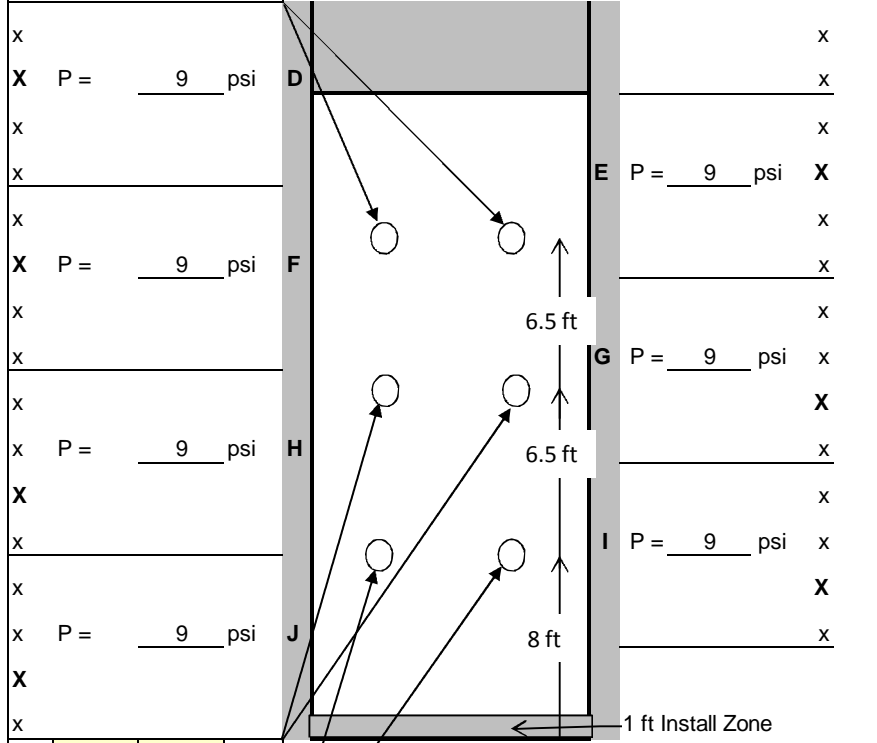
w_{c1} = 22.1%

Set valves to 16 psi.

d = 32 33 mm
i = 3.78 3.90 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	5
2	250	4
3	3785	16
4	3785	16
5	3785	16
6	3785	16
7	3785	15
8	3785	15
9	3785	15
10	3785	15
11	3785	15
12	3785	15
13	3785	14
14	3785	14
15	3785	14
16	3785	14
17	3785	14
18	3785	14
19	3785	14
20	3785	14
21	3785	20
30	3785	0



d = 36 36 mm
i = 4.25 4.25 in/hr

x x X x
P = 9 psi Temp. 47 deg
Hum. 78 %

w_{c2} = 22.5%

d = 32 37 mm
i = 3.78 4.37 in/hr

Average Depth: 34 mm
Avg Rainfall Intensity: 4.06 in/hr

w_{c3} = 21.7%

NOTES:
Wind: 0 mph. Direction: W
Approx 80 gallons collected.

DDRF Rainfall Testing				Sediment Concentration & Turbidity Grab Samples				
Slope #: <u>1</u>		Target Rain: <u>6 in/hr</u>		Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	<u>13-Apr-12</u>	Start Rain:	<u>8:23 AM</u>	End Rain:	<u>8:43 AM</u>	8:26	X	X
		Sampling interval:	<u>0:03</u>	End Runoff:	<u>8:53 AM</u>	8:29	X	X
		Rain Time (min):	<u>20.00</u>	Test Time (min):	<u>30.00</u>	8:32	X	X
Product:	<u>GA-CSA</u>	Descr.:	<u>C-System Silt Fence</u>			8:35	X	X
Lot #:		Posts:		Spacing:		8:38	X	X
TOP OF SLOPE						8:41	X	X
(circle "x" for open valves)				Set valves to 16 psi.		8:44	X	X
d = <u>49</u> <u>52</u> mm i = <u>5.79</u> <u>6.14</u> in/hr w _{c1} = <u>22.1%</u>				Runoff Rate Measurements Min. Volume Seconds				
x X P = <u>9</u> psi D				1 250 8				
x x				2 3785 44				
x x				3 3785 26				
x X P = <u>9</u> psi F				4 3785 20				
x x				5 3785 12				
x x				6 3785 9				
x x				7 3785 9				
x X P = <u>9</u> psi H				8 3785 9				
x x				9 3785 8				
x x				10 3785 8				
x X P = <u>9</u> psi J				11 3785 8				
x x				12 3785 7				
x x				13 3785 7				
x X				14 3785 7				
x x				15 3785 7				
x x				16 3785 7				
d = <u>51</u> <u>53</u> mm i = <u>6.02</u> <u>6.26</u> in/hr w _{c2} = <u>22.5%</u>				17 3785 7				
x x X x P = <u>9</u> psi Temp. <u>47</u> deg Hum. <u>78</u> %				18 3785 7				
d = <u>49</u> <u>51</u> mm i = <u>5.79</u> <u>6.02</u> in/hr w _{c3} = <u>21.7%</u>				19 3785 7				
Average Depth: <u>51</u> mm Avg Rainfall Intensity: <u>6.00</u> in/hr				20 3785 6				
				21 3785 12				
				30 3785 0				

NOTES:
 Wind: 0 mph. Direction: N
 Approx 140 gallons collected.

DDRF Rainfall Testing

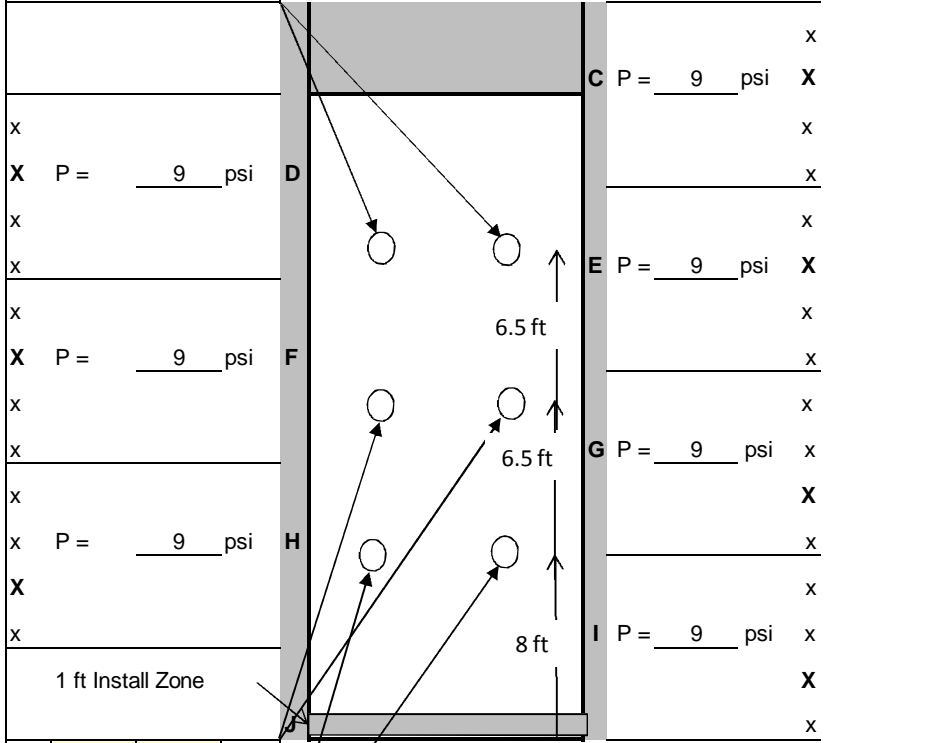
Slope #: 2	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date: 17-Apr-12	Start Rain: 7:15 AM	End Rain: 7:35 AM	Time: 7:18	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
	Sampling interval: 0:03	End Runoff: 7:38 AM	7:21	X	X
	Rain Time (min): 20.00	Test Time (min): 23.00	7:24	X	X
Product: GA-CSA	Descr.: C-System Silt Fence		7:27	X	X
Lot #:	Posts:	Spacing:	7:30	X	X
TOP OF SLOPE			7:33	X	X
(circle "x" for open valves)			7:36	X	X

w_{c1} = 22.1%

d = 17 15 mm

i = 2.01 1.77 in/hr



P = 9 psi

Temp. 64 deg

Hum. 89 %

P = 9 psi

Average Depth: 18 mm

Avg Rainfall Intensity: 2.07 in/hr

w_{c2} = 22.5%

d = 19 18 mm

i = 2.24 2.13 in/hr

w_{c3} = 21.7%

d = 19 17 mm

i = 2.24 2.01 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	30
2	250	20
3	250	19
4	250	18
5	250	18
6	250	18
7	250	17
8	250	17
9	250	17
10	250	17
11	250	17
12	250	17
13	250	17
14	250	16
15	250	15
16	250	7
17	250	7
18	250	5
19	250	3
20	250	3
21	250	3
23	250	0

NOTES:
 Wind: 0 mph. Direction: W
 Approx 10 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	17-Apr-12	Start Rain: 7:42 AM	End Rain: 8:02 AM	7:45	X	X
		Sampling interval: 0:03	End Runoff: 8:06 AM	7:48	X	X
		Rain Time (min): 20.00	Test Time (min): 24.00	7:51	X	X
Product:	GA-CSA	Descr.: C-System Silt Fence		7:54	X	X
Lot #:		Posts:	Spacing:	7:57	X	X
TOP OF SLOPE				8:00	X	X
(circle "x" for open valves)				8:03	X	X

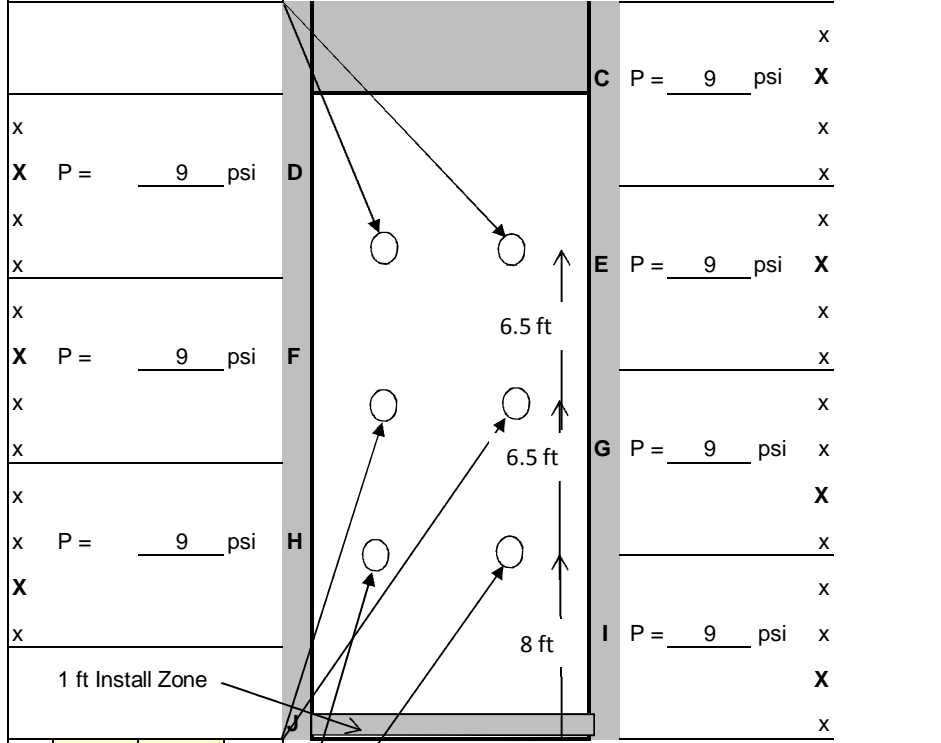
w_{c1} = 22.1%

Set valves to 16 psi.

d = 33 31 mm
i = 3.90 3.66 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	5
2	3785	23
3	3785	21
4	3785	21
5	3785	21
6	3785	21
7	3785	21
8	3785	20
9	3785	20
10	3785	17
11	3785	17
12	3785	15
13	3785	13
14	3785	14
15	3785	15
16	3785	15
17	3785	15
18	3785	14
19	3785	13
20	3785	13
21	3785	18
24	3785	0



d = 35 38 mm
i = 4.13 4.49 in/hr

x x X x
P = 9 psi Temp. 64 deg
Hum. 89 %

w_{c2} = 22.5%

d = 33 37 mm
i = 3.90 4.37 in/hr

Average Depth: 35 mm
Avg Rainfall Intensity: 4.07 in/hr

w_{c3} = 21.7%

NOTES:
Wind: 0 mph. Direction: W
Approx 75 gallons collected.

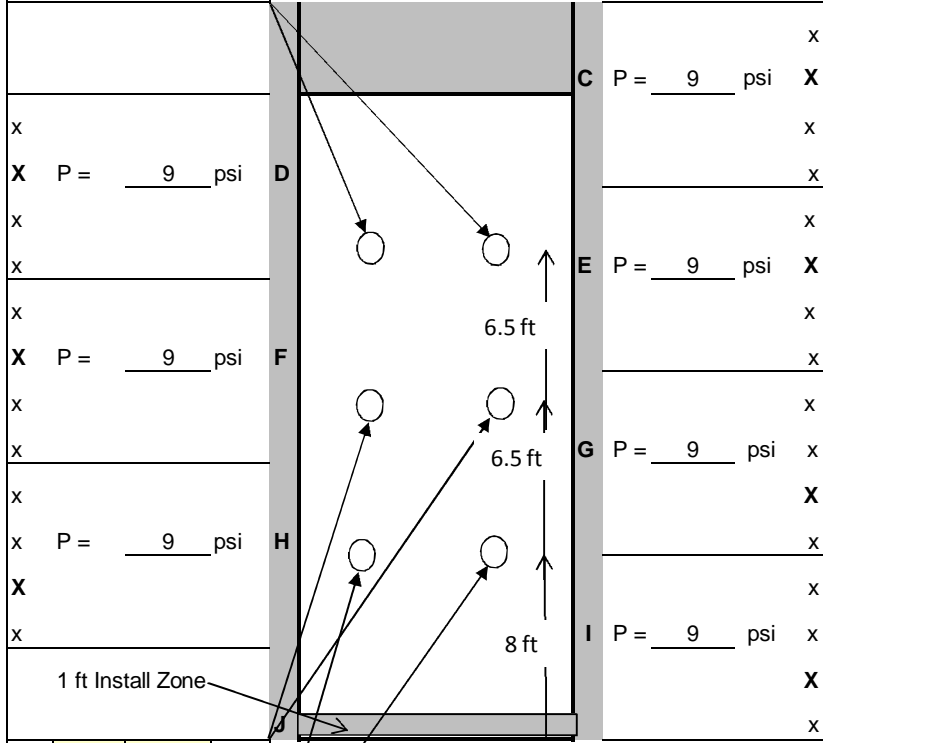
DDRF Rainfall Testing

Slope #: 2 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples						
				Time	Sed Conc Samples Taken	Turbidity Samples Taken				
Date:	17-Apr-12	Start Rain:	8:12 AM	End Rain:	8:32 AM	8:15	X	X		
		Sampling interval:	0:03	End Runoff:	8:36 AM	8:18	X	X		
		Rain Time (min):	20.00	Test Time (min):	24.00	8:21	X	X		
Product:	GA-CSA	Descr.:	C-System Silt Fence				8:24	X	X	
Lot #:		Posts:		Spacing:		8:27	X	X		
TOP OF SLOPE								8:30	X	X
(circle "x" for open valves)				Set valves to 16 psi.				8:33	X	X

w_{c1} = 22.1%

d = 50 54 mm
i = 5.91 6.38 in/hr



Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	40
2	3785	18
3	3785	12
4	3785	9
5	3785	9
6	3785	9
7	3785	9
8	3785	9
9	3785	9
10	3785	8
11	3785	8
12	3785	8
13	3785	8
14	3785	8
15	3785	8
16	3785	7
17	3785	7
18	3785	7
19	3785	7
20	3785	7
21	3785	10
24	3785	0

d = 54 54 mm
i = 6.38 6.38 in/hr
w_{c2} = 22.5%

P = 9 psi Temp. 36 deg
Hum. 76 %

d = 49 49 mm
i = 5.79 5.79 in/hr
w_{c3} = 21.7%

Average Depth: 52 mm
Avg Rainfall Intensity: 6.10 in/hr

NOTES:
Wind: 0 mph. Direction: w
Approx 150 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 2 in/hr**

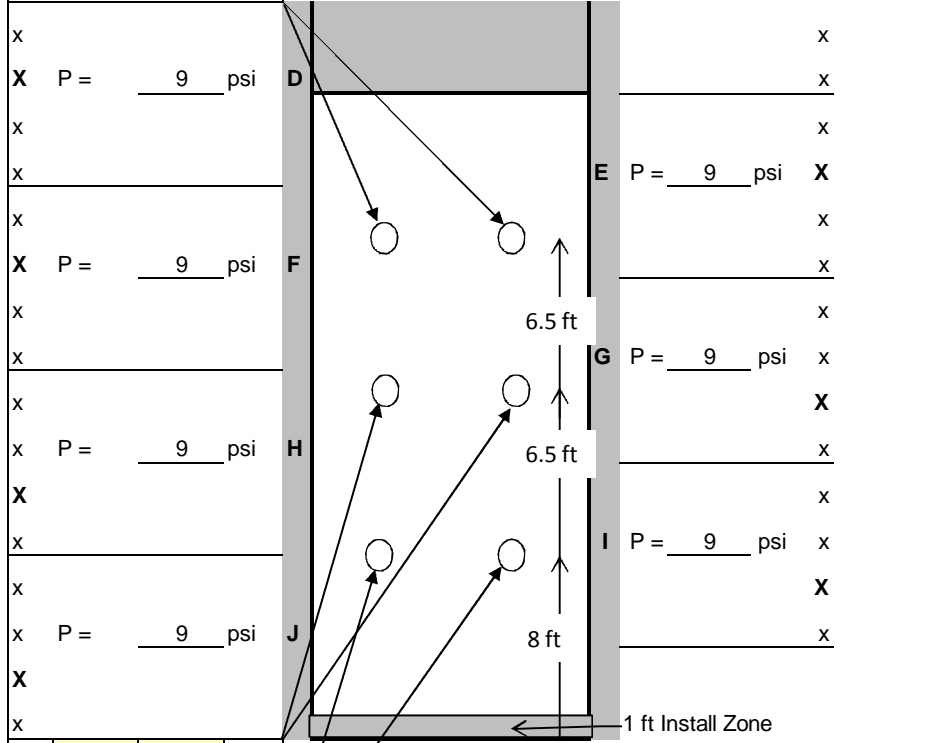
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	20-Apr-12	Start Rain: Sampling interval:	9:12 AM 0:03	End Rain:	9:32 AM	9:15	X	X
		End Runoff:			9:34 AM	9:18	X	X
		Rain Time (min):	20.00	Test Time (min):	22.00	9:21	X	X
Product:	GA-CSA	Descr.:	C-System Silt Fence			9:24	X	X
Lot #:		Posts:		Spacing:		9:27	X	X
TOP OF SLOPE						9:30	X	X
(circle "x" for open valves)						9:33	X	X

w_{c1} = 22.1%

Set valves to 16 psi.

d = 20 16 mm
i = 2.36 1.89 in/hr



Runoff Rate Measurements

Min.	Volume	Seconds
1	250	50
2	250	40
3	250	34
4	250	29
5	250	28
6	250	27
7	250	26
8	250	25
9	250	23
10	250	23
11	250	22
12	250	20
13	250	20
14	250	20
15	250	20
16	250	20
17	250	15
18	250	11
19	250	10
20	250	8
21	250	15
22	250	0

d = 20 17 mm
i = 2.36 2.01 in/hr

x x X x
P = 9 psi Temp. 59 deg
Hum. 91 %

w_{c2} = 22.5%

d = 16 17 mm
i = 1.89 2.01 in/hr

Average Depth: 18 mm
Avg Rainfall Intensity: 2.09 in/hr

w_{c3} = 21.7%

NOTES:
Wind: 0-1 mph. Direction: E
Approx 4 gallons collected.

DDRF Rainfall Testing

Slope #: 3	Target Rain: 4 in/hr	Sediment Concentration & Turbidity Grab Samples	
		Time	Sed Conc Samples Taken
		Turbidity Samples Taken	

Date: 20-Apr-12 Start Rain: 9:40 AM End Rain: 10:00 AM
 Sampling interval: 0:03 End Runoff: 10:04 AM
 Rain Time (min): 20.00 Test Time (min): 24.00

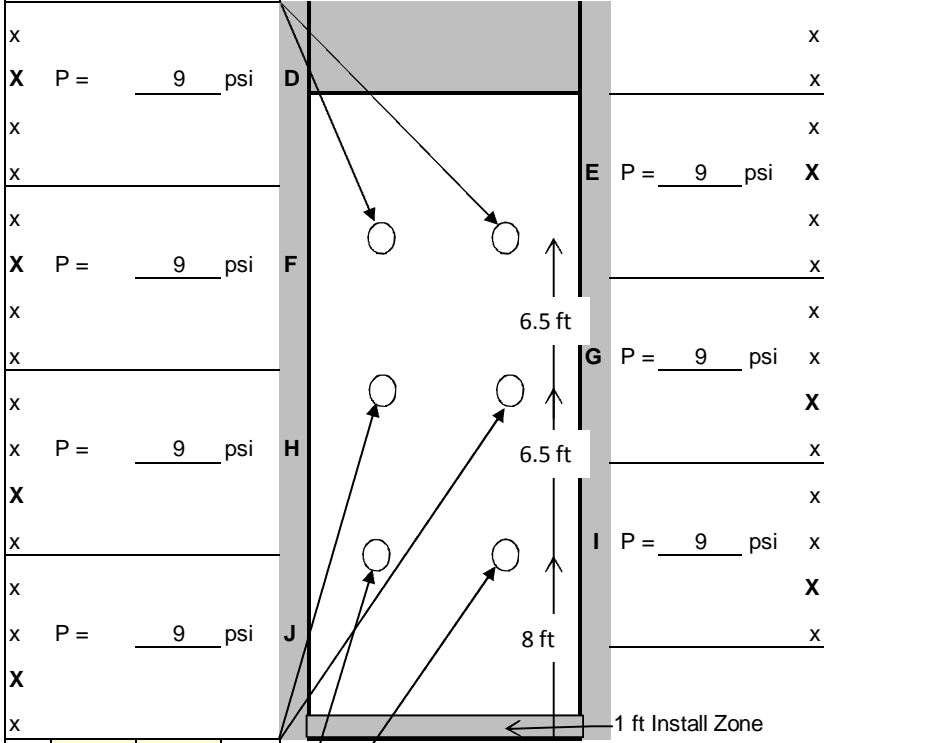
Product: GA-CSA Descr.: C-System Silt Fence
 Lot #: Posts: Spacing:

TOP OF SLOPE

(circle "x" for open valves) **Set valves to 16 psi.**

w_{c1} = 22.1%

d = 36 34 mm
 i = 4.25 4.02 in/hr



d = 36 34 mm
 i = 4.25 4.02 in/hr

w_{c2} = 22.5%

d = 33 35 mm
 i = 3.90 4.13 in/hr

w_{c3} = 21.7%

x x X x
 P = 9 psi Temp. 59 deg
 Hum. 88 %

Average Depth: 35 mm
Avg Rainfall Intensity: 4.09 in/hr

Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	250	10
2	3785	34
3	3785	18
4	3785	18
5	3785	18
6	3785	16
7	3785	16
8	3785	15
9	3785	15
10	3785	15
11	3785	14
12	3785	14
13	3785	14
14	3785	14
15	3785	14
16	3785	14
17	3785	14
18	3785	14
19	3785	14
20	3785	14
21	3785	20
24	3785	0

NOTES:
 Wind: 0 mph. Direction: E
 Approx 75 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	20-Apr-12	Start Rain: Sampling interval:	10:11 AM 0:03	End Rain: 10:31 AM	10:14	X	X	
		End Runoff:	10:41 AM	10:17	X	X		
		Rain Time (min):	20.00	Test Time (min):	30.00	10:20	X	X
Product:	GA-CSA	Descr.:	C-System Silt Fence	10:23	X	X		
Lot #:		Posts:		Spacing:	10:26	X	X	
TOP OF SLOPE				10:29	X	X		
(circle "x" for open valves)				10:32	X	X		
Set valves to 16 psi.								

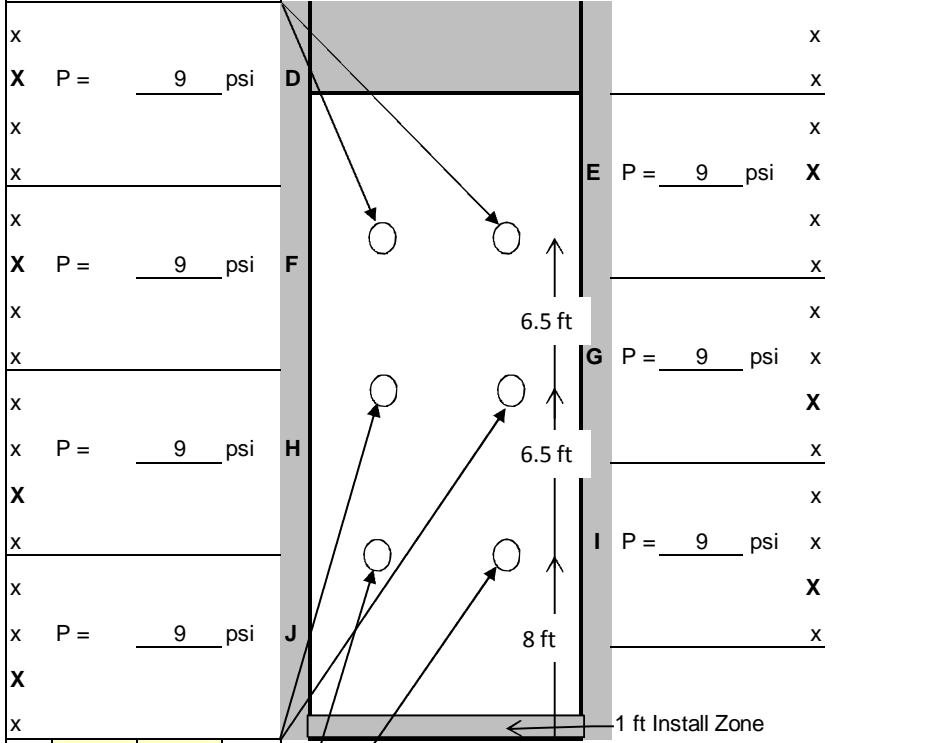
w_{c1} = 22.1%

d = 54 48 mm

i = 6.38 5.67 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	55
2	3785	20
3	3785	10
4	3785	9
5	3785	9
6	3785	9
7	3785	9
8	3785	9
9	3785	8
10	3785	8
11	3785	8
12	3785	8
13	3785	8
14	3785	8
15	3785	7
16	3785	7
17	3785	7
18	3785	7
19	3785	7
20	3785	7
21	3785	18
30	3785	0



d = 52 50 mm

i = 6.14 5.91 in/hr

x x X x

P = 9 psi Temp. 60 deg

w_{c2} = 22.5%

d = 50 51 mm

i = 5.91 6.02 in/hr

Average Depth: 51 mm

Avg Rainfall Intensity: 6.00 in/hr

NOTES:
 Wind: 1 mph. Direction: E
 Approx 145 gallons collected.

GA-CSA C-System Silt Fence

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	75
2	20	62.6
3	20	92.6

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	377	2-1	3.00	496	2-1	3.00	395
2-2	6.00	318	2-2	6.00	421	2-2	6.00	375
2-3	9.00	227	2-3	9.00	294	2-3	9.00	337
2-4	12.00	204	2-4	12.00	268	2-4	12.00	307
2-5	15.00	684	2-5	15.00	2550	2-5	15.00	437
2-6	18.00	1425	2-6	18.00	3541	2-6	18.00	2647
2-7	21.00	2658	2-7	21.00	2110	2-7	21.00	1860
avg		842	avg		1383	avg		908
4-1	3.00	3342	4-1	2.00	3094	4-1	2.00	3544
4-2	6.00	2190	4-2	4.00	2128	4-2	4.00	2861
4-3	9.00	1838	4-3	6.00	2430	4-3	6.00	2387
4-4	12.00	1981	4-4	8.00	2234	4-4	8.00	2202
4-5	15.00	1838	4-5	10.00	2044	4-5	10.00	1874
4-6	18.00	1800	4-6	12.00	2017	4-6	12.00	2383
4-7	21.00	1742	4-7	21.00	1722	4-7	21.00	1701
avg		2104	avg		2238	avg		2422
6-1	3.00	2386	6-1	3.00	2052	6-1	3.00	2080
6-2	6.00	1950	6-2	6.00	1889	6-2	6.00	2300
6-3	9.00	1882	6-3	9.00	1939	6-3	9.00	2037
6-4	12.00	1683	6-4	12.00	1945	6-4	12.00	1987
6-5	15.00	1636	6-5	15.00	1881	6-5	15.00	1918
6-6	18.00	1662	6-6	18.00	1971	6-6	18.00	1654
6-7	21.00	1384	6-7	21.00	1744	6-7	21.00	1382
avg		1798	avg		1917	avg		1908

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.01	in/hr	avg														
13-Apr-12		2-1	3.00	329.46	151.00	151.00	151.00	0.00	178.46	0.18	0.00	3.00	454.25	0.33	0.00	0.00
		2-2	6.00	342.50	152.46	149.91	149.63	280.00	192.59	0.19	1453.87	6.00	454.25	0.39	1453.87	0.00
		2-3	9.00	287.53	150.05	150.05	150.05	0.00	137.48	0.14	0.00	9.00	423.97	0.40	0.00	0.00
		2-4	12.00	325.48	150.85	150.85	150.85	0.00	174.63	0.17	0.00	12.00	378.54	0.46	0.00	0.00
		2-5	15.00	334.40	154.87	151.30	151.26	40.00	183.10	0.18	218.46	15.00	333.12	0.49	218.46	0.00
		2-6	18.00	313.83	157.95	150.91	148.13	2780.00	162.92	0.16	17063.59	18.00	196.84	0.72	17063.59	0.10
		2-7	21.00	307.00	152.31	149.56	149.31	250.00	157.44	0.16	1587.91	21.00	211.98	1.19	1587.91	0.02
										AVG =	2903.40	23.00	0	0.28	1587.91	0.00
4.06	in/hr	avg									2903.40			Total Solids Lost:		0.13
13-Apr-12		4-1	3.00	326.71	165.16	147.23	145.76	1470.00	179.48	0.18	8190.33	3.00	16.00	4.03	8190.33	0.28
		4-2	6.00	306.79	184.34	151.39	150.76	630.00	155.40	0.16	4054.05	6.00	16.00	11.25	4054.05	0.38
		4-3	9.00	344.02	181.50	151.31	150.77	540.00	192.71	0.19	2802.14	9.00	15.00	11.87	2802.14	0.28
		4-4	12.00	312.51	168.32	152.34	151.86	480.00	160.17	0.16	2996.82	12.00	15.00	12.00	2996.82	0.30
		4-5	15.00	302.71	156.88	150.98	150.54	440.00	151.73	0.15	2899.89	15.00	14.00	12.71	2899.89	0.31
		4-6	18.00	348.97	160.47	150.43	149.69	740.00	198.54	0.20	3727.21	18.00	14.00	12.86	3727.21	0.40
		4-7	21.00	341.85	173.26	150.96	150.37	590.00	190.89	0.19	3090.79	21.00	20.00	12.10	3090.79	0.31
										AVG =	3965.89	30.00	0.00	2.14	3090.79	0.06
6.00	in/hr	avg									3965.89			Total Solids Lost:		2.31
13-Apr-12		6-1	3.00	301.27	172.83	151.57	151.00	570.00	149.70	0.15	3807.62	3.00	26.00	3.43	3807.62	0.11
		6-2	6.00	339.69	163.89	151.18	150.69	490.00	188.51	0.19	2599.33	6.00	9.00	12.07	2599.33	0.26
		6-3	9.00	319.49	172.07	152.03	151.67	360.00	167.46	0.17	2149.77	9.00	8.00	20.39	2149.77	0.37
		6-4	12.00	324.76	160.28	150.75	150.15	600.00	174.01	0.17	3448.08	12.00	7.00	23.00	3448.08	0.66
		6-5	15.00	336.07	155.89	151.22	150.07	1150.00	184.85	0.18	6221.26	15.00	7.00	25.71	6221.26	1.33
		6-6	18.00	327.61	163.23	151.61	150.84	770.00	176.00	0.18	4375.00	18.00	7.00	25.71	4375.00	0.94
		6-7	21.00	349.20	149.97	150.83	149.97	860.00	198.37	0.20	4335.33	21.00	12.00	24.47	4335.33	0.88
										AVG =	3848.06	30.00	0.00	5.00	4335.33	0.18
										3848.06				Total Solids Lost:		4.74

13-Apr-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.01 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	908	0.13	0.13	0.13
2-2	2.00	575	0.08	0.08	0.21
2-3	3.00	454	0.12	0.12	0.33
2-4	4.00	469	0.13	0.13	0.46
2-5	5.00	454	0.13	0.13	0.59
2-6	6.00	454	0.13	0.13	0.72
2-7	7.00	454	0.13	0.13	0.85
2-8	8.00	454	0.13	0.13	0.99
2-9	9.00	424	0.14	0.14	1.12
2-10	10.00	394	0.15	0.15	1.27
2-11	11.00	379	0.16	0.16	1.42
2-12	12.00	379	0.16	0.16	1.58
2-13	13.00	379	0.16	0.16	1.74
2-14	14.00	379	0.16	0.16	1.90
2-15	15.00	333	0.17	0.17	2.07
2-16	16.00	273	0.20	0.20	2.27
2-17	17.00	227	0.24	0.24	2.51
2-18	18.00	197	0.28	0.28	2.79
2-19	19.00	151	0.34	0.34	3.13
2-20	20.00	106	0.47	0.47	3.60
2-21	21.00	212	0.38	0.38	3.98
2-end	23.00	0	0.28	0.28	4.26
					4.26
					Total Collected Runoff (approx)

4.06 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	76	1.59	1.59	1.59
4-2	2	61	0.88	0.88	2.47
4-3	3	16	1.57	1.57	4.03
4-4	4	16	3.75	3.75	7.78
4-5	5	16	3.75	3.75	11.53
4-6	6	16	3.75	3.75	15.28
4-7	7	15	3.87	3.87	19.15
4-8	8	15	4.00	4.00	23.15
4-9	9	15	4.00	4.00	27.15
4-10	10	15	4.00	4.00	31.15
4-11	11	15	4.00	4.00	35.15
4-12	12	15	4.00	4.00	39.15
4-13	13	14	4.14	4.14	43.29
4-14	14	14	4.29	4.29	47.57
4-15	15	14	4.29	4.29	51.86
4-16	16	14	4.29	4.29	56.14
4-17	17	14	4.29	4.29	60.43
4-18	18	14	4.29	4.29	64.71
4-19	19	14	4.29	4.29	69.00
4-20	20	14	4.29	4.29	73.28
4-21	21	20	3.53	3.53	76.81
4-end	30.00	0	2.14	2.14	78.96
					78.96
					Total Collected Runoff (approx)

6.00 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	121	0.99	0.99	0.99
6-2	2	44	0.73	0.73	1.72
6-3	3	26	1.71	1.71	3.43
6-4	4	20	2.61	2.61	6.04
6-5	5	12	3.75	3.75	9.79
6-6	6	9	5.71	5.71	15.50
6-7	7	9	6.67	6.67	22.17
6-8	8	9	6.67	6.67	28.83
6-9	9	8	7.06	7.06	35.89
6-10	10	8	7.50	7.50	43.39
6-11	11	8	7.50	7.50	50.89
6-12	12	7	8.00	8.00	58.89
6-13	13	7	8.57	8.57	67.46
6-14	14	7	8.57	8.57	76.03
6-15	15	7	8.57	8.57	84.60
6-16	16	7	8.57	8.57	93.17
6-17	17	7	8.57	8.57	101.74
6-18	18	7	8.57	8.57	110.31
6-19	19	7	8.57	8.57	118.88
6-20	20	6	9.23	9.23	128.11
6-21	21	12	6.67	6.67	134.78
6-end	30.00	0	5.00	5.00	139.78
					139.78
					Total Collected Runoff (approx)

17-Apr-12
Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.07 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	454	0.26	0.26	0.26
2-2	2.00	303	0.16	0.16	0.42
2-3	3.00	288	0.20	0.20	0.63
2-4	4.00	273	0.21	0.21	0.84
2-5	5.00	273	0.22	0.22	1.06
2-6	6.00	273	0.22	0.22	1.28
2-7	7.00	257	0.23	0.23	1.51
2-8	8.00	257	0.23	0.23	1.74
2-9	9.00	257	0.23	0.23	1.97
2-10	10.00	257	0.23	0.23	2.21
2-11	11.00	257	0.23	0.23	2.44
2-12	12.00	257	0.23	0.23	2.67
2-13	13.00	257	0.23	0.23	2.91
2-14	14.00	242	0.24	0.24	3.15
2-15	15.00	227	0.26	0.26	3.40
2-16	16.00	106	0.36	0.36	3.76
2-17	17.00	106	0.57	0.57	4.33
2-18	18.00	76	0.66	0.66	4.99
2-19	19.00	45	0.99	0.99	5.98
2-20	20.00	45	1.32	1.32	7.30
2-21	21.00	45	1.32	1.32	8.62
2-end	23.00	0	0.66	0.66	9.28
					9.28
					Total Collected Runoff (approx)

4.07 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	76	1.59	1.59	1.59
4-2	2	23	1.22	1.22	2.80
4-3	3	21	2.73	2.73	5.53
4-4	4	21	2.86	2.86	8.38
4-5	5	21	2.86	2.86	11.24
4-6	6	21	2.86	2.86	14.10
4-7	7	21	2.86	2.86	16.96
4-8	8	20	2.93	2.93	19.88
4-9	9	20	3.00	3.00	22.88
4-10	10	17	3.24	3.24	26.12
4-11	11	17	3.53	3.53	29.65
4-12	12	15	3.75	3.75	33.40
4-13	13	13	4.29	4.29	37.69
4-14	14	14	4.44	4.44	42.13
4-15	15	15	4.14	4.14	46.27
4-16	16	15	4.00	4.00	50.27
4-17	17	15	4.00	4.00	54.27
4-18	18	14	4.14	4.14	58.41
4-19	19	13	4.44	4.44	62.85
4-20	20	13	4.61	4.61	67.46
4-21	21	18	3.87	3.87	71.34
4-end	24	0	2.31	2.31	73.64
					73.64
					Total Collected Runoff (approx)

6.10 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	40	3.00	3.00	3.00
6-2	2	18	2.07	2.07	5.07
6-3	3	12	4.00	4.00	9.07
6-4	4	9	5.71	5.71	14.78
6-5	5	9	6.67	6.67	21.45
6-6	6	9	6.67	6.67	28.11
6-7	7	9	6.67	6.67	34.78
6-8	8	9	6.67	6.67	41.45
6-9	9	9	6.67	6.67	48.11
6-10	10	8	7.06	7.06	55.17
6-11	11	8	7.50	7.50	62.67
6-12	12	8	7.50	7.50	70.17
6-13	13	8	7.50	7.50	77.67
6-14	14	8	7.50	7.50	85.17
6-15	15	8	7.50	7.50	92.67
6-16	16	7	8.00	8.00	100.66
6-17	17	7	8.57	8.57	109.24
6-18	18	7	8.57	8.57	117.81
6-19	19	7	8.57	8.57	126.38
6-20	20	7	8.57	8.57	134.95
6-21	21	10	7.06	7.06	142.00
6-end	24	0	4.29	4.29	146.29
					146.29
					Total Collected Runoff (approx)

20-Apr-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.09 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	757	0.16	0.16	0.16
2-2	2.00	606	0.09	0.09	0.25
2-3	3.00	515	0.11	0.11	0.35
2-4	4.00	439	0.13	0.13	0.48
2-5	5.00	424	0.14	0.14	0.62
2-6	6.00	409	0.14	0.14	0.76
2-7	7.00	394	0.15	0.15	0.91
2-8	8.00	379	0.16	0.16	1.07
2-9	9.00	348	0.17	0.17	1.23
2-10	10.00	348	0.17	0.17	1.40
2-11	11.00	333	0.18	0.18	1.58
2-12	12.00	303	0.19	0.19	1.77
2-13	13.00	303	0.20	0.20	1.97
2-14	14.00	303	0.20	0.20	2.17
2-15	15.00	303	0.20	0.20	2.36
2-16	16.00	303	0.20	0.20	2.56
2-17	17.00	227	0.23	0.23	2.79
2-18	18.00	167	0.30	0.30	3.09
2-19	19.00	151	0.38	0.38	3.47
2-20	20.00	121	0.44	0.44	3.91
2-21	21.00	227	0.34	0.34	4.26
2-end	22.00	0	0.25	0.25	4.50
					4.50
					Total Collected Runoff (approx)

4.09 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	151	0.79	0.79	0.79
4-2	2	34	0.65	0.65	1.44
4-3	3	18	2.31	2.31	3.75
4-4	4	18	3.33	3.33	7.08
4-5	5	18	3.33	3.33	10.41
4-6	6	16	3.53	3.53	13.94
4-7	7	16	3.75	3.75	17.69
4-8	8	15	3.87	3.87	21.56
4-9	9	15	4.00	4.00	25.56
4-10	10	15	4.00	4.00	29.56
4-11	11	14	4.14	4.14	33.70
4-12	12	14	4.29	4.29	37.98
4-13	13	14	4.29	4.29	42.27
4-14	14	14	4.29	4.29	46.55
4-15	15	14	4.29	4.29	50.84
4-16	16	14	4.29	4.29	55.13
4-17	17	14	4.29	4.29	59.41
4-18	18	14	4.29	4.29	63.70
4-19	19	14	4.29	4.29	67.98
4-20	20	14	4.29	4.29	72.27
4-21	21	20	3.53	3.53	75.80
4-end	24	0	2.14	2.14	77.94
					77.94
					Total Collected Runoff (approx)

6.00 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	55	2.18	2.18	2.18
6-2	2	20	1.60	1.60	3.78
6-3	3	10	4.00	4.00	7.78
6-4	4	9	6.32	6.32	14.10
6-5	5	9	6.67	6.67	20.76
6-6	6	9	6.67	6.67	27.43
6-7	7	9	6.67	6.67	34.09
6-8	8	9	6.67	6.67	40.76
6-9	9	8	7.06	7.06	47.82
6-10	10	8	7.50	7.50	55.32
6-11	11	8	7.50	7.50	62.82
6-12	12	8	7.50	7.50	70.32
6-13	13	8	7.50	7.50	77.81
6-14	14	8	7.50	7.50	85.31
6-15	15	7	8.00	8.00	93.31
6-16	16	7	8.57	8.57	101.88
6-17	17	7	8.57	8.57	110.45
6-18	18	7	8.57	8.57	119.02
6-19	19	7	8.57	8.57	127.59
6-20	20	7	8.57	8.57	136.17
6-21	21	18	4.80	4.80	140.96
6-end	30	0	4.29	4.29	145.25
					145.25
					Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	13-Apr-12	17-Apr-12	20-Apr-12
Avg Moisture Content:	22.14%	21.78%	21.31%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	268.11	271.9	60.87
Wt. Of cup + dry soil, g	258.77	262.1	55.2
Wt. Of cup, g	216.6	216.6	28.51
Wt. Of dry soil, g	42.17	45.5	26.69
Wt. Of water, g	9.34	9.8	5.67
Water Content, w%	22.1%	21.5%	21.2%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	276.18	265.38	63.9
Wt. Of cup + dry soil, g	265.24	256.71	57.73
Wt. Of cup, g	216.71	216.71	28.51
Wt. Of dry soil, g	48.53	40	29.22
Wt. Of water, g	10.94	8.67	6.17
Water Content, w%	22.5%	21.7%	21.1%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	261.56	254.39	74.91
Wt. Of cup + dry soil, g	253.62	247.63	66.68
Wt. Of cup, g	217.06	217.06	28.51
Wt. Of dry soil, g	36.56	30.57	38.17
Wt. Of water, g	7.94	6.76	8.23
Water Content, w%	21.7%	22.1%	21.6%

Soil Loss Data

Slope No.	1	2	3
Test Date:	13-Apr-12	17-Apr-12	20-Apr-12
Total Soil Loss	7.04	7.54	7.90

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	59.0	95.3	118.0
Sub-Sample	Wt. Of cup + wet soil, g	59.0	95.3
	Wt. Of cup + dry soil, g	59.0	95.3
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	59	95.3
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.130	0.210	0.260

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	1080.5	1107.8	1366.5
Sub-Sample	Wt. Of cup + wet soil, g	1080.5	1107.8
	Wt. Of cup + dry soil, g	1080.5	1107.8
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	1080.5	1107.8
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	2.380	2.440	3.010

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	2056.6	2220.1	2102.0
Sub-Sample	Wt. Of cup + wet soil, g	2056.6	2220.1
	Wt. Of cup + dry soil, g	2056.6	2220.1
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	2056.6	2220.1
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	4.530	4.890	4.630



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 25-Apr-12 25-Apr-12 1-May-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: 111F

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.05	6.71	6.74	0.100	0.010
	3.98	72.07	50.42	2.180	0.230
	5.98	132.77	162.21	4.970	0.731
Bare Soil Controls			6.74		0.855
			50.42		6.393
			162.21		20.568

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.03	6.35	6.61	0.020	0.002
	3.96	67.19	49.77	2.000	0.204
	6.02	128.21	162.79	4.380	0.645
Bare Soil Controls			6.61		0.838
			49.77		6.311
			162.79		20.641

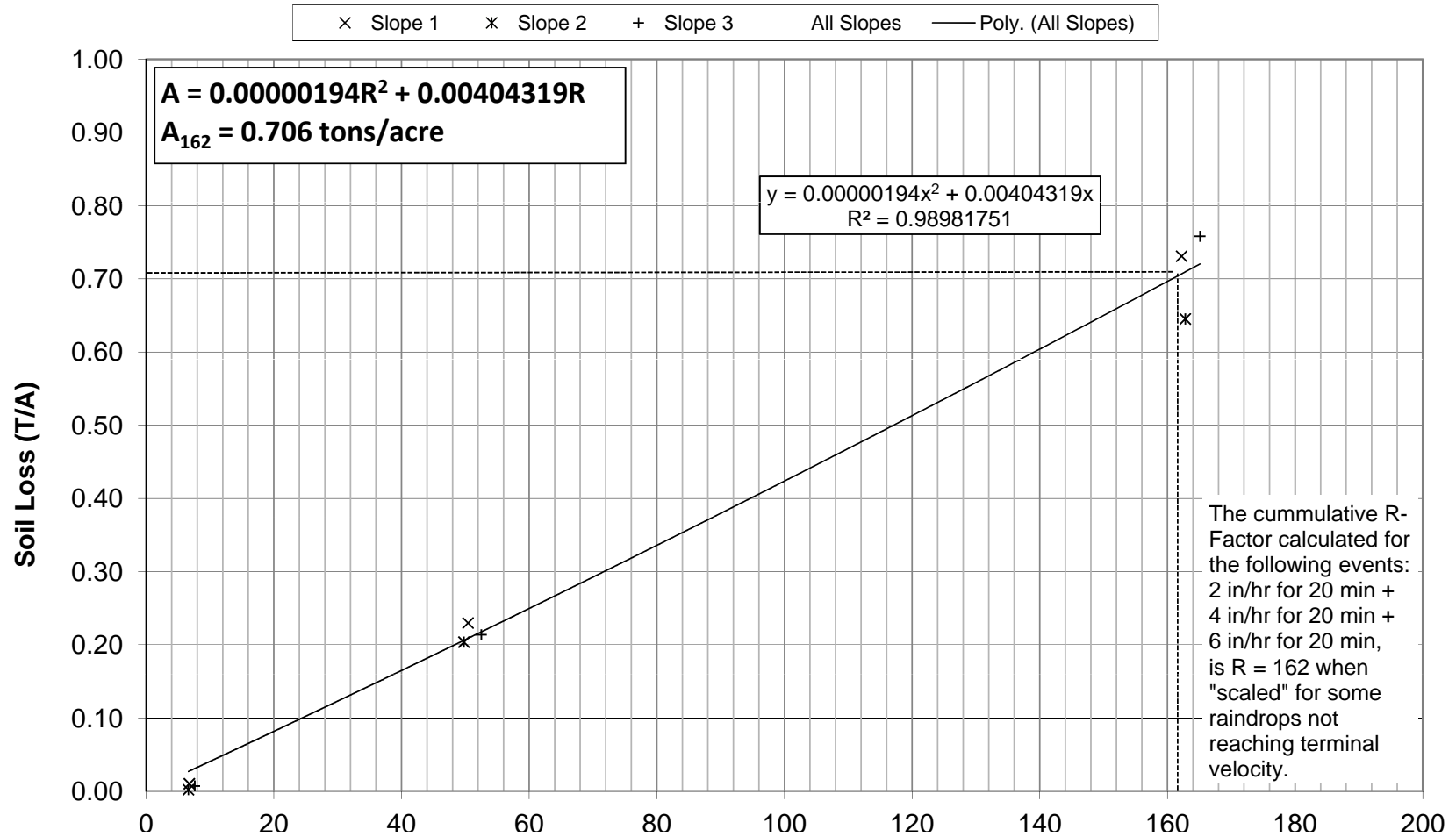
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.17	4.52	7.60	0.070	0.007
	4.00	71.39	52.49	2.050	0.214
	6.00	132.84	165.10	5.400	0.758
Bare Soil Controls			7.60		0.964
			52.49		6.656
			165.10		20.934

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)

 Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)





TYPICAL TESTING PICTURES



Test Slope Prepared and Fence Installed



After 2 in/hr Event



After 4 in/hr Event



After 6 in/hr Event



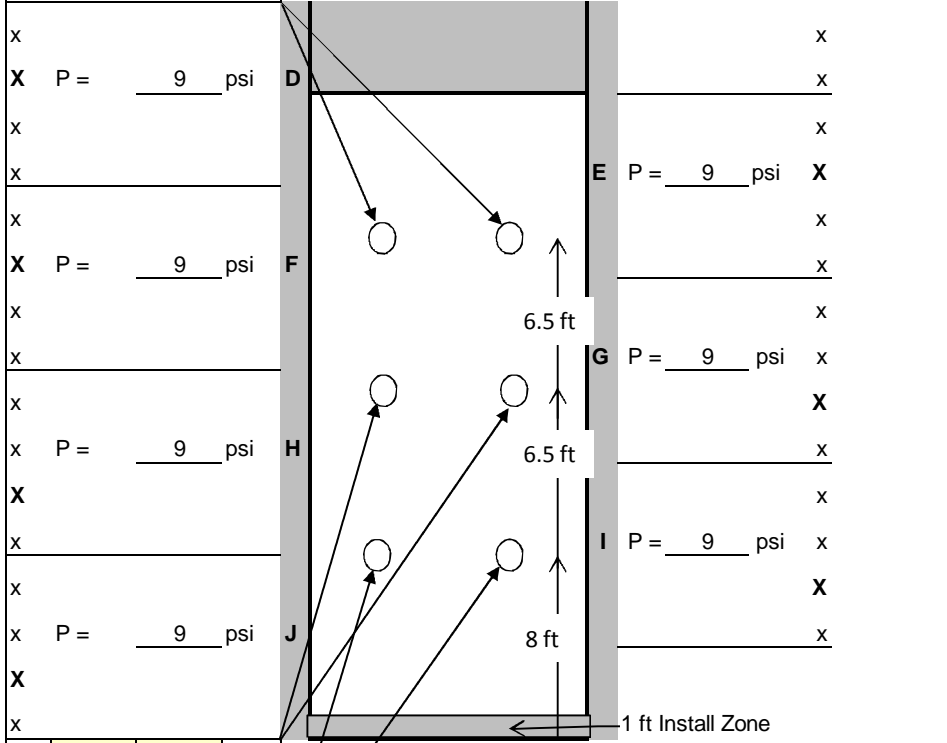
Typical Control Run - Before and After

DDRF Rainfall Testing

Slope #: <u>1</u>	Target Rain: <u>2 in/hr</u>	Sediment Concentration & Turbidity Grab Samples	
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Date: <u>25-Apr-12</u>	Start Rain: <u>9:09 AM</u>	End Rain: <u>9:29 AM</u>	Time	Sed Conc Samples Taken	Turbidity Samples Taken
	Sampling interval: <u>0:03</u>	End Runoff: <u>9:31 AM</u>	9:12	X	X
	Rain Time (min): <u>20.00</u>	Test Time (min): <u>22.00</u>	9:15	X	X
Product: <u>111F</u>	Descr.: <u>Propex Type C Silt Fence</u>		9:18	X	X
Lot #: <u></u>	Posts: <u>Steel</u>	Spacing: <u>4-ft</u>	9:21	X	X
			9:24	X	X
			9:27	X	X
$w_{c1} = 21.8\%$	TOP OF SLOPE		9:30	X	X
	(circle "x" for open valves)	Set valves to 16 psi.			

d = 19 20 mm
 i = 2.24 2.36 in/hr



d = 15 19 mm
 i = 1.77 2.24 in/hr

$w_{c2} = 21.5\%$

d = 15 16 mm
 i = 1.77 1.89 in/hr

$w_{c3} = 21.8\%$

x x **X** x
 P = 9 psi Temp. 53 deg
 Hum. 71 %

Average Depth: 17 mm
Avg Rainfall Intensity: 2.05 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	50
2	250	44
3	250	43
4	250	39
5	250	26
6	250	21
7	250	13
8	250	12
9	250	12
10	250	12
11	250	11
12	250	11
13	250	10
14	250	10
15	250	9
16	250	9
17	250	8
18	250	8
19	250	8
20	250	8
21	250	24
22	250	0

NOTES:
 Wind: 0-3 mph. Direction: E
 Approx 7 gallons collected.

DDRF Rainfall Testing

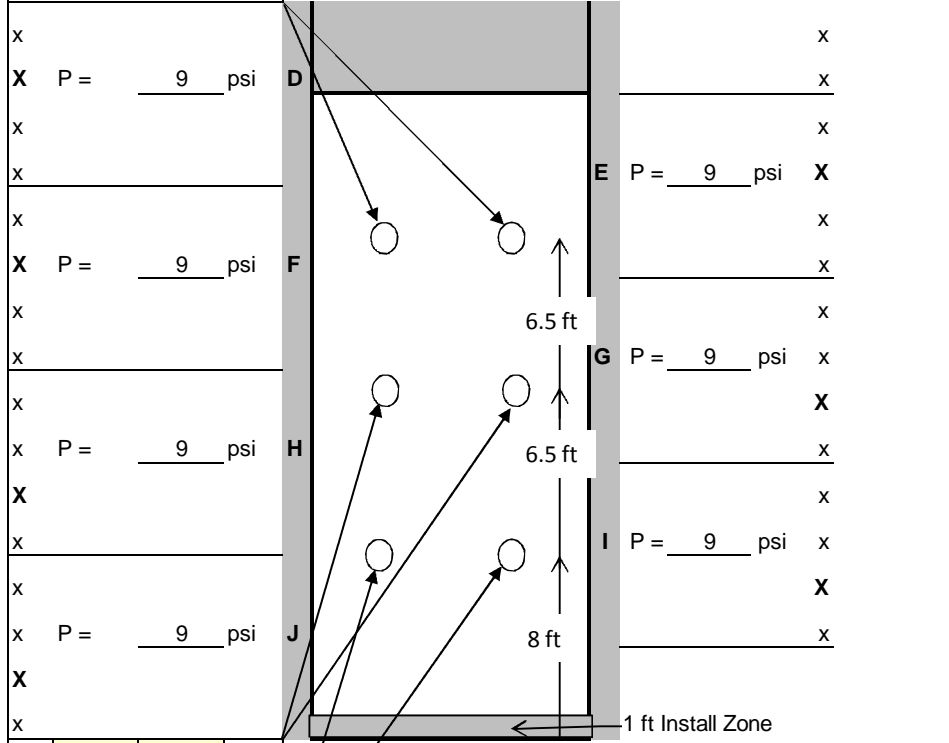
Slope #: 1	Target Rain: 4 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date: 27-Apr-12	Start Rain: 7:00 AM	End Rain: 7:20 AM	Time: 7:03	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
	Sampling interval: 0:03	End Runoff: 7:23 AM	7:06	X	X
	Rain Time (min): 20.00	Test Time (min): 23.00	7:09	X	X
Product: 111F	Descr.: Propex Type C Silt Fence		7:12	X	X
Lot #: []	Posts: Steel	Spacing: 4-ft	7:15	X	X
TOP OF SLOPE			7:18	X	X
(circle "x" for open valves)			7:21	X	X

w_{c1} = 21.8%

d = 34 35 mm

i = 4.02 4.13 in/hr



d = 33 33 mm

i = 3.90 3.90 in/hr

P = 9 psi

Temp. 61 deg

w_{c2} = 21.5%

d = 33 34 mm

i = 3.90 4.02 in/hr

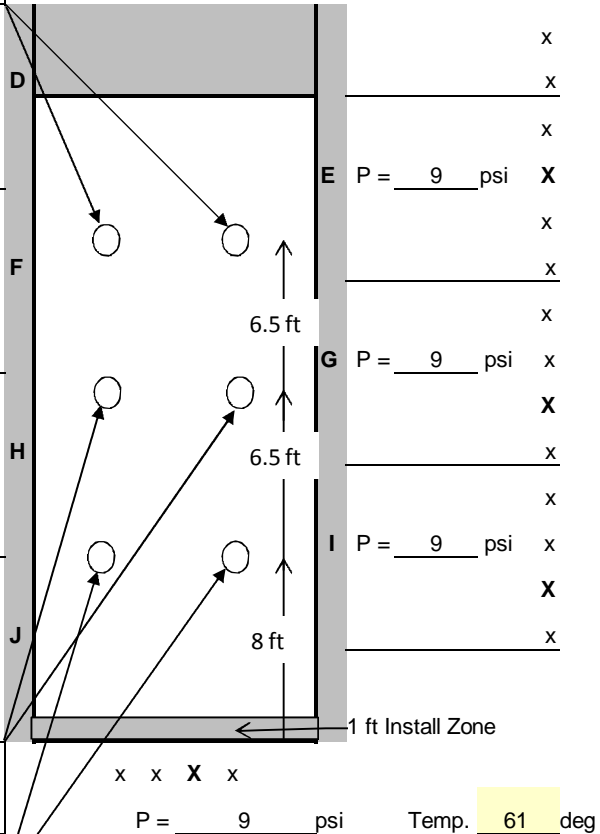
w_{c3} = 21.8%

Average Depth: 34 mm
Avg Rainfall Intensity: 3.98 in/hr

Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	250	15
2	250	13
3	250	11
4	250	9
5	3785	44
6	3785	34
7	3785	22
8	3785	14
9	3785	14
10	3785	15
11	3785	14
12	3785	14
13	3785	13
14	3785	13
15	3785	12
16	3785	12
17	3785	12
18	3785	12
19	3785	11
20	3785	11
21	3785	21
23	3785	0

NOTES:
 Wind: 0 mph. Direction: N
 Approx 70 gallons collected.

DDRF Rainfall Testing				Sediment Concentration & Turbidity Grab Samples				
Slope #: <u>1</u>		Target Rain: <u>6 in/hr</u>		Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	<u>27-Apr-12</u>	Start Rain:	<u>7:30 AM</u>	End Rain:	<u>7:50 AM</u>	7:33	X	X
		Sampling interval:	<u>0:03</u>	End Runoff:	<u>8:00 AM</u>	7:36	X	X
		Rain Time (min):	<u>20.00</u>	Test Time (min):	<u>30.00</u>	7:39	X	X
Product:	<u>111F</u>	Descr.:	<u>Propex Type C Silt Fence</u>			7:42	X	X
Lot #:		Posts:	<u>Steel</u>	Spacing:	<u>4-ft</u>	7:45	X	X
		TOP OF SLOPE				7:48	X	X
		(circle "x" for open valves)		Set valves to 16 psi.		7:51	X	X
d =	<u>48</u>	<u>49</u>	mm	Runoff Rate Measurements				
i =	<u>5.67</u>	<u>5.79</u>	in/hr					
x				Min.	Volume	Seconds		
X P =	<u>9</u>		psi	1	3785	30		
x				2	3785	10		
x				3	3785	10		
x				4	3785	10		
X P =	<u>9</u>		psi	5	3785	10		
x				6	3785	9		
x				7	3785	9		
x				8	3785	9		
X P =	<u>9</u>		psi	9	3785	9		
x				10	3785	9		
x				11	3785	9		
X P =	<u>9</u>		psi	12	3785	9		
x				13	3785	9		
x				14	3785	9		
X P =	<u>9</u>		psi	15	3785	9		
x				16	3785	9		
x				17	3785	9		
d =	<u>50</u>	<u>55</u>	mm	18	3785	9		
i =	<u>5.91</u>	<u>6.50</u>	in/hr	19	3785	9		
w _{c2} =	<u>21.5%</u>			20	3785	9		
d =	<u>50</u>	<u>52</u>	mm	21	3785	16		
i =	<u>5.91</u>	<u>6.14</u>	in/hr	30	3785	0		
w _{c3} =	<u>21.8%</u>							



NOTES:
 Wind: 0 mph. Direction: N
 Approx 130 gallons collected.

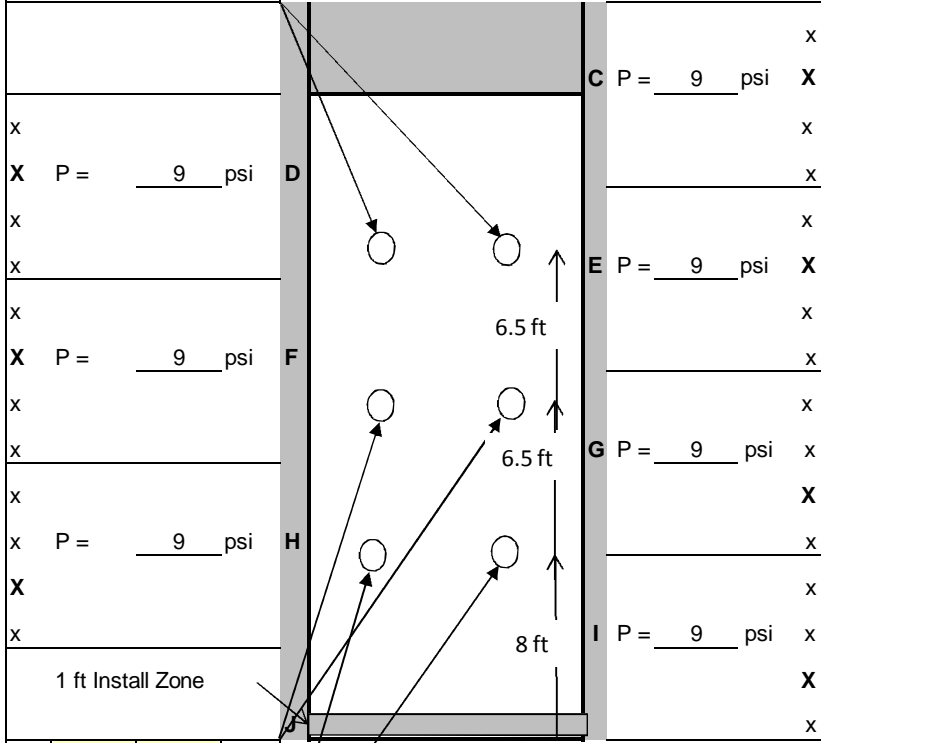
Average Depth: 51 mm
Avg Rainfall Intensity: 5.98 in/hr

DDRF Rainfall Testing

Slope #: 2	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date: 25-Apr-12	Start Rain: 7:06 AM	End Rain: 7:26 AM	Time: 7:09	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
	Sampling interval: 0:03	End Runoff: 7:28 AM	7:12	X	X
	Rain Time (min): 20.00	Test Time (min): 22.00	7:15	X	X
Product: 111F	Descr.: Propex Type C Silt Fence		7:18	X	X
Lot #:	Posts: Steel	Spacing: 4-ft	7:21	X	X
	TOP OF SLOPE		7:24	X	X
$w_{c1} = 21.8\%$	(circle "x" for open valves)		7:27	X	X
	Set valves to 16 psi.				

d = 18 20 mm
i = 2.13 2.36 in/hr



Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	45
2	250	45
3	250	44
4	250	34
5	250	23
6	250	16
7	250	13
8	250	11
9	250	12
10	250	12
11	250	12
12	250	12
13	250	11
14	250	11
15	250	12
16	250	10
17	250	10
18	250	9
19	250	9
20	250	9
21	250	18
22	250	0

d = 17 16 mm
i = 2.01 1.89 in/hr
 $w_{c2} = 21.5\%$

x x X x
P = 9 psi Temp. 46 deg
Hum. 83 %

Average Depth: 17 mm
Avg Rainfall Intensity: 2.03 in/hr

d = 16 16 mm
i = 1.89 1.89 in/hr
 $w_{c3} = 21.8\%$

NOTES:
Wind: 0 mph. Direction: E
Approx 2 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken			
Date:	25-Apr-12	Start Rain: Sampling interval:	7:34 AM 0:03	End Rain: 7:54 AM	7:37	X	X		
		End Runoff:	7:57 AM	7:40	X	X			
		Rain Time (min):	20.00	Test Time (min):	23.00	7:43	X	X	
Product:	111F	Descr.:	Propex Type C Silt Fence				7:46	X	X
Lot #:		Posts:	Steel	Spacing:	4-ft	7:49	X	X	
TOP OF SLOPE				7:52	X	X			
(circle "x" for open valves)				7:55	X	X			

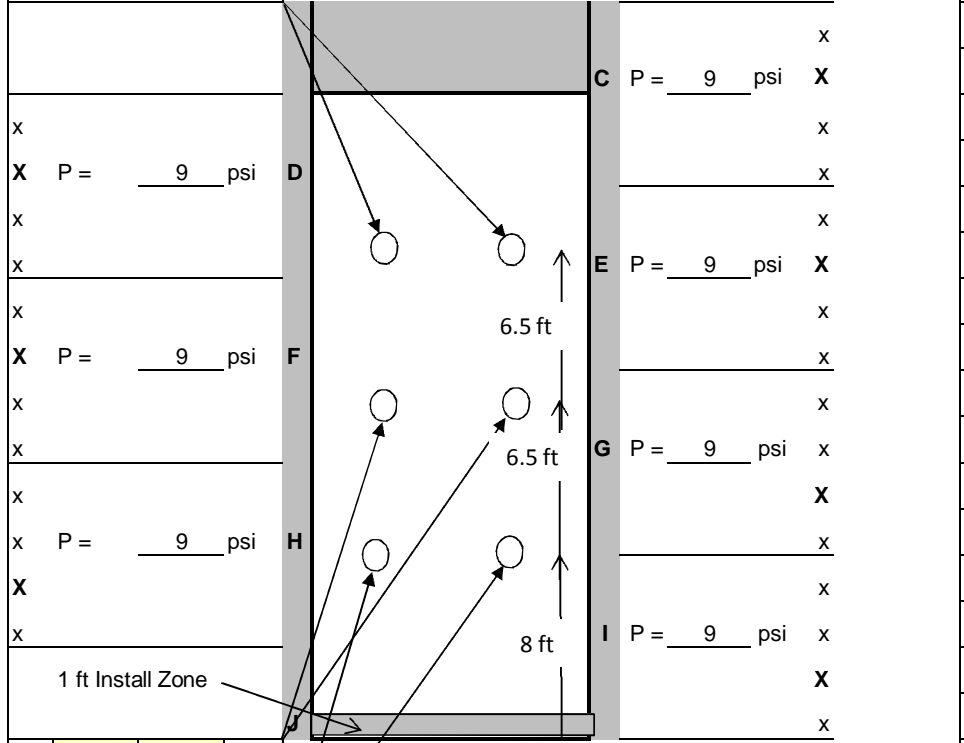
w_{c1} = 21.8%

d = 33 34 mm

i = 3.90 4.02 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	12
2	250	8
3	250	6
4	3785	54
5	3785	41
6	3785	30
7	3785	24
8	3785	22
9	3785	16
10	3785	14
11	3785	14
12	3785	14
13	3785	14
14	3785	13
15	3785	13
16	3785	13
17	3785	13
18	3785	13
19	3785	13
20	3785	13
21	3785	35
23	3785	0



d = 32 33 mm

i = 3.78 3.90 in/hr

w_{c2} = 21.5%

d = 34 35 mm

i = 4.02 4.13 in/hr

w_{c3} = 21.8%

Average Depth: 34 mm

Avg Rainfall Intensity: 3.96 in/hr

P = 9 psi Temp. 47 deg Hum. 79 %

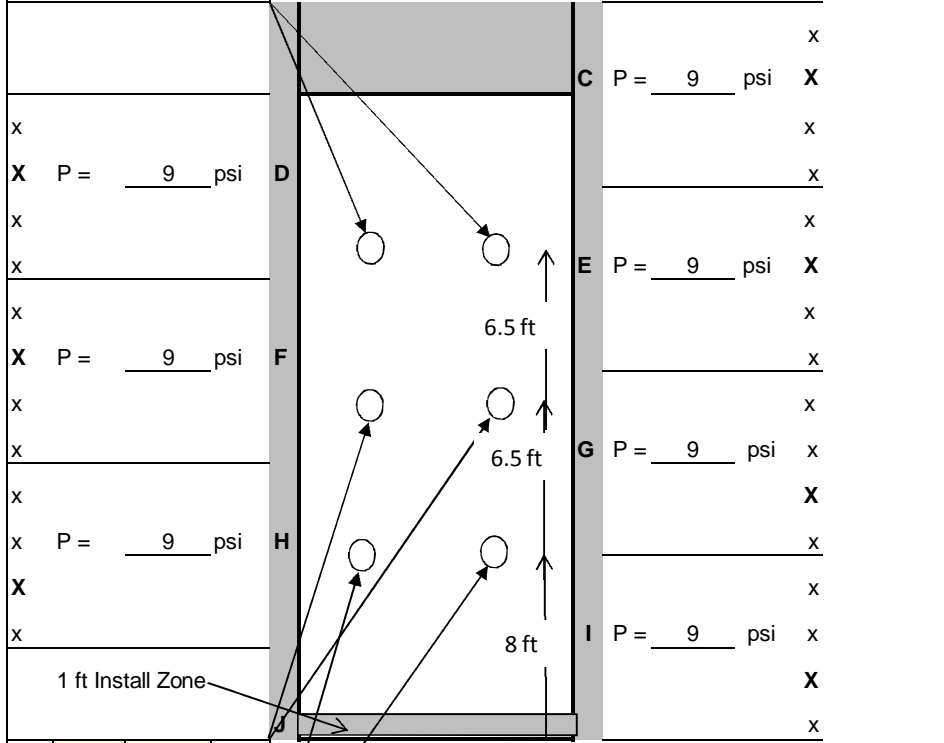
NOTES:
 Wind: 0 mph. Direction: E
 Approx 65 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples				
				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	25-Apr-12	Start Rain:	8:01 AM	End Rain:	8:21 AM	8:04	X	X
		Sampling interval:	0:03	End Runoff:	8:31 AM	8:07	X	X
		Rain Time (min):	20.00	Test Time (min):	30.00	8:10	X	X
Product:	111F	Descr.:	Propex Type C Silt Fence		8:13	X	X	
Lot #:		Posts:	Steel	Spacing:	4-ft	8:16	X	X
TOP OF SLOPE				8:19	X	X		
(circle "x" for open valves)				8:22	X	X		
w _{c1} = 21.8%				Set valves to 16 psi.				

d = 51 51 mm
i = 6.02 6.02 in/hr



d = 52 52 mm
i = 6.14 6.14 in/hr

w_{c2} = 21.5%

d = 50 50 mm
i = 5.91 5.91 in/hr

w_{c3} = 21.8%

x x X x
P = 9 psi Temp. 47 deg
Hum. 76 %

Average Depth: 51 mm
Avg Rainfall Intensity: 6.02 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	38
2	3785	13
3	3785	12
4	3785	11
5	3785	10
6	3785	10
7	3785	10
8	3785	10
9	3785	10
10	3785	9
11	3785	9
12	3785	9
13	3785	9
14	3785	9
15	3785	9
16	3785	9
17	3785	9
18	3785	9
19	3785	9
20	3785	9
21	3785	9
30	3785	0

NOTES:
Wind: 0 mph. Direction: E
Approx 125 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 2 in/hr**

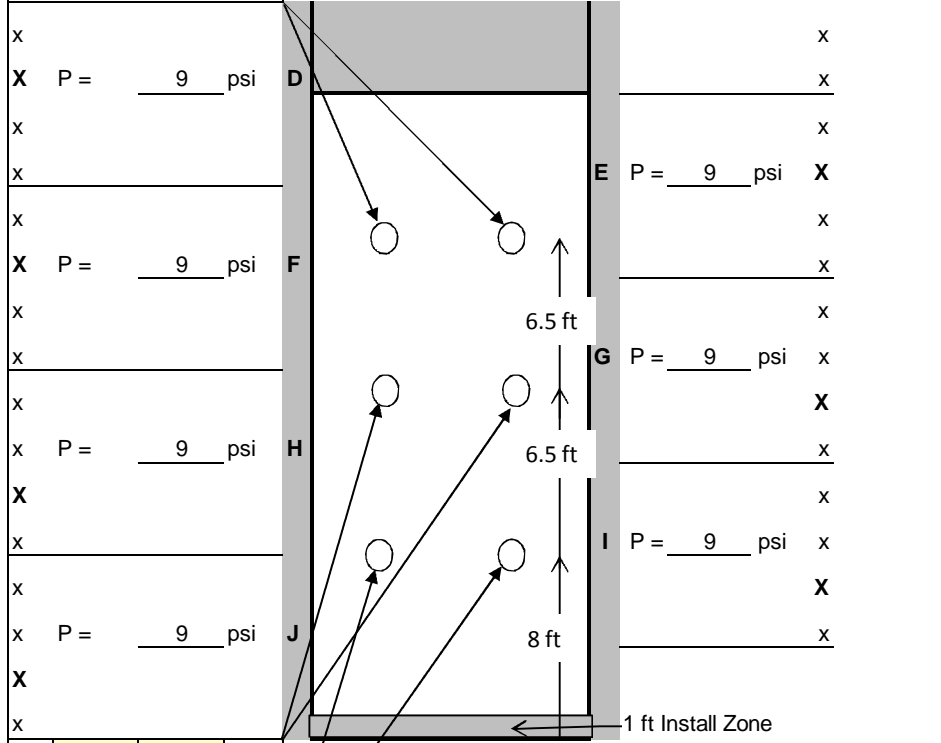
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	1-May-12	Start Rain: Sampling interval:	6:58 AM 0:03	End Rain:	7:18 AM	X
		End Runoff:	7:20 AM	7:01	X	X
		Rain Time (min):	20.00	7:04	X	X
		Test Time (min):	22.00	7:07	X	X
Product:	111F	Descr.:	Propex Type C Silt Fence	7:10	X	X
Lot #:		Posts:	Steel	7:13	X	X
		Spacing:	4-ft	7:16	X	X
		TOP OF SLOPE		7:19	X	X
		(circle "x" for open valves)				
		Set valves to 16 psi.				

w_{c1} = 21.8%

d = 18 19 mm

i = 2.13 2.24 in/hr



Runoff Rate Measurements

Min.	Volume	Seconds
1	250	43
2	250	43
3	250	37
4	250	35
5	250	33
6	250	33
7	250	31
8	250	31
9	250	30
10	250	30
11	250	30
12	250	26
13	250	24
14	250	20
15	250	18
16	250	17
17	250	15
18	250	10
19	250	8
20	250	7
21	250	12
22	250	0

d = 17 18 mm

i = 2.01 2.13 in/hr

P = 9 psi Temp. 67 deg

w_{c2} = 21.5%

Hum. 86 %

d = 18 20 mm

i = 2.13 2.36 in/hr

Average Depth: 18 mm

w_{c3} = 21.8%

Avg Rainfall Intensity: 2.17 in/hr

NOTES: Test on Slope G1
 Wind: 0 mph. Direction: N
 Approx 5 gallons collected.

DDRF Rainfall Testing

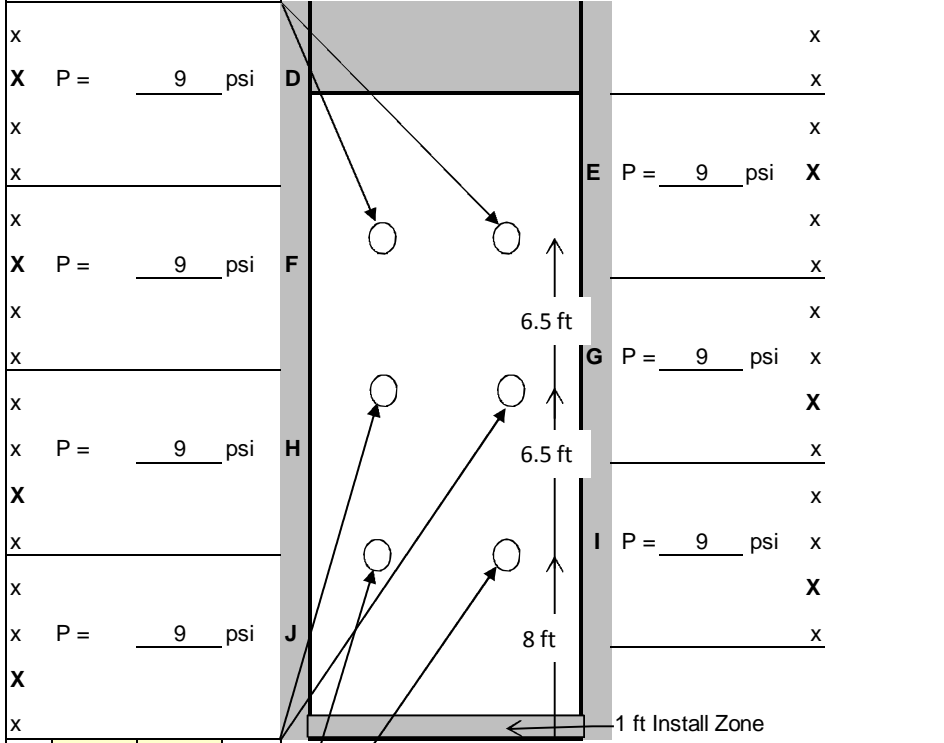
Slope #: <u>3</u>	Target Rain: <u>4 in/hr</u>	Sediment Concentration & Turbidity Grab Samples	
		Time	Sed Conc Samples Taken

Date:	1-May-12	Start Rain:	7:26 AM	End Rain:	7:46 AM	7:29	X	X
		Sampling interval:	0:03	End Runoff:	7:49 AM	7:32	X	X
		Rain Time (min):	20.00	Test Time (min):	23.00	7:35	X	X
Product:	111F	Descr.:	Propex Type C Silt Fence			7:38	X	X
Lot #:		Posts:	Steel	Spacing:	4-ft	7:41	X	X
		TOP OF SLOPE				7:44	X	X
		(circle "x" for open valves)				7:47	X	X

w_{c1} = 21.8%

d = mm

i = 4.02 4.13 in/hr



d = mm

i = 3.78 3.66 in/hr

w_{c2} = 21.5%

d = mm

i = 4.25 4.13 in/hr

w_{c3} = 21.8%

Average Depth: **34 mm**

Avg Rainfall Intensity: **4.00 in/hr**

Temp. deg

Hum. %

P = psi

Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	250	10
2	3785	45
3	3785	34
4	3785	22
5	3785	20
6	3785	18
7	3785	18
8	3785	17
9	3785	16
10	3785	16
11	3785	16
12	3785	16
13	3785	15
14	3785	15
15	3785	15
16	3785	15
17	3785	14
18	3785	14
19	3785	14
20	3785	13
21	3785	23
23	3785	0

NOTES:

Wind: 0 mph. Direction: N

Approx 70 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	1-May-12	Start Rain: 7:56 AM	End Rain: 8:16 AM	7:59	X	X
		Sampling interval: 0:03	End Runoff: 8:26 AM	8:02	X	X
		Rain Time (min): 20.00	Test Time (min): 30.00	8:05	X	X
Product:	111F	Descr.: Propex Type C Silt Fence		8:08	X	X
Lot #:		Posts: Steel	Spacing: 4-ft	8:11	X	X
TOP OF SLOPE				8:14	X	X
(circle "x" for open valves)				8:17	X	X

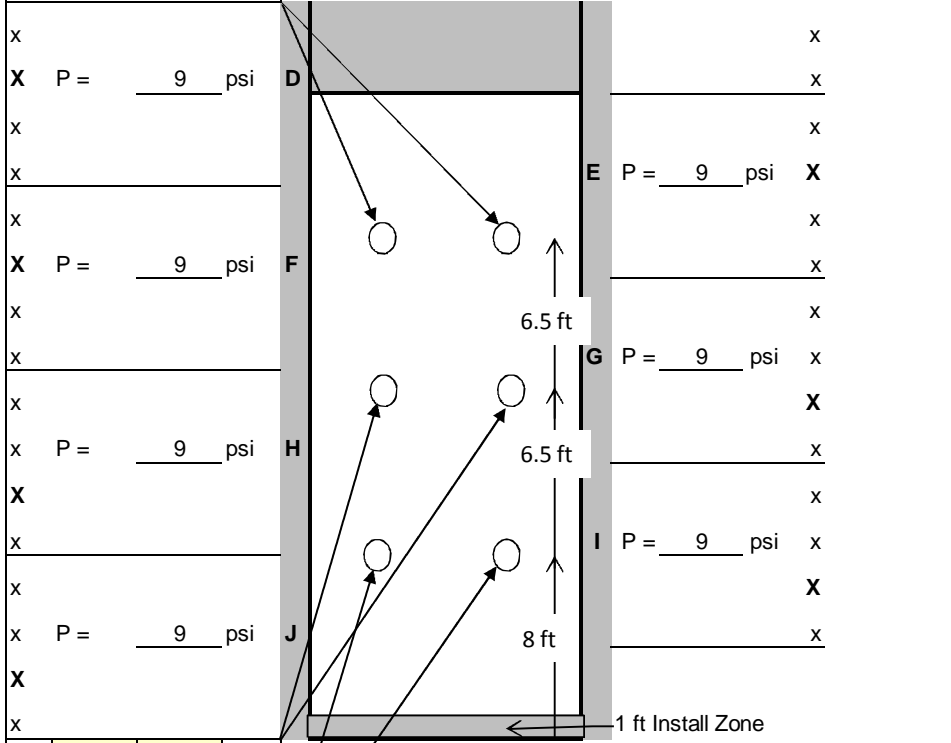
w_{c1} = 21.8%

d = 51 52 mm

i = 6.02 6.14 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	27
2	3785	16
3	3785	12
4	3785	11
5	3785	10
6	3785	10
7	3785	10
8	3785	9
9	3785	9
10	3785	9
11	3785	9
12	3785	9
13	3785	9
14	3785	9
15	3785	9
16	3785	8
17	3785	8
18	3785	8
19	3785	8
20	3785	8
21	3785	18
30	3785	0



d = 49 51 mm

i = 5.79 6.02 in/hr

w_{c2} = 21.5%

d = 51 51 mm

i = 6.02 6.02 in/hr

w_{c3} = 21.8%

x x X x

P = 9 psi Temp. 65 deg

Hum. 92 %

Average Depth: 51 mm

Avg Rainfall Intensity: 6.00 in/hr

NOTES:
 Wind: 0-2 mph. Direction: N
 Approx 135 gallons collected.

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	168
2	20	125
3	20	155

111F Propex Type C Silt Fence

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	322	2-1	3.00	240	2-1	3.00	303
2-2	6.00	477	2-2	6.00	131	2-2	6.00	479
2-3	9.00	529	2-3	9.00	160	2-3	9.00	388
2-4	12.00	329	2-4	12.00	136	2-4	12.00	1793
2-5	15.00	380	2-5	15.00	128	2-5	15.00	2177
2-6	18.00	393	2-6	18.00	140	2-6	18.00	3296
2-7	21.00	555	2-7	21.00	129	2-7	21.00	2107
avg		426	avg		152	avg		1506
4-1	3.00	4115	4-1	2.00	2471	4-1	2.00	6939
4-2	6.00	2869	4-2	4.00	2896	4-2	4.00	3841
4-3	9.00	2641	4-3	6.00	2864	4-3	6.00	3081
4-4	12.00	2507	4-4	8.00	2660	4-4	8.00	3060
4-5	15.00	2269	4-5	10.00	2692	4-5	10.00	2751
4-6	18.00	2151	4-6	12.00	2473	4-6	12.00	2687
4-7	21.00	1697	4-7	21.00	1345	4-7	21.00	1544
avg		2607	avg		2486	avg		3415
6-1	3.00	2492	6-1	3.00	2605	6-1	3.00	3117
6-2	6.00	2277	6-2	6.00	2360	6-2	6.00	2693
6-3	9.00	1906	6-3	9.00	2368	6-3	9.00	2505
6-4	12.00	1875	6-4	12.00	2123	6-4	12.00	2521
6-5	15.00	1658	6-5	15.00	1924	6-5	15.00	2397
6-6	18.00	1680	6-6	18.00	1767	6-6	18.00	2181
6-7	21.00	1114	6-7	21.00	1037	6-7	21.00	1343
avg		1857	avg		2026	avg		2394

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.05	in/hr	avg														
25-Apr-12		2-1	3.00	323.17	166.66	150.57	146.79	3780.00	172.60	0.17	21900.35	3.00	651.09	0.33	21900.35	0.06
		2-2	6.00	331.35	172.20	151.73	151.35	380.00	179.62	0.18	2115.58	6.00	317.97	0.39	2115.58	0.01
		2-3	9.00	324.13	161.57	149.42	149.07	350.00	174.71	0.17	2003.32	9.00	181.70	0.88	2003.32	0.01
		2-4	12.00	347.94	165.56	152.05	151.88	170.00	195.89	0.20	867.83	12.00	166.56	1.04	867.83	0.01
		2-5	15.00	328.36	163.70	149.56	147.75	1810.00	178.80	0.18	10123.04	15.00	136.27	1.19	10123.04	0.10
		2-6	18.00	323.88	167.06	149.38	149.01	370.00	174.50	0.17	2120.34	18.00	121.13	1.40	2120.34	0.02
		2-7	21.00	33.22	165.52	148.98	148.82	160.00	-115.76	-0.12	-1382.17	21.00	363.40	1.24	-1382.17	-0.01
										AVG =	5392.61	22.00	0	0.25	-1382.17	0.00
3.98	in/hr	avg									5392.61			Total Solids Lost:		0.20
27-Apr-12		4-1	3.00	330.28	174.64	152.09	150.60	1490.00	178.19	0.18	8361.86	3.00	166.56	1.14	8361.86	0.08
		4-2	6.00	330.36	174.50	152.72	151.75	970.00	177.64	0.18	5460.48	6.00	34.00	2.60	5460.48	0.12
		4-3	9.00	355.55	184.47	151.27	150.59	680.00	204.28	0.20	3328.76	9.00	14.00	9.76	3328.76	0.27
		4-4	12.00	393.80	182.91	146.87	146.59	280.00	246.93	0.25	1133.92	12.00	14.00	12.56	1133.92	0.12
		4-5	15.00	349.51	185.26	148.14	147.33	810.00	201.37	0.20	4022.45	15.00	12.00	13.86	4022.45	0.47
		4-6	18.00	325.91	177.64	150.11	149.58	530.00	175.80	0.18	3014.79	18.00	12.00	15.00	3014.79	0.38
		4-7	21.00	230.82	165.79	148.26	147.65	610.00	82.56	0.08	7388.57	21.00	21.00	14.42	7388.57	0.89
										AVG =	4672.98	23.00	0.00	2.73	7388.57	0.17
5.98	in/hr	avg									4672.98			Total Solids Lost:		2.49
27-Apr-12		6-1	3.00	312.86	192.48	151.49	150.38	1110.00	161.37	0.16	6878.60	3.00	10.00	13.00	6878.60	0.75
		6-2	6.00	321.26	189.99	148.13	147.45	680.00	173.13	0.17	3927.68	6.00	9.00	18.31	3927.68	0.60
		6-3	9.00	312.98	193.66	150.57	149.93	640.00	162.41	0.16	3940.64	9.00	9.00	20.00	3940.64	0.66
		6-4	12.00	333.90	181.96	148.66	148.06	600.00	185.24	0.19	3239.04	12.00	9.00	20.00	3239.04	0.54
		6-5	15.00	355.06	183.44	150.34	149.17	1170.00	204.72	0.20	5715.12	15.00	9.00	20.00	5715.12	0.95
		6-6	18.00	325.94	189.16	150.31	149.77	540.00	175.63	0.18	3074.65	18.00	9.00	20.00	3074.65	0.51
		6-7	21.00	325.18	179.17	149.66	148.44	1220.00	175.52	0.18	6950.77	21.00	16.00	18.13	6950.77	1.05
										AVG =	4818.07	30.00	0.00	3.33	6950.77	0.19
										4818.07				Total Solids Lost:		5.26

25-Apr-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.05 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	757	0.16	0.16	0.16
2-2	2.00	666	0.08	0.08	0.24
2-3	3.00	651	0.09	0.09	0.33
2-4	4.00	591	0.10	0.10	0.43
2-5	5.00	394	0.12	0.12	0.55
2-6	6.00	318	0.17	0.17	0.72
2-7	7.00	197	0.23	0.23	0.95
2-8	8.00	182	0.32	0.32	1.27
2-9	9.00	182	0.33	0.33	1.60
2-10	10.00	182	0.33	0.33	1.93
2-11	11.00	167	0.34	0.34	2.28
2-12	12.00	167	0.36	0.36	2.64
2-13	13.00	151	0.38	0.38	3.01
2-14	14.00	151	0.40	0.40	3.41
2-15	15.00	136	0.42	0.42	3.83
2-16	16.00	136	0.44	0.44	4.27
2-17	17.00	121	0.47	0.47	4.73
2-18	18.00	121	0.50	0.50	5.23
2-19	19.00	121	0.50	0.50	5.72
2-20	20.00	121	0.50	0.50	6.22
2-21	21.00	363	0.25	0.25	6.47
2-end	22.00	0	0.25	0.25	6.71
					6.71
					Total Collected Runoff (approx)

3.98 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	227	0.53	0.53	0.53
4-2	2	197	0.28	0.28	0.81
4-3	3	167	0.33	0.33	1.14
4-4	4	136	0.40	0.40	1.54
4-5	5	44	0.67	0.67	2.20
4-6	6	34	1.54	1.54	3.74
4-7	7	22	2.14	2.14	5.88
4-8	8	14	3.33	3.33	9.22
4-9	9	14	4.29	4.29	13.50
4-10	10	15	4.14	4.14	17.64
4-11	11	14	4.14	4.14	21.78
4-12	12	14	4.29	4.29	26.06
4-13	13	13	4.44	4.44	30.51
4-14	14	13	4.61	4.61	35.12
4-15	15	12	4.80	4.80	39.92
4-16	16	12	5.00	5.00	44.92
4-17	17	12	5.00	5.00	49.92
4-18	18	12	5.00	5.00	54.92
4-19	19	11	5.22	5.22	60.14
4-20	20	11	5.45	5.45	65.59
4-21	21	21	3.75	3.75	69.34
4-end	23.00	0	2.73	2.73	72.07
					72.07
					Total Collected Runoff (approx)

5.98 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	30	4.00	4.00	4.00
6-2	2	10	3.00	3.00	7.00
6-3	3	10	6.00	6.00	13.00
6-4	4	10	6.00	6.00	19.00
6-5	5	10	6.00	6.00	25.00
6-6	6	9	6.32	6.32	31.31
6-7	7	9	6.67	6.67	37.98
6-8	8	9	6.67	6.67	44.64
6-9	9	9	6.67	6.67	51.31
6-10	10	9	6.67	6.67	57.98
6-11	11	9	6.67	6.67	64.64
6-12	12	9	6.67	6.67	71.31
6-13	13	9	6.67	6.67	77.97
6-14	14	9	6.67	6.67	84.64
6-15	15	9	6.67	6.67	91.31
6-16	16	9	6.67	6.67	97.97
6-17	17	9	6.67	6.67	104.64
6-18	18	9	6.67	6.67	111.30
6-19	19	9	6.67	6.67	117.97
6-20	20	9	6.67	6.67	124.64
6-21	21	16	4.80	4.80	129.44
6-end	30.00	0	3.33	3.33	132.77
					132.77
					Total Collected Runoff (approx)

25-Apr-12
Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.03 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	681	0.18	0.18	0.18
2-2	2.00	681	0.09	0.09	0.26
2-3	3.00	666	0.09	0.09	0.35
2-4	4.00	515	0.10	0.10	0.45
2-5	5.00	348	0.14	0.14	0.59
2-6	6.00	242	0.20	0.20	0.80
2-7	7.00	197	0.27	0.27	1.07
2-8	8.00	167	0.33	0.33	1.40
2-9	9.00	182	0.34	0.34	1.75
2-10	10.00	182	0.33	0.33	2.08
2-11	11.00	182	0.33	0.33	2.41
2-12	12.00	182	0.33	0.33	2.74
2-13	13.00	167	0.34	0.34	3.08
2-14	14.00	167	0.36	0.36	3.44
2-15	15.00	182	0.34	0.34	3.79
2-16	16.00	151	0.36	0.36	4.15
2-17	17.00	151	0.40	0.40	4.54
2-18	18.00	136	0.42	0.42	4.96
2-19	19.00	136	0.44	0.44	5.40
2-20	20.00	136	0.44	0.44	5.84
2-21	21.00	273	0.29	0.29	6.13
2-end	22.00	0	0.22	0.22	6.35
					6.35
					Total Collected Runoff (approx)

3.96 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	182	0.66	0.66	0.66
4-2	2	121	0.40	0.40	1.06
4-3	3	91	0.57	0.57	1.62
4-4	4	54	0.83	0.83	2.45
4-5	5	41	1.26	1.26	3.71
4-6	6	30	1.69	1.69	5.40
4-7	7	24	2.22	2.22	7.63
4-8	8	22	2.61	2.61	10.23
4-9	9	16	3.16	3.16	13.39
4-10	10	14	4.00	4.00	17.39
4-11	11	14	4.29	4.29	21.68
4-12	12	14	4.29	4.29	25.96
4-13	13	14	4.29	4.29	30.25
4-14	14	13	4.44	4.44	34.69
4-15	15	13	4.61	4.61	39.31
4-16	16	13	4.61	4.61	43.92
4-17	17	13	4.61	4.61	48.54
4-18	18	13	4.61	4.61	53.15
4-19	19	13	4.61	4.61	57.77
4-20	20	13	4.61	4.61	62.38
4-21	21	35	2.50	2.50	64.88
4-end	23	0	2.31	2.31	67.19
					67.19
					Total Collected Runoff (approx)

6.02 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	38	3.16	3.16	3.16
6-2	2	13	2.35	2.35	5.51
6-3	3	12	4.80	4.80	10.31
6-4	4	11	5.22	5.22	15.53
6-5	5	10	5.71	5.71	21.24
6-6	6	10	6.00	6.00	27.24
6-7	7	10	6.00	6.00	33.24
6-8	8	10	6.00	6.00	39.24
6-9	9	10	6.00	6.00	45.24
6-10	10	9	6.32	6.32	51.55
6-11	11	9	6.67	6.67	58.22
6-12	12	9	6.67	6.67	64.88
6-13	13	9	6.67	6.67	71.55
6-14	14	9	6.67	6.67	78.22
6-15	15	9	6.67	6.67	84.88
6-16	16	9	6.67	6.67	91.55
6-17	17	9	6.67	6.67	98.21
6-18	18	9	6.67	6.67	104.88
6-19	19	9	6.67	6.67	111.55
6-20	20	9	6.67	6.67	118.21
6-21	21	9	6.67	6.67	124.88
6-end	30	0	3.33	3.33	128.21
					128.21
					Total Collected Runoff (approx)

1-May-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.17 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	651	0.18	0.18	0.18
2-2	2.00	651	0.09	0.09	0.28
2-3	3.00	560	0.10	0.10	0.38
2-4	4.00	530	0.11	0.11	0.49
2-5	5.00	500	0.12	0.12	0.60
2-6	6.00	500	0.12	0.12	0.72
2-7	7.00	469	0.12	0.12	0.85
2-8	8.00	469	0.13	0.13	0.97
2-9	9.00	454	0.13	0.13	1.10
2-10	10.00	454	0.13	0.13	1.24
2-11	11.00	454	0.13	0.13	1.37
2-12	12.00	394	0.14	0.14	1.51
2-13	13.00	363	0.16	0.16	1.67
2-14	14.00	303	0.18	0.18	1.85
2-15	15.00	273	0.21	0.21	2.06
2-16	16.00	257	0.23	0.23	2.28
2-17	17.00	227	0.25	0.25	2.53
2-18	18.00	151	0.32	0.32	2.85
2-19	19.00	121	0.44	0.44	3.29
2-20	20.00	106	0.53	0.53	3.82
2-21	21.00	182	0.42	0.42	4.23
2-end	22.00	0	0.28	0.28	4.52
					4.52
					Total Collected Runoff (approx)

4.00 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	151	0.79	0.79	0.79
4-2	2	45	0.61	0.61	1.40
4-3	3	34	1.52	1.52	2.92
4-4	4	22	2.14	2.14	5.06
4-5	5	20	2.86	2.86	7.92
4-6	6	18	3.16	3.16	11.08
4-7	7	18	3.33	3.33	14.41
4-8	8	17	3.43	3.43	17.84
4-9	9	16	3.64	3.64	21.48
4-10	10	16	3.75	3.75	25.23
4-11	11	16	3.75	3.75	28.98
4-12	12	16	3.75	3.75	32.73
4-13	13	15	3.87	3.87	36.60
4-14	14	15	4.00	4.00	40.60
4-15	15	15	4.00	4.00	44.59
4-16	16	15	4.00	4.00	48.59
4-17	17	14	4.14	4.14	52.73
4-18	18	14	4.29	4.29	57.02
4-19	19	14	4.29	4.29	61.30
4-20	20	13	4.44	4.44	65.75
4-21	21	23	3.33	3.33	69.08
4-end	23	0	2.31	2.31	71.39
					71.39
					Total Collected Runoff (approx)

6.00 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	27	4.44	4.44	4.44
6-2	2	16	2.79	2.79	7.23
6-3	3	12	4.29	4.29	11.52
6-4	4	11	5.22	5.22	16.74
6-5	5	10	5.71	5.71	22.45
6-6	6	10	6.00	6.00	28.45
6-7	7	10	6.00	6.00	34.45
6-8	8	9	6.32	6.32	40.76
6-9	9	9	6.67	6.67	47.43
6-10	10	9	6.67	6.67	54.10
6-11	11	9	6.67	6.67	60.76
6-12	12	9	6.67	6.67	67.43
6-13	13	9	6.67	6.67	74.09
6-14	14	9	6.67	6.67	80.76
6-15	15	9	6.67	6.67	87.43
6-16	16	8	7.06	7.06	94.48
6-17	17	8	7.50	7.50	101.98
6-18	18	8	7.50	7.50	109.48
6-19	19	8	7.50	7.50	116.98
6-20	20	8	7.50	7.50	124.48
6-21	21	18	4.61	4.61	129.10
6-end	30	0	3.75	3.75	132.84
					132.84
					Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	25-Apr-12	25-Apr-12	1-May-12
Avg Moisture Content:	21.70%	20.64%	21.37%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	239.06	268.91	246.85
Wt. Of cup + dry soil, g	235.13	259.92	241.61
Wt. Of cup, g	217.08	216.6	217.11
Wt. Of dry soil, g	18.05	43.32	24.5
Wt. Of water, g	3.93	8.99	5.24
Water Content, w%	21.8%	20.8%	21.4%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	248.46	265.17	241.97
Wt. Of cup + dry soil, g	242.87	256.89	237.55
Wt. Of cup, g	216.93	216.72	216.84
Wt. Of dry soil, g	25.94	40.17	20.71
Wt. Of water, g	5.59	8.28	4.42
Water Content, w%	21.5%	20.6%	21.3%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	260.36	280.82	245.78
Wt. Of cup + dry soil, g	252.53	269.95	240.64
Wt. Of cup, g	216.59	217.1	216.61
Wt. Of dry soil, g	35.94	52.85	24.03
Wt. Of water, g	7.83	10.87	5.14
Water Content, w%	21.8%	20.6%	21.4%

Soil Loss Data

Slope No.	1	2	3
Test Date:	25-Apr-12	25-Apr-12	1-May-12
Total Soil Loss	7.25	6.40	7.52

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	45.2	9.1	31.8
Sub-Sample	Wt. Of cup + wet soil, g	45.2	9.1
	Wt. Of cup + dry soil, g	45.2	9.1
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	45.2	9.1
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.100	0.020	0.070

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	989.7	908.0	930.7
Sub-Sample	Wt. Of cup + wet soil, g	989.7	908.0
	Wt. Of cup + dry soil, g	989.7	908.0
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	989.7	908
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	2.180	2.000	2.050

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	2256.4	1988.5	2451.6
Sub-Sample	Wt. Of cup + wet soil, g	2256.4	1988.5
	Wt. Of cup + dry soil, g	2256.4	1988.5
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	2256.4	1988.5
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	4.970	4.380	5.400



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 7-May-12 4-May-12 9-May-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: Beltech 1935

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.22	4.01	8.05	0.090	0.009
	4.00	56.91	53.35	1.000	0.110
	6.08	96.81	168.69	1.500	0.261
Bare Soil Controls			8.05		1.021
			53.35		6.765
			168.69		21.390

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.03	1.70	6.61	0.010	0.001
	4.02	60.46	50.88	0.960	0.098
	6.02	93.76	164.22	2.500	0.350
Bare Soil Controls			6.61		0.838
			50.88		6.451
			164.22		20.822

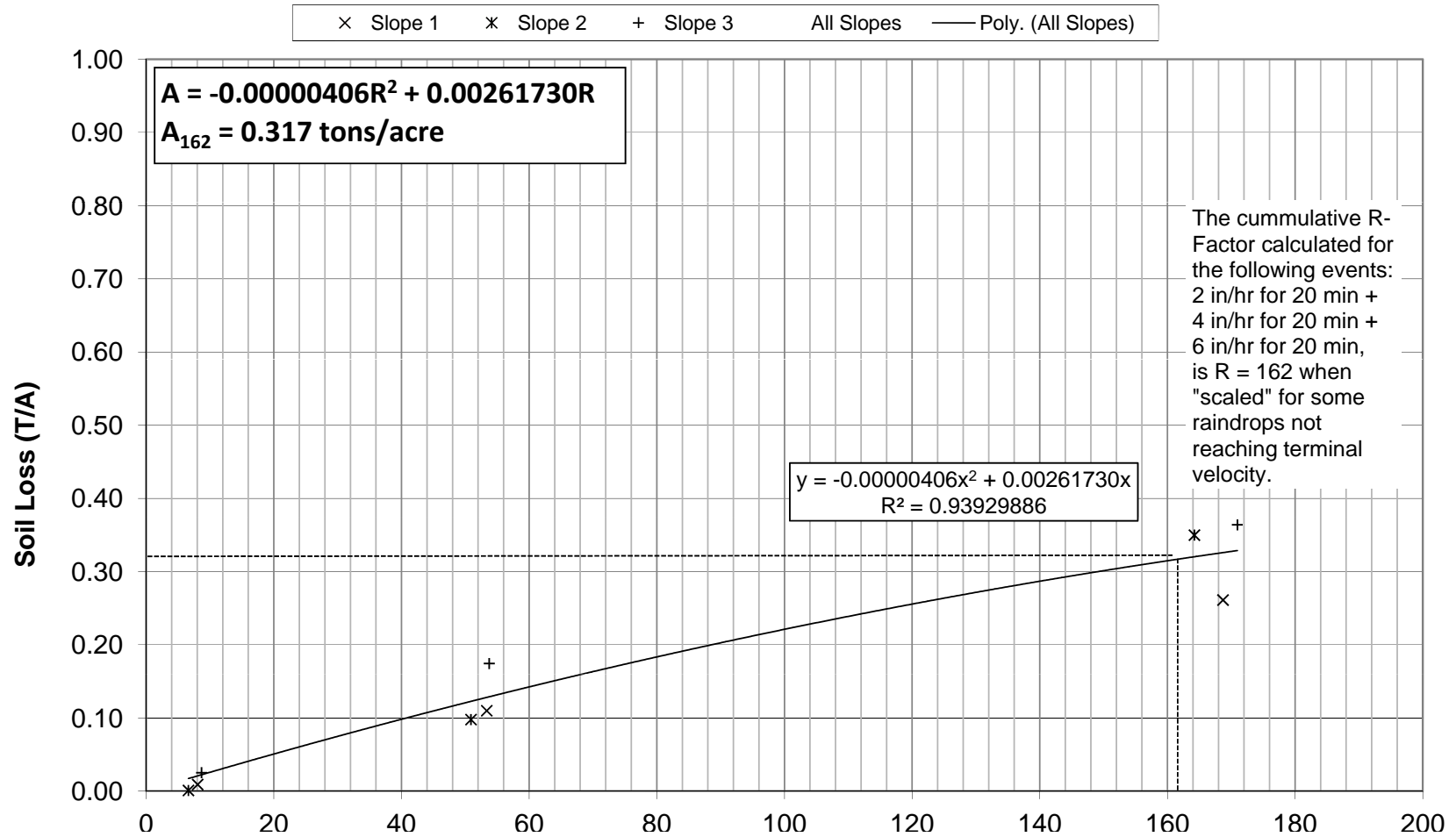
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.30	7.29	8.67	0.250	0.025
	3.96	62.76	53.74	1.480	0.174
	6.14	98.05	170.95	1.880	0.364
Bare Soil Controls			8.67		1.099
			53.74		6.814
			170.95		21.677

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)

 Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)





TYPICAL TESTING PICTURES



Test Slope Prepared and Fence Installed



After 2 in/hr Event



After 4 in/hr Event



After 6 in/hr Event



Typical Control Run - Before and After

DDRF Rainfall Testing

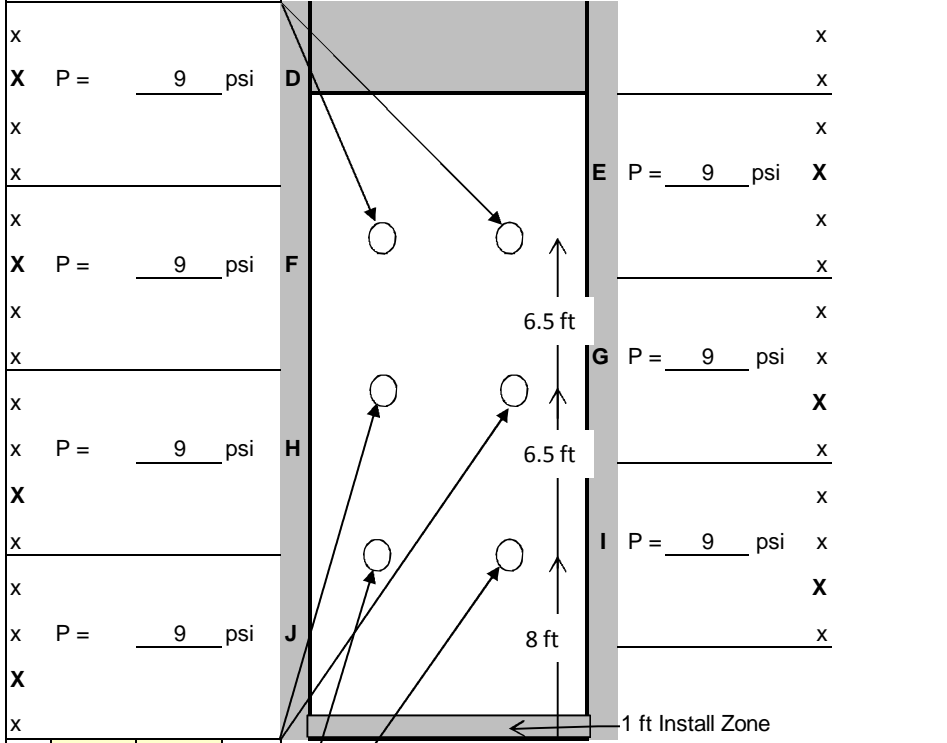
Slope #: 1	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples
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Date:	7-May-12	Start Rain:	7:04 AM	End Rain:	7:24 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
		Sampling interval:	0:03	End Runoff:	7:26 AM	7:07	X	X
		Rain Time (min):	20.00	Test Time (min):	22.00	7:10	X	X
Product:	Beltech 1935	Descr.:	Belton Type A Silt Fence			7:13	X	X
Lot #:		Posts:	Steel	Spacing:	6-ft	7:16	X	X
TOP OF SLOPE						7:19	X	X
(circle "x" for open valves)						7:22	X	X
Set valves to 16 psi.						7:25	X	X

w_{c1} = 21.8%

d = 19 22 mm

i = 2.24 2.60 in/hr



d = 17 18 mm

i = 2.01 2.13 in/hr

w_{c2} = 22.7%

P = 9 psi

Temp. 64 deg

Hum. 92 %

d = 18 19 mm

i = 2.13 2.24 in/hr

w_{c3} = 22.8%

Average Depth: 19 mm
Avg Rainfall Intensity: 2.22 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	38
2	250	35
3	250	34
4	250	35
5	250	36
6	250	35
7	250	35
8	250	41
9	250	35
10	250	34
11	250	41
12	250	43
13	250	39
14	250	38
15	250	25
16	250	19
17	250	11
18	250	11
19	250	9
20	250	9
21	250	10
22	250	0

NOTES:
 Wind: 0-2 mph. Direction: NE
 Approx 4 gallons collected.

DDRF Rainfall Testing

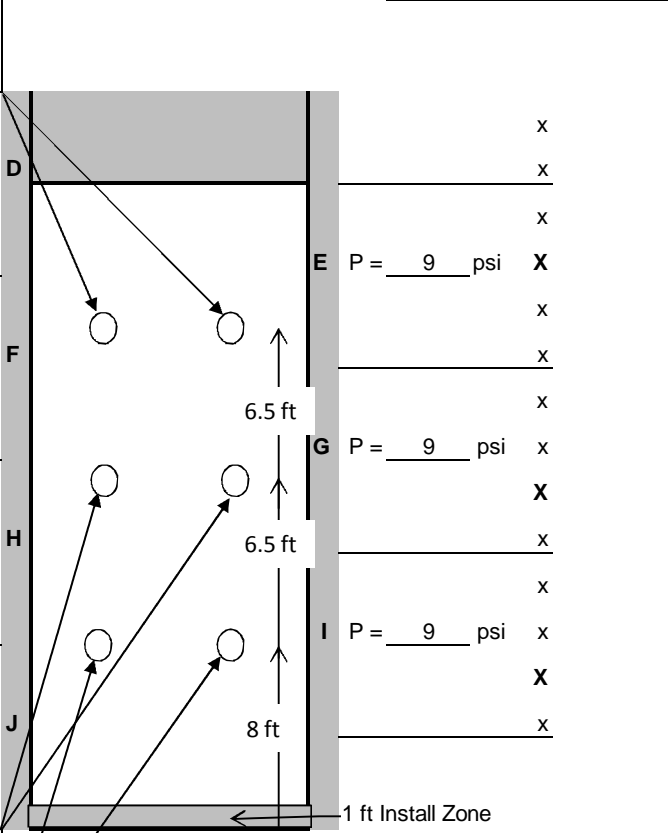
Slope #: 1	Target Rain: 4 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date:	7-May-12	Start Rain: Sampling interval:	7:33 AM 0:03	End Rain:	7:53 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
		End Runoff:	7:56 AM			7:36	X	X
		Rain Time (min):	20.00	Test Time (min):	23.00	7:39	X	X
Product:	Beltech 1935	Descr.:	Belton Type A Silt Fence			7:42	X	X
Lot #:		Posts:	Steel	Spacing:	6-ft	7:45	X	X
						7:48	X	X
						7:51	X	X
						7:54	X	X

w_{c1} = 21.8%

d = 33 34 mm

i = 3.90 4.02 in/hr



Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	250	12
2	3785	50
3	3785	41
4	3785	31
5	3785	31
6	3785	31
7	3785	30
8	3785	28
9	3785	22
10	3785	22
11	3785	21
12	3785	21
13	3785	20
14	3785	20
15	3785	18
16	3785	17
17	3785	15
18	3785	15
19	3785	15
20	3785	14
21	3785	20
23	3785	0

d = 33 35 mm

i = 3.90 4.13 in/hr

w_{c2} = 22.7%

d = 33 35 mm

i = 3.90 4.13 in/hr

w_{c3} = 22.8%

Average Depth: 34 mm

Avg Rainfall Intensity: 4.00 in/hr

Temp. 66 deg

Hum. 89 %

P = 9 psi

NOTES:
 Wind: 0-3 mph. Direction: E
 Approx 60 gallons collected.

DDRF Rainfall Testing

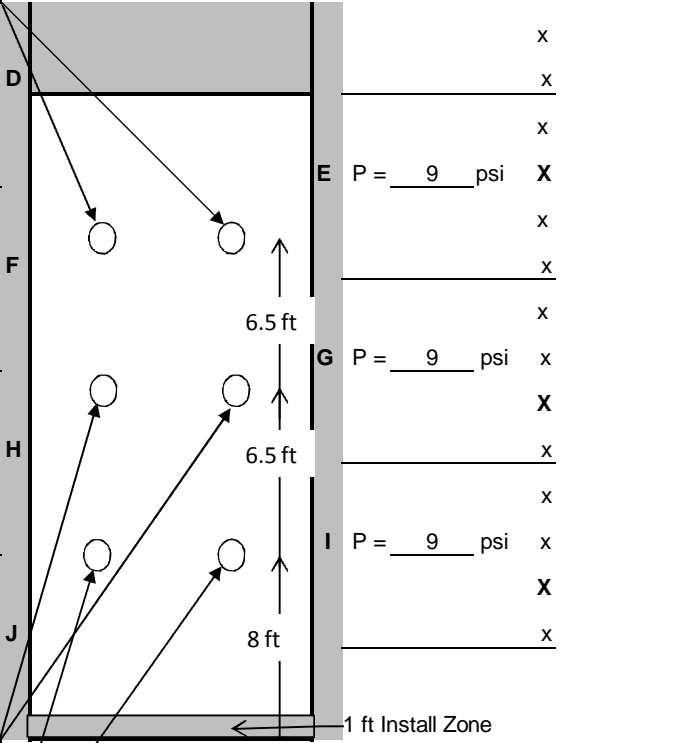
Slope #: 1 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	7-May-12	Start Rain:	8:03 AM	End Rain:	8:23 AM	8:06	X	X
		Sampling interval:	0:03	End Runoff:	8:33 AM	8:09	X	X
		Rain Time (min):	20.00	Test Time (min):	30.00	8:12	X	X
Product:	Beltech 1935	Descr.:	Belton Type A Silt Fence		8:15	X	X	
Lot #:		Posts:	Steel	Spacing:	6-ft	8:18	X	X
TOP OF SLOPE				8:21	X	X		
(circle "x" for open valves)				8:24	X	X		
w _{c1} = 21.8%				Set valves to 16 psi.				

d = 51 52 mm
i = 6.02 6.14 in/hr

x
X P = 9 psi
x
x
x
X P = 9 psi
x
x
x
x P = 9 psi
X
x
x P = 9 psi
X
x



Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	37
2	3785	16
3	3785	15
4	3785	15
5	3785	15
6	3785	14
7	3785	14
8	3785	14
9	3785	14
10	3785	13
11	3785	13
12	3785	13
13	3785	12
14	3785	12
15	3785	11
16	3785	11
17	3785	11
18	3785	11
19	3785	11
20	3785	11
21	3785	21
30	3785	0

d = 50 50 mm
i = 5.91 5.91 in/hr

w_{c2} = 22.7%

d = 52 54 mm
i = 6.14 6.38 in/hr

w_{c3} = 22.8%

x x X x
P = 9 psi Temp. 66 deg
Hum. 88 %

Average Depth: 52 mm
Avg Rainfall Intensity: 6.08 in/hr

NOTES:
Wind: 0-3 mph. Direction: E
Approx 100 gallons collected.

DDRF Rainfall Testing

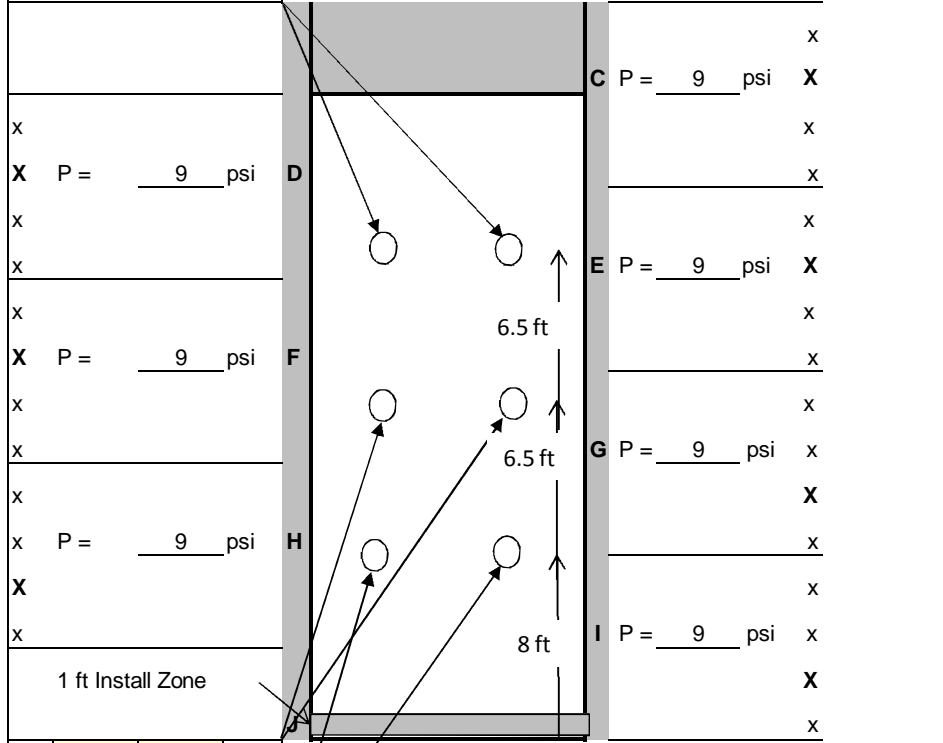
Slope #: 2	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date: 4-May-12	Start Rain: 7:07 AM	End Rain: 7:27 AM	Time: 7:10	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
	Sampling interval: 0:03	End Runoff: 7:29 AM	7:13	X	X
	Rain Time (min): 20.00	Test Time (min): 22.00	7:16	X	X
Product: Beltech 1935	Descr.: Belton Type A Silt Fence		7:19	X	X
Lot #: []	Posts: Steel	Spacing: 6-ft	7:22	X	X
TOP OF SLOPE			7:25	X	X
(circle "x" for open valves)			7:28	X	X

w_{c1} = 21.8%

d = 16 15 mm

i = 1.89 1.77 in/hr



1 ft Install Zone

d = 18 20 mm

i = 2.13 2.36 in/hr

w_{c2} = 22.7%

d = 16 18 mm

i = 1.89 2.13 in/hr

w_{c3} = 22.8%

Average Depth: 17 mm

Avg Rainfall Intensity: 2.03 in/hr

P = 9 psi

Temp. 68 deg

Hum. 84 %

Runoff Rate Measurements		
Min.	Volume	Seconds
1	25	60
2	25	60
3	25	60
4	25	60
5	250	49
6	250	48
7	250	43
8	250	43
9	250	41
10	250	41
11	250	41
12	250	40
13	250	40
14	250	38
15	250	38
16	250	37
17	250	36
18	250	35
19	250	35
20	250	34
21	250	52
22	250	0

NOTES:
 Wind: 0 mph. Direction: N
 Approx 1 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	4-May-12	Start Rain: Sampling interval:	7:38 AM 0:03	End Rain: 7:58 AM	7:41	X	X	
		End Runoff:	8:03 AM	7:44	X	X		
		Rain Time (min):	20.00	Test Time (min):	25.00	7:47	X	X
Product:	Beltech 1935	Descr.:	Belton Type A Silt Fence	7:50	X	X		
Lot #:		Posts:	Steel	Spacing:	6-ft	7:53	X	X
TOP OF SLOPE				7:56	X	X		
(circle "x" for open valves)				7:59	X	X		

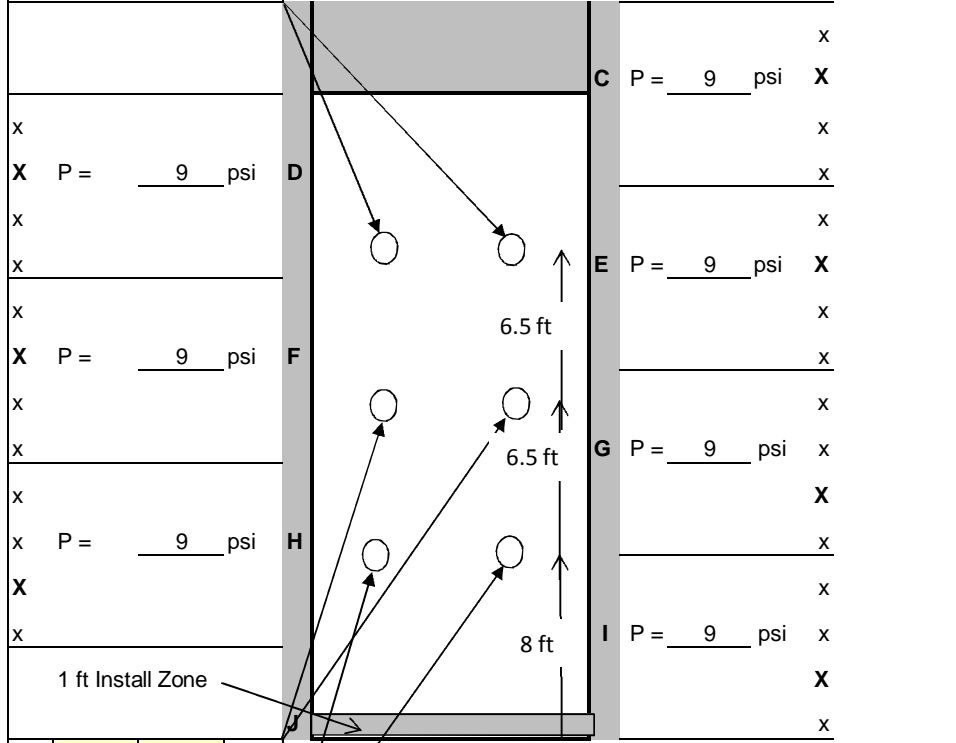
w_{c1} = 21.8%

d = 40 42 mm

i = 4.72 4.96 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	43
2	250	14
3	250	10
4	250	6
5	3785	34
6	3785	33
7	3785	30
8	3785	27
9	3785	22
10	3785	19
11	3785	18
12	3785	17
13	3785	16
14	3785	16
15	3785	15
16	3785	14
17	3785	12
18	3785	12
19	3785	12
20	3785	12
21	3785	28
25	3785	0



d = 30 31 mm

i = 3.54 3.66 in/hr

P = 9 psi Temp. 68 deg

w_{c2} = 22.7%

Hum. 82 %

d = 31 30 mm

i = 3.66 3.54 in/hr

Average Depth: 34 mm

w_{c3} = 22.8%

Avg Rainfall Intensity: 4.02 in/hr

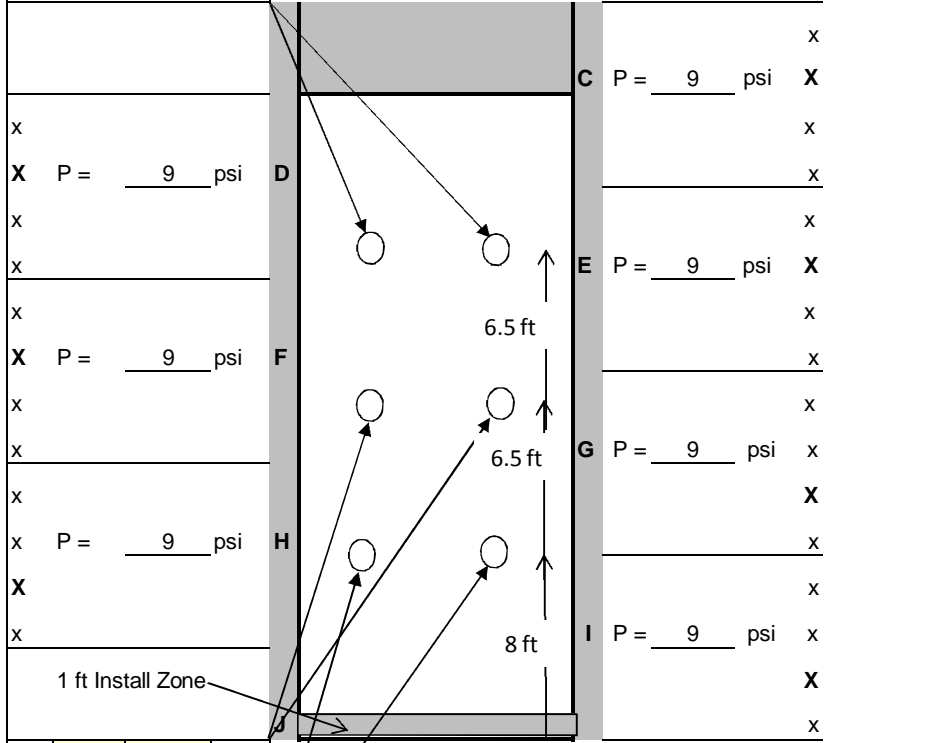
NOTES:
 Wind: 0 mph. Direction: N
 Approx 60 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples		
				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	4-May-12	Start Rain: 8:19 AM	End Rain: 8:39 AM	8:22	X	X
		Sampling interval: 0:03	End Runoff: 8:49 AM	8:25	X	X
		Rain Time (min): 20.00	Test Time (min): 30.00	8:28	X	X
Product:	Beltech 1935	Descr.: Belton Type A Silt Fence		8:31	X	X
Lot #:		Posts: Steel	Spacing: 6-ft	8:34	X	X
		TOP OF SLOPE		8:37	X	X
		(circle "x" for open valves)	Set valves to 16 psi.	8:40	X	X

d = 54 55 mm
i = 6.38 6.50 in/hr



d = 50 50 mm
i = 5.91 5.91 in/hr

w_{c2} = 22.7%

d = 48 49 mm
i = 5.67 5.79 in/hr

w_{c3} = 22.8%

x x X x
P = 9 psi Temp. 68 deg
Hum. 87 %

Average Depth: 51 mm
Avg Rainfall Intensity: 6.02 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	50
2	3785	32
3	3785	23
4	3785	17
5	3785	16
6	3785	14
7	3785	14
8	3785	14
9	3785	13
10	3785	13
11	3785	13
12	3785	12
13	3785	12
14	3785	12
15	3785	11
16	3785	11
17	3785	11
18	3785	11
19	3785	10
20	3785	10
21	3785	22
30	3785	0

NOTES:
Wind: 1 mph. Direction: S
Approx 95 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 2 in/hr**

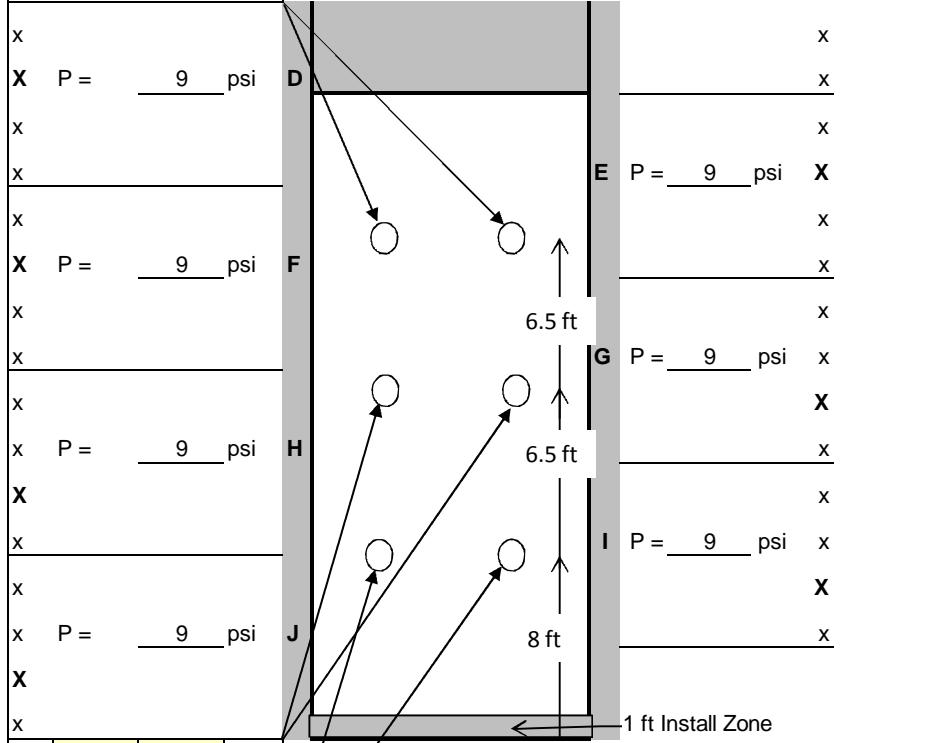
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	9-May-12	Start Rain: Sampling interval:	7:24 AM 0:03	End Rain:	7:44 AM	X
		End Runoff:	7:47 AM	7:30	X	X
		Rain Time (min):	20.00	Test Time (min):	23.00	7:33
Product:	Beltech 1935	Descr.:	Belton Type A Silt Fence	7:36	X	X
Lot #:		Posts:	Steel	Spacing:	6-ft	7:39
		TOP OF SLOPE		7:42	X	X
		(circle "x" for open valves)		7:45	X	X

w_{c1} = 21.8%

d = 19 20 mm

i = 2.24 2.36 in/hr



Runoff Rate Measurements

Min.	Volume	Seconds
1	250	36
2	250	35
3	250	32
4	250	32
5	250	34
6	250	29
7	250	25
8	250	22
9	250	20
10	250	18
11	250	14
12	250	12
13	250	10
14	250	10
15	250	8
16	250	7
17	250	7
18	250	6
19	250	6
20	250	5
21	250	10
23	250	0

d = 20 20 mm

i = 2.36 2.36 in/hr

P = 9 psi Temp. 66 deg

w_{c2} = 22.7%

d = 18 20 mm

i = 2.13 2.36 in/hr

w_{c3} = 22.8%

Average Depth: 20 mm

Avg Rainfall Intensity: 2.30 in/hr

NOTES: Test on Slope G1

Wind: 0 mph. Direction: N

Approx 8 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

						Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	9-May-12	Start Rain:	7:52 AM	End Rain:	8:12 AM	7:55	X	X
		Sampling interval:	0:03	End Runoff:	8:15 AM	7:58	X	X
		Rain Time (min):	20.00	Test Time (min):	23.00	8:01	X	X
Product:	Beltech 1935	Descr.:	Belton Type A Silt Fence			8:04	X	X
Lot #:		Posts:	Steel	Spacing:	6-ft	8:07	X	X
TOP OF SLOPE						8:10	X	X
(circle "x" for open valves)						8:13	X	X

w_{c1} = 21.8%

d = 33 34 mm

i = 3.90 4.02 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x P = 9 psi

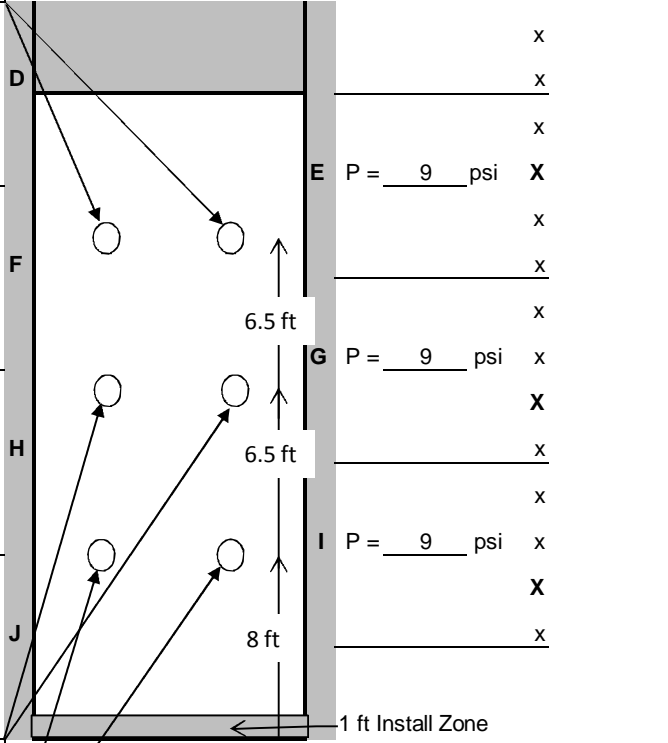
X

x

x P = 9 psi

X

x



d = 32 33 mm

i = 3.78 3.90 in/hr

w_{c2} = 22.7%

d = 34 35 mm

i = 4.02 4.13 in/hr

w_{c3} = 22.8%

x x X x

P = 9 psi Temp. 68 deg

Hum. 91 %

Average Depth: 34 mm

Avg Rainfall Intensity: 3.96 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	10
2	250	9
3	3785	45
4	3785	40
5	3785	30
6	3785	28
7	3785	23
8	3785	21
9	3785	20
10	3785	18
11	3785	16
12	3785	16
13	3785	16
14	3785	16
15	3785	16
16	3785	15
17	3785	14
18	3785	14
19	3785	14
20	3785	14
21	3785	26
23	3785	0

NOTES:
 Wind: 0 mph. Direction: SSW
 Approx 75 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	9-May-12	Start Rain: Sampling interval:	8:50 AM 0:03	End Rain:	9:10 AM	8:53	X	X
		End Runoff:			9:20 AM	8:56	X	X
		Rain Time (min):	20.00	Test Time (min):	30.00	8:59	X	X
Product:	Beltech 1935	Descr.:	Belton Type A Silt Fence			9:02	X	X
Lot #:		Posts:	Steel	Spacing:	6-ft	9:05	X	X
TOP OF SLOPE						9:08	X	X
(circle "x" for open valves)						9:11	X	X
Set valves to 16 psi.								

w_{c1} = 21.8%

d = 52 53 mm

i = 6.14 6.26 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x P = 9 psi

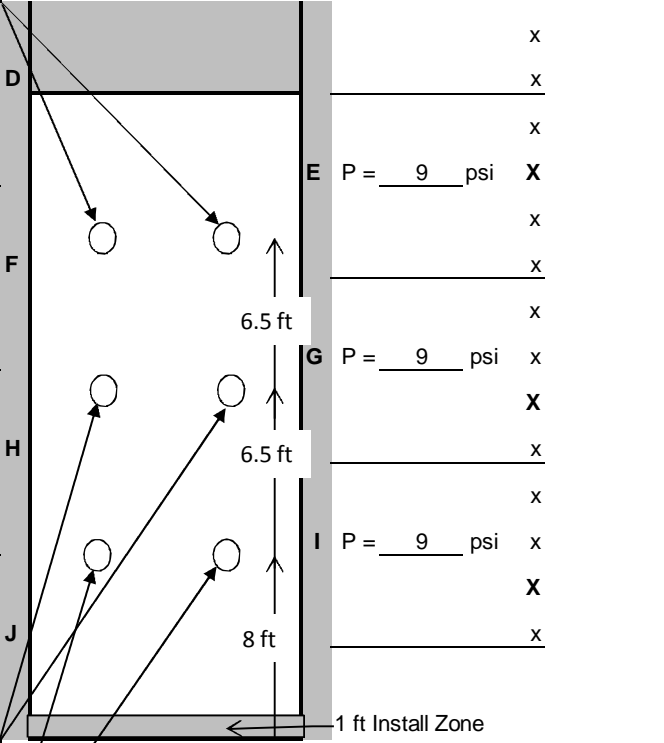
X

x

x P = 9 psi

X

x



Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	46
2	3785	38
3	3785	30
4	3785	31
5	3785	22
6	3785	19
7	3785	18
8	3785	16
9	3785	15
10	3785	15
11	3785	14
12	3785	15
13	3785	15
14	3785	12
15	3785	11
16	3785	10
17	3785	9
18	3785	8
19	3785	7
20	3785	7
21	3785	7
30	3785	0

d = 52 54 mm

i = 6.14 6.38 in/hr

w_{c2} = 22.7%

d = 50 51 mm

i = 5.91 6.02 in/hr

w_{c3} = 22.8%

x x X x

P = 9 psi Temp. 67 deg

Hum. 93 %

Average Depth: 52 mm

Avg Rainfall Intensity: 6.14 in/hr

NOTES:
 Wind: 0 mph. Direction: S
 Approx 100 gallons collected.

Beltech 1935 Belton Type A Silt Fence

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	113
2	20	259
3	20	270

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	793	2-1	3.00		2-1	3.00	205
2-2	6.00	621	2-2	6.00	578	2-2	6.00	846
2-3	9.00	578	2-3	9.00	377	2-3	9.00	1129
2-4	12.00	493	2-4	12.00	333	2-4	12.00	1735
2-5	15.00	1693	2-5	15.00	354	2-5	15.00	3555
2-6	18.00	2356	2-6	18.00	657	2-6	18.00	2725
2-7	21.00	1985	2-7	21.00	2170	2-7	21.00	2212
avg		1217	avg		745	avg		1772
4-1	3.00	3537	4-1	2.00	3954	4-1	2.00	2648
4-2	6.00	2672	4-2	4.00	2073	4-2	4.00	2477
4-3	9.00	1559	4-3	6.00	2604	4-3	6.00	1674
4-4	12.00	1356	4-4	8.00	2106	4-4	8.00	2089
4-5	15.00	1349	4-5	10.00	1999	4-5	10.00	2112
4-6	18.00	1302	4-6	12.00	2107	4-6	12.00	1634
4-7	21.00	928	4-7	21.00	1623	4-7	21.00	1385
avg		1815	avg		2352	avg		2003
6-1	3.00	1509	6-1	3.00	1531	6-1	3.00	1459
6-2	6.00	1823	6-2	6.00	1636	6-2	6.00	1578
6-3	9.00	1529	6-3	9.00	1592	6-3	9.00	2295
6-4	12.00	1360	6-4	12.00	1591	6-4	12.00	2114
6-5	15.00	1794	6-5	15.00	1580	6-5	15.00	2079
6-6	18.00	1679	6-6	18.00	1521	6-6	18.00	1965
6-7	21.00	1434	6-7	21.00	1724	6-7	21.00	2351
avg		1590	avg		1596	avg		1977

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.22	in/hr	avg														
7-May-12		2-1	3.00	322.85	157.04	151.88	150.58	1300.00	170.97	0.17	7603.67	3.00	514.82	0.43	7603.67	0.03
		2-2	6.00	324.94	157.58	151.18	150.86	320.00	173.76	0.17	1841.62	6.00	529.96	0.34	1841.62	0.01
		2-3	9.00	333.67	158.08	151.13	150.85	280.00	182.54	0.18	1533.91	9.00	529.96	0.32	1533.91	0.00
		2-4	12.00	339.90	156.25	149.34	149.16	180.00	190.56	0.19	944.58	12.00	651.09	0.31	944.58	0.00
		2-5	15.00	336.04	165.21	150.97	150.53	440.00	185.07	0.19	2377.48	15.00	378.54	0.33	2377.48	0.01
		2-6	18.00	313.96	169.56	152.35	147.53	4820.00	161.61	0.16	29824.89	18.00	166.56	0.80	29824.89	0.20
		2-7	21.00	343.90	163.25	151.37	151.01	360.00	192.53	0.19	1869.84	21.00	151.42	1.25	1869.84	0.02
										AVG =	6570.86	22.00	0	0.22	1869.84	0.00
4.00	in/hr	avg									6570.86			Total Solids Lost:		0.27
7-May-12		4-1	3.00	325.51	164.61	150.35	149.77	580.00	175.16	0.18	3311.26	3.00	41.00	2.50	3311.26	0.07
		4-2	6.00	353.31	164.40	150.14	149.81	330.00	203.17	0.20	1624.26	6.00	31.00	5.54	1624.26	0.08
		4-3	9.00	366.94	155.37	148.36	147.71	650.00	218.58	0.22	2973.74	9.00	22.00	6.44	2973.74	0.16
		4-4	12.00	356.65	157.37	150.62	150.56	60.00	206.03	0.21	291.22	12.00	21.00	8.37	291.22	0.02
		4-5	15.00	366.93	176.57	151.07	150.58	490.00	215.86	0.22	2269.99	15.00	18.00	9.08	2269.99	0.17
		4-6	18.00	357.87	157.23	151.13	150.77	360.00	206.74	0.21	1741.32	18.00	15.00	11.18	1741.32	0.16
		4-7	21.00	353.50	150.88	146.53	146.35	180.00	206.97	0.21	869.69	21.00	20.00	11.67	869.69	0.08
										AVG =	1868.78	23.00	0.00	2.14	869.69	0.02
6.08	in/hr	avg									1868.78			Total Solids Lost:		0.76
7-May-12		6-1	3.00	350.84	159.06	151.33	150.86	470.00	199.51	0.20	2355.77	3.00	15.00	9.38	2355.77	0.18
		6-2	6.00	355.15	164.29	150.45	149.98	470.00	204.70	0.20	2296.04	6.00	14.00	12.14	2296.04	0.23
		6-3	9.00	353.28	156.32	149.74	149.20	540.00	203.54	0.20	2653.04	9.00	14.00	12.86	2653.04	0.28
		6-4	12.00	333.75	159.38	149.78	149.29	490.00	183.97	0.18	2663.48	12.00	13.00	13.67	2663.48	0.30
		6-5	15.00	329.61	172.60	150.12	149.65	470.00	179.49	0.18	2618.53	15.00	11.00	15.02	2618.53	0.33
		6-6	18.00	338.10	165.55	151.46	151.07	390.00	186.64	0.19	2089.58	18.00	11.00	16.36	2089.58	0.29
		6-7	21.00	354.31	158.39	150.73	150.37	360.00	203.58	0.20	1768.35	21.00	21.00	14.66	1768.35	0.22
										AVG =	2349.26	30.00	0.00	2.73	1768.35	0.04
											2349.26			Total Solids Lost:		1.88

7-May-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.22 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	575	0.21	0.21	0.21
2-2	2.00	530	0.11	0.11	0.32
2-3	3.00	515	0.11	0.11	0.43
2-4	4.00	530	0.11	0.11	0.55
2-5	5.00	545	0.11	0.11	0.66
2-6	6.00	530	0.11	0.11	0.77
2-7	7.00	530	0.11	0.11	0.88
2-8	8.00	621	0.10	0.10	0.99
2-9	9.00	530	0.10	0.10	1.09
2-10	10.00	515	0.11	0.11	1.21
2-11	11.00	621	0.11	0.11	1.31
2-12	12.00	651	0.09	0.09	1.41
2-13	13.00	591	0.10	0.10	1.50
2-14	14.00	575	0.10	0.10	1.61
2-15	15.00	379	0.13	0.13	1.73
2-16	16.00	288	0.18	0.18	1.91
2-17	17.00	167	0.26	0.26	2.18
2-18	18.00	167	0.36	0.36	2.54
2-19	19.00	136	0.40	0.40	2.93
2-20	20.00	136	0.44	0.44	3.37
2-21	21.00	151	0.42	0.42	3.79
2-end	22.00	0	0.22	0.22	4.01
					4.01
					Total Collected Runoff (approx)

4.00 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	182	0.66	0.66	0.66
4-2	2	50	0.52	0.52	1.18
4-3	3	41	1.32	1.32	2.50
4-4	4	31	1.67	1.67	4.16
4-5	5	31	1.94	1.94	6.10
4-6	6	31	1.94	1.94	8.03
4-7	7	30	1.97	1.97	10.00
4-8	8	28	2.07	2.07	12.07
4-9	9	22	2.40	2.40	14.47
4-10	10	22	2.73	2.73	17.20
4-11	11	21	2.79	2.79	19.99
4-12	12	21	2.86	2.86	22.84
4-13	13	20	2.93	2.93	25.77
4-14	14	20	3.00	3.00	28.77
4-15	15	18	3.16	3.16	31.93
4-16	16	17	3.43	3.43	35.36
4-17	17	15	3.75	3.75	39.11
4-18	18	15	4.00	4.00	43.10
4-19	19	15	4.00	4.00	47.10
4-20	20	14	4.14	4.14	51.24
4-21	21	20	3.53	3.53	54.77
4-end	23.00	0	2.14	2.14	56.91
					56.91
					Total Collected Runoff (approx)

6.08 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	37	3.24	3.24	3.24
6-2	2	16	2.26	2.26	5.51
6-3	3	15	3.87	3.87	9.38
6-4	4	15	4.00	4.00	13.38
6-5	5	15	4.00	4.00	17.38
6-6	6	14	4.14	4.14	21.51
6-7	7	14	4.29	4.29	25.80
6-8	8	14	4.29	4.29	30.08
6-9	9	14	4.29	4.29	34.37
6-10	10	13	4.44	4.44	38.81
6-11	11	13	4.61	4.61	43.43
6-12	12	13	4.61	4.61	48.04
6-13	13	12	4.80	4.80	52.84
6-14	14	12	5.00	5.00	57.84
6-15	15	11	5.22	5.22	63.06
6-16	16	11	5.45	5.45	68.51
6-17	17	11	5.45	5.45	73.97
6-18	18	11	5.45	5.45	79.42
6-19	19	11	5.45	5.45	84.88
6-20	20	11	5.45	5.45	90.33
6-21	21	21	3.75	3.75	94.08
6-end	30.00	0	2.73	2.73	96.81
					96.81
					Total Collected Runoff (approx)

4-May-12
Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.03 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	9085	0.01	0.01	0.01
2-2	2.00	9085	0.01	0.01	0.02
2-3	3.00	9085	0.01	0.01	0.03
2-4	4.00	9085	0.01	0.01	0.03
2-5	5.00	742	0.01	0.01	0.05
2-6	6.00	727	0.08	0.08	0.13
2-7	7.00	651	0.09	0.09	0.21
2-8	8.00	651	0.09	0.09	0.31
2-9	9.00	621	0.09	0.09	0.40
2-10	10.00	621	0.10	0.10	0.50
2-11	11.00	621	0.10	0.10	0.59
2-12	12.00	606	0.10	0.10	0.69
2-13	13.00	606	0.10	0.10	0.79
2-14	14.00	575	0.10	0.10	0.89
2-15	15.00	575	0.10	0.10	1.00
2-16	16.00	560	0.11	0.11	1.10
2-17	17.00	545	0.11	0.11	1.21
2-18	18.00	530	0.11	0.11	1.32
2-19	19.00	530	0.11	0.11	1.44
2-20	20.00	515	0.11	0.11	1.55
2-21	21.00	787	0.09	0.09	1.64
2-end	22.00	0	0.06	0.06	1.70
					1.70
					Total Collected Runoff (approx)

4.02 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	651	0.18	0.18	0.18
4-2	2	212	0.14	0.14	0.32
4-3	3	151	0.33	0.33	0.65
4-4	4	91	0.50	0.50	1.15
4-5	5	34	0.96	0.96	2.11
4-6	6	33	1.79	1.79	3.90
4-7	7	30	1.90	1.90	5.81
4-8	8	27	2.11	2.11	7.91
4-9	9	22	2.45	2.45	10.36
4-10	10	19	2.93	2.93	13.29
4-11	11	18	3.24	3.24	16.53
4-12	12	17	3.43	3.43	19.96
4-13	13	16	3.64	3.64	23.59
4-14	14	16	3.75	3.75	27.34
4-15	15	15	3.87	3.87	31.21
4-16	16	14	4.14	4.14	35.35
4-17	17	12	4.61	4.61	39.97
4-18	18	12	5.00	5.00	44.96
4-19	19	12	5.00	5.00	49.96
4-20	20	12	5.00	5.00	54.96
4-21	21	28	3.00	3.00	57.96
4-end	25	0	2.50	2.50	60.46
					60.46
					Total Collected Runoff (approx)

6.02 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	50	2.40	2.40	2.40
6-2	2	32	1.46	1.46	3.86
6-3	3	23	2.18	2.18	6.04
6-4	4	17	3.00	3.00	9.04
6-5	5	16	3.64	3.64	12.68
6-6	6	14	4.00	4.00	16.68
6-7	7	14	4.29	4.29	20.97
6-8	8	14	4.29	4.29	25.25
6-9	9	13	4.44	4.44	29.69
6-10	10	13	4.61	4.61	34.31
6-11	11	13	4.61	4.61	38.92
6-12	12	12	4.80	4.80	43.72
6-13	13	12	5.00	5.00	48.72
6-14	14	12	5.00	5.00	53.72
6-15	15	11	5.22	5.22	58.94
6-16	16	11	5.45	5.45	64.39
6-17	17	11	5.45	5.45	69.85
6-18	18	11	5.45	5.45	75.30
6-19	19	10	5.71	5.71	81.01
6-20	20	10	6.00	6.00	87.01
6-21	21	22	3.75	3.75	90.76
6-end	30	0	3.00	3.00	93.76
					93.76
					Total Collected Runoff (approx)

9-May-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.30 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	545	0.22	0.22	0.22
2-2	2.00	530	0.11	0.11	0.33
2-3	3.00	485	0.12	0.12	0.45
2-4	4.00	485	0.12	0.12	0.57
2-5	5.00	515	0.12	0.12	0.69
2-6	6.00	439	0.13	0.13	0.82
2-7	7.00	379	0.15	0.15	0.97
2-8	8.00	333	0.17	0.17	1.14
2-9	9.00	303	0.19	0.19	1.32
2-10	10.00	273	0.21	0.21	1.53
2-11	11.00	212	0.25	0.25	1.78
2-12	12.00	182	0.30	0.30	2.08
2-13	13.00	151	0.36	0.36	2.45
2-14	14.00	151	0.40	0.40	2.84
2-15	15.00	121	0.44	0.44	3.28
2-16	16.00	106	0.53	0.53	3.81
2-17	17.00	106	0.57	0.57	4.38
2-18	18.00	91	0.61	0.61	4.99
2-19	19.00	91	0.66	0.66	5.65
2-20	20.00	76	0.72	0.72	6.37
2-21	21.00	151	0.53	0.53	6.89
2-end	23.00	0	0.40	0.40	7.29
					7.29
					Total Collected Runoff (approx)

3.96 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	151	0.79	0.79	0.79
4-2	2	136	0.42	0.42	1.21
4-3	3	45	0.66	0.66	1.87
4-4	4	40	1.41	1.41	3.28
4-5	5	30	1.71	1.71	5.00
4-6	6	28	2.07	2.07	7.07
4-7	7	23	2.35	2.35	9.42
4-8	8	21	2.73	2.73	12.15
4-9	9	20	2.93	2.93	15.07
4-10	10	18	3.16	3.16	18.23
4-11	11	16	3.53	3.53	21.76
4-12	12	16	3.75	3.75	25.51
4-13	13	16	3.75	3.75	29.26
4-14	14	16	3.75	3.75	33.01
4-15	15	16	3.75	3.75	36.76
4-16	16	15	3.87	3.87	40.63
4-17	17	14	4.14	4.14	44.77
4-18	18	14	4.29	4.29	49.05
4-19	19	14	4.29	4.29	53.34
4-20	20	14	4.29	4.29	57.62
4-21	21	26	3.00	3.00	60.62
4-end	23	0	2.14	2.14	62.76
					62.76
					Total Collected Runoff (approx)

6.14 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	46	2.61	2.61	2.61
6-2	2	38	1.43	1.43	4.04
6-3	3	30	1.76	1.76	5.80
6-4	4	31	1.97	1.97	7.77
6-5	5	22	2.26	2.26	10.03
6-6	6	19	2.93	2.93	12.96
6-7	7	18	3.24	3.24	16.20
6-8	8	16	3.53	3.53	19.73
6-9	9	15	3.87	3.87	23.60
6-10	10	15	4.00	4.00	27.60
6-11	11	14	4.14	4.14	31.74
6-12	12	15	4.14	4.14	35.88
6-13	13	15	4.00	4.00	39.88
6-14	14	12	4.44	4.44	44.32
6-15	15	11	5.22	5.22	49.54
6-16	16	10	5.71	5.71	55.25
6-17	17	9	6.32	6.32	61.56
6-18	18	8	7.06	7.06	68.62
6-19	19	7	8.00	8.00	76.62
6-20	20	7	8.57	8.57	85.19
6-21	21	7	8.57	8.57	93.76
6-end	30	0	4.29	4.29	98.05
					98.05
					Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	7-May-12	4-May-12	9-May-12
Avg Moisture Content:	22.40%	21.64%	22.84%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	242.68	69.48	244.9
Wt. Of cup + dry soil, g	238.11	61.98	239.82
Wt. Of cup, g	217.1	28.51	217.14
Wt. Of dry soil, g	21.01	33.47	22.68
Wt. Of water, g	4.57	7.5	5.08
Water Content, w%	21.8%	22.4%	22.4%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	242.7	68.64	244.01
Wt. Of cup + dry soil, g	237.92	61.6	238.97
Wt. Of cup, g	216.84	28.51	216.88
Wt. Of dry soil, g	21.08	33.09	22.09
Wt. Of water, g	4.78	7.04	5.04
Water Content, w%	22.7%	21.3%	22.8%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	245.23	66.07	251.54
Wt. Of cup + dry soil, g	239.92	59.49	244.95
Wt. Of cup, g	216.61	28.51	216.67
Wt. Of dry soil, g	23.31	30.98	28.28
Wt. Of water, g	5.31	6.58	6.59
Water Content, w%	22.8%	21.2%	23.3%

Soil Loss Data

Slope No.	1	2	3
Test Date:	7-May-12	4-May-12	9-May-12
Total Soil Loss	2.59	3.47	3.61

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	40.9	4.5	113.5
Sub-Sample	Wt. Of cup + wet soil, g	40.9	4.5
	Wt. Of cup + dry soil, g	40.9	4.5
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	40.9	4.5
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.090	0.010	0.250

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	454.0	435.8	671.9
Sub-Sample	Wt. Of cup + wet soil, g	454.0	435.8
	Wt. Of cup + dry soil, g	454.0	435.8
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	454	435.8
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	1.000	0.960	1.480

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	681.0	1135.0	853.5
Sub-Sample	Wt. Of cup + wet soil, g	681.0	1135.0
	Wt. Of cup + dry soil, g	681.0	1135.0
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	681	1135
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	1.500	2.500	1.880



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 16-May-12 18-May-12 15-May-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: FW402

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.28	7.59	8.51	0.300	0.030
	4.07	75.97	55.76	2.700	0.302
	6.06	149.89	170.82	4.800	0.786
Bare Soil Controls			8.51		1.080
			55.76		7.071
			170.82		21.660

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.03	14.21	6.61	0.600	0.060
	3.98	83.32	50.14	3.800	0.444
	6.04	155.29	163.93	5.200	0.968
Bare Soil Controls			6.61		0.838
			50.14		6.357
			163.93		20.787

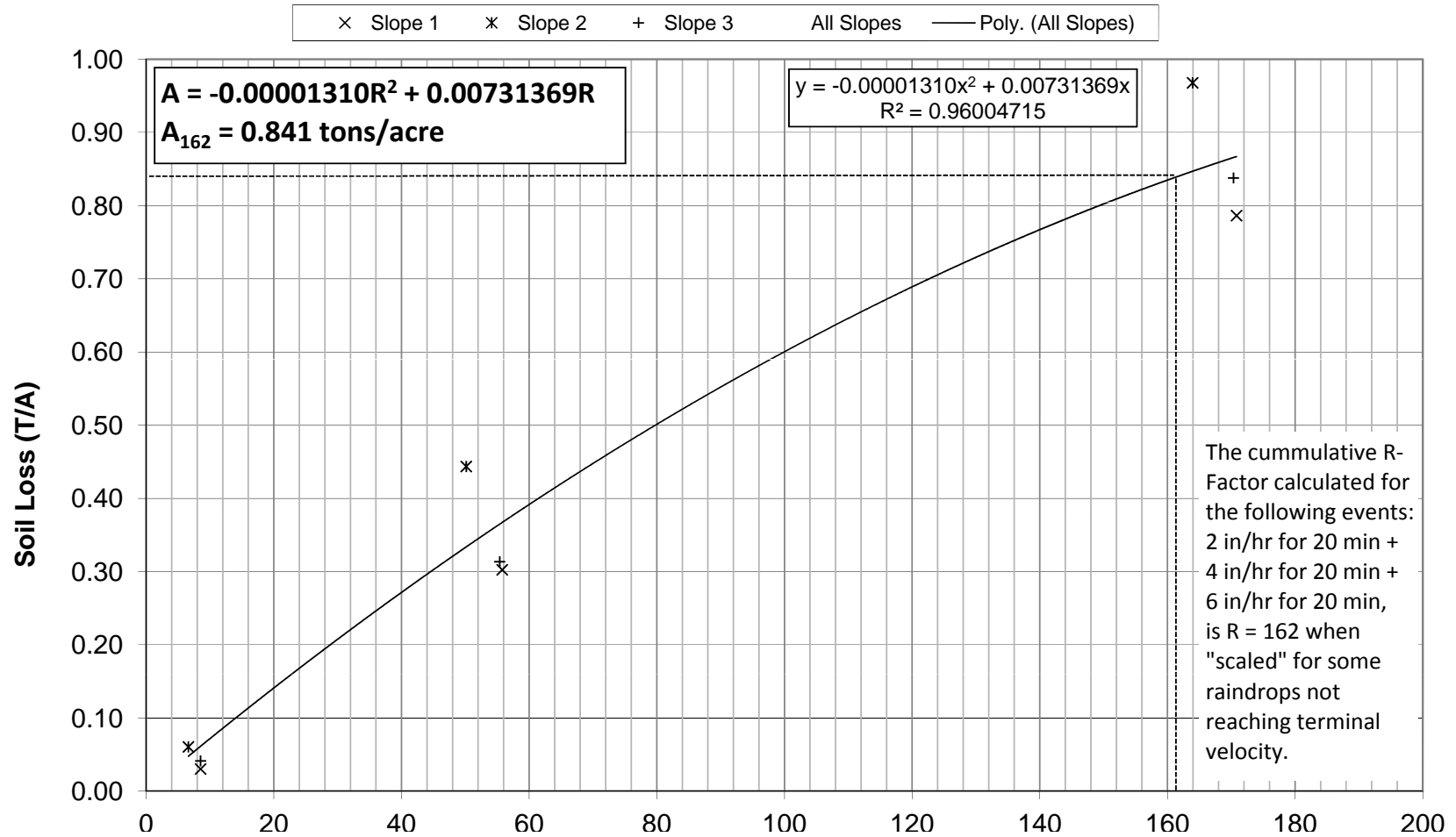
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.28	12.22	8.51	0.410	0.041
	4.06	75.89	55.37	2.700	0.314
	6.06	156.79	170.33	5.200	0.838
Bare Soil Controls			8.51		1.080
			55.37		7.021
			170.33		21.598

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)

 Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)





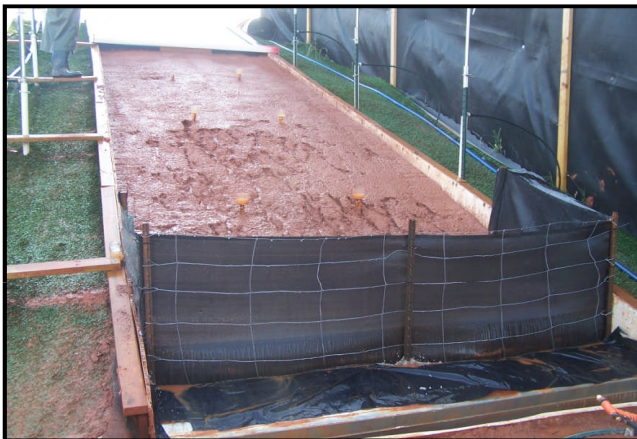
TYPICAL TESTING PICTURES



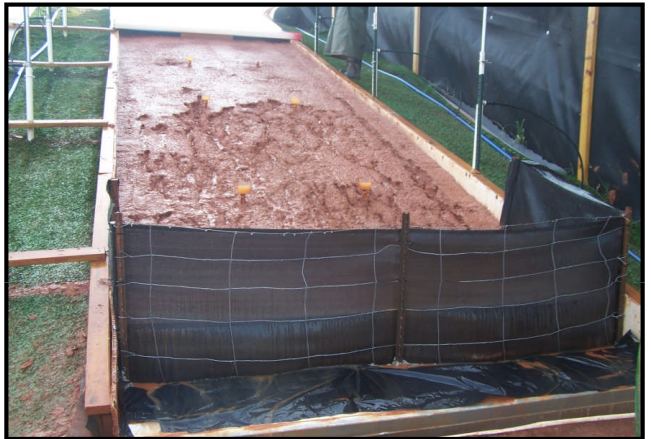
Test Slope Prepared and Fence Installed



After 2 in/hr Event



After 4 in/hr Event



After 6 in/hr Event



Typical Control Run - Before and After

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 2 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	16-May-12	Start Rain: 8:03 AM	End Rain: 8:23 AM	8:06	X	X
		interval: 0:03	End Runoff: 8:26 AM	8:09	X	X
		Rain Time (min): 20.00	Test Time (min): 23.00	8:12	X	X
Product:	FW402	Descr.: Ten Cate Type C Silt Fence		8:15	X	X
Lot #:		Posts: Steel	Spacing: 4-ft	8:18	X	X
TOP OF SLOPE				8:21	X	X
(circle "x" for open valves)				8:24	X	X

w_{c1} = 21.8%

d = 19 21 mm

i = 2.24 2.48 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x

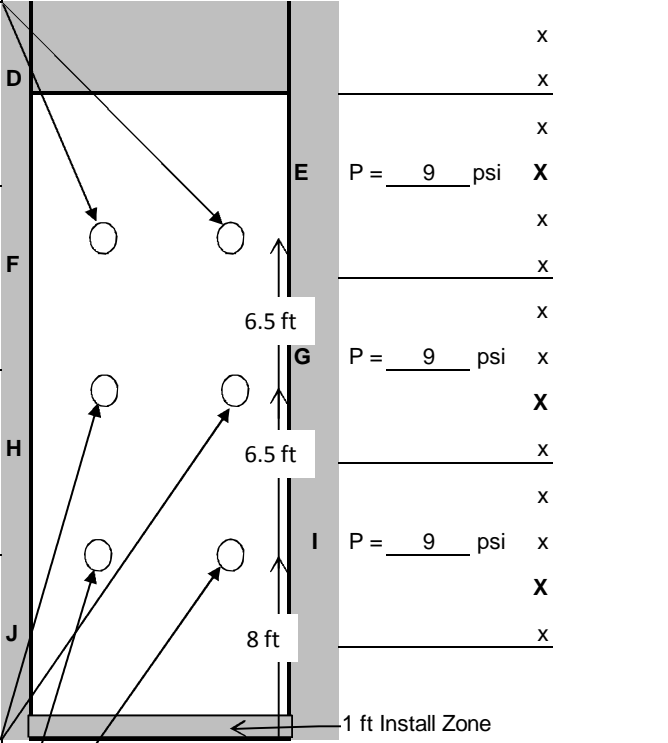
X P = 9 psi

x

x

X P = 9 psi

x



Runoff Rate Measurements

Min.	Volume	Seconds
1	250	24
2	250	24
3	250	24
4	250	23
5	250	23
6	250	20
7	250	20
8	250	18
9	250	18
10	250	18
11	250	14
12	250	14
13	250	13
14	250	12
15	250	9
16	250	8
17	250	7
18	250	6
19	250	5
20	250	5
21	250	10
23	250	0

d = 20 22 mm

i = 2.36 2.60 in/hr

w_{c2} = 21.5%

d = 16 18 mm

i = 1.89 2.13 in/hr

w_{c3} = 21.8%

x x X x

P = 9 psi Temp. 74 deg

Hum. 92 %

Average Depth: 19 mm

Avg Rainfall Intensity: 2.28 in/hr

NOTES:
 Wind: 0 mph. Direction: N
 Approx 8 gallons collected.

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	16-May-12	Start Rain: 8:34 AM	End Rain: 8:54 AM	8:37	X	X
		Sampling interval: 0:03	End Runoff: 8:59 AM	8:40	X	X
		Rain Time (min): 20.00	Test Time (min): 25.00	8:43	X	X
Product:	FW402	Descr.: Ten Cate Type C Silt Fence		8:46	X	X
Lot #:		Posts: Steel	Spacing: 4-ft	8:49	X	X
TOP OF SLOPE				8:52	X	X
(circle "x" for open valves)				8:55	X	X

w_{c1} = 21.8%

d = 35 34 mm

i = 4.13 4.02 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x

X P = 9 psi

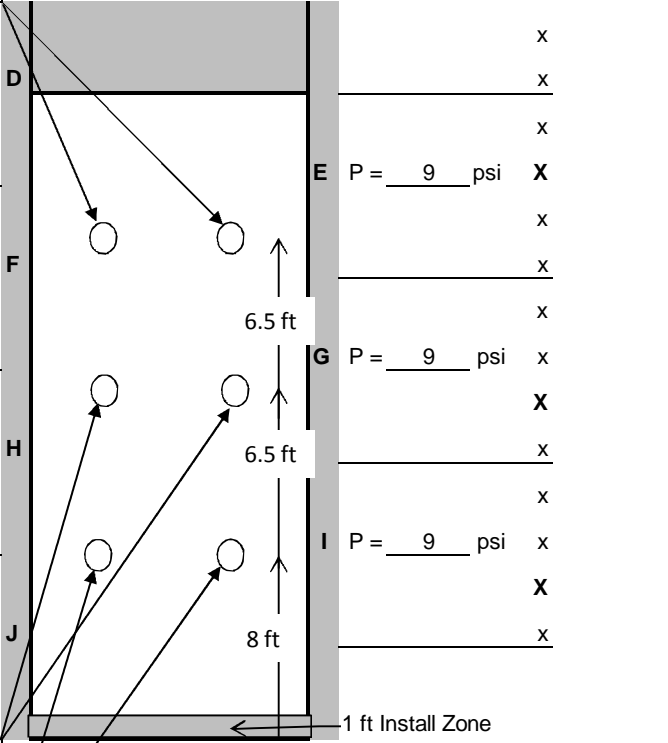
x

x

x

X P = 9 psi

x



Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	3785	42
2	3785	27
3	3785	23
4	3785	22
5	3785	28
6	3785	18
7	3785	16
8	3785	16
9	3785	16
10	3785	16
11	3785	15
12	3785	15
13	3785	15
14	3785	15
15	3785	14
16	3785	15
17	3785	15
18	3785	14
19	3785	14
20	3785	14
21	3785	20
25	3785	0

d = 36 38 mm

i = 4.25 4.49 in/hr

w_{c2} = 21.5%

d = 30 34 mm

i = 3.54 4.02 in/hr

w_{c3} = 21.8%

x x X x

P = 9 psi

Temp. 68 deg

Hum. 84 %

Average Depth: 35 mm

Avg Rainfall Intensity: 4.07 in/hr

NOTES:

Wind: 1 mph. Direction: N

Approx 75 gallons collected.

DDRF Rainfall Testing

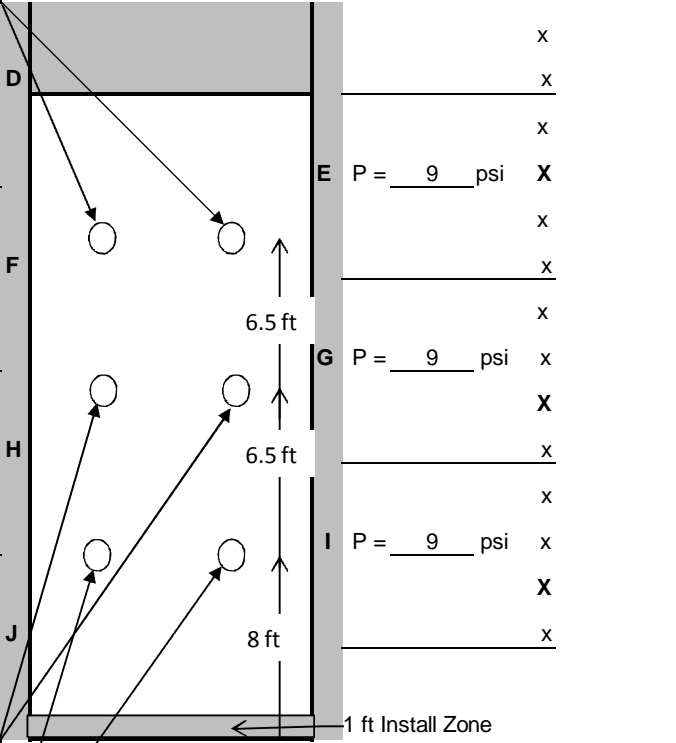
Slope #: 1 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken			
Date:	16-May-12	Start Rain:	9:03 AM	End Rain:	9:23 AM	9:06	X	X	
		Sampling interval:	0:03	End Runoff:	9:33 AM	9:09	X	X	
		Rain Time (min):	20.00	Test Time (min):	30.00	9:12	X	X	
Product:	FW402	Descr.:	Ten Cate Type C Silt Fence				9:15	X	X
Lot #:		Posts:	Steel	Spacing:	4-ft	9:18	X	X	
TOP OF SLOPE						9:21	X	X	
(circle "x" for open valves)				Set valves to 16 psi.		9:24	X	X	

d = 49 50 mm
 i = 5.79 5.91 in/hr

x
 X P = 9 psi D
 x
 x
 x
 X P = 9 psi F
 x
 x
 x
 x P = 9 psi H
 X
 x
 x P = 9 psi J
 X
 x



d = 52 55 mm
 i = 6.14 6.50 in/hr

w_{c2} = 21.5%

d = 50 52 mm
 i = 5.91 6.14 in/hr

w_{c3} = 21.8%

x x X x
 P = 9 psi Temp. 69 deg
 Hum. 83 %

Average Depth: 51 mm
Avg Rainfall Intensity: 6.06 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	13
2	3785	10
3	3785	9
4	3785	9
5	3785	9
6	3785	9
7	3785	9
8	3785	9
9	3785	9
10	3785	9
11	3785	9
12	3785	8
13	3785	8
14	3785	8
15	3785	8
16	3785	8
17	3785	8
18	3785	8
19	3785	8
20	3785	8
21	3785	16
30	3785	0

NOTES:
 Wind: 0-1 mph. Direction: N
 Approx 150 gallons collected.

DDRF Rainfall Testing				Sediment Concentration & Turbidity Grab Samples		
Slope #: <u>2</u>		Target Rain: <u>2 in/hr</u>		Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	<u>18-May-12</u>	Start Rain: <u>7:04 AM</u>	End Rain: <u>7:24 AM</u>	7:07	X	X
		Sampling interval: <u>0:03</u>	End Runoff: <u>7:27 AM</u>	7:10	X	X
		Rain Time (min): <u>20.00</u>	Test Time (min): <u>23.00</u>	7:13	X	X
Product:	<u>FW402</u>	Descr.: <u>Ten Cate Type C Silt Fence</u>		7:16	X	X
Lot #:		Posts: <u>Steel</u>	Spacing: <u>4-ft</u>	7:19	X	X
TOP OF SLOPE				7:22	X	X
$w_{c1} =$	<u>21.8%</u>	(circle "x" for open valves)		7:25	X	X
				Set valves to 16 psi.		
d =	<u>18</u>	<u>17</u>	mm	Runoff Rate Measurements		
i =	<u>2.13</u>	<u>2.01</u>	in/hr	Min.	Volume	Seconds
				1	250	26
				2	250	25
				3	250	22
				4	250	16
				5	250	11
				6	250	9
				7	250	7
				8	250	6
				9	250	6
				10	250	5
				11	250	5
				12	250	5
				13	250	5
				14	250	4
				15	250	4
				16	250	4
				17	250	4
				18	250	4
				19	250	4
				20	250	4
				21	250	12
				23	250	0

$w_{c2} =$ 21.5%

d = 17 17 mm

i = 2.01 2.01 in/hr

$w_{c3} =$ 21.8%

d = 15 19 mm

i = 1.77 2.24 in/hr

P = 9 psi

Temp. 63 deg

Hum. 86 %

Average Depth: 17 mm

Avg Rainfall Intensity: 2.03 in/hr

x

C P = 9 psi X

x

x

D P = 9 psi

x

x

E P = 9 psi X

x

x

F P = 9 psi

x

x

G P = 9 psi x

x

x

H P = 9 psi

x

x

I P = 9 psi x

x

1 ft Install Zone

x x X x

P = 9 psi

NOTES:
 Wind: 0-2 mph. Direction: E
 Approx 15 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	18-May-12	Start Rain: 7:33 AM	End Rain: 7:53 AM	7:36	X	X
		Sampling interval: 0:03	End Runoff: 7:58 AM	7:39	X	X
		Rain Time (min): 20.00	Test Time (min): 25.00	7:42	X	X
Product:	FW402	Descr.: Ten Cate Type C Silt Fence		7:45	X	X
Lot #:		Posts: Steel	Spacing: 4-ft	7:48	X	X
TOP OF SLOPE				7:51	X	X
(circle "x" for open valves)				7:54	X	X

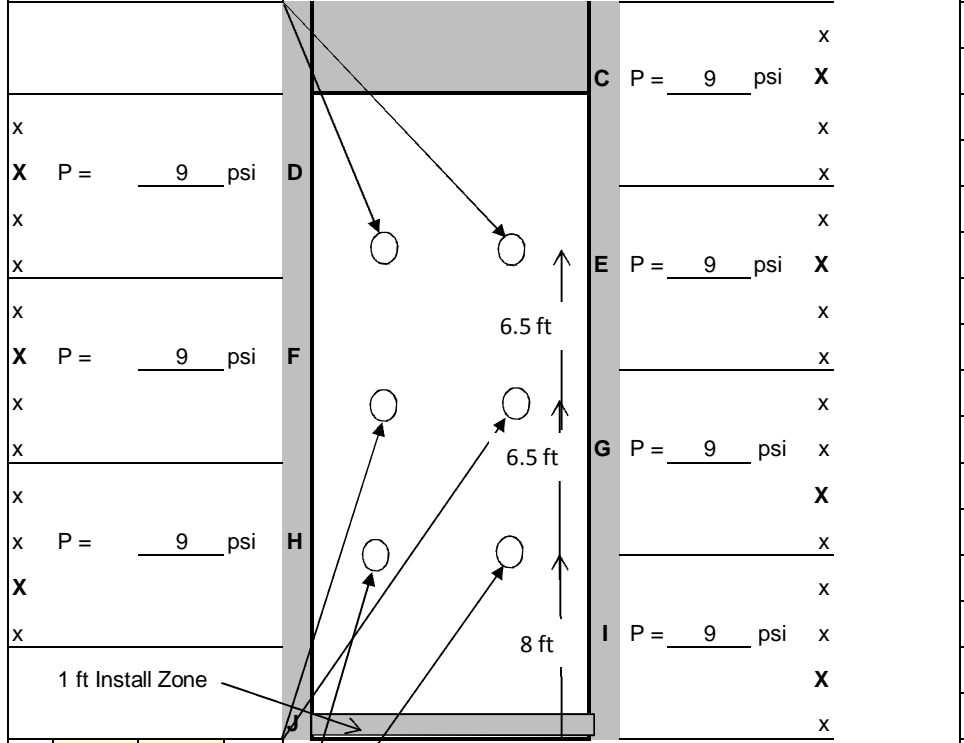
w_{c1} = 21.8%

Set valves to 16 psi.

d = 34 33 mm
i = 4.02 3.90 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	8
2	3785	25
3	3785	22
4	3785	18
5	3785	16
6	3785	15
7	3785	16
8	3785	16
9	3785	15
10	3785	15
11	3785	14
12	3785	14
13	3785	14
14	3785	12
15	3785	12
16	3785	12
17	3785	12
18	3785	12
19	3785	12
20	3785	12
21	3785	25
25	3785	0



d = 32 32 mm
i = 3.78 3.78 in/hr

x x X x
P = 9 psi Temp. 65 deg

w_{c2} = 21.5%

Hum. 84 %

d = 36 35 mm
i = 4.25 4.13 in/hr

Average Depth: 34 mm
Avg Rainfall Intensity: 3.98 in/hr

w_{c3} = 21.8%

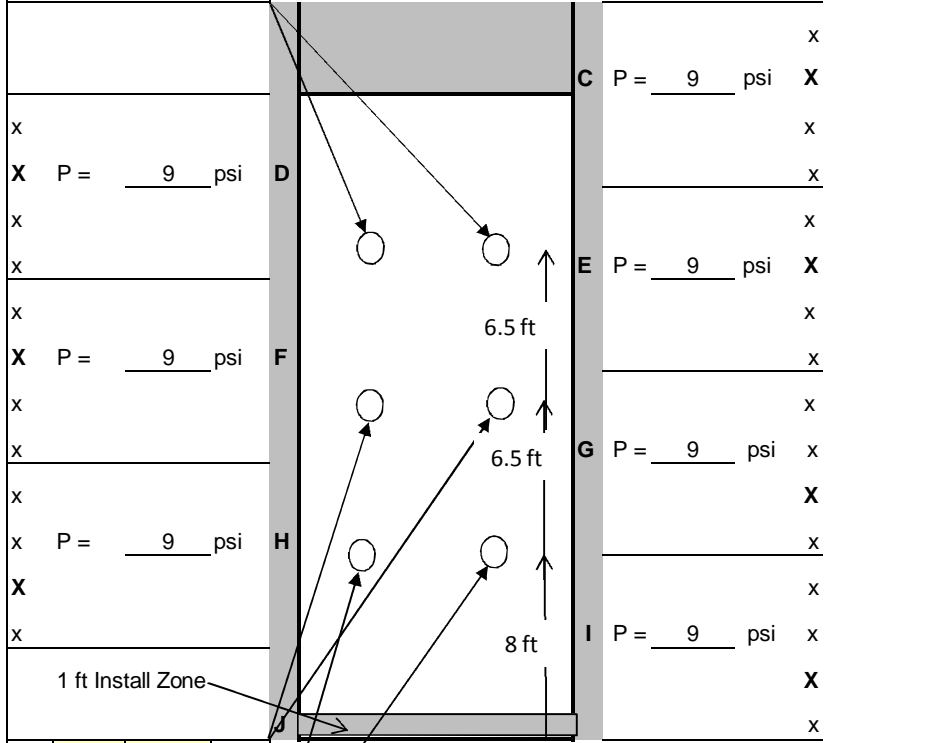
NOTES:
Wind: 0-1 mph. Direction: E
Approx 85 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples		
				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	18-May-12	Start Rain: 8:03 AM	End Rain: 8:23 AM	8:06	X	X
		Sampling interval: 0:03	End Runoff: 8:33 AM	8:09	X	X
		Rain Time (min): 20.00	Test Time (min): 30.00	8:12	X	X
Product:	FW402	Descr.: Ten Cate Type C Silt Fence		8:15	X	X
Lot #:		Posts: Steel	Spacing: 4-ft	8:18	X	X
TOP OF SLOPE				8:21	X	X
(circle "x" for open valves)				8:24	X	X
w _{c1} = 21.8%				Set valves to 16 psi.		

d = 50 53 mm
i = 5.91 6.26 in/hr



d = 48 53 mm
i = 5.67 6.26 in/hr

w_{c2} = 21.5%

d = 51 52 mm
i = 6.02 6.14 in/hr

w_{c3} = 21.8%

x x X x
P = 9 psi Temp. 66 deg
Hum. 81 %

Average Depth: 51 mm
Avg Rainfall Intensity: 6.04 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	30
2	3785	20
3	3785	12
4	3785	12
5	3785	10
6	3785	10
7	3785	9
8	3785	8
9	3785	8
10	3785	8
11	3785	8
12	3785	7
13	3785	7
14	3785	7
15	3785	7
16	3785	7
17	3785	6
18	3785	6
19	3785	6
20	3785	6
21	3785	13
30	3785	0

NOTES:
Wind: 1-3 mph. Direction: E
Approx 155 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 2 in/hr**

Sediment Concentration & Turbidity Grab Samples

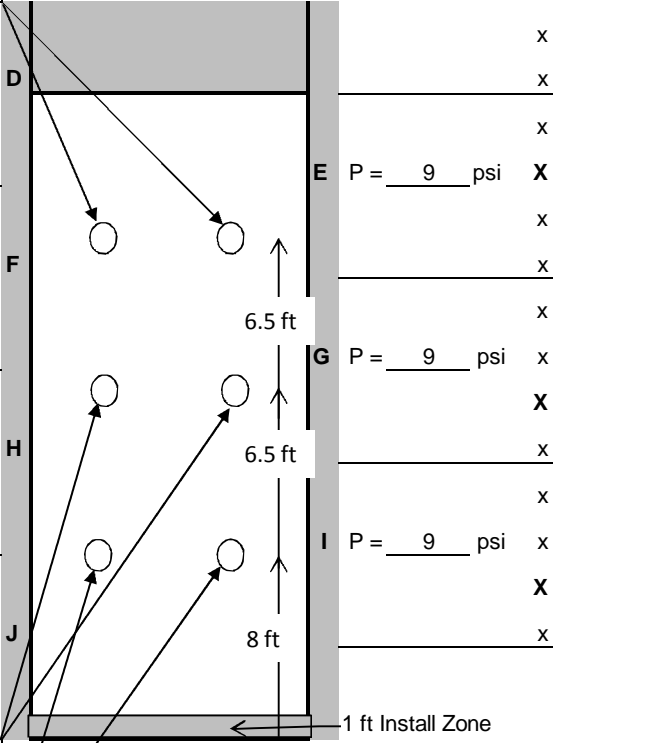
				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	15-May-12	Start Rain: Sampling interval:	7:13 AM 0:03	End Rain:	7:33 AM	7:16 X X
		End Runoff:	7:36 AM	7:19	X	X
		Rain Time (min):	20.00	Test Time (min):	23.00	7:22 X X
Product:	FW402	Descr.:	Ten Gate Type C Silt Fence		7:25	X X
Lot #:		Posts:	Steel	Spacing:	4-ft	7:28 X X
TOP OF SLOPE				7:31	X	X
(circle "x" for open valves)				7:34	X	X

w_{c1} = 21.8%

Set valves to 16 psi.

d = 20 18 mm
i = 2.36 2.13 in/hr

x
X P = 9 psi
x
x
x
X P = 9 psi
x
x
x
X P = 9 psi
x
x
x
X P = 9 psi
x
x
x
X



Runoff Rate Measurements

Min.	Volume	Seconds
1	250	44
2	250	25
3	250	19
4	250	14
5	250	12
6	250	8
7	250	7
8	250	7
9	250	6
10	250	6
11	250	6
12	250	5
13	250	6
14	250	5
15	250	5
16	250	5
17	250	5
18	250	5
19	250	5
20	250	5
21	250	12
23	250	0

d = 20 19 mm
i = 2.36 2.24 in/hr

w_{c2} = 21.5%

d = 20 19 mm
i = 2.36 2.24 in/hr

w_{c3} = 21.8%

x x X x
P = 9 psi Temp. 64 deg
Hum. 95 %

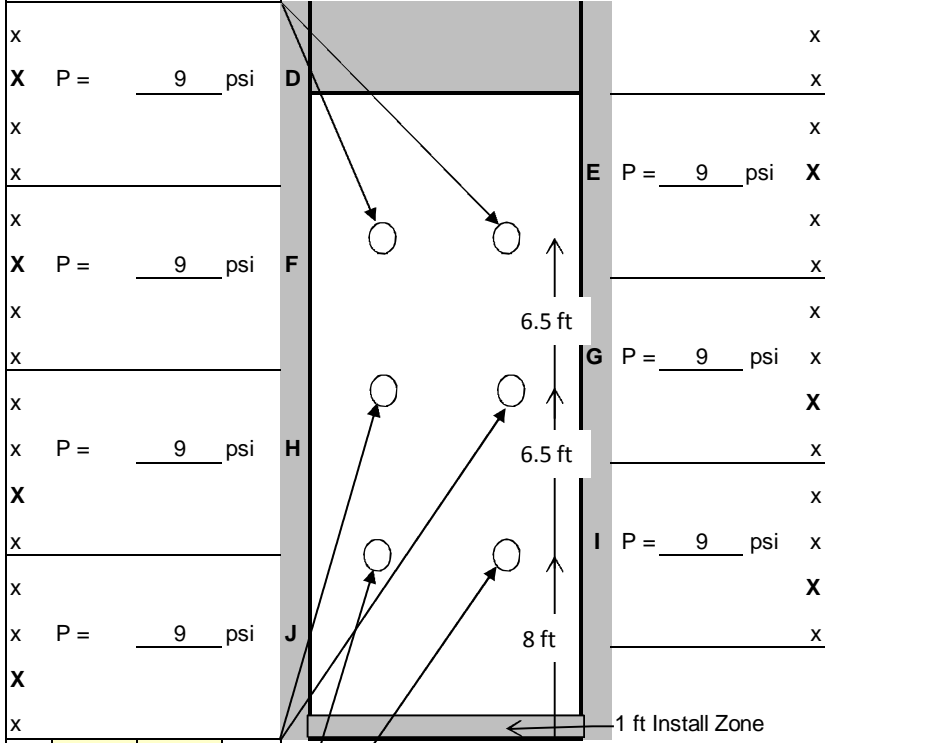
Average Depth: 19 mm
Avg Rainfall Intensity: 2.28 in/hr

NOTES: Test on Slope G1
Wind: 0 mph. Direction: N
Approx 12 gallons collected.

DDRF Rainfall Testing		Sediment Concentration & Turbidity Grab Samples		
Slope #: 3	Target Rain: 4 in/hr	Time	Sed Conc Samples Taken	Turbidity Samples Taken

Date:	15-May-12	Start Rain:	7:42 AM	End Rain:	8:02 AM	7:45	X	X
		Sampling interval:	0:03	End Runoff:	8:06 AM	7:48	X	X
		Rain Time (min):	20.00	Test Time (min):	24.00	7:51	X	X
Product:	FW402	Descr.:	Ten Cate Type C Silt Fence			7:54	X	X
Lot #:		Posts:	Steel	Spacing:	4-ft	7:57	X	X
		TOP OF SLOPE				8:00	X	X
W _{c1} =	21.8%	(circle "x" for open valves)		Set valves to 16 psi.		8:03	X	X

d =	30	32	mm
i =	3.54	3.78	in/hr



d =	35	39	mm
i =	4.13	4.61	in/hr

W_{c2} = 21.5%

d =	34	36	mm
i =	4.02	4.25	in/hr

W_{c3} = 21.8%

x x X x
P = 9 psi Temp. 64 deg
Hum. 95 %

Average Depth: 34 mm
Avg Rainfall Intensity: 4.06 in/hr

Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	250	7
2	3785	19
3	3785	20
4	3785	19
5	3785	18
6	3785	17
7	3785	16
8	3785	16
9	3785	16
10	3785	16
11	3785	16
12	3785	15
13	3785	15
14	3785	15
15	3785	15
16	3785	15
17	3785	14
18	3785	14
19	3785	14
20	3785	14
21	3785	22
24	3785	0

NOTES:
 Wind: 0 mph. Direction: N
 Approx 75 gallons collected.

DDRF Rainfall Testing

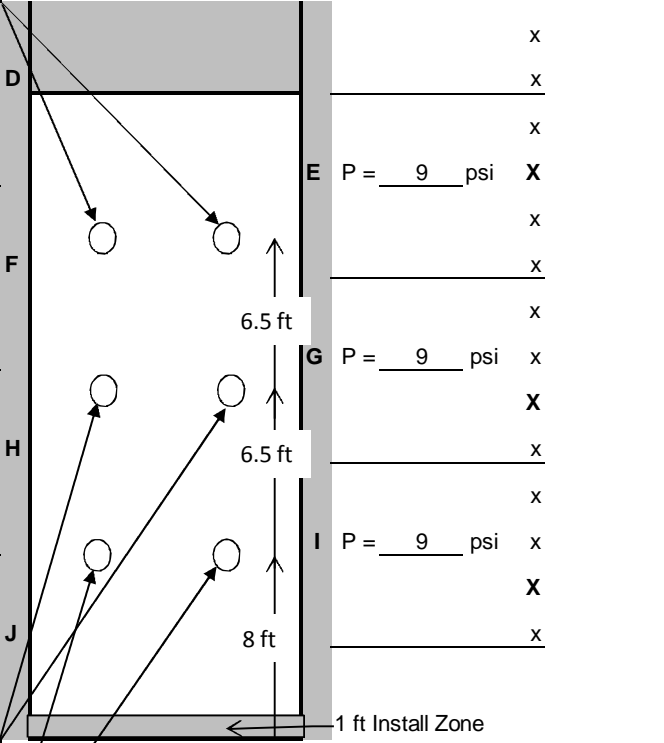
Slope #: 3 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	15-May-12	Start Rain: Sampling interval:	8:11 AM 0:03	End Rain: 8:31 AM	8:14	X	X	
		End Runoff:	8:41 AM	8:17	X	X		
		Rain Time (min):	20.00	Test Time (min):	30.00	8:20	X	X
Product:	FW402	Descr.:	Ten Cate Type C Silt Fence	8:23	X	X		
Lot #:		Posts:	Steel	Spacing:	4-ft	8:26	X	X
TOP OF SLOPE				8:29	X	X		
W _{c1} =	21.8%	(circle "x" for open valves)		8:32	X	X		
				Set valves to 16 psi.				

d = 53 54 mm
i = 6.26 6.38 in/hr

x
X P = 9 psi D
x
x
x P = 9 psi F
x
x P = 9 psi H
X
x P = 9 psi J
X
x



d = 49 52 mm
i = 5.79 6.14 in/hr

W_{c2} = 21.5%

d = 49 51 mm
i = 5.79 6.02 in/hr

W_{c3} = 21.8%

x x X x
P = 9 psi Temp. 65 deg
Hum. 95 %

Average Depth: 51 mm
Avg Rainfall Intensity: 6.06 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	15
2	3785	13
3	3785	10
4	3785	8
5	3785	8
6	3785	9
7	3785	8
8	3785	8
9	3785	8
10	3785	8
11	3785	8
12	3785	8
13	3785	8
14	3785	8
15	3785	8
16	3785	7
17	3785	7
18	3785	7
19	3785	7
20	3785	7
21	3785	20
30	3785	0

NOTES:
Wind: 0 mph. Direction: N
Approx 155 gallons collected.

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	188
2	20	106
3	20	185

FW402 Ten Cate Type C Silt Fence

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	686	2-1	3.00	518	2-1	3.00	804
2-2	6.00	1947	2-2	6.00	622	2-2	6.00	2431
2-3	9.00	2323	2-3	9.00	732	2-3	9.00	9999
2-4	12.00	3031	2-4	12.00	1007	2-4	12.00	5240
2-5	15.00	9999	2-5	15.00	3663	2-5	15.00	3076
2-6	18.00	3353	2-6	18.00	3882	2-6	18.00	3488
2-7	21.00	2002	2-7	21.00	1730	2-7	21.00	1313
avg		3334	avg		1736	avg		3764
4-1	3.00	9999	4-1	2.00	6205	4-1	2.00	9999
4-2	6.00	3664	4-2	4.00	8030	4-2	4.00	3941
4-3	9.00	3875	4-3	6.00	9518	4-3	6.00	3799
4-4	12.00	6265	4-4	8.00	7754	4-4	8.00	3424
4-5	15.00	8954	4-5	10.00	5365	4-5	10.00	3297
4-6	18.00	3418	4-6	12.00	9999	4-6	12.00	3167
4-7	21.00	1908	4-7	21.00	1745	4-7	21.00	2029
avg		5440	avg		6945	avg		4237
6-1	3.00	9999	6-1	3.00	9999	6-1	3.00	3679
6-2	6.00	4417	6-2	6.00	3853	6-2	6.00	3023
6-3	9.00	3355	6-3	9.00	3720	6-3	9.00	3005
6-4	12.00	2725	6-4	12.00	3779	6-4	12.00	2841
6-5	15.00	2667	6-5	15.00	3298	6-5	15.00	2679
6-6	18.00	2556	6-6	18.00	3446	6-6	18.00	2402
6-7	21.00	1107	6-7	21.00	1497	6-7	21.00	1327
avg		3832	avg		4227	avg		2708

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.28	in/hr	avg														
16-May-12		2-1	3.00	340.39	174.60	150.59	146.79	3800.00	189.80	0.19	20021.07	3.00	363.40	0.66	20021.07	0.11
		2-2	6.00	257.59	163.34	151.60	151.35	250.00	105.99	0.11	2358.71	6.00	302.83	0.53	2358.71	0.01
		2-3	9.00	355.01	163.38	149.44	149.07	370.00	205.57	0.21	1799.87	9.00	272.55	0.63	1799.87	0.01
		2-4	12.00	355.08	169.36	152.45	150.88	1570.00	202.63	0.20	7748.11	12.00	211.98	0.75	7748.11	0.05
		2-5	15.00	319.46	174.14	150.67	147.75	2920.00	168.79	0.17	17299.60	15.00	136.27	0.99	17299.60	0.14
		2-6	18.00	369.23	175.16	150.59	149.27	1320.00	218.64	0.22	6037.32	18.00	90.85	1.60	6037.32	0.08
		2-7	21.00	330.30	162.96	149.54	148.98	560.00	180.76	0.18	3098.03	21.00	151.42	2.04	3098.03	0.05
										AVG =	8337.53	23.00	0	0.40	3098.03	0.01
4.07	in/hr	avg									8337.53			Total Solids Lost:		0.47
16-May-12		4-1	3.00	350.44	164.53	151.54	150.60	940.00	198.90	0.20	4725.99	3.00	23.00	7.00	4725.99	0.28
		4-2	6.00	356.20	160.31	151.08	149.99	1090.00	205.12	0.21	5313.96	6.00	18.00	7.67	5313.96	0.34
		4-3	9.00	358.12	160.07	151.77	150.89	880.00	206.35	0.21	4264.60	9.00	16.00	11.03	4264.60	0.39
		4-4	12.00	335.72	155.43	147.14	146.45	690.00	188.58	0.19	3658.92	12.00	15.00	11.62	3658.92	0.35
		4-5	15.00	317.39	161.94	150.54	149.58	960.00	166.85	0.17	5753.67	15.00	14.00	12.14	5753.67	0.58
		4-6	18.00	348.81	162.97	152.66	151.92	740.00	196.15	0.20	3772.62	18.00	14.00	12.27	3772.62	0.39
		4-7	21.00	316.12	156.12	148.43	147.65	780.00	167.69	0.17	4651.44	21.00	20.00	12.10	4651.44	0.47
										AVG =	4591.60	25.00	0.00	2.14	4651.44	0.08
6.06	in/hr	avg									4591.60			Total Solids Lost:		2.88
16-May-12		6-1	3.00	331.07	175.25	151.69	150.86	830.00	179.38	0.18	4627.05	3.00	9.00	20.76	4627.05	0.80
		6-2	6.00	323.07	159.72	150.49	149.98	510.00	172.58	0.17	2955.15	6.00	9.00	20.00	2955.15	0.49
		6-3	9.00	332.89	166.99	149.88	148.97	910.00	183.01	0.18	4972.41	9.00	9.00	20.00	4972.41	0.83
		6-4	12.00	330.63	160.25	150.08	148.89	1190.00	180.55	0.18	6590.97	12.00	8.00	20.39	6590.97	1.12
		6-5	15.00	328.78	165.41	150.44	149.65	790.00	178.34	0.18	4429.74	15.00	8.00	22.50	4429.74	0.83
		6-6	18.00	337.55	172.77	152.68	151.89	790.00	184.87	0.18	4273.27	18.00	8.00	22.50	4273.27	0.80
		6-7	21.00	362.67	166.89	150.54	150.37	170.00	212.13	0.21	801.40	21.00	16.00	20.00	801.40	0.13
										AVG =	4092.86	30.00	0.00	3.75	801.40	0.03
										4092.86				Total Solids Lost:		5.04

16-May-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.28 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	363	0.33	0.33	0.33
2-2	2.00	363	0.17	0.17	0.50
2-3	3.00	363	0.17	0.17	0.66
2-4	4.00	348	0.17	0.17	0.83
2-5	5.00	348	0.17	0.17	1.00
2-6	6.00	303	0.18	0.18	1.19
2-7	7.00	303	0.20	0.20	1.38
2-8	8.00	273	0.21	0.21	1.59
2-9	9.00	273	0.22	0.22	1.81
2-10	10.00	273	0.22	0.22	2.03
2-11	11.00	212	0.25	0.25	2.28
2-12	12.00	212	0.28	0.28	2.56
2-13	13.00	197	0.29	0.29	2.86
2-14	14.00	182	0.32	0.32	3.17
2-15	15.00	136	0.38	0.38	3.55
2-16	16.00	121	0.47	0.47	4.02
2-17	17.00	106	0.53	0.53	4.55
2-18	18.00	91	0.61	0.61	5.16
2-19	19.00	76	0.72	0.72	5.88
2-20	20.00	76	0.79	0.79	6.67
2-21	21.00	151	0.53	0.53	7.20
2-end	23.00	0	0.40	0.40	7.59
					7.59
					Total Collected Runoff (approx)

4.07 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	42	2.86	2.86	2.86
4-2	2	27	1.74	1.74	4.60
4-3	3	23	2.40	2.40	7.00
4-4	4	22	2.67	2.67	9.66
4-5	5	28	2.40	2.40	12.06
4-6	6	18	2.61	2.61	14.67
4-7	7	16	3.53	3.53	18.20
4-8	8	16	3.75	3.75	21.95
4-9	9	16	3.75	3.75	25.70
4-10	10	16	3.75	3.75	29.45
4-11	11	15	3.87	3.87	33.32
4-12	12	15	4.00	4.00	37.32
4-13	13	15	4.00	4.00	41.32
4-14	14	15	4.00	4.00	45.32
4-15	15	14	4.14	4.14	49.45
4-16	16	15	4.14	4.14	53.59
4-17	17	15	4.00	4.00	57.59
4-18	18	14	4.14	4.14	61.73
4-19	19	14	4.29	4.29	66.01
4-20	20	14	4.29	4.29	70.30
4-21	21	20	3.53	3.53	73.83
4-end	25.00	0	2.14	2.14	75.97
					75.97
					Total Collected Runoff (approx)

6.06 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	13	9.23	9.23	9.23
6-2	2	10	5.22	5.22	14.45
6-3	3	9	6.32	6.32	20.76
6-4	4	9	6.67	6.67	27.43
6-5	5	9	6.67	6.67	34.09
6-6	6	9	6.67	6.67	40.76
6-7	7	9	6.67	6.67	47.43
6-8	8	9	6.67	6.67	54.09
6-9	9	9	6.67	6.67	60.76
6-10	10	9	6.67	6.67	67.42
6-11	11	9	6.67	6.67	74.09
6-12	12	8	7.06	7.06	81.15
6-13	13	8	7.50	7.50	88.65
6-14	14	8	7.50	7.50	96.15
6-15	15	8	7.50	7.50	103.64
6-16	16	8	7.50	7.50	111.14
6-17	17	8	7.50	7.50	118.64
6-18	18	8	7.50	7.50	126.14
6-19	19	8	7.50	7.50	133.64
6-20	20	8	7.50	7.50	141.14
6-21	21	16	5.00	5.00	146.14
6-end	30.00	0	3.75	3.75	149.89
					149.89
					Total Collected Runoff (approx)

18-May-12
Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.03 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	394	0.30	0.30	0.30
2-2	2.00	379	0.16	0.16	0.46
2-3	3.00	333	0.17	0.17	0.63
2-4	4.00	242	0.21	0.21	0.84
2-5	5.00	167	0.29	0.29	1.13
2-6	6.00	136	0.40	0.40	1.53
2-7	7.00	106	0.50	0.50	2.02
2-8	8.00	91	0.61	0.61	2.63
2-9	9.00	91	0.66	0.66	3.29
2-10	10.00	76	0.72	0.72	4.01
2-11	11.00	76	0.79	0.79	4.81
2-12	12.00	76	0.79	0.79	5.60
2-13	13.00	76	0.79	0.79	6.39
2-14	14.00	61	0.88	0.88	7.27
2-15	15.00	61	0.99	0.99	8.26
2-16	16.00	61	0.99	0.99	9.25
2-17	17.00	61	0.99	0.99	10.24
2-18	18.00	61	0.99	0.99	11.23
2-19	19.00	61	0.99	0.99	12.22
2-20	20.00	61	0.99	0.99	13.22
2-21	21.00	182	0.50	0.50	13.71
2-end	23.00	0	0.50	0.50	14.21
					14.21
					Total Collected Runoff (approx)

3.98 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	121	0.99	0.99	0.99
4-2	2	25	0.82	0.82	1.81
4-3	3	22	2.55	2.55	4.36
4-4	4	18	3.00	3.00	7.36
4-5	5	16	3.53	3.53	10.89
4-6	6	15	3.87	3.87	14.76
4-7	7	16	3.87	3.87	18.63
4-8	8	16	3.75	3.75	22.38
4-9	9	15	3.87	3.87	26.25
4-10	10	15	4.00	4.00	30.25
4-11	11	14	4.14	4.14	34.39
4-12	12	14	4.29	4.29	38.68
4-13	13	14	4.29	4.29	42.96
4-14	14	12	4.61	4.61	47.58
4-15	15	12	5.00	5.00	52.58
4-16	16	12	5.00	5.00	57.58
4-17	17	12	5.00	5.00	62.58
4-18	18	12	5.00	5.00	67.57
4-19	19	12	5.00	5.00	72.57
4-20	20	12	5.00	5.00	77.57
4-21	21	25	3.24	3.24	80.82
4-end	25	0	2.50	2.50	83.32
					83.32
					Total Collected Runoff (approx)

6.04 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	30	4.00	4.00	4.00
6-2	2	20	2.40	2.40	6.40
6-3	3	12	3.75	3.75	10.15
6-4	4	12	5.00	5.00	15.15
6-5	5	10	5.45	5.45	20.60
6-6	6	10	6.00	6.00	26.60
6-7	7	9	6.32	6.32	32.92
6-8	8	8	7.06	7.06	39.97
6-9	9	8	7.50	7.50	47.47
6-10	10	8	7.50	7.50	54.97
6-11	11	8	7.50	7.50	62.47
6-12	12	7	8.00	8.00	70.47
6-13	13	7	8.57	8.57	79.04
6-14	14	7	8.57	8.57	87.61
6-15	15	7	8.57	8.57	96.18
6-16	16	7	8.57	8.57	104.75
6-17	17	6	9.23	9.23	113.98
6-18	18	6	10.00	10.00	123.98
6-19	19	6	10.00	10.00	133.98
6-20	20	6	10.00	10.00	143.98
6-21	21	13	6.32	6.32	150.30
6-end	30	0	5.00	5.00	155.29
					155.29
					Total Collected Runoff (approx)

15-May-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.28 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	666	0.18	0.18	0.18
2-2	2.00	379	0.11	0.11	0.29
2-3	3.00	288	0.18	0.18	0.48
2-4	4.00	212	0.24	0.24	0.72
2-5	5.00	182	0.30	0.30	1.02
2-6	6.00	121	0.40	0.40	1.42
2-7	7.00	106	0.53	0.53	1.94
2-8	8.00	106	0.57	0.57	2.51
2-9	9.00	91	0.61	0.61	3.12
2-10	10.00	91	0.66	0.66	3.78
2-11	11.00	91	0.66	0.66	4.44
2-12	12.00	76	0.72	0.72	5.16
2-13	13.00	91	0.72	0.72	5.88
2-14	14.00	76	0.72	0.72	6.60
2-15	15.00	76	0.79	0.79	7.40
2-16	16.00	76	0.79	0.79	8.19
2-17	17.00	76	0.79	0.79	8.98
2-18	18.00	76	0.79	0.79	9.77
2-19	19.00	76	0.79	0.79	10.57
2-20	20.00	76	0.79	0.79	11.36
2-21	21.00	182	0.47	0.47	11.82
2-end	23.00	0	0.40	0.40	12.22
					12.22
					Total Collected Runoff (approx)

4.06 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	106	1.13	1.13	1.13
4-2	2	19	0.96	0.96	2.09
4-3	3	20	3.08	3.08	5.17
4-4	4	19	3.08	3.08	8.25
4-5	5	18	3.24	3.24	11.49
4-6	6	17	3.43	3.43	14.92
4-7	7	16	3.64	3.64	18.55
4-8	8	16	3.75	3.75	22.30
4-9	9	16	3.75	3.75	26.05
4-10	10	16	3.75	3.75	29.80
4-11	11	16	3.75	3.75	33.55
4-12	12	15	3.87	3.87	37.42
4-13	13	15	4.00	4.00	41.42
4-14	14	15	4.00	4.00	45.42
4-15	15	15	4.00	4.00	49.42
4-16	16	15	4.00	4.00	53.42
4-17	17	14	4.14	4.14	57.56
4-18	18	14	4.29	4.29	61.84
4-19	19	14	4.29	4.29	66.13
4-20	20	14	4.29	4.29	70.41
4-21	21	22	3.33	3.33	73.75
4-end	24	0	2.14	2.14	75.89
					75.89
					Total Collected Runoff (approx)

6.06 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	15	8.00	8.00	8.00
6-2	2	13	4.29	4.29	12.28
6-3	3	10	5.22	5.22	17.50
6-4	4	8	6.67	6.67	24.17
6-5	5	8	7.50	7.50	31.67
6-6	6	9	7.06	7.06	38.72
6-7	7	8	7.06	7.06	45.78
6-8	8	8	7.50	7.50	53.28
6-9	9	8	7.50	7.50	60.78
6-10	10	8	7.50	7.50	68.28
6-11	11	8	7.50	7.50	75.78
6-12	12	8	7.50	7.50	83.28
6-13	13	8	7.50	7.50	90.78
6-14	14	8	7.50	7.50	98.28
6-15	15	8	7.50	7.50	105.78
6-16	16	7	8.00	8.00	113.78
6-17	17	7	8.57	8.57	122.35
6-18	18	7	8.57	8.57	130.92
6-19	19	7	8.57	8.57	139.49
6-20	20	7	8.57	8.57	148.06
6-21	21	20	4.44	4.44	152.50
6-end	30	0	4.29	4.29	156.79
					156.79
					Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	16-May-12	18-May-12	15-May-12
Avg Moisture Content:	21.68%	21.43%	22.29%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	72.55	251.71	250.56
Wt. Of cup + dry soil, g	64.68	245.78	244.34
Wt. Of cup, g	28.51	217.15	217.11
Wt. Of dry soil, g	36.17	28.63	27.23
Wt. Of water, g	7.87	5.93	6.22
Water Content, w%	21.8%	20.7%	22.8%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	68.92	262.12	258.31
Wt. Of cup + dry soil, g	61.77	253.86	250.86
Wt. Of cup, g	28.51	216.8	216.77
Wt. Of dry soil, g	33.26	37.06	34.09
Wt. Of water, g	7.15	8.26	7.45
Water Content, w%	21.5%	22.3%	21.9%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	63.07	261.99	255.46
Wt. Of cup + dry soil, g	56.89	254.02	248.42
Wt. Of cup, g	28.51	216.58	216.65
Wt. Of dry soil, g	28.38	37.44	31.77
Wt. Of water, g	6.18	7.97	7.04
Water Content, w%	21.8%	21.3%	22.2%

Soil Loss Data

Slope No.	1	2	3
Test Date:	16-May-12	18-May-12	15-May-12
Total Soil Loss	7.80	9.60	8.31

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	136.2	272.4	186.14
Sub-Sample	Wt. Of cup + wet soil, g	136.2	186.14
	Wt. Of cup + dry soil, g	136.2	186.14
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	136.2	186.14
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.300	0.600	0.410

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	1225.8	1725.2	1225.8
Sub-Sample	Wt. Of cup + wet soil, g	1225.8	1225.8
	Wt. Of cup + dry soil, g	1225.8	1225.8
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	1225.8	1225.8
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	2.700	3.800	2.700

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	2179.2	2360.8	2360.8
Sub-Sample	Wt. Of cup + wet soil, g	2179.2	2360.8
	Wt. Of cup + dry soil, g	2179.2	2360.8
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	2179.2	2360.8
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	4.800	5.200	5.200



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 15-May-12 23-May-12 24-May-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: GASF-A

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.11	15.38	7.17	0.390	0.039
	4.00	66.05	51.64	2.191	0.260
	6.04	125.59	165.58	4.103	0.674
Bare Soil Controls			7.17		0.909
			51.64		6.548
			165.58		20.996

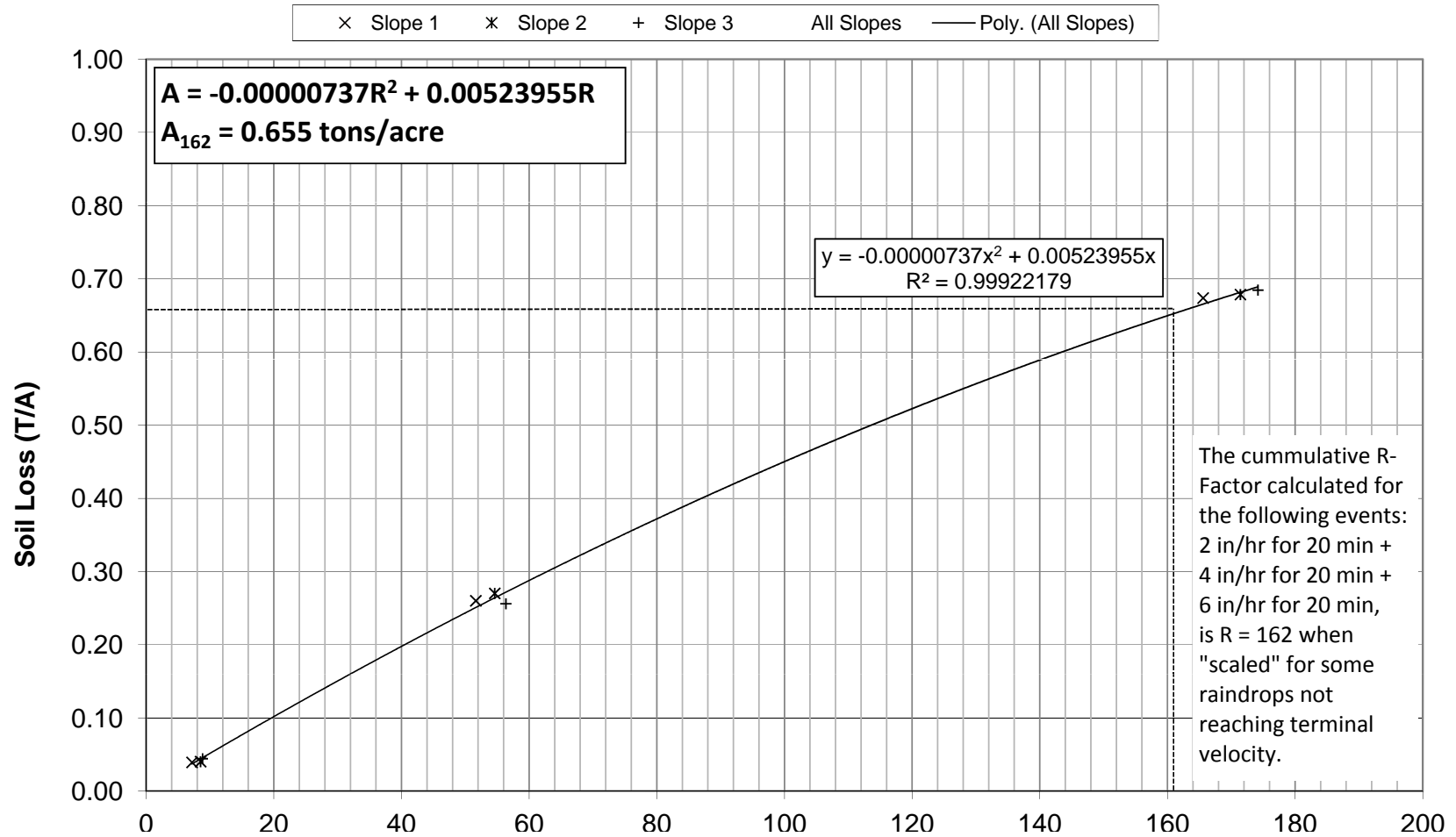
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.28	11.40	8.51	0.400	0.040
	4.02	66.91	54.60	2.280	0.270
	6.12	124.80	171.43	4.050	0.679
Bare Soil Controls			8.51		1.080
			54.60		6.923
			171.43		21.737

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.32	10.15	8.83	0.440	0.044
	4.07	66.41	56.35	2.100	0.256
	6.14	127.66	174.18	4.250	0.685
Bare Soil Controls			8.83		1.119
			56.35		7.145
			174.18		22.085

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)
Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)





TYPICAL TESTING PICTURES



Test Slope Prepared and Fence Installed



After 2 in/hr Event



After 4 in/hr Event



After 6 in/hr Event



Note: The testi

Typical Control Run - Before and After

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 2 in/hr**

Sediment Concentration & Turbidity Grab Samples

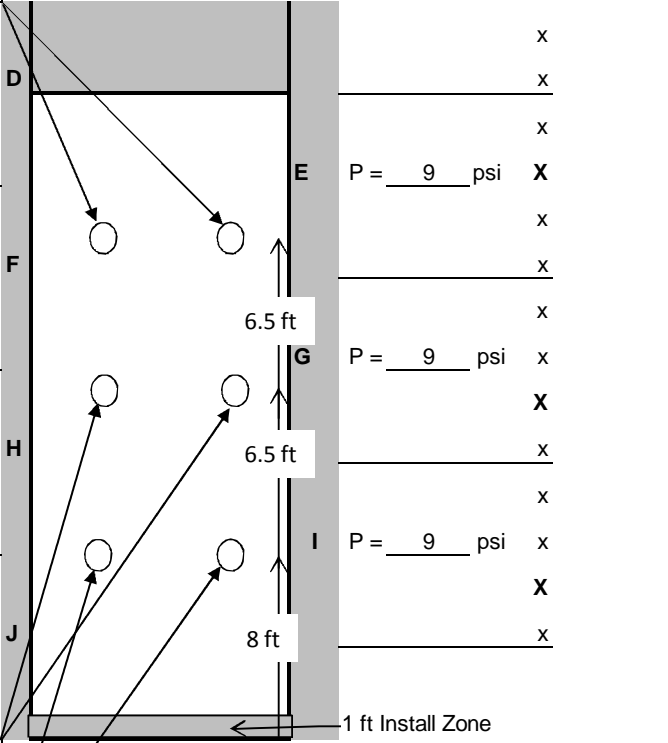
						Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	15-May-12	Start Rain:	9:13 AM	End Rain:	9:33 AM	9:16	X	X
		Sampling interval:	0:03	End Runoff:	9:36 AM	9:19	X	X
		Rain Time (min):	20.00	Test Time (min):	23.00	9:22	X	X
Product:	GASF-A	Descr.:	Hanes Type A Silt Fence			9:25	X	X
Lot #:		Posts:	Wood	Spacing:	6-ft	9:28	X	X
TOP OF SLOPE						9:31	X	X
(circle "x" for open valves)						9:34	X	X

w_{c1} = 21.4%

Set valves to 16 psi.

d = 19 15 mm
i = 2.24 1.77 in/hr

x
X P = 9 psi
x
x
x
X P = 9 psi
x
x
x
x
X P = 9 psi
x
x
x
X P = 9 psi
x
x
x
X



Runoff Rate Measurements

Min.	Volume	Seconds
1	250	34
2	250	23
3	250	12
4	250	9
5	250	8
6	250	5
7	250	5
8	250	5
9	250	5
10	250	5
11	250	5
12	250	5
13	250	5
14	250	5
15	250	4
16	250	4
17	250	4
18	250	4
19	250	4
20	250	4
21	250	8
23	250	0

d = 20 18 mm
i = 2.36 2.13 in/hr

w_{c2} = 23.5%

d = 19 16 mm
i = 2.24 1.89 in/hr

w_{c3} = 23.3%

x x X x
P = 9 psi Temp. 67 deg
Hum. 87 %

Average Depth: 18 mm
Avg Rainfall Intensity: 2.11 in/hr

NOTES:
Wind: 0 mph. Direction: N
Approx 15 gallons collected.

DDRF Rainfall Testing

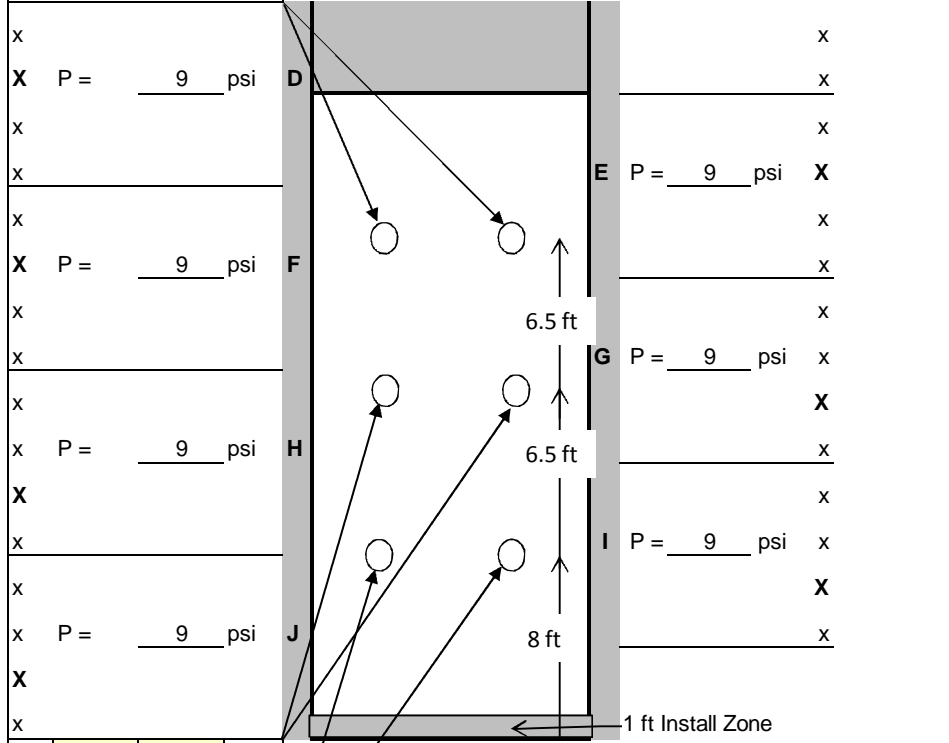
Slope #: 1	Target Rain: 4 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date: 15-May-12	Start Rain: 9:42 AM	End Rain: 10:02 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
			9:45	X	X
	interval: 0:03	End Runoff: 10:05 AM	9:48	X	X
	Rain Time (min): 20.00	Test Time (min): 23.00	9:51	X	X
Product: GASF-A	Descr.: Hanes Type A Silt Fence		9:54	X	X
Lot #:	Posts: Steel	Spacing: 6-ft	9:57	X	X
TOP OF SLOPE			10:00	X	X
(circle "x" for open valves)			10:03	X	X

w_{c1} = 21.4%

d = 37 34 mm

i = 4.37 4.02 in/hr



Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	3785	53
2	3785	32
3	3785	23
4	3785	20
5	3785	20
6	3785	19
7	3785	18
8	3785	18
9	3785	18
10	3785	18
11	3785	18
12	3785	18
13	3785	18
14	3785	18
15	3785	18
16	3785	18
17	3785	17
18	3785	17
19	3785	17
20	3785	17
21	3785	35
23	3785	0

d = 34 31 mm

i = 4.02 3.66 in/hr

w_{c2} = 23.5%

d = 35 32 mm

i = 4.13 3.78 in/hr

w_{c3} = 23.3%

Average Depth: 34 mm

Avg Rainfall Intensity: 4.00 in/hr

Temp. 68 deg

Hum. 86 %

NOTES:
 Wind: 1 mph. Direction: N
 Approx 65 gallons collected.

DDRF Rainfall Testing				Sediment Concentration & Turbidity Grab Samples				
Slope #: <u>1</u>		Target Rain: <u>6 in/hr</u>		Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	<u>16-May-12</u>	Start Rain:	<u>7:00 AM</u>	End Rain:	<u>7:20 AM</u>	7:03	X	X
		Sampling interval:	<u>0:03</u>	End Runoff:	<u>7:30 AM</u>	7:06	X	X
		Rain Time (min):	<u>20.00</u>	Test Time (min):	<u>30.00</u>	7:09	X	X
Product:	<u>GASF-A</u>	Descr.:	<u>Hanes Type A Silt Fence</u>			7:12	X	X
Lot #:		Posts:	<u>Steel</u>	Spacing:	<u>6-ft</u>	7:15	X	X
		TOP OF SLOPE				7:18	X	X
	$w_{c1} = 21.4\%$	(circle "x" for open valves)		Set valves to 16 psi.		7:21	X	X
d =	<u>49</u>	<u>50</u>	mm	Runoff Rate Measurements				
i =	<u>5.79</u>	<u>5.91</u>	in/hr					
x				Min.	Volume	Seconds		
X	P =	<u>9</u>	psi	1	3785	50		
x				2	3785	45		
x				3	3785	33		
x				4	3785	16		
X	P =	<u>9</u>	psi	5	3785	10		
x				6	3785	10		
x				7	3785	10		
x				8	3785	10		
X	P =	<u>9</u>	psi	9	3785	10		
x				10	3785	10		
x				11	3785	9		
X				12	3785	8		
x				13	3785	8		
x	P =	<u>9</u>	psi	14	3785	8		
X				15	3785	8		
x				16	3785	8		
d =	<u>50</u>	<u>55</u>	mm	17	3785	7		
i =	<u>5.91</u>	<u>6.50</u>	in/hr	18	3785	7		
$w_{c2} =$	<u>23.5%</u>			19	3785	8		
d =	<u>49</u>	<u>54</u>	mm	20	3785	8		
i =	<u>5.79</u>	<u>6.38</u>	in/hr	21	3785	21		
$w_{c3} =$	<u>23.3%</u>			30	3785	0		
Average Depth: <u>51</u> mm								
Avg Rainfall Intensity: <u>6.04</u> in/hr								

NOTES:
 Wind: 0-1 mph. Direction: N
 Approx 130 gallons collected.

DDRF Rainfall Testing

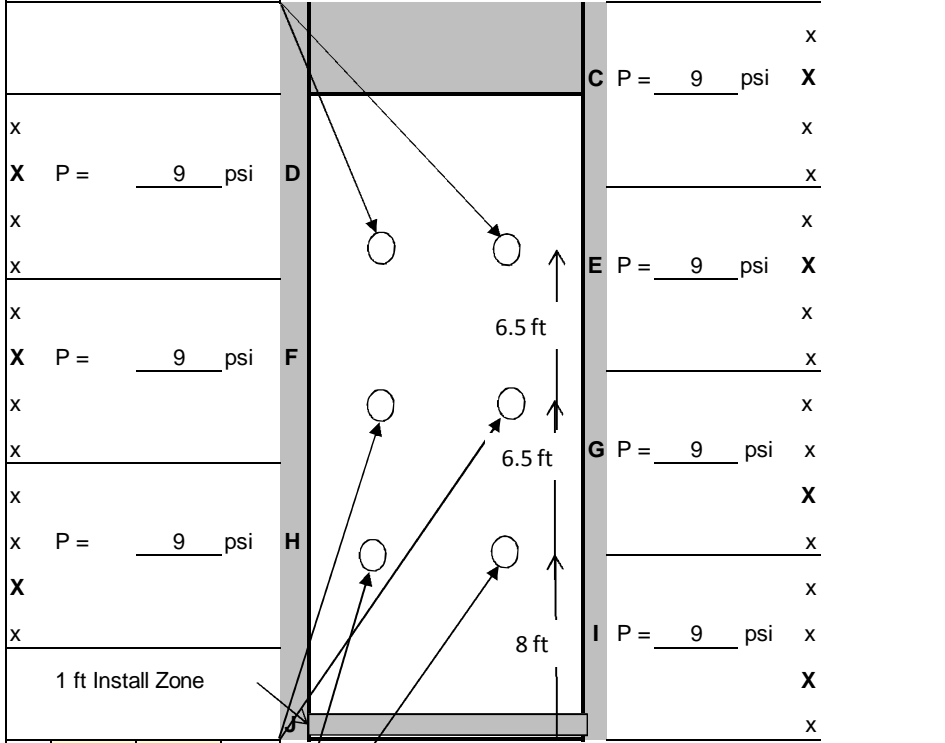
Slope #: 2 **Target Rain: 2 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken	
Date:	23-May-12	Start Rain: Sampling interval:	7:09 AM 0:03	End Rain:	7:29 AM	X	X
		End Runoff:	7:31 AM			X	X
		Rain Time (min):	20.00	Test Time (min):	22.00	X	X
Product:	GASF-A	Descr.:	Hanes Type A Silt Fence		7:21	X	X
Lot #:		Posts:	Wood	Spacing:	6-ft	X	X
TOP OF SLOPE				7:27	X	X	
$w_{c1} =$	21.4%	(circle "x" for open valves)		7:30	X	X	
				Set valves to 16 psi.			

d = 21 19 mm
i = 2.48 2.24 in/hr

Runoff Rate Measurements



Min.	Volume	Seconds
1	250	24
2	250	22
3	250	20
4	250	20
5	250	21
6	250	15
7	250	13
8	250	10
9	250	9
10	250	8
11	250	8
12	250	7
13	250	6
14	250	5
15	250	5
16	250	5
17	250	5
18	250	4
19	250	4
20	250	4
21	250	12
22	250	0

d = 20 18 mm
i = 2.36 2.13 in/hr
 $w_{c2} =$ 23.5%

x x X x
P = 9 psi Temp. 62 deg
Hum. 95 %

Average Depth: 19 mm
Avg Rainfall Intensity: 2.28 in/hr

d = 19 19 mm
i = 2.24 2.24 in/hr
 $w_{c3} =$ 23.3%

NOTES:
Wind: 0 mph. Direction: E
Approx 10 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	23-May-12	Start Rain: 7:37 AM	End Rain: 7:57 AM	7:40	X	X
		Sampling interval: 0:03	End Runoff: 8:01 AM	7:43	X	X
		Rain Time (min): 20.00	Test Time (min): 24.00	7:46	X	X
Product:	GASF-A	Descr.: Hanes Type A Silt Fence		7:49	X	X
Lot #:		Posts: Wood	Spacing: 6-ft	7:52	X	X
TOP OF SLOPE				7:55	X	X
(circle "x" for open valves)				7:58	X	X

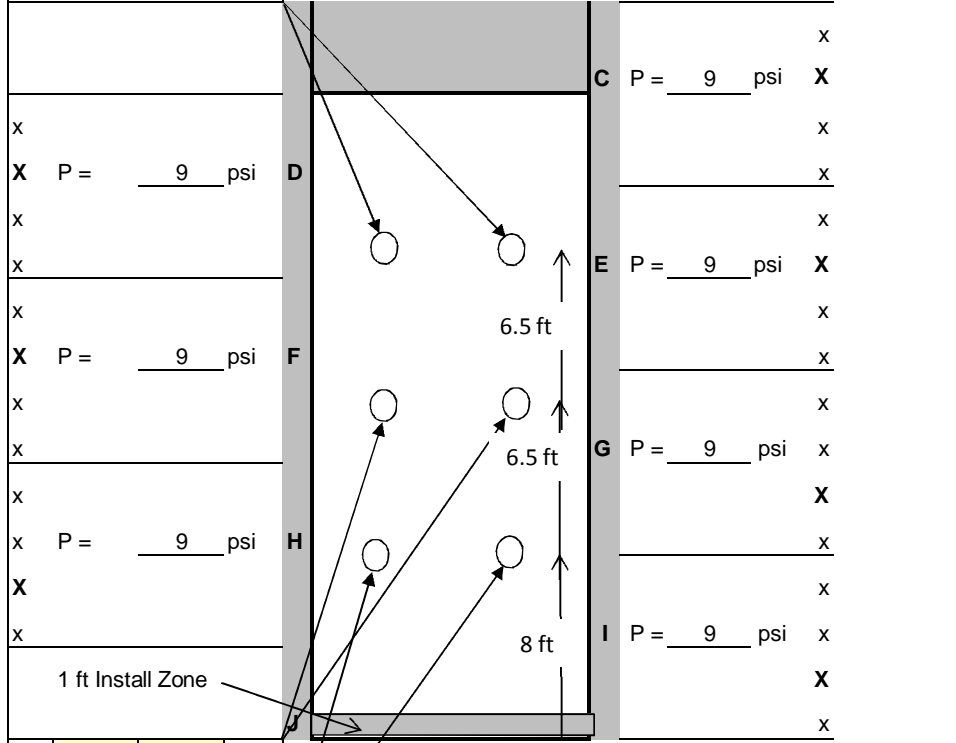
w_{c1} = 21.4%

d = 32 34 mm

i = 3.78 4.02 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	3785	48
2	3785	44
3	3785	35
4	3785	24
5	3785	20
6	3785	21
7	3785	19
8	3785	19
9	3785	18
10	3785	18
11	3785	17
12	3785	17
13	3785	16
14	3785	16
15	3785	16
16	3785	16
17	3785	16
18	3785	16
19	3785	16
20	3785	16
21	3785	16
24	3785	0



d = 35 35 mm

i = 4.13 4.13 in/hr

w_{c2} = 23.5%

d = 35 33 mm

i = 4.13 3.90 in/hr

w_{c3} = 23.3%

Average Depth: 34 mm

Avg Rainfall Intensity: 4.02 in/hr

P = 9 psi Temp. 62 deg Hum. 95 %

NOTES:
 Wind: 0 mph. Direction: E
 Approx 65 gallons collected.

DDRF Rainfall Testing

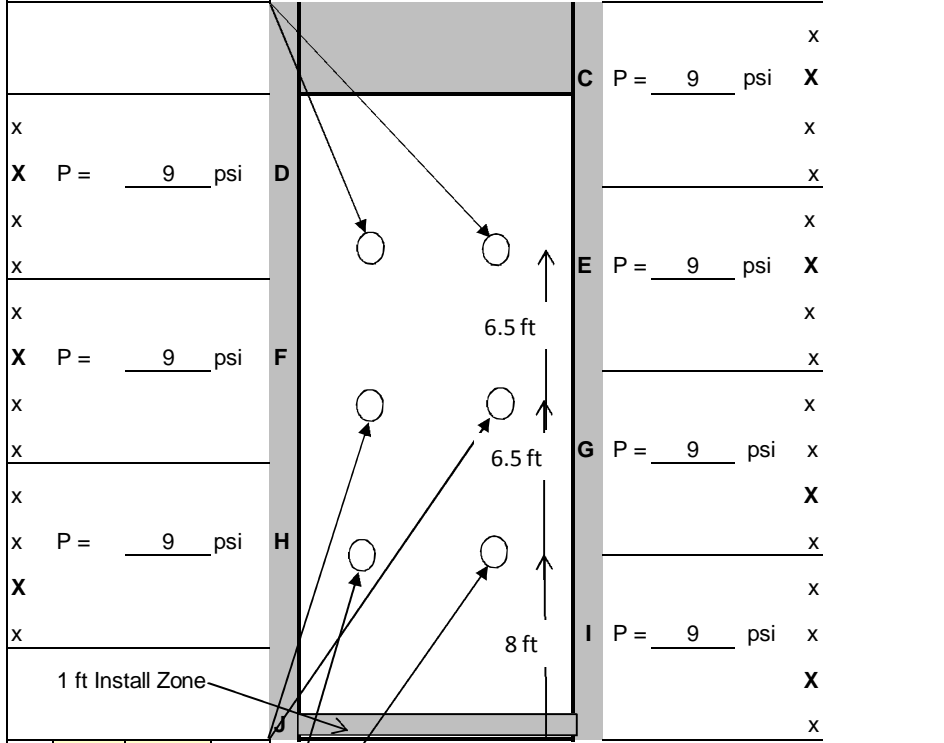
Slope #: 2 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples				
				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	23-May-12	Start Rain:	8:06 AM	End Rain:	8:26 AM	8:09	X	X
		Sampling interval:	0:03	End Runoff:	8:36 AM	8:12	X	X
		Rain Time (min):	20.00	Test Time (min):	30.00	8:15	X	X
Product:	GASF-A	Descr.:	Hanes Type A Silt Fence		8:18	X	X	
Lot #:		Posts:	Wood	Spacing:	6-ft	8:21	X	X
TOP OF SLOPE				8:24	X	X		
(circle "x" for open valves)				8:27	X	X		

w_{c1} = 21.4%

d = 54 51 mm

i = 6.38 6.02 in/hr



d = 54 52 mm

i = 6.38 6.14 in/hr

w_{c2} = 23.5%

d = 50 50 mm

i = 5.91 5.91 in/hr

w_{c3} = 23.3%

x x X x

P = 9 psi Temp. 62 deg

Hum. 95 %

Average Depth: 52 mm

Avg Rainfall Intensity: 6.12 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	25
2	3785	18
3	3785	16
4	3785	13
5	3785	11
6	3785	10
7	3785	10
8	3785	10
9	3785	10
10	3785	10
11	3785	10
12	3785	10
13	3785	9
14	3785	9
15	3785	9
16	3785	9
17	3785	9
18	3785	9
19	3785	9
20	3785	8
21	3785	13
30	3785	0

NOTES:
 Wind: 0 mph. Direction: E
 Approx 130 gallons collected.

DDRF Rainfall Testing

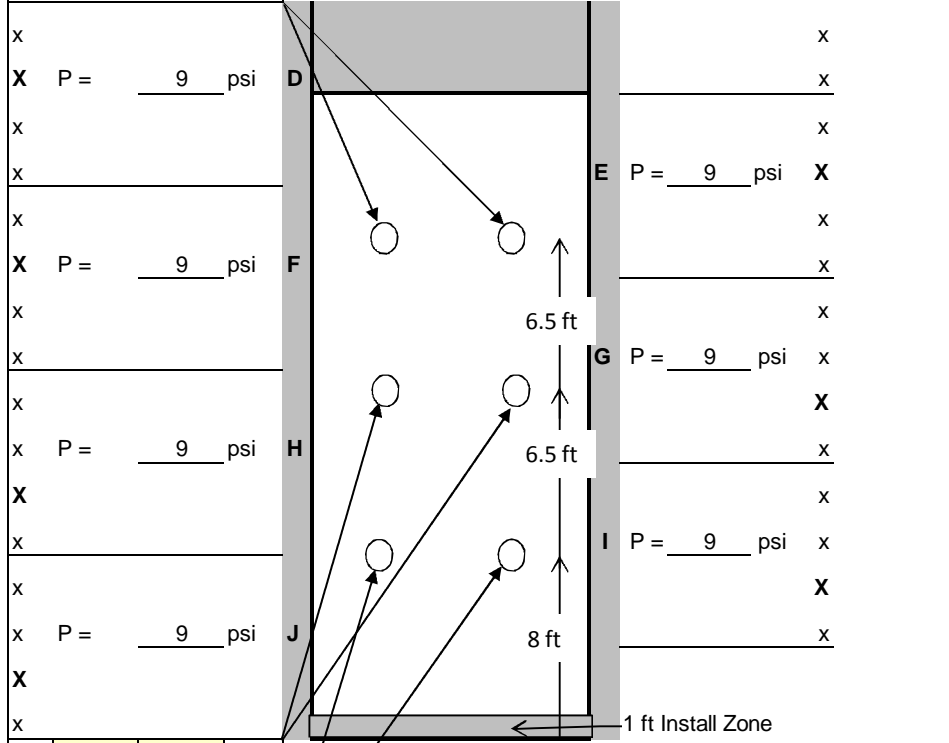
Slope #: 3	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date: 24-May-12	Start Rain: 6:58 AM	End Rain: 7:18 AM	Time: 7:01	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
	Sampling interval: 0:03	End Runoff: 7:20 AM	7:04	X	X
	Rain Time (min): 20.00	Test Time (min): 22.00	7:07	X	X
Product: GASF-A	Descr.: Hanes Type A Silt Fence		7:10	X	X
Lot #: []	Posts: Wood	Spacing: 6-ft	7:13	X	X
TOP OF SLOPE			7:16	X	X
(circle "x" for open valves)			7:19	X	X

w_{c1} = 21.4%

d = 20 19 mm

i = 2.36 2.24 in/hr



d = 19 21 mm

i = 2.24 2.48 in/hr

w_{c2} = 23.5%

d = 19 20 mm

i = 2.24 2.36 in/hr

w_{c3} = 23.3%

x x X x

P = 9 psi

Temp. 65 deg

Hum. 85 %

Average Depth: 20 mm

Avg Rainfall Intensity: 2.32 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	39
2	250	34
3	250	33
4	250	32
5	250	32
6	250	32
7	250	32
8	250	28
9	250	28
10	250	25
11	250	25
12	250	25
13	250	11
14	250	7
15	250	5
16	250	4
17	250	3
18	250	3
19	250	3
20	250	3
21	250	12
22	250	0

NOTES: Test on Slope G1
 Wind: 0-2 mph. Direction: NE
 Approx 10 gallons collected.

DDRF Rainfall Testing

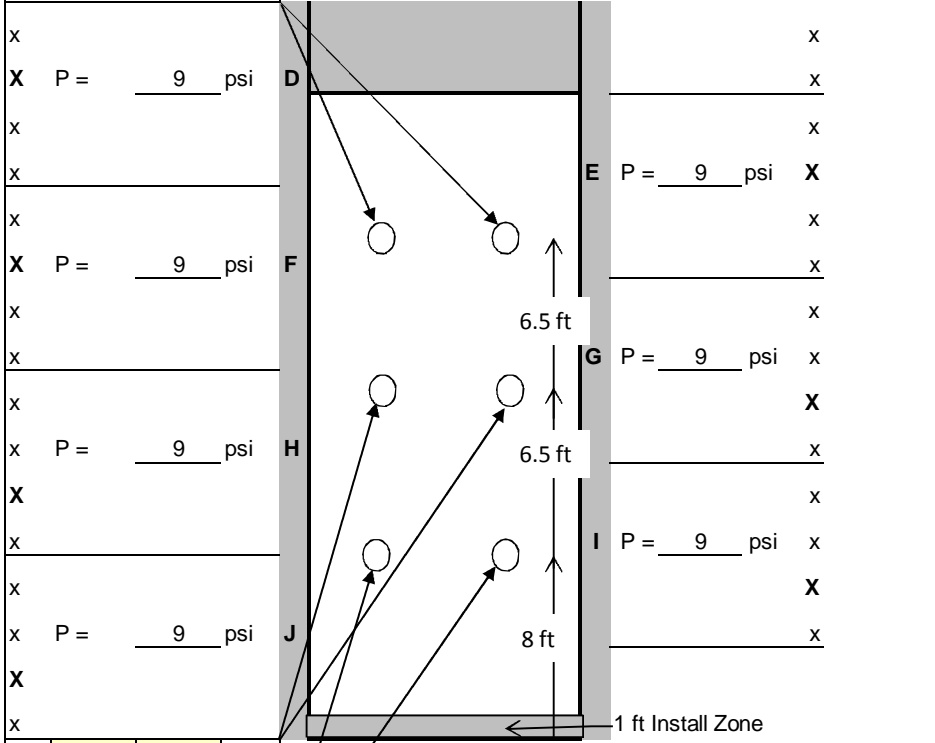
Slope #: 3	Target Rain: 4 in/hr	Sediment Concentration & Turbidity Grab Samples		
		Time	Sed Conc Samples Taken	Turbidity Samples Taken

Date:	24-May-12	Start Rain:	7:27 AM	End Rain:	7:47 AM	7:30	X	X
		Sampling interval:	0:03	End Runoff:	7:50 AM	7:33	X	X
		Rain Time (min):	20.00	Test Time (min):	23.00	7:36	X	X
Product:	GASF-A	Descr.:	Hanes Type A Silt Fence		7:39	X	X	
Lot #:		Posts:	Wood	Spacing:	6-ft	7:42	X	X
		TOP OF SLOPE			7:45	X	X	
		(circle "x" for open valves)		Set valves to 16 psi.	7:48	X	X	

w_{c1} = 21.4%

d = 35 32 mm

i = 4.13 3.78 in/hr



d = 33 37 mm

i = 3.90 4.37 in/hr

w_{c2} = 23.5%

P = 9 psi

Temp. 65 deg

Hum. 91 %

d = 33 37 mm

i = 3.90 4.37 in/hr

w_{c3} = 23.3%

Average Depth: 35 mm

Avg Rainfall Intensity: 4.07 in/hr

Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	3785	47
2	3785	35
3	3785	29
4	3785	22
5	3785	20
6	3785	20
7	3785	19
8	3785	20
9	3785	19
10	3785	18
11	3785	18
12	3785	17
13	3785	17
14	3785	17
15	3785	17
16	3785	17
17	3785	17
18	3785	17
19	3785	17
20	3785	17
21	3785	22
23	3785	0

NOTES:
 Wind: 0 mph. Direction: E
 Approx 70 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	24-May-12	Start Rain: 7:58 AM	End Rain: 8:18 AM	8:01	X	X
		Sampling interval: 0:03	End Runoff: 8:28 AM	8:04	X	X
		Rain Time (min): 20.00	Test Time (min): 30.00	8:07	X	X
Product:	GASF-A	Descr.: Hanes Type A Silt Fence		8:10	X	X
Lot #:		Posts: Wood	Spacing: 6-ft	8:13	X	X
TOP OF SLOPE				8:16	X	X
(circle "x" for open valves)				8:19	X	X

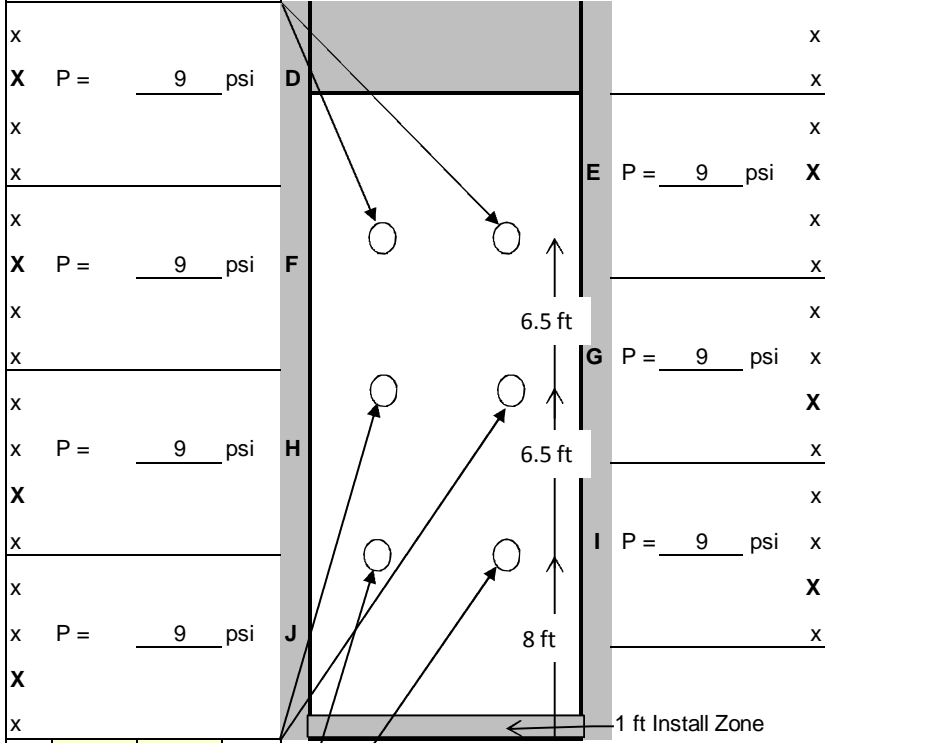
w_{c1} = 21.4%

d = 53 52 mm

i = 6.26 6.14 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	40
2	3785	33
3	3785	20
4	3785	13
5	3785	11
6	3785	10
7	3785	9
8	3785	9
9	3785	9
10	3785	9
11	3785	9
12	3785	9
13	3785	9
14	3785	8
15	3785	8
16	3785	8
17	3785	8
18	3785	8
19	3785	8
20	3785	8
21	3785	20
30	3785	0



d = 53 50 mm

i = 6.26 5.91 in/hr

w_{c2} = 23.5%

d = 51 53 mm

i = 6.02 6.26 in/hr

w_{c3} = 23.3%

Average Depth: 52 mm

Avg Rainfall Intensity: 6.14 in/hr

P = 9 psi Temp. 67 deg

Hum. 89 %

NOTES:
 Wind: 0 mph. Direction: N
 Approx 130 gallons collected.

GASF-A Hanes Type A Silt Fence

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	189
2	20	29
3	20	

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	7505	2-1	3.00	384	2-1	3.00	
2-2	6.00	7948	2-2	6.00	804	2-2	6.00	
2-3	9.00	3178	2-3	9.00	2188	2-3	9.00	
2-4	12.00	2851	2-4	12.00	4761	2-4	12.00	
2-5	15.00	2252	2-5	15.00	8397	2-5	15.00	
2-6	18.00	2348	2-6	18.00	6212	2-6	18.00	
2-7	21.00	3318	2-7	21.00	2161	2-7	21.00	
avg		4200	avg		3558	avg		#DIV/0!
4-1	3.00	3668	4-1	2.00	4436	4-1	2.00	
4-2	6.00	3613	4-2	4.00	3349	4-2	4.00	
4-3	9.00	2210	4-3	6.00	2943	4-3	6.00	
4-4	12.00	1620	4-4	8.00	2791	4-4	8.00	
4-5	15.00	2435	4-5	10.00	2710	4-5	10.00	
4-6	18.00	1967	4-6	12.00	2370	4-6	12.00	
4-7	21.00	970	4-7	21.00	1695	4-7	21.00	
avg		2355	avg		2899	avg		#DIV/0!
6-1	3.00	3616	6-1	3.00	3155	6-1	3.00	
6-2	6.00	3495	6-2	6.00	2764	6-2	6.00	
6-3	9.00	1928	6-3	9.00	2144	6-3	9.00	
6-4	12.00	2345	6-4	12.00	2182	6-4	12.00	
6-5	15.00	2176	6-5	15.00	1993	6-5	15.00	
6-6	18.00	1845	6-6	18.00	2156	6-6	18.00	
6-7	21.00	1378	6-7	21.00	1497	6-7	21.00	
avg		2398	avg		2270	avg		#DIV/0!

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.11	in/hr	avg														
15-May-12		2-1	3.00	348.18	165.08	152.34	150.50	1840.00	195.84	0.20	9395.42	3.00	181.70	0.60	9395.42	0.05
		2-2	6.00	361.15	171.35	151.88	150.86	1020.00	209.27	0.21	4874.09	6.00	75.71	1.45	4874.09	0.06
		2-3	9.00	364.52	174.58	151.41	150.84	570.00	213.11	0.21	2674.68	9.00	75.71	2.38	2674.68	0.05
		2-4	12.00	348.51	156.05	149.60	149.26	340.00	198.91	0.20	1709.32	12.00	75.71	2.38	1709.32	0.03
		2-5	15.00	318.66	158.20	150.71	150.57	140.00	167.95	0.17	833.58	15.00	60.57	2.47	833.58	0.02
		2-6	18.00	328.60	164.84	148.61	147.63	980.00	179.99	0.18	5444.75	18.00	60.57	2.97	5444.75	0.14
		2-7	21.00	308.32	161.26	150.72	150.66	60.00	157.60	0.16	380.71	21.00	121.13	2.64	380.71	0.01
									AVG =	3616.08		23.00	0	0.50	380.71	0.00
4.00	in/hr	avg								3616.08				Total Solids Lost:		0.36
15-May-12		4-1	3.00	331.65	155.91	150.31	149.77	540.00	181.34	0.18	2977.83	3.00	23.00	5.86	2977.83	0.15
		4-2	6.00	311.58	158.10	152.33	151.81	520.00	159.25	0.16	3265.31	6.00	19.00	8.87	3265.31	0.24
		4-3	9.00	353.45	153.97	148.77	147.71	1060.00	204.68	0.20	5178.82	9.00	18.00	9.91	5178.82	0.43
		4-4	12.00	331.23	158.57	151.41	150.56	850.00	179.82	0.18	4726.95	12.00	18.00	10.00	4726.95	0.39
		4-5	15.00	318.19	163.08	151.19	150.58	610.00	167.00	0.17	3652.69	15.00	18.00	10.00	3652.69	0.30
		4-6	18.00	336.65	166.40	151.73	150.77	960.00	184.92	0.18	5191.43	18.00	17.00	10.29	5191.43	0.45
		4-7	21.00	343.10	158.77	147.05	146.35	700.00	196.05	0.20	3570.52	21.00	35.00	9.37	3570.52	0.28
									AVG =	4080.51		23.00	0.00	1.76	3570.52	0.25
6.04	in/hr	avg								4080.51				Total Solids Lost:		2.29
16-May-12		6-1	3.00	359.66	161.34	151.04	150.38	660.00	208.62	0.21	3163.65	3.00	33.00	5.20	3163.65	0.14
		6-2	6.00	317.49	156.38	151.13	150.45	680.00	166.36	0.17	4087.52	6.00	10.00	13.06	4087.52	0.45
		6-3	9.00	320.65	157.65	150.47	149.83	640.00	170.18	0.17	3760.72	9.00	10.00	18.00	3760.72	0.56
		6-4	12.00	337.45	164.40	149.72	149.06	660.00	187.73	0.19	3515.69	12.00	8.00	19.37	3515.69	0.57
		6-5	15.00	319.92	170.29	150.26	149.67	590.00	169.66	0.17	3477.54	15.00	8.00	22.50	3477.54	0.65
		6-6	18.00	342.58	179.93	151.04	150.06	980.00	191.54	0.19	5116.42	18.00	7.00	24.07	5116.42	1.03
		6-7	21.00	345.01	166.65	150.24	149.44	800.00	194.77	0.19	4107.41	21.00	21.00	19.64	4107.41	0.67
									AVG =	3889.85		30.00	0.00	3.75	4107.41	0.13
									3889.85					Total Solids Lost:		4.20

15-May-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.11 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	515	0.23	0.23	0.23
2-2	2.00	348	0.14	0.14	0.37
2-3	3.00	182	0.23	0.23	0.60
2-4	4.00	136	0.38	0.38	0.98
2-5	5.00	121	0.47	0.47	1.44
2-6	6.00	76	0.61	0.61	2.05
2-7	7.00	76	0.79	0.79	2.84
2-8	8.00	76	0.79	0.79	3.64
2-9	9.00	76	0.79	0.79	4.43
2-10	10.00	76	0.79	0.79	5.22
2-11	11.00	76	0.79	0.79	6.01
2-12	12.00	76	0.79	0.79	6.81
2-13	13.00	76	0.79	0.79	7.60
2-14	14.00	76	0.79	0.79	8.39
2-15	15.00	61	0.88	0.88	9.27
2-16	16.00	61	0.99	0.99	10.26
2-17	17.00	61	0.99	0.99	11.25
2-18	18.00	61	0.99	0.99	12.24
2-19	19.00	61	0.99	0.99	13.24
2-20	20.00	61	0.99	0.99	14.23
2-21	21.00	121	0.66	0.66	14.89
2-end	23.00	0	0.50	0.50	15.38
					15.38
					Total Collected Runoff (approx)

4.00 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	53	2.26	2.26	2.26
4-2	2	32	1.41	1.41	3.68
4-3	3	23	2.18	2.18	5.86
4-4	4	20	2.79	2.79	8.65
4-5	5	20	3.00	3.00	11.65
4-6	6	19	3.08	3.08	14.72
4-7	7	18	3.24	3.24	17.97
4-8	8	18	3.33	3.33	21.30
4-9	9	18	3.33	3.33	24.63
4-10	10	18	3.33	3.33	27.97
4-11	11	18	3.33	3.33	31.30
4-12	12	18	3.33	3.33	34.63
4-13	13	18	3.33	3.33	37.96
4-14	14	18	3.33	3.33	41.30
4-15	15	18	3.33	3.33	44.63
4-16	16	18	3.33	3.33	47.96
4-17	17	17	3.43	3.43	51.39
4-18	18	17	3.53	3.53	54.92
4-19	19	17	3.53	3.53	58.45
4-20	20	17	3.53	3.53	61.98
4-21	21	35	2.31	2.31	64.29
4-end	23.00	0	1.76	1.76	66.05
					66.05
					Total Collected Runoff (approx)

6.04 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	50	2.40	2.40	2.40
6-2	2	45	1.26	1.26	3.66
6-3	3	33	1.54	1.54	5.20
6-4	4	16	2.45	2.45	7.65
6-5	5	10	4.61	4.61	12.26
6-6	6	10	6.00	6.00	18.26
6-7	7	10	6.00	6.00	24.26
6-8	8	10	6.00	6.00	30.26
6-9	9	10	6.00	6.00	36.26
6-10	10	10	6.00	6.00	42.26
6-11	11	9	6.32	6.32	48.58
6-12	12	8	7.06	7.06	55.63
6-13	13	8	7.50	7.50	63.13
6-14	14	8	7.50	7.50	70.63
6-15	15	8	7.50	7.50	78.13
6-16	16	8	7.50	7.50	85.63
6-17	17	7	8.00	8.00	93.63
6-18	18	7	8.57	8.57	102.20
6-19	19	8	8.00	8.00	110.20
6-20	20	8	7.50	7.50	117.70
6-21	21	21	4.14	4.14	121.84
6-end	30.00	0	3.75	3.75	125.59
					125.59
					Total Collected Runoff (approx)

23-May-12
Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.28 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	363	0.33	0.33	0.33
2-2	2.00	333	0.17	0.17	0.50
2-3	3.00	303	0.19	0.19	0.69
2-4	4.00	303	0.20	0.20	0.89
2-5	5.00	318	0.19	0.19	1.08
2-6	6.00	227	0.22	0.22	1.30
2-7	7.00	197	0.28	0.28	1.59
2-8	8.00	151	0.34	0.34	1.93
2-9	9.00	136	0.42	0.42	2.35
2-10	10.00	121	0.47	0.47	2.81
2-11	11.00	121	0.50	0.50	3.31
2-12	12.00	106	0.53	0.53	3.84
2-13	13.00	91	0.61	0.61	4.45
2-14	14.00	76	0.72	0.72	5.17
2-15	15.00	76	0.79	0.79	5.96
2-16	16.00	76	0.79	0.79	6.75
2-17	17.00	76	0.79	0.79	7.54
2-18	18.00	61	0.88	0.88	8.43
2-19	19.00	61	0.99	0.99	9.42
2-20	20.00	61	0.99	0.99	10.41
2-21	21.00	182	0.50	0.50	10.90
2-end	22.00	0	0.50	0.50	11.40
					11.40
					Total Collected Runoff (approx)

4.02 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	48	2.50	2.50	2.50
4-2	2	44	1.30	1.30	3.80
4-3	3	35	1.52	1.52	5.32
4-4	4	24	2.03	2.03	7.36
4-5	5	20	2.73	2.73	10.08
4-6	6	21	2.93	2.93	13.01
4-7	7	19	3.00	3.00	16.01
4-8	8	19	3.16	3.16	19.17
4-9	9	18	3.24	3.24	22.41
4-10	10	18	3.33	3.33	25.74
4-11	11	17	3.43	3.43	29.17
4-12	12	17	3.53	3.53	32.70
4-13	13	16	3.64	3.64	36.34
4-14	14	16	3.75	3.75	40.09
4-15	15	16	3.75	3.75	43.84
4-16	16	16	3.75	3.75	47.58
4-17	17	16	3.75	3.75	51.33
4-18	18	16	3.75	3.75	55.08
4-19	19	16	3.75	3.75	58.83
4-20	20	16	3.75	3.75	62.58
4-21	21	33	2.45	2.45	65.03
4-end	24	0	1.87	1.87	66.91
					66.91
					Total Collected Runoff (approx)

6.12 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	25	4.80	4.80	4.80
6-2	2	18	2.79	2.79	7.59
6-3	3	16	3.53	3.53	11.12
6-4	4	13	4.14	4.14	15.26
6-5	5	11	5.00	5.00	20.26
6-6	6	10	5.71	5.71	25.97
6-7	7	10	6.00	6.00	31.97
6-8	8	10	6.00	6.00	37.97
6-9	9	10	6.00	6.00	43.97
6-10	10	10	6.00	6.00	49.97
6-11	11	10	6.00	6.00	55.97
6-12	12	10	6.00	6.00	61.97
6-13	13	9	6.32	6.32	68.28
6-14	14	9	6.67	6.67	74.95
6-15	15	9	6.67	6.67	81.61
6-16	16	9	6.67	6.67	88.28
6-17	17	9	6.67	6.67	94.94
6-18	18	9	6.67	6.67	101.61
6-19	19	9	6.67	6.67	108.28
6-20	20	8	7.06	7.06	115.33
6-21	21	13	5.71	5.71	121.05
6-end	30	0	3.75	3.75	124.80
					124.80
					Total Collected Runoff (approx)

24-May-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.32 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	591	0.20	0.20	0.20
2-2	2.00	515	0.11	0.11	0.31
2-3	3.00	500	0.12	0.12	0.43
2-4	4.00	485	0.12	0.12	0.55
2-5	5.00	485	0.12	0.12	0.68
2-6	6.00	485	0.12	0.12	0.80
2-7	7.00	485	0.12	0.12	0.92
2-8	8.00	424	0.13	0.13	1.06
2-9	9.00	424	0.14	0.14	1.20
2-10	10.00	379	0.15	0.15	1.35
2-11	11.00	379	0.16	0.16	1.51
2-12	12.00	379	0.16	0.16	1.66
2-13	13.00	167	0.22	0.22	1.88
2-14	14.00	106	0.44	0.44	2.32
2-15	15.00	76	0.66	0.66	2.98
2-16	16.00	61	0.88	0.88	3.87
2-17	17.00	45	1.13	1.13	5.00
2-18	18.00	45	1.32	1.32	6.32
2-19	19.00	45	1.32	1.32	7.64
2-20	20.00	45	1.32	1.32	8.96
2-21	21.00	182	0.53	0.53	9.49
2-end	22.00	0	0.66	0.66	10.15
					10.15
					Total Collected Runoff (approx)

4.07 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	47	2.55	2.55	2.55
4-2	2	35	1.46	1.46	4.02
4-3	3	29	1.87	1.87	5.89
4-4	4	22	2.35	2.35	8.24
4-5	5	20	2.86	2.86	11.10
4-6	6	20	3.00	3.00	14.10
4-7	7	19	3.08	3.08	17.18
4-8	8	20	3.08	3.08	20.25
4-9	9	19	3.08	3.08	23.33
4-10	10	18	3.24	3.24	26.57
4-11	11	18	3.33	3.33	29.91
4-12	12	17	3.43	3.43	33.33
4-13	13	17	3.53	3.53	36.86
4-14	14	17	3.53	3.53	40.39
4-15	15	17	3.53	3.53	43.92
4-16	16	17	3.53	3.53	47.45
4-17	17	17	3.53	3.53	50.98
4-18	18	17	3.53	3.53	54.51
4-19	19	17	3.53	3.53	58.04
4-20	20	17	3.53	3.53	61.57
4-21	21	22	3.08	3.08	64.64
4-end	23	0	1.76	1.76	66.41
					66.41
					Total Collected Runoff (approx)

6.14 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	40	3.00	3.00	3.00
6-2	2	33	1.64	1.64	4.64
6-3	3	20	2.26	2.26	6.91
6-4	4	13	3.64	3.64	10.54
6-5	5	11	5.00	5.00	15.54
6-6	6	10	5.71	5.71	21.26
6-7	7	9	6.32	6.32	27.57
6-8	8	9	6.67	6.67	34.24
6-9	9	9	6.67	6.67	40.90
6-10	10	9	6.67	6.67	47.57
6-11	11	9	6.67	6.67	54.24
6-12	12	9	6.67	6.67	60.90
6-13	13	9	6.67	6.67	67.57
6-14	14	8	7.06	7.06	74.63
6-15	15	8	7.50	7.50	82.12
6-16	16	8	7.50	7.50	89.62
6-17	17	8	7.50	7.50	97.12
6-18	18	8	7.50	7.50	104.62
6-19	19	8	7.50	7.50	112.12
6-20	20	8	7.50	7.50	119.62
6-21	21	20	4.29	4.29	123.91
6-end	30	0	3.75	3.75	127.66
					127.66
					Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	15-May-12	23-May-12	24-May-12
Avg Moisture Content:	22.71%	22.50%	22.68%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	243.35	246.96	66.48
Wt. Of cup + dry soil, g	238.65	241.66	57.51
Wt. Of cup, g	216.71	217.13	17.51
Wt. Of dry soil, g	21.94	24.53	40
Wt. Of water, g	4.7	5.3	8.97
Water Content, w%	21.4%	21.6%	22.4%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	261.08	262.05	66.57
Wt. Of cup + dry soil, g	252.51	253.38	57.52
Wt. Of cup, g	215.97	216.96	17.57
Wt. Of dry soil, g	36.54	36.42	39.95
Wt. Of water, g	8.57	8.67	9.05
Water Content, w%	23.5%	23.8%	22.7%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	250.63	258.35	51.09
Wt. Of cup + dry soil, g	244.32	250.82	44.82
Wt. Of cup, g	217.2	216.71	17.51
Wt. Of dry soil, g	27.12	34.11	27.31
Wt. Of water, g	6.31	7.53	6.27
Water Content, w%	23.3%	22.1%	23.0%

Soil Loss Data

Slope No.	1	2	3
Test Date:	15-May-12	23-May-12	24-May-12
Total Soil Loss	6.68	6.73	6.79

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	176.9	181.6	199.8
Sub-Sample	Wt. Of cup + wet soil, g	176.9	181.6
	Wt. Of cup + dry soil, g	176.9	181.6
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	176.9	181.6
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.390	0.400	0.440

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	994.7	1035.1	953.4
Sub-Sample	Wt. Of cup + wet soil, g	994.7	1035.1
	Wt. Of cup + dry soil, g	994.7	1035.1
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	994.7	1035.1
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	2.191	2.280	2.100

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	1862.6	1838.7	1929.5
Sub-Sample	Wt. Of cup + wet soil, g	1862.6	1838.7
	Wt. Of cup + dry soil, g	1862.6	1838.7
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	1862.6	1838.7
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	4.103	4.050	4.250



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 30-May-12 24-May-12 30-May-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: 1215

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.20	6.32	7.90	0.110	0.011
	4.04	64.83	53.83	1.450	0.157
	6.04	119.60	168.00	3.750	0.535
Bare Soil Controls			7.90		1.002
			53.83		6.825
			168.00		21.302

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.28	6.55	8.51	0.150	0.015
	4.04	69.55	54.99	1.750	0.192
	6.08	119.60	170.54	3.850	0.580
Bare Soil Controls			8.51		1.080
			54.99		6.972
			170.54		21.624

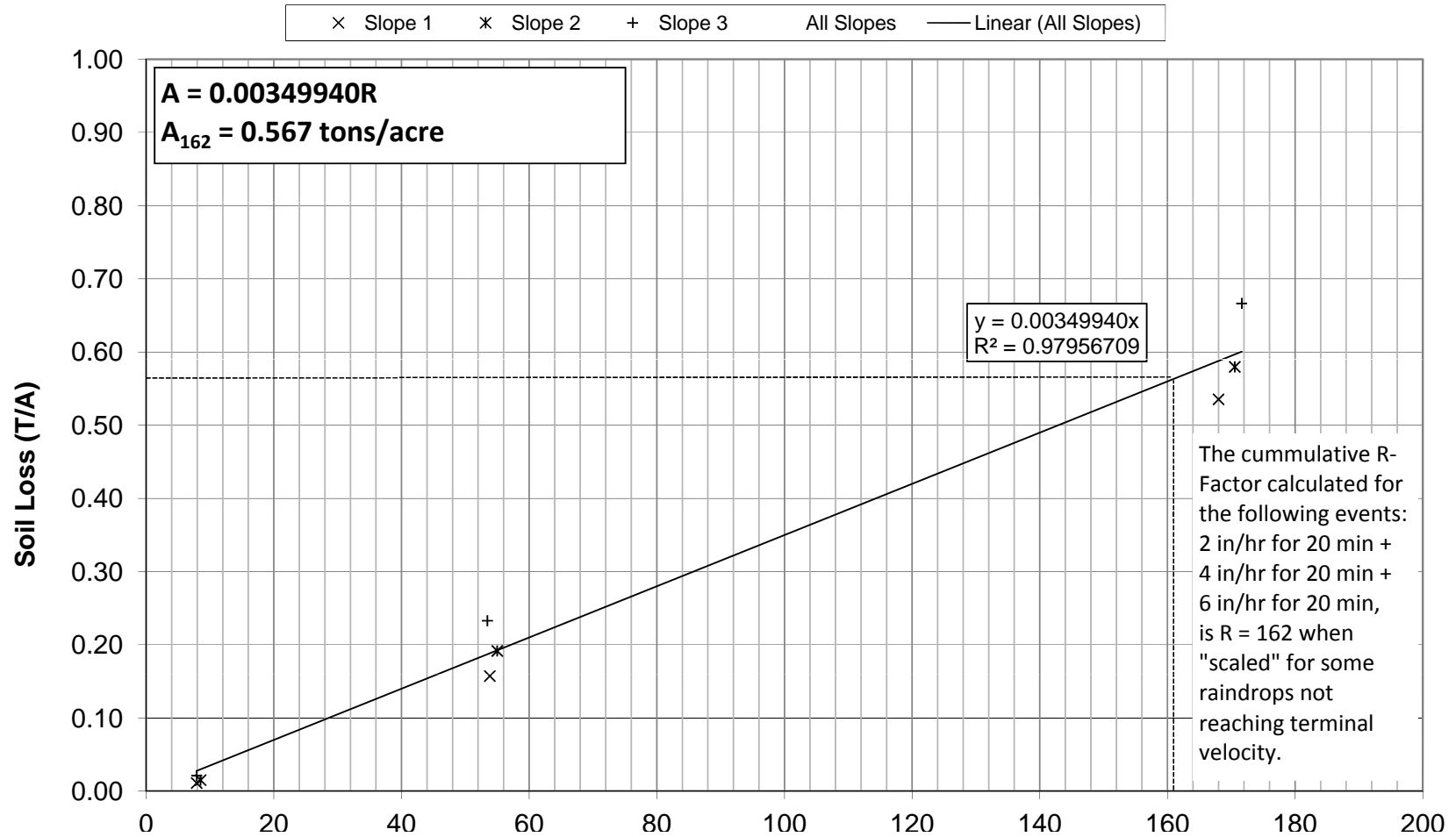
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.20	7.57	7.90	0.210	0.021
	4.02	71.98	53.44	2.100	0.233
	6.16	124.91	171.63	4.300	0.666
Bare Soil Controls			7.90		1.002
			53.44		6.777
			171.63		21.763

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)

 Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)





TYPICAL TESTING PICTURES



Test Slope Prepared and Fence Installed



After 2 in/hr Event



After 4 in/hr Event



After 6 in/hr Event



Typical Control Run - Before and After

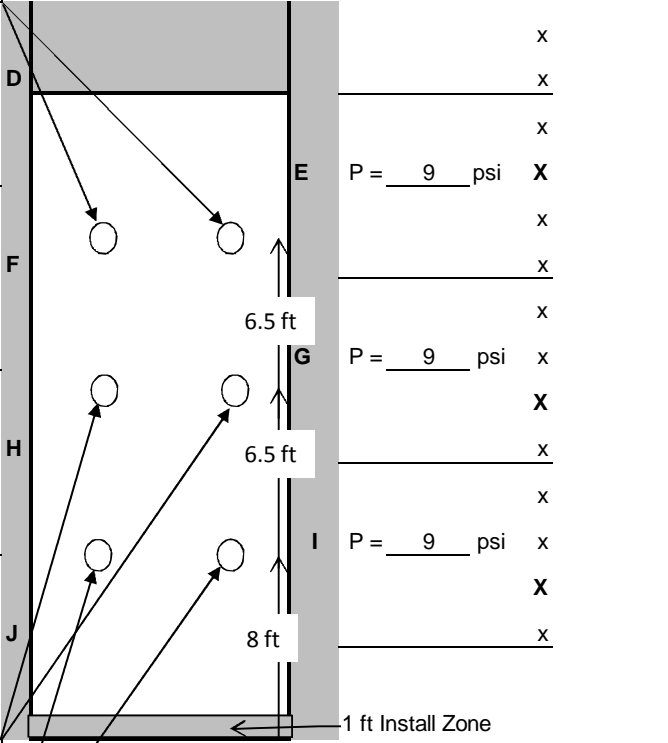
DDRF Rainfall Testing

Slope #: <u>1</u>	Target Rain: <u>2 in/hr</u>	Sediment Concentration & Turbidity Grab Samples	
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Date: <u>30-May-12</u>	Start Rain: <u>9:04 AM</u>	End Rain: <u>9:24 AM</u>	Time	Sed Conc Samples Taken	Turbidity Samples Taken
			9:07	X	X
	interval: <u>0:03</u>	End Runoff: <u>9:26 AM</u>	9:10	X	X
	Rain Time (min): <u>20.00</u>	Test Time (min): <u>22.00</u>	9:13	X	X
Product: <u>1215</u>	Descr.: <u>Willacoochee Type A Silt Fence</u>		9:16	X	X
Lot #: <u></u>	Posts: <u>Wood</u>	Spacing: <u>6-ft</u>	9:19	X	X
TOP OF SLOPE			9:22	X	X
$w_{c1} = 21.7\%$	(circle "x" for open valves)		9:25	X	X
			Set valves to 16 psi.		

d = 17 19 mm
i = 2.01 2.24 in/hr

x	
X	P = <u>9</u> psi
x	
x	
x	
X	P = <u>9</u> psi
x	
x	
x	
x	
X	P = <u>9</u> psi
x	
x	
x	
X	P = <u>9</u> psi
x	



Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	30
2	250	28
3	250	22
4	250	20
5	250	18
6	250	15
7	250	12
8	250	12
9	250	12
10	250	12
11	250	12
12	250	12
13	250	12
14	250	12
15	250	12
16	250	11
17	250	11
18	250	11
19	250	11
20	250	11
21	250	24
22	250	0

d = 18 19 mm
i = 2.13 2.24 in/hr
 $w_{c2} = 22.9\%$
Temp. 77 deg
Hum. 67 %

Average Depth: 19 mm
Avg Rainfall Intensity: 2.20 in/hr

NOTES:
Wind: 0 mph. Direction: E
Approx 6 gallons collected.

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 4 in/hr**

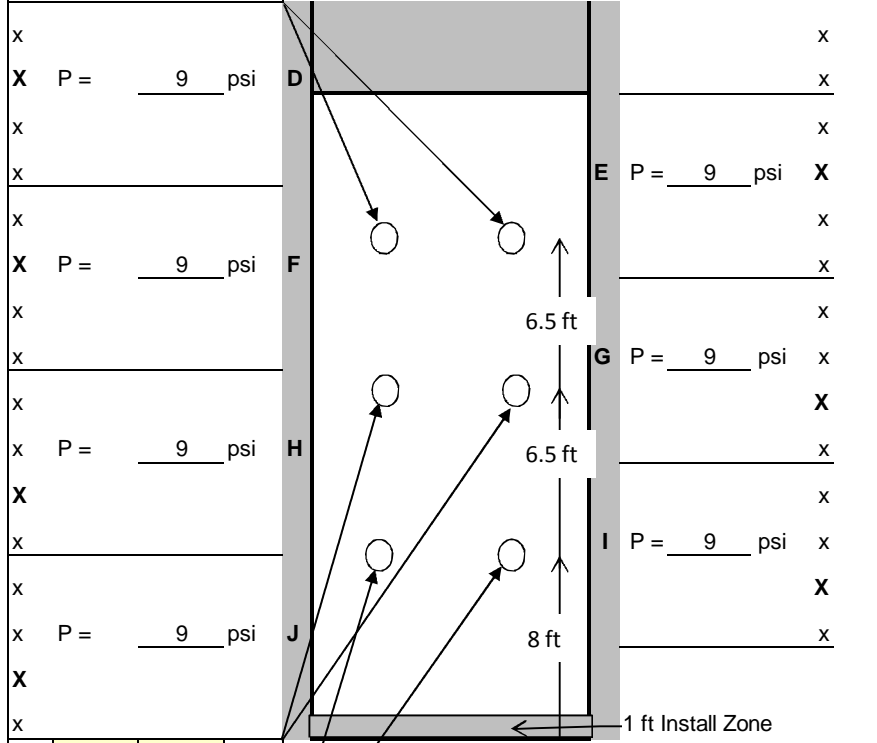
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	30-May-12	Start Rain: 9:34 AM	End Rain: 9:54 AM	9:37	X	X
		Sampling interval: 0:03	End Runoff: 9:57 AM	9:40	X	X
		Rain Time (min): 20.00	Test Time (min): 23.00	9:43	X	X
Product:	1215	Descr.: Willacoochee Type A Silt Fence		9:46	X	X
Lot #:		Posts: Wood	Spacing: 6-ft	9:49	X	X
TOP OF SLOPE				9:52	X	X
(circle "x" for open valves)				9:55	X	X

w_{c1} = 21.7%

Set valves to 16 psi.

d = 33 35 mm
i = 3.90 4.13 in/hr



Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	3785	57
2	3785	38
3	3785	31
4	3785	29
5	3785	26
6	3785	26
7	3785	23
8	3785	21
9	3785	20
10	3785	18
11	3785	18
12	3785	16
13	3785	16
14	3785	16
15	3785	16
16	3785	16
17	3785	16
18	3785	15
19	3785	15
20	3785	15
21	3785	33
23	3785	0

d = 32 34 mm
i = 3.78 4.02 in/hr

x x X x
P = 9 psi Temp. 77 deg
Hum. 67 %

w_{c2} = 22.9%

d = 36 35 mm
i = 4.25 4.13 in/hr

Average Depth: 34 mm
Avg Rainfall Intensity: 4.04 in/hr

w_{c3} = 22.0%

NOTES:
Wind: 1 mph. Direction: E
Approx 65 gallons collected.

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	30-May-12	Start Rain:	10:02 AM	End Rain:	10:22 AM	10:05	X	X
		Sampling interval:	0:03	End Runoff:	10:32 AM	10:08	X	X
		Rain Time (min):	20.00	Test Time (min):	30.00	10:11	X	X
Product:	1215	Descr.:	Willacoochee Type A Silt Fence		10:14	X	X	
Lot #:		Posts:	Wood	Spacing:	6-ft	10:17	X	X
TOP OF SLOPE				10:20	X	X		
(circle "x" for open valves)				10:23	X	X		

w_{c1} = 21.7%

d = 49 51 mm

i = 5.79 6.02 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

X

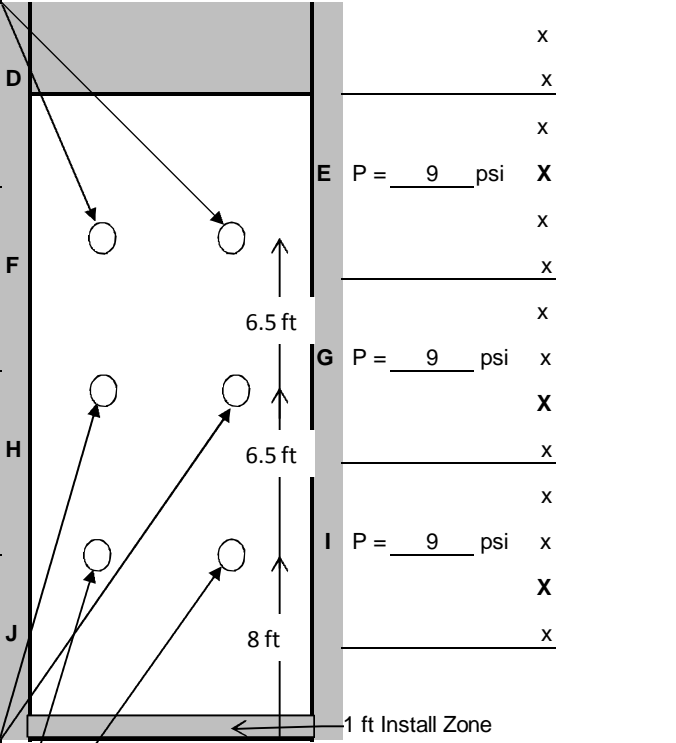
x

x

x

X

x



Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	42
2	3785	20
3	3785	14
4	3785	11
5	3785	11
6	3785	11
7	3785	11
8	3785	10
9	3785	10
10	3785	10
11	3785	10
12	3785	9
13	3785	9
14	3785	9
15	3785	9
16	3785	9
17	3785	9
18	3785	9
19	3785	9
20	3785	9
21	3785	26
30	3785	0

d = 50 51 mm

i = 5.91 6.02 in/hr

w_{c2} = 22.9%

d = 54 52 mm

i = 6.38 6.14 in/hr

w_{c3} = 22.0%

x x X x

P = 9 psi Temp. 79 deg

Hum. 67 %

Average Depth: 51 mm

Avg Rainfall Intensity: 6.04 in/hr

NOTES:
 Wind: 0-1 mph. Direction: N
 Approx 120 gallons collected.

DDRF Rainfall Testing

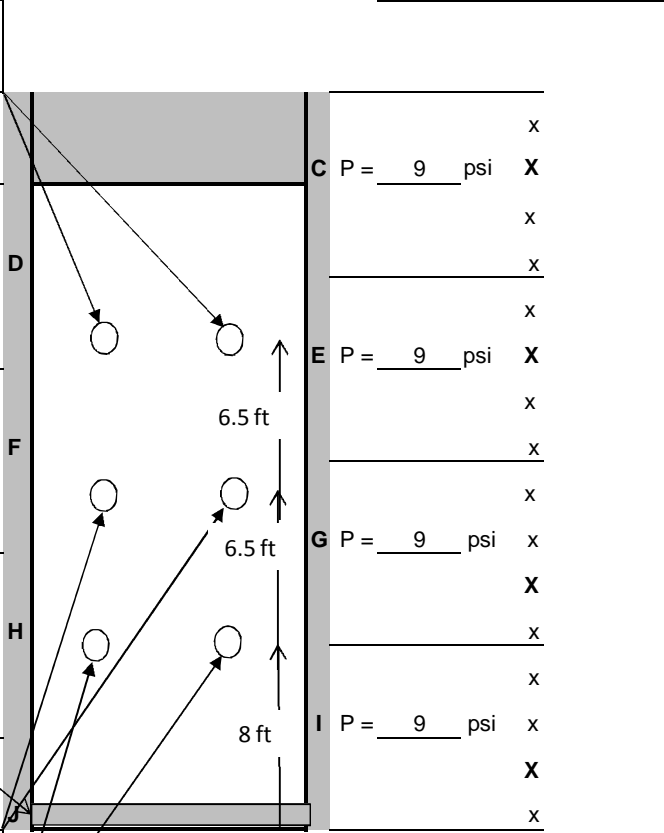
Slope #: 2	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date: 24-May-12	Start Rain: 8:54 AM	End Rain: 9:14 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
	Sampling interval: 0:03	End Runoff: 9:16 AM	8:57	X	X
	Rain Time (min): 20.00	Test Time (min): 22.00	9:00	X	X
Product: 1215	Descr.: Willacoochee Type A Silt Fence		9:03	X	X
Lot #: []	Posts: Wood	Spacing: 6-ft	9:06	X	X
			9:09	X	X
			9:12	X	X
			9:15	X	X

w_{c1} = 21.7%

d = 20 19 mm

i = 2.36 2.24 in/hr



Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	31
2	250	26
3	250	22
4	250	21
5	250	18
6	250	14
7	250	13
8	250	12
9	250	12
10	250	12
11	250	12
12	250	11
13	250	11
14	250	11
15	250	11
16	250	11
17	250	11
18	250	11
19	250	10
20	250	10
21	250	19
22	250	0

d = 19 19 mm

i = 2.24 2.24 in/hr

w_{c2} = 22.9%

d = 20 19 mm

i = 2.36 2.24 in/hr

w_{c3} = 22.0%

P = 9 psi

Temp. 70 deg

Hum. 86 %

Average Depth: 19 mm

Avg Rainfall Intensity: 2.28 in/hr

NOTES:
 Wind: 0 mph. Direction: E
 Approx 7 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 4 in/hr**

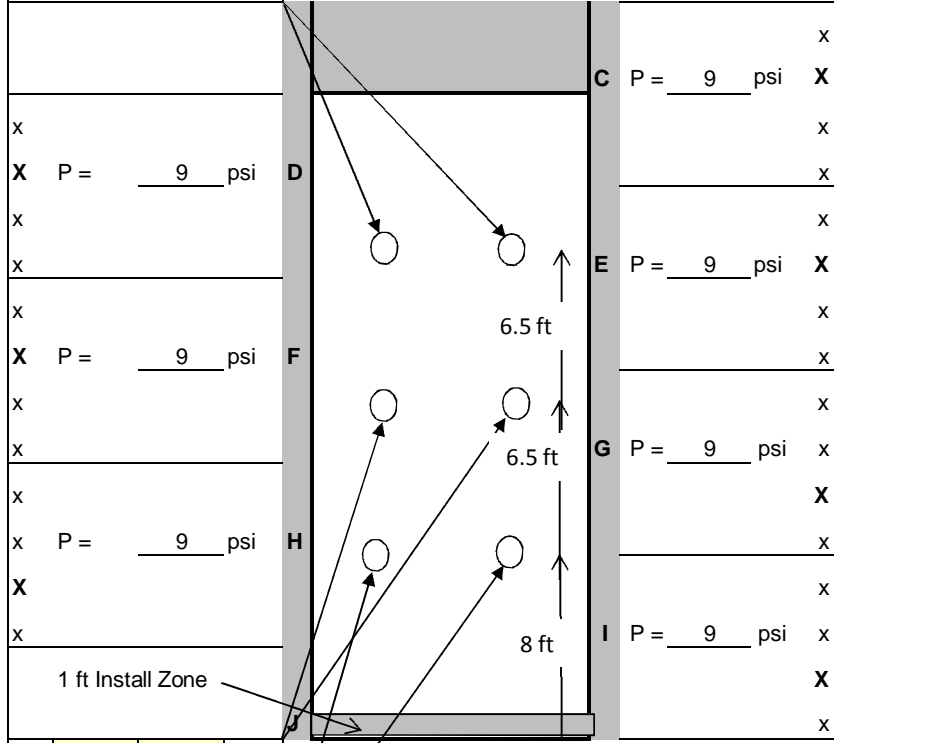
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	24-May-12	Start Rain: 9:23 AM	End Rain: 9:43 AM	9:26	X	X
		Sampling interval: 0:03	End Runoff: 9:47 AM	9:29	X	X
		Rain Time (min): 20.00	Test Time (min): 24.00	9:32	X	X
Product:	29-Apr-03	Descr.: Willacoochee Type A Silt Fence		9:35	X	X
Lot #:		Posts: Wood	Spacing: 6-ft	9:38	X	X
TOP OF SLOPE				9:41	X	X
(circle "x" for open valves)				9:44	X	X

w_{c1} = 21.7%

Set valves to 16 psi.

d = 35 34 mm
i = 4.13 4.02 in/hr



Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	3785	55
2	3785	36
3	3785	31
4	3785	28
5	3785	24
6	3785	23
7	3785	23
8	3785	21
9	3785	18
10	3785	17
11	3785	15
12	3785	15
13	3785	15
14	3785	15
15	3785	14
16	3785	14
17	3785	14
18	3785	14
19	3785	14
20	3785	14
21	3785	44
24	3785	0

d = 35 34 mm x x X x
i = 4.13 4.02 in/hr P = 9 psi Temp. 62 deg

w_{c2} = 22.9% Hum. 95 %

d = 34 33 mm **Average Depth: 34 mm**

i = 4.02 3.90 in/hr **Avg Rainfall Intensity: 4.04 in/hr**

w_{c3} = 22.0%

NOTES:
Wind: 0 mph. Direction: N
Approx 70 gallons collected.

DDRF Rainfall Testing

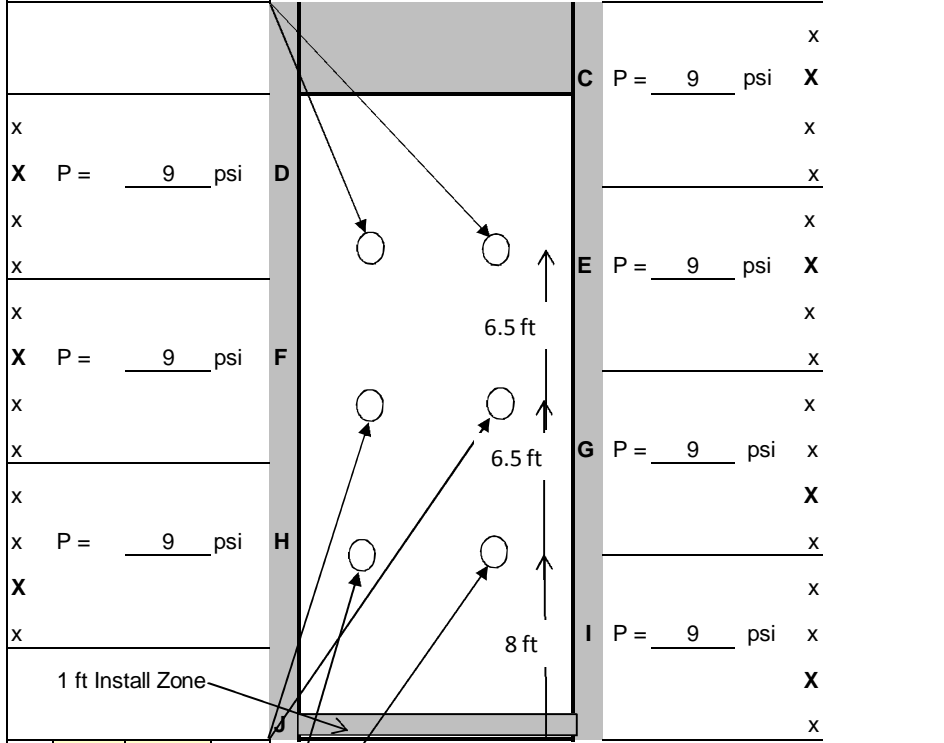
Slope #: 2 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples				
				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	24-May-12	Start Rain:	9:23 AM	End Rain:	9:43 AM	9:26	X	X
		Sampling interval:	0:03	End Runoff:	9:53 AM	9:29	X	X
		Rain Time (min):	20.00	Test Time (min):	30.00	9:32	X	X
Product:	29-Apr-03	Descr.:	Willacoochee Type A Silt Fence		9:35	X	X	
Lot #:		Posts:	Wood	Spacing:	6-ft	9:38	X	X
TOP OF SLOPE				9:41	X	X		
(circle "x" for open valves)				9:44	X	X		

w_{c1} = 21.7%

d = 50 51 mm

i = 5.91 6.02 in/hr



Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	44
2	3785	30
3	3785	24
4	3785	16
5	3785	14
6	3785	12
7	3785	12
8	3785	11
9	3785	10
10	3785	10
11	3785	10
12	3785	9
13	3785	8
14	3785	8
15	3785	8
16	3785	8
17	3785	8
18	3785	8
19	3785	8
20	3785	8
21	3785	23
30	3785	0

d = 53 54 mm

i = 6.26 6.38 in/hr

w_{c2} = 22.9%

Temp. 73 deg

Hum. 80 %

P = 9 psi

Average Depth: 52 mm

Avg Rainfall Intensity: 6.08 in/hr

NOTES:
 Wind: 0 mph. Direction: E
 Approx 120 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 2 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	30-May-12	Start Rain: 7:11 AM	End Rain: 7:31 AM	7:14	X	X
		Sampling interval: 0:03	End Runoff: 7:33 AM	7:17	X	X
		Rain Time (min): 20.00	Test Time (min): 22.00	7:20	X	X
Product:	1215	Descr.: Willacoochee Type A Silt Fence		7:23	X	X
Lot #:		Posts: Wood	Spacing: 6-ft	7:26	X	X
TOP OF SLOPE				7:29	X	X
(circle "x" for open valves)				7:32	X	X

w_{c1} = 21.7%

d = 21 18 mm

i = 2.48 2.13 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x

X P = 9 psi

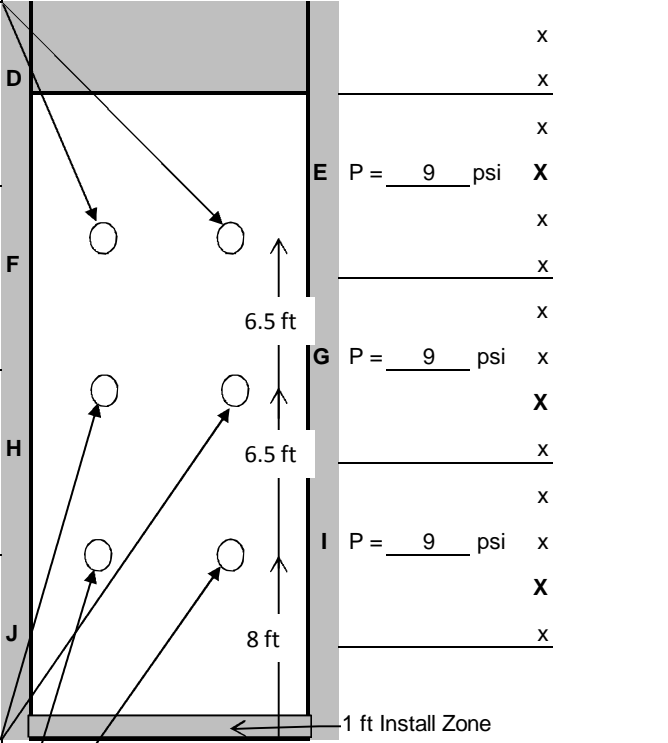
x

x

x

X P = 9 psi

x



Runoff Rate Measurements

Min.	Volume	Seconds
1	250	23
2	250	18
3	250	17
4	250	14
5	250	14
6	250	13
7	250	12
8	250	12
9	250	11
10	250	11
11	250	11
12	250	10
13	250	10
14	250	10
15	250	9
16	250	9
17	250	9
18	250	9
19	250	9
20	250	9
21	250	22
22	250	0

d = 20 18 mm

i = 2.36 2.13 in/hr

w_{c2} = 22.9%

d = 18 17 mm

i = 2.13 2.01 in/hr

w_{c3} = 22.0%

x x X x

P = 9 psi

Temp. 67 deg

Hum. 94 %

Average Depth: 19 mm

Avg Rainfall Intensity: 2.20 in/hr

NOTES: Test on Slope G2
 Wind: 0 mph. Direction: N
 Approx 8 gallons collected.

DDRF Rainfall Testing				Sediment Concentration & Turbidity Grab Samples				
Slope #: <u>3</u>		Target Rain: <u>4 in/hr</u>		Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	<u>30-May-12</u>	Start Rain: <u>7:40 AM</u>	End Rain: <u>8:00 AM</u>	7:43	X	X		
		Sampling interval: <u>0:03</u>	End Runoff: <u>8:03 AM</u>	7:46	X	X		
		Rain Time (min): <u>20.00</u>	Test Time (min): <u>23.00</u>	7:49	X	X		
Product:	<u>1215</u>	Descr.: <u>Willacoochee Type A Silt Fence</u>		7:52	X	X		
Lot #:		Posts: <u>Wood</u>	Spacing: <u>6-ft</u>	7:55	X	X		
		TOP OF SLOPE		7:58	X	X		
$w_{c1} =$	<u>21.7%</u>	(circle "x" for open valves)		Set valves to 16 psi.	8:01	X		
d =	<u>37</u> <u>34</u> mm					Runoff Rate Measurements		
i =	<u>4.37</u> <u>4.02</u> in/hr					Min.	Volume, mL	
x						Seconds		
X	P = <u>9</u> psi					1	3785	47
x						2	3785	38
x						3	3785	31
x						4	3785	26
X	P = <u>9</u> psi					5	3785	20
x						6	3785	20
x						7	3785	18
x						8	3785	18
X	P = <u>9</u> psi					9	3785	16
x						10	3785	16
x						11	3785	16
X	P = <u>9</u> psi					12	3785	16
x						13	3785	16
x						14	3785	16
X	P = <u>9</u> psi					15	3785	15
x						16	3785	15
						17	3785	15
d =	<u>34</u> <u>32</u> mm					18	3785	14
i =	<u>4.02</u> <u>3.78</u> in/hr					19	3785	14
$w_{c2} =$	<u>22.9%</u>					20	3785	14
d =	<u>33</u> <u>34</u> mm					21	3785	25
i =	<u>3.90</u> <u>4.02</u> in/hr					23	3785	0
$w_{c3} =$	<u>22.0%</u>							
		Average Depth: <u>34</u> mm						
		Avg Rainfall Intensity: <u>4.02</u> in/hr						

NOTES:
 Wind: 0 mph. Direction: N
 Approx 72 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	30-May-12	Start Rain: 8:10 AM	End Rain: 8:30 AM	8:13	X	X
		Sampling interval: 0:03	End Runoff: 8:40 AM	8:16	X	X
		Rain Time (min): 20.00	Test Time (min): 30.00	8:19	X	X
Product:	1215	Descr.: Willacoochee Type A Silt Fence		8:22	X	X
Lot #:		Posts: Wood	Spacing: 6-ft	8:25	X	X
TOP OF SLOPE				8:28	X	X
(circle "x" for open valves)				8:31	X	X
Set valves to 16 psi.						

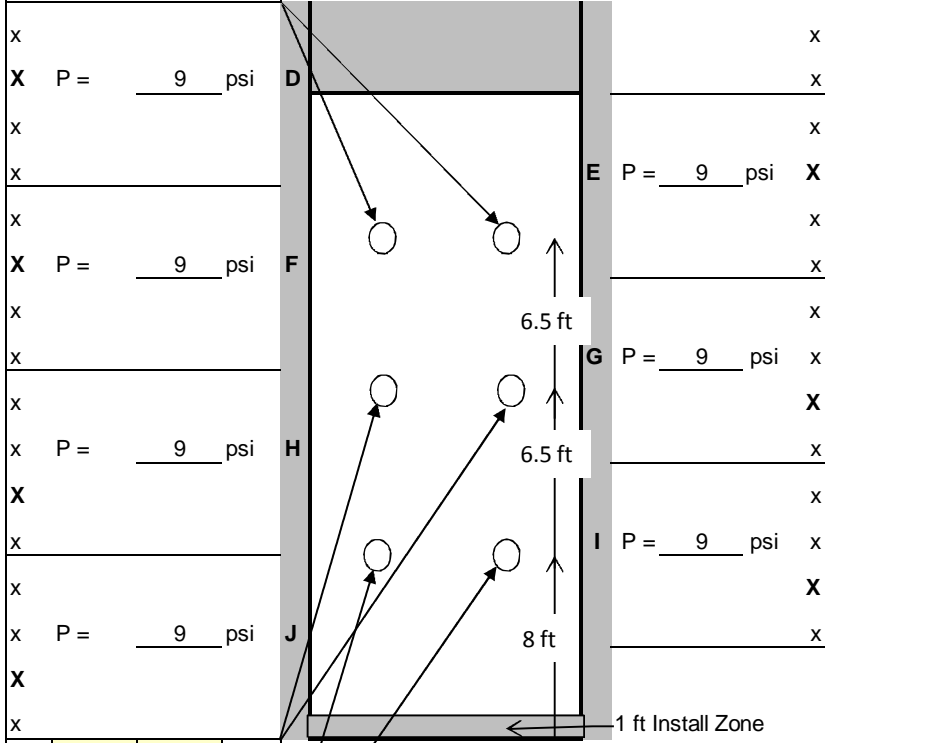
w_{c1} = 21.7%

d = 53 54 mm

i = 6.26 6.38 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	35
2	3785	30
3	3785	19
4	3785	11
5	3785	10
6	3785	10
7	3785	11
8	3785	10
9	3785	9
10	3785	9
11	3785	10
12	3785	9
13	3785	9
14	3785	9
15	3785	9
16	3785	8
17	3785	8
18	3785	8
19	3785	8
20	3785	8
21	3785	25
30	3785	0



d = 53 52 mm

i = 6.26 6.14 in/hr

x x X x

P = 9 psi Temp. 69 deg

w_{c2} = 22.9%

Hum. 90 %

d = 49 52 mm

i = 5.79 6.14 in/hr

Average Depth: 52 mm

w_{c3} = 22.0%

Avg Rainfall Intensity: 6.16 in/hr

NOTES:
 Wind: 0 mph. Direction: N
 Approx 125 gallons collected.

1215 Willacoochee Type A Silt Fence

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	53.2
2	20	59.9
3	20	55.5

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	1554	2-1	3.00	1283	2-1	3.00	715
2-2	6.00	2106	2-2	6.00	2382	2-2	6.00	2281
2-3	9.00	2192	2-3	9.00	3220	2-3	9.00	1524
2-4	12.00	3258	2-4	12.00	3492	2-4	12.00	3655
2-5	15.00	3745	2-5	15.00	2944	2-5	15.00	2372
2-6	18.00	2037	2-6	18.00	3127	2-6	18.00	3600
2-7	21.00	960	2-7	21.00	2438	2-7	21.00	1921
avg		2265	avg		2698	avg		2295
4-1	3.00	2860	4-1	2.00	3667	4-1	2.00	3722
4-2	6.00	2333	4-2	4.00	3270	4-2	4.00	3339
4-3	9.00	1984	4-3	6.00	3187	4-3	6.00	3326
4-4	12.00	2097	4-4	8.00	2971	4-4	8.00	2476
4-5	15.00	1887	4-5	10.00	2680	4-5	10.00	2173
4-6	18.00	1991	4-6	12.00	3287	4-6	12.00	2424
4-7	21.00	1079	4-7	21.00	1866	4-7	21.00	1397
avg		2033	avg		2990	avg		2694
6-1	3.00	2390	6-1	3.00	2763	6-1	3.00	4826
6-2	6.00	2398	6-2	6.00	2713	6-2	6.00	2964
6-3	9.00	1414	6-3	9.00	2064	6-3	9.00	2322
6-4	12.00	1541	6-4	12.00	2492	6-4	12.00	2709
6-5	15.00	1985	6-5	15.00	2096	6-5	15.00	2456
6-6	18.00	1770	6-6	18.00	2375	6-6	18.00	2057
6-7	21.00	1187	6-7	21.00	1664	6-7	21.00	1911
avg		1812	avg		2310	avg		2749

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.20	in/hr	avg														
30-May-12		2-1	3.00	347.12	172.58	151.83	151.59	240.00	195.29	0.20	1228.94	3.00	333.12	0.56	1228.94	0.01
		2-2	6.00	292.40	156.51	151.19	150.93	260.00	141.21	0.14	1841.23	6.00	227.12	0.64	1841.23	0.01
		2-3	9.00	353.44	157.22	151.53	150.98	550.00	201.91	0.20	2723.99	9.00	181.70	0.95	2723.99	0.02
		2-4	12.00	365.43	157.96	150.06	149.28	780.00	215.37	0.22	3621.67	12.00	181.70	0.99	3621.67	0.03
		2-5	15.00	330.59	159.03	151.36	150.79	570.00	179.23	0.18	3180.27	15.00	181.70	0.99	3180.27	0.03
		2-6	18.00	326.21	159.60	152.06	151.83	230.00	174.15	0.17	1320.70	18.00	166.56	1.07	1320.70	0.01
		2-7	21.00	356.95	157.70	150.91	150.26	650.00	206.04	0.21	3154.73	21.00	363.40	0.95	3154.73	0.02
										AVG =	2438.79	22.00	0	0.18	3154.73	0.00
4.04	in/hr	avg									2438.79			Total Solids Lost:		0.13
30-May-12		4-1	3.00	330.71	156.60	149.83	149.37	460.00	180.88	0.18	2543.12	3.00	31.00	5.11	2543.12	0.11
		4-2	6.00	310.40	156.31	151.65	151.34	310.00	158.75	0.16	1952.76	6.00	26.00	6.49	1952.76	0.11
		4-3	9.00	340.71	153.86	148.15	147.74	410.00	192.56	0.19	2129.21	9.00	20.00	8.10	2129.21	0.14
		4-4	12.00	338.47	156.31	150.63	150.25	380.00	187.84	0.19	2023.00	12.00	16.00	10.02	2023.00	0.17
		4-5	15.00	317.30	154.74	149.56	149.08	480.00	167.74	0.17	2861.57	15.00	16.00	11.25	2861.57	0.27
		4-6	18.00	345.12	167.03	151.21	150.85	360.00	193.91	0.19	1856.53	18.00	15.00	11.37	1856.53	0.18
		4-7	21.00	313.71	155.77	147.50	147.11	390.00	166.21	0.17	2346.43	21.00	33.00	10.50	2346.43	0.21
										AVG =	2244.66	23.00	0.00	2.00	2346.43	0.04
6.04	in/hr	avg									2244.66			Total Solids Lost:		1.22
30-May-12		6-1	3.00	310.85	156.73	150.89	150.28	610.00	159.96	0.16	3813.45	3.00	14.00	8.32	3813.45	0.26
		6-2	6.00	303.44	167.78	150.35	149.99	360.00	153.09	0.15	2351.56	6.00	11.00	15.71	2351.56	0.31
		6-3	9.00	321.51	156.53	150.35	149.98	370.00	171.16	0.17	2161.72	9.00	10.00	17.17	2161.72	0.31
		6-4	12.00	336.47	169.65	150.98	150.54	440.00	185.49	0.19	2372.10	12.00	9.00	18.31	2372.10	0.36
		6-5	15.00	327.15	170.70	150.94	150.17	770.00	176.21	0.18	4369.79	15.00	9.00	20.00	4369.79	0.73
		6-6	18.00	301.66	158.64	150.47	150.06	410.00	151.19	0.15	2711.82	18.00	9.00	20.00	2711.82	0.45
		6-7	21.00	329.54	167.06	149.65	148.44	1210.00	179.89	0.18	6726.33	21.00	26.00	16.76	6726.33	0.94
										AVG =	3500.97	30.00	0.00	3.33	6726.33	0.19
										3500.97				Total Solids Lost:		3.55

30-May-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.20 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	454	0.26	0.26	0.26
2-2	2.00	424	0.14	0.14	0.40
2-3	3.00	333	0.16	0.16	0.56
2-4	4.00	303	0.19	0.19	0.75
2-5	5.00	273	0.21	0.21	0.96
2-6	6.00	227	0.24	0.24	1.20
2-7	7.00	182	0.29	0.29	1.49
2-8	8.00	182	0.33	0.33	1.82
2-9	9.00	182	0.33	0.33	2.15
2-10	10.00	182	0.33	0.33	2.48
2-11	11.00	182	0.33	0.33	2.81
2-12	12.00	182	0.33	0.33	3.14
2-13	13.00	182	0.33	0.33	3.47
2-14	14.00	182	0.33	0.33	3.80
2-15	15.00	182	0.33	0.33	4.13
2-16	16.00	167	0.34	0.34	4.48
2-17	17.00	167	0.36	0.36	4.84
2-18	18.00	167	0.36	0.36	5.20
2-19	19.00	167	0.36	0.36	5.56
2-20	20.00	167	0.36	0.36	5.92
2-21	21.00	363	0.23	0.23	6.14
2-end	22.00	0	0.18	0.18	6.32
					6.32
					Total Collected Runoff (approx)

4.04 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	57	2.11	2.11	2.11
4-2	2	38	1.26	1.26	3.37
4-3	3	31	1.74	1.74	5.11
4-4	4	29	2.00	2.00	7.11
4-5	5	26	2.18	2.18	9.29
4-6	6	26	2.31	2.31	11.60
4-7	7	23	2.45	2.45	14.04
4-8	8	21	2.73	2.73	16.77
4-9	9	20	2.93	2.93	19.70
4-10	10	18	3.16	3.16	22.86
4-11	11	18	3.33	3.33	26.19
4-12	12	16	3.53	3.53	29.72
4-13	13	16	3.75	3.75	33.47
4-14	14	16	3.75	3.75	37.22
4-15	15	16	3.75	3.75	40.97
4-16	16	16	3.75	3.75	44.72
4-17	17	16	3.75	3.75	48.47
4-18	18	15	3.87	3.87	52.34
4-19	19	15	4.00	4.00	56.34
4-20	20	15	4.00	4.00	60.34
4-21	21	33	2.50	2.50	62.83
4-end	23.00	0	2.00	2.00	64.83
					64.83
					Total Collected Runoff (approx)

6.04 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	42	2.86	2.86	2.86
6-2	2	20	1.94	1.94	4.79
6-3	3	14	3.53	3.53	8.32
6-4	4	11	4.80	4.80	13.12
6-5	5	11	5.45	5.45	18.57
6-6	6	11	5.45	5.45	24.03
6-7	7	11	5.45	5.45	29.48
6-8	8	10	5.71	5.71	35.20
6-9	9	10	6.00	6.00	41.20
6-10	10	10	6.00	6.00	47.19
6-11	11	10	6.00	6.00	53.19
6-12	12	9	6.32	6.32	59.51
6-13	13	9	6.67	6.67	66.18
6-14	14	9	6.67	6.67	72.84
6-15	15	9	6.67	6.67	79.51
6-16	16	9	6.67	6.67	86.17
6-17	17	9	6.67	6.67	92.84
6-18	18	9	6.67	6.67	99.50
6-19	19	9	6.67	6.67	106.17
6-20	20	9	6.67	6.67	112.84
6-21	21	26	3.43	3.43	116.27
6-end	30.00	0	3.33	3.33	119.60
					119.60
					Total Collected Runoff (approx)

24-May-12
Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.28 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	469	0.26	0.26	0.26
2-2	2.00	394	0.14	0.14	0.39
2-3	3.00	333	0.17	0.17	0.56
2-4	4.00	318	0.18	0.18	0.74
2-5	5.00	273	0.20	0.20	0.95
2-6	6.00	212	0.25	0.25	1.19
2-7	7.00	197	0.29	0.29	1.49
2-8	8.00	182	0.32	0.32	1.81
2-9	9.00	182	0.33	0.33	2.14
2-10	10.00	182	0.33	0.33	2.47
2-11	11.00	182	0.33	0.33	2.80
2-12	12.00	167	0.34	0.34	3.14
2-13	13.00	167	0.36	0.36	3.50
2-14	14.00	167	0.36	0.36	3.86
2-15	15.00	167	0.36	0.36	4.22
2-16	16.00	167	0.36	0.36	4.58
2-17	17.00	167	0.36	0.36	4.94
2-18	18.00	167	0.36	0.36	5.30
2-19	19.00	151	0.38	0.38	5.68
2-20	20.00	151	0.40	0.40	6.08
2-21	21.00	288	0.27	0.27	6.35
2-end	22.00	0	0.20	0.20	6.55
					6.55
					Total Collected Runoff (approx)

4.04 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	55	2.18	2.18	2.18
4-2	2	36	1.32	1.32	3.50
4-3	3	31	1.79	1.79	5.29
4-4	4	28	2.03	2.03	7.32
4-5	5	24	2.31	2.31	9.63
4-6	6	23	2.55	2.55	12.19
4-7	7	23	2.61	2.61	14.79
4-8	8	21	2.73	2.73	17.52
4-9	9	18	3.08	3.08	20.60
4-10	10	17	3.43	3.43	24.03
4-11	11	15	3.75	3.75	27.77
4-12	12	15	4.00	4.00	31.77
4-13	13	15	4.00	4.00	35.77
4-14	14	15	4.00	4.00	39.77
4-15	15	14	4.14	4.14	43.91
4-16	16	14	4.29	4.29	48.20
4-17	17	14	4.29	4.29	52.48
4-18	18	14	4.29	4.29	56.77
4-19	19	14	4.29	4.29	61.05
4-20	20	14	4.29	4.29	65.34
4-21	21	44	2.07	2.07	67.41
4-end	24	0	2.14	2.14	69.55
					69.55
					Total Collected Runoff (approx)

6.08 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	44	2.73	2.73	2.73
6-2	2	30	1.62	1.62	4.35
6-3	3	24	2.22	2.22	6.57
6-4	4	16	3.00	3.00	9.57
6-5	5	14	4.00	4.00	13.57
6-6	6	12	4.61	4.61	18.18
6-7	7	12	5.00	5.00	23.18
6-8	8	11	5.22	5.22	28.40
6-9	9	10	5.71	5.71	34.11
6-10	10	10	6.00	6.00	40.11
6-11	11	10	6.00	6.00	46.11
6-12	12	9	6.32	6.32	52.43
6-13	13	8	7.06	7.06	59.49
6-14	14	8	7.50	7.50	66.99
6-15	15	8	7.50	7.50	74.48
6-16	16	8	7.50	7.50	81.98
6-17	17	8	7.50	7.50	89.48
6-18	18	8	7.50	7.50	96.98
6-19	19	8	7.50	7.50	104.48
6-20	20	8	7.50	7.50	111.98
6-21	21	23	3.87	3.87	115.85
6-end	30	0	3.75	3.75	119.60
					119.60
					Total Collected Runoff (approx)

30-May-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.20 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	348	0.34	0.34	0.34
2-2	2.00	273	0.19	0.19	0.54
2-3	3.00	257	0.23	0.23	0.76
2-4	4.00	212	0.26	0.26	1.02
2-5	5.00	212	0.28	0.28	1.30
2-6	6.00	197	0.29	0.29	1.60
2-7	7.00	182	0.32	0.32	1.91
2-8	8.00	182	0.33	0.33	2.24
2-9	9.00	167	0.34	0.34	2.59
2-10	10.00	167	0.36	0.36	2.95
2-11	11.00	167	0.36	0.36	3.31
2-12	12.00	151	0.38	0.38	3.69
2-13	13.00	151	0.40	0.40	4.08
2-14	14.00	151	0.40	0.40	4.48
2-15	15.00	136	0.42	0.42	4.90
2-16	16.00	136	0.44	0.44	5.34
2-17	17.00	136	0.44	0.44	5.78
2-18	18.00	136	0.44	0.44	6.22
2-19	19.00	136	0.44	0.44	6.66
2-20	20.00	136	0.44	0.44	7.10
2-21	21.00	333	0.26	0.26	7.35
2-end	22.00	0	0.22	0.22	7.57
					7.57
					Total Collected Runoff (approx)

4.02 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	47	2.55	2.55	2.55
4-2	2	38	1.41	1.41	3.96
4-3	3	31	1.74	1.74	5.70
4-4	4	26	2.11	2.11	7.81
4-5	5	20	2.61	2.61	10.42
4-6	6	20	3.00	3.00	13.42
4-7	7	18	3.16	3.16	16.57
4-8	8	18	3.33	3.33	19.91
4-9	9	16	3.53	3.53	23.44
4-10	10	16	3.75	3.75	27.19
4-11	11	16	3.75	3.75	30.94
4-12	12	16	3.75	3.75	34.68
4-13	13	16	3.75	3.75	38.43
4-14	14	16	3.75	3.75	42.18
4-15	15	15	3.87	3.87	46.05
4-16	16	15	4.00	4.00	50.05
4-17	17	15	4.00	4.00	54.05
4-18	18	14	4.14	4.14	58.19
4-19	19	14	4.29	4.29	62.48
4-20	20	14	4.29	4.29	66.76
4-21	21	25	3.08	3.08	69.84
4-end	23	0	2.14	2.14	71.98
					71.98
					Total Collected Runoff (approx)

6.16 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	35	3.43	3.43	3.43
6-2	2	30	1.85	1.85	5.27
6-3	3	19	2.45	2.45	7.72
6-4	4	11	4.00	4.00	11.72
6-5	5	10	5.71	5.71	17.44
6-6	6	10	6.00	6.00	23.44
6-7	7	11	5.71	5.71	29.15
6-8	8	10	5.71	5.71	34.86
6-9	9	9	6.32	6.32	41.18
6-10	10	9	6.67	6.67	47.84
6-11	11	10	6.32	6.32	54.16
6-12	12	9	6.32	6.32	60.47
6-13	13	9	6.67	6.67	67.14
6-14	14	9	6.67	6.67	73.81
6-15	15	9	6.67	6.67	80.47
6-16	16	8	7.06	7.06	87.53
6-17	17	8	7.50	7.50	95.03
6-18	18	8	7.50	7.50	102.53
6-19	19	8	7.50	7.50	110.03
6-20	20	8	7.50	7.50	117.53
6-21	21	25	3.64	3.64	121.16
6-end	30	0	3.75	3.75	124.91
					124.91
					Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	30-May-12	24-May-12	30-May-12
Avg Moisture Content:	22.22%	20.83%	21.49%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	248.63	62.65	256.72
Wt. Of cup + dry soil, g	242.93	54.52	249.75
Wt. Of cup, g	216.7	17.51	216.7
Wt. Of dry soil, g	26.23	37.01	33.05
Wt. Of water, g	5.7	8.13	6.97
Water Content, w%	21.7%	22.0%	21.1%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	254.57	60.77	259.85
Wt. Of cup + dry soil, g	247.39	53.53	251.78
Wt. Of cup, g	216.03	17.51	216.03
Wt. Of dry soil, g	31.36	36.02	35.75
Wt. Of water, g	7.18	7.24	8.07
Water Content, w%	22.9%	20.1%	22.6%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	257.05	64.71	258.81
Wt. Of cup + dry soil, g	249.85	56.71	251.64
Wt. Of cup, g	217.16	17.51	217.16
Wt. Of dry soil, g	32.69	39.2	34.48
Wt. Of water, g	7.2	8	7.17
Water Content, w%	22.0%	20.4%	20.8%

Soil Loss Data

Slope No.	1	2	3
Test Date:	30-May-12	24-May-12	30-May-12
Total Soil Loss	5.31	5.75	6.61

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	49.9	68.1	95.3
Sub-Sample	Wt. Of cup + wet soil, g	49.9	68.1
	Wt. Of cup + dry soil, g	49.9	68.1
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	49.9	68.1
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.110	0.150	0.210

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	658.3	794.5	953.4
Sub-Sample	Wt. Of cup + wet soil, g	658.3	794.5
	Wt. Of cup + dry soil, g	658.3	794.5
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	658.3	794.5
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	1.450	1.750	2.100

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	1702.5	1747.9	1952.2
Sub-Sample	Wt. Of cup + wet soil, g	1702.5	1747.9
	Wt. Of cup + dry soil, g	1702.5	1747.9
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	1702.5	1747.9
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	3.750	3.850	4.300



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 6-Jun-12 7-Jun-12 1-Jun-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: ET-GA-CSystem

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.22	8.57	8.05	0.040	0.004
	4.06	70.29	54.50	1.900	0.196
	6.00	134.53	167.41	4.760	0.676
Bare Soil Controls			8.05		1.021
			54.50		6.911
			167.41		21.227

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.22	10.79	8.05	0.030	0.003
	4.00	70.96	53.35	1.950	0.200
	6.04	137.59	167.33	4.960	0.700
Bare Soil Controls			8.05		1.021
			53.35		6.765
			167.33		21.217

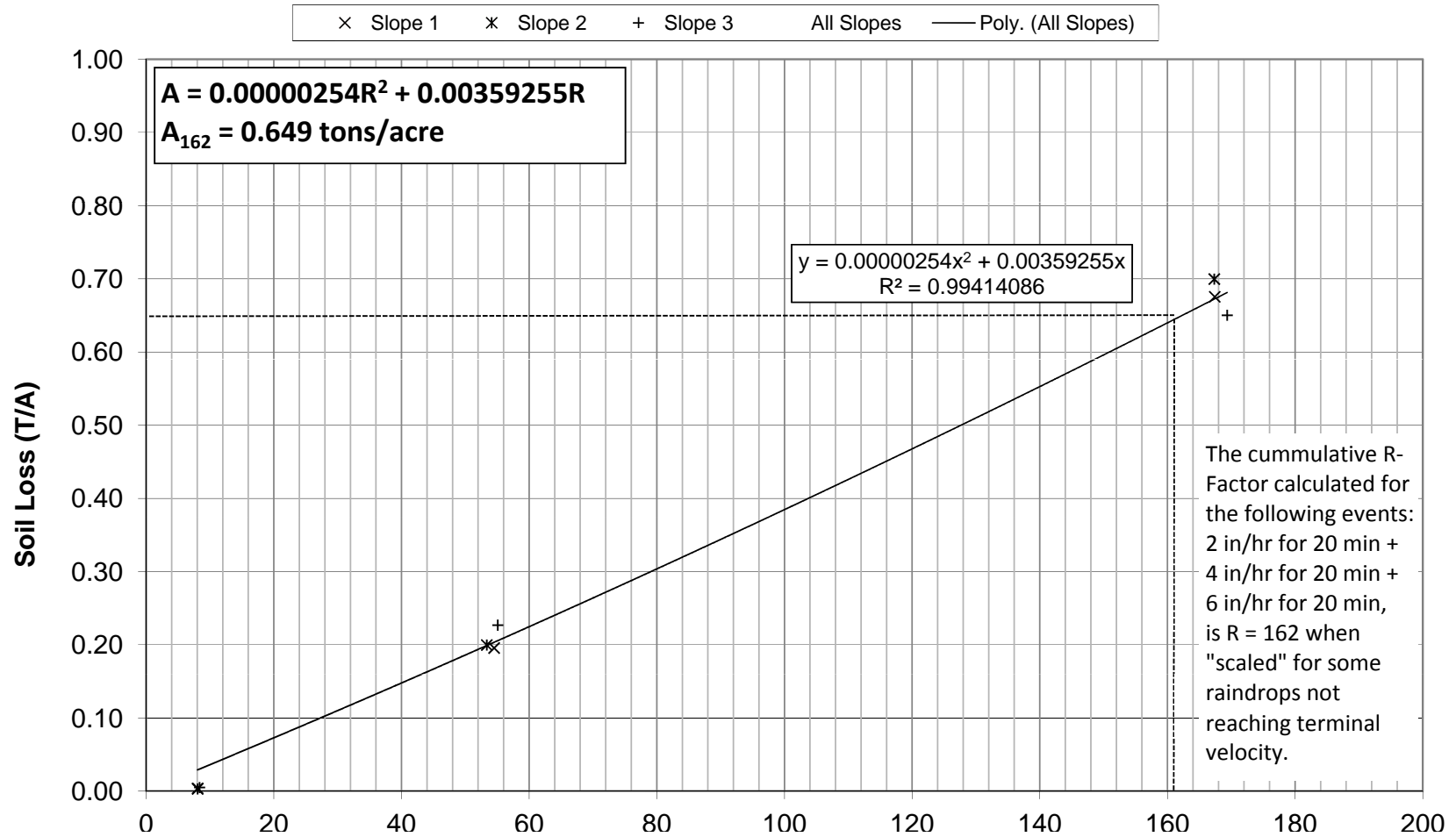
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.26	7.98	8.36	0.050	0.005
	4.06	68.67	55.08	2.200	0.227
	6.04	130.16	169.36	4.200	0.650
Bare Soil Controls			8.36		1.060
			55.08		6.984
			169.36		21.474

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)

 Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)





TYPICAL TESTING PICTURES



Test Slope Prepared and Fence Installed



After 2 in/hr Event



After 4 in/hr Event



After 6 in/hr Event



Typical Control Run - Before and After

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 2 in/hr**

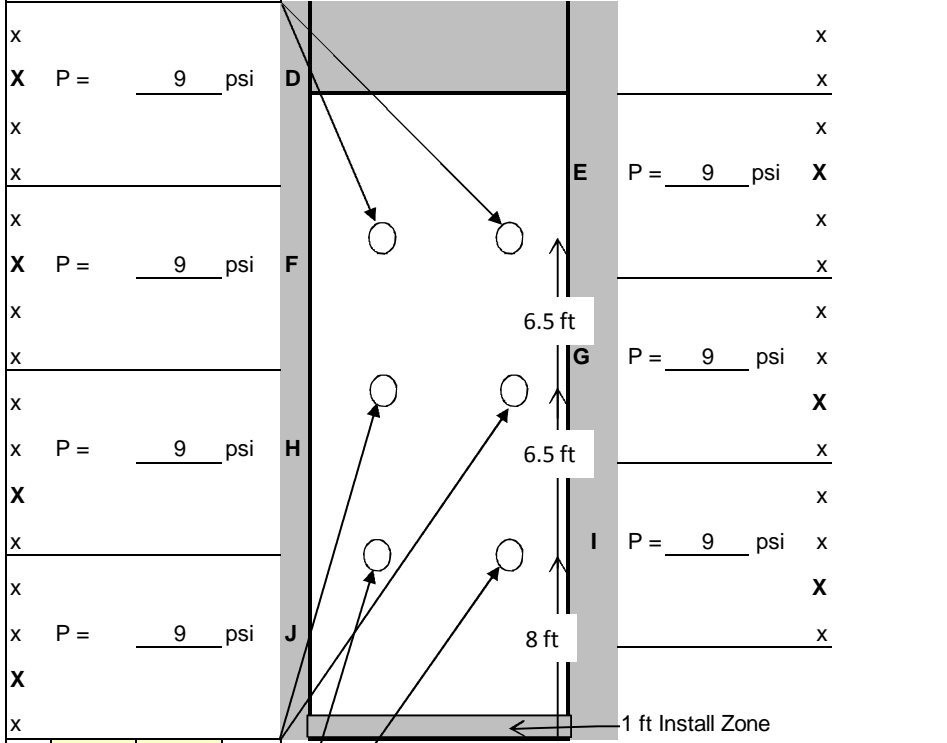
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken	
Date:	6-Jun-12	Start Rain: Sampling interval:	7:18 AM 0:03	End Rain:	7:38 AM	X	X
		End Runoff:			7:40 AM	X	X
		Rain Time (min):	20.00	Test Time (min):	22.00	X	X
Product:	ET-GA-CSystem	Descr.:	Erosion Tech - C System			X	X
Lot #:		Posts:	Wood	Spacing:	4-ft	X	X
TOP OF SLOPE						X	X
(circle "x" for open valves)						X	X
Set valves to 16 psi.							

$w_{c1} = 21.8\%$

$d = 19 \quad 18 \quad \text{mm}$

$i = 2.24 \quad 2.13 \quad \text{in/hr}$



Runoff Rate Measurements

Min.	Volume	Seconds
1	250	40
2	250	35
3	250	31
4	250	30
5	250	30
6	250	29
7	250	28
8	250	28
9	250	26
10	250	23
11	250	20
12	250	12
13	250	10
14	250	8
15	250	6
16	250	5
17	250	5
18	250	4
19	250	4
20	250	4
21	250	12
22	250	0

$d = 20 \quad 20 \quad \text{mm}$

$i = 2.36 \quad 2.36 \quad \text{in/hr}$

$w_{c2} = 22.6\%$

Temp. 63 deg

Hum. 91 %

$d = 19 \quad 17 \quad \text{mm}$

$i = 2.24 \quad 2.01 \quad \text{in/hr}$

$w_{c3} = 22.7\%$

Average Depth: **19** mm

Avg Rainfall Intensity: **2.22** in/hr

NOTES:
 Wind: 0 mph. Direction: S
 Approx 9 gallons collected.

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 4 in/hr**

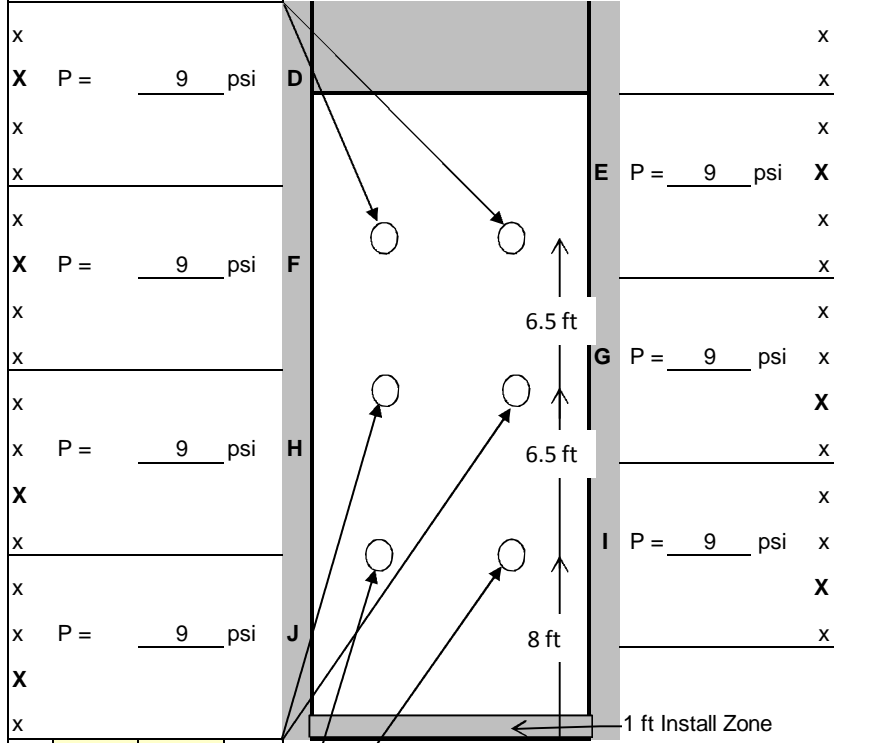
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	6-Jun-12	Start Rain: Sampling interval:	7:46 AM 0:03	End Rain:	8:06 AM	7:49 X X
		End Runoff:	8:09 AM	7:52	X	X
		Rain Time (min):	20.00	Test Time (min):	23.00	7:55 X X
Product:	ET-GA-Csystem	Descr.:	Erosion Tech - C System	7:58	X	X
Lot #:		Posts:	Wood	Spacing:	4-ft	8:01 X X
TOP OF SLOPE				8:04	X	X
(circle "x" for open valves)				8:07	X	X

w_{c1} = 21.8%

Set valves to 16 psi.

d = 33 31 mm
i = 3.90 3.66 in/hr



Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	3785	34
2	3785	23
3	3785	19
4	3785	18
5	3785	19
6	3785	19
7	3785	18
8	3785	19
9	3785	18
10	3785	18
11	3785	18
12	3785	18
13	3785	17
14	3785	18
15	3785	17
16	3785	16
17	3785	17
18	3785	17
19	3785	17
20	3785	16
21	3785	36
23	3785	0

d = 37 35 mm
i = 4.37 4.13 in/hr

w_{c2} = 22.6%

d = 36 34 mm
i = 4.25 4.02 in/hr

w_{c3} = 22.7%

Average Depth: 34 mm
Avg Rainfall Intensity: 4.06 in/hr

NOTES:
Wind: 0 mph. Direction: S
Approx 70 gallons collected.

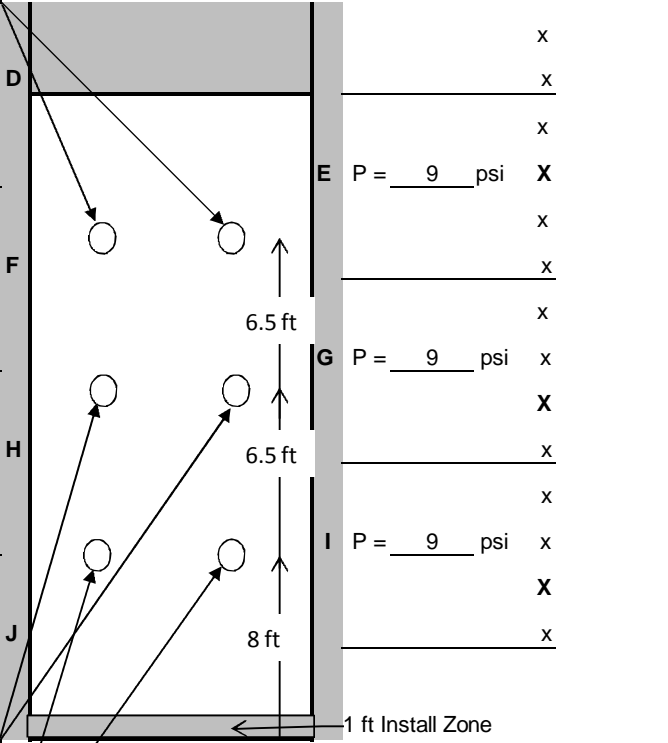
DDRF Rainfall Testing

Slope #: 1	Target Rain: 6 in/hr	Sediment Concentration & Turbidity Grab Samples
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Date: 6-Jun-12	Start Rain: 8:13 AM	End Rain: 8:33 AM	Time: 8:16	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
	Sampling interval: 0:03	End Runoff: 8:43 AM	Time: 8:19	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
	Rain Time (min): 20.00	Test Time (min): 30.00	Time: 8:22	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
Product: ET-GA-Csystem	Descr.: Erosion Tech - C System		Time: 8:25	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
Lot #:	Posts: Wood	Spacing: 4-ft	Time: 8:28	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
TOP OF SLOPE (circle "x" for open valves)			Time: 8:31	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
w _{c1} = 21.8%	Set valves to 16 psi.		Time: 8:34	Sed Conc Samples Taken: X	Turbidity Samples Taken: X

d = 51 49 mm
i = 6.02 5.79 in/hr

x
X P = 9 psi D
x
x
x
x
X P = 9 psi F
x
x
x
x
x P = 9 psi H
X
x
x P = 9 psi J
X
x



d = 52 53 mm
i = 6.14 6.26 in/hr

w_{c2} = 22.6%

d = 50 50 mm
i = 5.91 5.91 in/hr

w_{c3} = 22.7%

x x X x
P = 9 psi Temp. 79 deg
Hum. 67 %
Average Depth: 51 mm
Avg Rainfall Intensity: 6.00 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	31
2	3785	21
3	3785	19
4	3785	19
5	3785	18
6	3785	16
7	3785	13
8	3785	11
9	3785	10
10	3785	9
11	3785	9
12	3785	8
13	3785	7
14	3785	7
15	3785	7
16	3785	7
17	3785	7
18	3785	7
19	3785	6
20	3785	6
21	3785	16
30	3785	0

NOTES:
Wind: 0-1 mph. Direction: E
Approx 135 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 2 in/hr**

Date: 7-Jun-12 Start Rain: 6:53 AM End Rain: 7:13 AM
 Sampling interval: 0:03 End Runoff: 7:15 AM

Rain Time (min): 20.00 Test Time (min): 22.00

Product: ET-GA-Csystem Descr.: Erosion Tech - C System
 Lot #: Posts: Wood Spacing: 4-ft

TOP OF SLOPE
 (circle "x" for open valves)

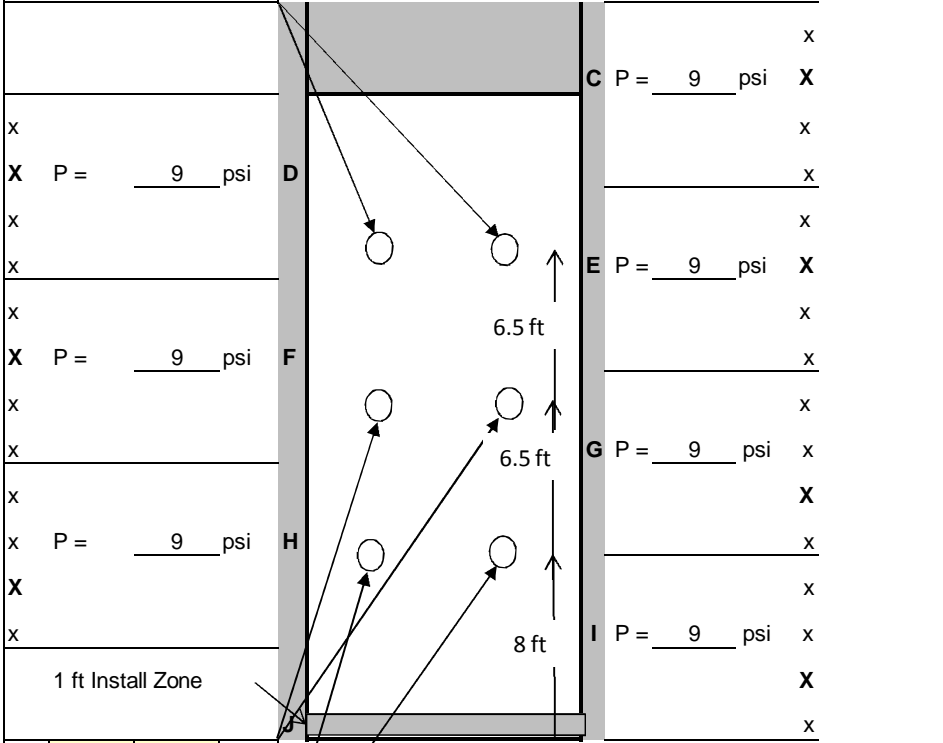
$w_{c1} = 21.8\%$ **Set valves to 16 psi.**

Sediment Concentration & Turbidity Grab Samples		
Time	Sed Conc Samples Taken	Turbidity Samples Taken
6:56	X	X
6:59	X	X
7:02	X	X
7:05	X	X
7:08	X	X
7:11	X	X
7:14	X	X

d = 19 19 mm
 i = 2.24 2.24 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	250	38
2	250	35
3	250	30
4	250	26
5	250	25
6	250	21
7	250	18
8	250	16
9	250	13
10	250	10
11	250	9
12	250	8
13	250	7
14	250	6
15	250	4
16	250	4
17	250	4
18	250	4
19	250	4
20	250	4
21	250	10
22	250	0



d = 20 17 mm
 i = 2.36 2.01 in/hr
 $w_{c2} = 22.6\%$

d = 19 19 mm
 i = 2.24 2.24 in/hr
 $w_{c3} = 22.7\%$

Average Depth: 19 mm
 Avg Rainfall Intensity: 2.22 in/hr

Temp. 63 deg
 Hum. 87 %

NOTES:
 Wind: 0 mph. Direction: E
 Approx 11 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	7-Jun-12	Start Rain: Sampling interval:	7:21 AM 0:03	End Rain: 7:41 AM	7:24	X	X	
		End Runoff:	7:45 AM	7:27	X	X		
		Rain Time (min):	20.00	Test Time (min):	24.00	7:30	X	X
Product:	ET-GA-Csystem	Descr.:	Erosion Tech - C System	7:33	X	X		
Lot #:		Posts:	Wood	Spacing:	4-ft	7:36	X	X
TOP OF SLOPE				7:39	X	X		
(circle "x" for open valves)				7:42	X	X		

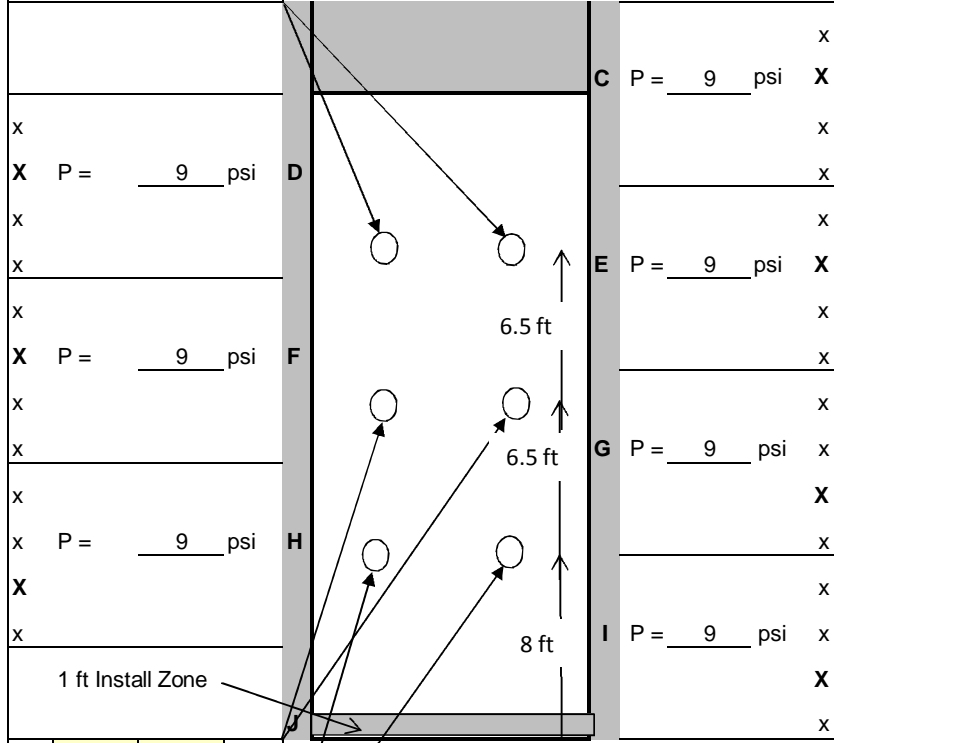
w_{c1} = 21.8%

d = 34 33 mm

i = 4.02 3.90 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	3785	34
2	3785	23
3	3785	19
4	3785	18
5	3785	19
6	3785	19
7	3785	18
8	3785	17
9	3785	18
10	3785	18
11	3785	18
12	3785	18
13	3785	17
14	3785	17
15	3785	17
16	3785	16
17	3785	17
18	3785	17
19	3785	17
20	3785	16
21	3785	34
24	3785	0



d = 35 33 mm

i = 4.13 3.90 in/hr

w_{c2} = 22.6%

d = 34 34 mm

i = 4.02 4.02 in/hr

w_{c3} = 22.7%

Average Depth: 34 mm

Avg Rainfall Intensity: 4.00 in/hr

P = 9 psi

Temp. 64 deg

Hum. 87 %

NOTES:
 Wind: 0 mph. Direction: E
 Approx 71 gallons collected.

DDRF Rainfall Testing

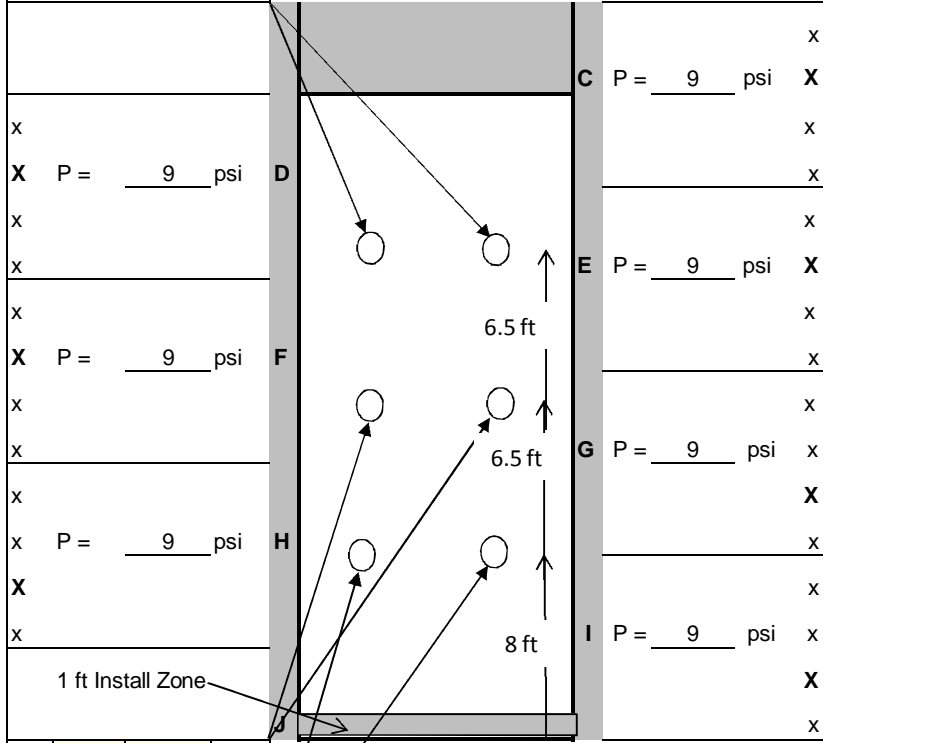
Slope #: 2 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples		
				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	7-Jun-12	Start Rain: 7:50 AM	End Rain: 8:10 AM	7:53	X	X
		Sampling interval: 0:03	End Runoff: 8:20 AM	7:56	X	X
		Rain Time (min): 20.00	Test Time (min): 30.00	7:59	X	X
Product:	ET-GA-Csystem	Descr.: Erosion Tech - C System		8:02	X	X
Lot #:		Posts: Wood	Spacing: 4-ft	8:05	X	X
TOP OF SLOPE				8:08	X	X
(circle "x" for open valves)				8:11	X	X

w_{c1} = 21.8%

d = 48 51 mm

i = 5.67 6.02 in/hr



1 ft Install Zone

d = 55 51 mm

i = 6.50 6.02 in/hr

w_{c2} = 22.6%

d = 50 52 mm

i = 5.91 6.14 in/hr

w_{c3} = 22.7%

Average Depth: 51 mm

Avg Rainfall Intensity: 6.04 in/hr

P = 9 psi Temp. 65 deg

Hum. 85 %

Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	33
2	3785	20
3	3785	18
4	3785	18
5	3785	18
6	3785	16
7	3785	12
8	3785	11
9	3785	10
10	3785	10
11	3785	9
12	3785	8
13	3785	8
14	3785	7
15	3785	7
16	3785	6
17	3785	6
18	3785	6
19	3785	6
20	3785	6
21	3785	16
30	3785	0

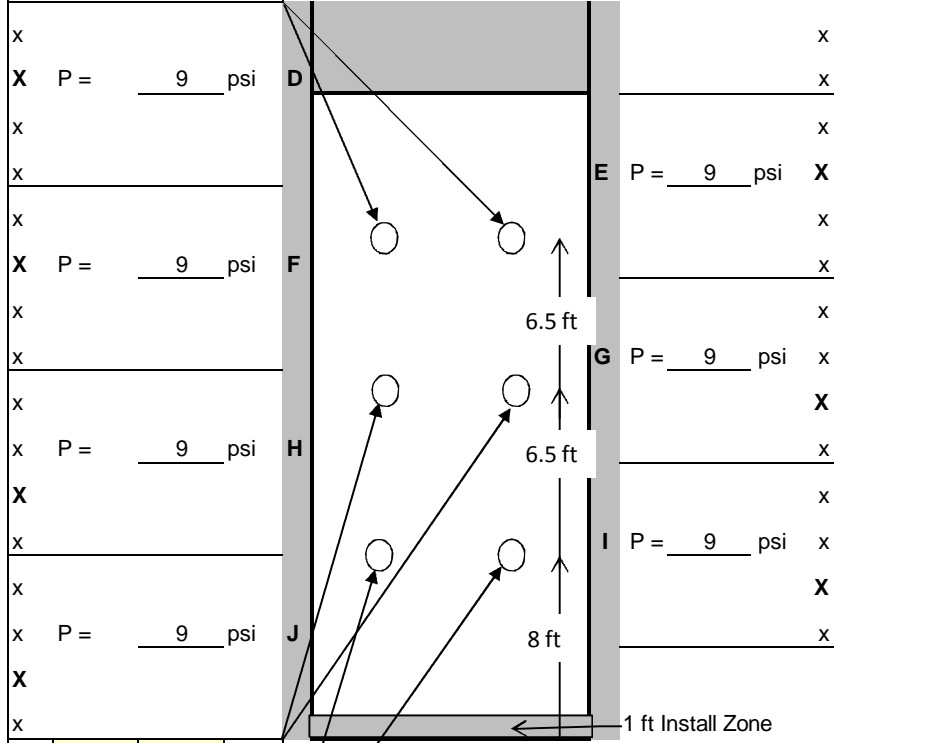
NOTES:
 Wind: 0 mph. Direction: E
 Approx 140 gallons collected.

DDRF Rainfall Testing

Slope #: 3	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples		
		Time	Sed Conc Samples Taken	Turbidity Samples Taken

Date:	1-Jun-12	Start Rain:	7:08 AM	End Rain:	7:28 AM	7:11	X	X
		Sampling interval:	0:03	End Runoff:	7:30 AM	7:14	X	X
		Rain Time (min):	20.00	Test Time (min):	22.00	7:17	X	X
Product:	ET-GA-Csystem	Descr.:	Erosion Tech - C System			7:20	X	X
Lot #:		Posts:	Wood	Spacing:	4-ft	7:23	X	X
		TOP OF SLOPE			7:26	X	X	
w _{c1} = 21.8%		(circle "x" for open valves)			7:29	X	X	
					Set valves to 16 psi.			

d = 20 19 mm
i = 2.36 2.24 in/hr



d = 22 18 mm
i = 2.60 2.13 in/hr

w_{c2} = 22.6%

d = 19 17 mm
i = 2.24 2.01 in/hr

w_{c3} = 22.7%

x x X x
P = 9 psi Temp. 66 deg
Hum. 95 %

Average Depth: 19 mm
Avg Rainfall Intensity: 2.26 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	40
2	250	38
3	250	33
4	250	32
5	250	30
6	250	28
7	250	28
8	250	27
9	250	26
10	250	22
11	250	19
12	250	14
13	250	10
14	250	9
15	250	7
16	250	5
17	250	5
18	250	5
19	250	5
20	250	4
21	250	12
22	250	0

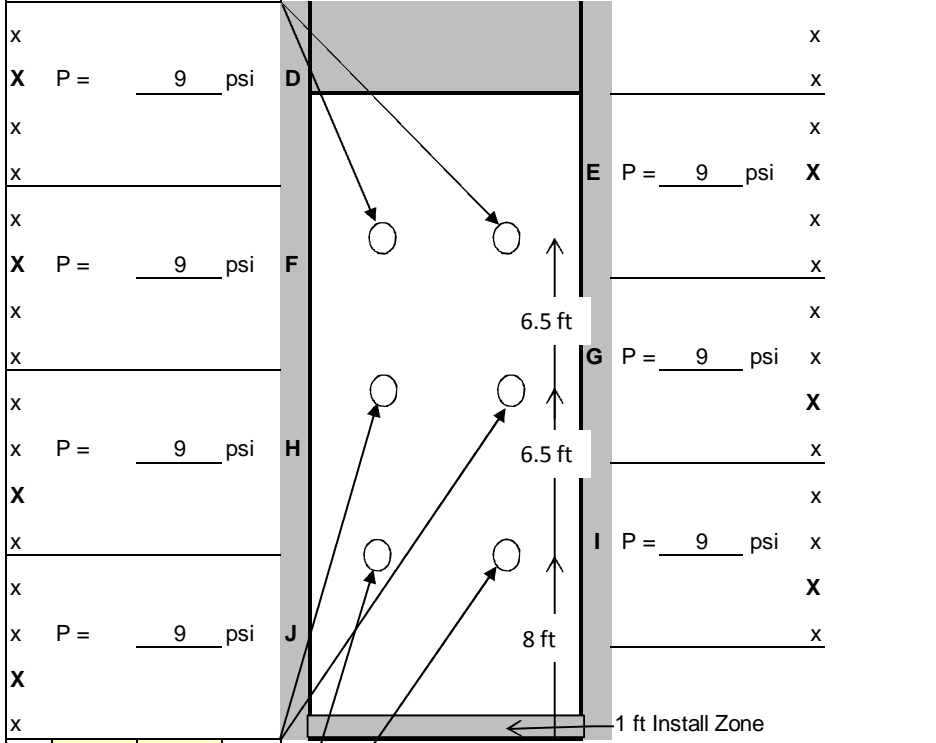
NOTES: Test on Slope G1
Wind: 0 mph. Direction: S
Approx 8 gallons collected.

DDRF Rainfall Testing

Slope #: 3	Target Rain: 4 in/hr	Sediment Concentration & Turbidity Grab Samples		
		Time	Sed Conc Samples Taken	Turbidity Samples Taken

Date:	1-Jun-12	Start Rain:	7:37 AM	End Rain:	7:57 AM	7:40	X	X
		Sampling interval:	0:03	End Runoff:	8:01 AM	7:43	X	X
		Rain Time (min):	20.00	Test Time (min):	24.00	7:46	X	X
Product:	ET-GA-Csystem	Descr.:	Erosion Tech - C System			7:49	X	X
Lot #:		Posts:	Wood	Spacing:	4-ft	7:52	X	X
		TOP OF SLOPE				7:55	X	X
$w_{c1} =$	21.8%	(circle "x" for open valves)				7:58	X	X
Set valves to 16 psi.								

	34	31	mm
$i =$	4.02	3.66	in/hr



$d =$	35	35	mm
$i =$	4.13	4.13	in/hr
$w_{c2} =$	22.6%		
$d =$	37	34	mm
$i =$	4.37	4.02	in/hr
$w_{c3} =$	22.7%		
Average Depth:		34	mm
Avg Rainfall Intensity:		4.06	in/hr
		P = 9 psi	Temp. 66 deg
			Hum. 95 %

Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	3785	37
2	3785	33
3	3785	21
4	3785	21
5	3785	20
6	3785	20
7	3785	20
8	3785	19
9	3785	18
10	3785	17
11	3785	17
12	3785	18
13	3785	17
14	3785	17
15	3785	17
16	3785	17
17	3785	17
18	3785	16
19	3785	16
20	3785	16
21	3785	33
24	3785	0

NOTES:
 Wind: 0 mph. Direction: S
 Approx 69 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	1-Jun-12	Start Rain: 8:08 AM	End Rain: 8:28 AM	8:11	X	X
		Sampling interval: 0:03	End Runoff: 8:38 AM	8:14	X	X
		Rain Time (min): 20.00	Test Time (min): 30.00	8:17	X	X
Product:	ET-GA-Csystem	Descr.: Erosion Tech - C System		8:20	X	X
Lot #:		Posts: Wood	Spacing: 4-ft	8:23	X	X
TOP OF SLOPE				8:26	X	X
(circle "x" for open valves)				8:29	X	X

w_{c1} = 21.8%

d = 52 52 mm

i = 6.14 6.14 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

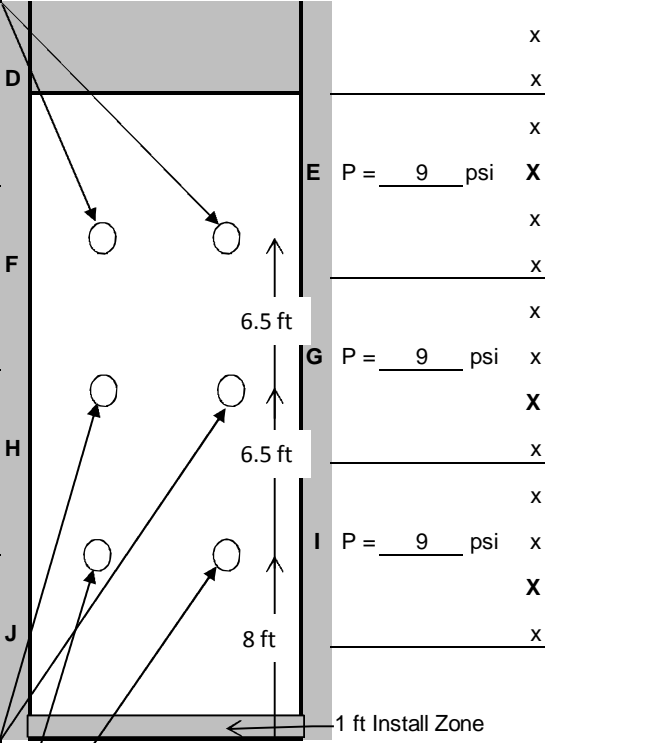
X P = 9 psi

x

x

X P = 9 psi

x



Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	39
2	3785	28
3	3785	18
4	3785	15
5	3785	13
6	3785	12
7	3785	10
8	3785	10
9	3785	10
10	3785	9
11	3785	9
12	3785	9
13	3785	8
14	3785	9
15	3785	8
16	3785	7
17	3785	7
18	3785	7
19	3785	7
20	3785	6
21	3785	26
30	3785	0

d = 50 50 mm

i = 5.91 5.91 in/hr

w_{c2} = 22.6%

d = 51 52 mm

i = 6.02 6.14 in/hr

w_{c3} = 22.7%

x x X x

P = 9 psi Temp. 67 deg

Hum. 94 %

Average Depth: 51 mm

Avg Rainfall Intensity: 6.04 in/hr

NOTES:
 Wind: 0 mph. Direction: S
 Approx 130 gallons collected.

ET-GA-CSystem Erosion Tech - C System

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	37.1
2	20	38.2
3	20	42.4

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	408	2-1	3.00	157	2-1	3.00	615
2-2	6.00	318	2-2	6.00	1522	2-2	6.00	1546
2-3	9.00	557	2-3	9.00	1693	2-3	9.00	1736
2-4	12.00	3458	2-4	12.00	3611	2-4	12.00	2920
2-5	15.00	2243	2-5	15.00	2471	2-5	15.00	2410
2-6	18.00	1854	2-6	18.00	2452	2-6	18.00	1769
2-7	21.00	1699	2-7	21.00	813	2-7	21.00	1806
avg		1505	avg		1817	avg		1829
4-1	3.00	3317	4-1	2.00	6378	4-1	2.00	3208
4-2	6.00	3503	4-2	4.00	3694	4-2	4.00	3184
4-3	9.00	3279	4-3	6.00	3211	4-3	6.00	3541
4-4	12.00	3052	4-4	8.00	2134	4-4	8.00	3550
4-5	15.00	2249	4-5	10.00	2225	4-5	10.00	2984
4-6	18.00	2012	4-6	12.00	1917	4-6	12.00	3105
4-7	21.00	1824	4-7	21.00	1247	4-7	21.00	759
avg		2748	avg		2972	avg		2904
6-1	3.00	2793	6-1	3.00	2295	6-1	3.00	3536
6-2	6.00	2360	6-2	6.00	2701	6-2	6.00	3391
6-3	9.00	2079	6-3	9.00	1927	6-3	9.00	2555
6-4	12.00	1543	6-4	12.00	2026	6-4	12.00	2593
6-5	15.00	1981	6-5	15.00	1685	6-5	15.00	2216
6-6	18.00	1747	6-6	18.00	1923	6-6	18.00	2344
6-7	21.00	1421	6-7	21.00	1513	6-7	21.00	1276
avg		1989	avg		2010	avg		2559

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.22	in/hr	avg														
6-Jun-12		2-1	3.00	316.94	151.41	151.41	151.41	0.00	165.53	0.17	0.00	3.00	469.39	0.42	0.00	0.00
		2-2	6.00	334.24	147.78	147.78	147.78	0.00	186.46	0.19	0.00	6.00	439.11	0.40	0.00	0.00
		2-3	9.00	360.61	148.74	148.74	148.74	0.00	211.87	0.21	0.00	9.00	393.68	0.43	0.00	0.00
		2-4	12.00	356.30	156.11	147.98	147.71	270.00	208.32	0.21	1296.08	12.00	181.70	0.59	1296.08	0.01
		2-5	15.00	334.59	156.42	147.43	147.09	340.00	187.16	0.19	1816.63	15.00	90.85	1.37	1816.63	0.02
		2-6	18.00	349.30	156.16	150.56	150.12	440.00	198.74	0.20	2213.95	18.00	60.57	2.39	2213.95	0.04
		2-7	21.00	356.95	156.81	151.16	150.60	560.00	205.79	0.21	2721.22	21.00	181.70	2.48	2721.22	0.06
										AVG =	1149.70	22.00	0	0.50	2721.22	0.01
4.06	in/hr	avg									1149.70			Total Solids Lost:		0.14
6-Jun-12		4-1	3.00	339.68	157.52	149.43	148.61	820.00	190.25	0.19	4310.12	3.00	19.00	8.49	4310.12	0.31
		4-2	6.00	316.28	158.08	150.77	149.96	810.00	165.51	0.17	4893.96	6.00	19.00	9.64	4893.96	0.39
		4-3	9.00	329.98	161.21	149.56	148.67	890.00	180.42	0.18	4932.93	9.00	18.00	9.73	4932.93	0.40
		4-4	12.00	339.35	156.72	150.28	149.44	840.00	189.07	0.19	4442.80	12.00	18.00	10.00	4442.80	0.37
		4-5	15.00	331.61	154.65	148.03	147.14	890.00	183.58	0.18	4848.02	15.00	17.00	10.28	4848.02	0.42
		4-6	18.00	347.40	156.57	151.32	150.41	910.00	196.08	0.20	4640.96	18.00	17.00	10.80	4640.96	0.42
		4-7	21.00	355.04	157.23	151.92	150.97	950.00	203.12	0.20	4677.04	21.00	36.00	9.47	4677.04	0.37
										AVG =	4677.98	23.00	0.00	1.87	4677.04	0.07
6.00	in/hr	avg									4677.98			Total Solids Lost:		2.75
6-Jun-12		6-1	3.00	335.50	156.62	150.31	149.58	730.00	185.19	0.19	3941.90	3.00	19.00	9.18	3941.90	0.30
		6-2	6.00	338.80	156.93	149.39	148.67	720.00	189.41	0.19	3801.28	6.00	16.00	9.93	3801.28	0.31
		6-3	9.00	325.40	152.73	148.11	147.47	640.00	177.29	0.18	3609.90	9.00	10.00	14.85	3609.90	0.45
		6-4	12.00	345.20	152.95	148.39	147.56	830.00	196.81	0.20	4217.27	12.00	8.00	20.04	4217.27	0.71
		6-5	15.00	325.96	154.10	149.45	148.68	770.00	176.51	0.18	4362.36	15.00	7.00	25.14	4362.36	0.92
		6-6	18.00	330.10	157.02	151.75	151.17	580.00	178.35	0.18	3252.03	18.00	7.00	25.71	3252.03	0.70
		6-7	21.00	360.83	155.57	151.72	150.94	780.00	209.11	0.21	3730.09	21.00	16.00	24.68	3730.09	0.77
										AVG =	3844.98	30.00	0.00	5.00	3730.09	0.16
											3844.98			Total Solids Lost:		4.31

6-Jun-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.22 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	606	0.20	0.20	0.20
2-2	2.00	530	0.11	0.11	0.30
2-3	3.00	469	0.12	0.12	0.42
2-4	4.00	454	0.13	0.13	0.55
2-5	5.00	454	0.13	0.13	0.69
2-6	6.00	439	0.13	0.13	0.82
2-7	7.00	424	0.14	0.14	0.96
2-8	8.00	424	0.14	0.14	1.10
2-9	9.00	394	0.15	0.15	1.25
2-10	10.00	348	0.16	0.16	1.41
2-11	11.00	303	0.18	0.18	1.59
2-12	12.00	182	0.25	0.25	1.84
2-13	13.00	151	0.36	0.36	2.20
2-14	14.00	121	0.44	0.44	2.64
2-15	15.00	91	0.57	0.57	3.21
2-16	16.00	76	0.72	0.72	3.93
2-17	17.00	76	0.79	0.79	4.72
2-18	18.00	61	0.88	0.88	5.60
2-19	19.00	61	0.99	0.99	6.59
2-20	20.00	61	0.99	0.99	7.58
2-21	21.00	182	0.50	0.50	8.08
2-end	22.00	0	0.50	0.50	8.57
					8.57
					Total Collected Runoff (approx)

4.06 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	34	3.53	3.53	3.53
4-2	2	23	2.11	2.11	5.63
4-3	3	19	2.86	2.86	8.49
4-4	4	18	3.24	3.24	11.73
4-5	5	19	3.24	3.24	14.98
4-6	6	19	3.16	3.16	18.13
4-7	7	18	3.24	3.24	21.38
4-8	8	19	3.24	3.24	24.62
4-9	9	18	3.24	3.24	27.86
4-10	10	18	3.33	3.33	31.20
4-11	11	18	3.33	3.33	34.53
4-12	12	18	3.33	3.33	37.86
4-13	13	17	3.43	3.43	41.29
4-14	14	18	3.43	3.43	44.72
4-15	15	17	3.43	3.43	48.15
4-16	16	16	3.64	3.64	51.78
4-17	17	17	3.64	3.64	55.42
4-18	18	17	3.53	3.53	58.95
4-19	19	17	3.53	3.53	62.48
4-20	20	16	3.64	3.64	66.11
4-21	21	36	2.31	2.31	68.42
4-end	23.00	0	1.87	1.87	70.29
					70.29
					Total Collected Runoff (approx)

6.00 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	31	3.87	3.87	3.87
6-2	2	21	2.31	2.31	6.18
6-3	3	19	3.00	3.00	9.18
6-4	4	19	3.16	3.16	12.34
6-5	5	18	3.24	3.24	15.58
6-6	6	16	3.53	3.53	19.11
6-7	7	13	4.14	4.14	23.24
6-8	8	11	5.00	5.00	28.24
6-9	9	10	5.71	5.71	33.96
6-10	10	9	6.32	6.32	40.27
6-11	11	9	6.67	6.67	46.94
6-12	12	8	7.06	7.06	54.00
6-13	13	7	8.00	8.00	62.00
6-14	14	7	8.57	8.57	70.57
6-15	15	7	8.57	8.57	79.14
6-16	16	7	8.57	8.57	87.71
6-17	17	7	8.57	8.57	96.28
6-18	18	7	8.57	8.57	104.85
6-19	19	6	9.23	9.23	114.08
6-20	20	6	10.00	10.00	124.08
6-21	21	16	5.45	5.45	129.53
6-end	30.00	0	5.00	5.00	134.53
					134.53
					Total Collected Runoff (approx)

7-Jun-12
Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.22 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	575	0.21	0.21	0.21
2-2	2.00	530	0.11	0.11	0.32
2-3	3.00	454	0.12	0.12	0.44
2-4	4.00	394	0.14	0.14	0.58
2-5	5.00	379	0.16	0.16	0.74
2-6	6.00	318	0.17	0.17	0.91
2-7	7.00	273	0.20	0.20	1.11
2-8	8.00	242	0.23	0.23	1.34
2-9	9.00	197	0.27	0.27	1.62
2-10	10.00	151	0.34	0.34	1.96
2-11	11.00	136	0.42	0.42	2.38
2-12	12.00	121	0.47	0.47	2.85
2-13	13.00	106	0.53	0.53	3.37
2-14	14.00	91	0.61	0.61	3.98
2-15	15.00	61	0.79	0.79	4.78
2-16	16.00	61	0.99	0.99	5.77
2-17	17.00	61	0.99	0.99	6.76
2-18	18.00	61	0.99	0.99	7.75
2-19	19.00	61	0.99	0.99	8.74
2-20	20.00	61	0.99	0.99	9.73
2-21	21.00	151	0.57	0.57	10.30
2-end	22.00	0	0.50	0.50	10.79
					10.79
					Total Collected Runoff (approx)

4.00 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	34	3.53	3.53	3.53
4-2	2	23	2.11	2.11	5.63
4-3	3	19	2.86	2.86	8.49
4-4	4	18	3.24	3.24	11.73
4-5	5	19	3.24	3.24	14.98
4-6	6	19	3.16	3.16	18.13
4-7	7	18	3.24	3.24	21.38
4-8	8	17	3.43	3.43	24.81
4-9	9	18	3.43	3.43	28.23
4-10	10	18	3.33	3.33	31.57
4-11	11	18	3.33	3.33	34.90
4-12	12	18	3.33	3.33	38.23
4-13	13	17	3.43	3.43	41.66
4-14	14	17	3.53	3.53	45.19
4-15	15	17	3.53	3.53	48.72
4-16	16	16	3.64	3.64	52.35
4-17	17	17	3.64	3.64	55.99
4-18	18	17	3.53	3.53	59.52
4-19	19	17	3.53	3.53	63.05
4-20	20	16	3.64	3.64	66.68
4-21	21	34	2.40	2.40	69.08
4-end	24	0	1.87	1.87	70.96
					70.96
					Total Collected Runoff (approx)

6.04 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	33	3.64	3.64	3.64
6-2	2	20	2.26	2.26	5.90
6-3	3	18	3.16	3.16	9.06
6-4	4	18	3.33	3.33	12.39
6-5	5	18	3.33	3.33	15.72
6-6	6	16	3.53	3.53	19.25
6-7	7	12	4.29	4.29	23.54
6-8	8	11	5.22	5.22	28.75
6-9	9	10	5.71	5.71	34.47
6-10	10	10	6.00	6.00	40.47
6-11	11	9	6.32	6.32	46.78
6-12	12	8	7.06	7.06	53.84
6-13	13	8	7.50	7.50	61.34
6-14	14	7	8.00	8.00	69.34
6-15	15	7	8.57	8.57	77.91
6-16	16	6	9.23	9.23	87.14
6-17	17	6	10.00	10.00	97.14
6-18	18	6	10.00	10.00	107.14
6-19	19	6	10.00	10.00	117.14
6-20	20	6	10.00	10.00	127.13
6-21	21	16	5.45	5.45	132.59
6-end	30	0	5.00	5.00	137.59
					137.59
					Total Collected Runoff (approx)

1-Jun-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.26 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	606	0.20	0.20	0.20
2-2	2.00	575	0.10	0.10	0.30
2-3	3.00	500	0.11	0.11	0.41
2-4	4.00	485	0.12	0.12	0.53
2-5	5.00	454	0.13	0.13	0.66
2-6	6.00	424	0.14	0.14	0.80
2-7	7.00	424	0.14	0.14	0.94
2-8	8.00	409	0.14	0.14	1.08
2-9	9.00	394	0.15	0.15	1.23
2-10	10.00	333	0.17	0.17	1.40
2-11	11.00	288	0.19	0.19	1.59
2-12	12.00	212	0.24	0.24	1.83
2-13	13.00	151	0.33	0.33	2.16
2-14	14.00	136	0.42	0.42	2.58
2-15	15.00	106	0.50	0.50	3.07
2-16	16.00	76	0.66	0.66	3.73
2-17	17.00	76	0.79	0.79	4.53
2-18	18.00	76	0.79	0.79	5.32
2-19	19.00	76	0.79	0.79	6.11
2-20	20.00	61	0.88	0.88	6.99
2-21	21.00	182	0.50	0.50	7.49
2-end	22.00	0	0.50	0.50	7.98
					7.98
					Total Collected Runoff (approx)

4.06 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	37	3.24	3.24	3.24
4-2	2	33	1.71	1.71	4.96
4-3	3	21	2.22	2.22	7.18
4-4	4	21	2.86	2.86	10.04
4-5	5	20	2.93	2.93	12.96
4-6	6	20	3.00	3.00	15.96
4-7	7	20	3.00	3.00	18.96
4-8	8	19	3.08	3.08	22.04
4-9	9	18	3.24	3.24	25.28
4-10	10	17	3.43	3.43	28.71
4-11	11	17	3.53	3.53	32.24
4-12	12	18	3.43	3.43	35.67
4-13	13	17	3.43	3.43	39.09
4-14	14	17	3.53	3.53	42.62
4-15	15	17	3.53	3.53	46.15
4-16	16	17	3.53	3.53	49.68
4-17	17	17	3.53	3.53	53.21
4-18	18	16	3.64	3.64	56.85
4-19	19	16	3.75	3.75	60.60
4-20	20	16	3.75	3.75	64.35
4-21	21	33	2.45	2.45	66.79
4-end	24	0	1.87	1.87	68.67
					68.67
					Total Collected Runoff (approx)

6.04 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	39	3.08	3.08	3.08
6-2	2	28	1.79	1.79	4.87
6-3	3	18	2.61	2.61	7.48
6-4	4	15	3.64	3.64	11.11
6-5	5	13	4.29	4.29	15.40
6-6	6	12	4.80	4.80	20.20
6-7	7	10	5.45	5.45	25.65
6-8	8	10	6.00	6.00	31.65
6-9	9	10	6.00	6.00	37.65
6-10	10	9	6.32	6.32	43.96
6-11	11	9	6.67	6.67	50.63
6-12	12	9	6.67	6.67	57.30
6-13	13	8	7.06	7.06	64.35
6-14	14	9	7.06	7.06	71.41
6-15	15	8	7.06	7.06	78.47
6-16	16	7	8.00	8.00	86.47
6-17	17	7	8.57	8.57	95.04
6-18	18	7	8.57	8.57	103.61
6-19	19	7	8.57	8.57	112.18
6-20	20	6	9.23	9.23	121.41
6-21	21	26	3.75	3.75	125.16
6-end	30	0	5.00	5.00	130.16
					130.16
					Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	6-Jun-12	7-Jun-12	1-Jun-12
Avg Moisture Content:	22.34%	22.00%	22.08%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	253.31	248.5	250.84
Wt. Of cup + dry soil, g	246.84	242.74	244.42
Wt. Of cup, g	217.11	217.11	217.17
Wt. Of dry soil, g	29.73	25.63	27.25
Wt. Of water, g	6.47	5.76	6.42
Water Content, w%	21.8%	22.5%	23.6%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	247.18	240.81	257.05
Wt. Of cup + dry soil, g	241.62	236.56	249.84
Wt. Of cup, g	216.97	216.54	216.99
Wt. Of dry soil, g	24.65	20.02	32.85
Wt. Of water, g	5.56	4.25	7.21
Water Content, w%	22.6%	21.2%	21.9%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	256.74	244.17	247.22
Wt. Of cup + dry soil, g	249.4	239.23	242.05
Wt. Of cup, g	217.08	217.08	217.13
Wt. Of dry soil, g	32.32	22.15	24.92
Wt. Of water, g	7.34	4.94	5.17
Water Content, w%	22.7%	22.3%	20.7%

Soil Loss Data

Slope No.	1	2	3
Test Date:	6-Jun-12	7-Jun-12	1-Jun-12
Total Soil Loss	6.70	6.94	6.45

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	18.2	13.6	22.7
Sub-Sample	Wt. Of cup + wet soil, g	18.2	13.6
	Wt. Of cup + dry soil, g	18.2	13.6
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	18.2	13.6
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.040	0.030	0.050

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	862.6	885.3	998.8
Sub-Sample	Wt. Of cup + wet soil, g	862.6	885.3
	Wt. Of cup + dry soil, g	862.6	885.3
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	862.6	885.3
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	1.900	1.950	2.200

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	2161.0	2251.8	1906.8
Sub-Sample	Wt. Of cup + wet soil, g	2161.0	2251.8
	Wt. Of cup + dry soil, g	2161.0	2251.8
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	2161	2251.8
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	4.760	4.960	4.200



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 18-Jun-12 18-Jun-12 20-Jun-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: GTF 400EO

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.05	7.38	6.74	0.020	0.002
	4.02	79.98	51.16	2.440	0.248
	6.00	151.06	163.83	5.200	0.772
Bare Soil Controls			6.74		0.855
			51.16		6.487
			163.83		20.774

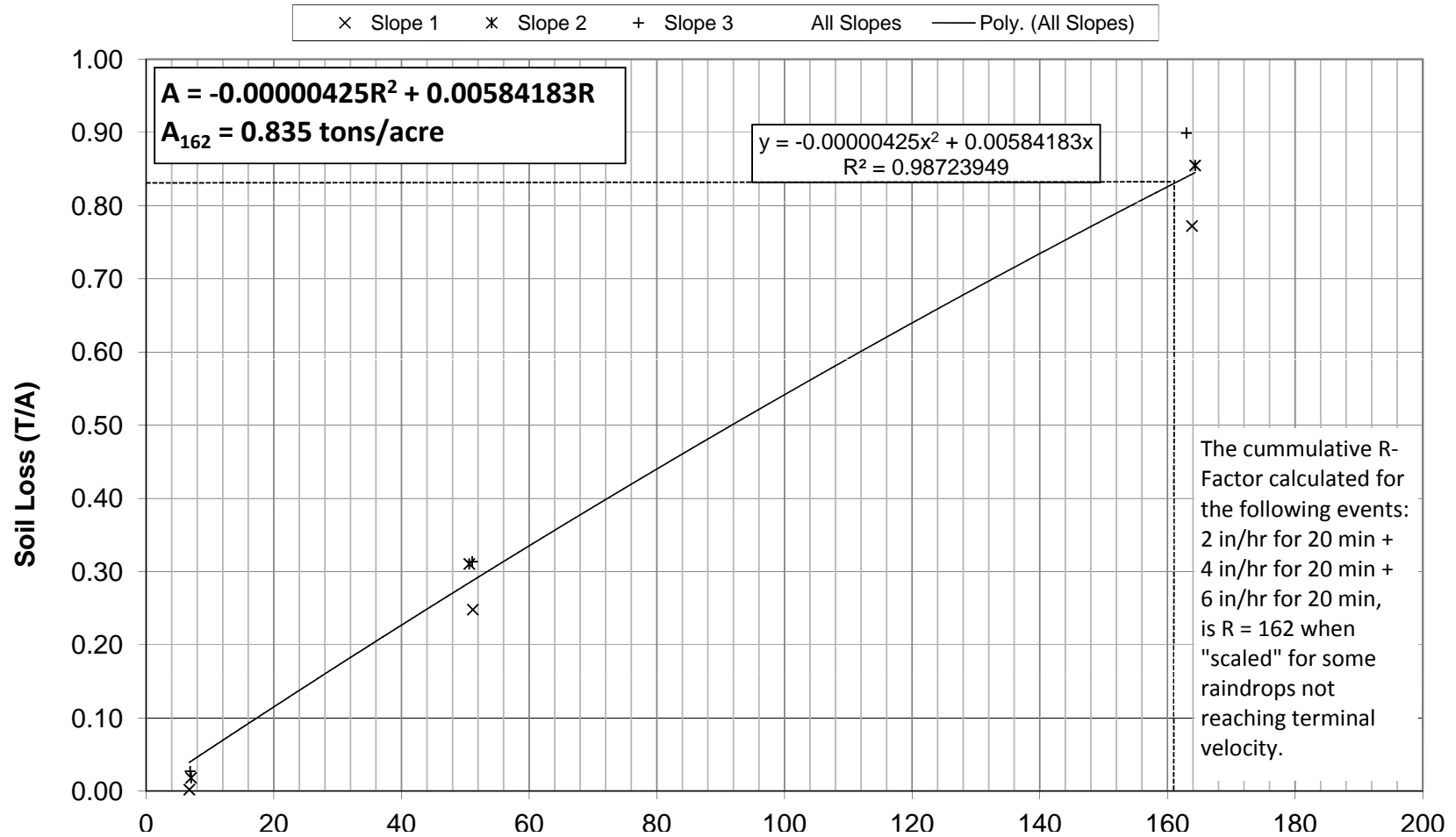
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.09	10.67	7.03	0.180	0.018
	3.96	75.15	50.61	2.900	0.311
	6.04	147.57	164.33	5.400	0.855
Bare Soil Controls			7.03		0.891
			50.61		6.417
			164.33		20.837

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.07	9.27	6.88	0.270	0.027
	4.00	81.69	51.07	2.840	0.314
	5.98	152.01	162.97	5.810	0.899
Bare Soil Controls			6.88		0.873
			51.07		6.476
			162.97		20.665

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)
Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)





TYPICAL TESTING PICTURES



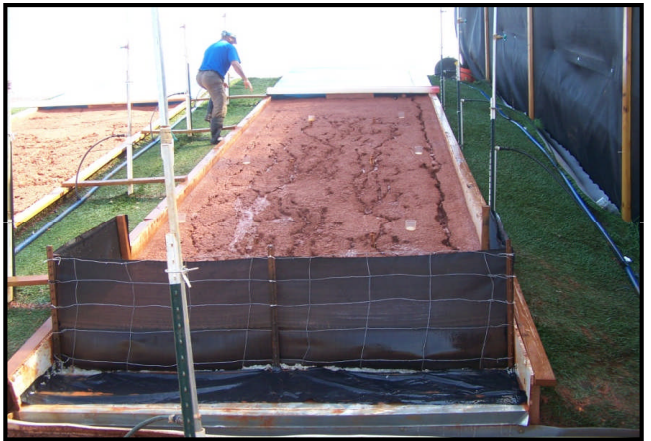
Test Slope Prepared and Fence Installed



After 2 in/hr Event



After 4 in/hr Event



After 6 in/hr Event



Typical Control Run - Before and After

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 2 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	18-Jun-12	Start Rain: 9:07 AM	End Rain: 9:27 AM	9:10	X	X
		Sampling interval: 0:03	End Runoff: 9:29 AM	9:13	X	X
		Rain Time (min): 20.00	Test Time (min): 22.00	9:16	X	X
Product:	GTF 400EO	Descr.: Type C Silt Fence		9:19	X	X
Lot #:		Posts: Steel	Spacing: 4-ft	9:22	X	X
TOP OF SLOPE				9:25	X	X
(circle "x" for open valves)				9:28	X	X

w_{c1} = 23.7%

d = 17 18 mm

i = 2.01 2.13 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x

X P = 9 psi

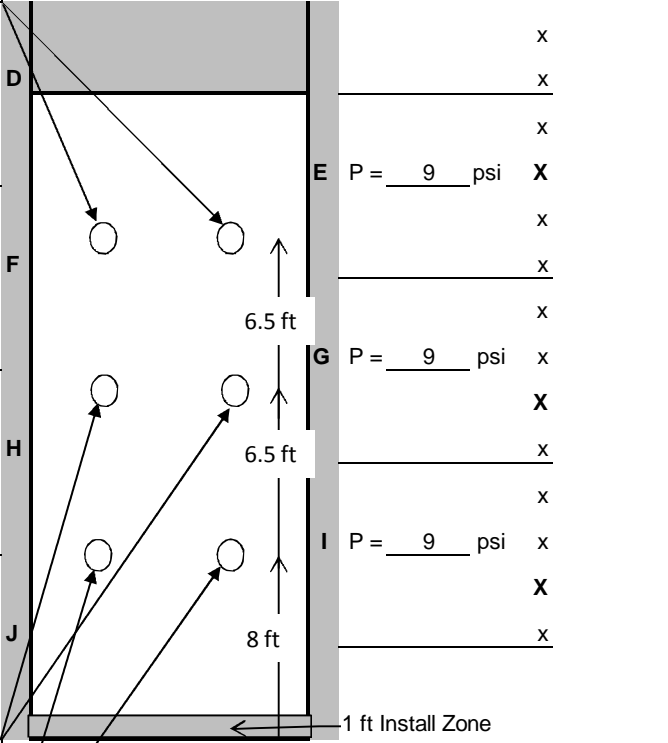
x

x

x

X P = 9 psi

x



Runoff Rate Measurements

Min.	Volume	Seconds
1	250	45
2	250	45
3	250	37
4	250	37
5	250	28
6	250	28
7	250	20
8	250	20
9	250	20
10	250	20
11	250	18
12	250	18
13	250	17
14	250	17
15	250	16
16	250	8
17	250	6
18	250	5
19	250	4
20	250	3
21	250	14
22	250	0

d = 18 17 mm

i = 2.13 2.01 in/hr

w_{c2} = 23.5%

d = 17 17 mm

i = 2.01 2.01 in/hr

w_{c3} = 22.6%

x x X x

P = 9 psi Temp. 72 deg

Hum. 76 %

Average Depth: 17 mm

Avg Rainfall Intensity: 2.05 in/hr

NOTES:
 Wind: 0 mph. Direction: W
 Approx 8 gallons collected.

DDRF Rainfall Testing

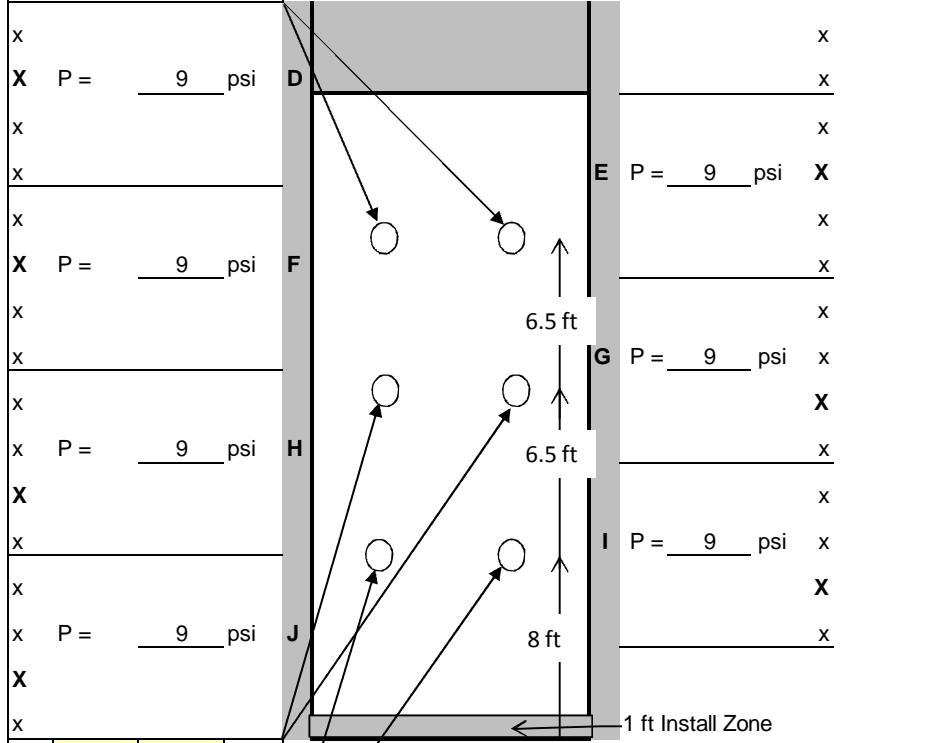
Slope #: 1	Target Rain: 4 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date:	18-Jun-12	Start Rain:	9:35 AM	End Rain:	9:55 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
		Sampling interval:	0:03	End Runoff:	9:58 AM	9:38	X	X
		Rain Time (min):	20.00	Test Time (min):	23.00	9:41	X	X
Product:	GTF 400EO	Descr.:	Type C Silt Fence			9:44	X	X
Lot #:		Posts:	Steel	Spacing:	4-ft	9:47	X	X
		TOP OF SLOPE				9:50	X	X
		(circle "x" for open valves)				9:53	X	X
						9:56	X	X

w_{c1} = 23.7%

d = 32 33 mm

i = 3.78 3.90 in/hr



d = 36 34 mm

i = 4.25 4.02 in/hr

P = 9 psi

Temp. 72 deg

w_{c2} = 23.5%

Hum. 76 %

d = 35 34 mm

i = 4.13 4.02 in/hr

Average Depth: 34 mm

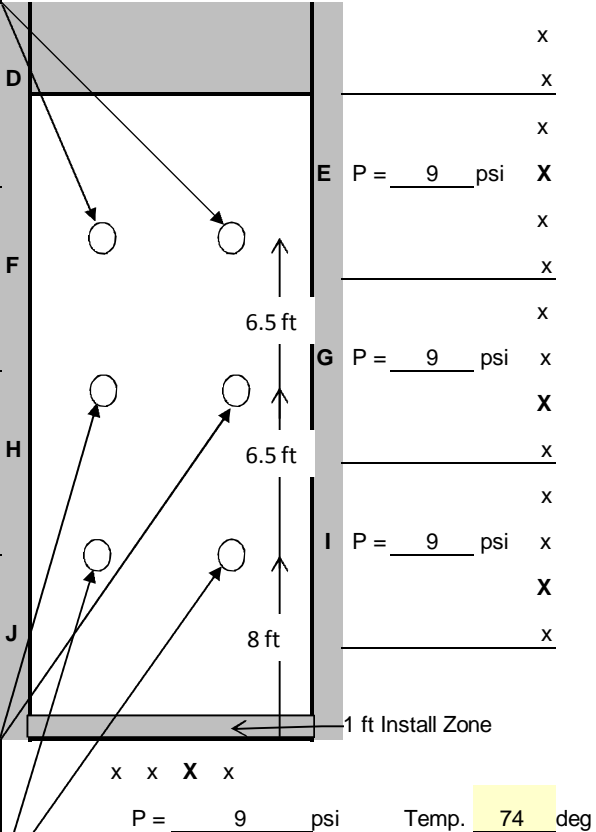
w_{c3} = 22.6%

Avg Rainfall Intensity: 4.02 in/hr

Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	3785	43
2	3785	35
3	3785	29
4	3785	27
5	3785	26
6	3785	22
7	3785	18
8	3785	16
9	3785	16
10	3785	15
11	3785	15
12	3785	14
13	3785	13
14	3785	13
15	3785	13
16	3785	13
17	3785	12
18	3785	12
19	3785	12
20	3785	12
21	3785	18
23	3785	0

NOTES:
 Wind: 0 mph. Direction: W
 Approx 75 gallons collected.

DDRF Rainfall Testing				Sediment Concentration & Turbidity Grab Samples				
Slope #: <u>1</u>		Target Rain: <u>6 in/hr</u>		Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	18-Jun-12	Start Rain:	10:06 AM	End Rain:	10:26 AM	10:09	X	X
		Sampling interval:	0:03	End Runoff:	10:36 AM	10:12	X	X
		Rain Time (min):	20.00	Test Time (min):	30.00	10:15	X	X
Product:	GTF 400EO	Descr.:	Type C Silt Fence		10:18	X	X	
Lot #:		Posts:	Steel	Spacing:	4-ft	10:21	X	X
		TOP OF SLOPE		10:24	X	X		
$w_{c1} =$	23.7%	(circle "x" for open valves)		10:27	X	X		
				Set valves to 16 psi.				
d =	48	52	mm	Runoff Rate Measurements				
i =	5.67	6.14	in/hr	Min.	Volume	Seconds		
x				1	3785	50		
X P =	9		psi	2	3785	21		
x				3	3785	9		
x				4	3785	9		
x				5	3785	9		
X P =	9		psi	6	3785	9		
x				7	3785	9		
x				8	3785	8		
x				9	3785	8		
x P =	9		psi	10	3785	8		
X				11	3785	8		
x				12	3785	8		
x P =	9		psi	13	3785	8		
X				14	3785	8		
x				15	3785	7		
				16	3785	7		
d =	50	51	mm	17	3785	7		
i =	5.91	6.02	in/hr	18	3785	7		
$w_{c2} =$	23.5%			19	3785	6		
d =	54	50	mm	20	3785	6		
i =	6.38	5.91	in/hr	21	3785	13		
$w_{c3} =$	22.6%			30	3785	0		



NOTES:
 Wind: 0 mph. Direction: W
 Approx 150 gallons collected.

DDRF Rainfall Testing

Slope #: 2	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date: 18-Jun-12	Start Rain: 7:06 AM	End Rain: 7:26 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
	Sampling interval: 0:03	End Runoff: 7:28 AM	7:09	X	X
	Rain Time (min): 20.00	Test Time (min): 22.00	7:12	X	X
Product: GTF 400EO	Descr.: Type C Silt Fence		7:15	X	X
Lot #: []	Posts: Steel	Spacing: 4-ft	7:18	X	X
			7:21	X	X
			7:24	X	X
			7:27	X	X

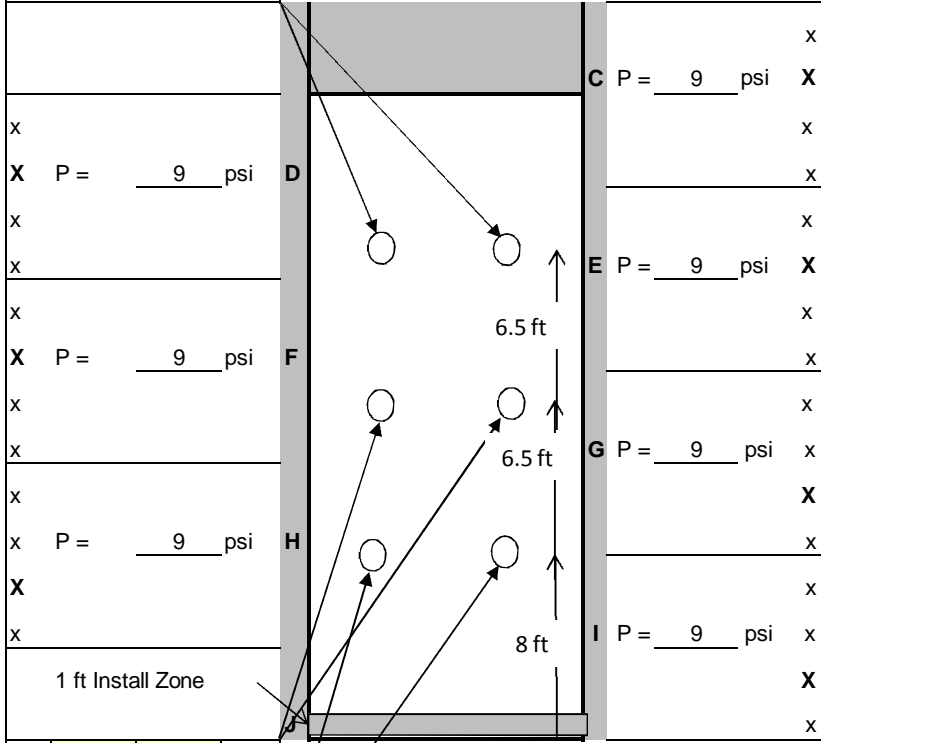
w_{c1} = 23.7%

d = 18 17 mm

i = 2.13 2.01 in/hr

TOP OF SLOPE
(circle "x" for open valves)

Set valves to 16 psi.



Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	30
2	250	28
3	250	26
4	250	25
5	250	17
6	250	12
7	250	9
8	250	8
9	250	8
10	250	8
11	250	8
12	250	7
13	250	7
14	250	6
15	250	5
16	250	5
17	250	5
18	250	5
19	250	5
20	250	5
21	250	15
22	250	0

d = 18 18 mm

i = 2.13 2.13 in/hr

w_{c2} = 23.5%

d = 17 18 mm

i = 2.01 2.13 in/hr

w_{c3} = 22.6%

P = 9 psi

Temp. 67 deg

Hum. 83 %

Average Depth: 18 mm

Avg Rainfall Intensity: 2.09 in/hr

NOTES:
 Wind: 0 mph. Direction: W
 Approx 15+A8 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain:** 4 in/hr

Date: 18-Jun-12 Start Rain: 7:37 AM End Rain: 7:57 AM
 Sampling interval: 0:03 End Runoff: 8:00 AM

Rain Time (min): 20.00 Test Time (min): 23.00

Product: GTF 400EO Descr.: Type C Silt Fence
 Lot #: _____ Posts: Steel Spacing: 4-ft

TOP OF SLOPE
 (circle "x" for open valves)

$w_{c1} = 23.7\%$ **Set valves to 16 psi.**

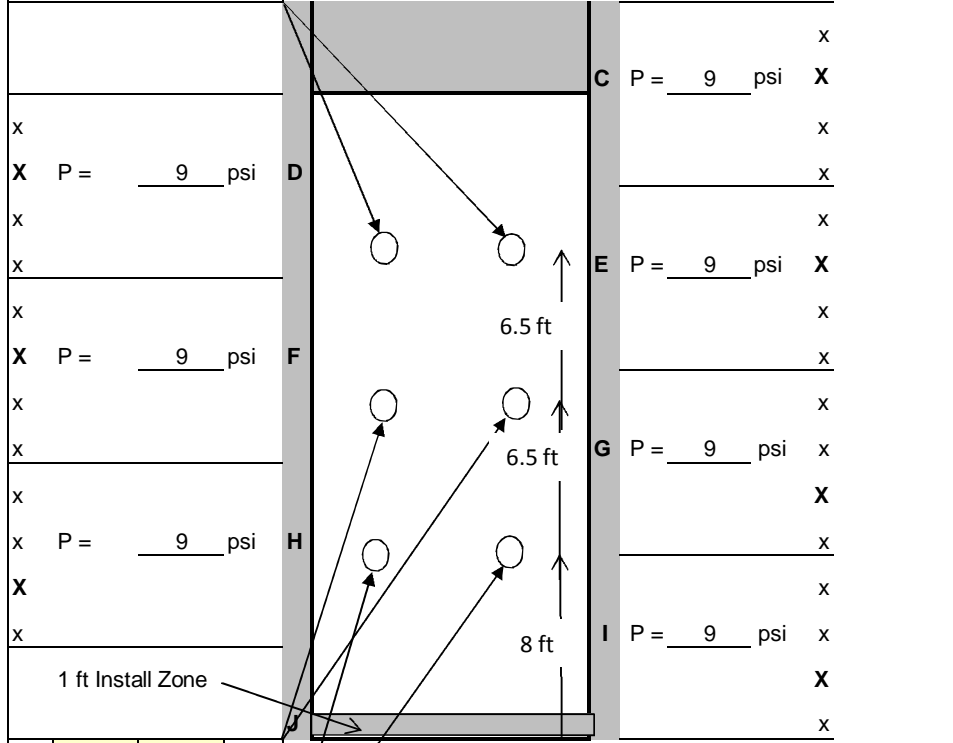
Sediment Concentration & Turbidity Grab Samples

Time	Sed Conc Samples Taken	Turbidity Samples Taken
7:40	X	X
7:43	X	X
7:46	X	X
7:49	X	X
7:52	X	X
7:55	X	X
7:58	X	X

d = 33 33 mm
 i = 3.90 3.90 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	9
2	3785	34
3	3785	27
4	3785	22
5	3785	17
6	3785	17
7	3785	16
8	3785	16
9	3785	16
10	3785	16
11	3785	15
12	3785	15
13	3785	15
14	3785	15
15	3785	14
16	3785	14
17	3785	14
18	3785	14
19	3785	13
20	3785	13
21	3785	22
23	3785	0



d = 33 35 mm x x **X** x
 i = 3.90 4.13 in/hr P = 9 psi Temp. 68 deg
 $w_{c2} = 23.5\%$ Hum. 82 %

d = 33 34 mm
 i = 3.90 4.02 in/hr

$w_{c3} = 22.6\%$ **Average Depth: 34 mm**
Avg Rainfall Intensity: 3.96 in/hr

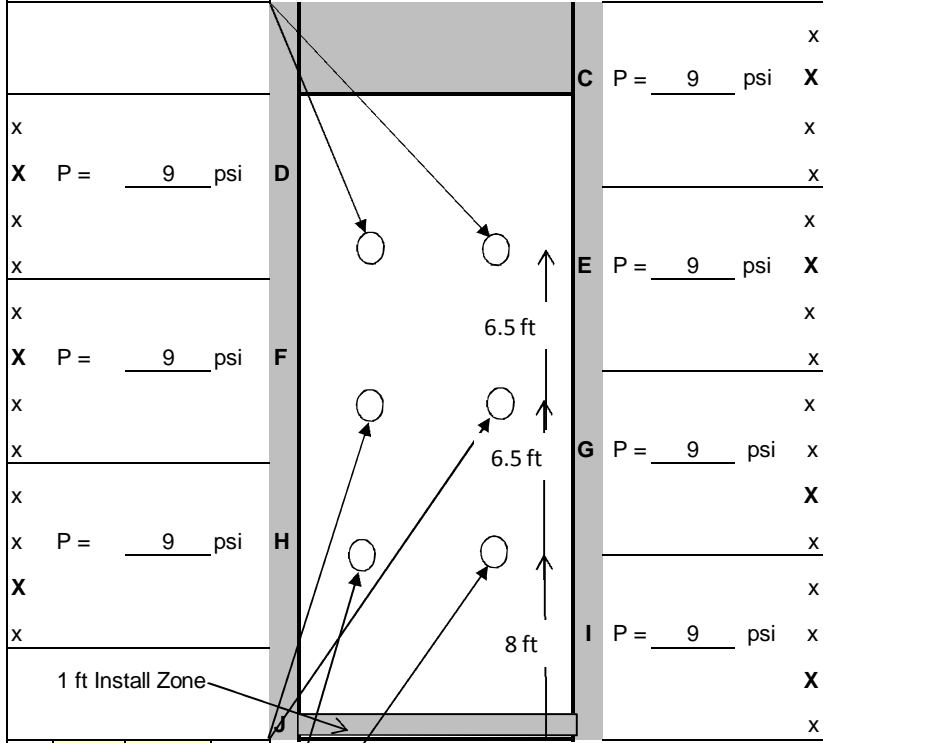
NOTES:
 Wind: 0 mph. Direction: W
 Approx 75 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples		
				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	18-Jun-12	Start Rain:	8:06 AM	8:09	X	X
		Sampling interval:	0:03	8:12	X	X
		End Rain:	8:26 AM	8:15	X	X
		End Runoff:	8:36 AM	8:18	X	X
		Rain Time (min):	20.00	8:21	X	X
		Test Time (min):	30.00	8:24	X	X
Product:	GTF 400EO	Descr.:	Type C Silt Fence	8:27	X	X
Lot #:		Posts:	Steel			
		Spacing:	4-ft			
TOP OF SLOPE						
(circle "x" for open valves)						
w _{c1} = 23.7%						
Set valves to 16 psi.						

d = 52 51 mm
i = 6.14 6.02 in/hr



d = 50 50 mm
i = 5.91 5.91 in/hr
w_{c2} = 23.5%

x x X x
P = 9 psi Temp. 68 deg
Hum. 81 %

Average Depth: 51 mm
Avg Rainfall Intensity: 6.04 in/hr

d = 51 53 mm
i = 6.02 6.26 in/hr
w_{c3} = 22.6%

Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	28
2	3785	12
3	3785	11
4	3785	9
5	3785	9
6	3785	9
7	3785	9
8	3785	9
9	3785	9
10	3785	9
11	3785	8
12	3785	8
13	3785	8
14	3785	8
15	3785	8
16	3785	7
17	3785	7
18	3785	7
19	3785	7
20	3785	7
21	3785	15
30	3785	0

NOTES:
Wind: 0 mph. Direction: W
Approx 150 gallons collected.

DDRF Rainfall Testing

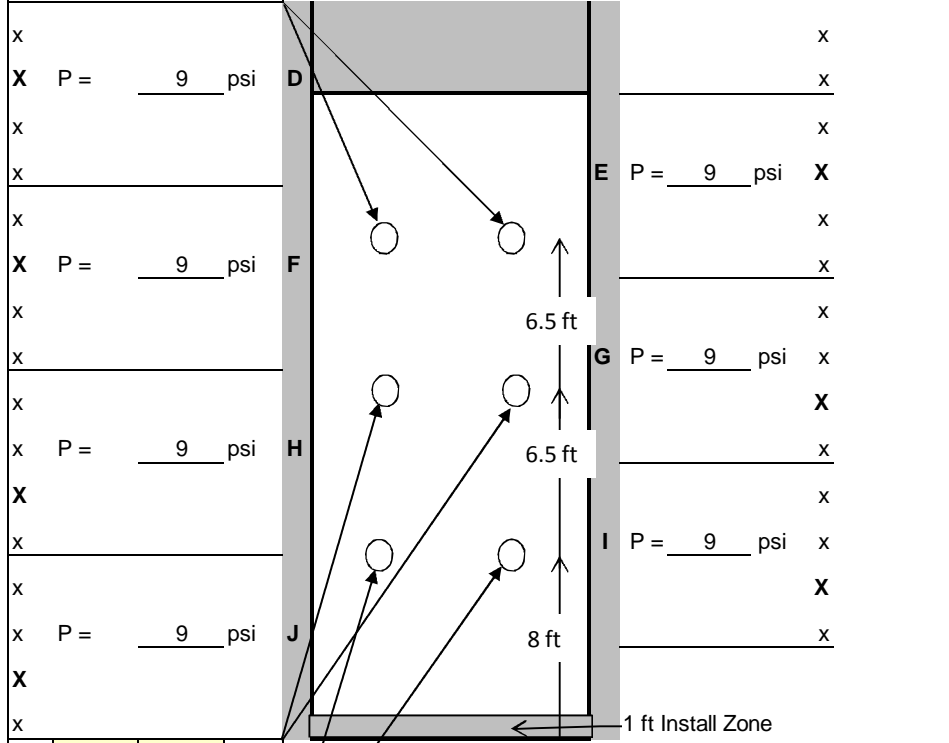
Slope #: 3	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date: 20-Jun-12	Start Rain: 7:14 AM	End Rain: 7:34 AM	Time: 7:17	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
	Sampling interval: 0:03	End Runoff: 7:36 AM	7:20	X	X
	Rain Time (min): 20.00	Test Time (min): 22.00	7:23	X	X
Product: GTF 400EO	Descr.: Type C Silt Fence		7:26	X	X
Lot #: []	Posts: Steel	Spacing: 4-ft	7:29	X	X
TOP OF SLOPE			7:32	X	X
(circle "x" for open valves)			7:35	X	X

w_{c1} = 23.7%

d = 17 17 mm

i = 2.01 2.01 in/hr



d = 18 18 mm

i = 2.13 2.13 in/hr

w_{c2} = 23.5%

d = 17 18 mm

i = 2.01 2.13 in/hr

w_{c3} = 22.6%

x x X x

P = 9 psi Temp. 68 deg

Hum. 93 %

Average Depth: 18 mm

Avg Rainfall Intensity: 2.07 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	43
2	250	37
3	250	31
4	250	27
5	250	25
6	250	25
7	250	25
8	250	24
9	250	21
10	250	21
11	250	19
12	250	11
13	250	9
14	250	7
15	250	6
16	250	5
17	250	5
18	250	5
19	250	3
20	250	3
21	250	13
22	250	0

NOTES: SLOPE G2
 Wind: 0 mph. Direction: S
 Approx 10 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	20-Jun-12	Start Rain: 7:42 AM	End Rain: 8:02 AM	7:45	X	X
		Sampling interval: 0:03	End Runoff: 8:06 AM	7:48	X	X
		Rain Time (min): 20.00	Test Time (min): 24.00	7:51	X	X
Product:	GTF 400EO	Descr.: Type C Silt Fence		7:54	X	X
Lot #:		Posts: Steel	Spacing: 4-ft	7:57	X	X
TOP OF SLOPE				8:00	X	X
(circle "x" for open valves)				8:03	X	X

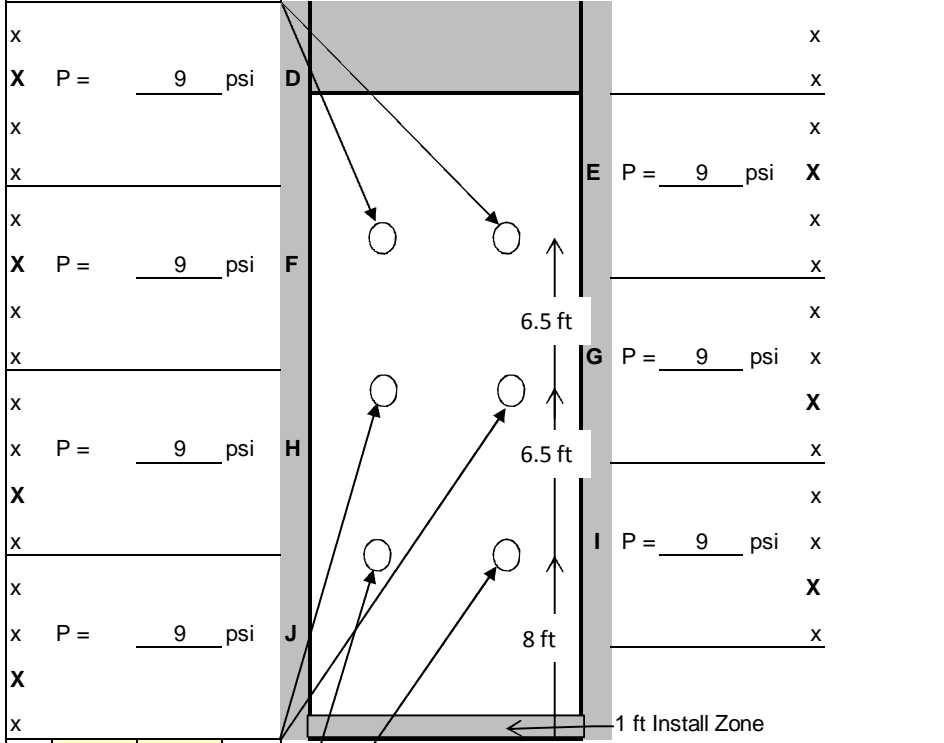
w_{c1} = 23.7%

Set valves to 16 psi.

d = 35 33 mm
i = 4.13 3.90 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	8
2	3785	28
3	3785	23
4	3785	17
5	3785	17
6	3785	17
7	3785	17
8	3785	15
9	3785	15
10	3785	15
11	3785	14
12	3785	14
13	3785	14
14	3785	13
15	3785	13
16	3785	13
17	3785	12
18	3785	12
19	3785	12
20	3785	12
21	3785	22
24	3785	0



d = 32 35 mm
i = 3.78 4.13 in/hr

x x X x
P = 9 psi Temp. 70 deg

w_{c2} = 23.5%

Hum. 92 %

d = 33 35 mm
i = 3.90 4.13 in/hr

Average Depth: 34 mm
Avg Rainfall Intensity: 4.00 in/hr

NOTES: SLOPE G2
Wind: 0 mph. Direction: S
Approx 80 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	20-Jun-12	Start Rain: Sampling interval:	8:10 AM 0:03	End Rain: 8:30 AM	8:13	X	X	
				End Runoff: 8:40 AM	8:16	X	X	
		Rain Time (min):	20.00	Test Time (min):	30.00	8:19	X	X
Product:	GTF 400EO	Descr.:	Type C Silt Fence		8:22	X	X	
Lot #:		Posts:	Steel	Spacing: 4-ft	8:25	X	X	
TOP OF SLOPE				8:28	X	X		
(circle "x" for open valves)				8:31	X	X		
Set valves to 16 psi.								

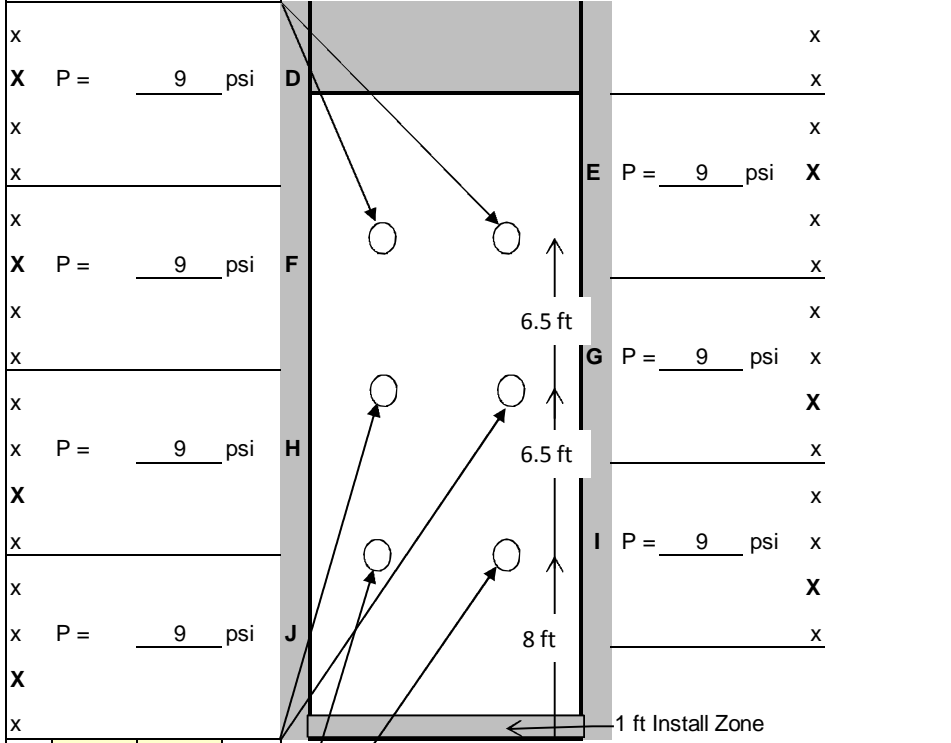
w_{c1} = 23.7%

d = 50 51 mm

i = 5.91 6.02 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	27
2	3785	9
3	3785	9
4	3785	9
5	3785	9
6	3785	9
7	3785	9
8	3785	9
9	3785	8
10	3785	8
11	3785	8
12	3785	8
13	3785	8
14	3785	7
15	3785	8
16	3785	7
17	3785	7
18	3785	7
19	3785	7
20	3785	7
21	3785	19
30	3785	0



d = 51 49 mm

i = 6.02 5.79 in/hr

w_{c2} = 23.5%

d = 51 52 mm

i = 6.02 6.14 in/hr

w_{c3} = 22.6%

x x X x

P = 9 psi Temp. 60 deg

Hum. 87 %

Average Depth: 51 mm

Avg Rainfall Intensity: 5.98 in/hr

NOTES: SLOPE G2+A8
Wind: 0 mph. Direction: S
Approx 150 gallons collected.

GTF 400EO Type C Silt Fence

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	22.3
2	20	33.7
3	20	33.2

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	1070	2-1	3.00	1009	2-1	3.00	568
2-2	6.00	779	2-2	6.00	2301	2-2	6.00	460
2-3	9.00	615	2-3	9.00	6668	2-3	9.00	2855
2-4	12.00	1603	2-4	12.00	3356	2-4	12.00	994
2-5	15.00	1647	2-5	15.00	2667	2-5	15.00	3408
2-6	18.00	1698	2-6	18.00	2094	2-6	18.00	2658
2-7	21.00	1107	2-7	21.00	1440	2-7	21.00	1061
avg		1217	avg		2791	avg		1715
4-1	3.00	3325	4-1	2.00	3755	4-1	2.00	2694
4-2	6.00	2832	4-2	4.00	2790	4-2	4.00	2193
4-3	9.00	3163	4-3	6.00	2266	4-3	6.00	2616
4-4	12.00	1762	4-4	8.00	2827	4-4	8.00	3373
4-5	15.00	1682	4-5	10.00	2804	4-5	10.00	2821
4-6	18.00	1538	4-6	12.00	2869	4-6	12.00	2525
4-7	21.00	1297	4-7	21.00	943	4-7	21.00	1191
avg		2228	avg		2608	avg		2488
6-1	3.00	2035	6-1	3.00	2639	6-1	3.00	2744
6-2	6.00	1815	6-2	6.00	2863	6-2	6.00	2420
6-3	9.00	1801	6-3	9.00	2303	6-3	9.00	2560
6-4	12.00	2204	6-4	12.00	2102	6-4	12.00	2404
6-5	15.00	2240	6-5	15.00	1626	6-5	15.00	2323
6-6	18.00	2077	6-6	18.00	2016	6-6	18.00	2276
6-7	21.00	923	6-7	21.00	1269	6-7	21.00	1687
avg		1871	avg		2117	avg		2345

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.05	in/hr	avg														
18-Jun-12		2-1	3.00	222.05	154.60	151.46	151.41	50.00	70.59	0.07	708.32	3.00	560.24	0.36	708.32	0.00
		2-2	6.00	266.52	151.54	147.78	147.78	0.00	118.74	0.12	0.00	6.00	423.97	0.37	0.00	0.00
		2-3	9.00	203.97	151.90	149.76	149.76	0.00	54.21	0.05	0.00	9.00	302.83	0.56	0.00	0.00
		2-4	12.00	327.33	154.24	147.95	147.71	240.00	179.38	0.18	1337.94	12.00	272.55	0.63	1337.94	0.01
		2-5	15.00	357.39	155.21	150.10	147.09	3010.00	207.29	0.21	14520.72	15.00	242.27	0.70	14520.72	0.08
		2-6	18.00	367.27	156.90	150.59	150.12	470.00	216.68	0.22	2169.10	18.00	75.71	1.62	2169.10	0.03
		2-7	21.00	323.51	157.53	150.69	150.68	10.00	172.82	0.17	57.86	21.00	211.98	2.48	57.86	0.00
										AVG =	2684.85	22.00	0	0.66	57.86	0.00
4.02	in/hr	avg									2684.85			Total Solids Lost:		0.12
18-Jun-12		4-1	3.00	318.04	156.72	149.50	148.61	890.00	168.54	0.17	5280.65	3.00	29.00	6.20	5280.65	0.27
		4-2	6.00	333.01	154.53	150.93	149.76	1170.00	182.08	0.18	6425.75	6.00	22.00	6.91	6425.75	0.37
		4-3	9.00	335.00	156.15	149.65	148.67	980.00	185.35	0.19	5287.29	9.00	16.00	10.28	5287.29	0.45
		4-4	12.00	338.67	155.33	149.61	149.44	170.00	189.06	0.19	899.19	12.00	14.00	12.01	899.19	0.09
		4-5	15.00	341.87	151.76	147.91	147.14	770.00	193.96	0.19	3969.89	15.00	13.00	13.67	3969.89	0.45
		4-6	18.00	340.61	154.47	150.91	150.07	840.00	189.70	0.19	4428.04	18.00	12.00	14.41	4428.04	0.53
		4-7	21.00	356.51	152.67	151.42	150.97	450.00	205.09	0.21	2194.16	21.00	18.00	14.00	2194.16	0.26
										AVG =	4069.28	23.00	0.00	2.50	2194.16	0.05
6.00	in/hr	avg									4069.28			Total Solids Lost:		2.47
18-Jun-12		6-1	3.00	335.25	155.00	149.89	149.58	310.00	185.36	0.19	1672.42	3.00	9.00	8.09	1672.42	0.11
		6-2	6.00	339.15	155.25	149.58	148.27	1310.00	189.57	0.19	6910.38	6.00	9.00	20.00	6910.38	1.15
		6-3	9.00	342.05	152.77	147.95	147.47	480.00	194.10	0.19	2472.95	9.00	8.00	21.22	2472.95	0.44
		6-4	12.00	342.16	153.02	148.01	147.56	450.00	194.15	0.19	2317.80	12.00	8.00	22.50	2317.80	0.44
		6-5	15.00	322.41	154.19	149.08	148.41	670.00	173.33	0.17	3865.46	15.00	7.00	23.00	3865.46	0.74
		6-6	18.00	335.64	154.61	152.22	151.17	1050.00	183.42	0.18	5724.57	18.00	7.00	25.71	5724.57	1.23
		6-7	21.00	350.74	156.42	151.96	150.94	1020.00	198.78	0.20	5131.30	21.00	13.00	25.54	5131.30	1.09
										AVG =	4013.55	30.00	0.00	5.00	5131.30	0.21
										4013.55				Total Solids Lost:		5.42

18-Jun-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.05 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	681	0.18	0.18	0.18
2-2	2.00	681	0.09	0.09	0.26
2-3	3.00	560	0.10	0.10	0.36
2-4	4.00	560	0.11	0.11	0.47
2-5	5.00	424	0.12	0.12	0.59
2-6	6.00	424	0.14	0.14	0.73
2-7	7.00	303	0.17	0.17	0.90
2-8	8.00	303	0.20	0.20	1.09
2-9	9.00	303	0.20	0.20	1.29
2-10	10.00	303	0.20	0.20	1.49
2-11	11.00	273	0.21	0.21	1.70
2-12	12.00	273	0.22	0.22	1.92
2-13	13.00	257	0.23	0.23	2.15
2-14	14.00	257	0.23	0.23	2.38
2-15	15.00	242	0.24	0.24	2.62
2-16	16.00	121	0.33	0.33	2.95
2-17	17.00	91	0.57	0.57	3.52
2-18	18.00	76	0.72	0.72	4.24
2-19	19.00	61	0.88	0.88	5.12
2-20	20.00	45	1.13	1.13	6.25
2-21	21.00	212	0.47	0.47	6.71
2-end	22.00	0	0.66	0.66	7.38
					7.38
					Total Collected Runoff (approx)

4.02 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	43	2.79	2.79	2.79
4-2	2	35	1.54	1.54	4.33
4-3	3	29	1.87	1.87	6.20
4-4	4	27	2.14	2.14	8.35
4-5	5	26	2.26	2.26	10.61
4-6	6	22	2.50	2.50	13.11
4-7	7	18	3.00	3.00	16.11
4-8	8	16	3.53	3.53	19.64
4-9	9	16	3.75	3.75	23.39
4-10	10	15	3.87	3.87	27.26
4-11	11	15	4.00	4.00	31.26
4-12	12	14	4.14	4.14	35.40
4-13	13	13	4.44	4.44	39.84
4-14	14	13	4.61	4.61	44.45
4-15	15	13	4.61	4.61	49.07
4-16	16	13	4.61	4.61	53.68
4-17	17	12	4.80	4.80	58.48
4-18	18	12	5.00	5.00	63.48
4-19	19	12	5.00	5.00	68.48
4-20	20	12	5.00	5.00	73.48
4-21	21	18	4.00	4.00	77.48
4-end	23.00	0	2.50	2.50	79.98
					79.98
					Total Collected Runoff (approx)

6.00 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	50	2.40	2.40	2.40
6-2	2	21	1.69	1.69	4.09
6-3	3	9	4.00	4.00	8.09
6-4	4	9	6.67	6.67	14.76
6-5	5	9	6.67	6.67	21.42
6-6	6	9	6.67	6.67	28.09
6-7	7	9	6.67	6.67	34.75
6-8	8	8	7.06	7.06	41.81
6-9	9	8	7.50	7.50	49.31
6-10	10	8	7.50	7.50	56.81
6-11	11	8	7.50	7.50	64.31
6-12	12	8	7.50	7.50	71.81
6-13	13	8	7.50	7.50	79.31
6-14	14	8	7.50	7.50	86.81
6-15	15	7	8.00	8.00	94.81
6-16	16	7	8.57	8.57	103.38
6-17	17	7	8.57	8.57	111.95
6-18	18	7	8.57	8.57	120.52
6-19	19	6	9.23	9.23	129.75
6-20	20	6	10.00	10.00	139.75
6-21	21	13	6.32	6.32	146.06
6-end	30.00	0	5.00	5.00	151.06
					151.06
					Total Collected Runoff (approx)

18-Jun-12

Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.09 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	454	0.26	0.26	0.26
2-2	2.00	424	0.14	0.14	0.40
2-3	3.00	394	0.15	0.15	0.55
2-4	4.00	379	0.16	0.16	0.70
2-5	5.00	257	0.19	0.19	0.89
2-6	6.00	182	0.27	0.27	1.16
2-7	7.00	136	0.38	0.38	1.54
2-8	8.00	121	0.47	0.47	2.01
2-9	9.00	121	0.50	0.50	2.50
2-10	10.00	121	0.50	0.50	3.00
2-11	11.00	121	0.50	0.50	3.49
2-12	12.00	106	0.53	0.53	4.02
2-13	13.00	106	0.57	0.57	4.59
2-14	14.00	91	0.61	0.61	5.20
2-15	15.00	76	0.72	0.72	5.92
2-16	16.00	76	0.79	0.79	6.71
2-17	17.00	76	0.79	0.79	7.50
2-18	18.00	76	0.79	0.79	8.30
2-19	19.00	76	0.79	0.79	9.09
2-20	20.00	76	0.79	0.79	9.88
2-21	21.00	227	0.40	0.40	10.28
2-end	22.00	0	0.40	0.40	10.67
					10.67
					Total Collected Runoff (approx)

3.96 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	136	0.88	0.88	0.88
4-2	2	34	0.70	0.70	1.59
4-3	3	27	1.97	1.97	3.55
4-4	4	22	2.45	2.45	6.00
4-5	5	17	3.08	3.08	9.08
4-6	6	17	3.53	3.53	12.61
4-7	7	16	3.64	3.64	16.24
4-8	8	16	3.75	3.75	19.99
4-9	9	16	3.75	3.75	23.74
4-10	10	16	3.75	3.75	27.49
4-11	11	15	3.87	3.87	31.36
4-12	12	15	4.00	4.00	35.36
4-13	13	15	4.00	4.00	39.36
4-14	14	15	4.00	4.00	43.36
4-15	15	14	4.14	4.14	47.50
4-16	16	14	4.29	4.29	51.78
4-17	17	14	4.29	4.29	56.07
4-18	18	14	4.29	4.29	60.35
4-19	19	13	4.44	4.44	64.80
4-20	20	13	4.61	4.61	69.41
4-21	21	22	3.43	3.43	72.84
4-end	23	0	2.31	2.31	75.15
					75.15
					Total Collected Runoff (approx)

6.04 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	28	4.29	4.29	4.29
6-2	2	12	3.00	3.00	7.28
6-3	3	11	5.22	5.22	12.50
6-4	4	9	6.00	6.00	18.50
6-5	5	9	6.67	6.67	25.17
6-6	6	9	6.67	6.67	31.83
6-7	7	9	6.67	6.67	38.50
6-8	8	9	6.67	6.67	45.16
6-9	9	9	6.67	6.67	51.83
6-10	10	9	6.67	6.67	58.50
6-11	11	8	7.06	7.06	65.55
6-12	12	8	7.50	7.50	73.05
6-13	13	8	7.50	7.50	80.55
6-14	14	8	7.50	7.50	88.05
6-15	15	8	7.50	7.50	95.55
6-16	16	7	8.00	8.00	103.55
6-17	17	7	8.57	8.57	112.12
6-18	18	7	8.57	8.57	120.69
6-19	19	7	8.57	8.57	129.26
6-20	20	7	8.57	8.57	137.83
6-21	21	15	5.45	5.45	143.29
6-end	30	0	4.29	4.29	147.57
					147.57
					Total Collected Runoff (approx)

20-Jun-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.07 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	651	0.18	0.18	0.18
2-2	2.00	560	0.10	0.10	0.28
2-3	3.00	469	0.12	0.12	0.40
2-4	4.00	409	0.14	0.14	0.54
2-5	5.00	379	0.15	0.15	0.69
2-6	6.00	379	0.16	0.16	0.85
2-7	7.00	379	0.16	0.16	1.01
2-8	8.00	363	0.16	0.16	1.17
2-9	9.00	318	0.18	0.18	1.34
2-10	10.00	318	0.19	0.19	1.53
2-11	11.00	288	0.20	0.20	1.73
2-12	12.00	167	0.26	0.26	1.99
2-13	13.00	136	0.40	0.40	2.39
2-14	14.00	106	0.50	0.50	2.89
2-15	15.00	91	0.61	0.61	3.50
2-16	16.00	76	0.72	0.72	4.22
2-17	17.00	76	0.79	0.79	5.01
2-18	18.00	76	0.79	0.79	5.80
2-19	19.00	45	0.99	0.99	6.79
2-20	20.00	45	1.32	1.32	8.11
2-21	21.00	197	0.50	0.50	8.61
2-end	22.00	0	0.66	0.66	9.27
					9.27
				Total Collected Runoff (approx)	

4.00 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	121	0.99	0.99	0.99
4-2	2	28	0.80	0.80	1.80
4-3	3	23	2.35	2.35	4.15
4-4	4	17	3.00	3.00	7.15
4-5	5	17	3.53	3.53	10.68
4-6	6	17	3.53	3.53	14.21
4-7	7	17	3.53	3.53	17.73
4-8	8	15	3.75	3.75	21.48
4-9	9	15	4.00	4.00	25.48
4-10	10	15	4.00	4.00	29.48
4-11	11	14	4.14	4.14	33.62
4-12	12	14	4.29	4.29	37.91
4-13	13	14	4.29	4.29	42.19
4-14	14	13	4.44	4.44	46.64
4-15	15	13	4.61	4.61	51.25
4-16	16	13	4.61	4.61	55.87
4-17	17	12	4.80	4.80	60.66
4-18	18	12	5.00	5.00	65.66
4-19	19	12	5.00	5.00	70.66
4-20	20	12	5.00	5.00	75.66
4-21	21	22	3.53	3.53	79.19
4-end	24	0	2.50	2.50	81.69
					81.69
				Total Collected Runoff (approx)	

5.98 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	27	4.44	4.44	4.44
6-2	2	9	3.33	3.33	7.78
6-3	3	9	6.67	6.67	14.44
6-4	4	9	6.67	6.67	21.11
6-5	5	9	6.67	6.67	27.77
6-6	6	9	6.67	6.67	34.44
6-7	7	9	6.67	6.67	41.11
6-8	8	9	6.67	6.67	47.77
6-9	9	8	7.06	7.06	54.83
6-10	10	8	7.50	7.50	62.33
6-11	11	8	7.50	7.50	69.83
6-12	12	8	7.50	7.50	77.33
6-13	13	8	7.50	7.50	84.83
6-14	14	7	8.00	8.00	92.83
6-15	15	8	8.00	8.00	100.83
6-16	16	7	8.00	8.00	108.82
6-17	17	7	8.57	8.57	117.40
6-18	18	7	8.57	8.57	125.97
6-19	19	7	8.57	8.57	134.54
6-20	20	7	8.57	8.57	143.11
6-21	21	19	4.61	4.61	147.72
6-end	30	0	4.29	4.29	152.01
					152.01
				Total Collected Runoff (approx)	

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	18-Jun-12	18-Jun-12	20-Jun-12
Avg Moisture Content:	23.26%	23.10%	22.10%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	261.24	261.82	255.29
Wt. Of cup + dry soil, g	252.79	253.21	248.66
Wt. Of cup, g	217.07	216.59	217.07
Wt. Of dry soil, g	35.72	36.62	31.59
Wt. Of water, g	8.45	8.61	6.63
Water Content, w%	23.7%	23.5%	21.0%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	266.75	258.13	255.86
Wt. Of cup + dry soil, g	257.28	250.55	248.73
Wt. Of cup, g	216.97	216.54	216.97
Wt. Of dry soil, g	40.31	34.01	31.76
Wt. Of water, g	9.47	7.58	7.13
Water Content, w%	23.5%	22.3%	22.4%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	249.39	265.24	257.97
Wt. Of cup + dry soil, g	243.43	255.98	250.36
Wt. Of cup, g	217.08	216.59	217.08
Wt. Of dry soil, g	26.35	39.39	33.28
Wt. Of water, g	5.96	9.26	7.61
Water Content, w%	22.6%	23.5%	22.9%

Soil Loss Data

Slope No.	1	2	3
Test Date:	18-Jun-12	18-Jun-12	20-Jun-12
Total Soil Loss	7.66	8.48	8.92

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	9.1	81.7	122.6
Sub-Sample	Wt. Of cup + wet soil, g	9.1	81.7
	Wt. Of cup + dry soil, g	9.1	81.7
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	9.1	81.7
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.020	0.180	0.270

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	1107.8	1316.6	1289.4
Sub-Sample	Wt. Of cup + wet soil, g	1107.8	1316.6
	Wt. Of cup + dry soil, g	1107.8	1316.6
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	1107.8	1316.6
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	2.440	2.900	2.840

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	2360.8	2451.6	2637.7
Sub-Sample	Wt. Of cup + wet soil, g	2360.8	2451.6
	Wt. Of cup + dry soil, g	2360.8	2451.6
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	2360.8	2451.6
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	5.200	5.400	5.810



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 25-Jul-12 24-Jul-12 27-Jul-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: GFG-B

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.17	5.88	7.60	0.200	0.020
	4.07	54.72	54.01	2.521	0.274
	6.20	152.88	173.89	3.700	0.647
Bare Soil Controls			7.60		0.964
			54.01		6.849
			173.89		22.050

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.13	4.57	7.31	0.113	0.011
	4.02	60.55	52.30	1.210	0.133
	5.93	148.72	162.30	2.980	0.434
Bare Soil Controls			7.31		0.927
			52.30		6.631
			162.30		20.580

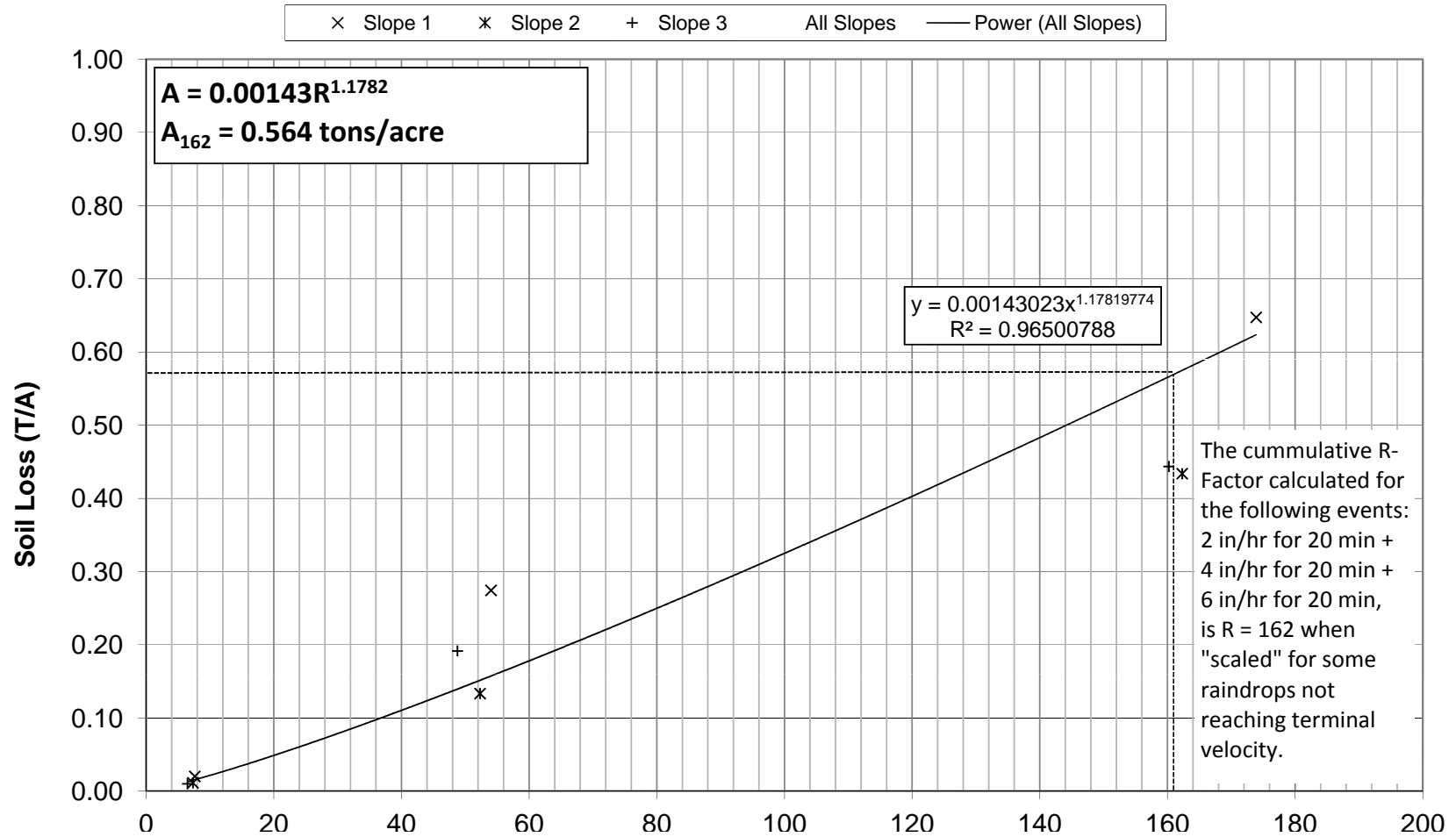
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.01	5.67	6.47	0.100	0.010
	3.92	61.95	48.76	1.800	0.192
	5.98	143.61	160.21	2.500	0.444
Bare Soil Controls			6.47		0.820
			48.76		6.182
			160.21		20.315

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)

 Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)





TYPICAL TESTING PICTURES



Test Slope Prepared and Fence Installed



After 2 in/hr Event



After 4 in/hr Event



After 6 in/hr Event



Typical Control Run - Before and After

DDRF Rainfall Testing

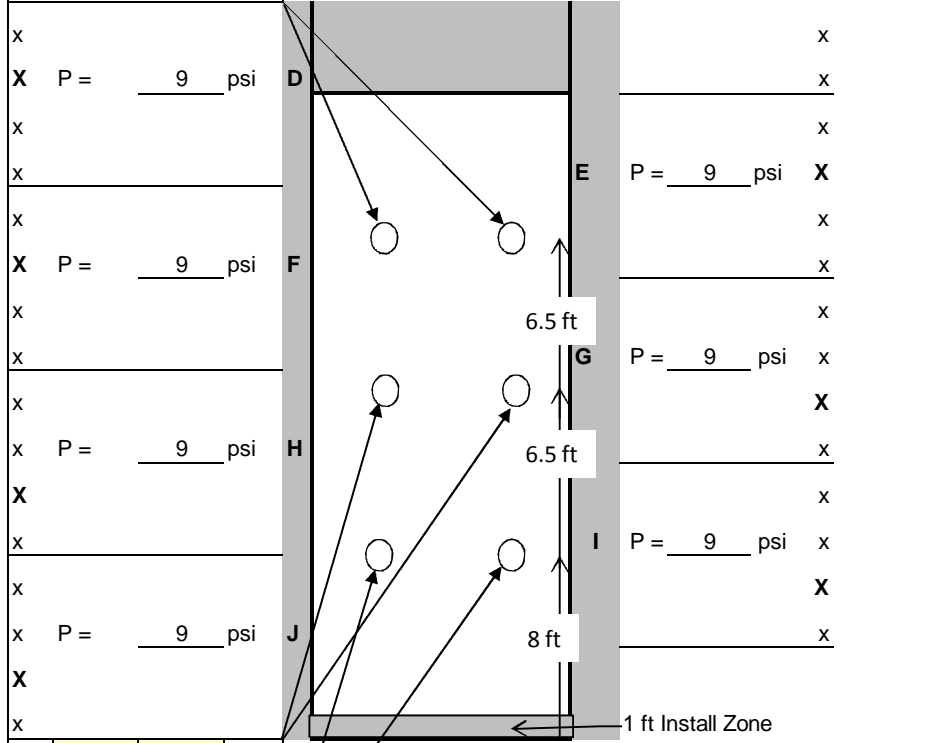
Slope #: 1	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date:	25-Jul-12	Start Rain:	7:15 AM	End Rain:	7:35 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
		Sampling interval:	0:03	End Runoff:	7:37 AM	7:18	X	X
		Rain Time (min):	20.00	Test Time (min):	22.00	7:21	X	X
Product:	GFG-B	Descr.:	GeoFabrics Type B Silt Fence			7:24	X	X
Lot #:		Posts:	Wood	Spacing:	6-ft	7:27	X	X
						7:30	X	X
						7:33	X	X
						7:36	X	X

w_{c1} = 23.2%

d = 17 17 mm

i = 2.01 2.01 in/hr



Runoff Rate Measurements		
Min.	Volume	Seconds
1	25	60
2	250	35
3	250	35
4	250	35
5	250	31
6	250	32
7	250	30
8	250	22
9	250	25
10	250	23
11	250	14
12	250	15
13	250	9
14	250	8
15	250	8
16	250	8
17	250	8
18	250	8
19	250	8
20	250	8
21	250	22
22	250	0

d = 18 19 mm

i = 2.13 2.24 in/hr

w_{c2} = 22.5%

d = 19 20 mm

i = 2.24 2.36 in/hr

w_{c3} = 21.7%

Average Depth: 18 mm

Avg Rainfall Intensity: 2.17 in/hr

P = 9 psi

Temp. 74 deg

Hum. 93 %

NOTES:
 Wind: 0 mph. Direction: E
 Approx 5 gallons collected.

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 4 in/hr**

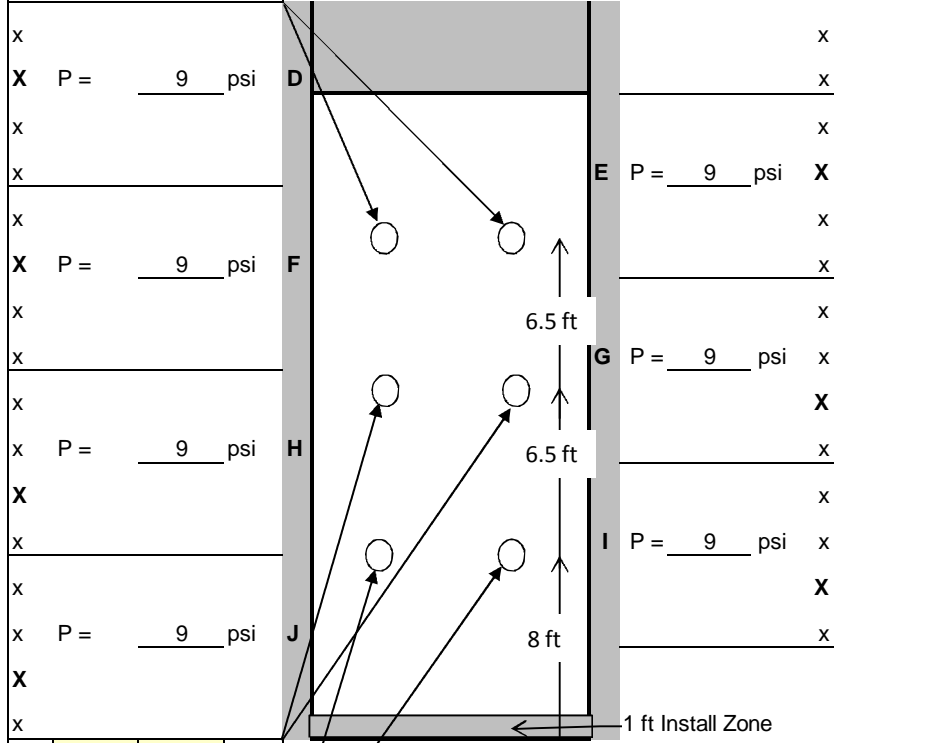
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	25-Jul-12	Start Rain: 7:44 AM	End Rain: 8:04 AM	7:47	X	X
		Sampling interval: 0:03	End Runoff: 8:07 AM	7:50	X	X
		Rain Time (min): 20.00	Test Time (min): 23.00	7:53	X	X
Product:	GFG-B	Descr.: GeoFabrics Type B Silt Fence		7:56	X	X
Lot #:		Posts: Wood	Spacing: 6-ft	7:59	X	X
TOP OF SLOPE				8:02	X	X
(circle "x" for open valves)				8:05	X	X

w_{c1} = 23.2%

d = 34 34 mm

i = 4.02 4.02 in/hr



Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	3785	45
2	3785	29
3	3785	27
4	3785	24
5	3785	23
6	3785	23
7	3785	23
8	3785	23
9	3785	23
10	3785	23
11	3785	23
12	3785	23
13	3785	22
14	3785	22
15	3785	22
16	3785	22
17	3785	22
18	3785	21
19	3785	21
20	3785	21
21	3785	53
23	3785	0

d = 36 33 mm

i = 4.25 3.90 in/hr

P = 9 psi Temp. 74 deg

w_{c2} = 22.5%

Hum. 93 %

d = 34 36 mm

i = 4.02 4.25 in/hr

w_{c3} = 21.7%

Average Depth: 35 mm

Avg Rainfall Intensity: 4.07 in/hr

NOTES:
 Wind: 0 mph. Direction: E
 Approx 50 gallons collected.

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	25-Jul-12	Start Rain:	8:12 AM	End Rain:	8:32 AM	8:15	X	X
		Sampling interval:	0:03	End Runoff:	8:42 AM	8:18	X	X
		Rain Time (min):	20.00	Test Time (min):	30.00	8:21	X	X
Product:	GFG-B	Descr.:	GeoFabrics Type B Silt Fence		8:24	X	X	
Lot #:		Posts:	Wood	Spacing:	6-ft	8:27	X	X
TOP OF SLOPE				8:30	X	X		
(circle "x" for open valves)				8:33	X	X		

w_{c1} = 23.2%

d = 52 53 mm

i = 6.14 6.26 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x

x P = 9 psi

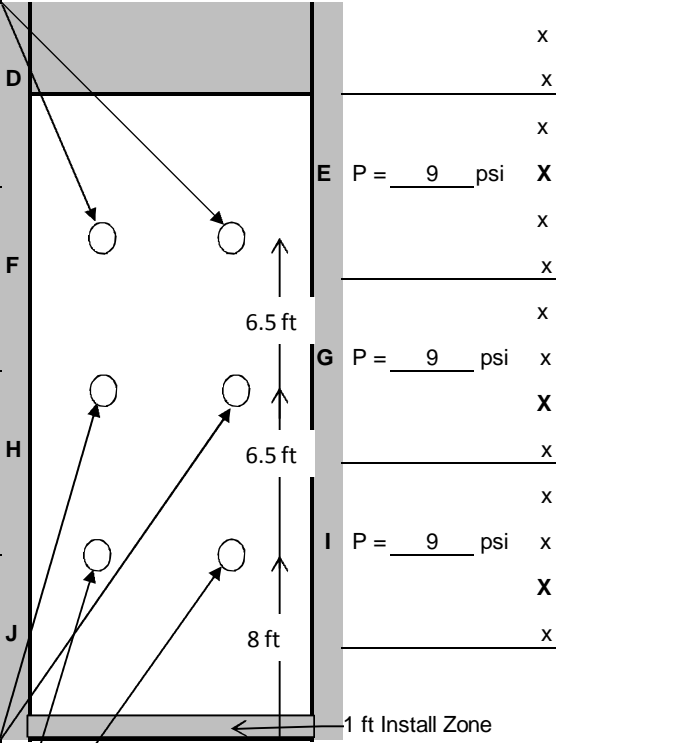
X

x

x P = 9 psi

X

x



Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	20
2	3785	11
3	3785	9
4	3785	9
5	3785	9
6	3785	8
7	3785	8
8	3785	8
9	3785	8
10	3785	8
11	3785	8
12	3785	8
13	3785	8
14	3785	8
15	3785	8
16	3785	8
17	3785	7
18	3785	7
19	3785	7
20	3785	7
21	3785	26
30	3785	0

d = 52 53 mm

i = 6.14 6.26 in/hr

w_{c2} = 22.5%

d = 54 51 51

i = 6.38 6.02 in/hr

w_{c3} = 21.7%

x x X x

P = 9 psi Temp. 76 deg

Hum. 90 %

Average Depth: 53 mm

Avg Rainfall Intensity: 6.20 in/hr

NOTES:
 Wind: 0-1 mph. Direction: N
 Approx 150 gallons collected.

DDRF Rainfall Testing					Sediment Concentration & Turbidity Grab Samples		
Slope #: <u>2</u>		Target Rain: <u>2 in/hr</u>			Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	<u>24-Jul-12</u>	Start Rain: <u>7:15 AM</u>	End Rain: <u>7:35 AM</u>		7:18	X	X
		Sampling interval: <u>0:03</u>	End Runoff: <u>7:37 AM</u>		7:21	X	X
		Rain Time (min): <u>20.00</u>	Test Time (min): <u>22.00</u>		7:24	X	X
Product:	<u>GFG-B</u>	Descr.: <u>GeoFabrics Type B Silt Fence</u>			7:27	X	X
Lot #:		Posts: <u>Wood</u>	Spacing: <u>6-ft</u>		7:30	X	X
TOP OF SLOPE					7:33	X	X
(circle "x" for open valves)				Set valves to 16 psi.	7:36	X	X
d = <u>20</u> <u>20</u> mm i = <u>2.36</u> <u>2.36</u> in/hr w _{c1} = <u>23.2%</u>					Runoff Rate Measurements Min. Volume Seconds		
					1	250	43
					2	250	41
					3	250	40
					4	250	37
					5	250	30
					6	250	30
					7	250	28
					8	250	25
					9	250	25
					10	250	23
					11	250	22
					12	250	20
					13	250	18
					14	250	15
					15	250	14
					16	250	13
					17	250	13
					18	250	12
					19	250	10
					20	250	10
					21	250	19
					22	250	0
d = <u>17</u> <u>18</u> mm i = <u>2.01</u> <u>2.13</u> in/hr w _{c2} = <u>22.5%</u>					P = <u>9</u> psi Temp. <u>76</u> deg Hum. <u>89</u> %		
d = <u>16</u> <u>17</u> mm i = <u>1.89</u> <u>2.01</u> in/hr w _{c3} = <u>21.7%</u>					Average Depth: 18 mm Avg Rainfall Intensity: 2.13 in/hr		

NOTES:

Wind: 0 mph. Direction: W
 Approx 5 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 4 in/hr**

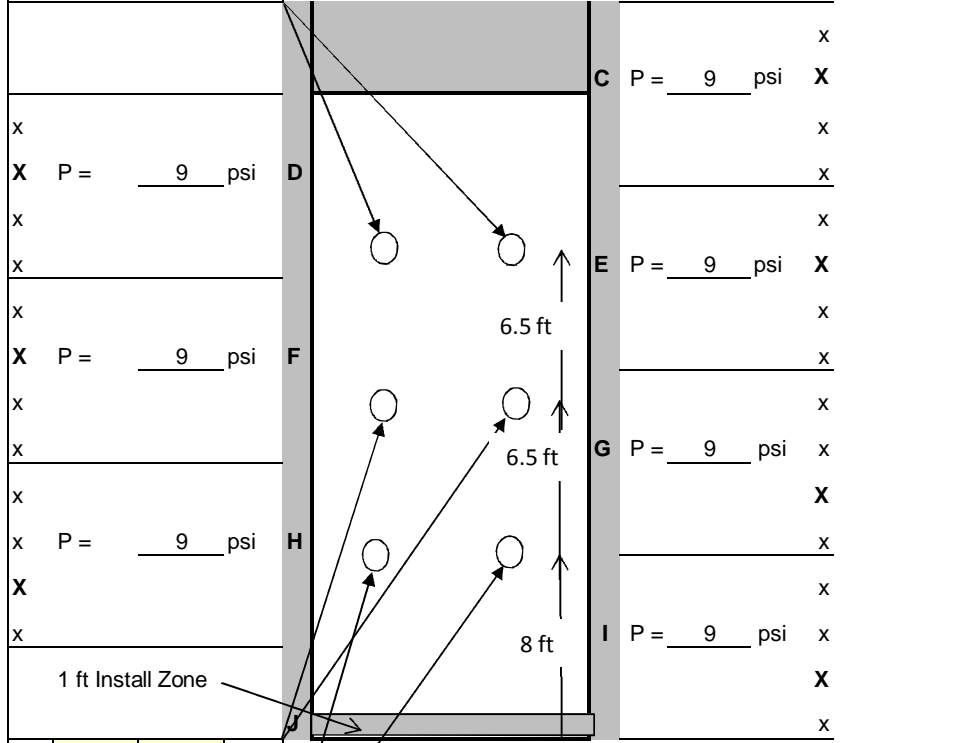
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken	
Date:	24-Jul-12	Start Rain: Sampling interval:	7:40 AM 0:03	End Rain:	8:00 AM	7:43 X	X
		End Runoff:	8:03 AM	7:46	X	X	
		Rain Time (min):	20.00	Test Time (min):	23.00	7:49	X
Product:	GFG-B	Descr.:	GeoFabrics Type B Silt Fence	7:52	X	X	
Lot #:		Posts:	Wood	Spacing:	6-ft	7:55	X
		TOP OF SLOPE		7:58	X	X	
$w_{c1} =$	23.2%	(circle "x" for open valves)		8:01	X	X	
				Set valves to 16 psi.			

d = 35 34 mm
i = 4.13 4.02 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	23
2	250	12
3	3785	35
4	3785	24
5	3785	24
6	3785	23
7	3785	22
8	3785	21
9	3785	21
10	3785	17
11	3785	17
12	3785	17
13	3785	21
14	3785	18
15	3785	17
16	3785	15
17	3785	15
18	3785	15
19	3785	15
20	3785	15
21	3785	35
23	3785	0



d = 32 36 mm
i = 3.78 4.25 in/hr

$w_{c2} =$ 22.5%

d = 35 32 mm
i = 4.13 3.78 in/hr

$w_{c3} =$ 21.7%

x x X x
P = 9 psi Temp. 76 deg
Hum. 87 %

Average Depth: 34 mm
Avg Rainfall Intensity: 4.02 in/hr

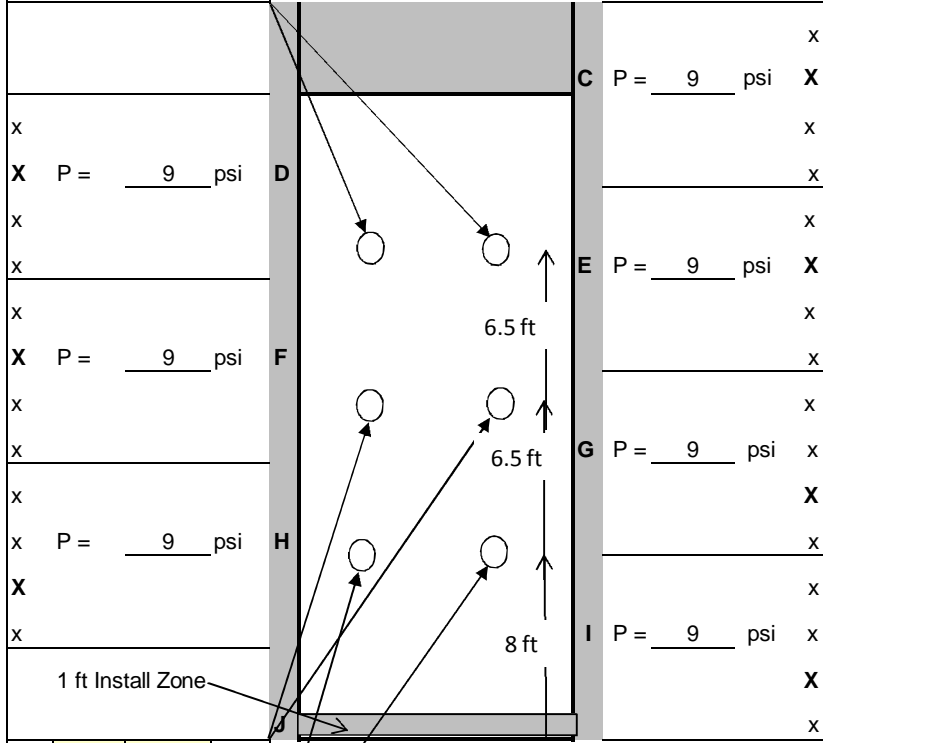
NOTES:
Wind: 0 mph. Direction: W
Approx 60 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples				
				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	24-Jul-12	Start Rain:	8:10 AM	End Rain:	8:30 AM	8:13	X	X
		Sampling interval:	0:03	End Runoff:	8:40 AM	8:16	X	X
		Rain Time (min):	20.00	Test Time (min):	30.00	8:19	X	X
Product:	GFG-B	Descr.:	GeoFabrics Type B Silt Fence		8:22	X	X	
Lot #:		Posts:	Wood	Spacing:	6-ft	8:25	X	X
TOP OF SLOPE				8:28	X	X		
(circle "x" for open valves)				8:31	X	X		
w _{c1} = 23.2%				Set valves to 16 psi.				

d = 52 51 mm
i = 6.14 6.02 in/hr



d = 49 50 mm
i = 5.79 5.91 in/hr
w_{c2} = 22.5%

x x X x
P = 9 psi Temp. 77 deg
Hum. 86 %

d = 50 49 mm
i = 5.91 5.79 in/hr
w_{c3} = 21.7%

Average Depth: 50 mm
Avg Rainfall Intensity: 5.93 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	21
2	3785	12
3	3785	8
4	3785	9
5	3785	7
6	3785	9
7	3785	7
8	3785	8
9	3785	8
10	3785	8
11	3785	7
12	3785	7
13	3785	8
14	3785	8
15	3785	9
16	3785	7
17	3785	7
18	3785	9
19	3785	9
20	3785	11
21	3785	33
30	3785	0

NOTES:
Wind: 0 mph. Direction: W
Approx 150 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 2 in/hr**

Sediment Concentration & Turbidity Grab Samples

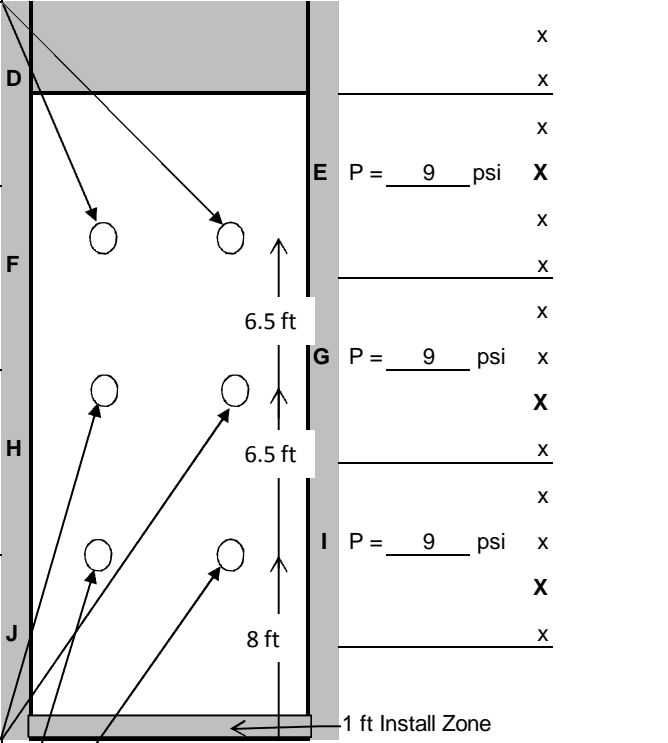
				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	27-Jul-12	Start Rain: 8:39 AM	End Rain: 8:59 AM	8:42	X	X
		Sampling interval: 0:03	End Runoff: 9:01 AM	8:45	X	X
		Rain Time (min): 20.00	Test Time (min): 22.00	8:48	X	X
Product:	GFG-B	Descr.: GeoFabrics Type B Silt Fence		8:51	X	X
Lot #:		Posts: Wood	Spacing: 6-ft	8:54	X	X
TOP OF SLOPE				8:57	X	X
(circle "x" for open valves)				9:00	X	X

w_{c1} = 23.2%

Set valves to 16 psi.

d = 17 17 mm
i = 2.01 2.01 in/hr

x
X P = 9 psi
x
x
x
X P = 9 psi
x
x
x
X P = 9 psi
x
x
x
X P = 9 psi
x
x
x
X



Runoff Rate Measurements

Min.	Volume	Seconds
1	250	60
2	250	60
3	250	42
4	250	40
5	250	34
6	250	32
7	250	30
8	250	26
9	250	24
10	250	20
11	250	13
12	250	10
13	250	9
14	250	9
15	250	10
16	250	12
17	250	9
18	250	10
19	250	8
20	250	8
21	250	22
22	250	0

d = 18 17 mm
i = 2.13 2.01 in/hr

w_{c2} = 19.1%

d = 16 17 mm
i = 1.89 2.01 in/hr

w_{c3} = 21.7%

x x X x
P = 9 psi Temp. 81 deg
Hum. 78 %

Average Depth: 17 mm
Avg Rainfall Intensity: 2.01 in/hr

NOTES: Test on Slope G2
Wind: 0-3 mph. Direction: W
Approx 5 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 4 in/hr**

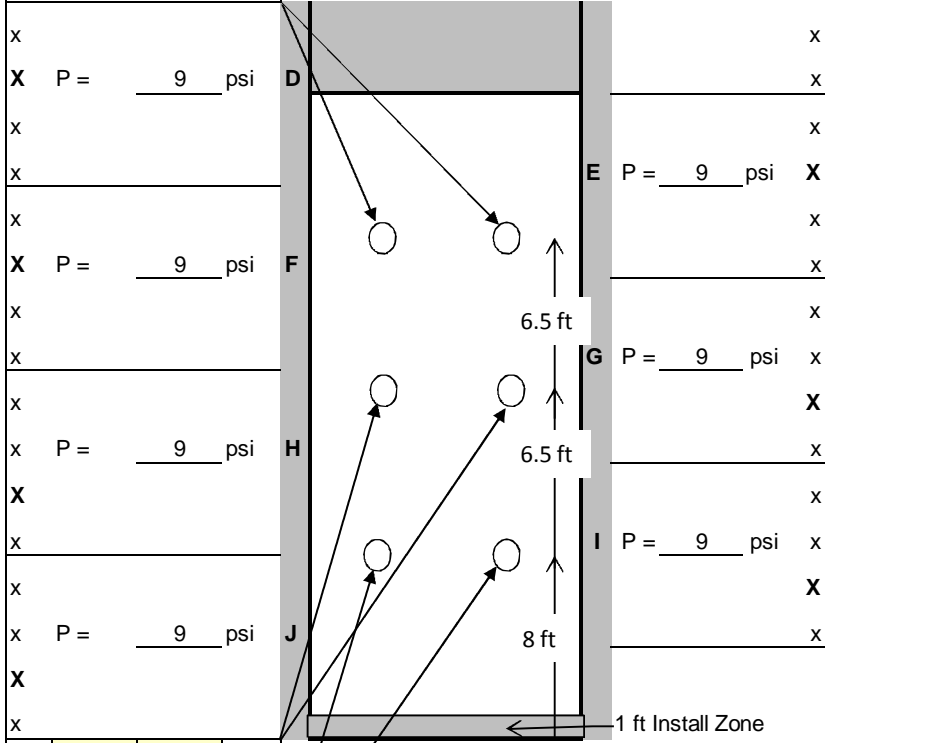
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	27-Jul-12	Start Rain: 9:06 AM	End Rain: 9:26 AM	9:09	X	X
		Sampling interval: 0:03	End Runoff: 9:29 AM	9:12	X	X
		Rain Time (min): 20.00	Test Time (min): 23.00	9:15	X	X
Product:	GFG-B	Descr.: GeoFabrics Type B Silt Fence		9:18	X	X
Lot #:		Posts: Wood	Spacing: 6-ft	9:21	X	X
		TOP OF SLOPE		9:24	X	X
$w_{c1} = 23.2\%$		(circle "x" for open valves)	Set valves to 16 psi.	9:27	X	X

d = 34 32 mm
i = 4.02 3.78 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	26
2	250	20
3	250	16
4	3785	36
5	3785	30
6	3785	30
7	3785	26
8	3785	22
9	3785	18
10	3785	16
11	3785	15
12	3785	16
13	3785	16
14	3785	15
15	3785	15
16	3785	15
17	3785	14
18	3785	14
19	3785	14
20	3785	14
21	3785	22
23	3785	0



d = 34 32 mm
i = 4.02 3.78 in/hr

$w_{c2} = 19.1\%$

d = 33 34 mm
i = 3.90 4.02 in/hr

$w_{c3} = 21.7\%$

x x X x
P = 9 psi Temp. 81 deg
Hum. 78 %

Average Depth: 33 mm
Avg Rainfall Intensity: 3.92 in/hr

NOTES:
Wind: 0-3 mph. Direction: W
Approx 60 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 6 in/hr**

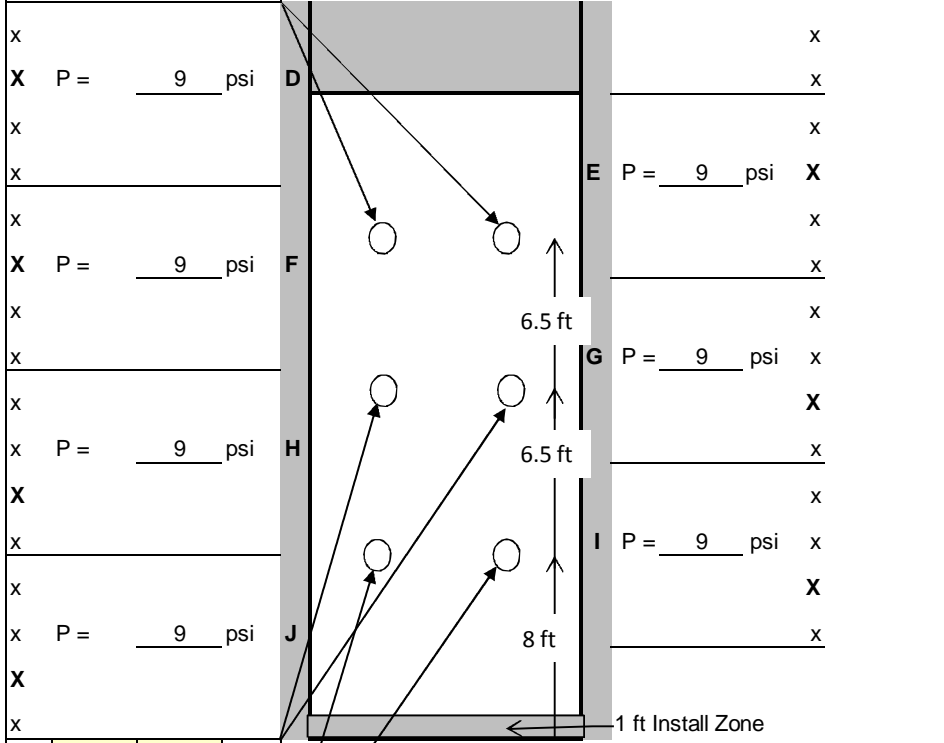
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	27-Jul-12	Start Rain: 9:30 AM	End Rain: 9:50 AM	9:33	X	X
		Sampling interval: 0:03	End Runoff: 10:00 AM	9:36	X	X
		Rain Time (min): 20.00	Test Time (min): 30.00	9:39	X	X
Product:	GFG-B	Descr.: GeoFabrics Type B Silt Fence		9:42	X	X
Lot #:		Posts: Wood	Spacing: 6-ft	9:45	X	X
		TOP OF SLOPE		9:48	X	X
$w_{c1} = 23.2\%$		(circle "x" for open valves)	Set valves to 16 psi.	9:51	X	X

d = 52 48 mm
i = 6.14 5.67 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	31
2	3785	26
3	3785	26
4	3785	10
5	3785	9
6	3785	10
7	3785	9
8	3785	10
9	3785	8
10	3785	8
11	3785	8
12	3785	9
13	3785	8
14	3785	8
15	3785	7
16	3785	7
17	3785	6
18	3785	6
19	3785	6
20	3785	7
21	3785	22
30	3785	0



d = 52 50 mm
i = 6.14 5.91 in/hr

$w_{c2} = 19.1\%$

d = 52 50 mm
i = 6.14 5.91 in/hr

$w_{c3} = 21.7\%$

x x X x
P = 9 psi Temp. 83 deg
Hum. 76 %

Average Depth: 51 mm
Avg Rainfall Intensity: 5.98 in/hr

NOTES:
Wind: 0-3 mph. Direction: W
Approx 145 gallons collected.

GFG-B GeoFabrics Type B Silt Fence

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	73.9
2	20	51
3	20	75.9

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	3077	2-1	3.00	500	2-1	3.00	590
2-2	6.00	2589	2-2	6.00	267	2-2	6.00	494
2-3	9.00	1897	2-3	9.00	275	2-3	9.00	655
2-4	12.00	3043	2-4	12.00	238	2-4	12.00	985
2-5	15.00	3066	2-5	15.00	214	2-5	15.00	1879
2-6	18.00	1453	2-6	18.00	690	2-6	18.00	1435
2-7	21.00	985	2-7	21.00	1506	2-7	21.00	1572
avg		2301	avg		527	avg		1087
4-1	3.00	3734	4-1	2.00	2744	4-1	2.00	1326
4-2	6.00	3202	4-2	4.00	3417	4-2	4.00	1693
4-3	9.00	2485	4-3	6.00	2640	4-3	6.00	2071
4-4	12.00	2304	4-4	8.00	2353	4-4	8.00	2403
4-5	15.00	2017	4-5	10.00	2868	4-5	10.00	2458
4-6	18.00	1693	4-6	12.00	2736	4-6	12.00	3220
4-7	21.00	1326	4-7	21.00	1942	4-7	21.00	3079
avg		2394	avg		2671	avg		2321
6-1	3.00	3167	6-1	3.00	3456	6-1	3.00	1353
6-2	6.00	3339	6-2	6.00	2356	6-2	6.00	1503
6-3	9.00	2982	6-3	9.00	2344	6-3	9.00	2151
6-4	12.00	2727	6-4	12.00	2596	6-4	12.00	2272
6-5	15.00	2150	6-5	15.00	2278	6-5	15.00	2928
6-6	18.00	1530	6-6	18.00	2304	6-6	18.00	1857
6-7	21.00	1354	6-7	21.00	1870	6-7	21.00	3176
avg		2464	avg		2458	avg		2177

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.17	in/hr	avg														
25-Jul-12		2-1	3.00	316.19	166.05	151.84	151.51	330.00	164.35	0.16	2007.91	3.00	529.96	0.14	2007.91	0.00
		2-2	6.00	320.71	165.08	151.06	150.82	240.00	169.65	0.17	1414.68	6.00	484.53	0.36	1414.68	0.00
		2-3	9.00	316.00	170.10	151.03	150.98	50.00	164.97	0.16	303.09	9.00	378.54	0.45	303.09	0.00
		2-4	12.00	319.90	162.71	149.48	147.28	2200.00	170.42	0.17	12909.28	12.00	227.12	0.65	12909.28	0.07
		2-5	15.00	349.27	185.72	151.16	150.73	430.00	198.11	0.20	2170.51	15.00	121.13	1.29	2170.51	0.02
		2-6	18.00	347.56	165.29	150.38	150.12	260.00	197.18	0.20	1318.59	18.00	121.13	1.49	1318.59	0.02
		2-7	21.00	251.80	162.22	150.74	150.21	530.00	101.06	0.10	5244.41	21.00	333.12	1.25	5244.41	0.05
										AVG =	3624.07	22.00	0	0.25	5244.41	0.01
4.07	in/hr	avg									3624.07			Total Solids Lost:		0.18
25-Jul-12		4-1	3.00	337.07	174.06	150.24	149.32	920.00	186.83	0.19	4924.26	3.00	27.00	6.43	4924.26	0.26
		4-2	6.00	342.02	168.05	152.73	151.34	1390.00	189.29	0.19	7343.23	6.00	23.00	7.51	7343.23	0.46
		4-3	9.00	349.47	165.61	151.55	150.15	1400.00	197.92	0.20	7073.57	9.00	23.00	7.83	7073.57	0.46
		4-4	12.00	298.81	171.41	150.85	150.75	100.00	147.96	0.15	675.86	12.00	23.00	7.83	675.86	0.04
		4-5	15.00	332.42	163.58	149.60	149.48	120.00	182.82	0.18	656.38	15.00	22.00	8.12	656.38	0.04
		4-6	18.00	324.99	170.57	150.27	147.98	2290.00	174.72	0.17	13106.68	18.00	21.00	8.24	13106.68	0.90
		4-7	21.00	321.74	179.70	148.96	148.08	880.00	172.78	0.17	5093.18	21.00	53.01	7.34	5093.18	0.31
										AVG =	5553.31	23.00	0.00	1.43	5093.18	0.06
6.20	in/hr	avg									5553.31			Total Solids Lost:		2.55
25-Jul-12		6-1	3.00	292.45	171.18	151.68	151.38	300.00	140.77	0.14	2131.14	3.00	9.00	15.87	2131.14	0.28
		6-2	6.00	374.15	187.71	148.47	147.68	790.00	225.68	0.23	3500.53	6.00	8.00	20.39	3500.53	0.60
		6-3	9.00	313.32	179.95	149.28	148.93	350.00	164.04	0.16	2133.63	9.00	8.00	22.50	2133.63	0.40
		6-4	12.00	305.19	160.94	151.15	150.54	610.00	154.04	0.15	3960.01	12.00	8.00	22.50	3960.01	0.74
		6-5	15.00	299.33	165.12	150.69	150.20	490.00	148.64	0.15	3296.56	15.00	8.00	22.50	3296.56	0.62
		6-6	18.00	354.49	177.88	149.90	149.44	460.00	204.59	0.20	2248.40	18.00	7.00	24.07	2248.40	0.45
		6-7	21.00	334.13	170.66	150.18	149.68	500.00	183.95	0.18	2718.13	21.00	26.00	20.78	2718.13	0.47
										AVG =	2855.48	30.00	0.00	4.29	2718.13	0.10
										2855.48				Total Solids Lost:		3.66

25-Jul-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.17 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	9085	0.01	0.01	0.01
2-2	2.00	530	0.01	0.01	0.03
2-3	3.00	530	0.11	0.11	0.14
2-4	4.00	530	0.11	0.11	0.25
2-5	5.00	469	0.12	0.12	0.37
2-6	6.00	485	0.13	0.13	0.50
2-7	7.00	454	0.13	0.13	0.63
2-8	8.00	333	0.15	0.15	0.78
2-9	9.00	379	0.17	0.17	0.95
2-10	10.00	348	0.17	0.17	1.11
2-11	11.00	212	0.21	0.21	1.33
2-12	12.00	227	0.27	0.27	1.60
2-13	13.00	136	0.33	0.33	1.93
2-14	14.00	121	0.47	0.47	2.40
2-15	15.00	121	0.50	0.50	2.89
2-16	16.00	121	0.50	0.50	3.39
2-17	17.00	121	0.50	0.50	3.88
2-18	18.00	121	0.50	0.50	4.38
2-19	19.00	121	0.50	0.50	4.87
2-20	20.00	121	0.50	0.50	5.37
2-21	21.00	333	0.26	0.26	5.63
2-end	22.00	0	0.25	0.25	5.88
					5.88
					Total Collected Runoff (approx)

4.07 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	45	2.67	2.67	2.67
4-2	2	29	1.62	1.62	4.29
4-3	3	27	2.14	2.14	6.43
4-4	4	24	2.35	2.35	8.78
4-5	5	23	2.55	2.55	11.34
4-6	6	23	2.61	2.61	13.94
4-7	7	23	2.61	2.61	16.55
4-8	8	23	2.61	2.61	19.16
4-9	9	23	2.61	2.61	21.77
4-10	10	23	2.61	2.61	24.38
4-11	11	23	2.61	2.61	26.99
4-12	12	23	2.61	2.61	29.59
4-13	13	22	2.67	2.67	32.26
4-14	14	22	2.73	2.73	34.99
4-15	15	22	2.73	2.73	37.72
4-16	16	22	2.73	2.73	40.44
4-17	17	22	2.73	2.73	43.17
4-18	18	21	2.79	2.79	45.96
4-19	19	21	2.86	2.86	48.82
4-20	20	21	2.86	2.86	51.67
4-21	21	53	1.62	1.62	53.29
4-end	23.00	0	1.43	1.43	54.72
					54.72
					Total Collected Runoff (approx)

6.20 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	20	6.00	6.00	6.00
6-2	2	11	3.87	3.87	9.87
6-3	3	9	6.00	6.00	15.87
6-4	4	9	6.67	6.67	22.54
6-5	5	9	6.67	6.67	29.20
6-6	6	8	7.06	7.06	36.26
6-7	7	8	7.50	7.50	43.76
6-8	8	8	7.50	7.50	51.26
6-9	9	8	7.50	7.50	58.76
6-10	10	8	7.50	7.50	66.26
6-11	11	8	7.50	7.50	73.76
6-12	12	8	7.50	7.50	81.25
6-13	13	8	7.50	7.50	88.75
6-14	14	8	7.50	7.50	96.25
6-15	15	8	7.50	7.50	103.75
6-16	16	8	7.50	7.50	111.25
6-17	17	7	8.00	8.00	119.25
6-18	18	7	8.57	8.57	127.82
6-19	19	7	8.57	8.57	136.39
6-20	20	7	8.57	8.57	144.96
6-21	21	26	3.64	3.64	148.60
6-end	30.00	0	4.29	4.29	152.88
					152.88
					Total Collected Runoff (approx)

24-Jul-12
Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.13 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	651	0.18	0.18	0.18
2-2	2.00	621	0.09	0.09	0.28
2-3	3.00	606	0.10	0.10	0.38
2-4	4.00	560	0.10	0.10	0.48
2-5	5.00	454	0.12	0.12	0.60
2-6	6.00	454	0.13	0.13	0.73
2-7	7.00	424	0.14	0.14	0.87
2-8	8.00	379	0.15	0.15	1.02
2-9	9.00	379	0.16	0.16	1.17
2-10	10.00	348	0.17	0.17	1.34
2-11	11.00	333	0.18	0.18	1.52
2-12	12.00	303	0.19	0.19	1.70
2-13	13.00	273	0.21	0.21	1.91
2-14	14.00	227	0.24	0.24	2.15
2-15	15.00	212	0.27	0.27	2.43
2-16	16.00	197	0.29	0.29	2.72
2-17	17.00	197	0.30	0.30	3.02
2-18	18.00	182	0.32	0.32	3.34
2-19	19.00	151	0.36	0.36	3.70
2-20	20.00	151	0.40	0.40	4.10
2-21	21.00	288	0.27	0.27	4.37
2-end	22.00	0	0.20	0.20	4.57
					4.57
					Total Collected Runoff (approx)

4.02 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	348	0.34	0.34	0.34
4-2	2	182	0.23	0.23	0.57
4-3	3	35	0.55	0.55	1.12
4-4	4	24	2.03	2.03	3.16
4-5	5	24	2.50	2.50	5.66
4-6	6	23	2.55	2.55	8.21
4-7	7	22	2.67	2.67	10.88
4-8	8	21	2.79	2.79	13.67
4-9	9	21	2.86	2.86	16.52
4-10	10	17	3.16	3.16	19.68
4-11	11	17	3.53	3.53	23.21
4-12	12	17	3.53	3.53	26.74
4-13	13	21	3.16	3.16	29.90
4-14	14	18	3.08	3.08	32.97
4-15	15	17	3.43	3.43	36.40
4-16	16	15	3.75	3.75	40.15
4-17	17	15	4.00	4.00	44.15
4-18	18	15	4.00	4.00	48.15
4-19	19	15	4.00	4.00	52.15
4-20	20	15	4.00	4.00	56.15
4-21	21	35	2.40	2.40	58.55
4-end	23	0	2.00	2.00	60.55
					60.55
					Total Collected Runoff (approx)

5.93 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	21	5.71	5.71	5.71
6-2	2	12	3.64	3.64	9.35
6-3	3	8	6.00	6.00	15.35
6-4	4	9	7.06	7.06	22.41
6-5	5	7	7.50	7.50	29.91
6-6	6	9	7.50	7.50	37.41
6-7	7	7	7.50	7.50	44.90
6-8	8	8	8.00	8.00	52.90
6-9	9	8	7.50	7.50	60.40
6-10	10	8	7.50	7.50	67.90
6-11	11	7	8.00	8.00	75.90
6-12	12	7	8.57	8.57	84.47
6-13	13	8	8.00	8.00	92.47
6-14	14	8	7.50	7.50	99.97
6-15	15	9	7.06	7.06	107.03
6-16	16	7	7.50	7.50	114.53
6-17	17	7	8.57	8.57	123.10
6-18	18	9	7.50	7.50	130.60
6-19	19	9	6.67	6.67	137.26
6-20	20	11	6.00	6.00	143.26
6-21	21	33	2.73	2.73	145.99
6-end	30	0	2.73	2.73	148.72
					148.72
					Total Collected Runoff (approx)

27-Jul-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.01 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	908	0.13	0.13	0.13
2-2	2.00	908	0.07	0.07	0.20
2-3	3.00	636	0.08	0.08	0.28
2-4	4.00	606	0.10	0.10	0.37
2-5	5.00	515	0.11	0.11	0.48
2-6	6.00	485	0.12	0.12	0.60
2-7	7.00	454	0.13	0.13	0.73
2-8	8.00	394	0.14	0.14	0.87
2-9	9.00	363	0.16	0.16	1.03
2-10	10.00	303	0.18	0.18	1.21
2-11	11.00	197	0.24	0.24	1.45
2-12	12.00	151	0.34	0.34	1.79
2-13	13.00	136	0.42	0.42	2.21
2-14	14.00	136	0.44	0.44	2.65
2-15	15.00	151	0.42	0.42	3.07
2-16	16.00	182	0.36	0.36	3.43
2-17	17.00	136	0.38	0.38	3.80
2-18	18.00	151	0.42	0.42	4.22
2-19	19.00	121	0.44	0.44	4.66
2-20	20.00	121	0.50	0.50	5.16
2-21	21.00	333	0.26	0.26	5.42
2-end	22.00	0	0.25	0.25	5.67
					5.67
					Total Collected Runoff (approx)

3.92 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	394	0.30	0.30	0.30
4-2	2	303	0.17	0.17	0.48
4-3	3	242	0.22	0.22	0.70
4-4	4	36	0.43	0.43	1.13
4-5	5	30	1.82	1.82	2.95
4-6	6	30	2.00	2.00	4.95
4-7	7	26	2.14	2.14	7.09
4-8	8	22	2.50	2.50	9.59
4-9	9	18	3.00	3.00	12.59
4-10	10	16	3.53	3.53	16.12
4-11	11	15	3.87	3.87	19.99
4-12	12	16	3.87	3.87	23.86
4-13	13	16	3.75	3.75	27.61
4-14	14	15	3.87	3.87	31.48
4-15	15	15	4.00	4.00	35.48
4-16	16	15	4.00	4.00	39.48
4-17	17	14	4.14	4.14	43.62
4-18	18	14	4.29	4.29	47.90
4-19	19	14	4.29	4.29	52.19
4-20	20	14	4.29	4.29	56.47
4-21	21	22	3.33	3.33	59.80
4-end	23	0	2.14	2.14	61.95
					61.95
					Total Collected Runoff (approx)

5.98 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	31	3.87	3.87	3.87
6-2	2	26	2.11	2.11	5.98
6-3	3	26	2.31	2.31	8.28
6-4	4	10	3.33	3.33	11.62
6-5	5	9	6.32	6.32	17.93
6-6	6	10	6.32	6.32	24.25
6-7	7	9	6.32	6.32	30.56
6-8	8	10	6.32	6.32	36.88
6-9	9	8	6.67	6.67	43.54
6-10	10	8	7.50	7.50	51.04
6-11	11	8	7.50	7.50	58.54
6-12	12	9	7.06	7.06	65.60
6-13	13	8	7.06	7.06	72.66
6-14	14	8	7.50	7.50	80.16
6-15	15	7	8.00	8.00	88.16
6-16	16	7	8.57	8.57	96.73
6-17	17	6	9.23	9.23	105.96
6-18	18	6	10.00	10.00	115.95
6-19	19	6	10.00	10.00	125.95
6-20	20	7	9.23	9.23	135.18
6-21	21	22	4.14	4.14	139.32
6-end	30	0	4.29	4.29	143.61
					143.61
					Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	25-Jul-12	24-Jul-12	27-Jul-12
Avg Moisture Content:	22.47%	21.81%	22.58%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	248.04	254.01	244.47
Wt. Of cup + dry soil, g	242.21	247.64	239.28
Wt. Of cup, g	217.07	217.07	217.07
Wt. Of dry soil, g	25.14	30.57	22.21
Wt. Of water, g	5.83	6.37	5.19
Water Content, w%	23.2%	20.8%	23.4%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	242.73	248.42	245.15
Wt. Of cup + dry soil, g	238	242.53	239.95
Wt. Of cup, g	216.97	216	216.97
Wt. Of dry soil, g	21.03	26.53	22.98
Wt. Of water, g	4.73	5.89	5.2
Water Content, w%	22.5%	22.2%	22.6%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	238.48	245.23	257.12
Wt. Of cup + dry soil, g	234.66	240.08	249.97
Wt. Of cup, g	217.08	217.08	217.08
Wt. Of dry soil, g	17.58	23	32.89
Wt. Of water, g	3.82	5.15	7.15
Water Content, w%	21.7%	22.4%	21.7%

Soil Loss Data

Slope No.	1	2	3
Test Date:	25-Jul-12	24-Jul-12	27-Jul-12
Total Soil Loss	6.42	4.30	4.40

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	90.8	51.3	45.4
Sub-Sample	Wt. Of cup + wet soil, g	90.8	51.3
	Wt. Of cup + dry soil, g	90.8	51.3
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	90.8	51.3
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.200	0.113	0.100

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	1144.5	549.3	817.2
Sub-Sample	Wt. Of cup + wet soil, g	1144.5	549.3
	Wt. Of cup + dry soil, g	1144.5	549.3
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	1144.5	549.3
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	2.521	1.210	1.800

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	1679.8	1352.9	1135.0
Sub-Sample	Wt. Of cup + wet soil, g	1679.8	1352.9
	Wt. Of cup + dry soil, g	1679.8	1352.9
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	1679.8	1352.9
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	3.700	2.980	2.500



ASTM Proposed - WK11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 27-Jul-12 31-Jul-12 31-Jul-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: 1935-B

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.09	6.09	7.03	0.180	0.018
	3.98	60.17	50.98	0.992	0.118
	6.00	#REF!	163.46	1.600	0.279
Bare Soil Controls			7.03		0.891
			50.98		6.464
			163.46		20.727

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.13	6.23	7.31	0.200	0.020
	4.00	61.99	51.92	0.800	0.101
	6.14	186.62	169.28	1.900	0.292
Bare Soil Controls			7.31		0.927
			51.92		6.584
			169.28		21.465

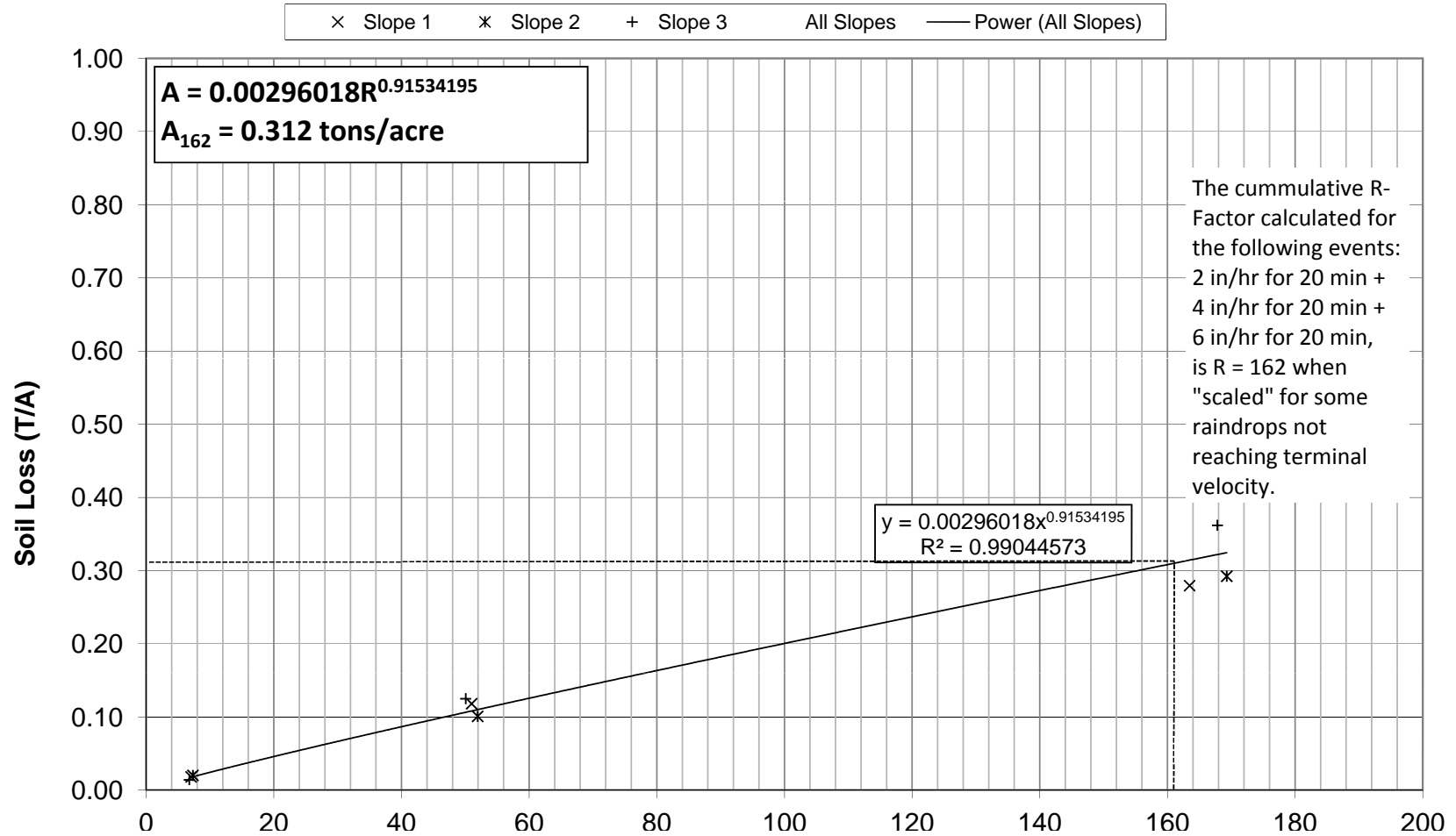
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.05	3.57	6.74	0.140	0.014
	3.96	57.05	50.05	1.100	0.125
	6.16	172.18	167.81	2.350	0.362
Bare Soil Controls			6.74		0.855
			50.05		6.346
			167.81		21.279

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)

 Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)





TYPICAL TESTING PICTURES



Test Slope Prepared and Fence Installed



After 2 in/hr Event



After 4 in/hr Event



After 6 in/hr Event



Typical Control Run - Before and After

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 2 in/hr**

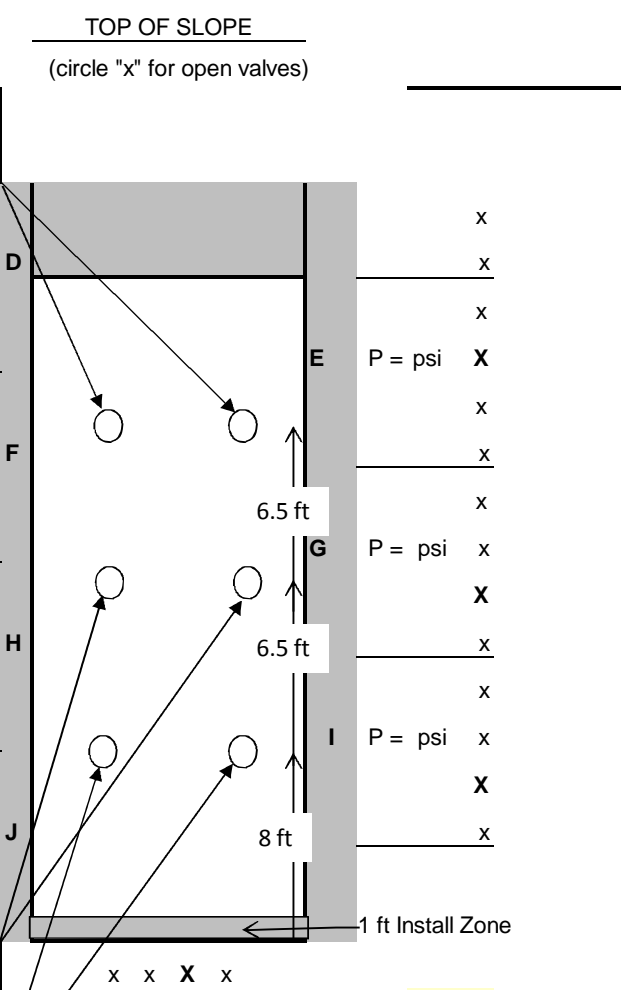
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	27-Jul-12	Start Rain:	6:58 AM	7:01	X	X
		Sampling interval:	0:03	7:04	X	X
		Rain Time (min):	20.00	7:07	X	X
			22.00	7:10	X	X
Product:	1935-B	Descr.:	Belton Type B Silt Fence	7:13	X	X
Lot #:		Posts:	Wood	7:16	X	X
			6-ft	7:19	X	X

w_{c1} = 20.5%

d = 17 18 mm

i = 2.01 2.13 in/hr



Runoff Rate Measurements

Min.	Volume	Seconds
1	250	54
2	250	45
3	250	40
4	250	40
5	250	40
6	250	40
7	250	40
8	250	40
9	250	35
10	250	33
11	250	30
12	250	25
13	250	19
14	250	13
15	250	11
16	250	9
17	250	7
18	250	5
19	250	4
20	250	5
21	250	20
22	250	0

d = 17 17 mm

i = 2.01 2.01 in/hr

w_{c2} = 19.1%

d = 17 20 mm

i = 2.01 2.36 in/hr

w_{c3} = 22.2%

P = 9 psi 77 deg

83 %

Average Depth: 18 mm

Avg Rainfall Intensity: 2.09 in/hr

NOTES:
 Wind: 0 mph. Direction: W
 Approx 5 gallons collected.

DDRF Rainfall Testing

Slope #: 1	Target Rain: 4 in/hr	Sediment Concentration & Turbidity Grab Samples
-------------------	-----------------------------	--

Date: 27-Jul-12	Start Rain: 7:26 AM	End Rain: 7:46 AM	Time: 7:29	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
	Sampling interval: 0:03	1st Run: 7:49 AM	7:32	X	X
	Rain Time (min): 20.00	23.00	7:35	X	X
Product: 1935	Descr.: Belton Type B Silt Fence		7:38	X	X
Lot #:	Posts: Wood	6-ft	7:41	X	X
TOP OF SLOPE			7:44	X	X
(circle "x" for open valves)			7:47	X	X

w_{c1} = 20.5%

d = 33 34 mm

i = 3.90 4.02 in/hr

x P = 9 psi D

x

x

x P = 9 psi F

x

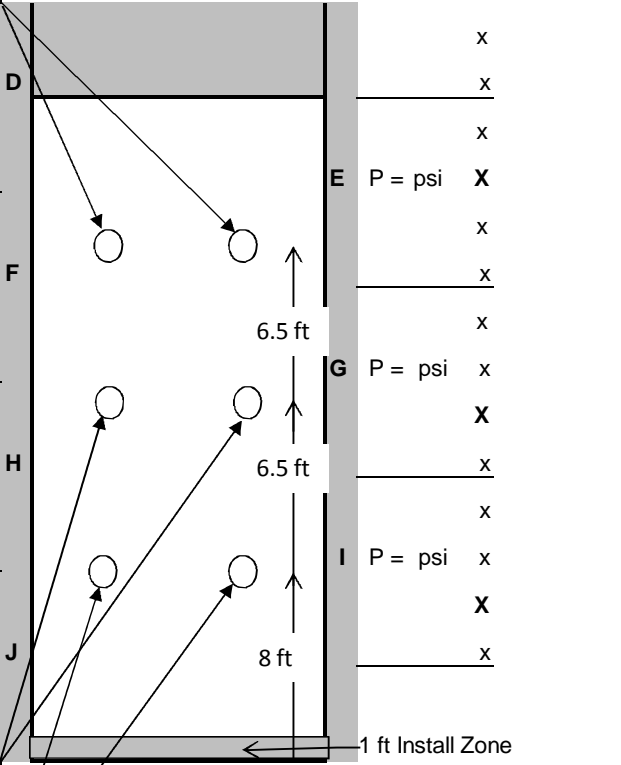
x

x P = 9 psi H

x

x P = 9 psi J

x



Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	3785	50
2	3785	50
3	3785	45
4	3785	41
5	3785	35
6	3785	31
7	3785	27
8	3785	25
9	3785	23
10	3785	18
11	3785	16
12	3785	19
13	3785	17
14	3785	16
15	3785	15
16	3785	16
17	3785	14
18	3785	14
19	3785	14
20	3785	21
21	3785	53
23	3785	0

d = 36 35 mm

i = 4.25 4.13 in/hr

w_{c2} = 19.1%

d = 30 34 mm

i = 3.54 4.02 in/hr

w_{c3} = 22.2%

x x X x

P = 9 psi

77 deg

83 %

Average Depth: 34 mm

Avg Rainfall Intensity: 3.98 in/hr

NOTES:
 Wind: 0 mph. Direction: E
 Approx 60 gallons collected.

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples			
				Time	Sed Conc Samples Taken	Turbidity Samples Taken	
Date:	27-Jul-12	Start Rain: Sampling interval:	7:53 AM 0:03	End Rain: 8:13 AM	7:56	X	X
				8:23 AM	7:59	X	X
		Rain Time (min):	20.00 30.00		8:02	X	X
Product:	1935	Descr.:	Belton Type B Silt Fence		8:05	X	X
Lot #:		Posts:	Wood 6-ft		8:08	X	X
TOP OF SLOPE					8:11	X	X
(circle "x" for open valves)					8:14	X	X

w_{c1} = 20.5%

d = 49 51 mm

i = 5.79 6.02 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

X

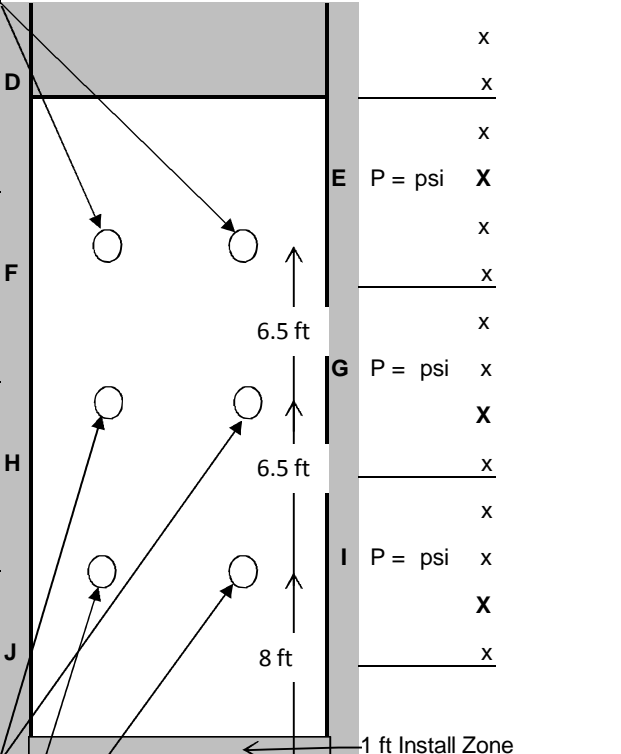
x

x

X P = 9 psi

x

X



d = 49 51 mm

i = 5.79 6.02 in/hr

w_{c2} = 19.1%

d = 53 52 51

i = 6.26 6.14 in/hr

w_{c3} = 22.2%

x x X x

P = 9 psi 78 deg

82 %

Average Depth: 51 mm

Avg Rainfall Intensity: 6.00 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	22
2	3785	17
3	3785	9
4	3785	8
5	3785	8
6	3785	7
7	3785	8
8	3785	7
9	3785	8
10	3785	7
11	3785	6
12	3785	6
13	3785	6
14	3785	6
15	3785	6
16	3785	6
17	3785	6
18	3785	6
19	3785	6
20	3785	6
21	3785	13
30	3785	0

NOTES: Overtopping at 16 minutes.

Wind: 0 mph. Direction: W

Approx 180 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 2 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	31-Jul-12	Start Rain:	8:37 AM	8:40	X	X
		Sampling interval:	0:03	8:43	X	X
		Rain Time (min):	20.00	8:46	X	X
			23.00	8:49	X	X
Product:	1935	Descr.:	Belton Type B Silt Fence	8:52	X	X
Lot #:		Posts:	Wood	8:55	X	X
			6-ft	8:58	X	X
TOP OF SLOPE						
$w_{c1} = 20.5\%$						
(circle "x" for open valves)						

Runoff Rate Measurements

Min.	Volume	Seconds
1	250	24
2	250	22
3	250	20
4	250	17
5	250	17
6	250	16
7	250	15
8	250	16
9	250	15
10	250	14
11	250	14
12	250	13
13	250	13
14	250	14
15	250	11
16	250	12
17	250	11
18	250	11
19	250	10
20	250	9
21	250	22
23	250	0

d = 17 17 mm
i = 2.01 2.01 in/hr

1 ft Install Zone

Average Depth: 18 mm
Avg Rainfall Intensity: 2.13 in/hr

$P = 9 \text{ psi}$ 72 deg
 91%

NOTES:
Wind: 1 mph. Direction: E
Approx 5 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 4 in/hr**

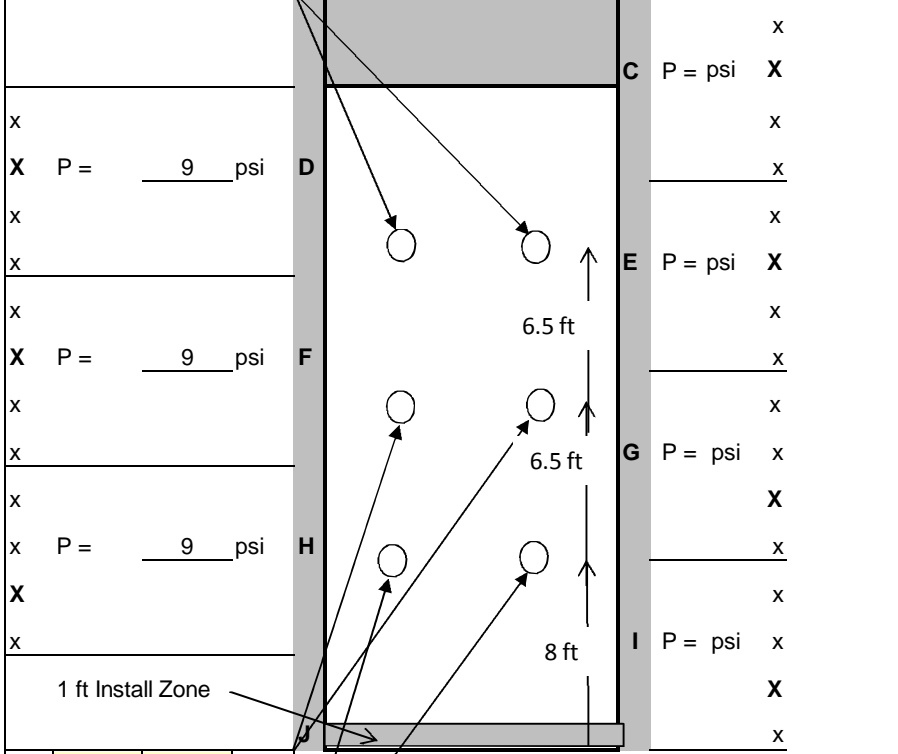
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	31-Jul-12	Start Rain: Sampling interval:	9:03 AM 0:03	9:06	X	X
				9:09	X	X
		Rain Time (min):	20.00 23.00	9:12	X	X
Product:	1935	Descr.:	Belton Type B Silt Fence	9:15	X	X
Lot #:		Posts:	Wood 6-ft	9:18	X	X
TOP OF SLOPE				9:21	X	X
(circle "x" for open valves)				9:24	X	X

$w_{c1} = 20.5\%$

d = 34 34 mm

i = 4.02 4.02 in/hr



d = 36 30 mm

i = 4.25 3.54 in/hr

$w_{c2} = 19.1\%$

d = 34 35 mm

i = 4.02 4.13 in/hr

$w_{c3} = 22.2\%$

P = 9 psi 71 deg

93 %

Average Depth: 34 mm

Avg Rainfall Intensity: 4.00 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	22
2	250	12
3	250	11
4	3785	42
5	3785	40
6	3785	24
7	3785	17
8	3785	17
9	3785	18
10	3785	17
11	3785	18
12	3785	17
13	3785	16
14	3785	16
15	3785	16
16	3785	15
17	3785	15
18	3785	14
19	3785	14
20	3785	13
21	3785	30
23	3785	0

NOTES:
 Wind: 1-3 mph. Direction: E
 Approx 65 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 6 in/hr**

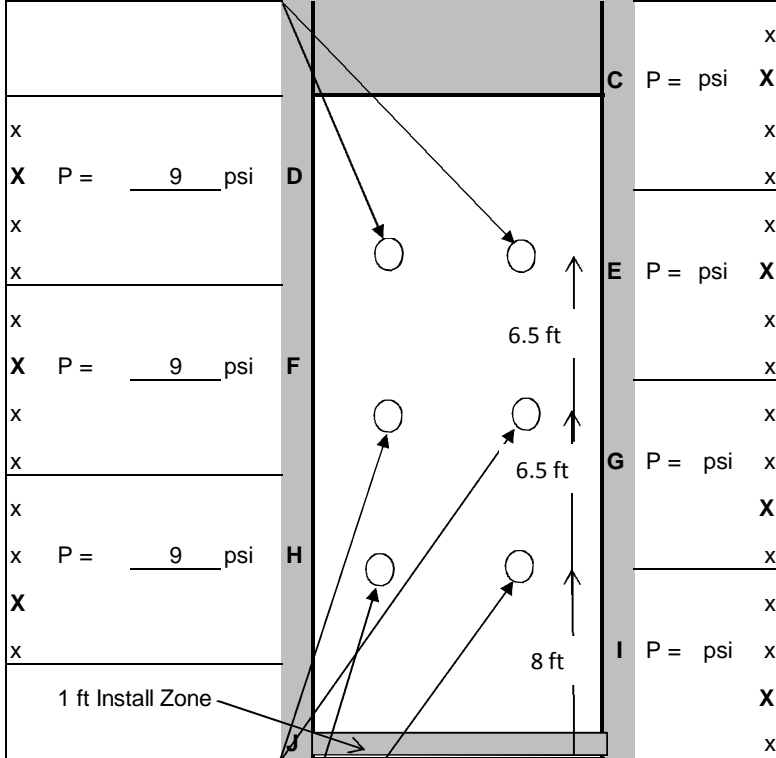
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	31-Jul-12	Start Rain:	9:31 AM	9:34	X	X
		Sampling interval:	0:03	9:37	X	X
		Rain Time (min):	20.00	9:40	X	X
			30.00	9:43	X	X
Product:	1935	Descr.:	Belton Type B Silt Fence	9:46	X	X
Lot #:		Posts:	Wood	9:49	X	X
			6-ft	9:52	X	X

$w_{c1} = 20.5\%$

d = 54 53 mm

i = 6.38 6.26 in/hr



Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	20
2	3785	12
3	3785	9
4	3785	8
5	3785	7
6	3785	7
7	3785	8
8	3785	8
9	3785	9
10	3785	8
11	3785	7
12	3785	7
13	3785	6
14	3785	6
15	3785	5
16	3785	5
17	3785	5
18	3785	5
19	3785	5
20	3785	5
21	3785	18
30	3785	0

d = 53 50 mm

i = 6.26 5.91 in/hr

$w_{c2} = 19.1\%$

P = 9 psi 71 deg

94 %

Average Depth: 52 mm

Avg Rainfall Intensity: 6.14 in/hr

NOTES: Overtopping at 12 minutes.

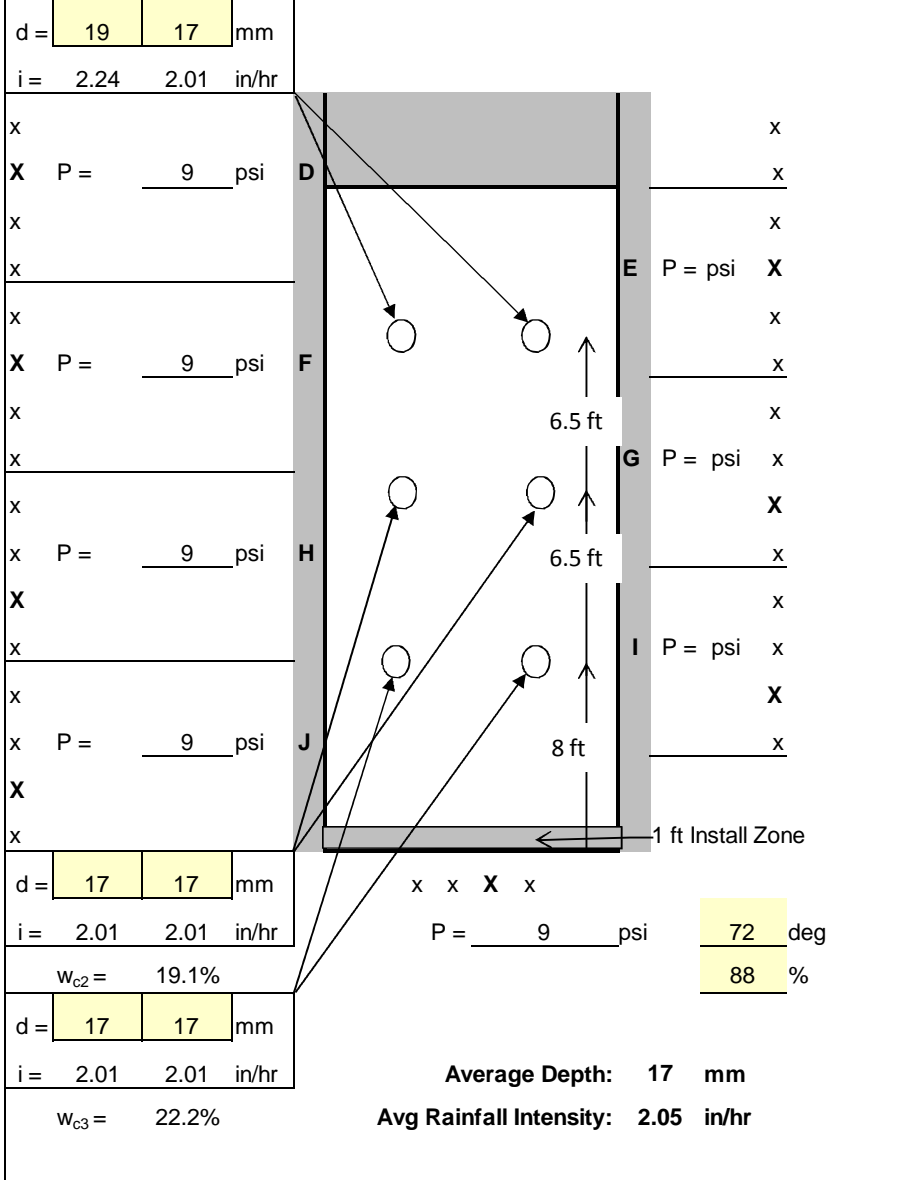
Wind: 1-3 mph. Direction: E

Approx 185 gallons collected.

DDRF Rainfall Testing

Slope #: 3	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples
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				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	31-Jul-12	Start Rain:	6:50 AM	6:53	X	X
		Sampling interval:	0:03	6:56	X	X
		Rain Time (min):	20.00	6:59	X	X
Product:	1935	Descr.:	Belton Type B Silt Fence	7:02	X	X
Lot #:		Posts:	Wood	7:05	X	X
			6-ft	7:08	X	X
				7:11	X	X



Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	60
2	250	36
3	250	34
4	250	34
5	250	29
6	250	33
7	250	22
8	250	19
9	250	21
10	250	31
11	250	29
12	250	24
13	250	22
14	250	25
15	250	20
16	250	32
17	250	26
18	250	17
19	250	12
20	250	15
21	250	22
21	250	0

NOTES: Test on Slope G2
Wind: 0 mph. Direction: E
Approx 5 gallons collected.

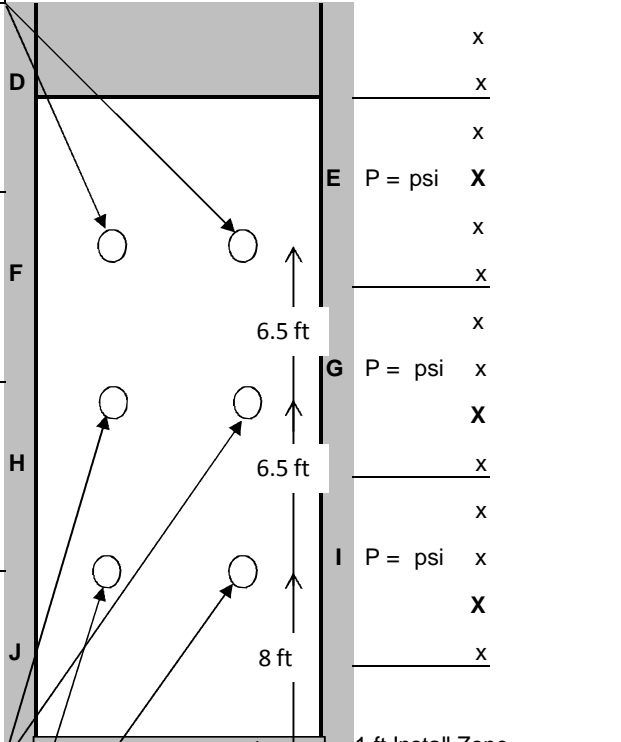
DDRF Rainfall Testing

Slope #: 3	Target Rain: 4 in/hr	Sediment Concentration & Turbidity Grab Samples
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				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	31-Jul-12	Start Rain:	7:23 AM	7:26	X	X
		Sampling interval:	0:03	7:29	X	X
		Rain Time (min):	20.00	7:32	X	X
Product:	1935	Descr.:	Belton Type B Silt Fence	7:35	X	X
Lot #:		Posts:	Wood	7:38	X	X
			6-ft			
		TOP OF SLOPE		7:41	X	X
$w_{c1} =$	20.5%	(circle "x" for open valves)		7:44	X	X

d =	30	34	mm
i =	3.54	4.02	in/hr

x
X P = 9 psi
x
x
x
X P = 9 psi
x
x
x
x P = 9 psi
X
x
x P = 9 psi
X
x



Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	11
2	250	9
3	250	9
4	3785	60
5	3785	45
6	3785	40
7	3785	35
8	3785	28
9	3785	26
10	3785	20
11	3785	18
12	3785	16
13	3785	16
14	3785	15
15	3785	15
16	3785	15
17	3785	14
18	3785	14
19	3785	14
20	3785	14
21	3785	33
24	3785	0

d =	34	36	mm
i =	4.02	4.25	in/hr

$w_{c2} = 19.1\%$

d =	33	34	mm
i =	3.90	4.02	in/hr

$w_{c3} = 22.2\%$

x x X x
 P = 9 psi 72 deg
 88 %

Average Depth: 34 mm
Avg Rainfall Intensity: 3.96 in/hr

NOTES:
 Wind: 0 mph. Direction: W
 Approx 60 gallons collected.

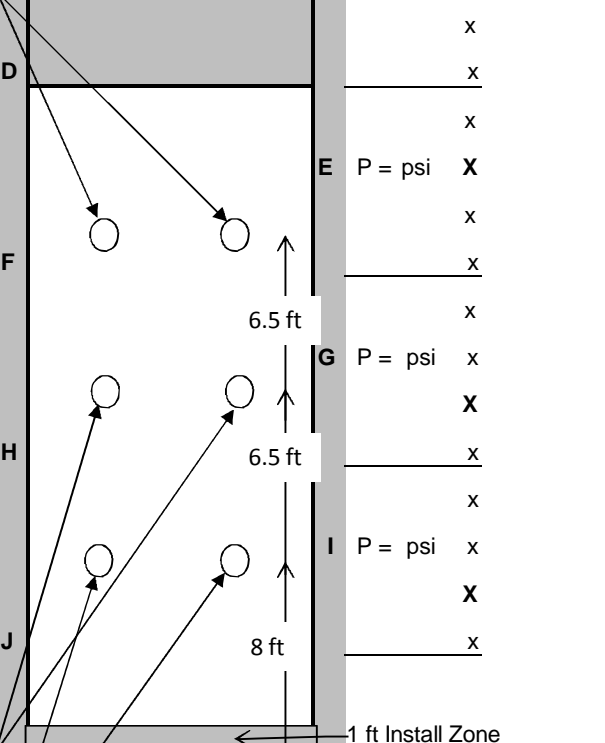
DDRF Rainfall Testing

Slope #: 3	Target Rain: 6 in/hr	Sediment Concentration & Turbidity Grab Samples
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				Time	Sed Conc Samples Taken	Turbidity Samples Taken	
Date:	31-Jul-12	Start Rain:	7:50 AM	8:10 AM	7:53	X	X
		Sampling interval:	0:03	8:20 AM	7:56	X	X
		Rain Time (min):	20.00		7:59	X	X
Product:	1935	Descr.:	Belton Type B Silt Fence		8:02	X	X
Lot #:		Posts:	Wood	6-ft	8:05	X	X
TOP OF SLOPE					8:08	X	X
w _{c1} = 20.5% (circle "x" for open valves)					8:11	X	X

d =	54	52	mm
i =	6.38	6.14	in/hr

x
X P = 9 psi
x
x
x
X P = 9 psi
x
x
x
x P = 9 psi
X
x
x P = 9 psi
X
x



Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	25
2	3785	22
3	3785	16
4	3785	16
5	3785	14
6	3785	9
7	3785	8
8	3785	7
9	3785	6
10	3785	6
11	3785	5
12	3785	5
13	3785	5
14	3785	5
15	3785	5
16	3785	5
17	3785	5
18	3785	5
19	3785	10
20	3785	11
21	3785	28
30	3785	0

d =	50	54	mm
i =	5.91	6.38	in/hr

w_{c2} = 19.1%

d =	50	53	mm
i =	5.91	6.26	in/hr

w_{c3} = 22.2%

x x X x
 P = 9 psi 72 deg
 90 %

Average Depth: 52 mm
Avg Rainfall Intensity: 6.16 in/hr

NOTES: Overtopping at 5 minutes.
 Wind: 0 mph. Direction: E
 Approx 175 gallons collected.

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	22.6
2	20	60.2
3	20	106

1935-B Belton Type B Silt Fence

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	1066	2-1	3.00	1342	2-1	3.00	921
2-2	6.00	880	2-2	6.00	1354	2-2	6.00	1003
2-3	9.00	794	2-3	9.00	2087	2-3	9.00	874
2-4	12.00	672	2-4	12.00	1455	2-4	12.00	748
2-5	15.00	3574	2-5	15.00	1491	2-5	15.00	983
2-6	18.00	3392	2-6	18.00	1295	2-6	18.00	1232
2-7	21.00	1594	2-7	21.00	1247	2-7	21.00	1384
avg		1710	avg		1467	avg		1021
4-1	3.00	4743	4-1	2.00	2991	4-1	2.00	1766
4-2	6.00	2362	4-2	4.00	1838	4-2	4.00	1534
4-3	9.00	2275	4-3	6.00	1328	4-3	6.00	1200
4-4	12.00	1827	4-4	8.00	1310	4-4	8.00	1035
4-5	15.00	1890	4-5	10.00	1472	4-5	10.00	1037
4-6	18.00	1730	4-6	12.00	1594	4-6	12.00	965
4-7	21.00	1302	4-7	21.00	803	4-7	21.00	873
avg		2304	avg		1619	avg		1201
6-1	3.00	2323	6-1	3.00	2141	6-1	3.00	1500
6-2	6.00	2232	6-2	6.00	2198	6-2	6.00	1517
6-3	9.00	2210	6-3	9.00	1995	6-3	9.00	1710
6-4	12.00	1986	6-4	12.00	2110	6-4	12.00	2194
6-5	15.00	1902	6-5	15.00	2137	6-5	15.00	2122
6-6	18.00	1932	6-6	18.00	2203	6-6	18.00	1622
6-7	21.00	1580	6-7	21.00	1966	6-7	21.00	781
avg		2024	avg		2107	avg		1635

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.09	in/hr	avg													
27-Jul-12		2-1	3.00	322.57	159.03	151.53	151.41	120.00	171.04	701.59	3.00	605.67	0.32	701.59	0.00
		2-2	6.00	175.93	150.05	147.27	147.18	90.00	28.66	3140.27	6.00	605.67	0.30	3140.27	0.01
		2-3	9.00	231.09	157.80	149.78	149.76	20.00	81.31	245.97	9.00	529.96	0.30	245.97	0.00
		2-4	12.00	299.42	156.68	147.82	147.71	110.00	151.60	725.59	12.00	378.54	0.39	725.59	0.00
		2-5	15.00	335.83	158.59	150.42	149.09	1330.00	185.41	7173.29	15.00	166.56	0.76	7173.29	0.05
		2-6	18.00	344.22	158.57	150.44	149.66	780.00	193.78	4025.18	18.00	75.71	1.55	4025.18	0.05
		2-7	21.00	277.25	157.09	149.80	149.55	250.00	127.45	1961.55	21.00	302.83	2.08	1961.55	0.03
										2567.64	22.00	0	0.40	1961.55	0.01
3.98	in/hr	avg								2567.64			Total Solids Lost:		0.15
27-Jul-12		4-1	3.00	276.90	158.15	151.63	150.67	960.00	125.27	7663.45	3.00	45.00	4.86	7663.45	0.31
		4-2	6.00	298.95	154.75	149.79	149.76	30.00	149.16	201.13	6.00	31.00	4.79	201.13	0.01
		4-3	9.00	327.05	170.16	150.45	149.94	510.00	176.60	2887.88	9.00	23.00	6.88	2887.88	0.17
		4-4	12.00	304.59	160.34	151.78	151.38	400.00	152.81	2617.63	12.00	19.00	9.88	2617.63	0.22
		4-5	15.00	331.56	164.70	146.54	146.31	230.00	185.02	1243.11	15.00	15.00	10.84	1243.11	0.11
		4-6	18.00	335.35	158.80	151.39	150.97	420.00	183.96	2283.11	18.00	14.00	12.16	2283.11	0.23
		4-7	21.00	346.17	159.68	150.69	150.54	150.00	195.48	767.34	21.00	53.01	9.33	767.34	0.06
										2523.38	23.00	0.00	1.43	767.34	0.01
6.00	in/hr	avg								2523.38			Total Solids Lost:		1.11
27-Jul-12		6-1	3.00	321.26	159.80	150.86	150.83	30.00	170.40	176.06	3.00	9.00	8.53	176.06	0.01
		6-2	6.00	324.93	156.59	149.50	149.27	230.00	175.43	1311.06	6.00	7.00	15.50	1311.06	0.17
		6-3	9.00	319.84	156.26	149.42	149.14	280.00	170.42	1643.00	9.00	8.00	24.00	1643.00	0.33
		6-4	12.00	312.81	152.98	147.87	147.52	350.00	164.94	2121.98	12.00	6.00	27.23	2121.98	0.48
		6-5	15.00	333.25	157.34	150.96	150.61	350.00	182.29	1920.02	15.00	6.00	30.00	1920.02	0.48
		6-6	18.00	329.72	157.23	151.19	151.17	20.00	178.53	112.03	18.00	6.00	30.00	112.03	0.03
		6-7	21.00	363.52	159.57	150.67	150.40	270.00	212.85	1268.50	21.00	13.00	26.31	1268.50	0.28
										1221.81	30.00	0.00	5.00	1268.50	0.05
										1221.81			Total Solids Lost:		1.83

27-Jul-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.09 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	818	0.15	0.15	0.15
2-2	2.00	681	0.08	0.08	0.23
2-3	3.00	606	0.09	0.09	0.32
2-4	4.00	606	0.10	0.10	0.42
2-5	5.00	606	0.10	0.10	0.52
2-6	6.00	606	0.10	0.10	0.62
2-7	7.00	606	0.10	0.10	0.72
2-8	8.00	606	0.10	0.10	0.82
2-9	9.00	530	0.11	0.11	0.92
2-10	10.00	500	0.12	0.12	1.04
2-11	11.00	454	0.13	0.13	1.16
2-12	12.00	379	0.14	0.14	1.31
2-13	13.00	288	0.18	0.18	1.49
2-14	14.00	197	0.25	0.25	1.74
2-15	15.00	167	0.33	0.33	2.07
2-16	16.00	136	0.40	0.40	2.46
2-17	17.00	106	0.50	0.50	2.96
2-18	18.00	76	0.66	0.66	3.62
2-19	19.00	61	0.88	0.88	4.50
2-20	20.00	76	0.88	0.88	5.38
2-21	21.00	303	0.32	0.32	5.70
2-end	22.00	0	0.40	0.40	6.09
					6.09
					Total Collected Runoff (approx)

3.98 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	50	2.40	2.40	2.40
4-2	2	50	1.20	1.20	3.60
4-3	3	45	1.26	1.26	4.86
4-4	4	41	1.40	1.40	6.26
4-5	5	35	1.58	1.58	7.84
4-6	6	31	1.82	1.82	9.65
4-7	7	27	2.07	2.07	11.72
4-8	8	25	2.31	2.31	14.03
4-9	9	23	2.50	2.50	16.53
4-10	10	18	2.93	2.93	19.46
4-11	11	16	3.53	3.53	22.99
4-12	12	19	3.43	3.43	26.41
4-13	13	17	3.33	3.33	29.75
4-14	14	16	3.64	3.64	33.38
4-15	15	15	3.87	3.87	37.25
4-16	16	16	3.87	3.87	41.12
4-17	17	14	4.00	4.00	45.12
4-18	18	14	4.29	4.29	49.41
4-19	19	14	4.29	4.29	53.69
4-20	20	21	3.43	3.43	57.12
4-21	21	53	1.62	1.62	58.74
4-end	23.00	0	1.43	1.43	60.17
					60.17
					Total Collected Runoff (approx)

6.00 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	22	5.45	5.45	5.45
6-2	2	17	3.08	3.08	8.53
6-3	3	9		8/23/2012 (Rev	#REF!
6-4	4	8		#REF!	#REF!
6-5	5	8	7.50	7.50	#REF!
6-6	6	7	8.00	8.00	#REF!
6-7	7	8	8.00	8.00	#REF!
6-8	8	7	8.00	8.00	#REF!
6-9	9	8	8.00	8.00	#REF!
6-10	10	7	8.00	8.00	#REF!
6-11	11	6	9.23	9.23	#REF!
6-12	12	6	10.00	10.00	#REF!
6-13	13	6	10.00	10.00	#REF!
6-14	14	6	10.00	10.00	#REF!
6-15	15	6	10.00	10.00	#REF!
6-16	16	6	10.00	10.00	#REF!
6-17	17	6	10.00	10.00	#REF!
6-18	18	6	10.00	10.00	#REF!
6-19	19	6	10.00	10.00	#REF!
6-20	20	6	10.00	10.00	#REF!
6-21	21	13	6.32	6.32	#REF!
6-end	30.00	0	5.00	5.00	#REF!
					#REF!
					Total Collected Runoff (approx)

31-Jul-12
Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.13 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	363	0.33	0.33	0.33
2-2	2.00	333	0.17	0.17	0.50
2-3	3.00	303	0.19	0.19	0.69
2-4	4.00	257	0.21	0.21	0.91
2-5	5.00	257	0.23	0.23	1.14
2-6	6.00	242	0.24	0.24	1.38
2-7	7.00	227	0.26	0.26	1.63
2-8	8.00	242	0.26	0.26	1.89
2-9	9.00	227	0.26	0.26	2.15
2-10	10.00	212	0.27	0.27	2.42
2-11	11.00	212	0.28	0.28	2.70
2-12	12.00	197	0.29	0.29	3.00
2-13	13.00	197	0.30	0.30	3.30
2-14	14.00	212	0.29	0.29	3.59
2-15	15.00	167	0.32	0.32	3.91
2-16	16.00	182	0.34	0.34	4.26
2-17	17.00	167	0.34	0.34	4.60
2-18	18.00	167	0.36	0.36	4.96
2-19	19.00	151	0.38	0.38	5.34
2-20	20.00	136	0.42	0.42	5.75
2-21	21.00	333	0.26	0.26	6.01
2-end	23.00	0	0.22	0.22	6.23
					6.23
					Total Collected Runoff (approx)

4.00 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	333	0.36	0.36	0.36
4-2	2	182	0.23	0.23	0.59
4-3	3	167	0.34	0.34	0.94
4-4	4	42	0.58	0.58	1.51
4-5	5	40	1.46	1.46	2.98
4-6	6	24	1.87	1.87	4.85
4-7	7	17	2.93	2.93	7.78
4-8	8	17	3.53	3.53	11.31
4-9	9	18	3.43	3.43	14.74
4-10	10	17	3.43	3.43	18.16
4-11	11	18	3.43	3.43	21.59
4-12	12	17	3.43	3.43	25.02
4-13	13	16	3.64	3.64	28.66
4-14	14	16	3.75	3.75	32.41
4-15	15	16	3.75	3.75	36.15
4-16	16	15	3.87	3.87	40.03
4-17	17	15	4.00	4.00	44.02
4-18	18	14	4.14	4.14	48.16
4-19	19	14	4.29	4.29	52.45
4-20	20	13	4.44	4.44	56.89
4-21	21	30	2.79	2.79	59.68
4-end	23	0	2.31	2.31	61.99
					61.99
					Total Collected Runoff (approx)

6.14 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	20	6.00	6.00	6.00
6-2	2	12	3.75	3.75	9.75
6-3	3	9	5.71	5.71	15.46
6-4	4	8	7.06	7.06	22.52
6-5	5	7	8.00	8.00	30.52
6-6	6	7	8.57	8.57	39.09
6-7	7	8	8.00	8.00	47.09
6-8	8	8	7.50	7.50	54.59
6-9	9	9	7.06	7.06	61.65
6-10	10	8	7.06	7.06	68.70
6-11	11	7	8.00	8.00	76.70
6-12	12	7	8.57	8.57	85.27
6-13	13	6	9.23	9.23	94.50
6-14	14	6	10.00	10.00	104.50
6-15	15	5	10.91	10.91	115.41
6-16	16	5	12.00	12.00	127.41
6-17	17	5	12.00	12.00	139.41
6-18	18	5	12.00	12.00	151.41
6-19	19	5	12.00	12.00	163.41
6-20	20	5	12.00	12.00	175.40
6-21	21	18	5.22	5.22	180.62
6-end	30	0	6.00	6.00	186.62
					186.62
					Total Collected Runoff (approx)

31-Jul-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.05 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	908	0.13	0.13	0.13
2-2	2.00	545	0.08	0.08	0.21
2-3	3.00	515	0.11	0.11	0.33
2-4	4.00	515	0.12	0.12	0.44
2-5	5.00	439	0.13	0.13	0.57
2-6	6.00	500	0.13	0.13	0.70
2-7	7.00	333	0.14	0.14	0.84
2-8	8.00	288	0.19	0.19	1.04
2-9	9.00	318	0.20	0.20	1.23
2-10	10.00	469	0.15	0.15	1.39
2-11	11.00	439	0.13	0.13	1.52
2-12	12.00	363	0.15	0.15	1.67
2-13	13.00	333	0.17	0.17	1.84
2-14	14.00	379	0.17	0.17	2.01
2-15	15.00	303	0.18	0.18	2.18
2-16	16.00	485	0.15	0.15	2.34
2-17	17.00	394	0.14	0.14	2.47
2-18	18.00	257	0.18	0.18	2.66
2-19	19.00	182	0.27	0.27	2.93
2-20	20.00	227	0.29	0.29	3.22
2-21	21.00	333	0.21	0.21	3.44
2-end	21.00	0	0.13	0.13	3.57
					3.57
					Total Collected Runoff (approx)

3.96 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	167	0.72	0.72	0.72
4-2	2	136	0.40	0.40	1.12
4-3	3	136	0.44	0.44	1.56
4-4	4	60	0.61	0.61	2.17
4-5	5	45	1.14	1.14	3.31
4-6	6	40	1.41	1.41	4.72
4-7	7	35	1.60	1.60	6.32
4-8	8	28	1.90	1.90	8.23
4-9	9	26	2.22	2.22	10.45
4-10	10	20	2.61	2.61	13.06
4-11	11	18	3.16	3.16	16.22
4-12	12	16	3.53	3.53	19.74
4-13	13	16	3.75	3.75	23.49
4-14	14	15	3.87	3.87	27.36
4-15	15	15	4.00	4.00	31.36
4-16	16	15	4.00	4.00	35.36
4-17	17	14	4.14	4.14	39.50
4-18	18	14	4.29	4.29	43.79
4-19	19	14	4.29	4.29	48.07
4-20	20	14	4.29	4.29	52.36
4-21	21	33	2.55	2.55	54.91
4-end	24	0	2.14	2.14	57.05
					57.05
					Total Collected Runoff (approx)

6.16 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	25	4.80	4.80	4.80
6-2	2	22	2.55	2.55	7.35
6-3	3	16	3.16	3.16	10.51
6-4	4	16	3.75	3.75	14.26
6-5	5	14	4.00	4.00	18.26
6-6	6	9	5.22	5.22	23.48
6-7	7	8	7.06	7.06	30.53
6-8	8	7	8.00	8.00	38.53
6-9	9	6	9.23	9.23	47.76
6-10	10	6	10.00	10.00	57.76
6-11	11	5	10.91	10.91	68.67
6-12	12	5	12.00	12.00	80.67
6-13	13	5	12.00	12.00	92.67
6-14	14	5	12.00	12.00	104.67
6-15	15	5	12.00	12.00	116.66
6-16	16	5	12.00	12.00	128.66
6-17	17	5	12.00	12.00	140.66
6-18	18	5	12.00	12.00	152.66
6-19	19	10	8.00	8.00	160.66
6-20	20	11	5.71	5.71	166.37
6-21	21	28	3.08	3.08	169.45
6-end	30	0	2.73	2.73	172.18
					172.18
					Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	27-Jul-12	31-Jul-12	31-Jul-12
Avg Moisture Content:	20.57%	21.82%	21.85%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	255.16	251.27	242.85
Wt. Of cup + dry soil, g	248.66	244.98	238.45
Wt. Of cup, g	216.91	217.07	217.07
Wt. Of dry soil, g	31.75	27.91	21.38
Wt. Of water, g	6.5	6.29	4.4
Water Content, w%	20.5%	22.5%	20.6%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	246.81	246.14	241.36
Wt. Of cup + dry soil, g	242.03	240.96	236.69
Wt. Of cup, g	216.97	216.97	216.97
Wt. Of dry soil, g	25.06	23.99	19.72
Wt. Of water, g	4.78	5.18	4.67
Water Content, w%	19.1%	21.6%	23.7%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	245.02	246.04	246.25
Wt. Of cup + dry soil, g	239.95	240.95	241.13
Wt. Of cup, g	217.08	217.08	217.08
Wt. Of dry soil, g	22.87	23.87	24.05
Wt. Of water, g	5.07	5.09	5.12
Water Content, w%	22.2%	21.3%	21.3%

Soil Loss Data

Slope No.	1	2	3
Test Date:	27-Jul-12	31-Jul-12	31-Jul-12
Total Soil Loss	2.77	2.90	3.59

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	81.7	90.8	63.6
Sub-Sample	Wt. Of cup + wet soil, g	81.7	90.8
	Wt. Of cup + dry soil, g	81.7	90.8
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	81.7	90.8
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.180	0.200	0.140

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	450.4	363.2	499.4
Sub-Sample	Wt. Of cup + wet soil, g	450.4	363.2
	Wt. Of cup + dry soil, g	450.4	363.2
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	450.4	363.2
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.992	0.800	1.100

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	726.4	862.6	1066.9
Sub-Sample	Wt. Of cup + wet soil, g	726.4	862.6
	Wt. Of cup + dry soil, g	726.4	862.6
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	726.4	862.6
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	1.600	1.900	2.350



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 2-Aug-12 2-Aug-12 8-Aug-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: Straw

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.11	5.07	7.17	0.060	0.006
	3.94	80.04	50.52	1.800	0.188
	6.14	173.04	167.53	6.900	0.883
Bare Soil Controls			7.17		0.909
			50.52		6.406
			167.53		21.243

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.07	3.67	6.88	0.040	0.004
	4.07	80.65	52.57	2.700	0.276
	6.12	165.77	169.65	8.300	1.113
Bare Soil Controls			6.88		0.873
			52.57		6.666
			169.65		21.511

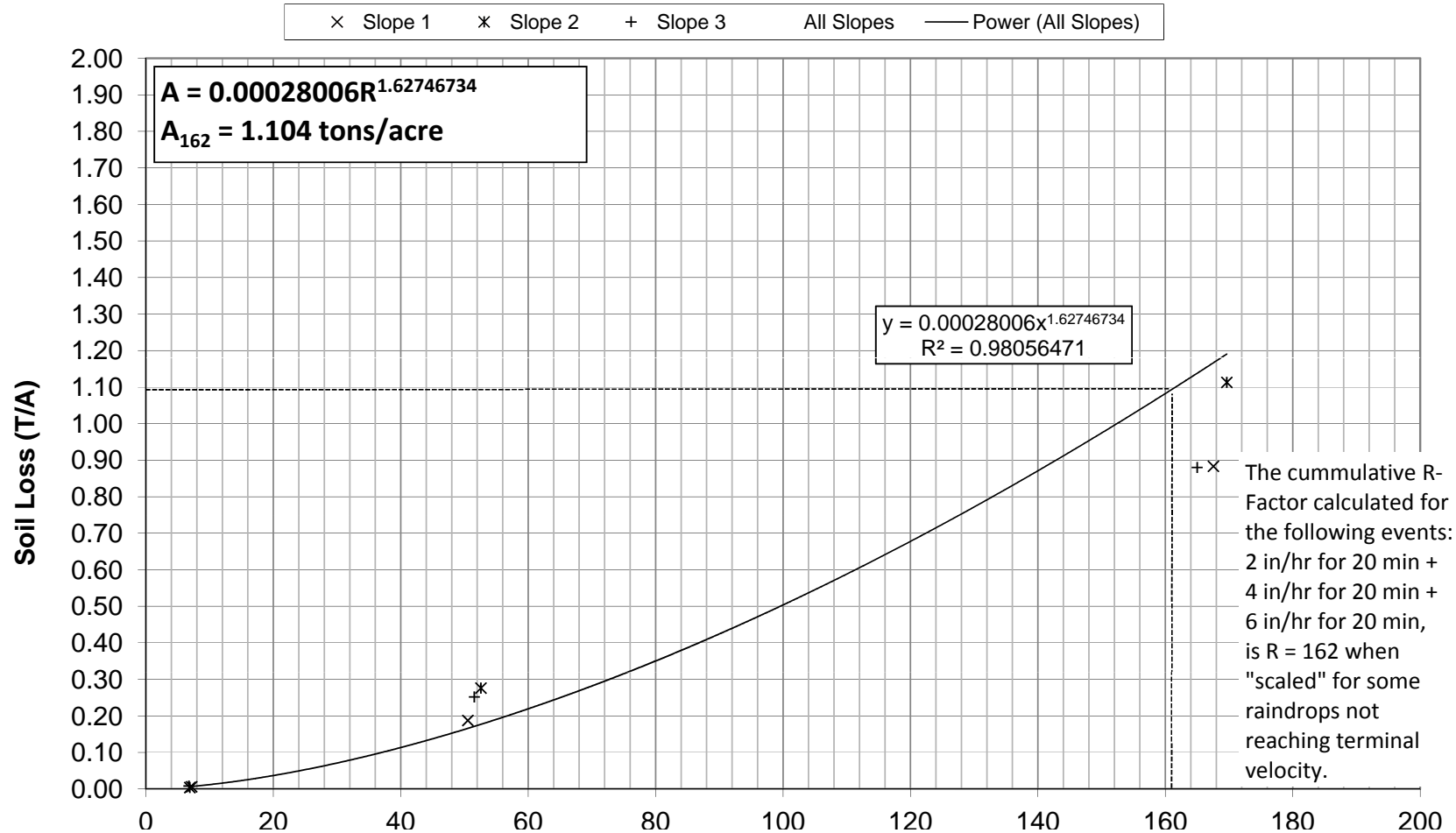
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.05	8.98	6.74	0.080	0.008
	4.04	86.99	51.53	2.420	0.252
	6.02	173.44	164.99	6.230	0.880
Bare Soil Controls			6.74		0.855
			51.53		6.535
			164.99		20.920

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)

 Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)





TYPICAL TESTING PICTURES



Test Slope Prepared and Straw Bales Installed



After 2 in/hr Event



After 4 in/hr Event



After 6 in/hr Event



Typical Control Run - Before and After

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 2 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	2-Aug-12	Start Rain: 8:45 AM	End Rain: 9:05 AM	8:48	X	X
		Sampling interval: 0:03	End Runoff: 9:07 AM	8:51	X	X
		Rain Time (min): 20.00	Test Time (min): 22.00	8:54	X	X
Product:	Straw	Descr.: Type B - Straw Bales		8:57	X	X
Lot #:		Posts: Wood Stakes	Spacing: 1.5-ft	9:00	X	X
TOP OF SLOPE				9:03	X	X
(circle "x" for open valves)				9:06	X	X

w_{c1} = 24.2%

d = 17 19 mm

i = 2.01 2.24 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x

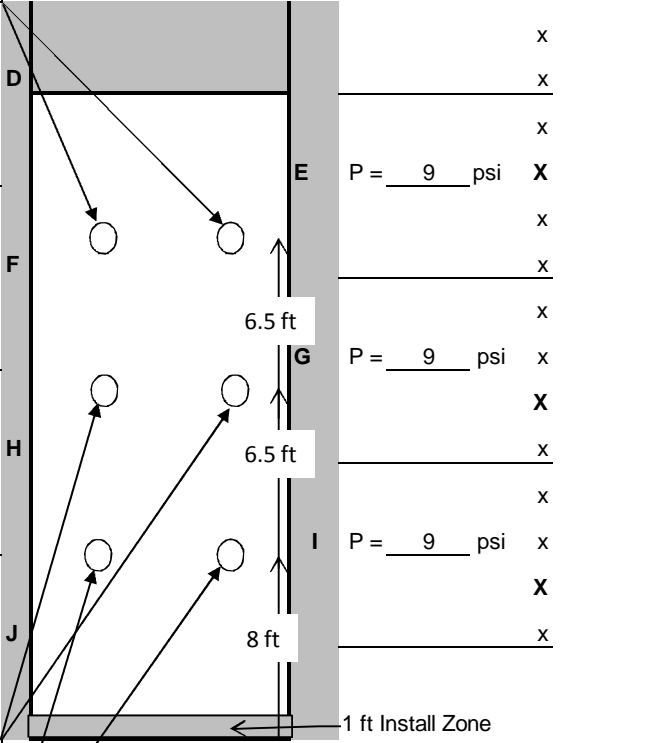
X P = 9 psi

x

x

X P = 9 psi

x



Runoff Rate Measurements

Min.	Volume	Seconds
1	25	26
2	250	23
3	250	24
4	250	29
5	250	27
6	250	25
7	250	25
8	250	22
9	250	22
10	250	22
11	250	20
12	250	22
13	250	16
14	250	17
15	250	17
16	250	17
17	250	15
18	250	14
19	250	7
20	250	4
21	250	22
22	250	0

d = 18 17 mm

i = 2.13 2.01 in/hr

w_{c2} = 21.5%

d = 17 19 mm

i = 2.01 2.24 in/hr

w_{c3} = 22.8%

x x X x

P = 9 psi Temp. 77 deg

Hum. 77 %

Average Depth: 18 mm

Avg Rainfall Intensity: 2.11 in/hr

NOTES:
 Wind: 0 mph. Direction: E
 Approx 5 gallons collected.

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 4 in/hr**

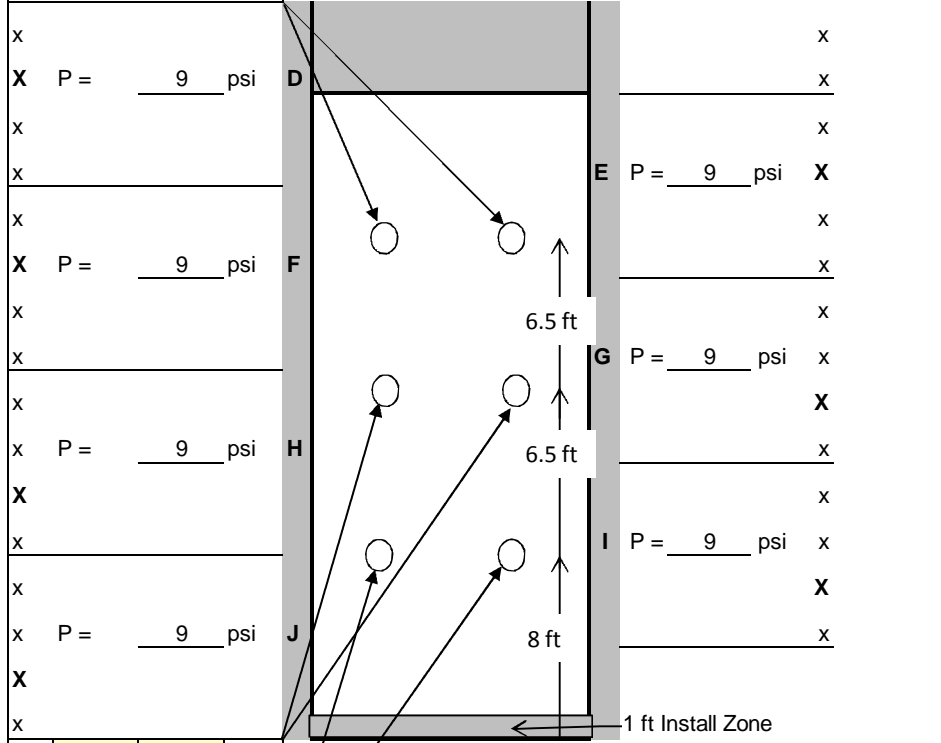
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	2-Aug-12	Start Rain: 9:10 AM	End Rain: 9:30 AM	9:13	X	X
		Sampling interval: 0:03	End Runoff: 9:33 AM	9:16	X	X
		Rain Time (min): 20.00	Test Time (min): 23.00	9:19	X	X
Product:	Straw	Descr.: Type B - Straw Bales		9:22	X	X
Lot #:		Posts: Wood Stakes	Spacing: 1.5-ft	9:25	X	X
		TOP OF SLOPE		9:28	X	X
		(circle "x" for open valves)	Set valves to 16 psi.	9:31	X	X

w_{c1} = 24.2%

d = 34 30 mm

i = 4.02 3.54 in/hr



Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	7
2	3785	22
3	3785	20
4	3785	18
5	3785	18
6	3785	17
7	3785	17
8	3785	16
9	3785	16
10	3785	15
11	3785	15
12	3785	15
13	3785	15
14	3785	15
15	3785	14
16	3785	12
17	3785	12
18	3785	12
19	3785	12
20	3785	12
21	3785	26
23	3785	0

d = 34 33 mm

i = 4.02 3.90 in/hr

P = 9 psi Temp. 78 deg

w_{c2} = 21.5%

Hum. 76 %

d = 35 34 mm

i = 4.13 4.02 in/hr

Average Depth: 33 mm

w_{c3} = 22.8%

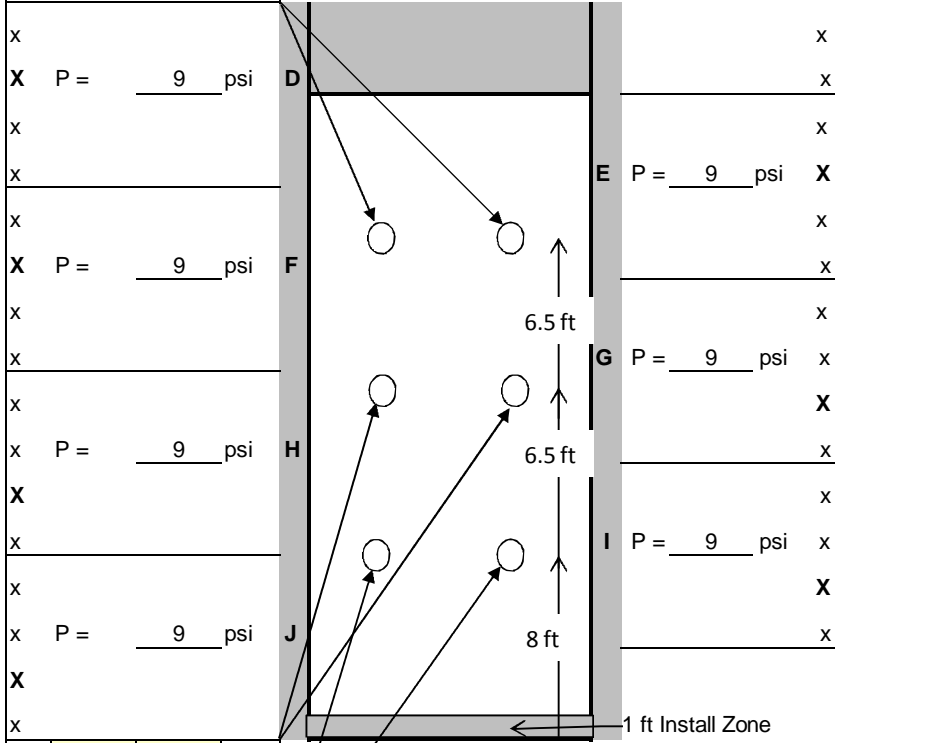
Avg Rainfall Intensity: 3.94 in/hr

NOTES:
 Wind: 0 mph. Direction: E
 Approx 80 gallons collected.

DDRF Rainfall Testing		Sediment Concentration & Turbidity Grab Samples	
Slope #: <u>1</u>	Target Rain: <u>6 in/hr</u>		

Date:	2-Aug-12	Start Rain:	9:37 AM	End Rain:	9:57 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
		Sampling interval:	0:03	End Runoff:	10:01 AM	9:40	X	X
		Rain Time (min):	20.00	Test Time (min):	24.00	9:43	X	X
Product:	Straw	Descr.:	Type B - Straw Bales			9:46	X	X
Lot #:		Posts:	Wood Stakes	Spacing:	1.5-ft	9:49	X	X
TOP OF SLOPE						9:52	X	X
(circle "x" for open valves)						9:55	X	X
Set valves to 16 psi.						9:58	X	X

$w_{c1} = 24.2\%$
 d = 53 54 mm
 i = 6.26 6.38 in/hr



Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	14
2	3785	8
3	3785	8
4	3785	8
5	3785	6
6	3785	7
7	3785	7
8	3785	8
9	3785	7
10	3785	8
11	3785	8
12	3785	8
13	3785	8
14	3785	8
15	3785	7
16	3785	7
17	3785	7
18	3785	7
19	3785	6
20	3785	6
21	3785	15
24	3785	0

d = 52 52 mm
 i = 6.14 6.14 in/hr
 $w_{c2} = 21.5\%$

Average Depth: 52 mm
 Avg Rainfall Intensity: 6.14 in/hr

d = 51 50 51
 i = 6.02 5.91 in/hr
 $w_{c3} = 22.8\%$

NOTES:
 Wind: 0 mph. Direction: E
 Approx 170 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	2-Aug-12	Start Rain: Sampling interval:	7:32 AM 0:03	End Rain:	7:52 AM	7:35 X	X	
		End Runoff:	7:54 AM	7:38	X	X		
		Rain Time (min):	20.00	Test Time (min):	22.00	7:41	X	X
Product:	Straw	Descr.:	Type B - Straw Bales	7:44	X	X		
Lot #:		Posts:	Wood Stakes	Spacing:	1.5-ft	7:47	X	X
TOP OF SLOPE				7:50	X	X		
(circle "x" for open valves)				7:53	X	X		

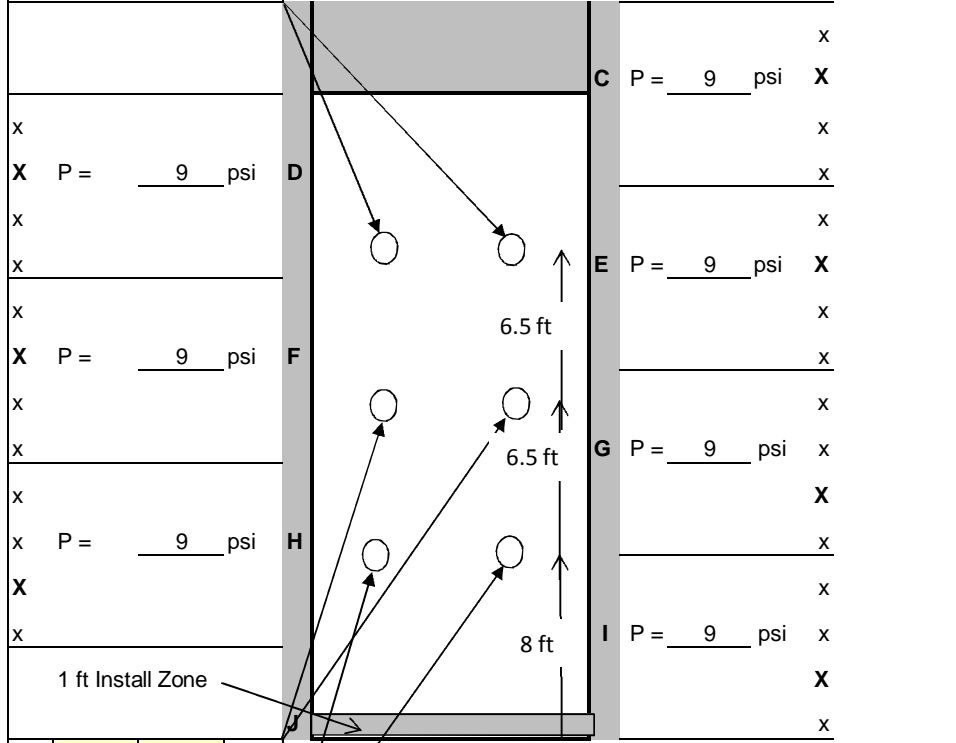
w_{c1} = 24.2%

d = 32 34 mm

i = 3.78 4.02 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	21
2	3785	19
3	3785	18
4	3785	16
5	3785	16
6	3785	16
7	3785	15
8	3785	14
9	3785	14
10	3785	14
11	3785	14
12	3785	14
13	3785	13
14	3785	13
15	3785	12
16	3785	12
17	3785	13
18	3785	15
19	3785	17
20	3785	13
21	3785	35
22	3785	0



d = 36 36 mm

i = 4.25 4.25 in/hr

w_{c2} = 21.5%

d = 34 35 mm

i = 4.02 4.13 in/hr

w_{c3} = 22.8%

x x X x

P = 9 psi Temp. 71 deg

Hum. 91 %

Average Depth: 35 mm

Avg Rainfall Intensity: 4.07 in/hr

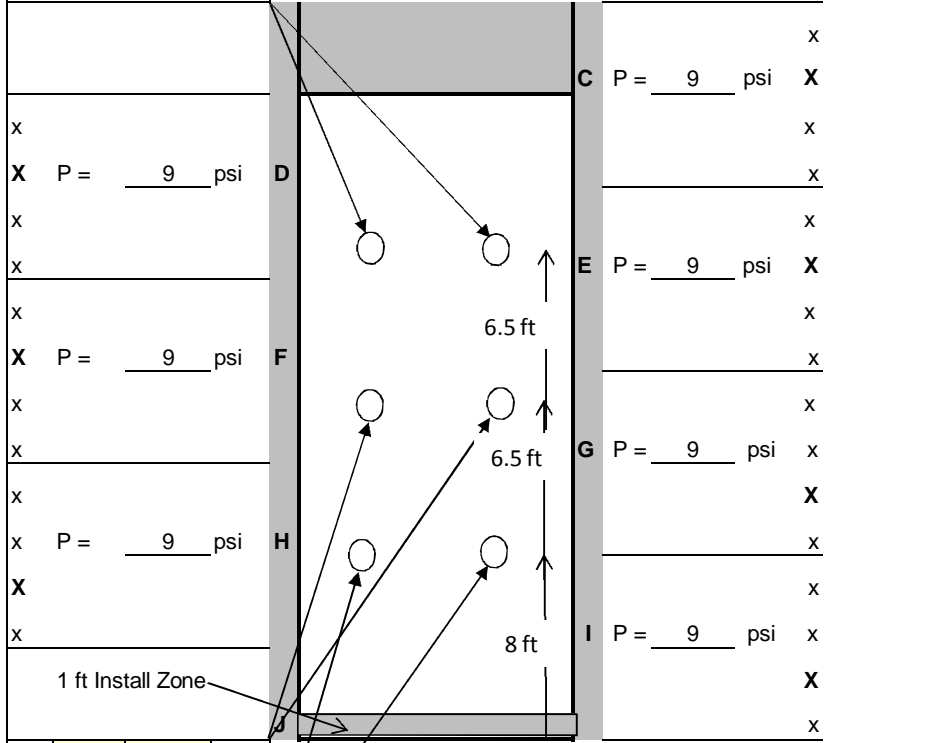
NOTES:
 Wind: 0 mph. Direction: E
 Approx 80 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples		
				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	2-Aug-12	Start Rain: 7:58 AM	End Rain: 8:18 AM	8:01	X	X
		Sampling interval: 0:03	End Runoff: 8:22 AM	8:04	X	X
		Rain Time (min): 20.00	Test Time (min): 24.00	8:07	X	X
Product:	Straw	Descr.:	Type B - Straw Bales	8:10	X	X
Lot #:		Posts:	Wood Stakes	Spacing: 1.5-ft	8:13	X
TOP OF SLOPE				8:16	X	X
(circle "x" for open valves)				8:19	X	X
w _{c1} = 24.2%				Set valves to 16 psi.		

d = 52 51 mm
i = 6.14 6.02 in/hr



d = 52 53 mm
i = 6.14 6.26 in/hr
w_{c2} = 21.5%

d = 50 53 mm
i = 5.91 6.26 in/hr
w_{c3} = 22.8%

Average Depth: 52 mm
Avg Rainfall Intensity: 6.12 in/hr

P = 9 psi Temp. 71 deg
Hum. 91 %

Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	29
2	3785	12
3	3785	10
4	3785	10
5	3785	9
6	3785	9
7	3785	8
8	3785	8
9	3785	8
10	3785	7
11	3785	7
12	3785	7
13	3785	7
14	3785	7
15	3785	6
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18	3785	6
19	3785	6
20	3785	6
21	3785	15
24	3785	0

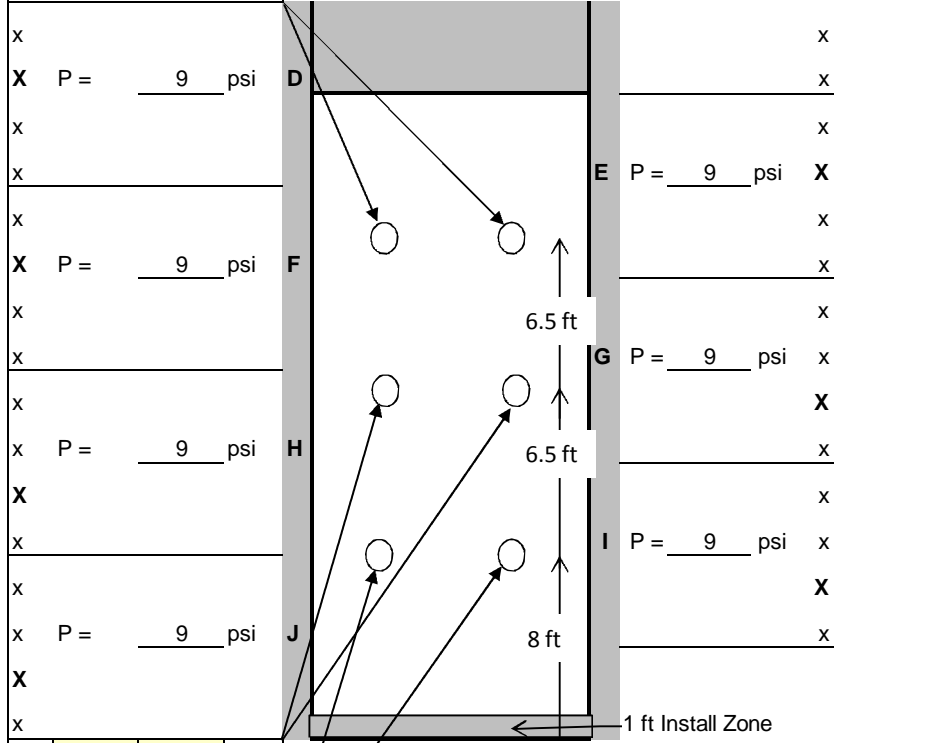
NOTES:
Wind: 0 mph. Direction: E
Approx 170 gallons collected.

DDRF Rainfall Testing

Slope #: 3	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples
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Date: 8-Aug-12	Start Rain: 7:07 AM	End Rain: 7:27 AM	Time: 7:10	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
	Sampling interval: 0:03	End Runoff: 7:28 AM	7:13	X	X
	Rain Time (min): 20.00	Test Time (min): 21.00	7:16	X	X
Product: Straw	Descr.: Type B - Straw Bales		7:19	X	X
Lot #:	Posts: Wood Stakes	Spacing: 1.5-ft	7:22	X	X
	TOP OF SLOPE		7:25	X	X
$w_{c1} = 24.2\%$	(circle "x" for open valves)	Set valves to 16 psi.	7:28	X	X

d = 18 17 mm
i = 2.13 2.01 in/hr



d = 18 17 mm
i = 2.13 2.01 in/hr

$w_{c2} = 19.1\%$

d = 17 17 mm
i = 2.01 2.01 in/hr

$w_{c3} = 22.8\%$

x x X x
P = 9 psi Temp. 71 deg
Hum. 98 %

Average Depth: 17 mm
Avg Rainfall Intensity: 2.05 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	60
2	250	60
3	250	60
4	250	60
5	250	60
6	250	60
7	250	60
8	250	60
9	250	60
10	250	60
11	250	60
12	250	50
13	250	50
14	250	16
15	250	4
16	250	3
17	250	3
18	250	3
19	250	3
20	250	3
21	250	15
21	250	0

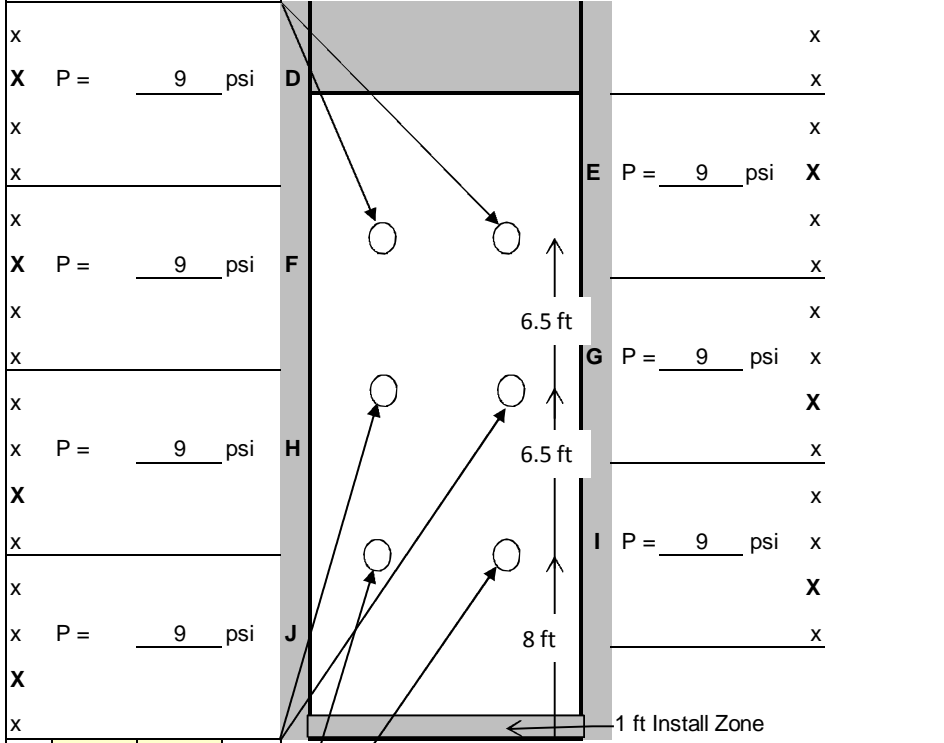
NOTES: Test on Slope G2
Wind: 0 mph. Direction: SE
Approx 10 gallons collected.

DDRF Rainfall Testing

Slope #: 3	Target Rain: 4 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date:	8-Aug-12	Start Rain:	7:32 AM	End Rain:	7:52 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
		Sampling interval:	0:03	End Runoff:	7:54 AM	7:35	X	X
						7:38	X	X
		Rain Time (min):	20.00	Test Time (min):	22.00	7:41	X	X
Product:	Straw	Descr.:	Type B - Straw Bales			7:44	X	X
Lot #:		Posts:	Wood Stakes	Spacing:	1.5-ft	7:47	X	X
		TOP OF SLOPE				7:50	X	X
$w_{c1} =$	24.2%	(circle "x" for open valves)				7:53	X	X
						Set valves to 16 psi.		

d = 36 34 mm
i = 4.25 4.02 in/hr



d = 34 34 mm
i = 4.02 4.02 in/hr

$w_{c2} =$ 19.1%
Temp. 72 deg
Hum. 94 %

d = 33 34 mm
i = 3.90 4.02 in/hr

$w_{c3} =$ 22.8%
Average Depth: 34 mm
Avg Rainfall Intensity: 4.04 in/hr

Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	250	9
2	3785	16
3	3785	15
4	3785	14
5	3785	14
6	3785	14
7	3785	14
8	3785	14
9	3785	13
10	3785	13
11	3785	13
12	3785	14
13	3785	14
14	3785	14
15	3785	13
16	3785	14
17	3785	13
18	3785	13
19	3785	12
20	3785	12
21	3785	25
22	3785	0

NOTES:
Wind: 0 mph. Direction: SE
Approx 90 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	8-Aug-12	Start Rain: Sampling interval:	7:56 AM 0:03	End Rain: 8:16 AM	7:59	X	X	
				End Runoff: 8:20 AM	8:02	X	X	
		Rain Time (min):	20.00	Test Time (min):	24.00	8:05	X	X
Product:	Straw	Descr.:	Type B - Straw Bales			8:08	X	X
Lot #:		Posts:	Wood Stakes	Spacing:	1.5-ft	8:11	X	X
TOP OF SLOPE					8:14	X	X	
(circle "x" for open valves)				Set valves to 16 psi.	8:17	X	X	

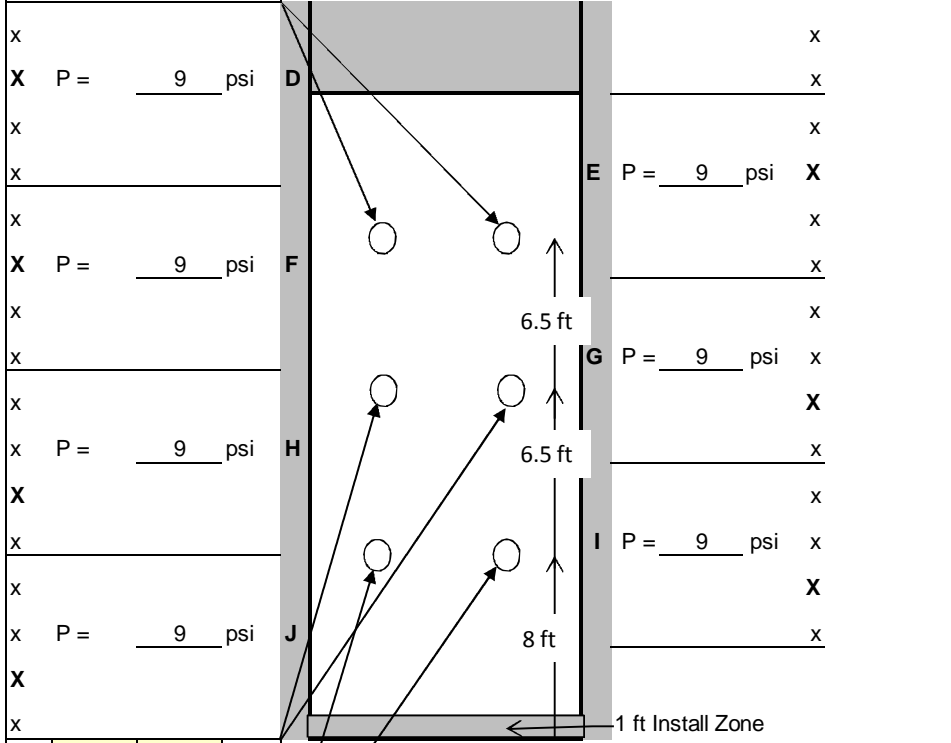
w_{c1} = 24.2%

d = 53 51 mm

i = 6.26 6.02 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	11
2	3785	9
3	3785	9
4	3785	7
5	3785	7
6	3785	8
7	3785	7
8	3785	7
9	3785	7
10	3785	7
11	3785	7
12	3785	7
13	3785	7
14	3785	7
15	3785	7
16	3785	8
17	3785	7
18	3785	7
19	3785	7
20	3785	7
21	3785	30
24	3785	0



d = 50 48 mm

i = 5.91 5.67 in/hr

x x X x

P = 9 psi Temp. 72 deg

w_{c2} = 19.1%

Hum. 94 %

d = 54 50 mm

i = 6.38 5.91 in/hr

Average Depth: 51 mm

w_{c3} = 22.8%

Avg Rainfall Intensity: 6.02 in/hr

NOTES:
 Wind: 0 mph. Direction: SE
 Approx 175 gallons collected.

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	72.3
2	20	66.8
3	20	84.3

Type B - Straw Bales

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	837	2-1	3.00	1206	2-1	3.00	1116
2-2	6.00	491	2-2	6.00	1056	2-2	6.00	734
2-3	9.00	367	2-3	9.00	903	2-3	9.00	606
2-4	12.00	309	2-4	12.00	741	2-4	12.00	518
2-5	15.00	298	2-5	15.00	681	2-5	15.00	332
2-6	18.00	493	2-6	18.00	601	2-6	18.00	1847
2-7	21.00	1193	2-7	21.00	813	2-7	21.00	1452
avg		570	avg		857	avg		944
4-1	3.00	974	4-1	2.00	1418	4-1	2.00	3071
4-2	6.00	2247	4-2	4.00	611	4-2	4.00	4799
4-3	9.00	2488	4-3	6.00	4410	4-3	6.00	6334
4-4	12.00	2455	4-4	8.00	3884	4-4	8.00	3896
4-5	15.00	2759	4-5	10.00	3790	4-5	10.00	8856
4-6	18.00	3262	4-6	12.00	3451	4-6	12.00	9999
4-7	21.00	2958	4-7	21.00	2525	4-7	21.00	3671
avg		2449	avg		2870	avg		5804
6-1	3.00	5921	6-1	3.00	9999	6-1	3.00	9999
6-2	6.00	9999	6-2	6.00	6162	6-2	6.00	5837
6-3	9.00	5885	6-3	9.00	5994	6-3	9.00	6280
6-4	12.00	9999	6-4	12.00	9999	6-4	12.00	9999
6-5	15.00	9999	6-5	15.00	8287	6-5	15.00	9999
6-6	18.00	8533	6-6	18.00	8846	6-6	18.00	4817
6-7	21.00	9999	6-7	21.00	9999	6-7	21.00	3118
avg		8619	avg		8469	avg		7150

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.11	in/hr	avg														
2-Aug-12		2-1	3.00	340.18	161.75	151.75	151.59	160.00	188.43	0.19	849.12	3.00	363.40	0.23	849.12	0.00
		2-2	6.00	337.10	157.22	151.03	150.93	100.00	186.07	0.19	537.43	6.00	378.54	0.44	537.43	0.00
		2-3	9.00	247.81	157.51	150.99	150.99	0.00	96.82	0.10	0.00	9.00	333.12	0.51	0.00	0.00
		2-4	12.00	318.20	157.52	149.29	149.28	10.00	168.91	0.17	59.20	12.00	333.12	0.56	59.20	0.00
		2-5	15.00	342.60	156.46	150.75	150.73	20.00	191.85	0.19	104.25	15.00	257.41	0.68	104.25	0.00
		2-6	18.00	261.49	154.64	150.17	150.12	50.00	111.32	0.11	449.16	18.00	211.98	0.75	449.16	0.00
		2-7	21.00	316.56	163.01	150.81	150.11	700.00	165.75	0.17	4223.23	21.00	333.12	1.40	4223.23	0.05
										AVG =	888.91	22.00	0	0.50	4223.23	0.02
3.94	in/hr	avg									888.91			Total Solids Lost:		0.07
2-Aug-12		4-1	3.00	281.58	160.51	149.39	149.31	80.00	132.19	0.13	605.19	3.00	20.00	4.93	605.19	0.02
		4-2	6.00	324.31	170.58	152.22	151.34	880.00	172.09	0.17	5113.60	6.00	17.00	9.92	5113.60	0.42
		4-3	9.00	295.11	167.49	151.13	150.15	980.00	143.98	0.14	6806.50	9.00	16.00	10.91	6806.50	0.62
		4-4	12.00	311.96	159.49	150.75	150.75	0.00	161.21	0.16	0.00	12.00	15.00	11.87	0.00	0.00
		4-5	15.00	323.24	160.92	149.69	149.48	210.00	173.55	0.17	1210.03	15.00	14.00	12.14	1210.03	0.12
		4-6	18.00	297.60	155.09	150.46	149.48	980.00	147.14	0.15	6660.32	18.00	12.00	14.61	6660.32	0.81
		4-7	21.00	330.36	153.81	148.28	148.08	200.00	182.08	0.18	1098.42	21.00	26.00	13.16	1098.42	0.12
										AVG =	3070.58	23.00	0.00	2.50	1098.42	0.02
6.14	in/hr	avg									3070.58			Total Solids Lost:		2.15
2-Aug-12		6-1	3.00	323.49	161.31	150.15	149.58	570.00	173.34	0.17	3288.34	3.00	8.00	21.52	3288.34	0.59
		6-2	6.00	360.05	158.49	147.84	147.19	650.00	212.21	0.21	3063.00	6.00	7.00	25.30	3063.00	0.65
		6-3	9.00	384.50	158.40	149.93	148.93	1000.00	234.57	0.23	4263.12	9.00	7.00	24.57	4263.12	0.87
		6-4	12.00	298.59	160.15	151.24	150.54	700.00	147.35	0.15	4750.59	12.00	8.00	23.00	4750.59	0.91
		6-5	15.00	281.49	162.80	151.08	150.42	660.00	130.41	0.13	5060.96	15.00	7.00	23.00	5060.96	0.97
		6-6	18.00	341.36	163.72	151.09	149.94	1150.00	190.27	0.19	6044.04	18.00	7.00	25.71	6044.04	1.30
		6-7	21.00	370.06	164.71	151.43	149.96	1470.00	218.63	0.22	6723.69	21.00	15.00	24.94	6723.69	1.40
										AVG =	4741.96	24.00	0.00	5.00	6723.69	0.28
										4741.96				Total Solids Lost:		6.97

2-Aug-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.11 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	3937	0.03	0.03	0.03
2-2	2.00	348	0.03	0.03	0.06
2-3	3.00	363	0.17	0.17	0.23
2-4	4.00	439	0.15	0.15	0.38
2-5	5.00	409	0.14	0.14	0.52
2-6	6.00	379	0.15	0.15	0.67
2-7	7.00	379	0.16	0.16	0.83
2-8	8.00	333	0.17	0.17	1.00
2-9	9.00	333	0.18	0.18	1.18
2-10	10.00	333	0.18	0.18	1.36
2-11	11.00	303	0.19	0.19	1.55
2-12	12.00	333	0.19	0.19	1.74
2-13	13.00	242	0.21	0.21	1.94
2-14	14.00	257	0.24	0.24	2.18
2-15	15.00	257	0.23	0.23	2.42
2-16	16.00	257	0.23	0.23	2.65
2-17	17.00	227	0.25	0.25	2.90
2-18	18.00	212	0.27	0.27	3.17
2-19	19.00	106	0.38	0.38	3.55
2-20	20.00	61	0.72	0.72	4.27
2-21	21.00	333	0.30	0.30	4.57
2-end	22.00	0	0.50	0.50	5.07
					5.07
					Total Collected Runoff (approx)

3.94 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	106	1.13	1.13	1.13
4-2	2	22	0.94	0.94	2.07
4-3	3	20	2.86	2.86	4.93
4-4	4	18	3.16	3.16	8.08
4-5	5	18	3.33	3.33	11.42
4-6	6	17	3.43	3.43	14.85
4-7	7	17	3.53	3.53	18.37
4-8	8	16	3.64	3.64	22.01
4-9	9	16	3.75	3.75	25.76
4-10	10	15	3.87	3.87	29.63
4-11	11	15	4.00	4.00	33.63
4-12	12	15	4.00	4.00	37.63
4-13	13	15	4.00	4.00	41.63
4-14	14	15	4.00	4.00	45.63
4-15	15	14	4.14	4.14	49.77
4-16	16	12	4.61	4.61	54.38
4-17	17	12	5.00	5.00	59.38
4-18	18	12	5.00	5.00	64.38
4-19	19	12	5.00	5.00	69.38
4-20	20	12	5.00	5.00	74.38
4-21	21	26	3.16	3.16	77.54
4-end	23.00	0	2.50	2.50	80.04
					80.04
					Total Collected Runoff (approx)

6.14 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	14	8.57	8.57	8.57
6-2	2	8	5.45	5.45	14.02
6-3	3	8	7.50	7.50	21.52
6-4	4	8	7.50	7.50	29.02
6-5	5	6	8.57	8.57	37.59
6-6	6	7	9.23	9.23	46.82
6-7	7	7	8.57	8.57	55.39
6-8	8	8	8.00	8.00	63.39
6-9	9	7	8.00	8.00	71.39
6-10	10	8	8.00	8.00	79.39
6-11	11	8	7.50	7.50	86.89
6-12	12	8	7.50	7.50	94.39
6-13	13	8	7.50	7.50	101.89
6-14	14	8	7.50	7.50	109.39
6-15	15	7	8.00	8.00	117.39
6-16	16	7	8.57	8.57	125.96
6-17	17	7	8.57	8.57	134.53
6-18	18	7	8.57	8.57	143.10
6-19	19	6	9.23	9.23	152.33
6-20	20	6	10.00	10.00	162.33
6-21	21	15	5.71	5.71	168.04
6-end	24.00	0	5.00	5.00	173.04
					173.04
					Total Collected Runoff (approx)

2-Aug-12
Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.07 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	681	0.18	0.18	0.18
2-2	2.00	591	0.09	0.09	0.27
2-3	3.00	515	0.11	0.11	0.38
2-4	4.00	575	0.11	0.11	0.49
2-5	5.00	560	0.11	0.11	0.59
2-6	6.00	530	0.11	0.11	0.70
2-7	7.00	379	0.13	0.13	0.84
2-8	8.00	363	0.16	0.16	1.00
2-9	9.00	363	0.17	0.17	1.16
2-10	10.00	379	0.16	0.16	1.33
2-11	11.00	363	0.16	0.16	1.49
2-12	12.00	363	0.17	0.17	1.65
2-13	13.00	318	0.18	0.18	1.83
2-14	14.00	288	0.20	0.20	2.03
2-15	15.00	288	0.21	0.21	2.24
2-16	16.00	212	0.24	0.24	2.48
2-17	17.00	273	0.25	0.25	2.72
2-18	18.00	242	0.23	0.23	2.96
2-19	19.00	242	0.25	0.25	3.20
2-20	20.00	303	0.22	0.22	3.42
2-21	21.00	530	0.14	0.14	3.57
2-end	22.00	0	0.10	0.10	3.67
					3.67
					Total Collected Runoff (approx)

4.07 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	318	0.38	0.38	0.38
4-2	2	19	0.36	0.36	0.73
4-3	3	18	3.24	3.24	3.98
4-4	4	16	3.53	3.53	7.51
4-5	5	16	3.75	3.75	11.26
4-6	6	16	3.75	3.75	15.00
4-7	7	15	3.87	3.87	18.88
4-8	8	14	4.14	4.14	23.01
4-9	9	14	4.29	4.29	27.30
4-10	10	14	4.29	4.29	31.58
4-11	11	14	4.29	4.29	35.87
4-12	12	14	4.29	4.29	40.15
4-13	13	13	4.44	4.44	44.60
4-14	14	13	4.61	4.61	49.21
4-15	15	12	4.80	4.80	54.01
4-16	16	12	5.00	5.00	59.01
4-17	17	13	4.80	4.80	63.81
4-18	18	15	4.29	4.29	68.10
4-19	19	17	3.75	3.75	71.85
4-20	20	13	4.00	4.00	75.85
4-21	21	35	2.50	2.50	78.35
4-end	22	0	2.31	2.31	80.65
					80.65
					Total Collected Runoff (approx)

6.12 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	29	4.14	4.14	4.14
6-2	2	12	2.93	2.93	7.06
6-3	3	10	5.45	5.45	12.52
6-4	4	10	6.00	6.00	18.52
6-5	5	9	6.32	6.32	24.83
6-6	6	9	6.67	6.67	31.50
6-7	7	8	7.06	7.06	38.56
6-8	8	8	7.50	7.50	46.06
6-9	9	8	7.50	7.50	53.55
6-10	10	7	8.00	8.00	61.55
6-11	11	7	8.57	8.57	70.12
6-12	12	7	8.57	8.57	78.69
6-13	13	7	8.57	8.57	87.27
6-14	14	7	8.57	8.57	95.84
6-15	15	6	9.23	9.23	105.07
6-16	16	6	10.00	10.00	115.06
6-17	17	6	10.00	10.00	125.06
6-18	18	6	10.00	10.00	135.06
6-19	19	6	10.00	10.00	145.06
6-20	20	6	10.00	10.00	155.06
6-21	21	15	5.71	5.71	160.77
6-end	24	0	5.00	5.00	165.77
					165.77
					Total Collected Runoff (approx)

8-Aug-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.05 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	908	0.13	0.13	0.13
2-2	2.00	908	0.07	0.07	0.20
2-3	3.00	908	0.07	0.07	0.26
2-4	4.00	908	0.07	0.07	0.33
2-5	5.00	908	0.07	0.07	0.40
2-6	6.00	908	0.07	0.07	0.46
2-7	7.00	908	0.07	0.07	0.53
2-8	8.00	908	0.07	0.07	0.59
2-9	9.00	908	0.07	0.07	0.66
2-10	10.00	908	0.07	0.07	0.73
2-11	11.00	908	0.07	0.07	0.79
2-12	12.00	757	0.07	0.07	0.86
2-13	13.00	757	0.08	0.08	0.94
2-14	14.00	242	0.12	0.12	1.06
2-15	15.00	61	0.40	0.40	1.46
2-16	16.00	45	1.13	1.13	2.59
2-17	17.00	45	1.32	1.32	3.91
2-18	18.00	45	1.32	1.32	5.23
2-19	19.00	45	1.32	1.32	6.55
2-20	20.00	45	1.32	1.32	7.88
2-21	21.00	227	0.44	0.44	8.32
2-end	21.00	0	0.66	0.66	8.98
					8.98
					Total Collected Runoff (approx)

4.04 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	136	0.88	0.88	0.88
4-2	2	16	0.79	0.79	1.67
4-3	3	15	3.87	3.87	5.54
4-4	4	14	4.14	4.14	9.68
4-5	5	14	4.29	4.29	13.96
4-6	6	14	4.29	4.29	18.25
4-7	7	14	4.29	4.29	22.53
4-8	8	14	4.29	4.29	26.82
4-9	9	13	4.44	4.44	31.26
4-10	10	13	4.61	4.61	35.88
4-11	11	13	4.61	4.61	40.49
4-12	12	14	4.44	4.44	44.94
4-13	13	14	4.29	4.29	49.22
4-14	14	14	4.29	4.29	53.51
4-15	15	13	4.44	4.44	57.95
4-16	16	14	4.44	4.44	62.39
4-17	17	13	4.44	4.44	66.84
4-18	18	13	4.61	4.61	71.45
4-19	19	12	4.80	4.80	76.25
4-20	20	12	5.00	5.00	81.25
4-21	21	25	3.24	3.24	84.49
4-end	22	0	2.50	2.50	86.99
					86.99
					Total Collected Runoff (approx)

6.02 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	11	10.91	10.91	10.91
6-2	2	9	6.00	6.00	16.91
6-3	3	9	6.67	6.67	23.57
6-4	4	7	7.50	7.50	31.07
6-5	5	7	8.57	8.57	39.64
6-6	6	8	8.00	8.00	47.64
6-7	7	7	8.00	8.00	55.64
6-8	8	7	8.57	8.57	64.21
6-9	9	7	8.57	8.57	72.78
6-10	10	7	8.57	8.57	81.35
6-11	11	7	8.57	8.57	89.92
6-12	12	7	8.57	8.57	98.49
6-13	13	7	8.57	8.57	107.06
6-14	14	7	8.57	8.57	115.63
6-15	15	7	8.57	8.57	124.21
6-16	16	8	8.00	8.00	132.20
6-17	17	7	8.00	8.00	140.20
6-18	18	7	8.57	8.57	148.77
6-19	19	7	8.57	8.57	157.34
6-20	20	7	8.57	8.57	165.91
6-21	21	30	3.24	3.24	169.16
6-end	24	0	4.29	4.29	173.44
					173.44
					Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	2-Aug-12	2-Aug-12	8-Aug-12
Avg Moisture Content:	22.85%	23.26%	22.76%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	251.04	264.28	253.55
Wt. Of cup + dry soil, g	244.42	255.59	246.76
Wt. Of cup, g	217.12	217.12	216.08
Wt. Of dry soil, g	27.3	38.47	30.68
Wt. Of water, g	6.62	8.69	6.79
Water Content, w%	24.2%	22.6%	22.1%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	260.59	259.19	252.04
Wt. Of cup + dry soil, g	252.79	250.97	245.53
Wt. Of cup, g	216.57	216.08	216.8
Wt. Of dry soil, g	36.22	34.89	28.73
Wt. Of water, g	7.8	8.22	6.51
Water Content, w%	21.5%	23.6%	22.7%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	255.43	253.69	250.09
Wt. Of cup + dry soil, g	248.26	246.69	243.73
Wt. Of cup, g	216.75	217.07	216.66
Wt. Of dry soil, g	31.51	29.62	27.07
Wt. Of water, g	7.17	7	6.36
Water Content, w%	22.8%	23.6%	23.5%

Soil Loss Data

Slope No.	1	2	3
Test Date:	2-Aug-12	2-Aug-12	8-Aug-12
Total Soil Loss	8.76	11.04	8.73

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	27.2	18.16	36.3
Sub-Sample	Wt. Of cup + wet soil, g	27.2	18.16
	Wt. Of cup + dry soil, g	27.2	18.16
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	27.2	18.16
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.060	0.040	0.080

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	817.2	1225.8	1098.7
Sub-Sample	Wt. Of cup + wet soil, g	817.2	1225.8
	Wt. Of cup + dry soil, g	817.2	1225.8
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	817.2	1225.8
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	1.800	2.700	2.420

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	3132.6	3768.2	2828.4
Sub-Sample	Wt. Of cup + wet soil, g	3132.6	3768.2
	Wt. Of cup + dry soil, g	3132.6	3768.2
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	3132.6	3768.2
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	6.900	8.300	6.230



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 8-Aug-12 10-Aug-12 16-Aug-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: Compost Sock

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.05	5.51	6.74	0.030	0.003
	3.98	74.37	50.42	0.760	0.077
	6.00	176.40	162.88	3.600	0.363
Bare Soil Controls			6.74		0.855
			50.42		6.393
			162.88		20.653

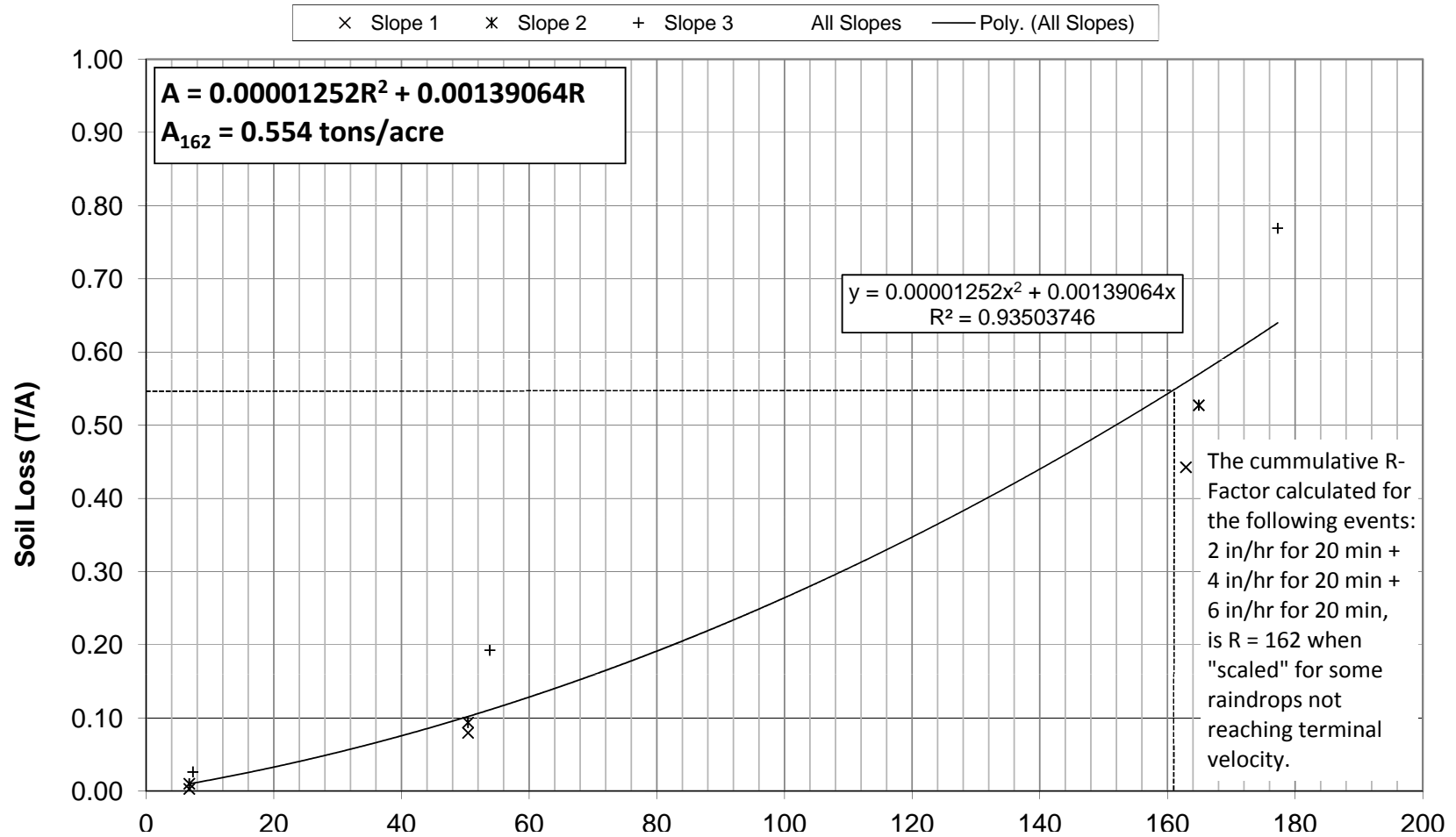
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.05	9.65	6.74	0.100	0.010
	3.98	75.80	50.42	0.830	0.084
	6.06	164.47	164.90	4.300	0.434
Bare Soil Controls			6.74		0.855
			50.42		6.393
			164.90		20.910

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.13	14.06	7.31	0.260	0.026
	4.09	110.35	53.82	1.650	0.166
	6.30	176.44	177.27	5.720	0.577
Bare Soil Controls			7.31		0.927
			53.82		6.824
			177.27		22.478

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)
Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)





TYPICAL TESTING PICTURES



Slope Prepared and Compost Sock Installed



After 2 in/hr Event



After 4 in/hr Event



After 6 in/hr Event

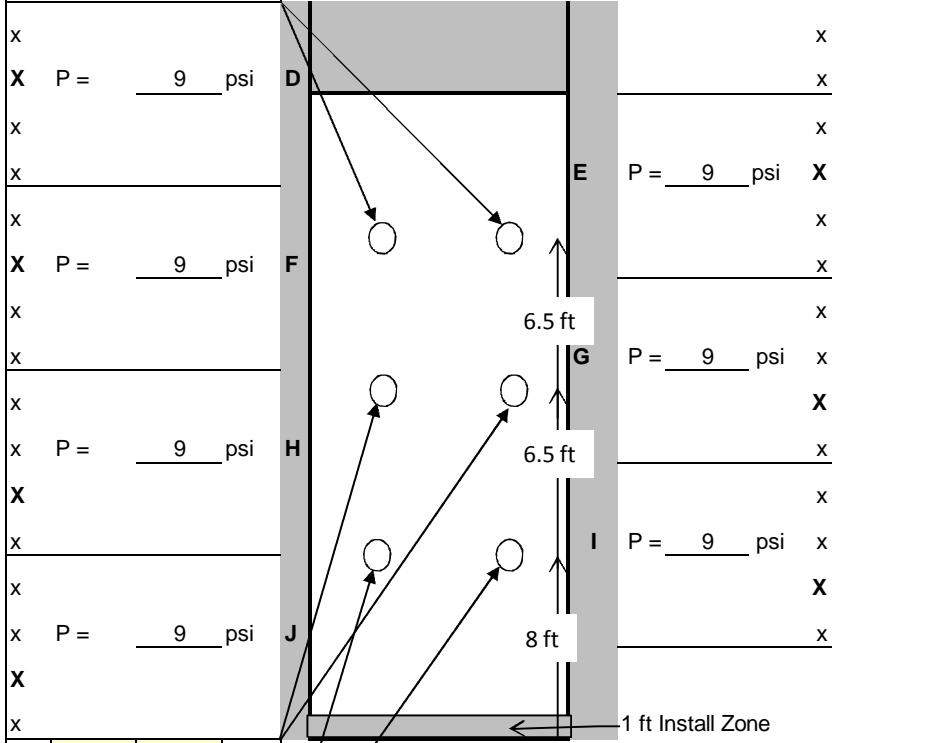


Typical Control Run - Before and After

DDRF Rainfall Testing		Sediment Concentration & Turbidity Grab Samples	
Slope #: <u>1</u>	Target Rain: <u>2 in/hr</u>	Time	Sed Conc Samples Taken / Turbidity Samples Taken

Date: **8-Aug-12** Start Rain: **9:03 AM** End Rain: **9:23 AM**
 Sampling interval: **0:03** End Runoff: **9:24 AM**
 Rain Time (min): **20.00** Test Time (min): **21.00**
 Product: **Compost Sock** Descr.: **Type B Alt. - Filtrex Sock**
 Lot #: **Wood Stakes** Spacing: **1.5-ft**
 TOP OF SLOPE (circle "x" for open valves) **Set valves to 16 psi.**
 $w_{c1} = 23.4\%$

d = **18** **17** mm
 i = **2.13** **2.01** in/hr



d = **17** **16** mm
 i = **2.01** **1.89** in/hr

$w_{c2} = 24.3\%$

d = **17** **19** mm
 i = **2.01** **2.24** in/hr

$w_{c3} = 23.4\%$

P = **9** psi Temp. **72** deg
 Hum. **94** %
Average Depth: 17 mm
Avg Rainfall Intensity: 2.05 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	40
2	250	40
3	250	35
4	250	34
5	250	32
6	250	30
7	250	28
8	250	23
9	250	20
10	250	15
11	250	11
12	250	11
13	250	11
14	250	11
15	250	11
16	250	11
17	250	11
18	250	11
19	250	10
20	250	10
21	250	22
21	250	0

NOTES:
 Wind: 0 mph. Direction: SE
 Approx 5 gallons collected.

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

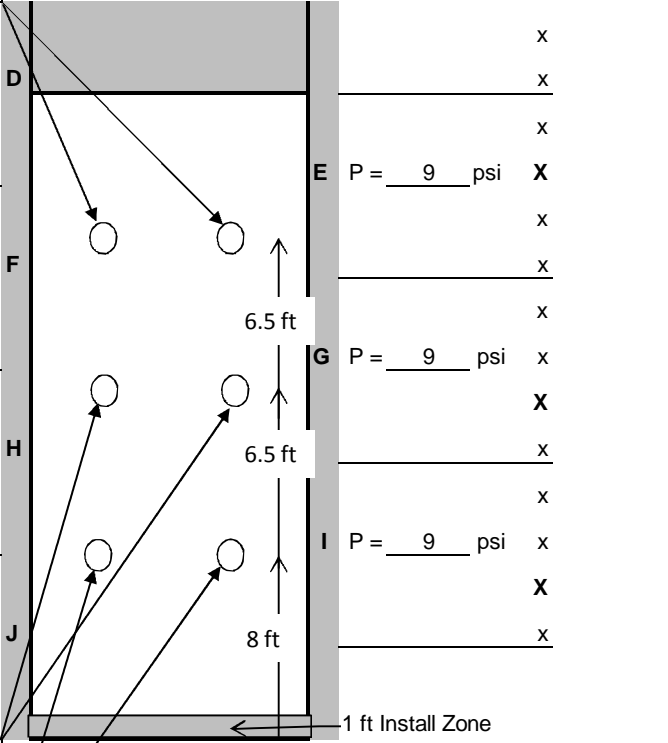
				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	8-Aug-12	Start Rain: 9:29 AM	End Rain: 9:49 AM	9:32	X	X
		Sampling interval: 0:03	End Runoff: 9:51 AM	9:35	X	X
		Rain Time (min): 20.00	Test Time (min): 22.00	9:38	X	X
Product:	Compost Sock	Descr.: Type B Alt. - Filtrex Sock		9:41	X	X
Lot #:		Posts: Wood Stakes	Spacing: 1.5-ft	9:44	X	X
TOP OF SLOPE				9:47	X	X
(circle "x" for open valves)				9:50	X	X

w_{c1} = 23.4%

Set valves to 16 psi.

d = 32 34 mm
i = 3.78 4.02 in/hr

x
X P = 9 psi
x
x
x
X P = 9 psi
x
x
x
X P = 9 psi
x
x
X P = 9 psi
x
x



Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	3
2	250	3
3	3785	18
4	3785	18
5	3785	18
6	3785	18
7	3785	17
8	3785	17
9	3785	17
10	3785	16
11	3785	16
12	3785	16
13	3785	16
14	3785	15
15	3785	15
16	3785	15
17	3785	15
18	3785	15
19	3785	15
20	3785	14
21	3785	26
22	3785	0

d = 33 34 mm
i = 3.90 4.02 in/hr

w_{c2} = 24.3%

d = 34 35 mm
i = 4.02 4.13 in/hr

w_{c3} = 23.4%

x x X x
P = 9 psi Temp. 73 deg
Hum. 94 %

Average Depth: 34 mm
Avg Rainfall Intensity: 3.98 in/hr

NOTES:
Wind: 0-2 mph. Direction: SE
Approx 75 gallons collected.

DDRF Rainfall Testing

Slope #: 1 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	8-Aug-12	Start Rain:	9:58 AM	End Rain:	10:18 AM	10:01	X	X
		Sampling interval:	0:03	End Runoff:	10:28 AM	10:04	X	X
		Rain Time (min):	20.00	Test Time (min):	30.00	10:07	X	X
Product:	Compost Sock	Descr.:	Type B Alt. - Filtrex Sock		10:10	X	X	
Lot #:		Posts:	Wood Stakes	Spacing:	1.5-ft	10:13	X	X
		TOP OF SLOPE			10:16	X	X	
		(circle "x" for open valves)			10:19	X	X	

w_{c1} = 23.4%

d = 50 53 mm

i = 5.91 6.26 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x

x P = 9 psi

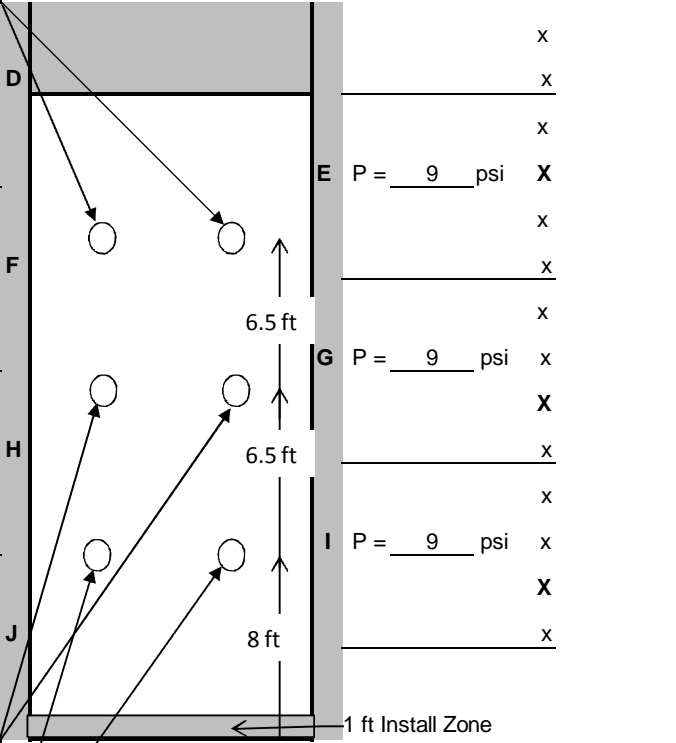
X

x

x P = 9 psi

X

x



d = 49 52 mm

i = 5.79 6.14 in/hr

w_{c2} = 24.3%

d = 48 53 51

i = 5.67 6.26 in/hr

w_{c3} = 23.4%

x x X x

P = 9 psi Temp. 75 deg

Hum. 87 %

Average Depth: 51 mm

Avg Rainfall Intensity: 6.00 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	60
2	3785	25
3	3785	15
4	3785	9
5	3785	8
6	3785	7
7	3785	6
8	3785	6
9	3785	6
10	3785	6
11	3785	6
12	3785	6
13	3785	6
14	3785	6
15	3785	6
16	3785	6
17	3785	6
18	3785	6
19	3785	6
20	3785	6
21	3785	15
30	3785	0

NOTES: **OVERTOPPING AT 17min**

Wind: 0 mph. Direction: SW

Approx 175 gallons collected.

DDRF Rainfall Testing

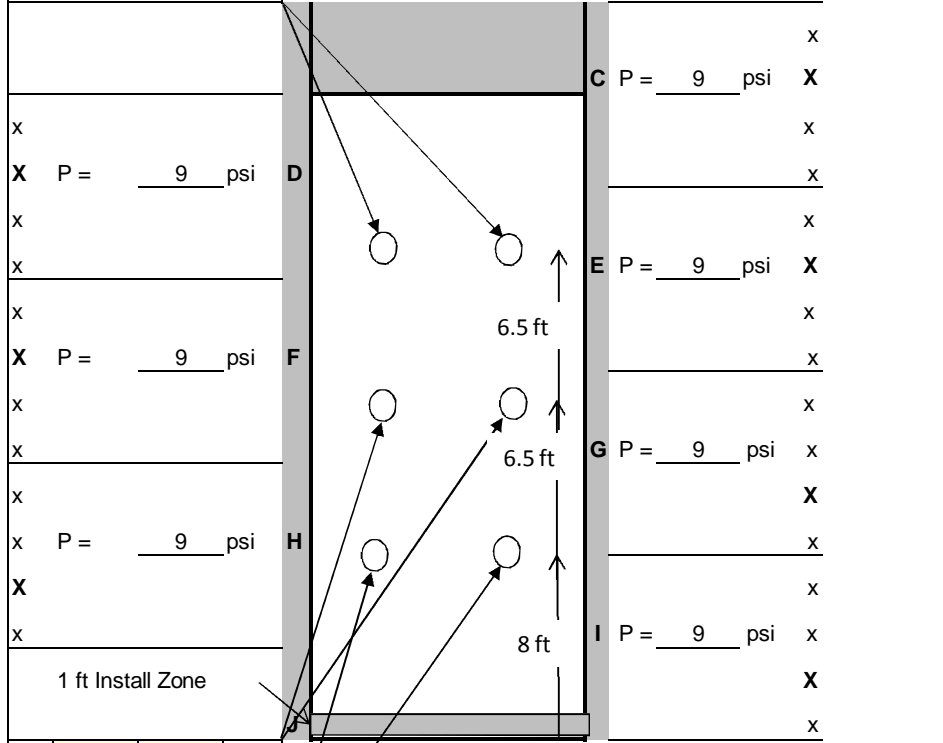
Slope #: 2	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples		
		Time	Sed Conc Samples Taken	Turbidity Samples Taken

Date:	10-Aug-12	Start Rain: Sampling interval:	7:10 AM 0:03	End Rain:	7:30 AM	7:13	X	X
				End Runoff:	7:32 AM	7:16	X	X
		Rain Time (min):	20.00	Test Time (min):	22.00	7:19	X	X
Product:	Compost Sock	Descr.:	Type B Alt. - Filtrex Sock			7:22	X	X
Lot #:		Posts:	Wood Stakes	Spacing:	1.5-ft	7:25	X	X
TOP OF SLOPE						7:28	X	X
(circle "x" for open valves)						7:31	X	X

w_{c1} = 23.4%

d = 18 17 mm

i = 2.13 2.01 in/hr



Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	60
2	250	60
3	250	48
4	250	37
5	250	35
6	250	33
7	250	31
8	250	29
9	250	27
10	250	25
11	250	20
12	250	8
13	250	7
14	250	6
15	250	5
16	250	5
17	250	5
18	250	4
19	250	3
20	250	3
21	250	10
22	250	0

d = 17 18 mm

i = 2.01 2.13 in/hr

w_{c2} = 24.3%

d = 17 17 mm

i = 2.01 2.01 in/hr

w_{c3} = 23.4%

P = 9 psi Temp. 70 deg Hum. 95 %

Average Depth: 17 mm

Avg Rainfall Intensity: 2.05 in/hr

NOTES:
 Wind: 1 mph. Direction: W
 Approx 10 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	10-Aug-12	Start Rain: Sampling interval:	7:34 AM 0:03	End Rain:	7:54 AM	7:37 X X
		End Runoff:	7:57 AM	7:40	X	X
		Rain Time (min):	20.00	Test Time (min):	23.00	7:43 X X
Product:	Compost Sock	Descr.:	Type B Alt. - Filtrex Sock	7:46	X	X
Lot #:		Posts:	Wood Stakes	Spacing:	1.5-ft	7:49 X X
TOP OF SLOPE				7:52	X	X
(circle "x" for open valves)				7:55	X	X

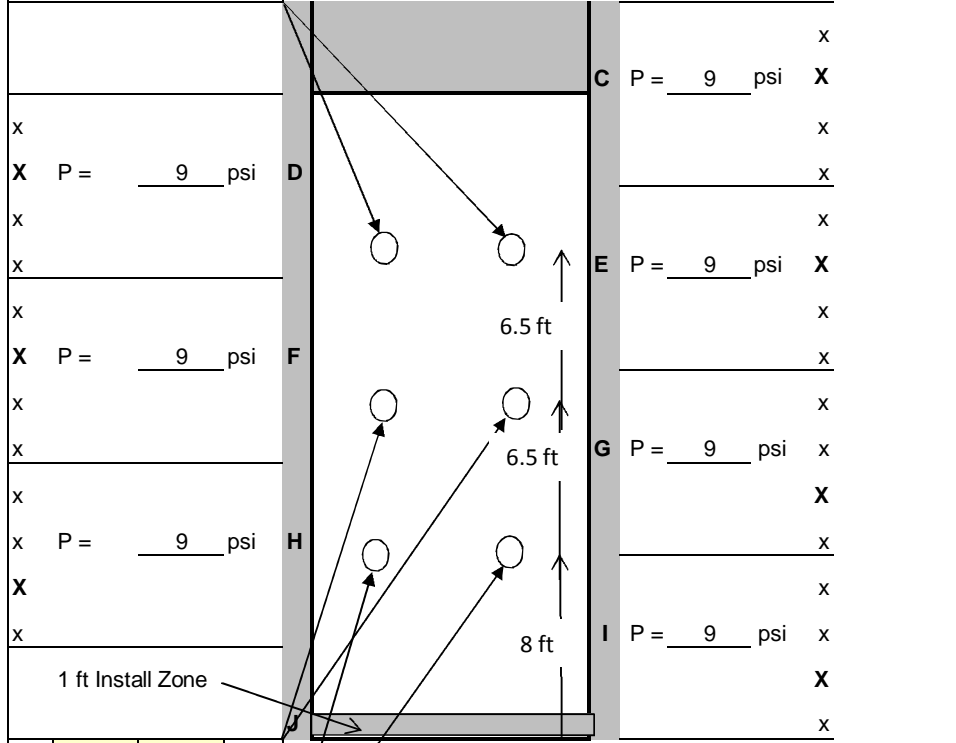
w_{c1} = 23.4%

d = 32 35 mm

i = 3.78 4.13 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	15
2	250	6
3	250	4
4	250	3
5	3785	34
6	3785	31
7	3785	25
8	3785	20
9	3785	18
10	3785	15
11	3785	12
12	3785	13
13	3785	12
14	3785	12
15	3785	11
16	3785	11
17	3785	11
18	3785	11
19	3785	11
20	3785	11
21	3785	21
23	3785	0



d = 32 35 mm

i = 3.78 4.13 in/hr

P = 9 psi

Temp. 70 deg

w_{c2} = 24.3%

Hum. 95 %

d = 33 35 mm

i = 3.90 4.13 in/hr

Average Depth: 34 mm

w_{c3} = 23.4%

Avg Rainfall Intensity: 3.98 in/hr

NOTES:
 Wind: 0-1 mph. Direction: W
 Approx 80 gallons collected.

DDRF Rainfall Testing

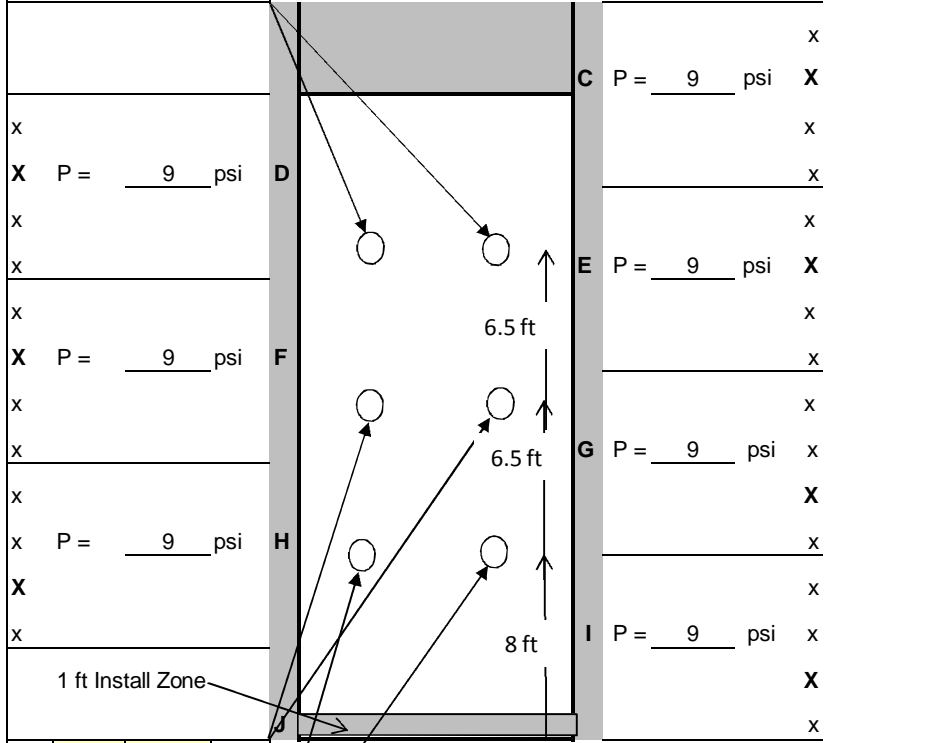
Slope #: 2 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples		
				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	10-Aug-12	Start Rain: 8:00 AM	End Rain: 8:20 AM	8:03	X	X
		Sampling interval: 0:03	End Runoff: 8:30 AM	8:06	X	X
		Rain Time (min): 20.00	Test Time (min): 30.00	8:09	X	X
Product:	Compost Sock	Descr.: Type B Alt. - Filtrexx Sock		8:12	X	X
Lot #:		Posts: Wood Stakes	Spacing: 1.5-ft	8:15	X	X
TOP OF SLOPE				8:18	X	X
(circle "x" for open valves)				8:21	X	X

w_{c1} = 23.4%

d = 54 50 mm

i = 6.38 5.91 in/hr



Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	7
2	250	3
3	3785	10
4	3785	10
5	3785	10
6	3785	9
7	3785	9
8	3785	8
9	3785	8
10	3785	8
11	3785	7
12	3785	6
13	3785	6
14	3785	6
15	3785	6
16	3785	6
17	3785	6
18	3785	5
19	3785	5
20	3785	5
21	3785	18
30	3785	0

d = 52 50 mm

i = 6.14 5.91 in/hr

w_{c2} = 24.3%

d = 52 50 mm

i = 6.14 5.91 in/hr

w_{c3} = 23.4%

Average Depth: 51 mm

Avg Rainfall Intensity: 6.06 in/hr

P = 9 psi Temp. 70 deg

 Hum. 95 %

NOTES:
 Wind: 0 mph. Direction: W
 Approx 165 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 2 in/hr**

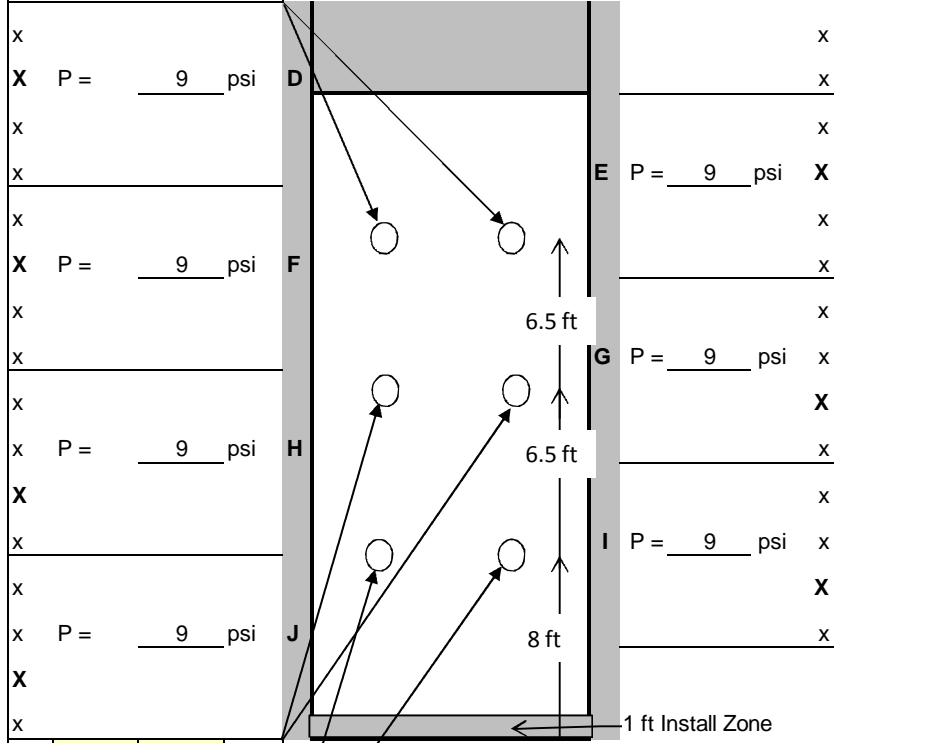
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	16-Aug-12	Start Rain: 8:44 AM	End Rain: 9:04 AM	8:47	X	X
		interval: 0:03	End Runoff: 9:06 AM	8:50	X	X
		Rain Time (min): 20.00	Test Time (min): 22.00	8:53	X	X
Product:	Filtrexx	Descr.: Type B A;t Filtrexx Stock			X	X
Lot #:		Posts: Wood Stakes	Spacing: 1.5-ft	0:03	X	X
TOP OF SLOPE				0:06	X	X
(circle "x" for open valves)				0:09	X	X

w_{c1} = 23.4%

d = 18 19 mm

i = 2.13 2.24 in/hr



Runoff Rate Measurements

Min.	Volume	Seconds
1	250	18
2	250	25
3	250	28
4	250	27
5	250	29
6	250	26
7	250	13
8	250	8
9	250	7
10	250	5
11	250	5
12	250	4
13	250	4
14	250	4
15	250	4
16	250	4
17	250	4
18	250	4
19	250	4
20	250	4
21	250	4
22	250	0

d = 17 17 mm

i = 2.01 2.01 in/hr

w_{c2} = 19.1%

P = 10 psi Temp. 69 deg

Hum. 84 %

Average Depth: 18 mm

Avg Rainfall Intensity: 2.13 in/hr

w_{c3} = 23.4%

Notes:
 Wind: 0 mph. Directions: N
 Approx: 15 gallons collected

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	16-Aug-12	Start Rain: Sampling interval:	9:09 AM 0:03	End Rain:	9:29 AM	9:12 X
		End Runoff:			9:32 AM	9:15 X
		Rain Time (min):	20.00	Test Time (min):	23.00	9:18 X
Product:	Filtrex	Descr.:	Type B Alt. Filtrex Stakes			9:21 X
Lot #:		Posts:	Wood Stakes	Spacing:	1.5-ft	9:24 X
TOP OF SLOPE						9:27 X
(circle "x" for open valves)						9:30 X
Set valves to 15 psi.						

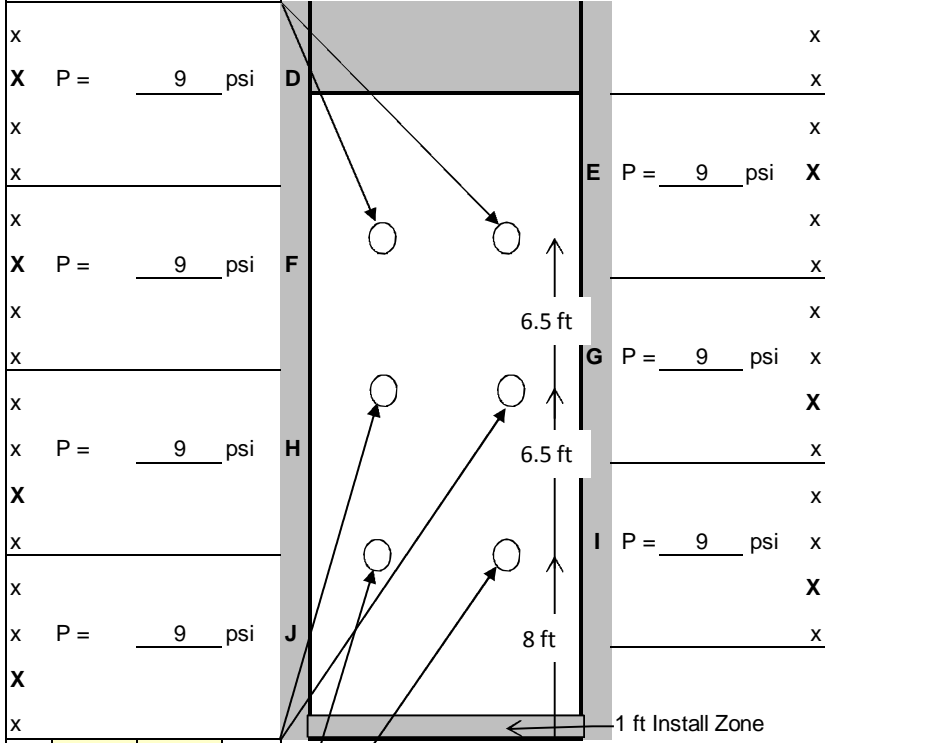
w_{c1} = 23.4%

d = 35 36 mm

i = 4.13 4.25 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	12
2	250	3
3	3785	12
4	3785	11
5	3785	11
6	3785	11
7	3785	11
8	3785	11
9	3785	11
10	3785	11
11	3785	10
12	3785	10
13	3785	10
14	3785	10
15	3785	10
16	3785	10
17	3785	10
18	3785	9
19	3785	9
20	3785	9
21	3785	18
23	3785	0



d = 34 34 mm

i = 4.02 4.02 in/hr

w_{c2} = 19.1%

P = 10 psi Temp. 71 deg

Hum. 77 %

d = 34 35 mm

i = 4.02 4.13 in/hr

w_{c3} = 23.4%

Average Depth: 35 mm

Avg Rainfall Intensity: 4.09 in/hr

NOTES:
 Wind: 0 mph. Direction: N
 Approx 110 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

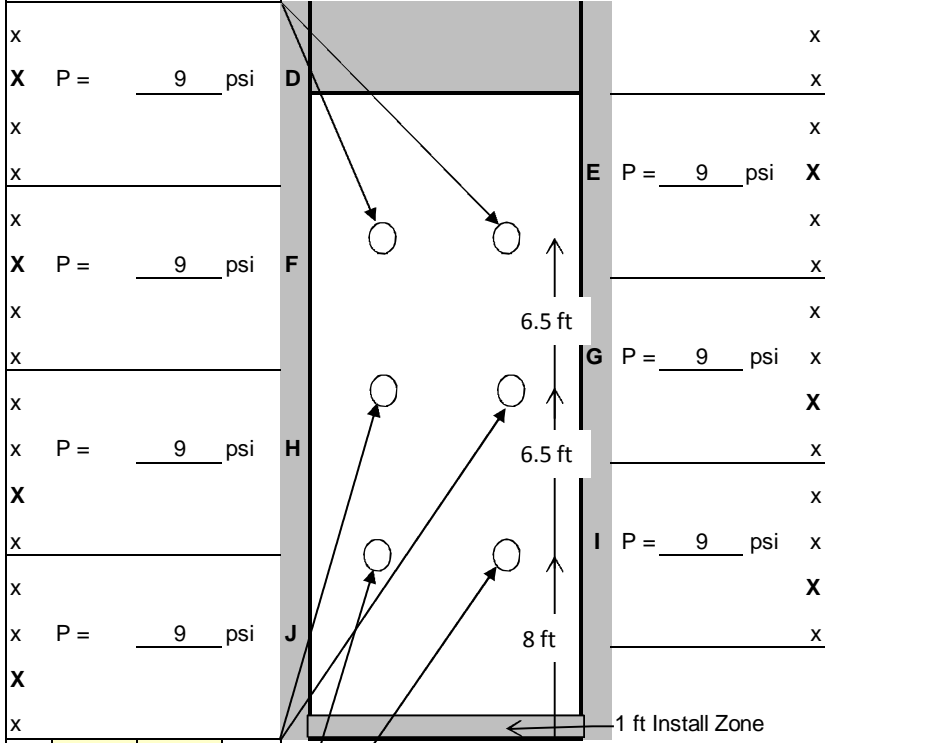
Date: 16-Aug-12 Start Rain: 9:35 AM End Rain: 9:55 AM
 Sampling interval: 0:03 End Runoff: 10:05 AM
 Rain Time (min): 20.00 Test Time (min): 30.00
 Product: Filtrex Descr.: Type B Alt. Filtrex Stake
 Lot #: Posts: Wood Stakes Spacing: 1.5-ft
 TOP OF SLOPE
 (circle "x" for open valves) **Set val Set val**

Time	Sed Conc Samples Taken	Turbidity Samples Taken
9:38	X	X
9:41	X	X
9:44	X	X
9:47	X	X
9:50	X	X
9:53	X	X
9:56	X	X

$w_{c1} = 23.4\%$
 d = 54 56 mm
 i = 6.38 6.61 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	250	8
2	3785	11
3	3785	7
4	3785	7
5	3785	7
6	3785	7
7	3785	7
8	3785	7
9	3785	7
10	3785	7
11	3785	7
12	3785	7
13	3785	6
14	3785	6
15	3785	6
16	3785	6
17	3785	6
18	3785	6
19	3785	6
20	3785	7
21	3785	8
30	3785	0



d = 54 55 mm
 i = 6.38 6.50 in/hr

x x X x
 P = 9 psi Temp. 74 deg

$w_{c2} = 19.1\%$

Hum. 75 %

d = 51 50 mm
 i = 6.02 5.91 in/hr

Average Depth: 53 mm

$w_{c3} = 23.4\%$

Avg Rainfall Intensity: 6.30 in/hr

NOTES:
 Wind: 0 mph. Direction: N
 Approx 175 gallons collected.

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	117
2	20	124
3	20	67.4

Compost Sock Type B Alt. - Filtrex Sock

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	739	2-1	3.00	2414	2-1	3.00	1142
2-2	6.00	571	2-2	6.00	1422	2-2	6.00	844
2-3	9.00	731	2-3	9.00	845	2-3	9.00	2719
2-4	12.00	1729	2-4	12.00	3404	2-4	12.00	3484
2-5	15.00	1778	2-5	15.00	2547	2-5	15.00	4905
2-6	18.00	1911	2-6	18.00	1346	2-6	18.00	3650
2-7	21.00	1521	2-7	21.00	1544	2-7	21.00	3563
avg		1283	avg		1932	avg		2901
4-1	3.00	2667	4-1	2.00	1679	4-1	2.00	9999
4-2	6.00	2428	4-2	4.00	3586	4-2	4.00	9999
4-3	9.00	2839	4-3	6.00	4989	4-3	6.00	6572
4-4	12.00	2741	4-4	8.00	2972	4-4	8.00	6262
4-5	15.00	2886	4-5	10.00	3204	4-5	10.00	5013
4-6	18.00	1886	4-6	12.00	4693	4-6	12.00	5657
4-7	21.00	2283	4-7	21.00	2655	4-7	21.00	3249
avg		2533	avg		3397	avg		6679
6-1	3.00	2244	6-1	3.00	3519	6-1	3.00	3791
6-2	6.00	2665	6-2	6.00	4575	6-2	6.00	7664
6-3	9.00	3400	6-3	9.00	7081	6-3	9.00	9999
6-4	12.00	2943	6-4	12.00	7599	6-4	12.00	9999
6-5	15.00	3067	6-5	15.00	5789	6-5	15.00	5291
6-6	18.00	3329	6-6	18.00	6333	6-6	18.00	7611
6-7	21.00	3456	6-7	21.00	3331	6-7	21.00	9718
avg		3015	avg		5461	avg		7725

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.05	in/hr	avg														
8-Aug-12		2-1	3.00	310.73	160.90	150.54	150.41	130.00	160.19	0.16	811.54	3.00	529.96	0.40	811.54	0.00
		2-2	6.00	336.63	157.94	147.80	147.48	320.00	188.83	0.19	1694.65	6.00	454.25	0.36	1694.65	0.01
		2-3	9.00	348.52	171.95	149.90	149.76	140.00	198.62	0.20	704.86	9.00	302.83	0.48	704.86	0.00
		2-4	12.00	344.09	183.79	147.98	147.71	270.00	196.11	0.20	1376.78	12.00	166.56	0.89	1376.78	0.01
		2-5	15.00	336.15	178.29	147.79	147.48	310.00	188.36	0.19	1645.78	15.00	166.56	1.08	1645.78	0.01
		2-6	18.00	355.39	176.24	150.00	149.66	340.00	205.39	0.21	1655.39	18.00	166.56	1.08	1655.39	0.01
		2-7	21.00	276.84	168.48	149.81	149.55	260.00	127.03	0.13	2046.76	21.00	333.12	1.02	2046.76	0.02
										AVG =	1419.39	21.00	0	0.20	2046.76	0.00
3.98	in/hr	avg									1419.39			Total Solids Lost:		0.07
8-Aug-12		4-1	3.00	315.36	173.19	150.69	150.62	70.00	164.67	0.16	425.09	3.00	18.00	5.85	425.09	0.02
		4-2	6.00	307.87	168.20	149.69	149.36	330.00	158.18	0.16	2086.23	6.00	18.00	10.00	2086.23	0.17
		4-3	9.00	351.33	159.26	150.33	149.94	390.00	201.00	0.20	1940.30	9.00	17.00	10.49	1940.30	0.17
		4-4	12.00	323.46	159.50	151.78	151.38	400.00	171.68	0.17	2329.92	12.00	16.00	11.14	2329.92	0.22
		4-5	15.00	326.37	157.70	146.68	146.31	370.00	179.69	0.18	2059.10	15.00	15.00	11.62	2059.10	0.20
		4-6	18.00	322.12	157.61	151.38	150.97	410.00	170.74	0.17	2401.31	18.00	15.00	12.00	2401.31	0.24
		4-7	21.00	350.92	164.79	150.88	150.54	340.00	200.04	0.20	1699.66	21.00	26.00	11.14	1699.66	0.16
										AVG =	1848.80	22.00	0.00	2.14	1699.66	0.03
6.00	in/hr	avg									1848.80			Total Solids Lost:		1.21
8-Aug-12		6-1	3.00	312.13	170.65	150.77	150.38	390.00	161.36	0.16	2416.96	3.00	15.00	6.41	2416.96	0.13
		6-2	6.00	346.64	157.52	149.18	148.67	510.00	197.46	0.20	2582.80	6.00	7.00	20.06	2582.80	0.43
		6-3	9.00	313.51	162.99	148.59	148.14	450.00	164.92	0.16	2728.60	9.00	6.00	29.23	2728.60	0.67
		6-4	12.00	343.25	156.42	148.13	147.56	570.00	195.12	0.20	2921.28	12.00	6.00	30.00	2921.28	0.73
		6-5	15.00	321.74	163.72	151.19	150.71	480.00	170.55	0.17	2814.42	15.00	6.00	30.00	2814.42	0.70
		6-6	18.00	340.63	159.55	152.13	151.57	560.00	188.50	0.19	2970.82	18.00	6.00	30.00	2970.82	0.74
		6-7	21.00	326.43	161.90	151.07	150.54	530.00	175.36	0.18	3022.35	21.00	15.00	25.71	3022.35	0.65
										AVG =	2779.60	30.00	0.00	5.00	3022.35	0.13
										2779.60				Total Solids Lost:		4.18

8-Aug-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.05 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	606	0.20	0.20	0.20
2-2	2.00	606	0.10	0.10	0.30
2-3	3.00	530	0.11	0.11	0.40
2-4	4.00	515	0.11	0.11	0.52
2-5	5.00	485	0.12	0.12	0.64
2-6	6.00	454	0.13	0.13	0.77
2-7	7.00	424	0.14	0.14	0.90
2-8	8.00	348	0.16	0.16	1.06
2-9	9.00	303	0.18	0.18	1.24
2-10	10.00	227	0.23	0.23	1.47
2-11	11.00	167	0.30	0.30	1.77
2-12	12.00	167	0.36	0.36	2.13
2-13	13.00	167	0.36	0.36	2.49
2-14	14.00	167	0.36	0.36	2.85
2-15	15.00	167	0.36	0.36	3.21
2-16	16.00	167	0.36	0.36	3.57
2-17	17.00	167	0.36	0.36	3.93
2-18	18.00	167	0.36	0.36	4.29
2-19	19.00	151	0.38	0.38	4.67
2-20	20.00	151	0.40	0.40	5.07
2-21	21.00	333	0.25	0.25	5.32
2-end	21.00	0	0.20	0.20	5.51
					5.51
					Total Collected Runoff (approx)

3.98 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	45	2.64	2.64	2.64
4-2	2	45	1.32	1.32	3.96
4-3	3	18	1.89	1.89	5.85
4-4	4	18	3.33	3.33	9.19
4-5	5	18	3.33	3.33	12.52
4-6	6	18	3.33	3.33	15.85
4-7	7	17	3.43	3.43	19.28
4-8	8	17	3.53	3.53	22.81
4-9	9	17	3.53	3.53	26.34
4-10	10	16	3.64	3.64	29.98
4-11	11	16	3.75	3.75	33.73
4-12	12	16	3.75	3.75	37.47
4-13	13	16	3.75	3.75	41.22
4-14	14	15	3.87	3.87	45.10
4-15	15	15	4.00	4.00	49.09
4-16	16	15	4.00	4.00	53.09
4-17	17	15	4.00	4.00	57.09
4-18	18	15	4.00	4.00	61.09
4-19	19	15	4.00	4.00	65.09
4-20	20	14	4.14	4.14	69.23
4-21	21	26	3.00	3.00	72.23
4-end	22.00	0	2.14	2.14	74.37
					74.37
					Total Collected Runoff (approx)

6.00 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	60	2.00	2.00	2.00
6-2	2	25	1.41	1.41	3.41
6-3	3	15	3.00	3.00	6.41
6-4	4	9	5.00	5.00	11.41
6-5	5	8	7.06	7.06	18.47
6-6	6	7	8.00	8.00	26.47
6-7	7	6	9.23	9.23	35.70
6-8	8	6	10.00	10.00	45.70
6-9	9	6	10.00	10.00	55.70
6-10	10	6	10.00	10.00	65.69
6-11	11	6	10.00	10.00	75.69
6-12	12	6	10.00	10.00	85.69
6-13	13	6	10.00	10.00	95.69
6-14	14	6	10.00	10.00	105.69
6-15	15	6	10.00	10.00	115.69
6-16	16	6	10.00	10.00	125.69
6-17	17	6	10.00	10.00	135.69
6-18	18	6	10.00	10.00	145.69
6-19	19	6	10.00	10.00	155.68
6-20	20	6	10.00	10.00	165.68
6-21	21	15	5.71	5.71	171.40
6-end	30.00	0	5.00	5.00	176.40
					176.40
					Total Collected Runoff (approx)

10-Aug-12
Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.05 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	908	0.13	0.13	0.13
2-2	2.00	908	0.07	0.07	0.20
2-3	3.00	727	0.07	0.07	0.27
2-4	4.00	560	0.09	0.09	0.36
2-5	5.00	530	0.11	0.11	0.47
2-6	6.00	500	0.12	0.12	0.59
2-7	7.00	469	0.12	0.12	0.72
2-8	8.00	439	0.13	0.13	0.85
2-9	9.00	409	0.14	0.14	0.99
2-10	10.00	379	0.15	0.15	1.14
2-11	11.00	303	0.18	0.18	1.32
2-12	12.00	121	0.28	0.28	1.60
2-13	13.00	106	0.53	0.53	2.13
2-14	14.00	91	0.61	0.61	2.74
2-15	15.00	76	0.72	0.72	3.46
2-16	16.00	76	0.79	0.79	4.25
2-17	17.00	76	0.79	0.79	5.04
2-18	18.00	61	0.88	0.88	5.92
2-19	19.00	45	1.13	1.13	7.06
2-20	20.00	45	1.32	1.32	8.38
2-21	21.00	151	0.61	0.61	8.99
2-end	22.00	0	0.66	0.66	9.65
					9.65
					Total Collected Runoff (approx)

3.98 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	227	0.53	0.53	0.53
4-2	2	91	0.38	0.38	0.91
4-3	3	61	0.79	0.79	1.70
4-4	4	45	1.13	1.13	2.83
4-5	5	34	1.51	1.51	4.34
4-6	6	31	1.85	1.85	6.19
4-7	7	25	2.14	2.14	8.33
4-8	8	20	2.67	2.67	11.00
4-9	9	18	3.16	3.16	14.15
4-10	10	15	3.64	3.64	17.79
4-11	11	12	4.44	4.44	22.23
4-12	12	13	4.80	4.80	27.03
4-13	13	12	4.80	4.80	31.83
4-14	14	12	5.00	5.00	36.83
4-15	15	11	5.22	5.22	42.05
4-16	16	11	5.45	5.45	47.50
4-17	17	11	5.45	5.45	52.96
4-18	18	11	5.45	5.45	58.41
4-19	19	11	5.45	5.45	63.86
4-20	20	11	5.45	5.45	69.32
4-21	21	21	3.75	3.75	73.07
4-end	23	0	2.73	2.73	75.80
					75.80
					Total Collected Runoff (approx)

6.06 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	106	1.13	1.13	1.13
6-2	2	45	0.79	0.79	1.92
6-3	3	10	2.17	2.17	4.09
6-4	4	10	6.00	6.00	10.09
6-5	5	10	6.00	6.00	16.09
6-6	6	9	6.32	6.32	22.40
6-7	7	9	6.67	6.67	29.07
6-8	8	8	7.06	7.06	36.13
6-9	9	8	7.50	7.50	43.63
6-10	10	8	7.50	7.50	51.13
6-11	11	7	8.00	8.00	59.13
6-12	12	6	9.23	9.23	68.35
6-13	13	6	10.00	10.00	78.35
6-14	14	6	10.00	10.00	88.35
6-15	15	6	10.00	10.00	98.35
6-16	16	6	10.00	10.00	108.35
6-17	17	6	10.00	10.00	118.35
6-18	18	5	10.91	10.91	129.26
6-19	19	5	12.00	12.00	141.26
6-20	20	5	12.00	12.00	153.25
6-21	21	18	5.22	5.22	158.47
6-end	30	0	6.00	6.00	164.47
					164.47
					Total Collected Runoff (approx)

16-Aug-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.13 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	273	0.44	0.44	0.44
2-2	2.00	379	0.18	0.18	0.62
2-3	3.00	424	0.15	0.15	0.77
2-4	4.00	409	0.14	0.14	0.92
2-5	5.00	439	0.14	0.14	1.06
2-6	6.00	394	0.14	0.14	1.20
2-7	7.00	197	0.20	0.20	1.41
2-8	8.00	121	0.38	0.38	1.78
2-9	9.00	106	0.53	0.53	2.31
2-10	10.00	76	0.66	0.66	2.97
2-11	11.00	76	0.79	0.79	3.77
2-12	12.00	61	0.88	0.88	4.65
2-13	13.00	61	0.99	0.99	5.64
2-14	14.00	61	0.99	0.99	6.63
2-15	15.00	61	0.99	0.99	7.62
2-16	16.00	61	0.99	0.99	8.61
2-17	17.00	61	0.99	0.99	9.60
2-18	18.00	61	0.99	0.99	10.59
2-19	19.00	61	0.99	0.99	11.58
2-20	20.00	61	0.99	0.99	12.57
2-21	21.00	61	0.99	0.99	13.56
2-end	22.00	0	0.50	0.50	14.06
					14.06
					Total Collected Runoff (approx)

4.09 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	182	0.66	0.66	0.66
4-2	2	45	0.53	0.53	1.19
4-3	3	12	2.09	2.09	3.28
4-4	4	11	5.22	5.22	8.50
4-5	5	11	5.45	5.45	13.95
4-6	6	11	5.45	5.45	19.40
4-7	7	11	5.45	5.45	24.86
4-8	8	11	5.45	5.45	30.31
4-9	9	11	5.45	5.45	35.77
4-10	10	11	5.45	5.45	41.22
4-11	11	10	5.71	5.71	46.93
4-12	12	10	6.00	6.00	52.93
4-13	13	10	6.00	6.00	58.93
4-14	14	10	6.00	6.00	64.93
4-15	15	10	6.00	6.00	70.93
4-16	16	10	6.00	6.00	76.93
4-17	17	10	6.00	6.00	82.93
4-18	18	9	6.32	6.32	89.24
4-19	19	9	6.67	6.67	95.91
4-20	20	9	6.67	6.67	102.58
4-21	21	18	4.44	4.44	107.02
4-end	23	0	3.33	3.33	110.35
					110.35
					Total Collected Runoff (approx)

6.30 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	121	0.99	0.99	0.99
6-2	2	11	0.91	0.91	1.90
6-3	3	7	6.67	6.67	8.56
6-4	4	7	8.57	8.57	17.14
6-5	5	7	8.57	8.57	25.71
6-6	6	7	8.57	8.57	34.28
6-7	7	7	8.57	8.57	42.85
6-8	8	7	8.57	8.57	51.42
6-9	9	7	8.57	8.57	59.99
6-10	10	7	8.57	8.57	68.56
6-11	11	7	8.57	8.57	77.13
6-12	12	7	8.57	8.57	85.70
6-13	13	6	9.23	9.23	94.93
6-14	14	6	10.00	10.00	104.93
6-15	15	6	10.00	10.00	114.93
6-16	16	6	10.00	10.00	124.93
6-17	17	6	10.00	10.00	134.92
6-18	18	6	10.00	10.00	144.92
6-19	19	6	10.00	10.00	154.92
6-20	20	7	9.23	9.23	164.15
6-21	21	8	8.00	8.00	172.15
6-end	30	0	4.29	4.29	176.44
					176.44
					Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	8-Aug-12	10-Aug-12	16-Aug-12
Avg Moisture Content:	23.72%	24.10%	25.19%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	258.08	274.45	39.67
Wt. Of cup + dry soil, g	250.3	263.43	32.58
Wt. Of cup, g	217.12	217.12	4.26
Wt. Of dry soil, g	33.18	46.31	28.32
Wt. Of water, g	7.78	11.02	7.09
Water Content, w%	23.4%	23.8%	25.0%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	255.3	263.24	35.18
Wt. Of cup + dry soil, g	247.63	253.99	29.17
Wt. Of cup, g	216.08	216.08	4.89
Wt. Of dry soil, g	31.55	37.91	24.28
Wt. Of water, g	7.67	9.25	6.01
Water Content, w%	24.3%	24.4%	24.8%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	255.18	300.43	31.35
Wt. Of cup + dry soil, g	247.95	284.24	25.8
Wt. Of cup, g	217.07	217.08	4.27
Wt. Of dry soil, g	30.88	67.16	21.53
Wt. Of water, g	7.23	16.19	5.55
Water Content, w%	23.4%	24.1%	25.8%

Soil Loss Data

Slope No.	1	2	3
Test Date:	8-Aug-12	10-Aug-12	16-Aug-12
Total Soil Loss	4.39	5.23	7.63

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	13.6	45.4	118.1
Sub-Sample	Wt. Of cup + wet soil, g	13.6	45.4
	Wt. Of cup + dry soil, g	13.6	45.4
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	13.6	45.4
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.030	0.100	0.260

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	345.1	376.8	749.1
Sub-Sample	Wt. Of cup + wet soil, g	345.1	376.8
	Wt. Of cup + dry soil, g	345.1	376.8
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	345.1	376.8
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.760	0.830	1.650

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	1634.4	1952.2	2596.9
Sub-Sample	Wt. Of cup + wet soil, g	1634.4	1952.2
	Wt. Of cup + dry soil, g	1634.4	1952.2
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	1634.4	1952.2
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	3.600	4.300	5.720



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 11-Apr-12 10-Apr-12 2-May-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: Control

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	1.93	5.06	5.93	0.141	0.014
	4.04	110.40	49.84	45.800	4.632
	5.96	222.58	161.22	166.599	21.430
Bare Soil Controls			5.93		0.752
			49.84		6.320
			161.22		20.442

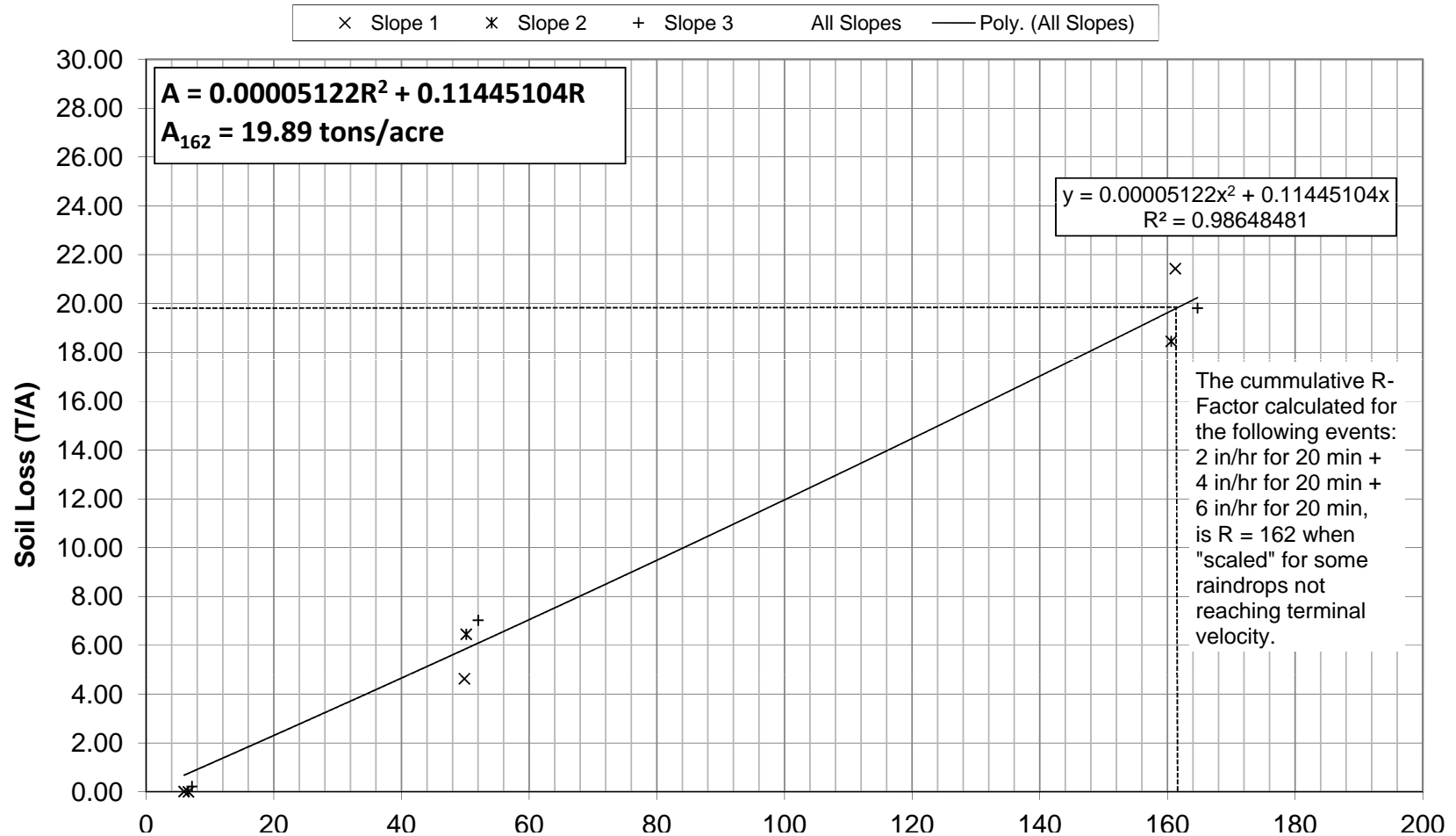
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.03	0.74	6.61	0.018	0.002
	3.98	110.03	50.14	64.000	6.455
	5.94	206.51	160.58	119.000	18.453
Bare Soil Controls			6.61		0.838
			50.14		6.357
			160.58		20.362

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.11	7.19	7.17	2.200	0.222
	4.02	113.76	52.01	67.500	7.028
	6.00	210.89	164.71	126.800	19.812
Bare Soil Controls			7.17		0.909
			52.01		6.595
			164.71		20.885

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)
Quality Review / Date

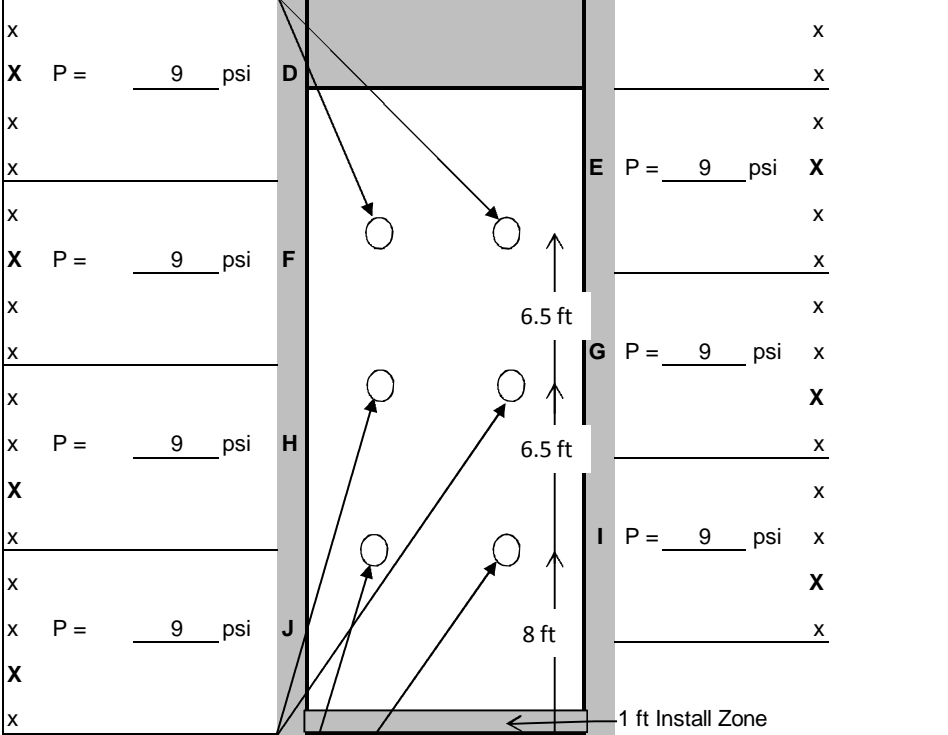
Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)



DDRF Rainfall Testing		Sediment Concentration & Turbidity Grab Samples		
Slope #: 1		Target Rain: 2 in/hr		
		Time	Sed Conc Samples Taken	Turbidity Samples Taken

Date:	11-Apr-12	Start Rain: Sampling interval:	7:01 AM 0:03	End Rain:	7:21 AM	7:04	X	X	
		End Runoff:	7:23 AM			7:07	X	X	
		Rain Time (min):	20.00	Test Time (min):	22.00	7:10	X	X	
Product:		Descr.:	Control						
Lot #:		Posts:		Spacing:		7:13	X	X	
						7:16	X	X	
		TOP OF SLOPE					7:19	X	X
		(circle "x" for open valves)					7:22	X	X
				Set valves to 16 psi.					

$w_{c1} = 19.4\%$
 d = 16 15 mm
 i = 1.89 1.77 in/hr



d = 18 15 mm
 i = 2.13 1.77 in/hr
 P = 9 psi Temp. 39 deg
 Hum. 69 %

$w_{c2} = 19.8\%$

d = 19 15 mm
 i = 2.24 1.77 in/hr
Average Depth: 16 mm

$w_{c3} = 20.2\%$ **Avg Rainfall Intensity: 1.93 in/hr**

Runoff Rate Measurements		
Min.	Volume	Seconds
1	1	60
2	1	60
3	125	60
4	125	60
5	250	60
6	250	52
7	250	55
8	250	50
9	250	45
10	250	42
11	250	40
12	250	40
13	250	31
14	250	23
15	250	17
16	250	10
17	250	7
18	250	5
19	250	5
20	250	5
21	250	10
22	250	0

NOTES:
 Wind: 0 mph. Direction: E
 Approx 5 gallons collected.

DDRF Rainfall Testing

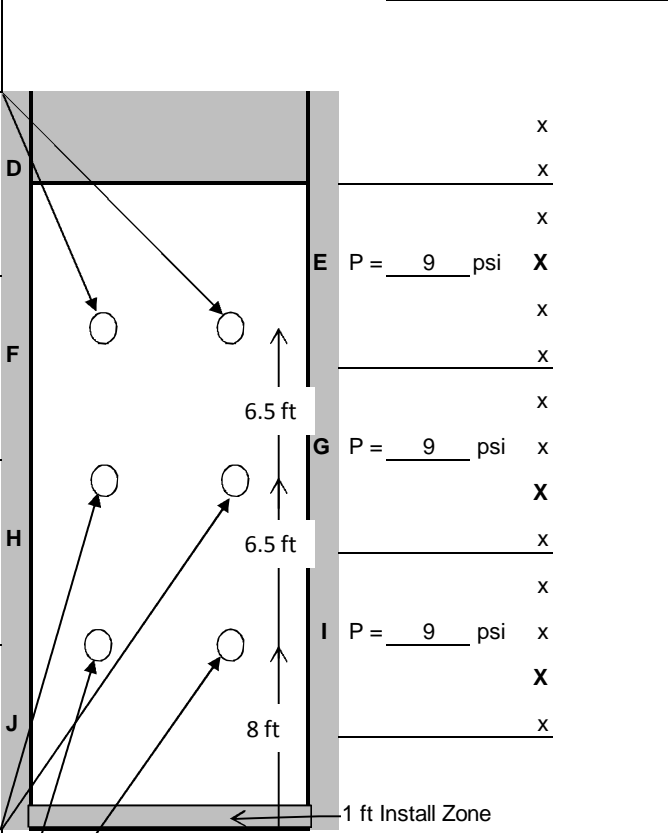
Slope #: 1	Target Rain: 4 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date:	11-Apr-12	Start Rain:	7:32 AM	End Rain:	7:52 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
		Sampling interval:	0:03	End Runoff:	7:54 AM	7:35	X	X
		Rain Time (min):	20.00	Test Time (min):	22.00	7:38	X	X
Product:	BSRF	Descr.:	Control			7:41	X	X
Lot #:		Posts:		Spacing:		7:44	X	X
						7:47	X	X
						7:50	X	X
						7:53	X	X

w_{c1} = 19.4%

d = 33 34 mm

i = 3.90 4.02 in/hr



Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	3785	21
2	3785	14
3	3785	14
4	3785	13
5	3785	13
6	3785	13
7	3785	13
8	3785	13
9	3785	12
10	3785	12
11	3785	12
12	3785	11
13	3785	12
14	3785	11
15	3785	11
16	3785	11
17	3785	10
18	3785	10
19	3785	10
20	3785	10
21	3785	10
22	3785	0

d = 32 36 mm

i = 3.78 4.25 in/hr

w_{c2} = 19.8%

d = 34 36 mm

i = 4.02 4.25 in/hr

w_{c3} = 20.2%

Average Depth: 34 mm

Avg Rainfall Intensity: 4.04 in/hr

P = 9 psi Temp. 39 deg

Hum. 69 %

NOTES:
 Wind: 0 mph. Direction: E
 Approx 110 gallons collected.

DDRF Rainfall Testing

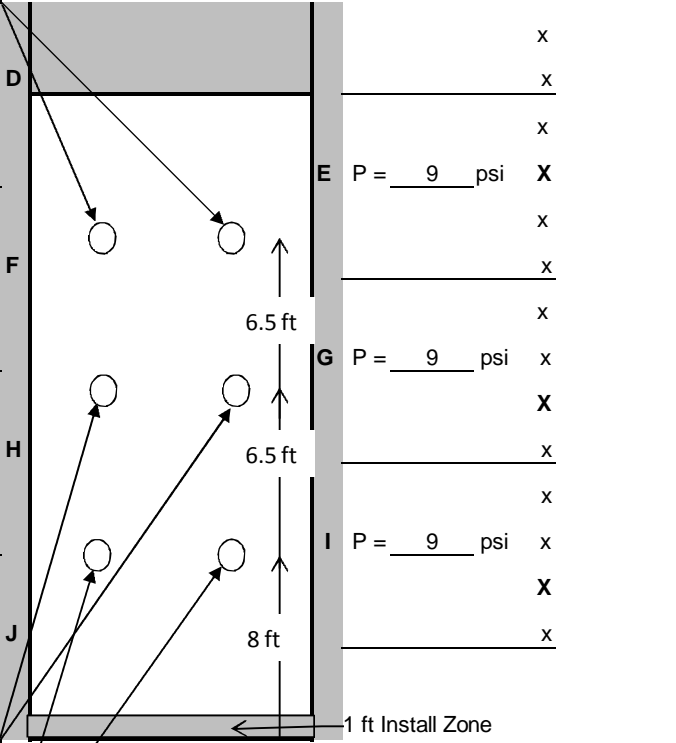
Slope #: 1 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken			
Date:	11-Apr-12	Start Rain:	8:05 AM	End Rain:	8:25 AM	8:08	X	X	
		Sampling interval:	0:03	End Runoff:	8:28 AM	8:11	X	X	
		Rain Time (min):	20.00	Test Time (min):	23.00	8:14	X	X	
Product:	BSRF	Descr.:	Control				8:17	X	X
Lot #:		Posts:		Spacing:		8:20	X	X	
TOP OF SLOPE						8:23	X	X	
(circle "x" for open valves)				Set valves to 16 psi.		8:26	X	X	

d = 50 49 mm
i = 5.91 5.79 in/hr

x
X P = 9 psi
x
x
x
X P = 9 psi
x
x
x
X P = 9 psi
x
X
x
x
X P = 9 psi
X
x



Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	9
2	3785	8
3	3785	7
4	3785	7
5	3785	6
6	3785	6
7	3785	6
8	3785	6
9	3785	6
10	3785	6
11	3785	6
12	3785	6
13	3785	6
14	3785	5
15	3785	5
16	3785	5
17	3785	5
18	3785	5
19	3785	5
20	3785	5
21	3785	11
23	3785	0

d = 49 49 mm
i = 5.79 5.79 in/hr

w_{c2} = 19.8%

d = 53 53 mm
i = 6.26 6.26 in/hr

w_{c3} = 20.2%

x x **X** x
P = 9 psi Temp. 40 deg
Hum. 69 %

Average Depth: 51 mm
Avg Rainfall Intensity: 5.96 in/hr

NOTES:
Wind: 0 mph. Direction: N
Approx 220 gallons collected.

DDRF Rainfall Testing

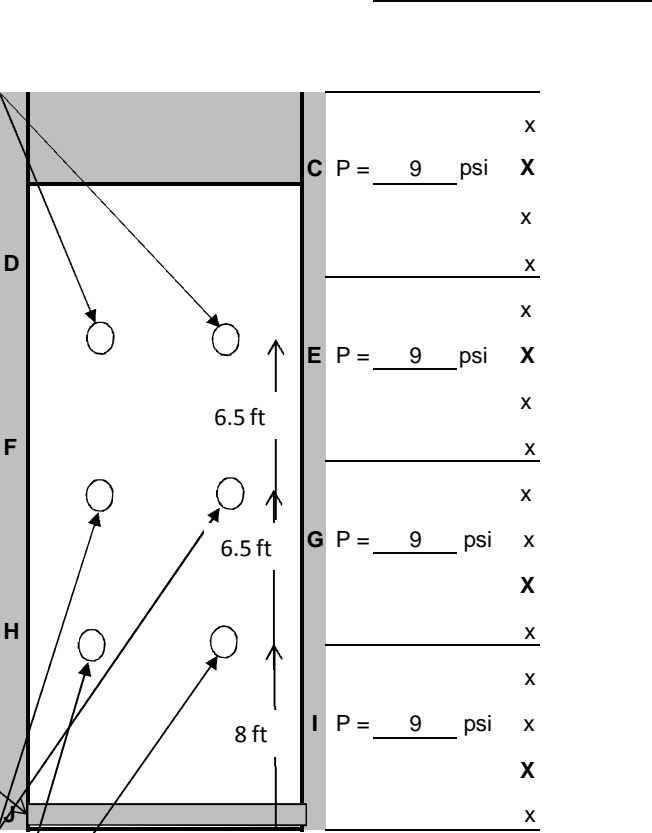
Slope #: 2	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date:	10-Apr-12	Start Rain: Sampling interval:	7:48 AM 0:03	End Rain:	8:08 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
				End Runoff:	8:10 AM	7:51		
		Rain Time (min):	20.00	Test Time (min):	22.00	7:54		
Product:		Descr.:	Control			7:57		
Lot #:		Posts:		Spacing:		8:00	X	X
TOP OF SLOPE						8:03	X	X
(circle "x" for open valves)						8:06	X	X
Set valves to 16 psi.						8:09	X	X

w_{c1} = 19.4%

d = 18 16 mm

i = 2.13 1.89 in/hr



Runoff Rate Measurements		
Min.	Volume	Seconds
1	25	60
2	25	60
3	25	60
4	25	60
5	25	60
6	25	60
7	25	60
8	25	60
9	25	60
10	25	60
11	25	60
12	125	60
13	250	60
14	250	60
15	187	60
16	250	60
17	250	60
18	187	60
19	125	60
20	250	22
21	250	44
22	250	0

d = 19 20 mm

i = 2.24 2.36 in/hr

w_{c2} = 19.8%

d = 15 15 mm

i = 1.77 1.77 in/hr

w_{c3} = 20.2%

P = 9 psi

Temp. 58 deg

Hum. 61 %

Average Depth: 17 mm

Avg Rainfall Intensity: 2.03 in/hr

NOTES:
 Wind: 0 mph. Direction: E
 Approx 1 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 4 in/hr**

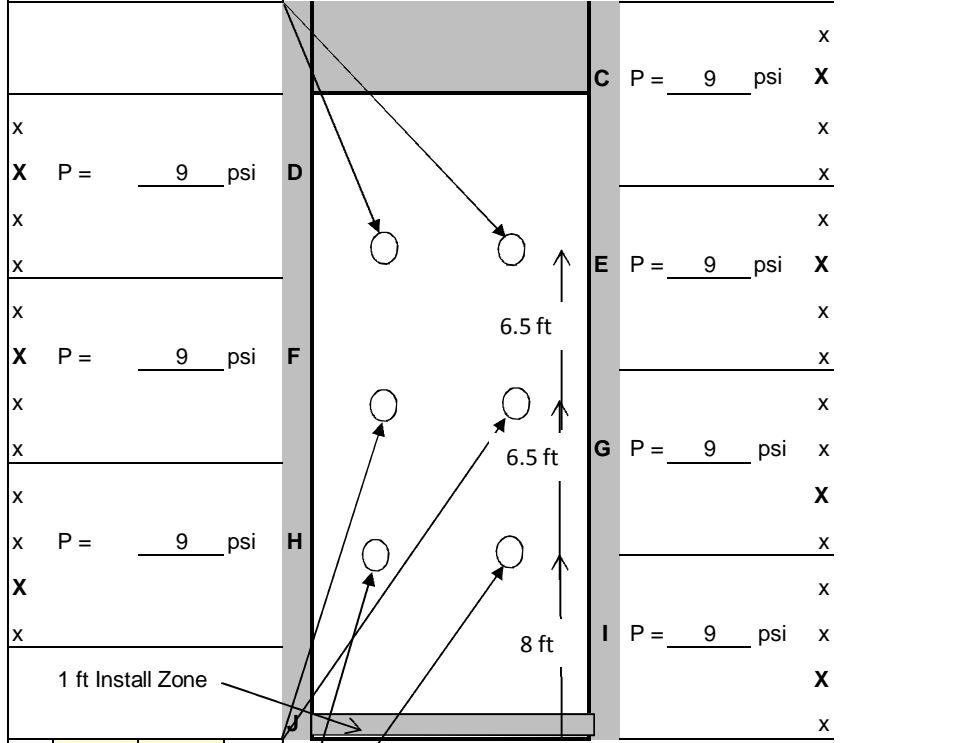
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	10-Apr-12	Start Rain: 8:20 AM	End Rain: 8:40 AM	8:23	X	X
		Sampling interval: 0:03	End Runoff: 8:42 AM	8:26	X	X
		Rain Time (min): 20.00	Test Time (min): 22.00	8:29	X	X
Product:	BSRF	Descr.: Control		8:32	X	X
Lot #:		Posts:	Spacing:	8:35	X	X
		TOP OF SLOPE		8:38	X	X
$w_{c1} = 19.4\%$		(circle "x" for open valves)	Set valves to 16 psi.	8:41	X	X

d = 32 34 mm
i = 3.78 4.02 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	44
2	3785	21
3	3785	17
4	3785	15
5	3785	11
6	3785	11
7	3785	10
8	3785	11
9	3785	11
10	3785	11
11	3785	11
12	3785	10
13	3785	10
14	3785	11
15	3785	11
16	3785	10
17	3785	9
18	3785	9
19	3785	9
20	3785	9
21	3785	9
22	3785	0



d = 33 35 mm
i = 3.90 4.13 in/hr

$w_{c2} = 19.8\%$

d = 33 35 mm
i = 3.90 4.13 in/hr

$w_{c3} = 20.2\%$

x x X x
P = 9 psi Temp. 58 deg
Hum. 61 %

Average Depth: 34 mm
Avg Rainfall Intensity: 3.98 in/hr

NOTES:
Wind: 0 mph. Direction: E
Approx 110 gallons collected.

DDRF Rainfall Testing

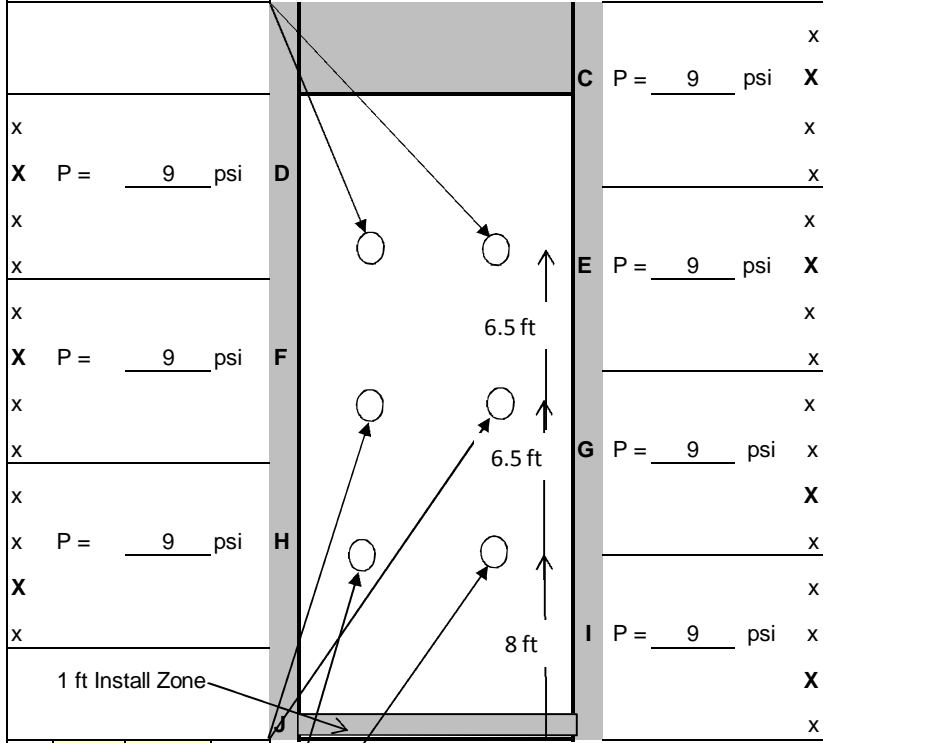
Slope #: 2 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples		
				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	10-Apr-12	Start Rain: 8:20 AM	End Rain: 8:40 AM	8:23	X	X
		Sampling interval: 0:03	End Runoff: 8:42 AM	8:26	X	X
		Rain Time (min): 20.00	Test Time (min): 22.00	8:29	X	X
Product:	BSRF	Descr.: Control		8:32	X	X
Lot #:		Posts:	Spacing:	8:35	X	X
TOP OF SLOPE				8:38	X	X
(circle "x" for open valves)				8:41	X	X

w_{c1} = 19.4%

d = 46 56 mm

i = 5.43 6.61 in/hr



1 ft Install Zone

d = 47 54 mm

i = 5.55 6.38 in/hr

w_{c2} = 19.8%

d = 45 54 mm

i = 5.31 6.38 in/hr

w_{c3} = 20.2%

Average Depth: 50 mm

Avg Rainfall Intensity: 5.94 in/hr

P = 9 psi Temp. 58 deg

Hum. 61 %

Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	11
2	3785	10
3	3785	10
4	3785	8
5	3785	8
6	3785	7
7	3785	7
8	3785	7
9	3785	6
10	3785	7
11	3785	6
12	3785	6
13	3785	6
14	3785	6
15	3785	6
16	3785	5
17	3785	5
18	3785	5
19	3785	5
20	3785	5
21	3785	5
22	3785	0

NOTES:
 Wind: 0 mph. Direction: E
 Approx 220 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 2 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	2-May-12	Start Rain: 7:00 AM	End Rain: 7:20 AM	7:03	X	X
		Sampling interval: 0:03	End Runoff: 7:21 AM	7:06	X	X
		Rain Time (min): 20.00	Test Time (min): 21.00	7:09	X	X
Product:		Descr.: Control		7:12	X	X
Lot #:		Posts:	Spacing:	7:15	X	X
		TOP OF SLOPE		7:18	X	X
		(circle "x" for open valves)	Set valves to 16 psi.	7:21	X	X

w_{c1} = 19.4%

d = 19 19 mm

i = 2.24 2.24 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x

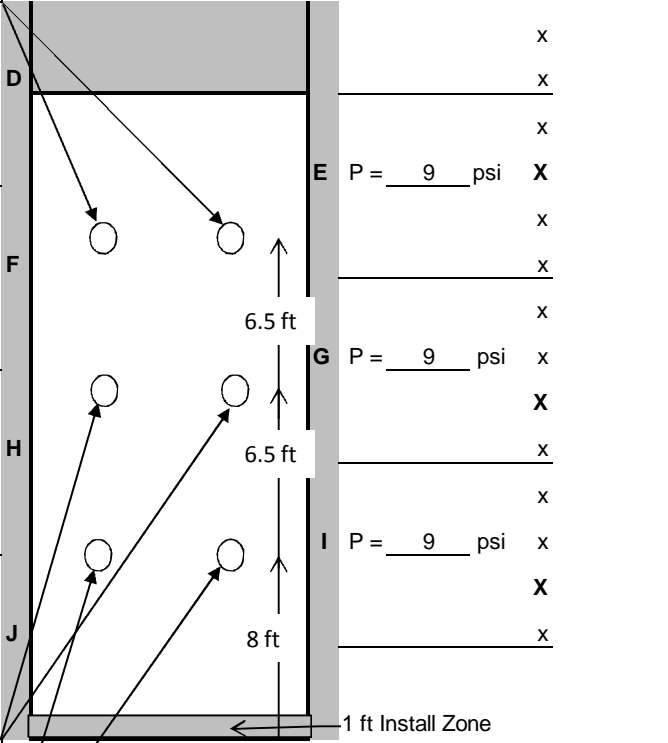
X P = 9 psi

x

x

X P = 9 psi

x



Runoff Rate Measurements

Min.	Volume	Seconds
1	25	60
2	25	60
3	25	60
4	25	60
5	250	47
6	250	46
7	250	46
8	250	42
9	250	42
10	250	34
11	250	32
12	250	32
13	250	16
14	250	8
15	187	6
16	250	5
17	250	4
18	250	4
19	250	4
20	250	4
21	250	12
21	250	0

d = 19 18 mm

i = 2.24 2.13 in/hr

w_{c2} = 19.8%

d = 15 17 mm

i = 1.77 2.01 in/hr

w_{c3} = 20.2%

x x X x

P = 9 psi

Temp. 64 deg

Hum. 91 %

Average Depth: 18 mm

Avg Rainfall Intensity: 2.11 in/hr

NOTES:
 Wind: 0 mph. Direction: N
 Approx 8 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 4 in/hr**

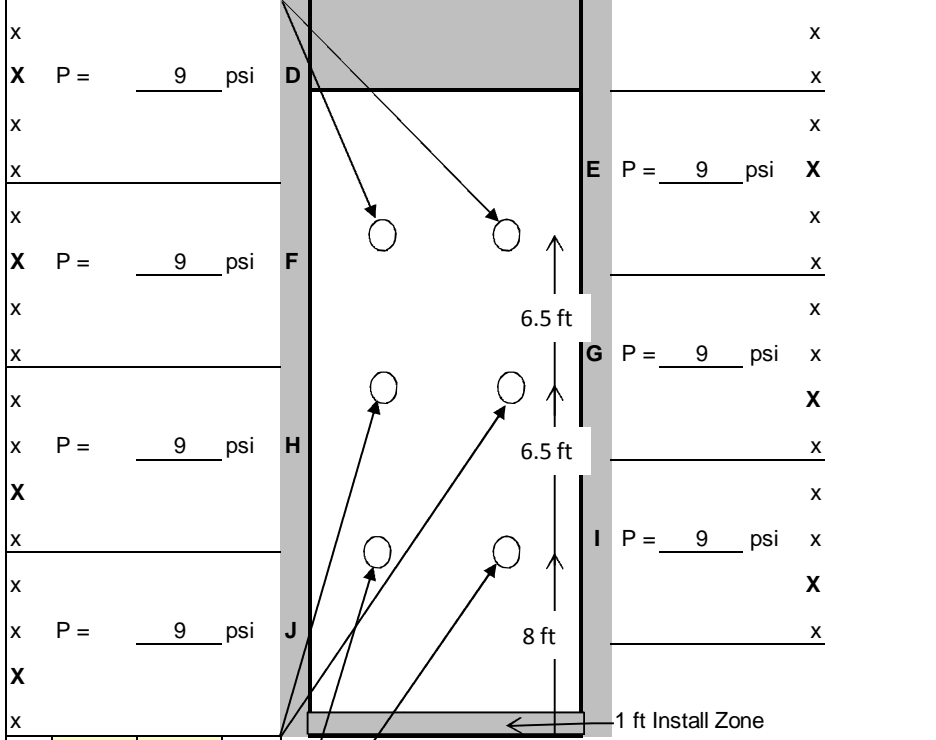
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	2-May-12	Start Rain:	7:27 AM	End Rain:	7:47 AM	7:30	X	X
		Sampling interval:	0:03	End Runoff:	7:50 AM	7:33	X	X
		Rain Time (min):	20.00	Test Time (min):	23.00	7:36	X	X
Product:		Descr.:	Control			7:39	X	X
Lot #:		Posts:		Spacing:		7:42	X	X
TOP OF SLOPE						7:45	X	X
(circle "x" for open valves)					Set valves to 16 psi.	7:48	X	X

w_{c1} = 19.4%

d = 33 35 mm

i = 3.90 4.13 in/hr



Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	3785	26
2	3785	17
3	3785	14
4	3785	14
5	3785	13
6	3785	13
7	3785	13
8	3785	12
9	3785	12
10	3785	12
11	3785	11
12	3785	11
13	3785	10
14	3785	10
15	3785	9
16	3785	9
17	3785	8
18	3785	8
19	3785	8
20	3785	8
21	250	7
23	3785	0

d = 34 35 mm

i = 4.02 4.13 in/hr

w_{c2} = 19.8%

Temp. 64 deg

Hum. 91 %

P = 9 psi

d = 33 34 mm

i = 3.90 4.02 in/hr

w_{c3} = 20.2%

Average Depth: 34 mm

Avg Rainfall Intensity: 4.02 in/hr

NOTES:
 Wind: 0 mph. Direction: N
 Approx 120 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	2-May-12	Start Rain: 8:02 AM	End Rain: 8:22 AM	8:05	X	X
		Sampling interval: 0:03	End Runoff: 8:24 AM	8:08	X	X
		Rain Time (min): 20.00	Test Time (min): 22.00	8:11	X	X
Product:		Descr.: Control		8:14	X	X
Lot #:		Posts:	Spacing:	8:17	X	X
TOP OF SLOPE				8:20	X	X
(circle "x" for open valves)				8:23	X	X

w_{c1} = 19.4%

d = 53 53 mm

i = 6.26 6.26 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x P = 9 psi

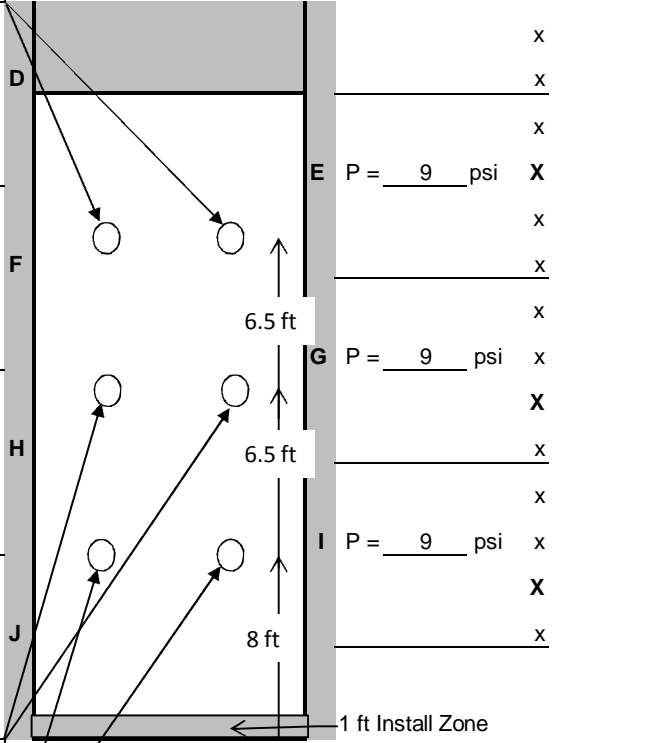
X

x

x P = 9 psi

X

x



Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	8
2	3785	8
3	3785	8
4	3785	7
5	3785	7
6	3785	7
7	3785	7
8	3785	6
9	3785	6
10	3785	6
11	3785	6
12	3785	6
13	3785	6
14	3785	6
15	3785	6
16	3785	6
17	3785	6
18	3785	5
19	3785	5
20	3785	5
21	3785	12
22	3785	0

d = 50 50 mm

i = 5.91 5.91 in/hr

w_{c2} = 19.8%

d = 49 50 mm

i = 5.79 5.91 in/hr

w_{c3} = 20.2%

x x X x

P = 9 psi Temp. 64 deg

Hum. 90 %

Average Depth: 51 mm

Avg Rainfall Intensity: 6.00 in/hr

NOTES:
 Wind: 0 mph. Direction: N
 Approx 210 gallons collected.

GSWCC_SB Data Form - Turbidities

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	231
2	20	78.4
3	20	123

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	822	2-1	3.00		2-1	3.00	1574
2-2	6.00	584	2-2	6.00		2-2	6.00	2871
2-3	9.00	553	2-3	9.00		2-3	9.00	2748
2-4	12.00	887	2-4	12.00	360	2-4	12.00	3888
2-5	15.00	2733	2-5	15.00	392	2-5	15.00	9999
2-6	18.00	3028	2-6	18.00	307	2-6	18.00	9999
2-7	21.00	1574	2-7	21.00	3434	2-7	21.00	9999
avg		1454	avg		1123	avg		5868
4-1	3.00	6513	4-1	2.00	6360	4-1	2.00	9999
4-2	6.00	5324	4-2	4.00	6401	4-2	4.00	9999
4-3	9.00	6176	4-3	6.00	9999	4-3	6.00	9999
4-4	12.00	9999	4-4	8.00	9999	4-4	8.00	9999
4-5	15.00	9999	4-5	10.00	9999	4-5	10.00	9999
4-6	18.00	9999	4-6	12.00	9999	4-6	12.00	9999
4-7	21.00	3291	4-7	21.00	9999	4-7	21.00	9999
avg		7329	avg		8965	avg		9999
6-1	3.00	9999	6-1	3.00	9999	6-1	3.00	9999
6-2	6.00	9999	6-2	6.00	9999	6-2	6.00	9999
6-3	9.00	9999	6-3	9.00	9999	6-3	9.00	9999
6-4	12.00	9999	6-4	12.00	9999	6-4	12.00	9999
6-5	15.00	9999	6-5	15.00	9999	6-5	15.00	9999
6-6	18.00	9999	6-6	18.00	9999	6-6	18.00	9999
6-7	21.00	9999	6-7	21.00	9999	6-7	21.00	9999
avg		9999	avg		9999	avg		9999

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
1.93	in/hr	avg														
11-Apr-12		2-1	3.00	270.81	152.83	147.77	147.25	520.00	123.04	0.12	4226.27	3.00	1817.00	0.00	4226.27	0.00
		2-2	6.00	320.20	150.16	147.98	147.09	890.00	172.22	0.17	5167.81	6.00	787.37	0.15	5167.81	0.01
		2-3	9.00	320.06	157.03	148.12	147.18	940.00	171.94	0.17	5467.02	9.00	681.37	0.23	5467.02	0.01
		2-4	12.00	313.63	156.99	147.95	147.67	280.00	165.68	0.17	1690.00	12.00	605.67	0.29	1690.00	0.00
		2-5	15.00	322.53	166.95	148.28	147.68	600.00	174.25	0.17	3443.33	15.00	257.41	0.46	3443.33	0.01
		2-6	18.00	327.61	171.23	151.47	150.61	860.00	176.14	0.18	4882.48	18.00	75.71	1.42	4882.48	0.06
		2-7	21.00	249.47	156.56	149.40	148.95	450.00	100.07	0.10	4496.85	21.00	151.42	2.11	4496.85	0.08
										AVG =	4196.25	22.00	0	0.40	4496.85	0.01
4.04	in/hr	avg									4196.25			Total Solids Lost:		0.19
11-Apr-12		4-1	3.00	293.63	171.89	154.30	150.74	3560.00	139.33	0.14	25550.85	3.00	14.00	13.43	25550.85	2.86
		4-2	6.00	290.11	165.19	152.03	149.65	2380.00	138.08	0.14	17236.38	6.00	13.00	13.67	17236.38	1.97
		4-3	9.00	287.35	151.29	155.26	151.29	3970.00	132.09	0.13	30055.27	9.00	12.00	14.03	30055.27	3.52
		4-4	12.00	313.79	186.97	156.51	146.12	10390.00	157.28	0.16	66060.53	12.00	11.00	15.22	66060.53	8.39
		4-5	15.00	307.15	186.05	158.76	149.60	9160.00	148.39	0.15	61729.23	15.00	11.00	15.89	61729.23	8.18
		4-6	18.00	303.45	186.91	159.73	150.39	9340.00	143.72	0.14	64987.48	18.00	10.00	17.17	64987.48	9.31
		4-7	21.00	293.15	167.38	156.93	147.36	9570.00	136.22	0.14	70254.00	21.00	10.00	18.00	70254.00	10.55
										AVG =	47981.96	22.00	0.00	3.00	70254.00	1.76
5.96	in/hr	avg									47981.96			Total Solids Lost:		46.53
11-Apr-12		6-1	3.00	330.30	199.16	162.74	147.94	14800.00	167.56	0.17	88326.57	3.00	7.00	28.39	88326.57	20.92
		6-2	6.00	358.03	213.67	167.65	150.64	17010.00	190.38	0.19	89347.62	6.00	6.00	27.80	89347.62	20.72
		6-3	9.00	343.85	211.51	165.19	146.62	18570.00	178.66	0.18	103940.45	9.00	6.00	30.00	103940.45	26.01
		6-4	12.00	356.84	224.29	168.51	148.88	19630.00	188.33	0.19	104231.93	12.00	6.00	30.00	104231.93	26.09
		6-5	15.00	341.69	208.50	162.51	145.53	16980.00	179.18	0.18	94765.04	15.00	5.00	32.91	94765.04	26.02
		6-6	18.00	368.20	228.03	170.60	150.02	20580.00	197.60	0.20	104149.80	18.00	5.00	36.00	104149.80	31.28
		6-7	21.00	343.26	196.91	161.15	151.04	10110.00	182.11	0.18	55515.90	21.00	11.00	31.50	55515.90	14.59
										AVG =	91468.19	23.00	0.00	6.00	55515.90	2.78
											91468.19			Total Solids Lost:		168.41

11-Apr-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
1.93 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	227125	0.00	0.00	0.00
2-2	2.00	227125	0.00	0.00	0.00
2-3	3.00	1817	0.00	0.00	0.00
2-4	4.00	1817	0.03	0.03	0.03
2-5	5.00	908	0.04	0.04	0.08
2-6	6.00	787	0.07	0.07	0.15
2-7	7.00	833	0.07	0.07	0.22
2-8	8.00	757	0.08	0.08	0.30
2-9	9.00	681	0.08	0.08	0.38
2-10	10.00	636	0.09	0.09	0.47
2-11	11.00	606	0.10	0.10	0.57
2-12	12.00	606	0.10	0.10	0.67
2-13	13.00	469	0.11	0.11	0.78
2-14	14.00	348	0.15	0.15	0.93
2-15	15.00	257	0.20	0.20	1.13
2-16	16.00	151	0.29	0.29	1.42
2-17	17.00	106	0.47	0.47	1.89
2-18	18.00	76	0.66	0.66	2.55
2-19	19.00	76	0.79	0.79	3.34
2-20	20.00	76	0.79	0.79	4.13
2-21	21.00	151	0.53	0.53	4.66
2-end	22.00	0	0.40	0.40	5.06
					5.06
					Total Collected Runoff (approx)

4.04 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	21	5.71	5.71	5.71
4-2	2	14	3.43	3.43	9.14
4-3	3	14	4.29	4.29	13.43
4-4	4	13	4.44	4.44	17.87
4-5	5	13	4.61	4.61	22.49
4-6	6	13	4.61	4.61	27.10
4-7	7	13	4.61	4.61	31.72
4-8	8	13	4.61	4.61	36.33
4-9	9	12	4.80	4.80	41.13
4-10	10	12	5.00	5.00	46.13
4-11	11	12	5.00	5.00	51.13
4-12	12	11	5.22	5.22	56.35
4-13	13	12	5.22	5.22	61.56
4-14	14	11	5.22	5.22	66.78
4-15	15	11	5.45	5.45	72.23
4-16	16	11	5.45	5.45	77.69
4-17	17	10	5.71	5.71	83.40
4-18	18	10	6.00	6.00	89.40
4-19	19	10	6.00	6.00	95.40
4-20	20	10	6.00	6.00	101.40
4-21	21	10	6.00	6.00	107.40
4-end	22.00	0	3.00	3.00	110.40
					110.40
					Total Collected Runoff (approx)

5.96 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	9	13.33	13.33	13.33
6-2	2	8	7.06	7.06	20.39
6-3	3	7	8.00	8.00	28.39
6-4	4	7	8.57	8.57	36.96
6-5	5	6	9.23	9.23	46.19
6-6	6	6	10.00	10.00	56.19
6-7	7	6	10.00	10.00	66.19
6-8	8	6	10.00	10.00	76.19
6-9	9	6	10.00	10.00	86.19
6-10	10	6	10.00	10.00	96.18
6-11	11	6	10.00	10.00	106.18
6-12	12	6	10.00	10.00	116.18
6-13	13	6	10.00	10.00	126.18
6-14	14	5	10.91	10.91	137.09
6-15	15	5	12.00	12.00	149.09
6-16	16	5	12.00	12.00	161.09
6-17	17	5	12.00	12.00	173.08
6-18	18	5	12.00	12.00	185.08
6-19	19	5	12.00	12.00	197.08
6-20	20	5	12.00	12.00	209.08
6-21	21	11	7.50	7.50	216.58
6-end	23.00	0	6.00	6.00	222.58
					222.58
					Total Collected Runoff (approx)

10-Apr-12
Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.03 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	9085	0.01	0.01	0.01
2-2	2.00	9085	0.01	0.01	0.02
2-3	3.00	9085	0.01	0.01	0.03
2-4	4.00	9085	0.01	0.01	0.03
2-5	5.00	9085	0.01	0.01	0.04
2-6	6.00	9085	0.01	0.01	0.05
2-7	7.00	9085	0.01	0.01	0.05
2-8	8.00	9085	0.01	0.01	0.06
2-9	9.00	9085	0.01	0.01	0.07
2-10	10.00	9085	0.01	0.01	0.07
2-11	11.00	9085	0.01	0.01	0.08
2-12	12.00	1817	0.01	0.01	0.09
2-13	13.00	908	0.04	0.04	0.13
2-14	14.00	908	0.07	0.07	0.20
2-15	15.00	1215	0.06	0.06	0.26
2-16	16.00	908	0.06	0.06	0.31
2-17	17.00	908	0.07	0.07	0.38
2-18	18.00	1215	0.06	0.06	0.44
2-19	19.00	1817	0.04	0.04	0.48
2-20	20.00	333	0.06	0.06	0.53
2-21	21.00	666	0.12	0.12	0.65
2-end	22.00	0	0.09	0.09	0.74
					0.74
					Total Collected Runoff (approx)

3.98 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	666	0.18	0.18	0.18
4-2	2	21	0.17	0.17	0.35
4-3	3	17	3.16	3.16	3.51
4-4	4	15	3.75	3.75	7.26
4-5	5	11	4.61	4.61	11.88
4-6	6	11	5.45	5.45	17.33
4-7	7	10	5.71	5.71	23.04
4-8	8	11	5.71	5.71	28.76
4-9	9	11	5.45	5.45	34.21
4-10	10	11	5.45	5.45	39.67
4-11	11	11	5.45	5.45	45.12
4-12	12	10	5.71	5.71	50.83
4-13	13	10	6.00	6.00	56.83
4-14	14	11	5.71	5.71	62.55
4-15	15	11	5.45	5.45	68.00
4-16	16	10	5.71	5.71	73.71
4-17	17	9	6.32	6.32	80.03
4-18	18	9	6.67	6.67	86.70
4-19	19	9	6.67	6.67	93.36
4-20	20	9	6.67	6.67	100.03
4-21	21	9	6.67	6.67	106.69
4-end	22	0	3.33	3.33	110.03
					110.03
					Total Collected Runoff (approx)

5.94 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	11	10.91	10.91	10.91
6-2	2	10	5.71	5.71	16.62
6-3	3	10	6.00	6.00	22.62
6-4	4	8	6.67	6.67	29.29
6-5	5	8	7.50	7.50	36.79
6-6	6	7	8.00	8.00	44.79
6-7	7	7	8.57	8.57	53.36
6-8	8	7	8.57	8.57	61.93
6-9	9	6	9.23	9.23	71.16
6-10	10	7	9.23	9.23	80.39
6-11	11	6	9.23	9.23	89.62
6-12	12	6	10.00	10.00	99.61
6-13	13	6	10.00	10.00	109.61
6-14	14	6	10.00	10.00	119.61
6-15	15	6	10.00	10.00	129.61
6-16	16	5	10.91	10.91	140.52
6-17	17	5	12.00	12.00	152.52
6-18	18	5	12.00	12.00	164.52
6-19	19	5	12.00	12.00	176.52
6-20	20	5	12.00	12.00	188.51
6-21	21	5	12.00	12.00	200.51
6-end	22	0	6.00	6.00	206.51
					206.51
					Total Collected Runoff (approx)

2-May-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.11 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	9085	0.01	0.01	0.01
2-2	2.00	9085	0.01	0.01	0.02
2-3	3.00	9085	0.01	0.01	0.03
2-4	4.00	9085	0.01	0.01	0.03
2-5	5.00	712	0.01	0.01	0.05
2-6	6.00	697	0.09	0.09	0.13
2-7	7.00	697	0.09	0.09	0.22
2-8	8.00	636	0.09	0.09	0.31
2-9	9.00	636	0.09	0.09	0.40
2-10	10.00	515	0.10	0.10	0.51
2-11	11.00	485	0.12	0.12	0.63
2-12	12.00	485	0.12	0.12	0.75
2-13	13.00	242	0.17	0.17	0.91
2-14	14.00	121	0.33	0.33	1.24
2-15	15.00	121	0.49	0.49	1.74
2-16	16.00	76	0.61	0.61	2.35
2-17	17.00	61	0.88	0.88	3.23
2-18	18.00	61	0.99	0.99	4.22
2-19	19.00	61	0.99	0.99	5.21
2-20	20.00	61	0.99	0.99	6.20
2-21	21.00	182	0.50	0.50	6.70
2-end	21.00	0	0.50	0.50	7.19
					7.19
					Total Collected Runoff (approx)

4.02 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	26	4.61	4.61	4.61
4-2	2	17	2.79	2.79	7.41
4-3	3	14	3.87	3.87	11.28
4-4	4	14	4.29	4.29	15.56
4-5	5	13	4.44	4.44	20.01
4-6	6	13	4.61	4.61	24.62
4-7	7	13	4.61	4.61	29.23
4-8	8	12	4.80	4.80	34.03
4-9	9	12	5.00	5.00	39.03
4-10	10	12	5.00	5.00	44.03
4-11	11	11	5.22	5.22	49.25
4-12	12	11	5.45	5.45	54.70
4-13	13	10	5.71	5.71	60.42
4-14	14	10	6.00	6.00	66.42
4-15	15	9	6.32	6.32	72.73
4-16	16	9	6.67	6.67	79.40
4-17	17	8	7.06	7.06	86.46
4-18	18	8	7.50	7.50	93.96
4-19	19	8	7.50	7.50	101.45
4-20	20	8	7.50	7.50	108.95
4-21	21	106	1.05	1.05	110.01
4-end	23	0	3.75	3.75	113.76
					113.76
					Total Collected Runoff (approx)

6.00 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	8	15.00	15.00	15.00
6-2	2	8	7.50	7.50	22.50
6-3	3	8	7.50	7.50	30.00
6-4	4	7	8.00	8.00	38.00
6-5	5	7	8.57	8.57	46.57
6-6	6	7	8.57	8.57	55.14
6-7	7	7	8.57	8.57	63.71
6-8	8	6	9.23	9.23	72.94
6-9	9	6	10.00	10.00	82.94
6-10	10	6	10.00	10.00	92.93
6-11	11	6	10.00	10.00	102.93
6-12	12	6	10.00	10.00	112.93
6-13	13	6	10.00	10.00	122.93
6-14	14	6	10.00	10.00	132.93
6-15	15	6	10.00	10.00	142.93
6-16	16	6	10.00	10.00	152.93
6-17	17	6	10.00	10.00	162.93
6-18	18	5	10.91	10.91	173.84
6-19	19	5	12.00	12.00	185.83
6-20	20	5	12.00	12.00	197.83
6-21	21	12	7.06	7.06	204.89
6-end	22	0	6.00	6.00	210.89
					210.89
					Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	11-Apr-12	10-Apr-12	2-May-12
Avg Moisture Content:	19.81%	19.75%	20.27%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	272.68	96.83	243.23
Wt. Of cup + dry soil, g	263.56	86.2	238.81
Wt. Of cup, g	216.6	28.51	217.11
Wt. Of dry soil, g	46.96	57.69	21.7
Wt. Of water, g	9.12	10.63	4.42
Water Content, w%	19.4%	18.4%	20.4%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	265.2	93.93	250.2
Wt. Of cup + dry soil, g	257.18	82.94	244.67
Wt. Of cup, g	216.71	28.51	216.86
Wt. Of dry soil, g	40.47	54.43	27.81
Wt. Of water, g	8.02	10.99	5.53
Water Content, w%	19.8%	20.2%	19.9%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	266.65	112.05	252.4
Wt. Of cup + dry soil, g	258.32	97.77	246.3
Wt. Of cup, g	217.06	28.51	216.61
Wt. Of dry soil, g	41.26	69.26	29.69
Wt. Of water, g	8.33	14.28	6.1
Water Content, w%	20.2%	20.6%	20.5%

Soil Loss Data

Slope No.	1	2	3
Test Date:	11-Apr-12	10-Apr-12	2-May-12
Total Soil Loss	212.54	183.02	196.50

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	64	8	998.8
Sub-Sample	Wt. Of cup + wet soil, g	64	998.8
	Wt. Of cup + dry soil, g	64	998.8
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	64	998.8
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	0.141	0.018	2.200

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	20793	29056	30645
Sub-Sample	Wt. Of cup + wet soil, g	20793	30645
	Wt. Of cup + dry soil, g	20793	30645
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	20793	30645
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	45.800	64.000	67.500

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	75636	54026	57567
Sub-Sample	Wt. Of cup + wet soil, g	75636	57567
	Wt. Of cup + dry soil, g	75636	57567
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	75636	57567
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	166.599	119.000	126.800



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 21-May-12 10-May-12 22-May-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: Control

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.17	14.68	7.60	2.628	0.265
	4.00	101.40	52.49	45.626	4.865
	6.00	212.63	165.10	125.053	17.474
Bare Soil Controls			7.60		0.964
			52.49		6.656
			165.10		20.934

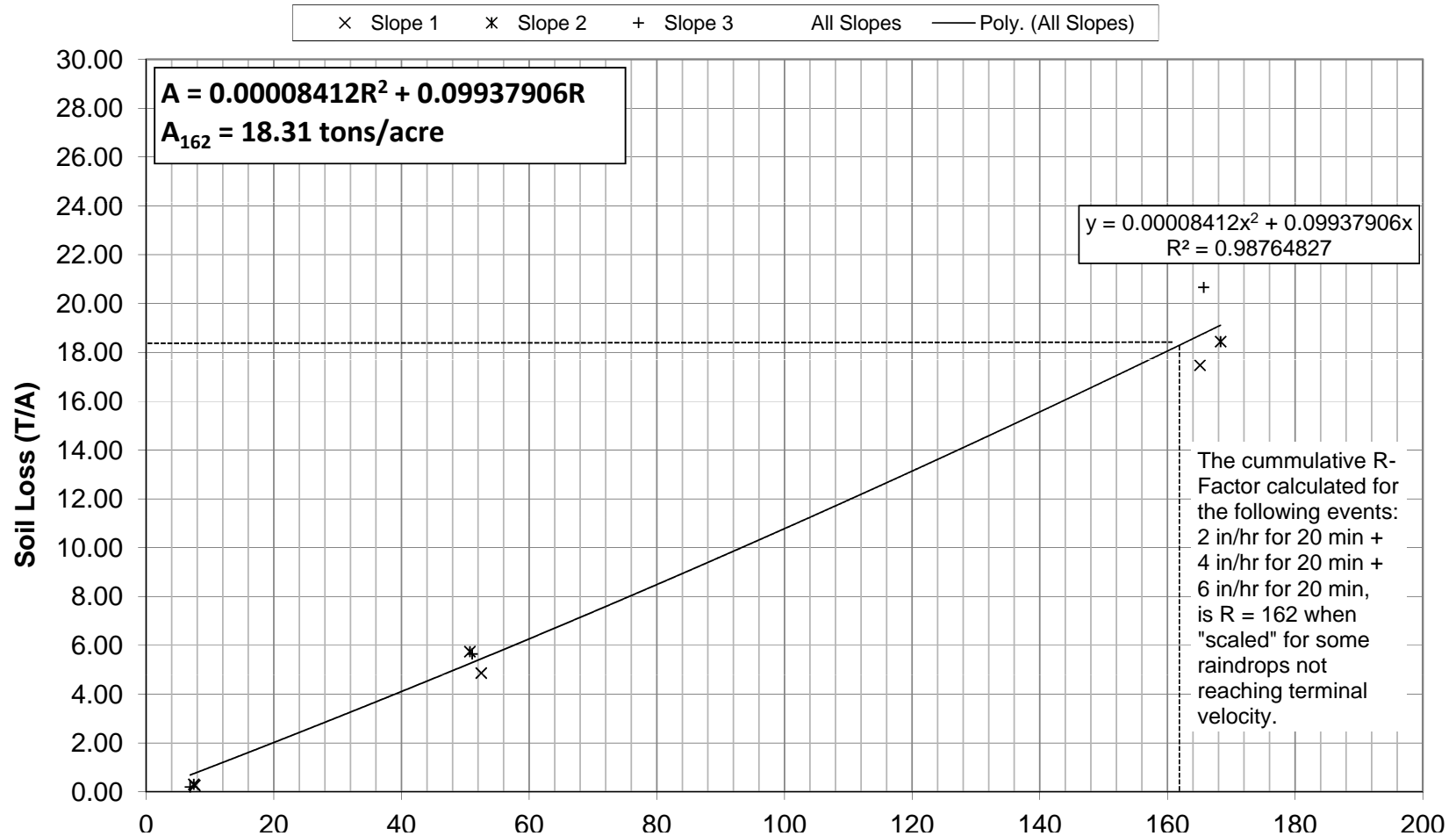
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.15	22.32	7.46	3.060	0.309
	3.92	95.95	50.71	53.921	5.745
	6.16	225.50	168.32	125.921	18.441
Bare Soil Controls			7.46		0.946
			50.71		6.430
			168.32		21.343

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.07	23.46	6.88	1.989	0.201
	4.00	115.27	51.07	54.037	5.649
	6.06	207.14	165.67	148.920	20.664
Bare Soil Controls			6.88		0.873
			51.07		6.476
			165.67		21.007

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)
Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)



DDRF Rainfall Testing						Sediment Concentration & Turbidity Grab Samples				
Slope #: <u>1</u>			Target Rain: <u>2 in/hr</u>			Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	<u>21-May-12</u>	Start Rain:	<u>7:13 AM</u>	End Rain:	<u>7:33 AM</u>	7:16	X	X		
		Sampling interval:	<u>0:03</u>	End Runoff:	<u>7:35 AM</u>	7:19	X	X		
		Rain Time (min):	<u>20.00</u>	Test Time (min):	<u>22.00</u>	7:22	X	X		
Product:	<u>none</u>	Descr.:	<u>Control</u>			7:25	X	X		
Lot #:		Posts:		Spacing:		7:28	X	X		
<u>TOP OF SLOPE</u>		(circle "x" for open valves)				7:31	X	X		
$w_{c1} =$	<u>22.6%</u>	<u>Set valves to 16 psi.</u>				7:34	X	X		
d =	<u>16</u> <u>17</u> mm							Runoff Rate Measurements		
i =	<u>1.89</u> <u>2.01</u> in/hr							Min.	Volume	Seconds
x								1	250	40
X P =	<u>9</u> psi	2	250	40						
x		3	250	40						
x		4	250	35						
x		5	250	35						
X P =	<u>9</u> psi	6	250	30						
x		7	250	30						
x		8	250	30						
x		9	250	25						
x		10	250	20						
X P =	<u>9</u> psi	11	250	15						
x		12	250	6						
x		13	250	4						
X P =	<u>9</u> psi	14	250	4						
x		15	250	3						
x		16	250	3						
		17	250	3						
		18	250	2						
		19	250	2						
		20	250	2						
		21	250	10						
		22	250	0						
d =	<u>18</u> <u>19</u> mm	x x X x P = <u>9</u> psi Temp. <u>59</u> deg Hum. <u>84</u> %								
i =	<u>2.13</u> <u>2.24</u> in/hr	Average Depth: <u>18</u> mm								
$w_{c2} =$	<u>22.6%</u>	Avg Rainfall Intensity: <u>2.17</u> in/hr								
d =	<u>19</u> <u>21</u> mm									
i =	<u>2.24</u> <u>2.48</u> in/hr									
$w_{c3} =$	<u>23.0%</u>									

NOTES: (Slope G2)
 Wind: 0 mph. Direction: E
 Approx 15 gallons collected.

DDRF Rainfall Testing

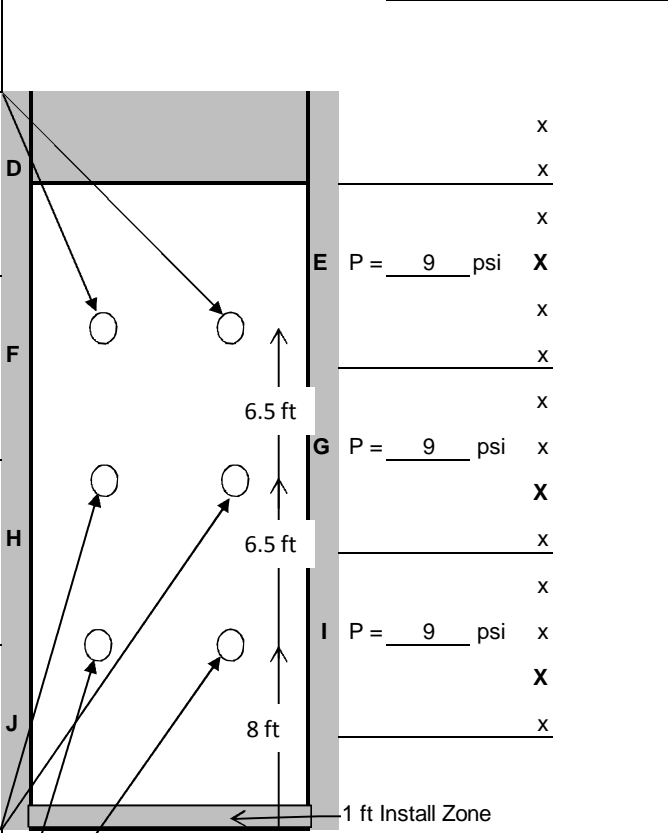
Slope #: 1	Target Rain: 4 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date:	21-May-12	Start Rain:	7:45 AM	End Rain:	8:05 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
		Sampling interval:	0:03	End Runoff:	8:07 AM	7:48	X	X
		Rain Time (min):	20.00	Test Time (min):	22.00	7:51	X	X
Product:	none	Descr.:	Control			7:54	X	X
Lot #:		Posts:		Spacing:		7:57	X	X
						8:00	X	X
						8:03	X	X
						8:06	X	X

w_{c1} = 22.6%

d = 33 32 mm

i = 3.90 3.78 in/hr



Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	3785	18
2	3785	17
3	3785	17
4	3785	15
5	3785	13
6	3785	14
7	3785	13
8	3785	13
9	3785	13
10	3785	13
11	3785	13
12	3785	12
13	3785	12
14	3785	12
15	3785	12
16	3785	12
17	3785	12
18	3785	11
19	3785	11
20	3785	11
21	3785	21
22	3785	0

d = 37 35 mm

i = 4.37 4.13 in/hr

w_{c2} = 22.6%

d = 34 32 mm

i = 4.02 3.78 in/hr

w_{c3} = 23.0%

Average Depth: 34 mm

Avg Rainfall Intensity: 4.00 in/hr

Temp. 62 deg

Hum. 82 %

NOTES:
 Wind: 0 mph. Direction: E
 Approx 100 gallons collected.

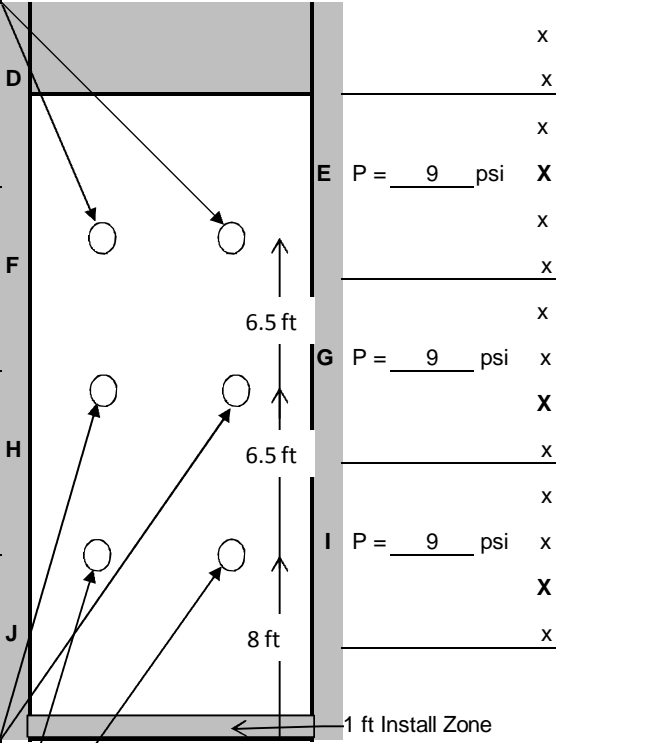
DDRF Rainfall Testing

Slope #: 1	Target Rain: 6 in/hr	Sediment Concentration & Turbidity Grab Samples
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Date: 21-May-12	Start Rain: 8:19 AM	End Rain: 8:39 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
	Sampling interval: 0:03	End Runoff: 8:41 AM	8:22	X	X
	Rain Time (min): 20.00	Test Time (min): 22.00	8:25	X	X
Product: none	Descr.: Control		8:28	X	X
Lot #:	Posts:	Spacing:	8:31	X	X
	TOP OF SLOPE		8:34	X	X
$w_{c1} = 22.6\%$	(circle "x" for open valves)		8:37	X	X
	Set valves to 16 psi.		8:40	X	X

d = 53 50 mm
i = 6.26 5.91 in/hr

x
X P = 9 psi
x
x
x
X P = 9 psi
x
x
x
X P = 9 psi
x
X
x
x
X P = 9 psi
X
x



Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	9
2	3785	6
3	3785	6
4	3785	6
5	3785	6
6	3785	6
7	3785	6
8	3785	6
9	3785	6
10	3785	6
11	3785	6
12	3785	6
13	3785	6
14	3785	6
15	3785	6
16	3785	6
17	3785	6
18	3785	6
19	3785	6
20	3785	6
21	3785	13
22	3785	0

d = 51 50 mm
i = 6.02 5.91 in/hr

$w_{c2} = 22.6\%$

d = 50 51 mm
i = 5.91 6.02 in/hr

$w_{c3} = 23.0\%$

x x **X** x
P = 9 psi Temp. 67 deg
Hum. 73 %
Average Depth: 51 mm
Avg Rainfall Intensity: 6.00 in/hr

NOTES:
Wind: 0 mph. Direction: N
Approx 210 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 2 in/hr**

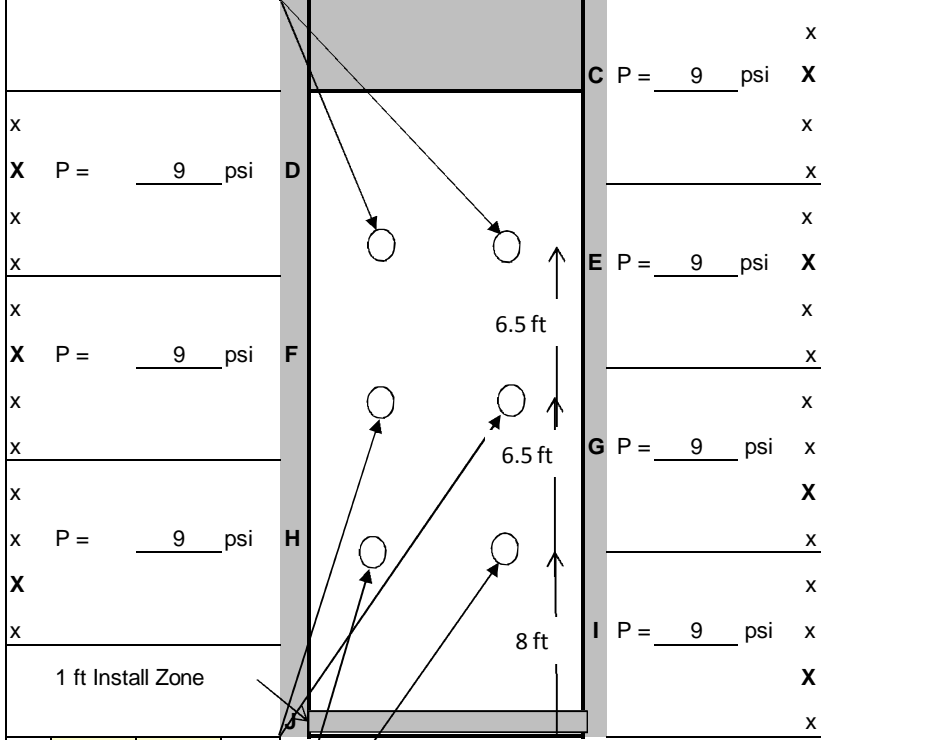
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	10-May-12	Start Rain: Sampling interval:	7:15 AM 0:03	End Rain:	7:35 AM	7:18
		End Rainoff:	7:36 AM			7:21
		Rain Time (min):	20.00	Test Time (min):	21.00	7:24
Product:	none	Descr.:	Control			7:27
Lot #:		Posts:		Spacing:		7:30
		TOP OF SLOPE				7:33
		(circle "x" for open valves)				7:36
$w_{c1} =$	22.6%	Set valves to 16 psi.				

d = 18 19 mm
i = 2.13 2.24 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
------	--------	---------



1	250	50
2	250	49
3	250	48
4	250	52
5	250	49
6	250	50
7	250	48
8	250	35
9	250	17
10	250	12
11	250	10
12	250	7
13	250	6
14	250	5
15	250	5
16	3785	40
17	3785	29
18	3785	22
19	3785	22
20	3785	20
21	250	0
21	250	0

d = 19 20 mm
i = 2.24 2.36 in/hr
 $w_{c2} =$ 22.6%

x x X x
P = 9 psi Temp. 53 deg
Hum. 93 %

d = 14 19 mm
i = 1.65 2.24 in/hr
 $w_{c3} =$ 23.0%

Average Depth: 18 mm
Avg Rainfall Intensity: 2.15 in/hr

NOTES:
Wind: 0 mph. Direction: N
Approx 22 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 4 in/hr**

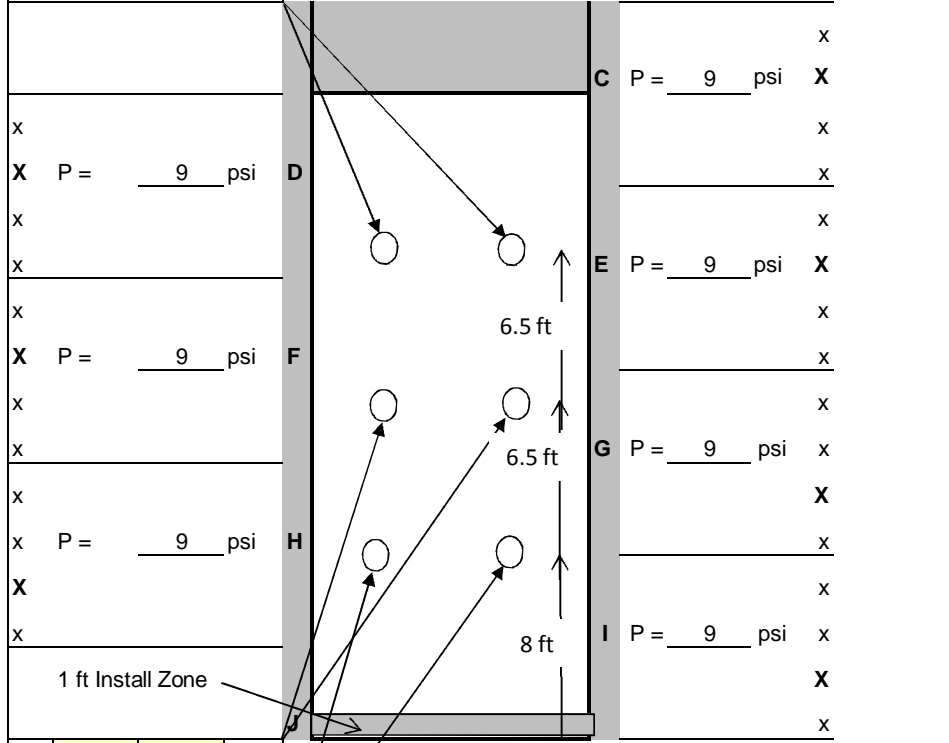
Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	10-May-12	Start Rain: 7:45 AM	End Rain: 8:05 AM	7:48	X	X
		Sampling interval: 0:03	End Runoff: 8:09 AM	7:51	X	X
		Rain Time (min): 20.00	Test Time (min): 24.00	7:54	X	X
Product:	none	Descr.: Control		7:57	X	X
Lot #:		Posts:	Spacing:	8:00	X	X
TOP OF SLOPE				8:03	X	X
(circle "x" for open valves)				8:06	X	X

w_{c1} = 22.6%

d = 32 33 mm

i = 3.78 3.90 in/hr



Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	3785	30
2	3785	19
3	3785	16
4	3785	14
5	3785	13
6	3785	13
7	3785	13
8	3785	13
9	3785	13
10	3785	13
11	3785	13
12	3785	12
13	3785	12
14	3785	13
15	3785	13
16	3785	12
17	3785	12
18	3785	12
19	3785	12
20	3785	12
21	3785	23
24	3785	0

d = 34 35 mm

i = 4.02 4.13 in/hr

w_{c2} = 22.6%

d = 30 35 mm

i = 3.54 4.13 in/hr

w_{c3} = 23.0%

Average Depth: 33 mm

Avg Rainfall Intensity: 3.92 in/hr

P = 9 psi Temp. 53 deg Hum. 93 %

NOTES:

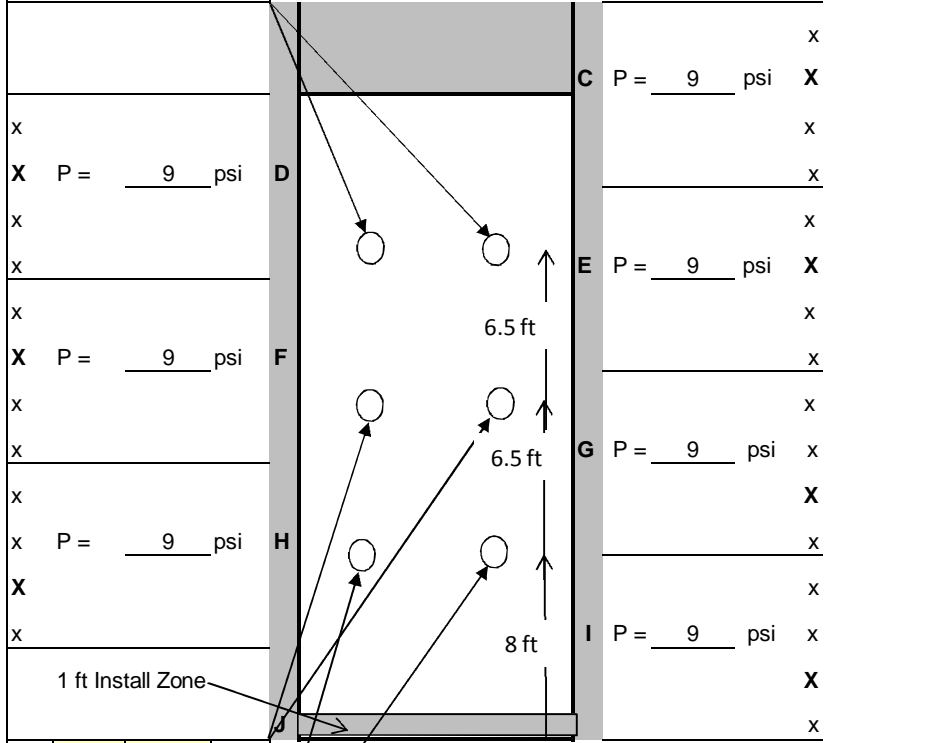
Wind: 0 mph. Direction: E
 Approx 95 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples				
				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	10-May-12	Start Rain:	8:17 AM	End Rain:	8:37 AM	8:20	X	X
		Sampling interval:	0:03	End Runoff:	8:40 AM	8:23	X	X
		Rain Time (min):	20.00	Test Time (min):	23.00	8:26	X	X
Product:	none	Descr.:	Control		8:29	X	X	
Lot #:		Posts:		Spacing:	8:32	X	X	
TOP OF SLOPE				8:35	X	X		
(circle "x" for open valves)				8:38	X	X		
w _{c1} = 22.6%				Set valves to 16 psi.				

d = 55 54 mm
i = 6.50 6.38 in/hr



d = 53 52 mm
i = 6.26 6.14 in/hr

w_{c2} = 22.6%

d = 50 49 mm
i = 5.91 5.79 in/hr

w_{c3} = 23.0%

x x X x
P = 9 psi Temp. 56 deg
Hum. 91 %

Average Depth: 52 mm
Avg Rainfall Intensity: 6.16 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	12
2	3785	11
3	3785	9
4	3785	8
5	3785	7
6	3785	6
7	3785	7
8	3785	6
9	3785	6
10	3785	6
11	3785	5
12	3785	6
13	3785	5
14	3785	5
15	3785	5
16	3785	5
17	3785	5
18	3785	4
19	3785	4
20	3785	4
21	3785	8
23	3785	0

NOTES:
Wind: 0 mph. Direction: E
Approx 225 gallons collected.

DDRF Rainfall Testing		Sediment Concentration & Turbidity Grab Samples	
Slope #: <u>3</u>	Target Rain: <u>2 in/hr</u>		

Date:	22-May-12	Start Rain: 7:01 AM	End Rain: 7:21 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
		interval: 0:03	End Runoff: 7:23 AM	7:04	X	X
		Rain Time (min): 20.00	Test Time (min): 22.00	7:07	X	X
Product:	none	Descr.:	Control	7:10	X	X
Lot #:		Posts:		7:13	X	X
		Spacing:		7:16	X	X
		TOP OF SLOPE		7:19	X	X
		(circle "x" for open valves)		7:22	X	X
			Set valves to 16 psi.			

w_{c1} = 22.6%

d = 20 15 mm

i = 2.36 1.77 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x

X P = 9 psi

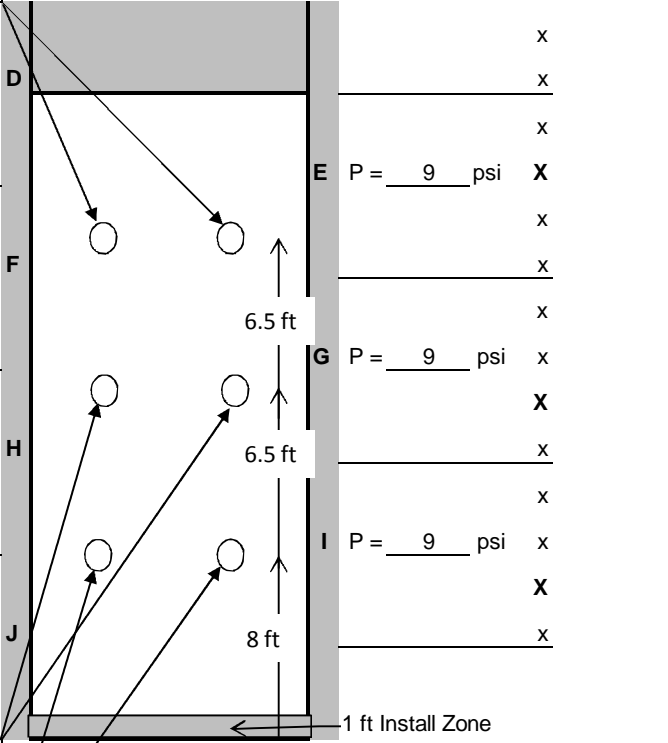
x

x

X P = 9 psi

x

x



Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	60
2	250	45
3	250	43
4	250	24
5	250	14
6	250	13
7	250	6
8	250	5
9	250	4
10	250	3
11	250	2
12	250	3
13	250	2
14	250	2
15	250	2
16	250	2
17	250	3
18	250	2
19	250	2
20	250	2
21	250	12
22	250	0

d = 20 19 mm

i = 2.36 2.24 in/hr

w_{c2} = 22.6%

d = 16 15 mm

i = 1.89 1.77 in/hr

w_{c3} = 23.0%

x x X x

P = 9 psi

Temp. 63 deg

Hum. 93 %

Average Depth: 18 mm

Avg Rainfall Intensity: 2.07 in/hr

NOTES:
 Wind: 0 mph. Direction: W
 Approx 25 gallons collected.

DDRF Rainfall Testing				Sediment Concentration & Turbidity Grab Samples				
Slope #: <u>3</u>		Target Rain: <u>4 in/hr</u>		Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	<u>22-May-12</u>	Start Rain: Sampling interval:	<u>7:37 AM</u> 0:03	End Rain:	<u>7:57 AM</u>	7:40 X X		
				End Runoff:	<u>8:00 AM</u>	7:43 X X		
		Rain Time (min):	<u>20.00</u>	Test Time (min):	<u>23.00</u>	7:46 X X		
Product:	<u>none</u>	Descr.:	<u>Control</u>			7:49 X X		
Lot #:		Posts:		Spacing:		7:52 X X		
		TOP OF SLOPE				7:55 X X		
$w_{c1} =$	<u>22.6%</u>	(circle "x" for open valves)		Set valves to 16 psi.		7:58 X X		
d =	<u>35</u> <u>30</u> mm					Runoff Rate Measurements		
i =	<u>4.13</u> <u>3.54</u> in/hr					Min.	Volume, mL	Seconds
x						1	3785	19
X P = <u>9</u> psi						2	3785	17
x						3	3785	14
x						4	3785	13
x						5	3785	12
X P = <u>9</u> psi						6	3785	12
x						7	3785	12
x						8	3785	12
x						9	3785	11
x P = <u>9</u> psi						10	3785	11
X						11	3785	11
x						12	3785	11
x P = <u>9</u> psi						13	3785	11
X						14	3785	11
x						15	3785	10
x						16	3785	10
d =	<u>34</u> <u>31</u> mm					17	3785	10
i =	<u>4.02</u> <u>3.66</u> in/hr					18	3785	10
$w_{c2} =$	<u>22.6%</u>					19	3785	9
d =	<u>36</u> <u>37</u> mm					20	3785	9
i =	<u>4.25</u> <u>4.37</u> in/hr					21	3785	15
$w_{c3} =$	<u>23.0%</u>					23	3785	0

NOTES:
 Wind: 0 mph. Direction: W
 Approx 115 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	22-May-12	Start Rain: Sampling interval:	8:03 AM 0:03	End Rain:	8:23 AM	X	X	
		End Runoff:			8:27 AM	X	X	
		Rain Time (min):	20.00	Test Time (min):	24.00	X	X	
Product:	none	Descr.:	Control		8:15	X	X	
Lot #:		Posts:		Spacing:		8:18	X	X
TOP OF SLOPE					8:21	X	X	
(circle "x" for open valves)					8:24	X	X	
Set valves to 16 psi.								

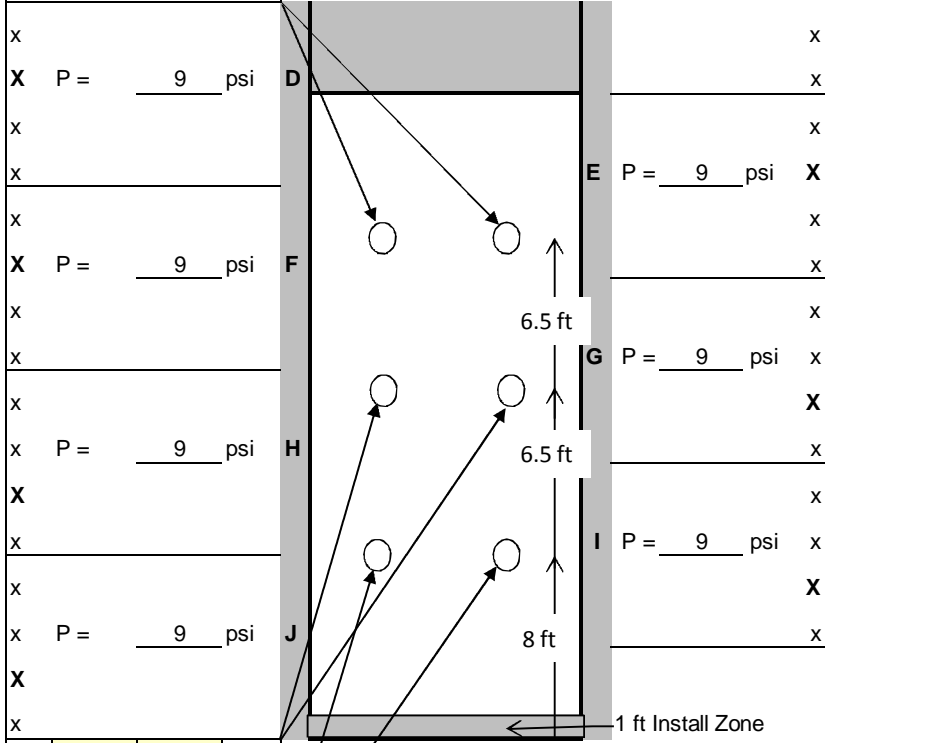
w_{c1} = 22.6%

d = 52 50 mm

i = 6.14 5.91 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	17
2	3785	6
3	3785	6
4	3785	6
5	3785	7
6	3785	6
7	3785	7
8	3785	6
9	3785	6
10	3785	6
11	3785	6
12	3785	6
13	3785	6
14	3785	6
15	3785	6
16	3785	6
17	3785	6
18	3785	5
19	3785	5
20	3785	5
21	3785	12
24	3785	0



d = 50 50 mm

i = 5.91 5.91 in/hr

w_{c2} = 22.6%

d = 52 54 mm

i = 6.14 6.38 in/hr

w_{c3} = 23.0%

Average Depth: 51 mm

Avg Rainfall Intensity: 6.06 in/hr

P = 9 psi Temp. 63 deg

Hum. 93 %

NOTES:
 Wind: 0 mph. Direction: N
 Approx 205 gallons collected.

GSWCC_SB Data Form - Turbidities

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	164
2	20	218
3	20	98

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	498	2-1	3.00	748	2-1	3.00	467
2-2	6.00	678	2-2	6.00	525	2-2	6.00	638
2-3	9.00	667	2-3	9.00	9999	2-3	9.00	654
2-4	12.00	9999	2-4	12.00	9999	2-4	12.00	9999
2-5	15.00	9999	2-5	15.00	9999	2-5	15.00	9999
2-6	18.00	9999	2-6	18.00	9999	2-6	18.00	9999
2-7	21.00	9999	2-7	21.00	9999	2-7	21.00	9999
avg		5977	avg		7324	avg		5965
4-1	3.00	9999	4-1	2.00	9999	4-1	2.00	9999
4-2	6.00	9999	4-2	4.00	9999	4-2	4.00	9999
4-3	9.00	9999	4-3	6.00	9999	4-3	6.00	9999
4-4	12.00	9999	4-4	8.00	9999	4-4	8.00	9999
4-5	15.00	9999	4-5	10.00	9999	4-5	10.00	9999
4-6	18.00	9999	4-6	12.00	9999	4-6	12.00	9999
4-7	21.00	9999	4-7	21.00	9999	4-7	21.00	9999
avg		9999	avg		9999	avg		9999
6-1	3.00	9999	6-1	3.00	9999	6-1	3.00	9999
6-2	6.00	9999	6-2	6.00	9999	6-2	6.00	9999
6-3	9.00	9999	6-3	9.00	9999	6-3	9.00	9999
6-4	12.00	9999	6-4	12.00	9999	6-4	12.00	9999
6-5	15.00	9999	6-5	15.00	9999	6-5	15.00	9999
6-6	18.00	9999	6-6	18.00	9999	6-6	18.00	9999
6-7	21.00	9999	6-7	21.00	9999	6-7	21.00	9999
avg		9999	avg		9999	avg		9999

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.17	in/hr	avg														
21-May-12		2-1	3.00	327.72	147.20	147.20	147.20	0.00	180.52	0.18	0.00	3.00	605.67	0.40	0.00	0.00
		2-2	6.00	353.15	169.01	151.29	150.12	1170.00	201.86	0.20	5796.10	6.00	454.25	0.34	5796.10	0.02
		2-3	9.00	366.54	233.20	150.60	147.71	2890.00	215.94	0.22	13383.35	9.00	378.54	0.41	13383.35	0.05
		2-4	12.00	322.50	176.89	152.34	148.99	3350.00	170.16	0.17	19687.35	12.00	90.85	0.78	19687.35	0.13
		2-5	15.00	349.19	165.33	152.68	147.78	4900.00	196.51	0.20	24935.12	15.00	45.42	2.92	24935.12	0.61
		2-6	18.00	345.07	171.89	153.01	148.14	4870.00	192.06	0.19	25356.66	18.00	30.28	4.23	25356.66	0.89
		2-7	21.00	346.22	166.98	154.46	149.33	5130.00	191.76	0.19	26752.19	21.00	151.42	4.62	26752.19	1.03
										AVG =	16558.68	22.00	0	0.99	26752.19	0.22
4.00	in/hr	avg									16558.68			Total Solids Lost:		2.94
21-May-12		4-1	3.00	283.47	160.81	152.12	148.79	3330.00	131.35	0.13	25352.11	3.00	17.00	13.62	25352.11	2.88
		4-2	6.00	325.29	166.72	154.31	149.26	5050.00	170.98	0.17	29535.62	6.00	14.00	12.48	29535.62	3.08
		4-3	9.00	311.74	170.38	155.80	148.67	7130.00	155.94	0.16	45722.71	9.00	13.00	13.67	45722.71	5.22
		4-4	12.00	309.74	170.39	157.49	149.51	7980.00	152.25	0.15	52413.79	12.00	12.00	14.03	52413.79	6.14
		4-5	15.00	286.88	168.39	156.60	147.14	9460.00	130.28	0.13	72612.83	15.00	12.00	15.00	72612.83	9.09
		4-6	18.00	303.79	168.29	159.16	150.33	8830.00	144.63	0.14	61052.34	18.00	11.00	15.22	61052.34	7.75
		4-7	21.00	277.30	158.02	158.57	148.61	9960.00	118.73	0.12	83887.81	21.00	21.00	14.66	83887.81	10.26
										AVG =	52939.60	22.00	0.00	2.73	83887.81	1.91
6.00	in/hr	avg									52939.60			Total Solids Lost:		46.31
21-May-12		6-1	3.00	315.74	175.17	153.09	149.92	3170.00	162.65	0.16	19489.70	3.00	6.00	31.33	19489.70	5.09
		6-2	6.00	340.22	170.74	153.68	146.79	6890.00	186.54	0.19	36935.78	6.00	6.00	30.00	36935.78	9.24
		6-3	9.00	314.91	185.63	158.80	150.97	7830.00	156.11	0.16	50156.94	9.00	6.00	30.00	50156.94	12.55
		6-4	12.00	313.52	183.95	159.91	147.47	12440.00	153.61	0.15	80984.31	12.00	6.00	30.00	80984.31	20.27
		6-5	15.00	327.46	180.17	161.47	147.50	13970.00	165.99	0.17	84161.70	15.00	6.00	30.00	84161.70	21.06
		6-6	18.00	329.52	184.06	166.99	151.52	15470.00	162.53	0.16	95182.43	18.00	6.00	30.00	95182.43	23.82
		6-7	21.00	323.08	188.72	167.94	150.23	17710.00	155.14	0.16	114154.96	21.00	13.00	26.31	114154.96	25.06
										AVG =	68723.69	22.00	0.00	5.00	114154.96	4.76
										68723.69				Total Solids Lost:		121.87

21-May-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.17 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	606	0.20	0.20	0.20
2-2	2.00	606	0.10	0.10	0.30
2-3	3.00	606	0.10	0.10	0.40
2-4	4.00	530	0.11	0.11	0.50
2-5	5.00	530	0.11	0.11	0.62
2-6	6.00	454	0.12	0.12	0.74
2-7	7.00	454	0.13	0.13	0.87
2-8	8.00	454	0.13	0.13	1.00
2-9	9.00	379	0.14	0.14	1.15
2-10	10.00	303	0.18	0.18	1.32
2-11	11.00	227	0.23	0.23	1.55
2-12	12.00	91	0.38	0.38	1.93
2-13	13.00	61	0.79	0.79	2.72
2-14	14.00	61	0.99	0.99	3.71
2-15	15.00	45	1.13	1.13	4.84
2-16	16.00	45	1.32	1.32	6.16
2-17	17.00	45	1.32	1.32	7.48
2-18	18.00	30	1.59	1.59	9.07
2-19	19.00	30	1.98	1.98	11.05
2-20	20.00	30	1.98	1.98	13.03
2-21	21.00	151	0.66	0.66	13.69
2-end	22.00	0	0.99	0.99	14.68
					14.68
					Total Collected Runoff (approx)

4.00 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	18	6.67	6.67	6.67
4-2	2	17	3.43	3.43	10.09
4-3	3	17	3.53	3.53	13.62
4-4	4	15	3.75	3.75	17.37
4-5	5	13	4.29	4.29	21.66
4-6	6	14	4.44	4.44	26.10
4-7	7	13	4.44	4.44	30.55
4-8	8	13	4.61	4.61	35.16
4-9	9	13	4.61	4.61	39.78
4-10	10	13	4.61	4.61	44.39
4-11	11	13	4.61	4.61	49.01
4-12	12	12	4.80	4.80	53.80
4-13	13	12	5.00	5.00	58.80
4-14	14	12	5.00	5.00	63.80
4-15	15	12	5.00	5.00	68.80
4-16	16	12	5.00	5.00	73.80
4-17	17	12	5.00	5.00	78.80
4-18	18	11	5.22	5.22	84.02
4-19	19	11	5.45	5.45	89.47
4-20	20	11	5.45	5.45	94.93
4-21	21	21	3.75	3.75	98.68
4-end	22.00	0	2.73	2.73	101.40
					101.40
					Total Collected Runoff (approx)

6.00 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	9	13.33	13.33	13.33
6-2	2	6	8.00	8.00	21.33
6-3	3	6	10.00	10.00	31.33
6-4	4	6	10.00	10.00	41.33
6-5	5	6	10.00	10.00	51.33
6-6	6	6	10.00	10.00	61.33
6-7	7	6	10.00	10.00	71.33
6-8	8	6	10.00	10.00	81.32
6-9	9	6	10.00	10.00	91.32
6-10	10	6	10.00	10.00	101.32
6-11	11	6	10.00	10.00	111.32
6-12	12	6	10.00	10.00	121.32
6-13	13	6	10.00	10.00	131.32
6-14	14	6	10.00	10.00	141.32
6-15	15	6	10.00	10.00	151.32
6-16	16	6	10.00	10.00	161.32
6-17	17	6	10.00	10.00	171.31
6-18	18	6	10.00	10.00	181.31
6-19	19	6	10.00	10.00	191.31
6-20	20	6	10.00	10.00	201.31
6-21	21	13	6.32	6.32	207.63
6-end	22.00	0	5.00	5.00	212.63
					212.63
					Total Collected Runoff (approx)

10-May-12
Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.15 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	757	0.16	0.16	0.16
2-2	2.00	742	0.08	0.08	0.24
2-3	3.00	727	0.08	0.08	0.32
2-4	4.00	787	0.08	0.08	0.40
2-5	5.00	742	0.08	0.08	0.48
2-6	6.00	757	0.08	0.08	0.56
2-7	7.00	727	0.08	0.08	0.64
2-8	8.00	530	0.10	0.10	0.73
2-9	9.00	257	0.15	0.15	0.89
2-10	10.00	182	0.27	0.27	1.16
2-11	11.00	151	0.36	0.36	1.52
2-12	12.00	106	0.47	0.47	1.99
2-13	13.00	91	0.61	0.61	2.60
2-14	14.00	76	0.72	0.72	3.32
2-15	15.00	76	0.79	0.79	4.11
2-16	16.00	40	1.04	1.04	5.15
2-17	17.00	29	1.74	1.74	6.89
2-18	18.00	22	2.35	2.35	9.24
2-19	19.00	22	2.73	2.73	11.96
2-20	20.00	20	2.86	2.86	14.82
2-21	21.00	0	6.00	6.00	20.82
2-end	21.00	0	1.50	1.50	22.32
					22.32
					Total Collected Runoff (approx)

3.92 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	30	4.00	4.00	4.00
4-2	2	19	2.45	2.45	6.45
4-3	3	16	3.43	3.43	9.88
4-4	4	14	4.00	4.00	13.88
4-5	5	13	4.44	4.44	18.32
4-6	6	13	4.61	4.61	22.93
4-7	7	13	4.61	4.61	27.55
4-8	8	13	4.61	4.61	32.16
4-9	9	13	4.61	4.61	36.78
4-10	10	13	4.61	4.61	41.39
4-11	11	13	4.61	4.61	46.01
4-12	12	12	4.80	4.80	50.81
4-13	13	12	5.00	5.00	55.81
4-14	14	13	4.80	4.80	60.61
4-15	15	13	4.61	4.61	65.22
4-16	16	12	4.80	4.80	70.02
4-17	17	12	5.00	5.00	75.02
4-18	18	12	5.00	5.00	80.02
4-19	19	12	5.00	5.00	85.02
4-20	20	12	5.00	5.00	90.02
4-21	21	23	3.43	3.43	93.45
4-end	24	0	2.50	2.50	95.95
					95.95
					Total Collected Runoff (approx)

6.16 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	12	10.00	10.00	10.00
6-2	2	11	5.22	5.22	15.22
6-3	3	9	6.00	6.00	21.22
6-4	4	8	7.06	7.06	28.27
6-5	5	7	8.00	8.00	36.27
6-6	6	6	9.23	9.23	45.50
6-7	7	7	9.23	9.23	54.73
6-8	8	6	9.23	9.23	63.96
6-9	9	6	10.00	10.00	73.96
6-10	10	6	10.00	10.00	83.96
6-11	11	5	10.91	10.91	94.87
6-12	12	6	10.91	10.91	105.78
6-13	13	5	10.91	10.91	116.68
6-14	14	5	12.00	12.00	128.68
6-15	15	5	12.00	12.00	140.68
6-16	16	5	12.00	12.00	152.68
6-17	17	5	12.00	12.00	164.68
6-18	18	4	13.33	13.33	178.01
6-19	19	4	15.00	15.00	193.01
6-20	20	4	15.00	15.00	208.01
6-21	21	8	10.00	10.00	218.01
6-end	23	0	7.50	7.50	225.50
					225.50
					Total Collected Runoff (approx)

22-May-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.07 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	908	0.13	0.13	0.13
2-2	2.00	681	0.08	0.08	0.21
2-3	3.00	651	0.09	0.09	0.30
2-4	4.00	363	0.12	0.12	0.42
2-5	5.00	212	0.21	0.21	0.62
2-6	6.00	197	0.29	0.29	0.92
2-7	7.00	91	0.42	0.42	1.34
2-8	8.00	76	0.72	0.72	2.06
2-9	9.00	61	0.88	0.88	2.94
2-10	10.00	45	1.13	1.13	4.07
2-11	11.00	30	1.59	1.59	5.65
2-12	12.00	45	1.59	1.59	7.24
2-13	13.00	30	1.59	1.59	8.82
2-14	14.00	30	1.98	1.98	10.80
2-15	15.00	30	1.98	1.98	12.79
2-16	16.00	30	1.98	1.98	14.77
2-17	17.00	45	1.59	1.59	16.35
2-18	18.00	30	1.59	1.59	17.94
2-19	19.00	30	1.98	1.98	19.92
2-20	20.00	30	1.98	1.98	21.90
2-21	21.00	182	0.57	0.57	22.47
2-end	22.00	0	0.99	0.99	23.46
					23.46
					Total Collected Runoff (approx)

4.00 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	19	6.32	6.32	6.32
4-2	2	17	3.33	3.33	9.65
4-3	3	14	3.87	3.87	13.52
4-4	4	13	4.44	4.44	17.96
4-5	5	12	4.80	4.80	22.76
4-6	6	12	5.00	5.00	27.76
4-7	7	12	5.00	5.00	32.76
4-8	8	12	5.00	5.00	37.76
4-9	9	11	5.22	5.22	42.98
4-10	10	11	5.45	5.45	48.43
4-11	11	11	5.45	5.45	53.89
4-12	12	11	5.45	5.45	59.34
4-13	13	11	5.45	5.45	64.79
4-14	14	11	5.45	5.45	70.25
4-15	15	10	5.71	5.71	75.96
4-16	16	10	6.00	6.00	81.96
4-17	17	10	6.00	6.00	87.96
4-18	18	10	6.00	6.00	93.96
4-19	19	9	6.32	6.32	100.27
4-20	20	9	6.67	6.67	106.94
4-21	21	15	5.00	5.00	111.94
4-end	23	0	3.33	3.33	115.27
					115.27
					Total Collected Runoff (approx)

6.06 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	17	7.06	7.06	7.06
6-2	2	6	5.22	5.22	12.27
6-3	3	6	10.00	10.00	22.27
6-4	4	6	10.00	10.00	32.27
6-5	5	7	9.23	9.23	41.50
6-6	6	6	9.23	9.23	50.73
6-7	7	7	9.23	9.23	59.96
6-8	8	6	9.23	9.23	69.19
6-9	9	6	10.00	10.00	79.19
6-10	10	6	10.00	10.00	89.19
6-11	11	6	10.00	10.00	99.19
6-12	12	6	10.00	10.00	109.19
6-13	13	6	10.00	10.00	119.19
6-14	14	6	10.00	10.00	129.19
6-15	15	6	10.00	10.00	139.18
6-16	16	6	10.00	10.00	149.18
6-17	17	6	10.00	10.00	159.18
6-18	18	5	10.91	10.91	170.09
6-19	19	5	12.00	12.00	182.09
6-20	20	5	12.00	12.00	194.09
6-21	21	12	7.06	7.06	201.15
6-end	24	0	6.00	6.00	207.14
					207.14
					Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	21-May-12	10-May-12	22-May-12
Avg Moisture Content:	22.71%	21.70%	22.17%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	257.98	244.71	244.66
Wt. Of cup + dry soil, g	250.47	239.98	239.94
Wt. Of cup, g	217.18	217.12	217.18
Wt. Of dry soil, g	33.29	22.86	22.76
Wt. Of water, g	7.51	4.73	4.72
Water Content, w%	22.6%	20.7%	20.7%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	258.39	250.56	251.1
Wt. Of cup + dry soil, g	250.75	244.56	244.8
Wt. Of cup, g	216.87	216.77	216.87
Wt. Of dry soil, g	33.88	27.79	27.93
Wt. Of water, g	7.64	6	6.3
Water Content, w%	22.6%	21.6%	22.6%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	251.35	252.51	250.79
Wt. Of cup + dry soil, g	244.85	245.86	244.35
Wt. Of cup, g	216.6	216.72	216.6
Wt. Of dry soil, g	28.25	29.14	27.75
Wt. Of water, g	6.5	6.65	6.44
Water Content, w%	23.0%	22.8%	23.2%

Soil Loss Data

Slope No.	1	2	3
Test Date:	21-May-12	10-May-12	22-May-12
Total Soil Loss	173.31	182.90	204.95

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	1192.9	1389.24	903.0
Sub-Sample	Wt. Of cup + wet soil, g	1192.9	1389.24
	Wt. Of cup + dry soil, g	1192.9	1389.24
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	1192.9	1389.24
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	2.628	3.060	1.989

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	20714.4	24480.0	24532.86
Sub-Sample	Wt. Of cup + wet soil, g	20714.4	24480.0
	Wt. Of cup + dry soil, g	20714.4	24480.0
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	20714.4	24480
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	45.626	53.921	54.037

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	56774	57168.0	67609.68
Sub-Sample	Wt. Of cup + wet soil, g	56774	57168.0
	Wt. Of cup + dry soil, g	56774	57168.0
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	56774	57168
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	125.053	125.921	148.920



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 12-Jun-12 1-Jun-12 8-Jun-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: Control

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.13	20.52	7.31	5.040	0.508
	4.00	139.98	51.92	70.401	7.606
	6.12	212.54	168.60	134.800	21.198
Bare Soil Controls			7.31		0.927
			51.92		6.584
			168.60		21.378

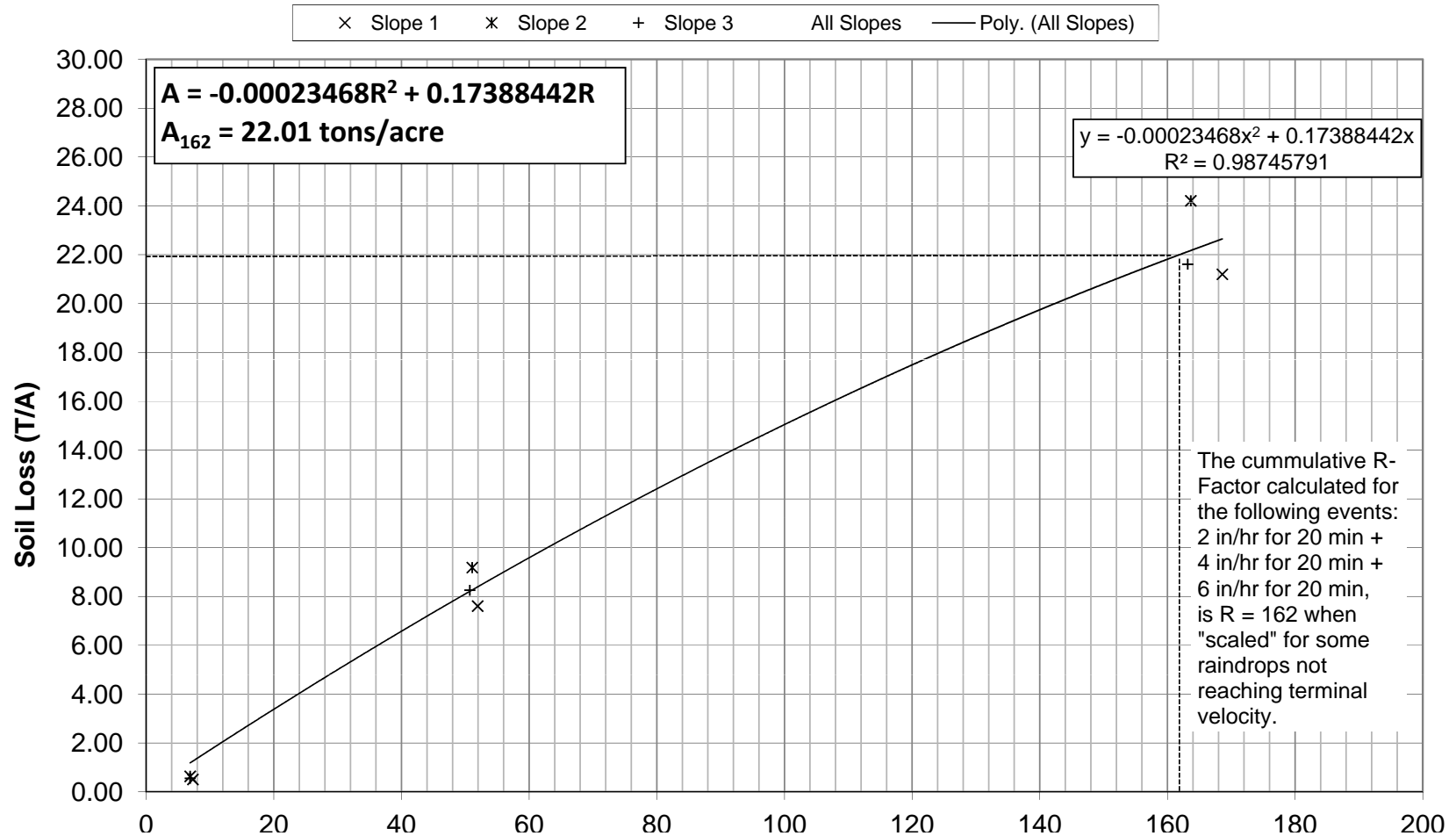
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.07	19.20	6.88	6.300	0.635
	4.00	150.44	51.07	84.800	9.185
	6.00	217.69	163.65	149.000	24.208
Bare Soil Controls			6.88		0.873
			51.07		6.476
			163.65		20.750

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.07	24.58	6.88	5.520	0.557
	3.98	131.29	50.70	76.401	8.260
	6.00	209.43	163.17	132.401	21.609
Bare Soil Controls			6.88		0.873
			50.70		6.429
			163.17		20.690

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)
Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)



DDRF Rainfall Testing

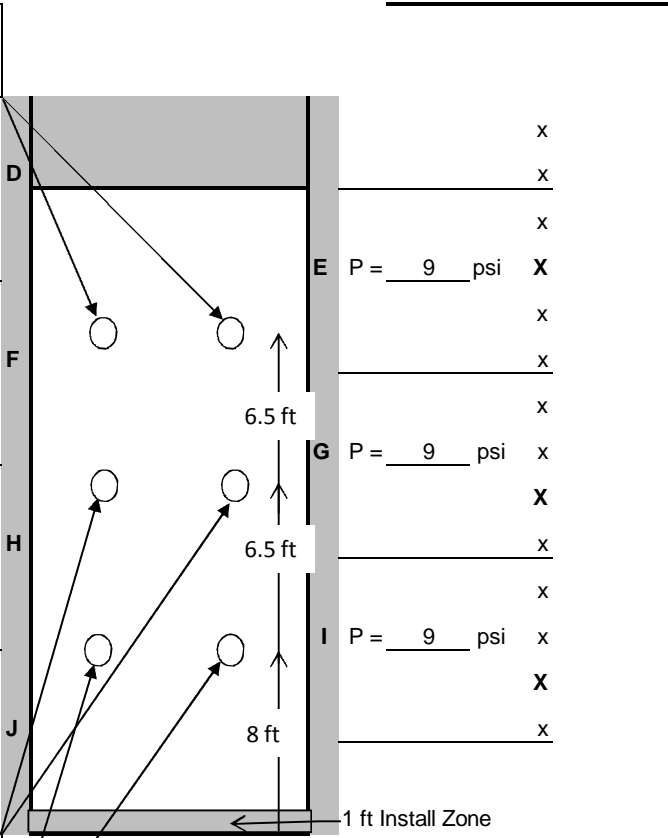
Slope #: 1	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples	
-------------------	-----------------------------	--	--

Date:	12-Jun-12	Start Rain:	7:04 AM	End Rain:	7:24 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
		Sampling interval:	0:03	End Runoff:	8:30 AM	7:07	X	X
		Rain Time (min):	20.00	Test Time (min):	86.00	7:10	X	X
Product:	none	Descr.:	Control			7:13	X	X
Lot #:		Posts:		Spacing:		7:16	X	X
						7:19	X	X
						7:22	X	X
						7:25	X	X

w_{c1} = 21.8%

d = 18 18 mm

i = 2.13 2.13 in/hr



Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	6
2	250	60
3	250	60
4	250	37
5	250	25
6	250	18
7	250	14
8	250	12
9	250	12
10	250	5
11	250	5
12	250	4
13	250	3
14	250	3
15	250	2
16	250	2
17	250	2
18	250	2
19	250	2
20	250	2
21	250	10
86	250	0

d = 17 19 mm

i = 2.01 2.24 in/hr

w_{c2} = 21.2%

d = 17 19 mm

i = 2.01 2.24 in/hr

w_{c3} = 22.8%

Average Depth: 18 mm

Avg Rainfall Intensity: 2.13 in/hr

P = 9 psi Temp. 72 deg Hum. 95 %

NOTES: (Slope G2)
 Wind: 0 mph. Direction: E
 Approx 20 gallons collected.

DDRF Rainfall Testing

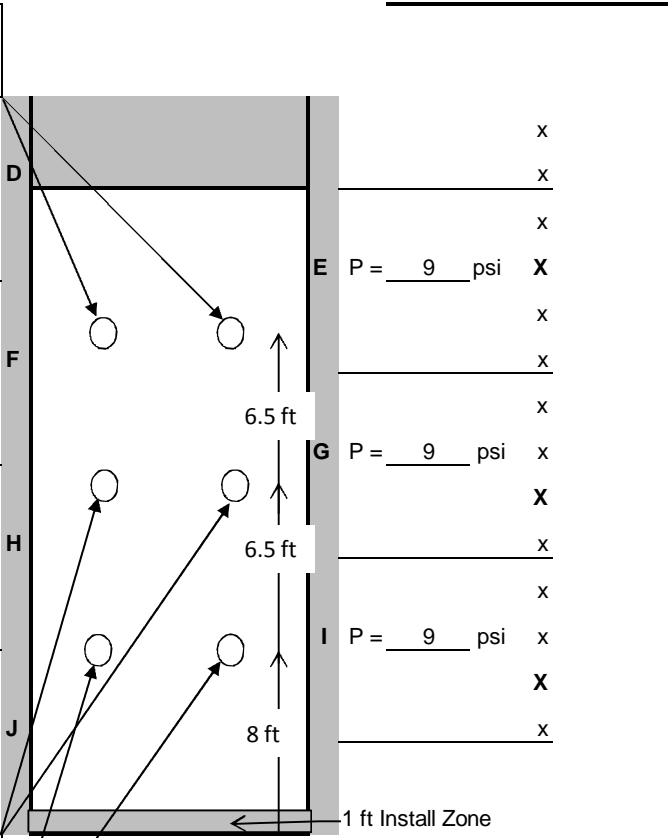
Slope #: 1	Target Rain: 4 in/hr	Sediment Concentration & Turbidity Grab Samples	
-------------------	-----------------------------	--	--

Date:	12-Jun-12	Start Rain:	7:34 AM	End Rain:	7:54 AM	Time	Sed Conc Samples Taken	Turbidity Samples Taken
		Sampling interval:	0:03	End Runoff:	7:57 AM	7:37	X	X
		Rain Time (min):	20.00	Test Time (min):	23.00	7:40	X	X
Product:	none	Descr.:	Control			7:43	X	X
Lot #:		Posts:		Spacing:		7:46	X	X
						7:49	X	X
						7:52	X	X
						7:55	X	X

w_{c1} = 21.8%

d = 33 34 mm

i = 3.90 4.02 in/hr



Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	3785	14
2	3785	10
3	3785	9
4	3785	9
5	3785	9
6	3785	9
7	3785	9
8	3785	9
9	3785	9
10	3785	9
11	3785	9
12	3785	9
13	3785	10
14	3785	9
15	3785	10
16	3785	10
17	3785	9
18	3785	9
19	3785	8
20	3785	8
21	3785	23
23	3785	0

d = 33 34 mm

i = 3.90 4.02 in/hr

w_{c2} = 21.2%

d = 33 36 mm

i = 3.90 4.25 in/hr

w_{c3} = 22.8%

Average Depth: 34 mm

Avg Rainfall Intensity: 4.00 in/hr

P = 9 psi

Temp. 72 deg

Hum. 95 %

NOTES:
 Wind: 1 mph. Direction: SW
 Approx 140 gallons collected.

DDRF Rainfall Testing				Sediment Concentration & Turbidity Grab Samples																																																																								
Slope #: <u>1</u>		Target Rain: <u>6 in/hr</u>		Time	Sed Conc Samples Taken	Turbidity Samples Taken																																																																						
Date:	<u>12-Jun-12</u>	Start Rain:	<u>8:08 AM</u>	End Rain:	<u>8:28 AM</u>	8:11	X	X																																																																				
		Sampling interval:	<u>0:03</u>	End Runoff:	<u>8:41 AM</u>	8:14	X	X																																																																				
		Rain Time (min):	<u>20.00</u>	Test Time (min):	<u>33.00</u>	8:17	X	X																																																																				
Product:	<u>none</u>	Descr.:	<u>Control</u>			8:20	X	X																																																																				
Lot #:		Posts:		Spacing:		8:23	X	X																																																																				
TOP OF SLOPE						8:26	X	X																																																																				
(circle "x" for open valves)				Set valves to 16 psi.		8:29	X	X																																																																				
w _{c1} = <u>21.8%</u> d = <u>53</u> <u>54</u> mm i = <u>6.26</u> <u>6.38</u> in/hr																																																																												
d = <u>52</u> <u>50</u> mm i = <u>6.14</u> <u>5.91</u> in/hr w _{c2} = <u>21.2%</u> d = <u>51</u> <u>51</u> mm i = <u>6.02</u> <u>6.02</u> in/hr w _{c3} = <u>22.8%</u>																																																																												
Average Depth: <u>52</u> mm Avg Rainfall Intensity: <u>6.12</u> in/hr				Runoff Rate Measurements <table border="1"> <thead> <tr> <th>Min.</th> <th>Volume</th> <th>Seconds</th> </tr> </thead> <tbody> <tr><td>1</td><td>3785</td><td>8</td></tr> <tr><td>2</td><td>3785</td><td>8</td></tr> <tr><td>3</td><td>3785</td><td>7</td></tr> <tr><td>4</td><td>3785</td><td>6</td></tr> <tr><td>5</td><td>3785</td><td>7</td></tr> <tr><td>6</td><td>3785</td><td>6</td></tr> <tr><td>7</td><td>3785</td><td>6</td></tr> <tr><td>8</td><td>3785</td><td>7</td></tr> <tr><td>9</td><td>3785</td><td>6</td></tr> <tr><td>10</td><td>3785</td><td>6</td></tr> <tr><td>11</td><td>3785</td><td>6</td></tr> <tr><td>12</td><td>3785</td><td>6</td></tr> <tr><td>13</td><td>3785</td><td>6</td></tr> <tr><td>14</td><td>3785</td><td>6</td></tr> <tr><td>15</td><td>3785</td><td>6</td></tr> <tr><td>16</td><td>3785</td><td>6</td></tr> <tr><td>17</td><td>3785</td><td>6</td></tr> <tr><td>18</td><td>3785</td><td>5</td></tr> <tr><td>19</td><td>3785</td><td>5</td></tr> <tr><td>20</td><td>3785</td><td>5</td></tr> <tr><td>21</td><td>3785</td><td>19</td></tr> <tr><td>33</td><td>3785</td><td>0</td></tr> </tbody> </table>				Min.	Volume	Seconds	1	3785	8	2	3785	8	3	3785	7	4	3785	6	5	3785	7	6	3785	6	7	3785	6	8	3785	7	9	3785	6	10	3785	6	11	3785	6	12	3785	6	13	3785	6	14	3785	6	15	3785	6	16	3785	6	17	3785	6	18	3785	5	19	3785	5	20	3785	5	21	3785	19	33	3785	0
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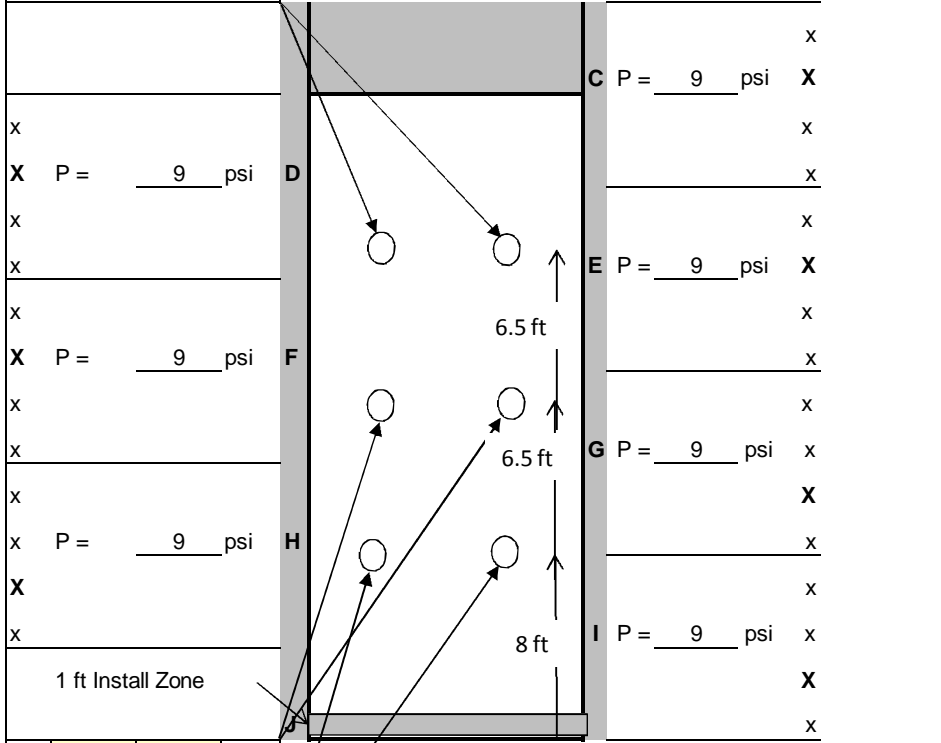
NOTES:
 Wind: 0 mph. Direction: SW
 Approx 210 gallons collected.

DDRF Rainfall Testing

Slope #: 2	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples	
-------------------	-----------------------------	--	--

Date: 1-Jun-12	Start Rain: 9:07 AM	End Rain: 9:27 AM	Time: 9:10	Sed Conc Samples Taken	Turbidity Samples Taken
	Sampling interval: 0:03	End Runoff: 9:29 AM	9:13		
	Rain Time (min): 20.00	Test Time (min): 22.00	9:16		
Product: none	Descr.: Control		9:19	X	X
Lot #:	Posts:	Spacing:	9:22	X	X
TOP OF SLOPE			9:25	X	X
(circle "x" for open valves)			9:28	X	X
Set valves to 16 psi.					

d = 18 18 mm
 i = 2.13 2.13 in/hr



d = 19 18 mm
 i = 2.24 2.13 in/hr
 W_{e2} = 21.2%

d = 16 16 mm
 i = 1.89 1.89 in/hr
 W_{e3} = 22.8%

x x X x
 P = 9 psi Temp. 67 deg
 Hum. 91 %

Average Depth: 18 mm
Avg Rainfall Intensity: 2.07 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	60
2	250	60
3	250	60
4	250	60
5	250	60
6	250	60
7	250	60
8	250	60
9	250	60
10	250	60
11	250	18
12	250	2
13	250	2
14	250	2
15	250	2
16	250	2
17	250	2
18	250	2
19	250	2
20	250	2
21	250	5
22	250	0

NOTES:
 Wind: 0 mph. Direction: S
 Approx 20 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	1-Jun-12	Start Rain: 9:39 AM	End Rain: 9:59 AM	9:42	X	X
		Sampling interval: 0:03	End Runoff: 10:02 AM	9:45	X	X
		Rain Time (min): 20.00	Test Time (min): 23.00	9:48	X	X
Product:	none	Descr.: Control		9:51	X	X
Lot #:		Posts:	Spacing:	9:54	X	X
		TOP OF SLOPE		9:57	X	X
		(circle "x" for open valves)	Set valves to 16 psi.	10:00	X	X

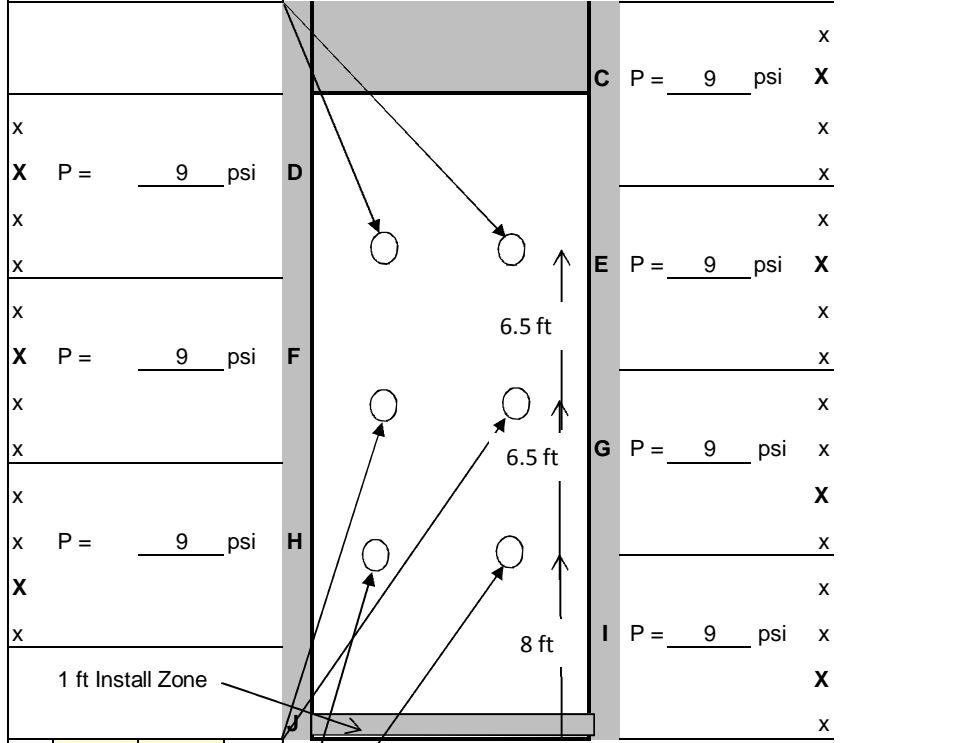
w_{c1} = 21.8%

d = 34 35 mm

i = 4.02 4.13 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	3785	16
2	3785	12
3	3785	10
4	3785	10
5	3785	10
6	3785	10
7	3785	9
8	3785	8
9	3785	8
10	3785	9
11	3785	8
12	3785	8
13	3785	8
14	3785	8
15	3785	8
16	3785	7
17	3785	7
18	3785	8
19	3785	7
20	3785	7
21	3785	18
23	3785	0



d = 34 34 mm

i = 4.02 4.02 in/hr

w_{c2} = 21.2%

d = 32 34 mm

i = 3.78 4.02 in/hr

w_{c3} = 22.8%

x x X x

P = 9 psi

Temp. 68 deg

Hum. 92 %

Average Depth: 34 mm

Avg Rainfall Intensity: 4.00 in/hr

NOTES:
 Wind: 0 mph. Direction: S
 Approx 150 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 6 in/hr**

Date: **1-Jun-12** Start Rain: **10:09 AM** End Rain: **10:29 AM**
 Sampling interval: **0:03** End Runoff: **10:33 AM**
 Rain Time (min): **20.00** Test Time (min): **24.00**
 Product: **none** Descr.: **Control**
 Lot #: Posts: Spacing:

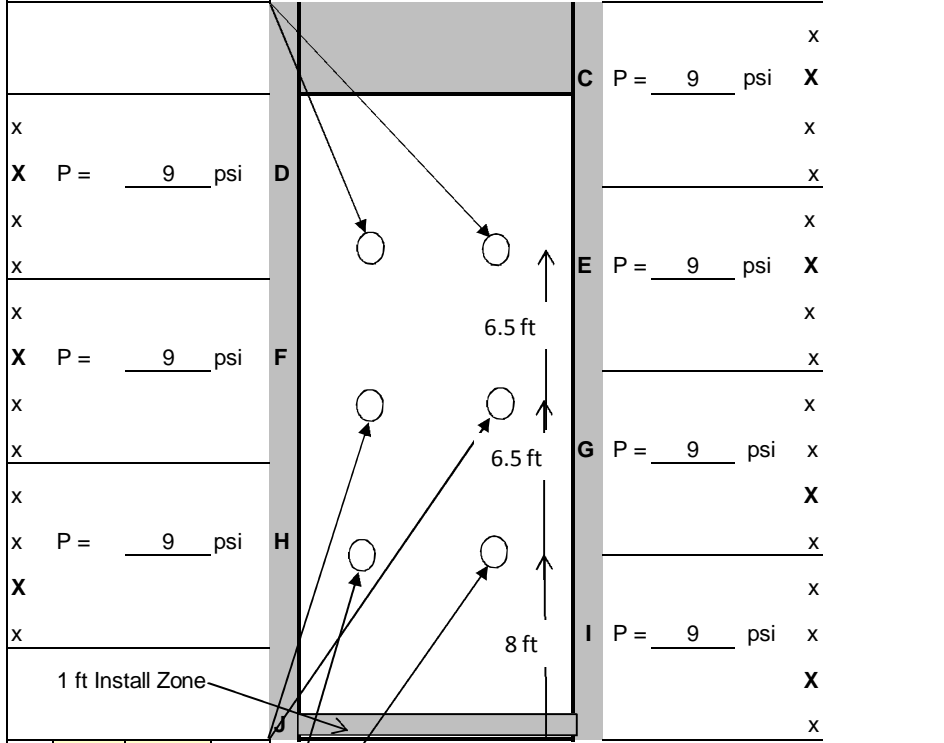
TOP OF SLOPE
 (circle "x" for open valves) **Set valves to 16 psi.**

Sediment Concentration & Turbidity Grab Samples		
Time	Sed Conc Samples Taken	Turbidity Samples Taken
10:12	X	X
10:15	X	X
10:18	X	X
10:21	X	X
10:24	X	X
10:27	X	X
10:30	X	X

$w_{c1} = 21.8\%$
 d = **50** **51** mm
 i = **5.91** **6.02** in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	8
2	3785	7
3	3785	7
4	3785	6
5	3785	6
6	3785	6
7	3785	6
8	3785	6
9	3785	6
10	3785	6
11	3785	6
12	3785	6
13	3785	6
14	3785	6
15	3785	6
16	3785	6
17	3785	6
18	3785	6
19	3785	5
20	3785	5
21	3785	10
24	3785	0



$w_{c2} = 21.2\%$
 d = **53** **52** mm
 i = **6.26** **6.14** in/hr

x x **X** x
 P = **9** psi Temp. **68** deg
 Hum. **93** %

$w_{c3} = 22.8\%$
 d = **50** **49** mm
 i = **5.91** **5.79** in/hr

Average Depth: 51 mm
Avg Rainfall Intensity: 6.00 in/hr

NOTES:
 Wind: 0 mph. Direction: S
 Approx 220 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 2 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	8-Jun-12	Start Rain: 8:29 AM	End Rain: 8:49 AM	8:32	X	X
		Sampling interval: 0:03	End Runoff: 8:51 AM	8:35	X	X
		Rain Time (min): 20.00	Test Time (min): 22.00	8:38	X	X
Product:	none	Descr.: Control		8:41	X	X
Lot #:		Posts:	Spacing:	8:44	X	X
		TOP OF SLOPE		8:47	X	X
		(circle "x" for open valves)	Set valves to 16 psi.	8:50	X	X

w_{c1} = 21.8%

d = 17 17 mm

i = 2.01 2.01 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x

X P = 9 psi

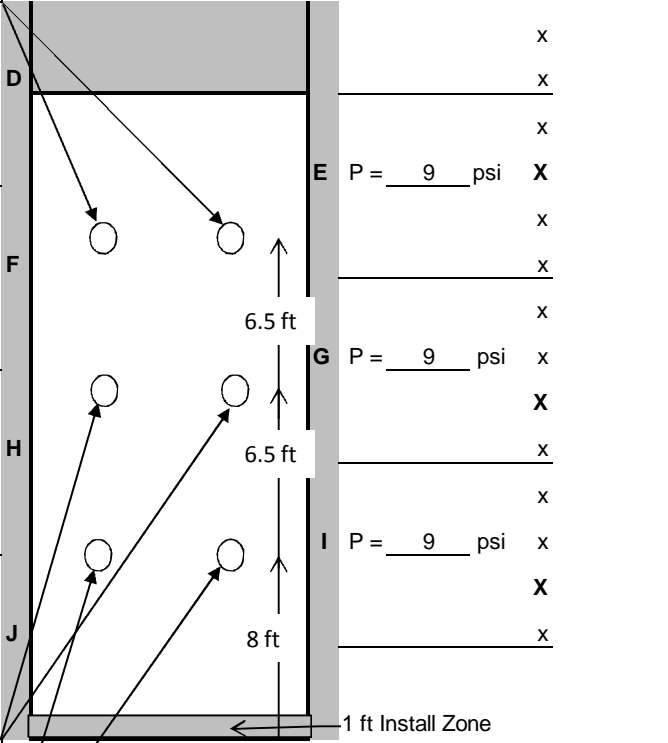
x

x

x

X P = 9 psi

x



Runoff Rate Measurements

Min.	Volume	Seconds
1	250	50
2	250	40
3	250	38
4	250	36
5	250	27
6	250	12
7	250	7
8	250	5
9	250	3
10	250	3
11	250	3
12	250	2
13	250	2
14	250	2
15	250	2
16	250	2
17	250	2
18	250	2
19	250	2
20	250	2
21	250	10
22	250	0

d = 18 19 mm

i = 2.13 2.24 in/hr

w_{c2} = 21.2%

d = 17 17 mm

i = 2.01 2.01 in/hr

w_{c3} = 22.8%

x x X x

P = 9 psi Temp. 70 deg

 Hum. 79 %

Average Depth: 18 mm

Avg Rainfall Intensity: 2.07 in/hr

NOTES: **SLOPE G2**

Wind: 0 mph. Direction: E

Approx 25 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	8-Jun-12	Start Rain: Sampling interval:	9:02 AM 0:03	End Rain:	9:22 AM	9:05 X X
		End Runoff:	9:24 AM	9:08	X	X
		Rain Time (min):	20.00	Test Time (min):	22.00	9:11 X X
Product:	none	Descr.:	Control	9:14	X	X
Lot #:		Posts:		Spacing:		9:17 X X
TOP OF SLOPE				9:20	X	X
(circle "x" for open valves)				9:23	X	X

w_{c1} = 21.8%

d = 33 33 mm

i = 3.90 3.90 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

x P = 9 psi

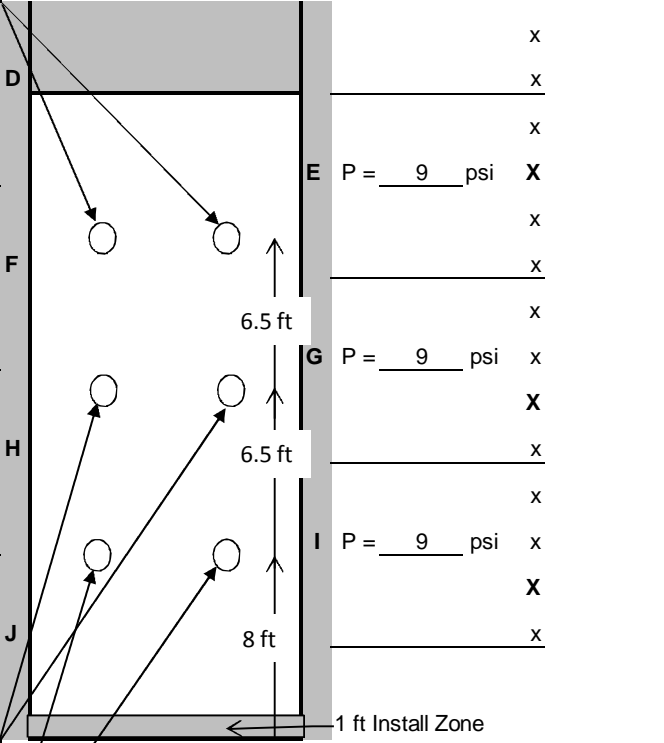
X

x

x P = 9 psi

X

x



d = 34 34 mm

i = 4.02 4.02 in/hr

w_{c2} = 21.2%

d = 35 33 mm

i = 4.13 3.90 in/hr

w_{c3} = 22.8%

x x X x

P = 9 psi Temp. 73 deg

Hum. 76 %

Average Depth: 34 mm

Avg Rainfall Intensity: 3.98 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	3785	25
2	3785	15
3	3785	12
4	3785	12
5	3785	12
6	3785	11
7	3785	10
8	3785	9
9	3785	9
10	3785	9
11	3785	9
12	3785	9
13	3785	9
14	3785	9
15	3785	9
16	3785	9
17	3785	9
18	3785	8
19	3785	8
20	3785	8
21	3785	12
22	3785	0

NOTES: **SLOPE G2**

Wind: 0 mph. Direction: E

Approx 130 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken	
Date:	8-Jun-12	Start Rain: Sampling interval:	9:32 AM 0:03	End Rain:	9:52 AM	X	X
		End Runoff:			9:54 AM	X	X
		Rain Time (min):	20.00	Test Time (min):	22.00	X	X
Product:	none	Descr.:	Control		9:44	X	X
Lot #:		Posts:		Spacing:	9:47	X	X
TOP OF SLOPE					9:50	X	X
(circle "x" for open valves)					9:53	X	X

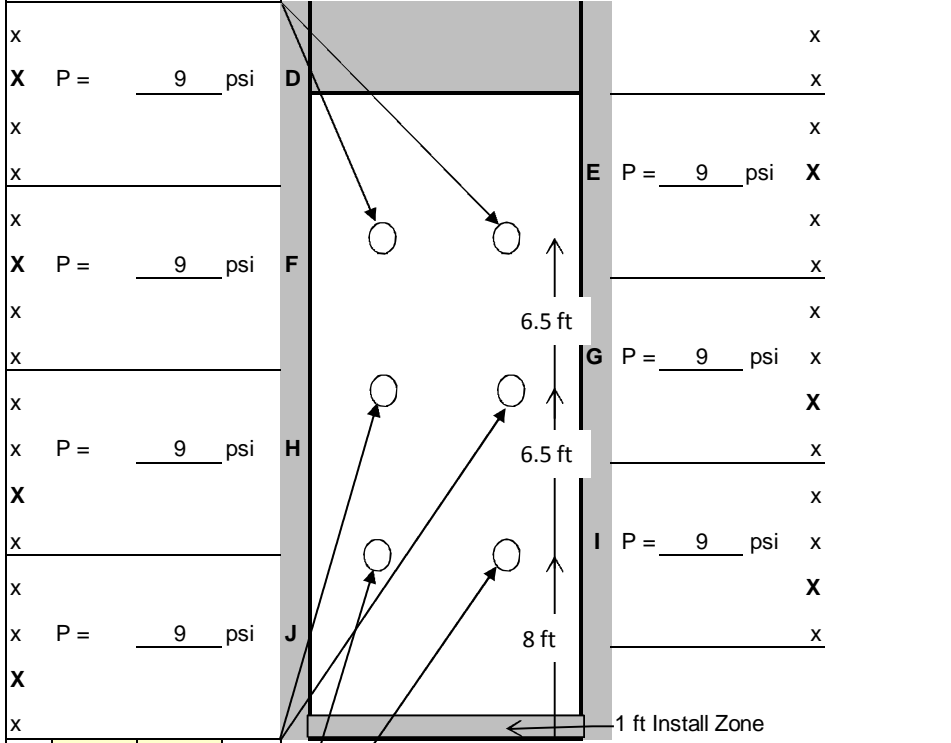
w_{c1} = 21.8%

d = 53 51 mm

i = 6.26 6.02 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	19
2	3785	7
3	3785	6
4	3785	6
5	3785	7
6	3785	6
7	3785	7
8	3785	6
9	3785	6
10	3785	6
11	3785	5
12	3785	6
13	3785	5
14	3785	6
15	3785	5
16	3785	5
17	3785	6
18	3785	6
19	3785	5
20	3785	5
21	3785	15
22	3785	0



d = 50 51 mm

i = 5.91 6.02 in/hr

x x X x

P = 9 psi Temp. 63 deg

w_{c2} = 21.2%

Hum. 93 %

d = 50 50 mm

i = 5.91 5.91 in/hr

Average Depth: 51 mm

w_{c3} = 22.8%

Avg Rainfall Intensity: 6.00 in/hr

NOTES: **SLOPE G2**

Wind: 0 mph. Direction: E

Approx 210 gallons collected.

GSWCC_SB Data Form - Turbidities

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	37.4
2	20	39.4
3	20	37.8

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	1408	2-1	3.00	no sample	2-1	3.00	781
2-2	6.00	2370	2-2	6.00	no sample	2-2	6.00	924
2-3	9.00	9999	2-3	9.00	2463	2-3	9.00	9999
2-4	12.00	9999	2-4	12.00	9999	2-4	12.00	9999
2-5	15.00	9999	2-5	15.00	9999	2-5	15.00	9999
2-6	18.00	9999	2-6	18.00	9999	2-6	18.00	9999
2-7	21.00	9999	2-7	21.00	9999	2-7	21.00	9999
avg		7682	avg		8492	avg		7386
4-1	3.00	9999	4-1	2.00	9999	4-1	2.00	9999
4-2	6.00	9999	4-2	4.00	9999	4-2	4.00	9999
4-3	9.00	9999	4-3	6.00	9999	4-3	6.00	9999
4-4	12.00	9999	4-4	8.00	9999	4-4	8.00	9999
4-5	15.00	9999	4-5	10.00	9999	4-5	10.00	9999
4-6	18.00	9999	4-6	12.00	9999	4-6	12.00	9999
4-7	21.00	9999	4-7	21.00	9999	4-7	21.00	9999
avg		9999	avg		9999	avg		9999
6-1	3.00	9999	6-1	3.00	9999	6-1	3.00	9999
6-2	6.00	9999	6-2	6.00	9999	6-2	6.00	9999
6-3	9.00	9999	6-3	9.00	9999	6-3	9.00	9999
6-4	12.00	9999	6-4	12.00	9999	6-4	12.00	9999
6-5	15.00	9999	6-5	15.00	9999	6-5	15.00	9999
6-6	18.00	9999	6-6	18.00	9999	6-6	18.00	9999
6-7	21.00	9999	6-7	21.00	9999	6-7	21.00	9999
avg		9999	avg		9999	avg		9999

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.13	in/hr	avg														
12-Jun-12		2-1	3.00	314.09	156.88	150.66	148.79	1870.00	163.43	0.16	11442.21	3.00	908.50	1.51	11442.21	0.14
		2-2	6.00	343.14	157.18	153.88	151.78	2100.00	189.26	0.19	11095.85	6.00	272.55	0.39	11095.85	0.04
		2-3	9.00	375.84	165.04	151.96	149.23	2730.00	223.88	0.22	12194.03	9.00	181.70	0.88	12194.03	0.09
		2-4	12.00	376.72	238.51	154.63	150.88	3750.00	222.09	0.22	16885.05	12.00	60.57	2.14	16885.05	0.30
		2-5	15.00	387.13	222.20	154.56	147.75	6810.00	232.57	0.23	29281.51	15.00	30.28	4.04	29281.51	0.99
		2-6	18.00	373.40	195.67	156.62	149.47	7150.00	216.78	0.22	32982.75	18.00	30.28	5.94	32982.75	1.64
		2-7	21.00	351.86	166.20	154.27	147.16	7110.00	197.59	0.20	35983.60	21.00	151.42	4.62	35983.60	1.39
										AVG =	21409.28	86.00	0	0.99	35983.60	0.30
4.00	in/hr	avg									21409.28			Total Solids Lost:		4.88
12-Jun-12		4-1	3.00	358.90	205.51	159.29	150.60	8690.00	199.61	0.20	43534.89	3.00	9.00	19.89	43534.89	7.22
		4-2	6.00	316.67	183.79	157.54	149.99	7550.00	159.13	0.16	47445.48	6.00	9.00	20.00	47445.48	7.92
		4-3	9.00	341.99	194.34	159.43	150.87	8560.00	182.56	0.18	46888.69	9.00	9.00	20.00	46888.69	7.82
		4-4	12.00	340.63	188.26	155.91	146.45	9460.00	184.72	0.18	51212.65	12.00	9.00	20.00	51212.65	8.54
		4-5	15.00	347.01	196.87	159.55	149.58	9970.00	187.46	0.19	53184.68	15.00	10.00	18.95	53184.68	8.41
		4-6	18.00	349.71	189.16	163.38	151.93	11450.00	186.33	0.19	61450.12	18.00	9.00	18.98	61450.12	9.73
		4-7	21.00	354.84	170.25	159.73	147.65	12080.00	195.11	0.20	61913.79	21.00	23.00	18.43	61913.79	9.52
										AVG =	52232.90	23.00	0.00	3.75	61913.79	1.94
6.12	in/hr	avg									52232.90			Total Solids Lost:		61.10
12-Jun-12		6-1	3.00	356.04	204.97	161.55	150.97	10580.00	194.49	0.19	54398.68	3.00	7.00	30.50	54398.68	13.84
		6-2	6.00	354.01	197.37	163.50	150.23	13270.00	190.51	0.19	69655.14	6.00	6.00	27.69	69655.14	16.09
		6-3	9.00	355.55	210.94	164.49	150.24	14250.00	191.06	0.19	74583.90	9.00	6.00	28.46	74583.90	17.71
		6-4	12.00	355.87	202.87	161.44	148.06	13380.00	194.43	0.19	68816.54	12.00	6.00	30.00	68816.54	17.22
		6-5	15.00	364.31	223.22	166.57	151.30	15270.00	197.74	0.20	77222.62	15.00	6.00	30.00	77222.62	19.33
		6-6	18.00	355.18	190.87	166.39	149.91	16480.00	188.79	0.19	87292.76	18.00	5.00	30.91	87292.76	22.51
		6-7	21.00	337.87	172.58	166.68	150.56	16120.00	171.19	0.17	94164.38	21.00	19.00	29.00	94164.38	22.78
										AVG =	75162.00	33.00	0.00	6.00	94164.38	4.71
											75162.00			Total Solids Lost:		134.20

12-Jun-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.13 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	91	1.32	1.32	1.32
2-2	2.00	908	0.12	0.12	1.44
2-3	3.00	908	0.07	0.07	1.51
2-4	4.00	560	0.08	0.08	1.59
2-5	5.00	379	0.13	0.13	1.72
2-6	6.00	273	0.18	0.18	1.90
2-7	7.00	212	0.25	0.25	2.15
2-8	8.00	182	0.30	0.30	2.45
2-9	9.00	182	0.33	0.33	2.78
2-10	10.00	76	0.47	0.47	3.25
2-11	11.00	76	0.79	0.79	4.04
2-12	12.00	61	0.88	0.88	4.92
2-13	13.00	45	1.13	1.13	6.05
2-14	14.00	45	1.32	1.32	7.38
2-15	15.00	30	1.59	1.59	8.96
2-16	16.00	30	1.98	1.98	10.94
2-17	17.00	30	1.98	1.98	12.92
2-18	18.00	30	1.98	1.98	14.90
2-19	19.00	30	1.98	1.98	16.89
2-20	20.00	30	1.98	1.98	18.87
2-21	21.00	151	0.66	0.66	19.53
2-end	86.00	0	0.99	0.99	20.52
					20.52
					Total Collected Runoff (approx)

4.00 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	14	8.57	8.57	8.57
4-2	2	10	5.00	5.00	13.57
4-3	3	9	6.32	6.32	19.89
4-4	4	9	6.67	6.67	26.55
4-5	5	9	6.67	6.67	33.22
4-6	6	9	6.67	6.67	39.88
4-7	7	9	6.67	6.67	46.55
4-8	8	9	6.67	6.67	53.21
4-9	9	9	6.67	6.67	59.88
4-10	10	9	6.67	6.67	66.55
4-11	11	9	6.67	6.67	73.21
4-12	12	9	6.67	6.67	79.88
4-13	13	10	6.32	6.32	86.19
4-14	14	9	6.32	6.32	92.51
4-15	15	10	6.32	6.32	98.82
4-16	16	10	6.00	6.00	104.82
4-17	17	9	6.32	6.32	111.14
4-18	18	9	6.67	6.67	117.80
4-19	19	8	7.06	7.06	124.86
4-20	20	8	7.50	7.50	132.36
4-21	21	23	3.87	3.87	136.23
4-end	23.00	0	3.75	3.75	139.98
					139.98
					Total Collected Runoff (approx)

6.12 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	8	15.00	15.00	15.00
6-2	2	8	7.50	7.50	22.50
6-3	3	7	8.00	8.00	30.50
6-4	4	6	9.23	9.23	39.73
6-5	5	7	9.23	9.23	48.96
6-6	6	6	9.23	9.23	58.19
6-7	7	6	10.00	10.00	68.18
6-8	8	7	9.23	9.23	77.41
6-9	9	6	9.23	9.23	86.64
6-10	10	6	10.00	10.00	96.64
6-11	11	6	10.00	10.00	106.64
6-12	12	6	10.00	10.00	116.64
6-13	13	6	10.00	10.00	126.64
6-14	14	6	10.00	10.00	136.64
6-15	15	6	10.00	10.00	146.64
6-16	16	6	10.00	10.00	156.64
6-17	17	6	10.00	10.00	166.64
6-18	18	5	10.91	10.91	177.54
6-19	19	5	12.00	12.00	189.54
6-20	20	5	12.00	12.00	201.54
6-21	21	19	5.00	5.00	206.54
6-end	33.00	0	6.00	6.00	212.54
					212.54
					Total Collected Runoff (approx)

1-Jun-12

Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.07 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	908	0.13	0.13	0.13
2-2	2.00	908	0.07	0.07	0.20
2-3	3.00	908	0.07	0.07	0.26
2-4	4.00	908	0.07	0.07	0.33
2-5	5.00	908	0.07	0.07	0.40
2-6	6.00	908	0.07	0.07	0.46
2-7	7.00	908	0.07	0.07	0.53
2-8	8.00	908	0.07	0.07	0.59
2-9	9.00	908	0.07	0.07	0.66
2-10	10.00	908	0.07	0.07	0.73
2-11	11.00	273	0.10	0.10	0.83
2-12	12.00	30	0.40	0.40	1.22
2-13	13.00	30	1.98	1.98	3.21
2-14	14.00	30	1.98	1.98	5.19
2-15	15.00	30	1.98	1.98	7.17
2-16	16.00	30	1.98	1.98	9.15
2-17	17.00	30	1.98	1.98	11.13
2-18	18.00	30	1.98	1.98	13.11
2-19	19.00	30	1.98	1.98	15.09
2-20	20.00	30	1.98	1.98	17.07
2-21	21.00	76	1.13	1.13	18.21
2-end	22.00	0	0.99	0.99	19.20
					19.20
					Total Collected Runoff (approx)

4.00 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	16	7.50	7.50	7.50
4-2	2	12	4.29	4.29	11.78
4-3	3	10	5.45	5.45	17.24
4-4	4	10	6.00	6.00	23.24
4-5	5	10	6.00	6.00	29.24
4-6	6	10	6.00	6.00	35.24
4-7	7	9	6.32	6.32	41.55
4-8	8	8	7.06	7.06	48.61
4-9	9	8	7.50	7.50	56.11
4-10	10	9	7.06	7.06	63.17
4-11	11	8	7.06	7.06	70.22
4-12	12	8	7.50	7.50	77.72
4-13	13	8	7.50	7.50	85.22
4-14	14	8	7.50	7.50	92.72
4-15	15	8	7.50	7.50	100.22
4-16	16	7	8.00	8.00	108.22
4-17	17	7	8.57	8.57	116.79
4-18	18	8	8.00	8.00	124.79
4-19	19	7	8.00	8.00	132.79
4-20	20	7	8.57	8.57	141.36
4-21	21	18	4.80	4.80	146.16
4-end	23	0	4.29	4.29	150.44
					150.44
					Total Collected Runoff (approx)

6.00 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	8	15.00	15.00	15.00
6-2	2	7	8.00	8.00	23.00
6-3	3	7	8.57	8.57	31.57
6-4	4	6	9.23	9.23	40.80
6-5	5	6	10.00	10.00	50.80
6-6	6	6	10.00	10.00	60.80
6-7	7	6	10.00	10.00	70.79
6-8	8	6	10.00	10.00	80.79
6-9	9	6	10.00	10.00	90.79
6-10	10	6	10.00	10.00	100.79
6-11	11	6	10.00	10.00	110.79
6-12	12	6	10.00	10.00	120.79
6-13	13	6	10.00	10.00	130.79
6-14	14	6	10.00	10.00	140.79
6-15	15	6	10.00	10.00	150.79
6-16	16	6	10.00	10.00	160.78
6-17	17	6	10.00	10.00	170.78
6-18	18	6	10.00	10.00	180.78
6-19	19	5	10.91	10.91	191.69
6-20	20	5	12.00	12.00	203.69
6-21	21	10	8.00	8.00	211.69
6-end	24	0	6.00	6.00	217.69
					217.69
					Total Collected Runoff (approx)

8-Jun-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.07 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	757	0.16	0.16	0.16
2-2	2.00	606	0.09	0.09	0.25
2-3	3.00	575	0.10	0.10	0.35
2-4	4.00	545	0.11	0.11	0.46
2-5	5.00	409	0.13	0.13	0.58
2-6	6.00	182	0.20	0.20	0.78
2-7	7.00	106	0.42	0.42	1.20
2-8	8.00	76	0.66	0.66	1.86
2-9	9.00	45	0.99	0.99	2.85
2-10	10.00	45	1.32	1.32	4.17
2-11	11.00	45	1.32	1.32	5.49
2-12	12.00	30	1.59	1.59	7.08
2-13	13.00	30	1.98	1.98	9.06
2-14	14.00	30	1.98	1.98	11.04
2-15	15.00	30	1.98	1.98	13.02
2-16	16.00	30	1.98	1.98	15.00
2-17	17.00	30	1.98	1.98	16.99
2-18	18.00	30	1.98	1.98	18.97
2-19	19.00	30	1.98	1.98	20.95
2-20	20.00	30	1.98	1.98	22.93
2-21	21.00	151	0.66	0.66	23.59
2-end	22.00	0	0.99	0.99	24.58
					24.58
					Total Collected Runoff (approx)

3.98 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	25	4.80	4.80	4.80
4-2	2	15	3.00	3.00	7.80
4-3	3	12	4.44	4.44	12.24
4-4	4	12	5.00	5.00	17.24
4-5	5	12	5.00	5.00	22.24
4-6	6	11	5.22	5.22	27.46
4-7	7	10	5.71	5.71	33.17
4-8	8	9	6.32	6.32	39.49
4-9	9	9	6.67	6.67	46.15
4-10	10	9	6.67	6.67	52.82
4-11	11	9	6.67	6.67	59.49
4-12	12	9	6.67	6.67	66.15
4-13	13	9	6.67	6.67	72.82
4-14	14	9	6.67	6.67	79.48
4-15	15	9	6.67	6.67	86.15
4-16	16	9	6.67	6.67	92.82
4-17	17	9	6.67	6.67	99.48
4-18	18	8	7.06	7.06	106.54
4-19	19	8	7.50	7.50	114.04
4-20	20	8	7.50	7.50	121.54
4-21	21	12	6.00	6.00	127.54
4-end	22	0	3.75	3.75	131.29
					131.29
					Total Collected Runoff (approx)

6.00 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	19	6.32	6.32	6.32
6-2	2	7	4.61	4.61	10.93
6-3	3	6	9.23	9.23	20.16
6-4	4	6	10.00	10.00	30.16
6-5	5	7	9.23	9.23	39.39
6-6	6	6	9.23	9.23	48.62
6-7	7	7	9.23	9.23	57.85
6-8	8	6	9.23	9.23	67.08
6-9	9	6	10.00	10.00	77.08
6-10	10	6	10.00	10.00	87.08
6-11	11	5	10.91	10.91	97.98
6-12	12	6	10.91	10.91	108.89
6-13	13	5	10.91	10.91	119.80
6-14	14	6	10.91	10.91	130.71
6-15	15	5	10.91	10.91	141.62
6-16	16	5	12.00	12.00	153.61
6-17	17	6	10.91	10.91	164.52
6-18	18	6	10.00	10.00	174.52
6-19	19	5	10.91	10.91	185.43
6-20	20	5	12.00	12.00	197.43
6-21	21	15	6.00	6.00	203.43
6-end	22	0	6.00	6.00	209.43
					209.43
					Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	12-Jun-12	1-Jun-12	8-Jun-12
Avg Moisture Content:	21.91%	23.11%	22.56%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	261.68	254.41	262.1
Wt. Of cup + dry soil, g	253.71	247.47	254.03
Wt. Of cup, g	217.11	217.17	217.11
Wt. Of dry soil, g	36.6	30.3	36.92
Wt. Of water, g	7.97	6.94	8.07
Water Content, w%	21.8%	22.9%	21.9%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	268.68	254.09	265.55
Wt. Of cup + dry soil, g	259.57	247.07	256.5
Wt. Of cup, g	216.54	216.99	216.54
Wt. Of dry soil, g	43.03	30.08	39.96
Wt. Of water, g	9.11	7.02	9.05
Water Content, w%	21.2%	23.3%	22.6%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	254.22	253.16	262.47
Wt. Of cup + dry soil, g	247.33	246.4	253.93
Wt. Of cup, g	217.08	217.13	217.08
Wt. Of dry soil, g	30.25	29.27	36.85
Wt. Of water, g	6.89	6.76	8.54
Water Content, w%	22.8%	23.1%	23.2%

Soil Loss Data

Slope No.	1	2	3
Test Date:	12-Jun-12	1-Jun-12	8-Jun-12
Total Soil Loss	210.24	240.10	214.32

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	2288	2860	2506
Sub-Sample	Wt. Of cup + wet soil, g	2288	2860
	Wt. Of cup + dry soil, g	2288	2860
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	2288	2860
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	5.040	6.300	5.520

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	31962	38499	34686
Sub-Sample	Wt. Of cup + wet soil, g	31962	38499
	Wt. Of cup + dry soil, g	31962	38499
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	31962	38499
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	70.401	84.800	76.401

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	61199	67646	60110
Sub-Sample	Wt. Of cup + wet soil, g	61199	67646
	Wt. Of cup + dry soil, g	61199	67646
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	61199	67646
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	134.800	149.000	132.401



ASTM Proposed - TM11340
STANDARD TEST METHOD FOR DETERMINATION OF SEDIMENT RETENTION DEVICES (SRDs)
PERFORMANCE IN REDUCING SOIL LOSS FROM RAINFALL-INDUCED EROSION DURING
PERIMETER CONTROL APPLICATIONS

Client: GSWCC
Test Dates: 14-Aug-12 14-Aug-12 16-Aug-12
Rainfall Rates: 2,4,6 in/hr (target)
Bed Slope: 3 to 1
Event: 20 minutes at each intensity (60 min. total)
Product: Control

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 1	2.03	28.26	6.61	8.130	0.820
	4.07	122.69	52.00	93.000	10.197
	6.12	216.75	169.05	147.000	25.018
Bare Soil Controls			6.61		0.838
			52.00		6.594
			169.05		21.436

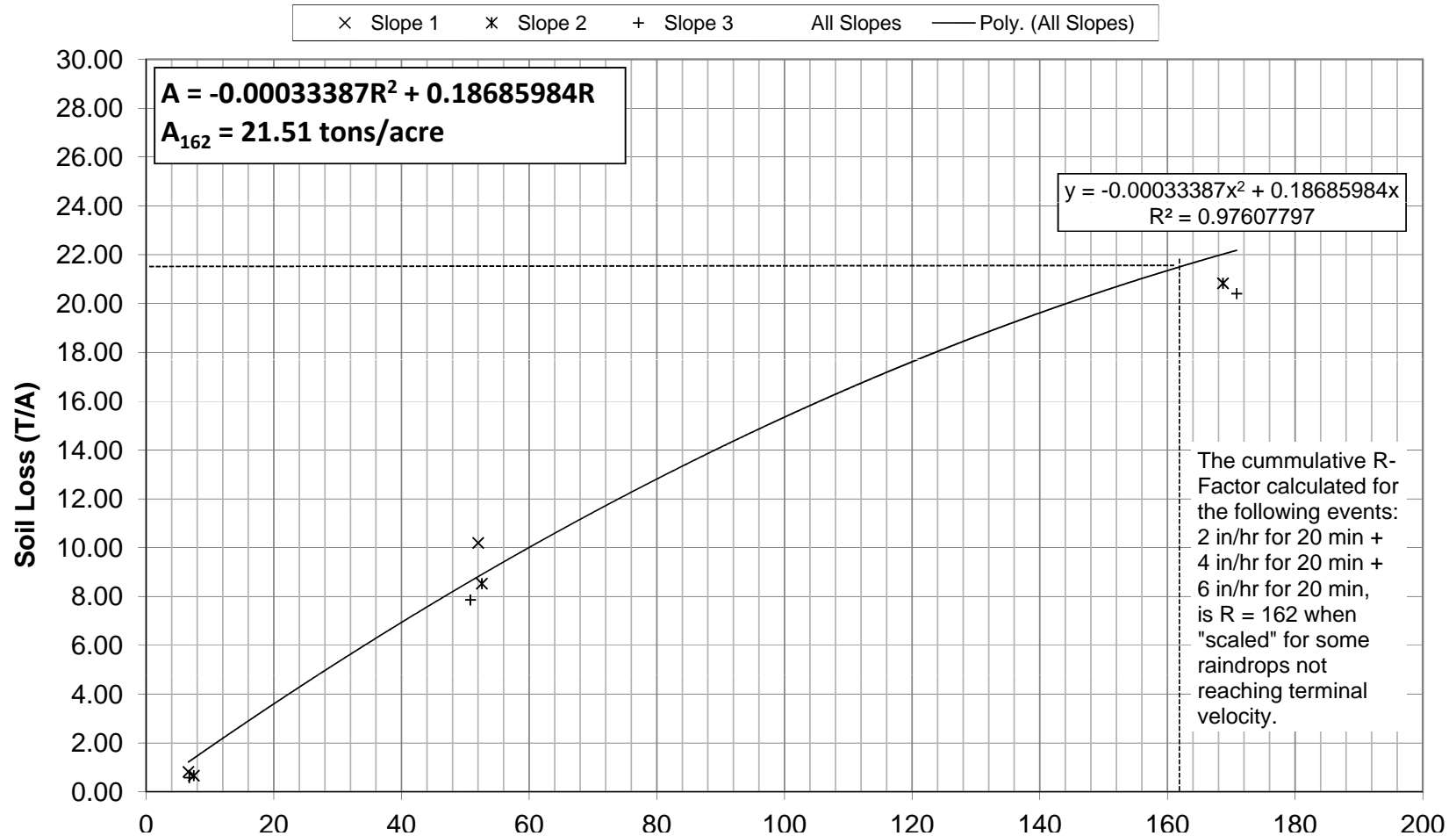
Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 2	2.15	22.88	7.46	6.600	0.665
	4.02	118.75	52.58	78.000	8.530
	6.10	187.97	168.69	122.000	20.831
Bare Soil Controls			7.46		0.946
			52.58		6.668
			168.69		21.390

Plot	Intensity (in/hr)	Runoff (gallons)	Cumm. R Factor	Soil Loss (lbs/plot/event)	Cumm. Soil Loss (T/A)
Slope 3	2.05	20.20	6.74	5.800	0.585
	4.00	128.84	50.79	72.200	7.864
	6.22	223.72	170.84	124.400	20.407
Bare Soil Controls			6.74		0.855
			50.79		6.440
			170.84		21.662

Note: The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose

CJS 8/23/2012 (Rev 10/18/14)
Quality Review / Date

Soil Loss vs RUSLE R (Product Testing; Sandy Clay; 3:1 Slope)



DDRF Rainfall Testing

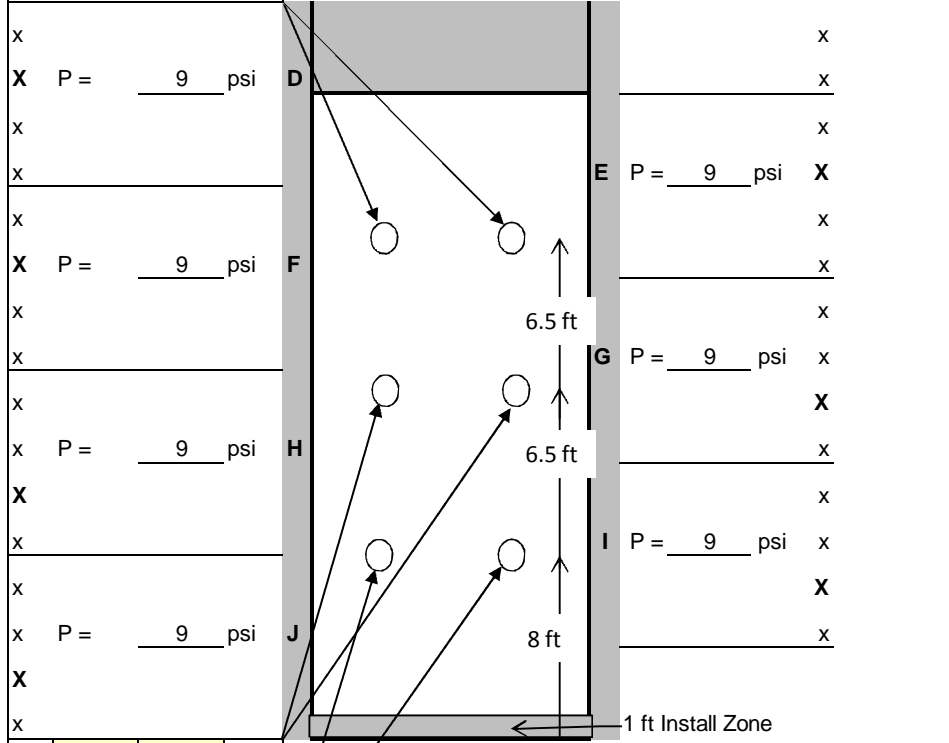
Slope #: 1	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date: 14-Aug-12	Start Rain: 8:45 AM	End Rain: 9:05 AM	Time: 8:48	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
	interval: 0:03	End Runoff: 9:07 AM	8:51	X	X
	Rain Time (min): 20.00	Test Time (min): 22.00	8:54	X	X
Product: CONTROL	Descr.: Slope G1		8:57	X	X
Lot #: []	Posts: []	Spacing: []	9:00	X	X
TOP OF SLOPE			9:03	X	X
(circle "x" for open valves)			9:06	X	X

w_{c1} = 24.5%

d = 17 17 mm

i = 2.01 2.01 in/hr



d = 17 17 mm

i = 2.01 2.01 in/hr

w_{c2} = 19.6%

d = 17 18 mm

i = 2.01 2.13 in/hr

w_{c3} = 23.0%

x x X x

P = 10 psi Temp. 70 deg

Hum. 81 %

Average Depth: 17 mm

Avg Rainfall Intensity: 2.03 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	29
2	250	10
3	250	6
4	250	5
5	250	4
6	250	4
7	250	4
8	250	4
9	250	4
10	250	3
11	250	3
12	250	2
13	3785	39
14	3785	25
15	3785	22
16	3785	29
17	3785	30
18	3785	41
19	3785	36
20	3785	36
21	3785	50
22	3785	0

NOTES:
 Wind: 1 mph. Direction: SSW. Approx 30 gallons collected

DDRF Rainfall Testing

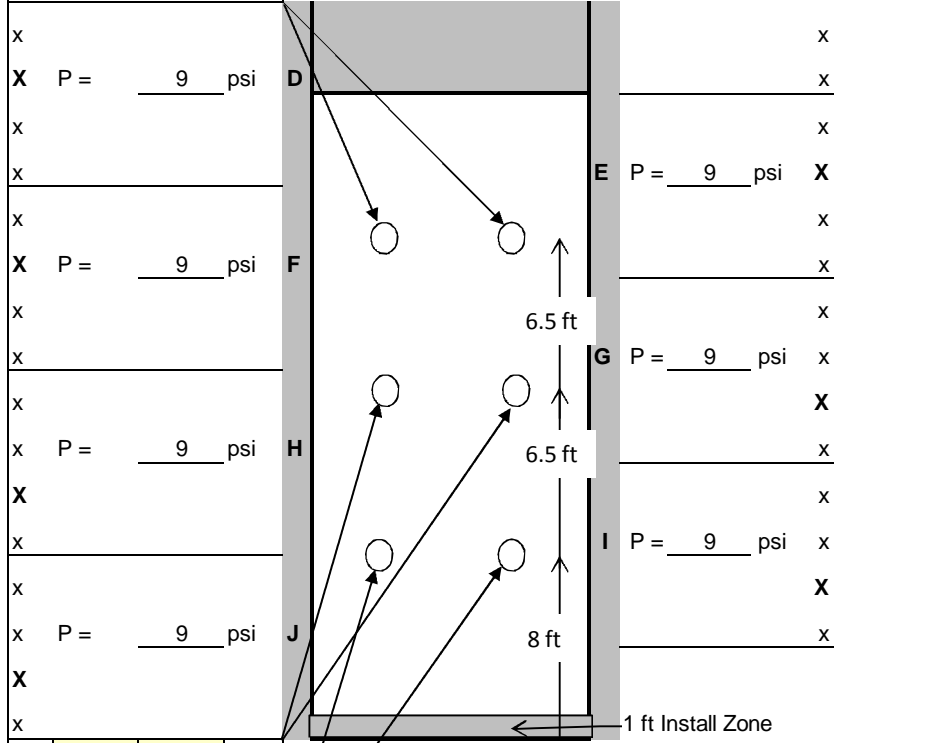
Slope #: 1	Target Rain: 4 in/hr	Sediment Concentration & Turbidity Grab Samples	
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Date: 14-Aug-12	Start Rain: 9:15 AM	End Rain: 9:35 AM	Time: 9:18	Sed Conc Samples Taken: X	Turbidity Samples Taken: X
	interval: 0:03	End Runoff: 9:37 AM	9:21	X	X
	Rain Time (min): 20.00	Test Time (min): 22.00	9:24	X	X
Product: Control	Descr.: Slope G1		9:27	X	X
Lot #:	Posts:	Spacing:	9:30	X	X
TOP OF SLOPE			9:33	X	X
(circle "x" for open valves)			9:36	X	X

w_{c1} = 24.5%

d = 38 37 mm

i = 4.49 4.37 in/hr



d = 34 30 mm

i = 4.02 3.54 in/hr

w_{c2} = 19.6%

d = 32 36 mm

i = 3.78 4.25 in/hr

w_{c3} = 23.0%

x x X x

P = 9 psi Temp. 71 deg

Hum. 84 %

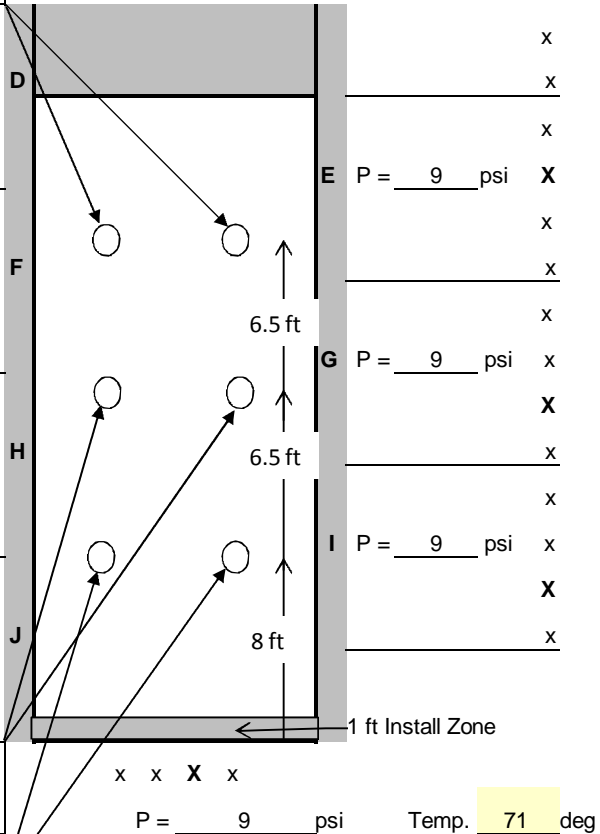
Average Depth: 35 mm

Avg Rainfall Intensity: 4.07 in/hr

Runoff Rate Measurements		
Min.	Volume, mL	Seconds
1	250	2
2	3785	9
3	3785	11
4	3785	10
5	3785	10
6	3785	8
7	3785	10
8	3785	8
9	3785	9
10	3785	10
11	3785	9
12	3785	8
13	3785	9
14	3785	9
15	3785	9
16	3785	10
17	3785	12
18	3785	13
19	3785	16
20	3785	12
21	3785	24
22	3785	0

NOTES:
 Wind: 0 mph. Direction: N. Approx 125 gallons collected.

DDRF Rainfall Testing				Sediment Concentration & Turbidity Grab Samples				
Slope #: <u>1</u>		Target Rain: <u>6 in/hr</u>		Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	<u>14-Aug-12</u>	Start Rain:	<u>9:46 AM</u>	End Rain:	<u>10:06 AM</u>	9:49	X	X
		Sampling interval:	<u>0:03</u>	End Runoff:	<u>10:09 AM</u>	9:52	X	X
		Rain Time (min):	<u>20.00</u>	Test Time (min):	<u>23.00</u>	9:55	X	X
Product:	<u>Control</u>	Descr.:	<u>Slope G1</u>		9:58	X	X	
Lot #:		Posts:		Spacing:		10:01	X	X
		TOP OF SLOPE			10:04	X	X	
$w_{c1} =$	<u>24.5%</u>	(circle "x" for open valves)			10:07	X	X	
				Set valves to 13 psi.				
d =	<u>54</u>	<u>53</u>	mm	Runoff Rate Measurements				
i =	<u>6.38</u>	<u>6.26</u>	in/hr					
x				Min.	Volume	Seconds		
X	P =	<u>9</u>	psi	1	250	2		
x				2	3785	6		
x				3	3785	5		
x				4	3785	5		
X	P =	<u>9</u>	psi	5	3785	5		
x				6	3785	6		
x				7	3785	6		
x				8	3785	6		
X	P =	<u>9</u>	psi	9	3785	6		
x				10	3785	5		
x				11	3785	5		
X	P =	<u>9</u>	psi	12	3785	6		
x				13	3785	5		
x				14	3785	6		
X	P =	<u>9</u>	psi	15	3785	6		
x				16	3785	5		
				17	3785	5		
d =	<u>55</u>	<u>51</u>	mm	18	3785	6		
i =	<u>6.50</u>	<u>6.02</u>	in/hr	19	3785	6		
$w_{c2} =$	<u>19.6%</u>			20	3785	6		
d =	<u>42</u>	<u>56</u>	mm	21	3785	7		
i =	<u>4.96</u>	<u>6.61</u>	in/hr	23	3785	0		
$w_{c3} =$	<u>23.0%</u>							



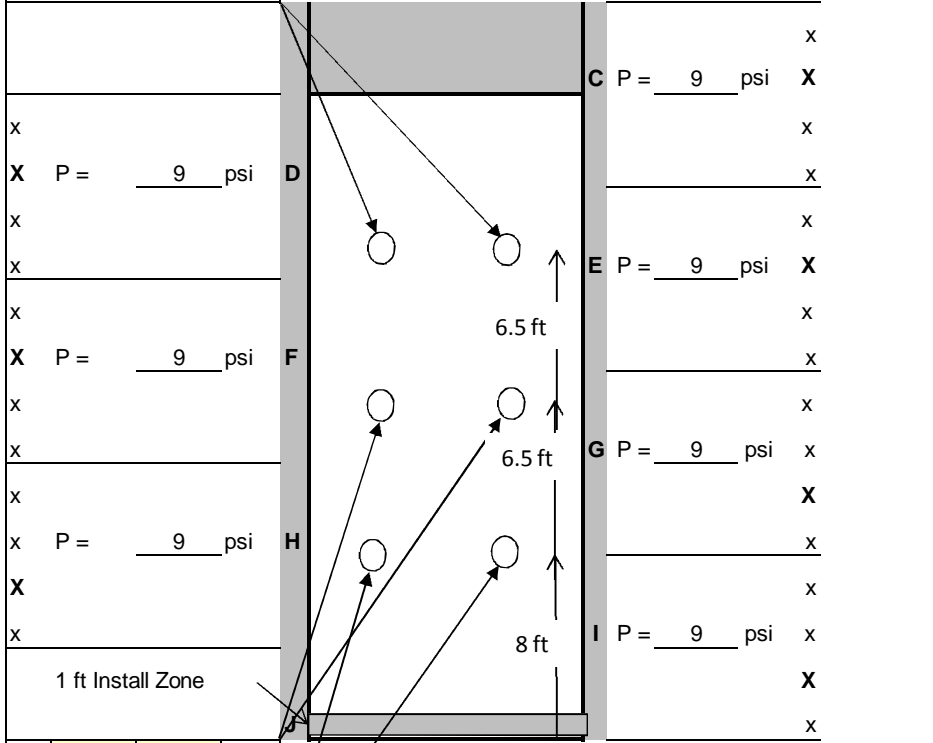
NOTES:
 Wind: 0 mph. Direction: N. Approx 220 gallons collected

DDRF Rainfall Testing

Slope #: <u>2</u>	Target Rain: <u>2 in/hr</u>	Sediment Concentration & Turbidity Grab Samples	
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Date: <u>14-Aug-12</u>	Start Rain: <u>6:53 AM</u>	End Rain: <u>7:13 AM</u>	Time	Sed Conc Samples Taken	Turbidity Samples Taken
	Sampling interval: <u>0:03</u>	End Runoff: <u>7:15 AM</u>	6:56		
	Rain Time (min): <u>20.00</u>	Test Time (min): <u>22.00</u>	6:59		
Product: <u>Control</u>	Descr.: <u>Slope G2</u>		7:02		
Lot #: <u></u>	Posts: <u></u>	Spacing: <u></u>	7:05	X	X
			7:08	X	X
	TOP OF SLOPE		7:11	X	X
$w_{c1} = 24.5\%$	(circle "x" for open valves)	Set valves to 13 psi.	7:14	X	X

d = 20 17 mm
i = 2.36 2.01 in/hr



Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	60
2	250	34
3	250	32
4	250	28
5	250	16
6	250	6
7	250	4
8	3785	53
9	3785	33
10	3785	30
11	3785	37
12	3785	36
13	3785	36
14	3785	36
15	3785	37
16	3785	45
17	3785	43
18	3785	43
19	3785	44
20	3785	44
21	250	9
22	250	0

d = 17 19 mm
i = 2.01 2.24 in/hr
 $w_{c2} = 19.6\%$
Temp. 67 deg
Hum. 91 %
P = 10 psi
Average Depth: 18 mm
Avg Rainfall Intensity: 2.15 in/hr

NOTES:
Wind: 0 mph. Direction: NW. Approx 20 gallons collected.

DDRF Rainfall Testing

Slope #: 2 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	14-Aug-12	Start Rain: 7:22 AM	End Rain: 7:42 AM	7:25	X	X
		Sampling interval: 0:03	End Runoff: 7:44 AM	7:28	X	X
		Rain Time (min): 20.00	Test Time (min): 22.00	7:31	X	X
Product:	Control	Slope G2		7:34	X	X
Lot #:		Posts:	Spacing:	7:37	X	X
TOP OF SLOPE				7:40	X	X
(circle "x" for open valves)				7:43	X	X

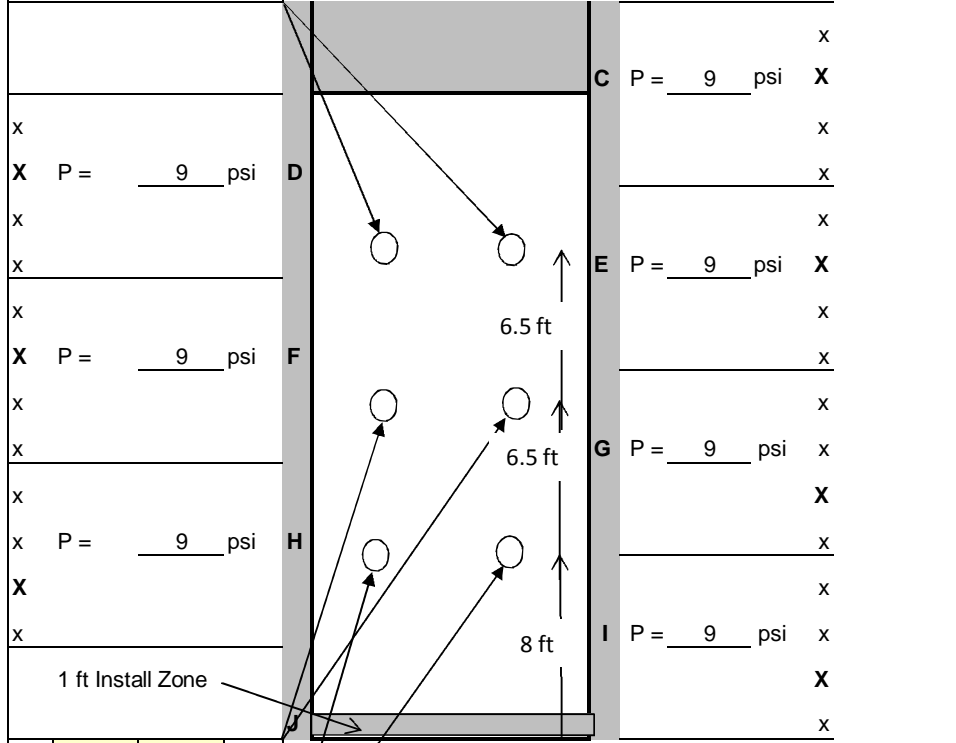
w_{c1} = 24.5%

d = 36 34 mm

i = 4.25 4.02 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	2
2	3785	12
3	3785	10
4	3785	11
5	3785	9
6	3785	9
7	3785	10
8	3785	9
9	3785	9
10	3785	11
11	3785	10
12	3785	10
13	3785	11
14	3785	10
15	3785	10
16	3785	11
17	3785	10
18	3785	11
19	3785	11
20	3785	11
21	250	2
22	250	0



d = 34 33 mm

i = 4.02 3.90 in/hr

w_{c2} = 19.6%

d = 31 36 mm

i = 3.66 4.25 in/hr

w_{c3} = 23.0%

Average Depth: 34 mm

Avg Rainfall Intensity: 4.02 in/hr

P = 10 psi Temp. 67 deg

Hum. 91 %

NOTES:
 Wind: 0 mph. Direction: N. Approx 120 gallons collected.

DDRF Rainfall Testing

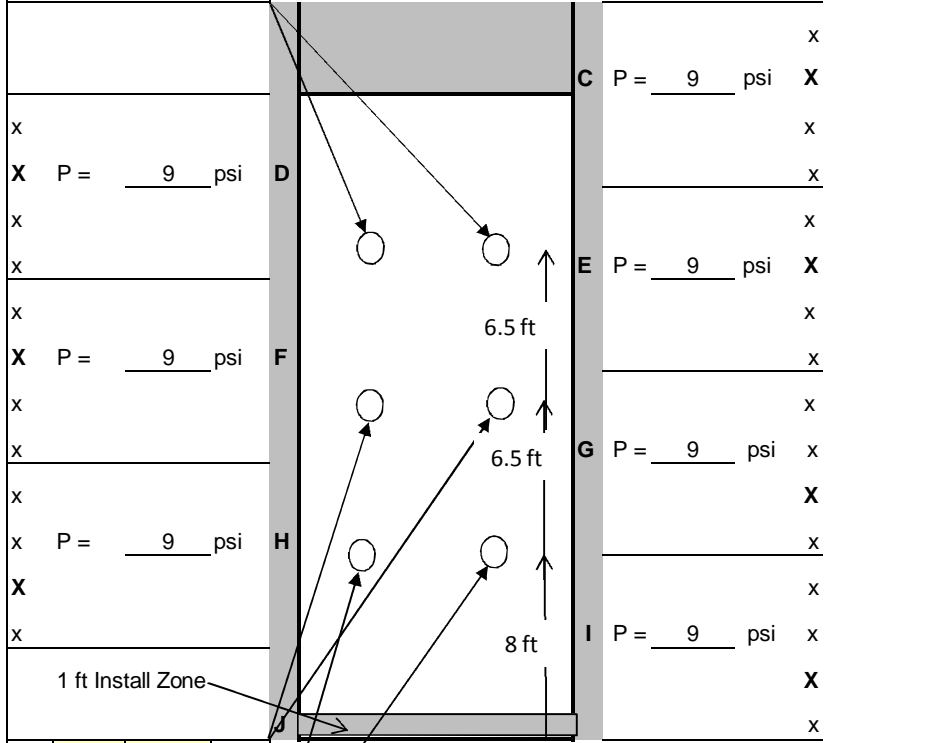
Slope #: 2 **Target Rain: 6 in/hr**

				Sediment Concentration & Turbidity Grab Samples				
				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	<u>14-Aug-12</u>	Start Rain:	<u>7:57 AM</u>	End Rain:	<u>8:17 AM</u>	8:00	X	X
		Sampling interval:	<u>0:03</u>	End Runoff:	<u>8:19 AM</u>	8:03	X	X
		Rain Time (min):	<u>20.00</u>	Test Time (min):	<u>22.00</u>	8:06	X	X
Product:	<u>Control</u>	Descr.:	<u>Slope G2</u>		8:09	X	X	
Lot #:		Posts:		Spacing:		8:12	X	X
TOP OF SLOPE				8:15	X	X		
(circle "x" for open valves)				8:18	X	X		

w_{c1} = 24.5%

d = 53 49 mm

i = 6.26 5.79 in/hr



d = 49 54 mm

i = 5.79 6.38 in/hr

w_{c2} = 19.6%

d = 49 56 mm

i = 5.79 6.61 in/hr

w_{c3} = 23.0%

Average Depth: 52 mm

Avg Rainfall Intensity: 6.10 in/hr

P = 10 psi Temp. 67 deg

Hum. 91 %

Runoff Rate Measurements		
Min.	Volume	Seconds
1	3785	10
2	3785	8
3	3785	8
4	3785	7
5	3785	5
6	3785	5
7	3785	7
8	3785	6
9	3785	5
10	3785	6
11	3785	7
12	3785	8
13	3785	9
14	3785	8
15	3785	8
16	3785	8
17	3785	8
18	3785	8
19	3785	7
20	3785	7
21	3785	7
22	3785	0

NOTES:

Wind: 0 mph. Direction: N.

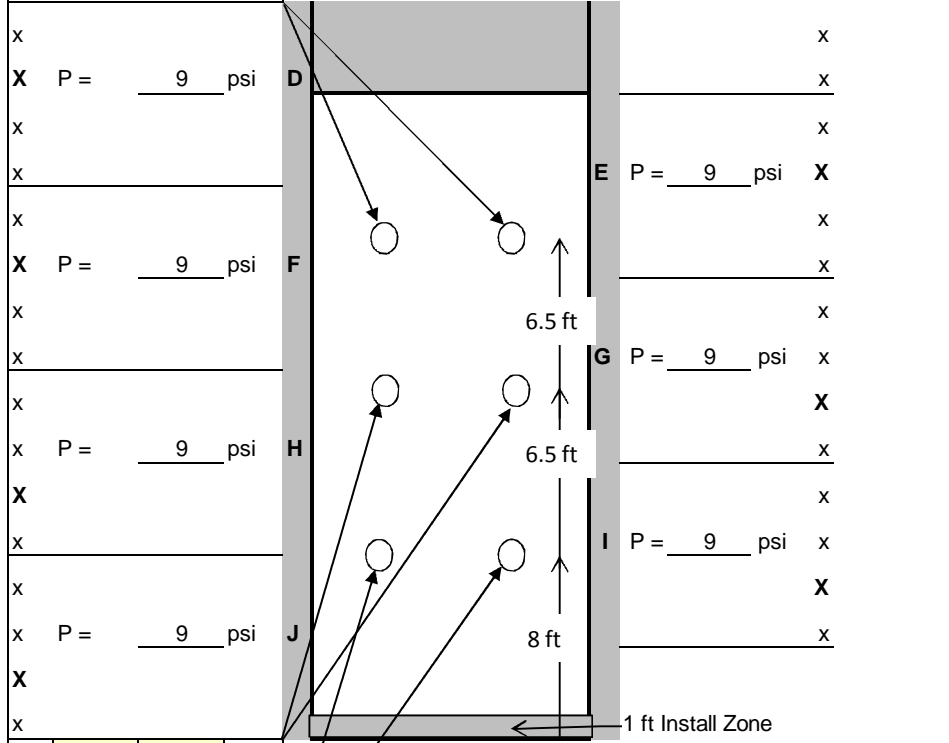
Approx: 190 gallons collected.

DDRF Rainfall Testing

Slope #: 3	Target Rain: 2 in/hr	Sediment Concentration & Turbidity Grab Samples	
		Time	Sed Conc Samples Taken
			Turbidity Samples Taken

Date: 16-Aug-12	Start Rain: 6:52 AM	End Rain: 7:12 AM	6:55	X	X
	interval: 0:03	End Runoff: 7:14 AM	6:58	X	X
	Rain Time (min): 20.00	Test Time (min): 22.00	7:01	X	X
Product: Control	Descr.: Slope G2		7:04	X	X
Lot #:	Posts:	Spacing:	7:07	X	X
	TOP OF SLOPE		7:10	X	X
w _{c1} = 24.5%	(circle "x" for open valves)	Set valves to 13 psi	7:13	X	X

d = 19 17 mm
i = 2.24 2.01 in/hr



d = 15 17 mm
i = 1.77 2.01 in/hr

w_{c2} = 19.6%

d = 17 19 mm
i = 2.01 2.24 in/hr

w_{c3} = 23.0%

x x X x
P = 10 psi Temp. 68 deg
Hum. 89 %

Average Depth: 17 mm
Avg Rainfall Intensity: 2.05 in/hr

Runoff Rate Measurements		
Min.	Volume	Seconds
1	250	60
2	250	60
3	250	60
4	250	33
5	250	19
6	250	13
7	250	10
8	250	8
9	250	6
10	250	4
11	250	3
12	250	3
13	250	3
14	250	3
15	250	3
16	3785	33
17	3785	32
18	3785	31
19	3785	37
20	3785	34
21	3785	60
22	3785	0

NOTES:
Wind: 0 mph. Direction: N.
Approx 20 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 4 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken		
Date:	16-Aug-12	Start Rain: Sampling interval:	7:22 AM 0:03	End Rain:	7:42 AM	X	X	
		End Runoff:			7:44 AM	X	X	
		Rain Time (min):	20.00	Test Time (min):	22.00	X	X	
Product:	Control	Descr.:	Slope G2				X	X
Lot #:		Posts:		Spacing:		X	X	
TOP OF SLOPE						X	X	
(circle "x" for open valves)						X	X	
Set valves to 13 psi.						X	X	

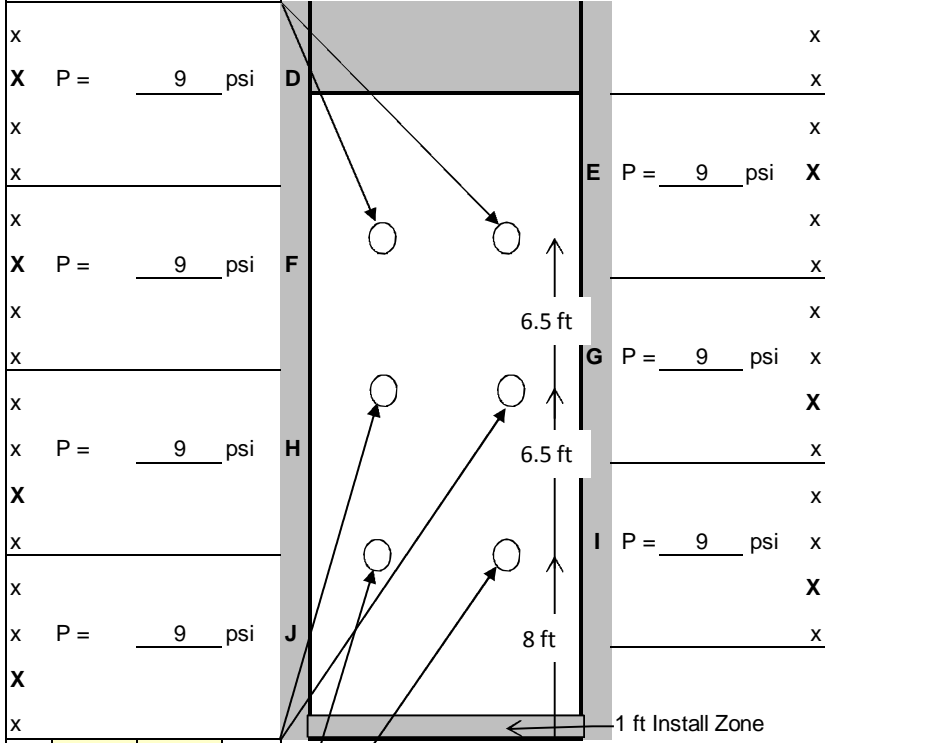
w_{c1} = 24.5%

d = 35 34 mm

i = 4.13 4.02 in/hr

Runoff Rate Measurements

Min.	Volume, mL	Seconds
1	250	2
2	3785	10
3	3785	12
4	3785	8
5	3785	9
6	3785	8
7	3785	10
8	3785	10
9	3785	10
10	3785	8
11	3785	8
12	3785	8
13	3785	9
14	3785	9
15	3785	9
16	3785	9
17	3785	10
18	3785	11
19	3785	11
20	3785	12
21	3785	20
22	3785	0



d = 32 34 mm

i = 3.78 4.02 in/hr

P = 10 psi Temp. 67 deg

w_{c2} = 19.6%

Hum. 90 %

d = 32 36 mm

i = 3.78 4.25 in/hr

Average Depth: 34 mm

w_{c3} = 23.0%

Avg Rainfall Intensity: 4.00 in/hr

NOTES:
 Wind: 0 mph. Direction: N
 Approx 130 gallons collected.

DDRF Rainfall Testing

Slope #: 3 **Target Rain: 6 in/hr**

Sediment Concentration & Turbidity Grab Samples

				Time	Sed Conc Samples Taken	Turbidity Samples Taken
Date:	16-Aug-12	Start Rain: Sampling interval:	7:55 AM 0:03	End Rain:	8:15 AM	7:58 X X
		End Runoff:	8:17 AM	8:01	X	X
		Rain Time (min):	20.00	Test Time (min):	22.00	8:04 X X
Product:	Control	Descr.:	Slope G2	8:07	X	X
Lot #:		Posts:		Spacing:		8:10 X X
TOP OF SLOPE				8:13	X	X
(circle "x" for open valves)				8:16	X	X

w_{c1} = 24.5%

d = 59 54 mm

i = 6.97 6.38 in/hr

x

X P = 9 psi

x

x

x

X P = 9 psi

x

x

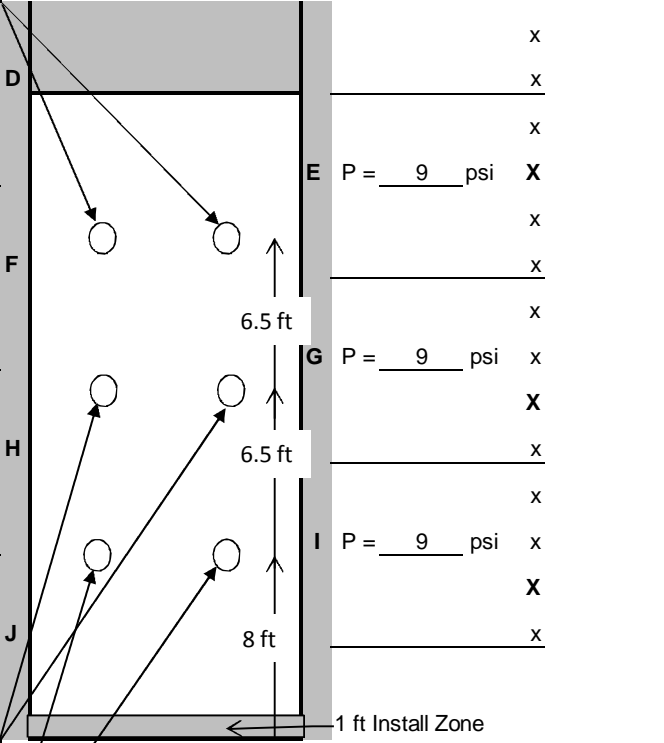
X P = 9 psi

x

x

X P = 9 psi

x



d = 52 58 mm

i = 6.14 6.85 in/hr

w_{c2} = 19.6%

d = 45 48 mm

i = 5.31 5.67 in/hr

w_{c3} = 23.0%

x x X x

P = 10 psi Temp. 69 deg

Hum. 83 %

Average Depth: 53 mm

Avg Rainfall Intensity: 6.22 in/hr

Runoff Rate Measurements

Min.	Volume	Seconds
1	3785	6
2	3785	6
3	3785	6
4	3785	6
5	3785	6
6	3785	6
7	3785	6
8	3785	6
9	3785	6
10	3785	7
11	3785	6
12	3785	6
13	3785	6
14	3785	6
15	3785	6
16	3785	5
17	3785	6
18	3785	7
19	3785	6
20	3785	6
21	3785	6
22	3785	0

NOTES:

Wind: 0 mph. Direction: N.

Approx 230 gallons collected.

GSWCC_SB Data Form - Turbidities

Pond Water		
Sample Number	Test Time, minutes	NTUs - Suspended
1	20	89.1
2	20	92.8
3	20	91

Slope #1			Slope #2			Slope #3		
Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended	Sample Number	Test Time, minutes	NTUs - Suspended
2-1	3.00	7142	2-1	3.00	901	2-1	3.00	6039
2-2	6.00	9177	2-2	6.00	6718	2-2	6.00	7963
2-3	9.00	9	2-3	9.00	9	2-3	9.00	9
2-4	12.00	"	2-4	12.00	"	2-4	12.00	"
2-5	15.00	"	2-5	15.00	"	2-5	15.00	"
2-6	18.00	"	2-6	18.00	"	2-6	18.00	"
2-7	21.00	"	2-7	21.00	"	2-7	21.00	"
avg		5443	avg		2543	avg		4670
4-1	3.00	9	4-1	2.00	9	4-1	2.00	9
4-2	6.00	"	4-2	4.00	"	4-2	4.00	"
4-3	9.00	"	4-3	6.00	"	4-3	6.00	"
4-4	12.00	"	4-4	8.00	"	4-4	8.00	"
4-5	15.00	"	4-5	10.00	"	4-5	10.00	"
4-6	18.00	"	4-6	12.00	"	4-6	12.00	"
4-7	21.00	"	4-7	21.00	"	4-7	21.00	"
avg		9	avg		9	avg		9
6-1	3.00	9	6-1	3.00	9	6-1	3.00	"
6-2	6.00	"	6-2	6.00	"	6-2	6.00	"
6-3	9.00	"	6-3	9.00	"	6-3	9.00	"
6-4	12.00	"	6-4	12.00	"	6-4	12.00	"
6-5	15.00	"	6-5	15.00	"	6-5	15.00	"
6-6	18.00	"	6-6	18.00	"	6-6	18.00	"
6-7	21.00	"	6-7	21.00	"	6-7	21.00	"
avg		9	avg		9	avg		#DIV/0!

Slope #1 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.03	in/hr	avg														
14-Aug-12		2-1	3.00	359.93	168.15	153.09	151.51	1580.00	206.84	0.21	7638.75	3.00	90.85	0.97	7638.75	0.06
		2-2	6.00	375.05	190.96	154.43	148.97	5460.00	220.62	0.22	24748.44	6.00	60.57	2.59	24748.44	0.54
		2-3	9.00	383.51	177.34	155.80	150.98	4820.00	227.71	0.23	21167.27	9.00	60.57	2.97	21167.27	0.52
		2-4	12.00	380.68	183.80	154.62	149.12	5500.00	226.06	0.23	24329.82	12.00	30.28	4.04	24329.82	0.82
		2-5	15.00	363.77	197.92	160.81	150.73	10080.00	202.96	0.20	49664.96	15.00	22.00	6.16	49664.96	2.55
		2-6	18.00	356.93	170.93	160.55	150.12	10430.00	196.38	0.20	53111.31	18.00	41.00	6.08	53111.31	2.69
		2-7	21.00	337.24	171.53	156.85	150.71	6140.00	180.39	0.18	34037.36	21.00	50.01	4.62	34037.36	1.31
										AVG =	30671.13	22.00	0	0.83	34037.36	0.24
4.07	in/hr	avg									30671.13			Total Solids Lost:		8.74
14-Aug-12		4-1	3.00	346.17	198.39	161.98	147.51	14470.00	184.19	0.18	78560.18	3.00	11.00	13.02	78560.18	8.53
		4-2	6.00	375.07	205.06	170.40	151.31	19090.00	204.67	0.20	93272.10	6.00	8.00	18.38	93272.10	14.30
		4-3	9.00	376.15	201.77	168.33	148.51	19820.00	207.82	0.21	95370.99	9.00	9.00	20.39	95370.99	16.22
		4-4	12.00	391.96	213.16	178.43	150.65	27780.00	213.53	0.21	130098.82	12.00	8.00	19.69	130098.82	21.37
		4-5	15.00	382.64	210.15	168.61	149.48	19130.00	214.03	0.21	89379.99	15.00	9.00	20.39	89379.99	15.21
		4-6	18.00	369.56	201.57	168.66	150.99	17670.00	200.90	0.20	87954.21	18.00	13.00	16.57	87954.21	12.16
		4-7	21.00	365.25	190.00	163.60	148.08	15520.00	201.65	0.20	76965.04	21.00	24.00	11.76	76965.04	7.55
										AVG =	93085.90	22.00	0.00	2.50	76965.04	1.61
6.12	in/hr	avg									93085.90			Total Solids Lost:		96.95
14-Aug-12		6-1	3.00	307.13	186.81	156.87	148.88	7990.00	150.26	0.15	53174.50	3.00	5.00	18.18	53174.50	8.06
		6-2	6.00	336.38	182.21	159.05	147.99	11060.00	177.33	0.18	62369.59	6.00	6.00	34.91	62369.59	18.16
		6-3	9.00	371.46	195.56	162.74	148.21	14530.00	208.72	0.21	69614.79	9.00	6.00	30.00	69614.79	17.42
		6-4	12.00	371.97	199.48	164.88	148.54	16340.00	207.09	0.21	78902.89	12.00	6.00	33.81	78902.89	22.26
		6-5	15.00	367.65	207.00	170.03	150.22	19810.00	197.62	0.20	100242.89	15.00	6.00	31.81	100242.89	26.61
		6-6	18.00	375.49	203.26	169.96	149.67	20290.00	205.53	0.21	98720.38	18.00	6.00	33.81	98720.38	27.85
		6-7	21.00	381.23	195.95	168.53	147.86	20670.00	212.70	0.21	97179.13	21.00	7.00	29.23	97179.13	23.70
										AVG =	80029.17	23.00	0.00	5.00	97179.13	4.05
											80029.17			Total Solids Lost:		148.12

Slope #2 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.15	in/hr	avg														
14-Aug-12		2-1	3.00	354.85	173.45	150.89	150.68	210.00	203.96	0.20	1029.61	3.00	484.53	0.34	1029.61	0.00
		2-2	6.00	364.24	173.66	152.37	150.26	2110.00	211.87	0.21	9958.94	6.00	90.85	0.67	9958.94	0.06
		2-3	9.00	346.24	185.92	157.76	150.75	7010.00	188.48	0.19	37192.28	9.00	33.00	3.24	37192.28	1.01
		2-4	12.00	356.56	179.80	158.24	151.44	6800.00	198.32	0.20	34288.02	12.00	36.00	5.34	34288.02	1.53
		2-5	15.00	343.50	179.33	158.60	151.47	7130.00	184.90	0.18	38561.38	15.00	37.00	4.98	38561.38	1.60
		2-6	18.00	334.27	170.68	158.87	151.01	7860.00	175.40	0.18	44811.86	18.00	43.00	4.22	44811.86	1.58
		2-7	21.00	348.68	159.64	159.05	151.21	7840.00	189.63	0.19	41343.67	21.00	136.27	3.41	41343.67	1.18
										AVG =	29597.97	22.00	0.00	0.68	41343.67	0.24
4.02	in/hr	avg									29597.97			Total Solids Lost:		7.18
14-Aug-12		4-1	3.00	357.19	203.18	165.05	152.11	12940.00	192.14	0.19	67346.73	3.00	10.00	12.25	67346.73	6.89
		4-2	6.00	336.30	197.97	164.48	150.31	14170.00	171.82	0.17	82470.03	6.00	9.00	18.38	82470.03	12.65
		4-3	9.00	360.92	195.78	166.96	151.71	15250.00	193.96	0.19	78624.46	9.00	9.00	19.30	78624.46	12.66
		4-4	12.00	369.68	188.02	169.09	151.86	17230.00	200.59	0.20	85896.61	12.00	10.00	17.71	85896.61	12.69
		4-5	15.00	408.77	256.63	167.88	150.88	17000.00	240.89	0.24	70571.63	15.00	10.00	17.43	70571.63	10.26
		4-6	18.00	357.33	184.47	168.72	151.22	17500.00	188.61	0.19	92784.05	18.00	11.00	17.14	92784.05	13.27
		4-7	21.00	377.32	185.36	167.27	151.51	15760.00	210.05	0.21	75029.75	21.00	30.28	13.81	75029.75	8.65
										AVG =	78960.46	22.00	0.00	2.73	75029.75	1.71
6.10	in/hr	avg									78960.46			Total Solids Lost:		78.77
14-Aug-12		6-1	3.00	374.01	193.48	165.33	151.49	13839.00	208.68	0.21	66316.53	3.00	8.00	26.16	66316.53	14.48
		6-2	6.00	317.47	174.56	164.03	151.65	12380.00	153.44	0.15	80683.00	6.00	5.00	30.00	80683.00	20.19
		6-3	9.00	316.98	187.43	164.59	151.48	13110.00	152.39	0.15	86029.27	9.00	5.00	30.14	86029.27	21.63
		6-4	12.00	384.21	214.25	168.68	151.38	17300.00	215.53	0.22	80267.25	12.00	8.00	28.14	80267.25	18.84
		6-5	15.00	374.91	196.85	168.23	151.34	16890.00	206.68	0.21	81720.53	15.00	8.00	21.62	81720.53	14.74
		6-6	18.00	370.09	193.07	166.68	151.33	15350.00	203.41	0.20	75463.35	18.00	8.00	22.50	75463.35	14.16
		6-7	21.00	356.90	203.81	167.73	151.94	15790.00	189.17	0.19	83469.89	21.00	7.00	25.14	83469.89	17.51
										AVG =	79135.69	22.00	0.00	4.29	83469.89	2.98
											79135.69			Total Solids Lost:		124.54

Slope #3 - Sediment Concentration

		Sample Number	Test Time, minutes	Total Weight, g	Decanted Weight, g	Dry Weight, g	Bottle Weight, g	Dry Sediment Weight, mg	Total Collected Water Wt., g	Total Collected Volume of Water, l	Sediment Concentration, mg/l	Runoff Sampling Time	Time to Collect 1 gal	Associated Runoff, gal	Associated Sediment Conc, mg/l	Associated Solids Loss, lbs
2.05	in/hr	avg														
16-Aug-12		2-1	3.00	355.12	177.23	149.31	149.13	180.00	205.81	0.21	874.59	3.00	908.50	0.26	874.59	0.00
		2-2	6.00	342.79	178.65	152.59	150.02	2570.00	190.20	0.19	13512.09	6.00	196.84	0.49	13512.09	0.05
		2-3	9.00	351.61	184.49	153.26	150.60	2660.00	198.35	0.20	13410.64	9.00	90.85	1.35	13410.64	0.15
		2-4	12.00	359.36	184.24	154.53	151.28	3250.00	204.83	0.20	15866.82	12.00	45.42	3.25	15866.82	0.43
		2-5	15.00	359.56	188.80	154.84	148.45	6390.00	204.72	0.20	31213.36	15.00	45.42	3.96	31213.36	1.03
		2-6	18.00	356.18	175.55	158.08	151.40	6680.00	198.10	0.20	33720.34	18.00	31.00	5.28	33720.34	1.49
		2-7	21.00	356.04	172.49	156.86	146.64	10220.00	199.18	0.20	51310.37	21.00	60.01	4.73	51310.37	2.03
										AVG =	22844.03	22.00	0.00	0.88	51310.37	0.38
4.00	in/hr	avg									22844.03			Total Solids Lost:		5.56
16-Aug-12		4-1	3.00	355.36	196.36	158.34	148.61	9730.00	197.02	0.20	49385.85	3.00	12.00	12.40	49385.85	0.38
		4-2	6.00	353.38	211.32	160.77	147.81	12960.00	192.61	0.19	67286.23	6.00	8.00	20.12	67286.23	11.29
		4-3	9.00	366.62	236.75	162.26	147.62	14640.00	204.36	0.20	71638.29	9.00	10.00	18.66	71638.29	11.16
		4-4	12.00	360.01	194.35	164.46	148.67	15790.00	195.55	0.20	80746.61	12.00	8.00	21.66	80746.61	14.60
		4-5	15.00	344.69	184.30	164.16	149.44	14720.00	180.53	0.18	81537.69	15.00	9.00	20.39	81537.69	13.87
		4-6	18.00	366.19	197.60	163.31	147.16	16150.00	202.88	0.20	79603.71	18.00	11.00	18.69	79603.71	12.42
		4-7	21.00	344.81	196.58	165.73	151.97	13760.00	179.08	0.18	76837.17	21.00	20.00	14.42	76837.17	9.24
										AVG =	72433.65	22.00	0.00	2.50	76837.17	1.60
6.22	in/hr	avg									72433.65			Total Solids Lost:		74.56
16-Aug-12		6-1	3.00	377.78	203.82	163.23	148.50	14730.00	214.55	0.21	68655.33	3.00	6.00	40.00	68655.33	22.91
		6-2	6.00	354.01	180.59	162.74	150.73	12010.00	191.27	0.19	62790.82	6.00	6.00	30.00	62790.82	15.71
		6-3	9.00	320.58	179.66	158.54	147.47	11070.00	162.04	0.16	68316.47	9.00	6.00	30.00	68316.47	17.10
		6-4	12.00	366.55	177.10	160.16	145.78	14380.00	206.39	0.21	69673.92	12.00	6.00	28.46	69673.92	16.54
		6-5	15.00	363.82	198.33	162.54	148.63	13910.00	201.28	0.20	69107.71	15.00	6.00	30.00	69107.71	17.30
		6-6	18.00	365.67	231.65	163.95	150.53	13420.00	201.72	0.20	66527.86	18.00	7.00	31.05	66527.86	17.23
		6-7	21.00	374.06	214.49	163.70	148.42	15280.00	210.36	0.21	72637.38	21.00	6.00	29.23	72637.38	17.71
										AVG =	68244.21	22.00	0.00	5.00	72637.38	3.03
											68244.21			Total Solids Lost:		127.54

14-Aug-12
Slope #1

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.03 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	439	0.27	0.27	0.27
2-2	2.00	151	0.20	0.20	0.48
2-3	3.00	91	0.50	0.50	0.97
2-4	4.00	76	0.72	0.72	1.69
2-5	5.00	61	0.88	0.88	2.57
2-6	6.00	61	0.99	0.99	3.56
2-7	7.00	61	0.99	0.99	4.55
2-8	8.00	61	0.99	0.99	5.54
2-9	9.00	61	0.99	0.99	6.54
2-10	10.00	45	1.13	1.13	7.67
2-11	11.00	45	1.32	1.32	8.99
2-12	12.00	30	1.59	1.59	10.57
2-13	13.00	39	1.73	1.73	12.31
2-14	14.00	25	1.87	1.87	14.18
2-15	15.00	22	2.55	2.55	16.73
2-16	16.00	29	2.35	2.35	19.09
2-17	17.00	30	2.03	2.03	21.12
2-18	18.00	41	1.69	1.69	22.81
2-19	19.00	36	1.56	1.56	24.37
2-20	20.00	36	1.67	1.67	26.03
2-21	21.00	50	1.40	1.40	27.43
2-end	22.00	0	0.83	0.83	28.26
					28.26
					Total Collected Runoff (approx)

4.07 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	30	3.96	3.96	3.96
4-2	2	9	3.05	3.05	7.02
4-3	3	11	6.00	6.00	13.02
4-4	4	10	5.71	5.71	18.73
4-5	5	10	6.00	6.00	24.73
4-6	6	8	6.67	6.67	31.40
4-7	7	10	6.67	6.67	38.06
4-8	8	8	6.67	6.67	44.73
4-9	9	9	7.06	7.06	51.79
4-10	10	10	6.32	6.32	58.10
4-11	11	9	6.32	6.32	64.42
4-12	12	8	7.06	7.06	71.47
4-13	13	9	7.06	7.06	78.53
4-14	14	9	6.67	6.67	85.20
4-15	15	9	6.67	6.67	91.86
4-16	16	10	6.32	6.32	98.18
4-17	17	12	5.45	5.45	103.63
4-18	18	13	4.80	4.80	108.43
4-19	19	16	4.14	4.14	112.57
4-20	20	12	4.29	4.29	116.85
4-21	21	24	3.33	3.33	120.19
4-end	22.00	0	2.50	2.50	122.69
					122.69
					Total Collected Runoff (approx)

6.12 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	30	3.96	3.96	3.96
6-2	2	6	3.31	3.31	7.27
6-3	3	5	10.91	10.91	18.18
6-4	4	5	12.00	12.00	30.18
6-5	5	5	12.00	12.00	42.18
6-6	6	6	10.91	10.91	53.08
6-7	7	6	10.00	10.00	63.08
6-8	8	6	10.00	10.00	73.08
6-9	9	6	10.00	10.00	83.08
6-10	10	5	10.91	10.91	93.99
6-11	11	5	12.00	12.00	105.99
6-12	12	6	10.91	10.91	116.89
6-13	13	5	10.91	10.91	127.80
6-14	14	6	10.91	10.91	138.71
6-15	15	6	10.00	10.00	148.71
6-16	16	5	10.91	10.91	159.62
6-17	17	5	12.00	12.00	171.62
6-18	18	6	10.91	10.91	182.52
6-19	19	6	10.00	10.00	192.52
6-20	20	6	10.00	10.00	202.52
6-21	21	7	9.23	9.23	211.75
6-end	23.00	0	5.00	5.00	216.75
					216.75
					Total Collected Runoff (approx)

14-Aug-12

Slope #2

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.15 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	908	0.13	0.13	0.13
2-2	2.00	515	0.08	0.08	0.22
2-3	3.00	485	0.12	0.12	0.34
2-4	4.00	424	0.13	0.13	0.47
2-5	5.00	242	0.18	0.18	0.65
2-6	6.00	91	0.36	0.36	1.01
2-7	7.00	61	0.79	0.79	1.80
2-8	8.00	53	1.06	1.06	2.86
2-9	9.00	33	1.40	1.40	4.25
2-10	10.00	30	1.90	1.90	6.16
2-11	11.00	37	1.79	1.79	7.95
2-12	12.00	36	1.64	1.64	9.59
2-13	13.00	36	1.67	1.67	11.26
2-14	14.00	36	1.67	1.67	12.93
2-15	15.00	37	1.64	1.64	14.57
2-16	16.00	45	1.46	1.46	16.03
2-17	17.00	43	1.36	1.36	17.40
2-18	18.00	43	1.40	1.40	18.79
2-19	19.00	44	1.38	1.38	20.17
2-20	20.00	44	1.36	1.36	21.53
2-21	21.00	136	0.67	0.67	22.20
2-end	22.00	0	0.68	0.68	22.88
					22.88
					Total Collected Runoff (approx)

4.02 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	30	3.96	3.96	3.96
4-2	2	12	2.84	2.84	6.80
4-3	3	10	5.45	5.45	12.25
4-4	4	11	5.71	5.71	17.97
4-5	5	9	6.00	6.00	23.97
4-6	6	9	6.67	6.67	30.63
4-7	7	10	6.32	6.32	36.95
4-8	8	9	6.32	6.32	43.26
4-9	9	9	6.67	6.67	49.93
4-10	10	11	6.00	6.00	55.93
4-11	11	10	5.71	5.71	61.64
4-12	12	10	6.00	6.00	67.64
4-13	13	11	5.71	5.71	73.36
4-14	14	10	5.71	5.71	79.07
4-15	15	10	6.00	6.00	85.07
4-16	16	11	5.71	5.71	90.78
4-17	17	10	5.71	5.71	96.50
4-18	18	11	5.71	5.71	102.21
4-19	19	11	5.45	5.45	107.66
4-20	20	11	5.45	5.45	113.12
4-21	21	30	2.91	2.91	116.02
4-end	22	0	2.73	2.73	118.75
					118.75
					Total Collected Runoff (approx)

6.10 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	10	12.00	12.00	12.00
6-2	2	8	6.67	6.67	18.66
6-3	3	8	7.50	7.50	26.16
6-4	4	7	8.00	8.00	34.16
6-5	5	5	10.00	10.00	44.16
6-6	6	5	12.00	12.00	56.16
6-7	7	7	10.00	10.00	66.16
6-8	8	6	9.23	9.23	75.39
6-9	9	5	10.91	10.91	86.30
6-10	10	6	10.91	10.91	97.21
6-11	11	7	9.23	9.23	106.43
6-12	12	8	8.00	8.00	114.43
6-13	13	9	7.06	7.06	121.49
6-14	14	8	7.06	7.06	128.55
6-15	15	8	7.50	7.50	136.05
6-16	16	8	7.50	7.50	143.55
6-17	17	8	7.50	7.50	151.05
6-18	18	8	7.50	7.50	158.55
6-19	19	7	8.00	8.00	166.55
6-20	20	7	8.57	8.57	175.12
6-21	21	7	8.57	8.57	183.69
6-end	22	0	4.29	4.29	187.97
					187.97
					Total Collected Runoff (approx)

16-Aug-12
Slope #3

Sample Number	Test Time, minutes	Time per Gallon, sec	Runoff Rate, gal/min	Associated Runoff, gal	Cumulative Runoff, gal
2.05 in/hr					
2	0.00	0	0.00	0.00	0.00
2-1	1.00	908	0.13	0.13	0.13
2-2	2.00	908	0.07	0.07	0.20
2-3	3.00	908	0.07	0.07	0.26
2-4	4.00	500	0.09	0.09	0.35
2-5	5.00	288	0.15	0.15	0.50
2-6	6.00	197	0.25	0.25	0.75
2-7	7.00	151	0.34	0.34	1.09
2-8	8.00	121	0.44	0.44	1.53
2-9	9.00	91	0.57	0.57	2.10
2-10	10.00	61	0.79	0.79	2.89
2-11	11.00	45	1.13	1.13	4.03
2-12	12.00	45	1.32	1.32	5.35
2-13	13.00	45	1.32	1.32	6.67
2-14	14.00	45	1.32	1.32	7.99
2-15	15.00	45	1.32	1.32	9.31
2-16	16.00	33	1.53	1.53	10.84
2-17	17.00	32	1.85	1.85	12.68
2-18	18.00	31	1.90	1.90	14.59
2-19	19.00	37	1.76	1.76	16.35
2-20	20.00	34	1.69	1.69	18.04
2-21	21.00	60	1.28	1.28	19.32
2-end	22.00	0	0.88	0.88	20.20
					20.20

Total Collected Runoff (approx)

4.00 in/hr					
4	0	0	0.00	0.00	0.00
4-1	1	30	3.96	3.96	3.96
4-2	2	10	2.98	2.98	6.94
4-3	3	12	5.45	5.45	12.40
4-4	4	8	6.00	6.00	18.39
4-5	5	9	7.06	7.06	25.45
4-6	6	8	7.06	7.06	32.51
4-7	7	10	6.67	6.67	39.18
4-8	8	10	6.00	6.00	45.18
4-9	9	10	6.00	6.00	51.18
4-10	10	8	6.67	6.67	57.84
4-11	11	8	7.50	7.50	65.34
4-12	12	8	7.50	7.50	72.84
4-13	13	9	7.06	7.06	79.90
4-14	14	9	6.67	6.67	86.56
4-15	15	9	6.67	6.67	93.23
4-16	16	9	6.67	6.67	99.90
4-17	17	10	6.32	6.32	106.21
4-18	18	11	5.71	5.71	111.92
4-19	19	11	5.45	5.45	117.38
4-20	20	12	5.22	5.22	122.60
4-21	21	20	3.75	3.75	126.34
4-end	22	0	2.50	2.50	128.84
					128.84

Total Collected Runoff (approx)

6.22 in/hr					
6	0	0	0.00	0.00	0.00
6-1	1	6	20.00	20.00	20.00
6-2	2	6	10.00	10.00	30.00
6-3	3	6	10.00	10.00	40.00
6-4	4	6	10.00	10.00	49.99
6-5	5	6	10.00	10.00	59.99
6-6	6	6	10.00	10.00	69.99
6-7	7	6	10.00	10.00	79.99
6-8	8	6	10.00	10.00	89.99
6-9	9	6	10.00	10.00	99.99
6-10	10	7	9.23	9.23	109.22
6-11	11	6	9.23	9.23	118.45
6-12	12	6	10.00	10.00	128.45
6-13	13	6	10.00	10.00	138.45
6-14	14	6	10.00	10.00	148.45
6-15	15	6	10.00	10.00	158.44
6-16	16	5	10.91	10.91	169.35
6-17	17	6	10.91	10.91	180.26
6-18	18	7	9.23	9.23	189.49
6-19	19	6	9.23	9.23	198.72
6-20	20	6	10.00	10.00	208.72
6-21	21	6	10.00	10.00	218.72
6-end	22	0	5.00	5.00	223.72
					223.72

Total Collected Runoff (approx)

WATER CONTENT DETERMINATION

Slope No.	1	2	3
Test Date:	14-Aug-12	14-Aug-12	16-Aug-12
Avg Moisture Content:	22.36%	25.48%	24.62%

Location	T-1	T-2	T-3
Wt. Of cup + wet soil, g	46.69	253.18	253.18
Wt. Of cup + dry soil, g	41.13	246.26	245.74
Wt. Of cup, g	18.43	217.11	217.15
Wt. Of dry soil, g	22.7	29.15	28.59
Wt. Of water, g	5.56	6.92	7.44
Water Content, w%	24.5%	23.7%	26.0%

Location	M-1	M-2	M-3
Wt. Of cup + wet soil, g	29.14	260.21	252.24
Wt. Of cup + dry soil, g	25.07	251.24	245.39
Wt. Of cup, g	4.3	216.01	216.01
Wt. Of dry soil, g	20.77	35.23	29.38
Wt. Of water, g	4.07	8.97	6.85
Water Content, w%	19.6%	25.5%	23.3%

Location	B-1	B-2	B-3
Wt. Of cup + wet soil, g	37.34	252.63	244.45
Wt. Of cup + dry soil, g	31.27	245.017	239.06
Wt. Of cup, g	4.86	217.08	217.08
Wt. Of dry soil, g	26.41	27.937	21.98
Wt. Of water, g	6.07	7.613	5.39
Water Content, w%	23.0%	27.3%	24.5%

Soil Loss Data

Slope No.	1	2	3
Test Date:	14-Aug-12	14-Aug-12	16-Aug-12
Total Soil Loss	248.13	206.60	202.40

Sample 1	1-1	2-1	3-1
Total Sample Wet Weight, g	3691.0	2996.4	2633.2
Sub-Sample	Wt. Of cup + wet soil, g	3691.0	2996.4
	Wt. Of cup + dry soil, g	3691.0	2996.4
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	3691	2996.4
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	8.130	6.600	5.800

Sample 2	1-2	2-2	3-2
Total Sample Wet Weight, g	42222	35412	32778.8
Sub-Sample	Wt. Of cup + wet soil, g	42222	35412
	Wt. Of cup + dry soil, g	42222	35412
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	42222	35412
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	93.000	78.000	72.200

Sample 3	1-3	2-3	3-3
Total Sample Wet Weight, g	66738	55388	56477.6
Sub-Sample	Wt. Of cup + wet soil, g	66738	55388
	Wt. Of cup + dry soil, g	66738	55388
	Wt. Of cup, g	0	0
	Wt. Of dry soil, g	66738	55388
	Wt. Of water, g	0	0
	Water Content, w%	0.0%	0.0%
Total Sample Dry Weight, lb	147.000	122.000	124.400



APPENDIX B –CHECK DAM TEST REPORTS



Project: ASTM D 7208: Standard Test Method for Determination of Temporary Ditch Check Performance in Protecting Earthen Channels from Stormwater-Induced Erosion.

Test Setup: Trapezoid with 2-ft wide bottom and 2:1 side slopes x 40-ft long; 5% Bed Slope;

Client: GSWCC

Product: Straw Bales with Wooden Stakes

Flow: 0.5 cfs for 30 minutes

Test Date: 5/14/2012

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf	
0	0.07	-0.31	0.03	-0.115	1.00	5.93	2.96	0.26	BLOWOUT UNDER CHECK STRUCTURE & ACCELERATED SCOUR DOWNSTREAM OF CHECK
5	0.01	-0.47	0.00	-0.189	1.13	12.10	3.08	0.29	
10	0.07	-0.51	0.02	-0.201	1.25	12.33	2.37	0.32	
15	0.01	-0.36	0.00	-0.127	4.00	17.45	0.23	1.04	
20	1.49	-0.44	0.23	-0.201	7.25	23.51	0.10	1.88	
25	1.42	-0.14	0.52	-0.017	7.50	23.98	0.10	1.95	
30	0.21	-1.28	0.09	-0.517	4.00	17.45	0.30	1.04	
35	0.07	-1.07	0.01	-0.403	2.75	15.12	2.65	0.71	
40	0.07	-2.64	0.02	-0.981	1.37	6.28	3.07	0.36	
			Total Soil Gain, ft³	Total Soil Loss, ft³		Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index	
			2.99	-9.68		134.15	2.23	-7.22	

Flow: 0.5 cfs for 30 minutes

Test Date: 6/7/2012

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf	
0	0.02	-0.29	0.00	-0.115	0.94	5.88	2.98	0.25	BLOWOUT UNDER CHECK STRUCTURE & ACCELERATED SCOUR DOWNSTREAM OF CHECK
5	0.05	-0.18	0.01	-0.079	3.15	15.87	2.43	0.82	
10	0.75	-0.54	0.23	-0.191	4.41	18.22	1.85	1.15	
15	0.30	-0.40	0.11	-0.150	6.81	22.69	1.80	1.77	
20	1.00	-0.03	0.38	-0.014	6.34	21.81	0.41	1.65	
25	0.06	-0.84	0.01	-0.290	1.14	12.13	1.43	0.30	
30	0.05	-0.74	0.02	-0.247	1.26	12.35	1.06	0.33	
35	0.02	-0.92	0.01	-0.348	1.77	13.30	1.81	0.46	
40	0.01	-0.72	0.00	-0.280	0.75	5.70	2.71	0.19	
			Total Soil Gain, ft³	Total Soil Loss, ft³		Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index	
			3.74	-6.24		127.94	2.93	-4.88	

Flow: 0.5 cfs for 30 minutes

Test Date: 7/3/2012

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf	
0	0.00	-0.11	0.00	-0.036	0.98	5.92	3.00	0.26	14" High NRCS Check Location
5	0.00	-0.12	0.00	-0.050	0.98	11.83	3.10	0.26	
10	0.10	-0.19	0.03	-0.056	5.31	19.90	1.61	1.38	
15	0.43	-0.40	0.15	-0.147	6.38	21.88	0.78	1.66	
20	0.47	-0.04	0.16	-0.007	10.16	28.93	0.16	2.64	
25	0.61	-0.07	0.23	-0.009	11.46	31.35	0.01	2.98	
30	0.00	-0.28	0.00	-0.098	1.85	13.45	2.40	0.48	
35	0.00	-0.26	0.00	-0.095	1.57	12.93	2.90	0.41	
40	0.00	-0.23	0.00	-0.084	1.18	6.10	2.80	0.31	
			Total Soil Gain, ft³	Total Soil Loss, ft³		Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index	
			2.33	-2.34		152.30	1.53	-1.54	

CJS 7/5/2012 (Rev. 8/21/14)

Quality Review / Date

ASTM D7208		Date: 5/14/12		Start Time: 3:58 PM		End Time: 4:28 PM							
Soil: Sandy Clay		Soil: Sandy Clay		Target Flow (cfs): 0.50		Slope: 5%							
60 ft long flume 40 ft test section		SRD: Straw Bales		Installation: Wooden Stakes									
2 ft wide flume		TEST DATA											
1 2 3		Outlet Weir								Channel Targets			
FLOW		Water Depth, in								0.00			
Air width (ft) = 2		Water Velocity, ft/s								0.00			
0 ft		Flow Rate, cfs								0.00			
5 ft		Cross-section 1								To Water Surf, ft			
		A B C D E F G H I								8.0			
		To original Surface Elev, ft								31.696			
		To eroded Surface Elev, ft								31.776			
		Soil Gain, ft								0.035			
		Clopper Soil Loss, ft								-0.115			
		Avg Bottom Gain, ft								0.01			
		Avg Clopper Soil Loss, ft								-0.03			
		Cross-section 2								To Water Surf, ft			
		A B C D E F G H I								8.3			
		To original Surface Elev, ft								32.622			
		To eroded Surface Elev, ft								32.809			
		Soil Gain, ft								0.010			
		Clopper Soil Loss, ft								-0.189			
		Avg Bottom Gain, ft								0.00			
		Avg Clopper Soil Loss, ft								-0.04			
		Cross-section 3								To Water Surf, ft			
		A B C D E F G H I								8.6			
		To original Surface Elev, ft								33.769			
		To eroded Surface Elev, ft								33.951			
		Soil Gain, ft								0.019			
		Clopper Soil Loss, ft								-0.201			
		Avg Bottom Gain, ft								0.01			
		Avg Clopper Soil Loss, ft								-0.04			
		Cross-section 4								To Water Surf, ft			
		A B C D E F G H I								8.7			
		To original Surface Elev, ft								35.241			
		To eroded Surface Elev, ft								35.366			
		Soil Gain, ft								0.002			
		Clopper Soil Loss, ft								-0.127			
		Avg Bottom Gain, ft								0.00			
		Avg Clopper Soil Loss, ft								-0.03			
		Cross-section 5								To Water Surf, ft			
		A B C D E F G H I								8.7			
		To original Surface Elev, ft								36.792			
		To eroded Surface Elev, ft								36.760			
		Soil Gain, ft								0.000			
		Clopper Soil Loss, ft								-0.201			
		Avg Bottom Gain, ft								0.12			
		Avg Clopper Soil Loss, ft								-0.04			
		Cross-section 6								To Water Surf, ft			
		A B C D E F G H I								8.6			
		To original Surface Elev, ft								37.491			
		To eroded Surface Elev, ft								36.984			
		Soil Gain, ft								0.524			
		Clopper Soil Loss, ft								-0.017			
		Avg Bottom Gain, ft								0.12			
		Avg Clopper Soil Loss, ft								-0.01			
		Cross-section 7								To Water Surf, ft			
		A B C D E F G H I								9.4			
		To original Surface Elev, ft								38.214			
		To eroded Surface Elev, ft								38.641			
		Soil Gain, ft								0.090			
		Clopper Soil Loss, ft								-0.517			
		Avg Bottom Gain, ft								0.02			
		Avg Clopper Soil Loss, ft								-0.11			
		Cross-section 8								To Water Surf, ft			
		A B C D E F G H I								9.7			
		To original Surface Elev, ft								38.797			
		To eroded Surface Elev, ft								39.191			
		Soil Gain, ft								0.009			
		Clopper Soil Loss, ft								-0.403			
		Avg Bottom Gain, ft								0.01			
		Avg Clopper Soil Loss, ft								-0.09			
		Cross-section 9								To Water Surf, ft			
		A B C D E F G H I								10.7			
		To original Surface Elev, ft								40.049			
		To eroded Surface Elev, ft								41.010			
		Soil Gain, ft								0.019			
		Clopper Soil Loss, ft								-0.981			
		Avg Bottom Gain, ft								0.01			
		Avg Clopper Soil Loss, ft								-0.22			
		Soil Gain, in								0.002			
		Clopper Soil Loss, in								-0.001			
		Volume								Avg Bottom Gain per Xsection, ft = 0.006			
										Avg Clopper Soil Loss per Xsection, ft = -0.220			
Trapezoidal Analysis		Original Surface Elev 865.087		1 thru 6:		X-Section Spacing, ft = 5		Original Surface Elev 389.640		7 thru 9:		X-Section Spacing, ft = 5	
		Eroded Surface Elev 866.337				Test Section Length, ft = 40		Eroded Surface Elev 395.082				Test Section Length, ft = 40	
		Soil Gain 2.674		0.201		gauge spacing, ft = 0.5		Soil Gain 0.317		0.024		gauge spacing, ft = 0.5	
		CSLI -3.924		-0.294		channel width measured, ft = 4		CSLI -5.760		-0.432		channel width measured, ft = 4	



TYPICAL TEST PICTURES

0.5 cfs Flow



Check Structure Installation over Bare Soil



Initial Flow & Upstream Ponding with Some Underflow



Increased Ponding, Start Overtopping, Increased Underflow



End-of-test and Post-test With Undermined Bale Removed

ASTM D7208		Date: 7/3/12		Start Time: 4:30 PM		End Time: 5:00 PM												
60 ft long flume 40 ft test section		Soil: Sandy Clay		Target Flow (cfs): 0.50		Slope: 5%												
2 ft wide flume		SRD: Straw Bales		Installation: Wooden Stakes / NRCS Install														
		TEST DATA																
1 2 3										Weir		Channel Targets						
FLOW										Water Depth, in		0.00						
Weir width (ft) = 2										Water Velocity, ft/s		0.00						
0 ft										Flow Rate, cfs		0.00						
5 ft		Cross-section 1		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft		1.880	2.149	2.352	2.382	2.379	2.359	2.326	2.139	1.854	8.994					2.3
		To eroded Surface Elev, ft		1.880	2.149	2.392	2.402	2.385	2.362	2.343	2.139	1.854	9.030					2.3
		Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		Clopper Soil Loss, ft		0.000	0.000	-0.039	-0.020	-0.007	-0.003	-0.016	0.000	0.000	-0.036	-0.108				0.08
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.01										
		Cross-section 2		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft		2.123	2.343	2.595	2.612	2.631	2.618	2.608	2.359	2.149	9.944					2.6
		To eroded Surface Elev, ft		2.123	2.365	2.602	2.621	2.644	2.625	2.615	2.382	2.149	9.995					2.6
		Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		Clopper Soil Loss, ft		0.000	-0.023	-0.007	-0.010	-0.013	-0.007	-0.007	-0.023	0.000	-0.050	-0.151				0.08
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.01										
		Cross-section 3		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft		1.946	2.215	2.398	2.428	2.454	2.448	2.431	2.208	1.942	9.274					2.0
		To eroded Surface Elev, ft		1.969	2.247	2.375	2.402	2.425	2.461	2.484	2.208	1.965	9.295					2.0
		Soil Gain, ft		0.000	0.000	0.023	0.026	0.030	0.000	0.000	0.000	0.000	0.035	0.105				0.44
		Clopper Soil Loss, ft		-0.023	-0.033	0.000	0.000	0.000	-0.013	-0.052	0.000	-0.023	-0.056	-0.167				0.44
		Avg Bottom Gain, ft		0.01		Avg Clopper Soil Loss, ft		-0.02										
		Cross-section 4		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft		1.988	2.238	2.454	2.500	2.520	2.513	2.497	2.270	2.037	9.508					1.9
		To eroded Surface Elev, ft		2.073	2.352	2.398	2.470	2.431	2.402	2.461	2.349	2.060	9.501					1.9
		Soil Gain, ft		0.000	0.000	0.056	0.030	0.089	0.112	0.036	0.000	0.000	0.154	0.463				0.53
		Clopper Soil Loss, ft		-0.085	-0.115	0.000	0.000	0.000	0.000	0.000	-0.079	-0.023	-0.147	-0.441				0.53
		Avg Bottom Gain, ft		0.04		Avg Clopper Soil Loss, ft		-0.03										
		Cross-section 5		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft		1.683	1.919	2.152	2.198	2.228	2.228	2.215	1.975	1.775	8.321					1.3
		To eroded Surface Elev, ft		1.686	1.923	2.103	2.156	2.195	2.172	2.077	1.939	1.798	8.165					1.3
		Soil Gain, ft		0.000	0.000	0.049	0.043	0.033	0.056	0.138	0.036	0.000	0.163	0.489				0.85
		Clopper Soil Loss, ft		-0.003	-0.003	0.000	0.000	0.000	0.000	0.000	0.000	-0.023	-0.007	-0.020				0.85
		Avg Bottom Gain, ft		0.04		Avg Clopper Soil Loss, ft		0.00										
		Cross-section 6		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft		1.785	2.054	2.306	2.336	2.369	2.339	2.280	2.093	1.844	8.805					1.3
		To eroded Surface Elev, ft		1.834	2.047	2.241	2.254	2.267	2.241	2.215	2.054	1.847	8.585					1.3
		Soil Gain, ft		0.000	0.007	0.066	0.082	0.102	0.098	0.066	0.039	0.000	0.229	0.686				0.95
		Clopper Soil Loss, ft		-0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.003	-0.009	-0.026				0.95
		Avg Bottom Gain, ft		0.05		Avg Clopper Soil Loss, ft		-0.01										
		Cross-section 7		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft		1.608	1.860	2.083	2.159	2.208	2.205	2.159	1.975	1.742	8.174					2.1
		To eroded Surface Elev, ft		1.608	1.864	2.126	2.205	2.247	2.238	2.208	1.975	1.742	8.273					2.1
		Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				0.15
		Clopper Soil Loss, ft		0.000	-0.003	-0.043	-0.046	-0.039	-0.033	-0.049	0.000	0.000	-0.098	-0.295				0.15
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.02										
		Cross-section 8		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft		1.939	2.215	2.408	2.467	2.487	2.470	2.421	2.159	1.932	9.291					2.4
		To eroded Surface Elev, ft		1.939	2.215	2.464	2.530	2.539	2.497	2.421	2.159	1.932	9.386					2.4
		Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				0.13
		Clopper Soil Loss, ft		0.000	0.000	-0.056	-0.062	-0.052	-0.026	0.000	0.000	0.000	-0.095	-0.285				0.13
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.02										
		Cross-section 9		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft		1.854	2.087	2.316	2.346	2.339	2.316	2.270	2.018	1.775	8.758					2.3
		To eroded Surface Elev, ft		1.854	2.087	2.333	2.398	2.395	2.346	2.287	2.018	1.775	8.842					2.3
		Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				0.10
		Clopper Soil Loss, ft		0.000	0.000	-0.016	-0.052	-0.056	-0.030	-0.016	0.000	0.000	-0.084	-0.253				0.10
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.02										
		Soil Gain, in		0.000	0.000	0.007	0.006	0.008	0.009	0.010	0.002	0.000			Volume		Avg Bottom Gain per Xsection, ft = 0.000	
		Clopper Soil Loss, in		-0.006	-0.010	-0.007	-0.008	-0.007	-0.004	-0.005	-0.006	-0.004					Avg Clopper Soil Loss per Xsection, ft = -0.019	
Trapezoidal Analysis		Original Surface Elev		229.738	1 thru 6:		X-Section Spacing, ft = 5		Original Surface Elev		88.786	7 thru 9:		X-Section Spacing, ft = 5				
		Eroded Surface Elev		228.817			Test Section Length, ft = 40		Eroded Surface Elev		89.719			Test Section Length, ft = 40				
		Soil Gain		2.332	0.175	gauge spacing, ft = 0.5		Soil Gain		0.000	0.000	gauge spacing, ft = 0.5						
		CSLI		-1.411	-0.106	channel width measured, ft = 4		CSLI		-0.932	-0.070	channel width measured, ft = 4						



TYPICAL TEST PICTURES

0.5 cfs Flow (Enhanced NRCS Installation)



Check Structure Installation over Bare Soil



Initial Flow & Upstream Ponding Starting



Increased Ponding and Overtopping. No Apparent Underflow

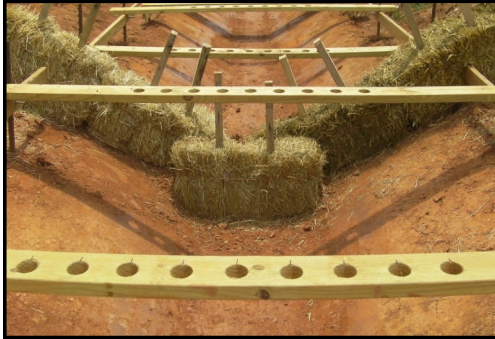


End-of-test and Post-test With Upstream Sediment Deposition and Modest Downstream Scour



TYPICAL TEST PICTURES

0.5 cfs Flow (Retest)



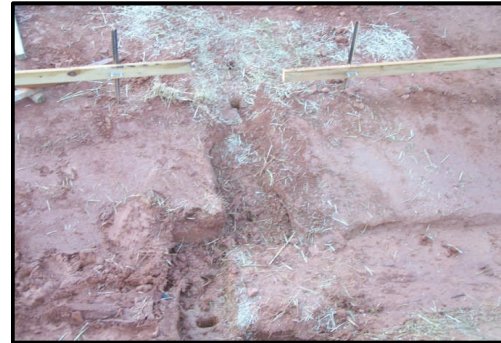
Check Structure Installation over Bare Soil



Initial Flow & Upstream Ponding



Increased Ponding and Undermining



End-of-test and Post-test condition.



Project: ASTM D 7208: Standard Test Method for Determination of Temporary Ditch Check Performance in Protecting Earthen Channels from Stormwater-Induced Erosion.

Test Setup: Trapezoid with 2-ft wide bottom and 2:1 side slopes x 40-ft long; 5% Bed Slope;

Client: GSWCC

Product: Straw Bales

Wooden Stakes / NRCS Install

Flow: 0.5 cfs for 30 minutes

Test Date: 7/3/2012

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf
0	0.00	-0.11	0.00	-0.036	0.98	5.92	3.00	0.26
5	0.00	-0.12	0.00	-0.050	0.98	11.83	3.10	0.26
10	0.10	-0.19	0.03	-0.056	5.31	19.90	1.61	1.38
15	0.43	-0.40	0.15	-0.147	6.38	21.88	0.78	1.66
20	0.47	-0.04	0.16	-0.007	10.16	28.93	0.16	2.64
25	0.61	-0.07	0.23	-0.009	11.46	31.35	0.00	2.98
30	0.00	-0.28	0.00	-0.098	1.85	13.45	2.40	0.48
35	0.00	-0.26	0.00	-0.095	1.57	12.93	2.90	0.41
40	0.00	-0.23	0.00	-0.084	1.18	6.10	2.80	0.31
			Total Soil Gain, ft³	Total Soil Loss, ft³		Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index
			2.33	-2.34		152.30	1.53	-1.54

14" High Check Location

Flow: 1.0 cfs for 30 minutes

Test Date: 7/5/2012

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf
0	0.00	-0.27	0.00	-0.102	1.73	6.61	3.83	0.45
5	0.00	-0.25	0.00	-0.072	2.52	14.70	3.14	0.65
10	0.00	-0.28	0.00	-0.090	6.46	22.03	2.04	1.68
15	0.43	-0.39	0.14	-0.133	8.27	25.41	1.81	2.15
20	0.63	-0.07	0.24	-0.008	12.44	33.18	0.51	3.23
25	1.08	-0.02	0.40	-0.008	13.62	35.38	0.10	3.54
30	0.00	-0.24	0.00	-0.080	2.83	15.28	3.36	0.74
35	0.00	-0.21	0.00	-0.067	1.89	13.52	3.71	0.49
40	0.00	-0.24	0.00	-0.087	1.42	6.32	4.04	0.37
			Total Soil Gain, ft³	Total Soil Loss, ft³		Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index
			2.93	-2.54		172.44	1.70	-1.47

14" High Check Location

Flow: 2.0 cfs for 30 minutes

Test Date: 7/16/2012

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf
0	0.00	-0.39	0.00	-0.147	2.01	6.87	5.10	0.52
5	0.00	-0.41	0.00	-0.160	6.85	22.76	3.63	1.78
10	0.03	-0.22	0.01	-0.082	9.13	27.02	1.46	2.37
15	0.20	-0.34	0.09	-0.121	11.02	30.54	0.34	2.86
20	0.74	-0.47	0.32	-0.188	12.13	32.60	0.33	3.15
25	0.77	-0.21	0.31	-0.062	14.49	37.00	0.25	3.77
30	0.00	-0.45	0.00	-0.163	4.72	18.80	3.66	1.23
35	0.00	-0.51	0.00	-0.197	2.05	13.81	4.54	0.53
40	0.00	-0.49	0.00	-0.183	2.20	7.05	6.26	0.57
			Total Soil Gain, ft³	Total Soil Loss, ft³		Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index
			2.91	-5.13		196.46	1.48	-2.61

14" High Check Location

CJS 7/19/2012 (Rev. 8/21/14)

Quality Review / Date

ASTM D7208		Date: 7/3/12		Start Time: 4:30 PM		End Time: 5:00 PM										
		Soil: Sandy Clay		Target Flow (cfs): 0.50		Slope: 5%										
60 ft long flume 40 ft test section		SRD: Straw Bales		Installation: Wooden Stakes / NRCS Install												
2 ft wide flume		TEST DATA														
1 2 3		Channel Targets														
FLOW		Water Depth, in														
Air width (ft) = 2		Water Velocity, ft/s														
0 ft C D E F G H		Flow Rate, cfs														
5 ft	Cross-section 1	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
	To original Surface Elev, ft	1.880	2.149	2.352	2.382	2.379	2.359	2.326	2.139	1.854	8.994			3		2.3
	To eroded Surface Elev, ft	1.880	2.149	2.392	2.402	2.385	2.362	2.343	2.139	1.854	9.030		Vavg (fps) = 3.00		Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg = 0.021			
10 ft	Cross-section 2	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
	To original Surface Elev, ft	2.123	2.343	2.595	2.612	2.631	2.618	2.608	2.359	2.149	9.944			3.1		2.6
	To eroded Surface Elev, ft	2.123	2.365	2.602	2.621	2.644	2.625	2.615	2.382	2.149	9.995		Vavg (fps) = 3.10		Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg = 0.020			
15 ft	Cross-section 3	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
	To original Surface Elev, ft	1.946	2.215	2.398	2.428	2.454	2.448	2.431	2.208	1.942	9.274			1.61		2.0
	To eroded Surface Elev, ft	1.969	2.247	2.375	2.402	2.425	2.461	2.484	2.208	1.965	9.295		Vavg (fps) = 1.61		Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft	0.000	0.000	0.023	0.026	0.030	0.000	0.000	0.000	0.035	0.105	0.105	navg = 0.120			
20 ft	Cross-section 4	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
	To original Surface Elev, ft	1.988	2.238	2.454	2.500	2.520	2.513	2.497	2.270	2.037	9.508			0.78		1.9
	To eroded Surface Elev, ft	2.073	2.352	2.398	2.470	2.431	2.402	2.461	2.349	2.060	9.501		Vavg (fps) = 0.78		Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft	0.000	0.000	0.056	0.030	0.089	0.112	0.036	0.000	0.000	0.154	0.463	navg = 0.280			
25 ft	Cross-section 5	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
	To original Surface Elev, ft	1.683	1.919	2.152	2.198	2.228	2.228	2.215	1.975	1.775	8.321			0.16		1.3
	To eroded Surface Elev, ft	1.686	1.923	2.103	2.156	2.195	2.172	2.077	1.939	1.798	8.165		Vavg (fps) = 0.16		Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft	0.000	0.000	0.049	0.043	0.033	0.056	0.138	0.036	0.000	0.163	0.489	navg = 1.858			
30 ft	Cross-section 6	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
	To original Surface Elev, ft	1.785	2.054	2.306	2.336	2.369	2.339	2.280	2.093	1.844	8.805			0.001		1.3
	To eroded Surface Elev, ft	1.834	2.047	2.241	2.254	2.267	2.241	2.215	2.054	1.847	8.585		Vavg (fps) = 0.00		Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft	0.000	0.007	0.066	0.082	0.102	0.098	0.066	0.039	0.000	0.229	0.686	navg = 322.173			
35 ft	Cross-section 7	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
	To original Surface Elev, ft	1.608	1.860	2.083	2.159	2.208	2.205	2.159	1.975	1.742	8.174			2.4		2.1
	To eroded Surface Elev, ft	1.608	1.864	2.126	2.205	2.247	2.238	2.208	1.975	1.742	8.273		Vavg (fps) = 2.40		Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg = 0.040			
40 ft	Cross-section 8	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
	To original Surface Elev, ft	1.939	2.215	2.408	2.467	2.487	2.470	2.421	2.159	1.932	9.291			2.9		2.4
	To eroded Surface Elev, ft	1.939	2.215	2.464	2.530	2.539	2.497	2.421	2.159	1.932	9.386		Vavg (fps) = 2.90		Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg = 0.030			
40 ft	Cross-section 9	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
	To original Surface Elev, ft	1.854	2.087	2.316	2.346	2.339	2.316	2.270	2.018	1.775	8.758			2.8		2.3
	To eroded Surface Elev, ft	1.854	2.087	2.333	2.398	2.395	2.346	2.287	2.018	1.775	8.842		Vavg (fps) = 2.80		Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg = 0.025			
Avg Soil Gain, ft		0.000	0.000	0.018	0.014	0.022	0.024	0.025	0.005	0.000	Volume		Avg Bottom Gain per Xsection, ft = 0.000			
Avg Clopper Soil Loss, ft		-0.016	-0.025	-0.017	-0.021	-0.018	-0.011	-0.013	-0.015	-0.010	[ft ²]	[in]	Avg Clopper Soil Loss per Xsection, ft = -0.009			
Trapezoidal Analysis	Original Surface Elev	229.738		1 thru 6:		X-Section Spacing, ft = 5		Original Surface Elev		88.786		7 thru 9:		X-Section Spacing, ft = 5		
	Eroded Surface Elev	228.817		6:		Test Section Length, ft = 40		Eroded Surface Elev		89.719		9:		Test Section Length, ft = 40		
	Soil Gain	2.332		0.175		gauge spacing, ft = 0.5		Soil Gain		0.000		0.000		gauge spacing, ft = 0.5		
	CSLI	-1.411		-0.106		channel width measured, ft = 4		CSLI		-0.932		-0.070		channel width measured, ft = 4		



TYPICAL TEST PICTURES

0.5 cfs Flow (Enhanced Installation)



Check Structure Installation over Bare Soil



Initial Flow & Upstream Ponding Starting



Increased Ponding and Overtopping. No Apparent Underflow



End-of-test and Post-test With Upstream Sediment Deposition and Modest Downstream Scour

ASTM D7208		Date: 7/5/12	Start Time: 2:07 PM		End Time: 2:37 PM													
60 ft long flume 40 ft test section		Soil: Sandy Clay		Target Flow (cfs): 0.50		Slope: 5%												
SRD: Straw Bales		Installation: Wooden Stakes / NRCS Install																
2 ft wide flume		TEST DATA																
1 2 3		Outlet Weir										Channel Targets						
FLOW		Water Depth, in										1.50						
Weir width (ft) = 2		Water Velocity, ft/s										4.00						
0 ft C D E F G H		Flow Rate, cfs										0.00						
5 ft	Cross-section 1		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft	
	To original Surface Elev, ft		1.864	2.093	2.346	2.392	2.418	2.379	2.352	2.152	1.883	9.007				3.83		2.3
	To eroded Surface Elev, ft		1.864	2.106	2.395	2.428	2.425	2.405	2.372	2.188	1.896	9.109			Vavg (fps) =	3.83	Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.024		
	Clopper Soil Loss, ft		0.000	-0.013	-0.049	-0.036	-0.007	-0.026	-0.020	-0.036	-0.013	-0.102	-0.305	Flow (cfs) =	0.50	0.45		0.14
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.02										
10 ft	Cross-section 2		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft	
	To original Surface Elev, ft		2.110	2.372	2.579	2.605	2.621	2.605	2.598	2.313	2.080	9.894				3.14		2.4
	To eroded Surface Elev, ft		2.192	2.379	2.598	2.644	2.621	2.621	2.615	2.320	2.083	9.967			Vavg (fps) =	3.14	Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.037		
	Clopper Soil Loss, ft		-0.082	-0.007	-0.020	-0.039	0.000	-0.016	-0.016	-0.007	-0.003	-0.072	-0.217	Flow (cfs) =	0.50	0.65		0.21
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.02										
15 ft	Cross-section 3		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft	
	To original Surface Elev, ft		1.834	2.083	2.310	2.323	2.343	2.336	2.303	2.057	1.804	8.791				2.04		1.8
	To eroded Surface Elev, ft		1.867	2.106	2.320	2.329	2.343	2.349	2.352	2.106	1.827	8.881			Vavg (fps) =	2.04	Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.108		
	Clopper Soil Loss, ft		-0.033	-0.023	-0.010	-0.007	0.000	-0.013	-0.049	-0.049	-0.023	-0.090	-0.271	Flow (cfs) =	0.50	1.68		0.54
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.02										
20 ft	Cross-section 4		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft	
	To original Surface Elev, ft		1.991	2.218	2.451	2.493	2.500	2.493	2.484	2.228	1.982	9.429				1.81		1.8
	To eroded Surface Elev, ft		2.054	2.280	2.359	2.434	2.461	2.451	2.392	2.333	2.047	9.419			Vavg (fps) =	1.81	Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft		0.000	0.000	0.092	0.059	0.039	0.043	0.092	0.000	0.000	0.142	0.427	0.427	navg =	0.143		
	Clopper Soil Loss, ft		-0.062	-0.062	0.000	0.000	0.000	0.000	0.000	-0.105	-0.066	-0.133	-0.399	Flow (cfs) =	0.50	2.15		0.69
		Avg Bottom Gain, ft		0.04		Avg Clopper Soil Loss, ft		-0.03										
25 ft	Cross-section 5		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft	
	To original Surface Elev, ft		1.844	1.991	2.208	2.238	2.274	2.257	2.241	2.011	1.772	8.508				0.51		1.1
	To eroded Surface Elev, ft		1.844	1.962	2.156	2.165	2.185	2.156	2.159	1.962	1.821	8.274			Vavg (fps) =	0.51	Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft		0.000	0.030	0.052	0.072	0.089	0.102	0.082	0.049	0.000	0.243	0.728	0.728	navg =	0.667		
	Clopper Soil Loss, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.049	-0.008	-0.025	Flow (cfs) =	0.50	3.23		1.04
		Avg Bottom Gain, ft		0.05		Avg Clopper Soil Loss, ft		-0.01										
30 ft	Cross-section 6		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft	
	To original Surface Elev, ft		1.831	2.070	2.297	2.356	2.382	2.359	2.326	2.110	1.877	8.882				0.1		1.1
	To eroded Surface Elev, ft		1.837	2.080	2.192	2.208	2.224	2.218	2.169	2.008	1.877	8.490			Vavg (fps) =	0.10	Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft		0.000	0.000	0.105	0.148	0.157	0.141	0.157	0.102	0.000	0.400	1.201	1.201	navg =	3.616		
	Clopper Soil Loss, ft		-0.007	-0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.008	-0.023	Flow (cfs) =	0.23	3.54		1.14
		Avg Bottom Gain, ft		0.09		Avg Clopper Soil Loss, ft		0.00										
35 ft	Cross-section 7		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft	
	To original Surface Elev, ft		1.644	1.913	2.142	2.195	2.208	2.195	2.172	1.975	1.739	8.256				3.36		2.0
	To eroded Surface Elev, ft		1.644	1.913	2.165	2.221	2.238	2.231	2.234	1.975	1.739	8.336			Vavg (fps) =	3.36	Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.038		
	Clopper Soil Loss, ft		0.000	0.000	-0.023	-0.026	-0.030	-0.036	-0.062	0.000	0.000	-0.080	-0.240	Flow (cfs) =	1.59	0.74		0.24
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.02										
40 ft	Cross-section 8		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft	
	To original Surface Elev, ft		1.909	2.201	2.428	2.457	2.464	2.448	2.425	2.175	1.923	9.265				3.71		2.4
	To eroded Surface Elev, ft		1.909	2.201	2.444	2.477	2.536	2.470	2.451	2.175	1.923	9.332			Vavg (fps) =	3.71	Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.026		
	Clopper Soil Loss, ft		0.000	0.000	-0.016	-0.020	-0.072	-0.023	-0.026	0.000	0.000	-0.067	-0.200	Flow (cfs) =	1.17	0.49		0.16
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.02										
40 ft	Cross-section 9		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft	
	To original Surface Elev, ft		1.844	2.057	2.297	2.382	2.375	2.365	2.329	2.073	1.844	8.867				4.04		2.3
	To eroded Surface Elev, ft		1.844	2.057	2.326	2.421	2.415	2.405	2.365	2.073	1.844	8.955			Vavg (fps) =	4.04	Bed Max Shear Stress (psf)	Water Depth (ft)
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.020		
	Clopper Soil Loss, ft		0.000	0.000	-0.030	-0.039	-0.039	-0.039	-0.036	0.000	0.000	-0.087	-0.262	Flow (cfs) =	0.95	0.37		0.12
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.02										
Avg Soil Gain, ft		0.000	0.004	0.021	0.019	0.018	0.021	0.025	0.007	0.000	Volume		Avg Bottom Gain per Xsection, ft = 0.000					
Avg Clopper Soil Loss, ft		-0.025	-0.015	-0.018	-0.020	-0.017	-0.017	-0.021	-0.028	-0.022	[ft ²]	[in]	Avg Clopper Soil Loss per Xsection, ft = -0.020					
Trapezoidal Analysis	Original Surface Elev	227.835	1 thru 6:	X-Section Spacing, ft = 5				Original Surface Elev	89.134	7 thru 9:	X-Section Spacing, ft = 5							
	Eroded Surface Elev	228.701		Test Section Length, ft = 40				Eroded Surface Elev	89.885		Test Section Length, ft = 40							
	Soil Gain	0.219		gauge spacing, ft = 0.5				Soil Gain	0.000		gauge spacing, ft = 0.5							
	CSLI	-1.791		channel width measured, ft = 4				CSLI	-0.752		channel width measured, ft = 4							



TYPICAL TEST PICTURES

1.0 cfs Flow



Check Structure Installation over Bare Soil



Initial Flow & Upstream Ponding



Increased Ponding & Overtopping



End-of-test and Post-test

ASTM D7208		Date: 7/16/12		Start Time: 4:49 PM		End Time: 5:19 PM			
60 ft long flume		40 ft test section		Soil: Sandy Clay		Target Flow (cfs): 2.00		Slope: 5%	
SRD: Straw Bales		Installation: Wooden Stakes / NRCS Install							
2 ft wide flume		TEST DATA							
1 2 3		Outlet Weir							
FLOW		Water Depth, in							
Weir width (ft) = 2		Water Velocity, ft/s							
0 ft C D E F G H		Flow Rate, cfs							
5 ft		Cross-section 1							
10 ft		Cross-section 2							
15 ft		Cross-section 3							
20 ft		Cross-section 4							
25 ft		Cross-section 5							
30 ft		Cross-section 6							
35 ft		Cross-section 7							
40 ft		Cross-section 8							
		Cross-section 9							
		Trapezoidal Analysis							
		Weir							
		Channel Targets							
		Water Depth, in							
		Water Velocity, ft/s							
		Flow Rate, cfs							
		Cross-section 1							
		I Surface Elev, ft							
		To eroded Surface Elev, ft							
		Soil Gain, ft							
		Clopper Soil Loss, ft							
		Avg Bottom Gain, ft							
		Avg Clopper Soil Loss, ft							
		Cross-section 2							
		To original Surface Elev, ft							
		To eroded Surface Elev, ft							
		Soil Gain, ft							
		Clopper Soil Loss, ft							
		Avg Bottom Gain, ft							
		Avg Clopper Soil Loss, ft							
		Cross-section 3							
		To original Surface Elev, ft							
		To eroded Surface Elev, ft							
		Soil Gain, ft							
		Clopper Soil Loss, ft							
		Avg Bottom Gain, ft							
		Avg Clopper Soil Loss, ft							
		Cross-section 4							
		To original Surface Elev, ft							
		To eroded Surface Elev, ft							
		Soil Gain, ft							
		Clopper Soil Loss, ft							
		Avg Bottom Gain, ft							
		Avg Clopper Soil Loss, ft							
		Cross-section 5							
		To original Surface Elev, ft							
		To eroded Surface Elev, ft							
		Soil Gain, ft							
		Clopper Soil Loss, ft							
		Avg Bottom Gain, ft							
		Avg Clopper Soil Loss, ft							
		Cross-section 6							
		To original Surface Elev, ft							
		To eroded Surface Elev, ft							
		Soil Gain, ft							
		Clopper Soil Loss, ft							
		Avg Bottom Gain, ft							
		Avg Clopper Soil Loss, ft							
		Cross-section 7							
		To original Surface Elev, ft							
		To eroded Surface Elev, ft							
		Soil Gain, ft							
		Clopper Soil Loss, ft							
		Avg Bottom Gain, ft							
		Avg Clopper Soil Loss, ft							
		Cross-section 8							
		To original Surface Elev, ft							
		To eroded Surface Elev, ft							
		Soil Gain, ft							
		Clopper Soil Loss, ft							
		Avg Bottom Gain, ft							
		Avg Clopper Soil Loss, ft							
		Cross-section 9							
		To original Surface Elev, ft							
		To eroded Surface Elev, ft							
		Soil Gain, ft							
		Clopper Soil Loss, ft							
		Avg Bottom Gain, ft							
		Avg Clopper Soil Loss, ft							
		Avg Soil Gain, ft							
		Avg Clopper Soil Loss, ft							
		Volume							
		Avg Bottom Gain per Xsection, ft = 0.000							
		Avg Clopper Soil Loss per Xsection, ft = -0.032							
		Original Surface Elev							
		Eroded Surface Elev							
		Soil Gain							
		CSLI							
		X-Section Spacing, ft = 5							
		Test Section Length, ft = 40							
		gauge spacing, ft = 0.5							
		channel width measured, ft = 4							
		Original Surface Elev							
		Eroded Surface Elev							
		Soil Gain							
		CSLI							
		X-Section Spacing, ft = 5							
		Test Section Length, ft = 40							
		gauge spacing, ft = 0.5							
		channel width measured, ft = 4							



TYPICAL TEST PICTURES

2.0 cfs Flow



Check Structure Installation over Bare Soil



Initial Flow & Upstream Ponding



Increased Ponding and Overtopping



End-of-test and Post-test condition.



Project: ASTM D 7208: Standard Test Method for Determination of Temporary Ditch Check Performance in Protecting Earthen Channels from Stormwater-Induced Erosion.

Test Setup: Trapezoid with 2-ft wide bottom and 2:1 side slopes x 40-ft long; 5% Bed Slope;

Client: GSWCC

Product: Filtrexx Compost Sock

Flow: 0.5 cfs for 30 minutes

Test Date: 5/15/2012

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf
0	0.00	-0.08	0.00	-0.038	1.25	6.16	2.80	0.32
5	0.00	-0.04	0.00	-0.017	1.00	11.86	3.00	0.26
10	0.00	-0.10	0.00	-0.042	1.25	12.33	2.90	0.32
15	0.00	-0.04	0.00	-0.017	3.50	16.52	0.23	0.91
20	0.10	-0.03	0.03	-0.010	4.88	19.08	0.19	1.27
25	0.11	0.00	0.04	0.000	6.00	21.18	0.60	1.56
30	0.00	-0.12	0.00	-0.049	1.38	12.56	1.95	0.36
35	0.01	-0.17	0.00	-0.066	1.37	12.56	2.50	0.36
40	0.00	-0.24	0.00	-0.090	1.00	5.93	3.00	0.26
			Total Soil Gain, ft³	Total Soil Loss, ft³		Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index
			0.28	-1.21		118.20	0.24	-1.02

9" High
Check
Location

Flow: 1.0 cfs for 30 minutes

Test Date: 6/13/2012

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf
0	0.00	-0.09	0.00	-0.038	1.50	6.39	3.20	0.39
5	0.00	-0.11	0.00	-0.039	1.50	12.79	3.40	0.39
10	0.00	-0.16	0.00	-0.057	1.54	12.86	3.00	0.40
15	0.00	-0.01	0.00	-0.004	3.66	16.82	0.30	0.95
20	0.13	-0.03	0.06	-0.008	5.12	19.54	0.21	1.33
25	0.35	-0.03	0.13	-0.015	5.75	20.71	0.61	1.49
30	0.00	-0.19	0.00	-0.068	1.81	13.37	2.59	0.47
35	0.00	-0.23	0.00	-0.074	1.61	13.01	3.00	0.42
40	0.00	-0.34	0.00	-0.135	1.54	6.43	3.42	0.40
			Total Soil Gain, ft³	Total Soil Loss, ft³		Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index
			0.62	-1.55		121.93	0.51	-1.27

9" High
Check
Location

Flow: 2.0 cfs for 30 minutes

Test Date: 5/22/2012

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf
0	0.00	-0.14	0.00	-0.056	2.13	6.98	4.60	0.55
5	0.00	-0.28	0.00	-0.094	2.00	13.73	4.80	0.52
10	0.00	-0.14	0.00	-0.042	2.13	13.96	4.50	0.55
15	0.01	-0.32	0.00	-0.118	4.63	18.62	0.39	1.20
20	0.43	-0.64	0.18	-0.200	5.25	19.78	0.23	1.36
25	1.29	-0.93	0.51	-0.217	3.25	16.06	0.65	0.84
30	0.00	-0.26	0.00	-0.106	3.12	15.82	3.30	0.81
35	0.00	-0.18	0.00	-0.069	2.25	14.19	4.40	0.58
40	0.00	-0.34	0.00	-0.138	2.13	6.98	4.70	0.55
			Total Soil Gain, ft³	Total Soil Loss, ft³		Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index
			2.19	-3.90		126.12	1.73	-3.09

9" High
Check
Location

CJS 6/30/2012 (Rev. 8/21/14)
Quality Review / Date

ASTM D7208		Date: 5/15/12		Start Time: 11:38 AM		End Time: 12:08 PM																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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<td>8.094</td> <td>8.198</td> <td>8.229</td> <td>8.198</td> <td>8.188</td> <td>8.010</td> <td>7.771</td> <td>32.231</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Soil Gain, ft</td> <td>0.000</td> <td>0.000</td> <td>0.010</td> <td>0.021</td> <td>0.021</td> <td>0.021</td> <td>0.010</td> <td>0.000</td> <td>0.000</td> <td>0.042</td> <td>0.125</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Clopper Soil Loss, ft</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">Avg Bottom Gain, ft</td> <td colspan="2">0.00</td> <td colspan="2">Avg Clopper Soil Loss, ft</td> <td colspan="2">0.00</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> </tr> <tr> <td colspan="2">Cross-section 7</td> <td colspan="2">A</td> <td colspan="2">B</td> <td 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Surf, ft</td> </tr> <tr> <td>To original Surface Elev, ft</td> <td>8.156</td> <td>8.375</td> <td>8.615</td> <td>8.688</td> <td>8.698</td> <td>8.688</td> <td>8.635</td> <td>8.469</td> <td>8.177</td> <td>34.184</td> <td></td> <td></td> <td></td> <td></td> <td>8.6</td> </tr> <tr> <td>To eroded Surface Elev, ft</td> <td>8.156</td> <td>8.375</td> <td>8.604</td> <td>8.729</td> <td>8.729</td> <td>8.719</td> <td>8.656</td> <td>8.469</td> <td>8.177</td> <td>34.247</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Soil Gain, ft</td> <td>0.000</td> <td>0.000</td> <td>0.010</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.003</td> <td>0.010</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Clopper Soil Loss, ft</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>-0.042</td> <td>-0.031</td> <td>-0.031</td> <td>-0.021</td> <td>0.000</td> <td>0.000</td> <td>-0.066</td> <td>-0.198</td> <td></td> <td></td> <td></td> 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<td>8.365</td> <td>8.594</td> <td>8.823</td> <td>9.000</td> <td>9.083</td> <td>9.083</td> <td>9.000</td> <td>8.885</td> <td>8.635</td> <td>35.510</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Soil Gain, ft</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Clopper Soil Loss, ft</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>-0.031</td> <td>-0.063</td> <td>-0.063</td> <td>-0.021</td> <td>0.000</td> <td>0.000</td> <td>-0.090</td> <td>-0.271</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">Avg Bottom Gain, ft</td> <td colspan="2">0.00</td> <td colspan="2">Avg Clopper Soil Loss, ft</td> <td colspan="2">-0.02</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> </tr> </tbody> </table>								Cross-section 1	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft	To original Surface Elev, ft	6.635	6.802	7.010	7.031	7.010	6.969	6.938	6.917	6.792	27.703					6.9	To eroded Surface Elev, ft	6.635	6.802	7.010	7.052	7.021	7.000	6.938	6.917	6.792	27.741						Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					Clopper Soil Loss, ft	0.000	0.000	0.000	-0.021	-0.010	-0.031	0.000	0.000	0.000	-0.038	-0.115					Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.01										Cross-section 2		A		B		C		D		E		F		G		H		I		[ft ²]		[in]		V @ 0.2d		V @ 0.6d		V @ 0.8d		To Water Surf, ft		To original Surface Elev, ft	6.719	6.958	7.188	7.344	7.344	7.344	7.271	7.104	6.865	28.698					7.3	To eroded Surface Elev, ft	6.719	6.958	7.188	7.354	7.354	7.354	7.271	7.104	6.865	28.715						Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					Clopper Soil Loss, ft	0.000	0.000	0.000	-0.010	-0.010	-0.010	0.000	0.000	0.000	-0.017	-0.052					Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		0.00										Cross-section 3		A		B		C		D		E		F		G		H		I		[ft ²]		[in]		V @ 0.2d		V @ 0.6d		V @ 0.8d		To Water Surf, ft		To original Surface Elev, ft	6.979	7.250	7.490	7.583	7.583	7.583	7.563	7.427	7.198	29.804					7.5	To eroded Surface Elev, ft	6.979	7.250	7.490	7.615	7.604	7.604	7.563	7.427	7.198	29.845						Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					Clopper Soil Loss, ft	0.000	0.000	0.000	-0.031	-0.021	-0.021	0.000	0.000	0.000	-0.042	-0.125					Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.01										Cross-section 4		A		B		C		D		E		F		G		H		I		[ft ²]		[in]		V @ 0.2d		V @ 0.6d		V @ 0.8d		To Water Surf, ft		To original Surface Elev, ft	7.208	7.438	7.677	7.771	7.823	7.823	7.781	7.615	7.375	30.622					7.5	To eroded Surface Elev, ft	7.208	7.438	7.677	7.781	7.833	7.833	7.781	7.615	7.375	30.639						Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					Clopper Soil Loss, ft	0.000	0.000	0.000	-0.010	-0.010	-0.010	0.000	0.000	0.000	-0.017	-0.052					Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		0.00										Cross-section 5		A		B		C		D		E		F		G		H		I		[ft ²]		[in]		V @ 0.2d		V @ 0.6d		V @ 0.8d		To Water Surf, ft		To original Surface Elev, ft	7.396	7.594	7.844	7.969	8.021	8.021	7.917	7.875	7.646	31.406					7.6	To eroded Surface Elev, ft	7.396	7.594	7.854	7.979	8.000	8.010	7.885	7.865	7.646	31.385						Soil Gain, ft	0.000	0.000	0.000	0.000	0.021	0.010	0.031	0.010	0.000	0.031	0.094					Clopper Soil Loss, ft	0.000	0.000	-0.010	-0.010	0.000	0.000	0.000	0.000	0.000	-0.010	-0.031					Avg Bottom Gain, ft		0.01		Avg Clopper Soil Loss, ft		0.00										Cross-section 6		A		B		C		D		E		F		G		H		I		[ft ²]		[in]		V @ 0.2d		V @ 0.6d		V @ 0.8d		To Water Surf, ft		To original Surface Elev, ft	7.594	7.844	8.104	8.219	8.250	8.219	8.198	8.010	7.771	32.273					7.7	To eroded Surface Elev, ft	7.594	7.844	8.094	8.198	8.229	8.198	8.188	8.010	7.771	32.231						Soil Gain, ft	0.000	0.000	0.010	0.021	0.021	0.021	0.010	0.000	0.000	0.042	0.125					Clopper Soil Loss, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		0.00										Cross-section 7		A		B		C		D		E		F		G		H		I		[ft ²]		[in]		V @ 0.2d		V @ 0.6d		V @ 0.8d		To Water Surf, ft		To original Surface Elev, ft	7.948	8.135	8.365	8.479	8.490	8.490	8.458	8.302	8.063	33.377					8.4	To eroded Surface Elev, ft	7.948	8.135	8.365	8.510	8.521	8.510	8.469	8.302	8.063	33.425						Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					Clopper Soil Loss, ft	0.000	0.000	0.000	-0.031	-0.031	-0.021	-0.010	0.000	0.000	-0.049	-0.146					Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.01										Cross-section 8		A		B		C		D		E		F		G		H		I		[ft ²]		[in]		V @ 0.2d		V @ 0.6d		V @ 0.8d		To Water Surf, ft		To original Surface Elev, ft	8.156	8.375	8.615	8.688	8.698	8.688	8.635	8.469	8.177	34.184					8.6	To eroded Surface Elev, ft	8.156	8.375	8.604	8.729	8.729	8.719	8.656	8.469	8.177	34.247						Soil Gain, ft	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.010					Clopper Soil Loss, ft	0.000	0.000	0.000	-0.042	-0.031	-0.031	-0.021	0.000	0.000	-0.066	-0.198					Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.01										Cross-section 9		A		B		C		D		E		F		G		H		I		[ft ²]		[in]		V @ 0.2d		V @ 0.6d		V @ 0.8d		To Water Surf, ft		To original Surface Elev, ft	8.365	8.594	8.823	8.969	9.021	9.021	8.979	8.885	8.635	35.420					9.0	To eroded Surface Elev, ft	8.365	8.594	8.823	9.000	9.083	9.083	9.000	8.885	8.635	35.510						Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					Clopper Soil Loss, ft	0.000	0.000	0.000	-0.031	-0.063	-0.063	-0.021	0.000	0.000	-0.090	-0.271					Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.02									
Cross-section 1	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Clopper Soil Loss, ft	0.000	0.000	0.000	-0.010	-0.010	-0.010	0.000	0.000	0.000	-0.017	-0.052																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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Cross-section 5		A		B		C		D		E		F		G		H		I		[ft ²]		[in]		V @ 0.2d		V @ 0.6d		V @ 0.8d		To Water Surf, ft																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
To original Surface Elev, ft	7.396	7.594	7.844	7.969	8.021	8.021	7.917	7.875	7.646	31.406					7.6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
To eroded Surface Elev, ft	7.396	7.594	7.854	7.979	8.000	8.010	7.885	7.865	7.646	31.385																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Soil Gain, ft	0.000	0.000	0.000	0.000	0.021	0.010	0.031	0.010	0.000	0.031	0.094																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Clopper Soil Loss, ft	0.000	0.000	-0.010	-0.010	0.000	0.000	0.000	0.000	0.000	-0.010	-0.031																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Avg Bottom Gain, ft		0.01		Avg Clopper Soil Loss, ft		0.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
Cross-section 6		A		B		C		D		E		F		G		H		I		[ft ²]		[in]		V @ 0.2d		V @ 0.6d		V @ 0.8d		To Water Surf, ft																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
To original Surface Elev, ft	7.594	7.844	8.104	8.219	8.250	8.219	8.198	8.010	7.771	32.273					7.7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
To eroded Surface Elev, ft	7.594	7.844	8.094	8.198	8.229	8.198	8.188	8.010	7.771	32.231																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Soil Gain, ft	0.000	0.000	0.010	0.021	0.021	0.021	0.010	0.000	0.000	0.042	0.125																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Clopper Soil Loss, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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Cross-section 7		A		B		C		D		E		F		G		H		I		[ft ²]		[in]		V @ 0.2d		V @ 0.6d		V @ 0.8d		To Water Surf, ft																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
To original Surface Elev, ft	7.948	8.135	8.365	8.479	8.490	8.490	8.458	8.302	8.063	33.377					8.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
To eroded Surface Elev, ft	7.948	8.135	8.365	8.510	8.521	8.510	8.469	8.302	8.063	33.425																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Clopper Soil Loss, ft	0.000	0.000	0.000	-0.031	-0.031	-0.021	-0.010	0.000	0.000	-0.049	-0.146																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.01																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
Cross-section 8		A		B		C		D		E		F		G		H		I		[ft ²]		[in]		V @ 0.2d		V @ 0.6d		V @ 0.8d		To Water Surf, ft																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
To original Surface Elev, ft	8.156	8.375	8.615	8.688	8.698	8.688	8.635	8.469	8.177	34.184					8.6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
To eroded Surface Elev, ft	8.156	8.375	8.604	8.729	8.729	8.719	8.656	8.469	8.177	34.247																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Soil Gain, ft	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.010																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Clopper Soil Loss, ft	0.000	0.000	0.000	-0.042	-0.031	-0.031	-0.021	0.000	0.000	-0.066	-0.198																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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Cross-section 9		A		B		C		D		E		F		G		H		I		[ft ²]		[in]		V @ 0.2d		V @ 0.6d		V @ 0.8d		To Water Surf, ft																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
To original Surface Elev, ft	8.365	8.594	8.823	8.969	9.021	9.021	8.979	8.885	8.635	35.420					9.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
To eroded Surface Elev, ft	8.365	8.594	8.823	9.000	9.083	9.083	9.000	8.885	8.635	35.510																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Clopper Soil Loss, ft	0.000	0.000	0.000	-0.031	-0.063	-0.063	-0.021	0.000	0.000	-0.090	-0.271																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.02																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
Soil Gain, in		0.000		0.000		0.001		0.000		0.001		0.002		0.001		0.000		Volume																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Clopper Soil Loss, in		0.000		0.000		-0.001		-0.009		-0.008		-0.009		-0.002		0.000		0.000		[ft ³]		[in]																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
Trapezoidal Analysis		Original Surface Elev		752.587		1 thru 6:		X-Section Spacing, ft = 5		Original Surface Elev		342.912		7 thru 9:		X-Section Spacing, ft = 5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
		Eroded Surface Elev		752.856				Test Section Length, ft = 40		Eroded Surface Elev		343.572				Test Section Length, ft = 40																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
		Soil Gain		0.260		0.020		gauge spacing, ft = 0.5		Soil Gain		0.017		0.001		gauge spacing, ft = 0.5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
		CSLI		-0.530		-0.040		channel width measured, ft = 4		CSLI		-0.677		-0.051		channel width measured, ft = 4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									



TYPICAL TEST PICTURES

0.5 cfs Flow



Check Structure Installation over Bare Soil



Initial Flow & Upstream Ponding



Increased Ponding and Overtopping



End-of-test and Post-test condition.

ASTM D7208		Date: 6/13/12	Start Time: 3:58 PM	End Time: 4:28 PM																	
60 ft long flume 40 ft test section		Soil: Sandy Clay	Target Flow (cfs): 1.00	Slope: 5%																	
2 ft wide flume		SRD: Filtrex Sock	Installation: Wooden Stakes																		
		TEST DATA													Channel Targets						
Outlet Weir												Weir									
FLOW												Water Depth, in			0.00						
Weir width (ft) = 2												Water Velocity, ft/s			0.00						
0 ft		C	D	E	F	G	H											Flow Rate, cfs		0.00	
5 ft	Cross-section 1		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft				
	To original Surface Elev, ft		1.857	2.123	2.359	2.415	2.421	2.434	2.434	2.274	2.008	9.213				3.2	2.3				
	To eroded Surface Elev, ft		1.857	2.123	2.359	2.428	2.438	2.470	2.434	2.274	2.008	9.251		Vavg (fps) = 3.20		Bed Max Shear Stress (psf)	Water Depth (ft)				
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg = 0.026							
10 ft	Cross-section 2		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft				
	To original Surface Elev, ft		2.087	2.313	2.582	2.638	2.651	2.657	2.641	2.477	2.224	10.067				3.4	2.5				
	To eroded Surface Elev, ft		2.087	2.313	2.595	2.648	2.667	2.684	2.657	2.477	2.224	10.106		Vavg (fps) = 3.40		Bed Max Shear Stress (psf)	Water Depth (ft)				
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg = 0.024							
15 ft	Cross-section 3		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft				
	To original Surface Elev, ft		1.791	2.060	2.326	2.362	2.382	2.385	2.382	2.215	1.985	9.008				3	2.3				
	To eroded Surface Elev, ft		1.791	2.060	2.333	2.392	2.392	2.395	2.431	2.228	1.985	9.064		Vavg (fps) = 3.00		Bed Max Shear Stress (psf)	Water Depth (ft)				
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg = 0.028							
20 ft	Cross-section 4		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft				
	To original Surface Elev, ft		1.959	2.215	2.444	2.493	2.503	2.493	2.497	2.323	2.139	9.514				0.3	2.2				
	To eroded Surface Elev, ft		1.959	2.215	2.451	2.493	2.503	2.497	2.497	2.323	2.139	9.518		Vavg (fps) = 0.30		Bed Max Shear Stress (psf)	Water Depth (ft)				
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg = 0.502							
25 ft	Cross-section 5		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft				
	To original Surface Elev, ft		1.634	1.903	2.159	2.254	2.297	2.306	2.339	2.172	1.939	8.617				0.21	1.9				
	To eroded Surface Elev, ft		1.634	1.906	2.142	2.185	2.313	2.293	2.339	2.172	1.939	8.565		Vavg (fps) = 0.21		Bed Max Shear Stress (psf)	Water Depth (ft)				
	Soil Gain, ft		0.000	0.000	0.016	0.069	0.000	0.013	0.000	0.000	0.000	0.060	0.180	navg = 0.897							
30 ft	Cross-section 6		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft				
	To original Surface Elev, ft		1.827	2.073	2.320	2.336	2.346	2.359	2.316	2.195	1.978	8.937				0.61	1.8				
	To eroded Surface Elev, ft		1.827	2.096	2.287	2.260	2.283	2.313	2.274	2.192	1.978	8.823		Vavg (fps) = 0.61		Bed Max Shear Stress (psf)	Water Depth (ft)				
	Soil Gain, ft		0.000	0.000	0.033	0.075	0.062	0.046	0.043	0.003	0.000	0.129	0.387	navg = 0.333							
35 ft	Cross-section 7		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft				
	To original Surface Elev, ft		1.637	1.886	2.126	2.169	2.169	2.169	2.103	2.067	1.824	8.237				2.59	2.1				
	To eroded Surface Elev, ft		1.637	1.886	2.126	2.195	2.201	2.205	2.149	2.067	1.824	8.304		Vavg (fps) = 2.59		Bed Max Shear Stress (psf)	Water Depth (ft)				
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg = 0.036							
40 ft	Cross-section 8		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft				
	To original Surface Elev, ft		1.867	2.116	2.329	2.372	2.382	2.385	2.375	2.175	1.936	9.028				3	2.3				
	To eroded Surface Elev, ft		1.867	2.116	2.372	2.402	2.415	2.405	2.425	2.175	1.936	9.103		Vavg (fps) = 3.00		Bed Max Shear Stress (psf)	Water Depth (ft)				
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg = 0.029							
40 ft	Cross-section 9		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft				
	To original Surface Elev, ft		1.742	1.978	2.195	2.306	2.346	2.326	2.283	2.096	1.854	8.679				3.42	2.3				
	To eroded Surface Elev, ft		1.742	1.978	2.195	2.372	2.392	2.408	2.346	2.096	1.854	8.813		Vavg (fps) = 3.42		Bed Max Shear Stress (psf)	Water Depth (ft)				
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg = 0.025							
Clopper Soil Loss, ft		0.000	0.000	-0.043	-0.030	-0.033	-0.020	-0.049	0.000	0.000	-0.074	-0.223	Flow (cfs) = 0.81		0.42	0.13					
Avg Bottom Gain, ft		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
Avg Clopper Soil Loss, ft		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
Soil Gain, in		0.000	0.000	0.001	0.004	0.000	0.001	0.000	0.000	0.000	0.000	0.000	Volume	Avg Bottom Gain per Xsection, ft = 0.000							
Clopper Soil Loss, in		0.000	0.000	-0.004	-0.008	-0.008	-0.010	-0.010	-0.001	0.000	0.000	0.000	[ft ³]	[in]	Avg Clopper Soil Loss per Xsection, ft = -0.007						
Trapezoidal Analysis	Original Surface Elev	231.400	1 thru 6:	X-Section Spacing, ft = 5				Original Surface Elev	87.430	7 thru 9:	X-Section Spacing, ft = 5										
	Eroded Surface Elev	231.452		Test Section Length, ft = 40				Eroded Surface Elev	88.308		Test Section Length, ft = 40										
	Soil Gain	0.623	gauge spacing, ft = 0.5				Soil Gain	0.000	gauge spacing, ft = 0.5												
	CSLI	-0.675	channel width measured, ft = 4				CSLI	-0.878	channel width measured, ft = 4												



TYPICAL TEST PICTURES

1.0 cfs Flow



Check Structure Installation over Bare Soil



Initial Flow & Upstream Ponding with Overtopping



Increased Ponding and Overtopping. No Apparent Underflow



End-of-test and Post-test With Upstream Sediment Deposition

ASTM D7208		Date: 5/22/12		Start Time: 3:21 AM		End Time: 3:51 PM																			
60 ft long flume		40 ft test section		Soil: Sandy Clay		Target Flow (cfs): 2.00		Slope: 5%																	
2 ft wide flume		RECIP: Filtrex Sock		Anchorage: Wooden Stakes																					
TEST DATA																									
1 2 3										Weir		Channel Targets													
FLOW										Water Depth, in		0.00													
Weir width (ft) = 2										Water Velocity, ft/s		0.00													
0 ft C D E F G H										Flow Rate, cfs		0.00													
5 ft	Cross-section 1		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft								
	To original Surface Elev, ft		4.906	5.198	5.344	5.417	5.458	5.417	5.354	5.208	5.063	21.207				4.6		5.3							
	To eroded Surface Elev, ft		4.906	5.198	5.344	5.458	5.500	5.438	5.354	5.208	5.063	21.262			Vavg (fps) =	4.60	Bed Max Shear Stress (psf)	Water Depth (ft)							
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.023									
	Clopper Soil Loss, ft		0.000	0.000	0.000	-0.042	-0.042	-0.021	0.000	0.000	0.000	-0.056	-0.167	Flow (cfs) =	2.00		0.55	0.18							
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.01																	
10 ft	Cross-section 2		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft								
	To original Surface Elev, ft		4.990	5.292	5.500	5.625	5.667	5.625	5.583	5.458	5.188	21.946				4.8		5.6							
	To eroded Surface Elev, ft		4.990	5.292	5.500	5.625	5.719	5.698	5.667	5.458	5.188	22.040			Vavg (fps) =	4.80	Bed Max Shear Stress (psf)	Water Depth (ft)							
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.021									
	Clopper Soil Loss, ft		0.000	0.000	0.000	0.000	-0.052	-0.073	-0.083	0.000	0.000	-0.094	-0.281	Flow (cfs) =	2.00		0.52	0.17							
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.02																	
15 ft	Cross-section 3		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft								
	To original Surface Elev, ft		5.302	5.573	5.813	5.917	5.938	5.938	5.896	5.740	5.500	23.127				4.5		5.8							
	To eroded Surface Elev, ft		5.302	5.573	5.833	5.917	5.969	5.958	5.927	5.740	5.500	23.168			Vavg (fps) =	4.50	Bed Max Shear Stress (psf)	Water Depth (ft)							
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.023									
	Clopper Soil Loss, ft		0.000	0.000	-0.021	0.000	-0.031	-0.021	-0.031	0.000	0.000	-0.042	-0.125	Flow (cfs) =	1.59		0.55	0.18							
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.01																	
20 ft	Cross-section 4		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft								
	To original Surface Elev, ft		5.458	5.708	5.990	6.063	6.104	6.125	6.083	5.906	5.688	23.785				0.39		5.8							
	To eroded Surface Elev, ft		5.458	5.750	5.979	6.104	6.167	6.156	6.146	5.906	5.688	23.899			Vavg (fps) =	0.39	Bed Max Shear Stress (psf)	Water Depth (ft)							
	Soil Gain, ft		0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.003	0.010	0.010	navg =	0.451										
	Clopper Soil Loss, ft		0.000	-0.042	0.000	-0.042	-0.063	-0.031	-0.063	0.000	0.000	-0.118	-0.354	Flow (cfs) =	0.30		1.20	0.39							
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.03																	
25 ft	Cross-section 5		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft								
	To original Surface Elev, ft		5.615	5.896	6.146	6.281	6.313	6.323	6.323	6.229	6.010	24.684				0.23		5.8							
	To eroded Surface Elev, ft		5.708	6.125	6.177	6.115	6.219	6.292	6.313	6.208	6.135	24.703			Vavg (fps) =	0.23	Bed Max Shear Stress (psf)	Water Depth (ft)							
	Soil Gain, ft		0.000	0.000	0.000	0.167	0.094	0.031	0.010	0.021	0.000	0.181	0.542	navg =	0.833										
	Clopper Soil Loss, ft		-0.094	-0.229	-0.031	0.000	0.000	0.000	0.000	0.000	-0.125	-0.200	-0.599	Flow (cfs) =	0.20		1.36	0.44							
		Avg Bottom Gain, ft		0.04		Avg Clopper Soil Loss, ft		-0.05																	
30 ft	Cross-section 6		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft								
	To original Surface Elev, ft		5.823	6.104	6.333	6.479	6.563	6.521	6.490	6.365	6.083	25.425				0.65		5.9							
	To eroded Surface Elev, ft		6.063	6.240	6.375	6.146	6.146	6.302	6.521	6.406	6.292	25.135			Vavg (fps) =	0.65	Bed Max Shear Stress (psf)	Water Depth (ft)							
	Soil Gain, ft		0.000	0.000	0.000	0.333	0.417	0.219	0.000	0.000	0.000	0.507	1.521	navg =	0.214										
	Clopper Soil Loss, ft		-0.240	-0.135	-0.042	0.000	0.000	0.000	-0.031	-0.042	-0.208	-0.217	-0.651	Flow (cfs) =	0.35		0.84	0.27							
		Avg Bottom Gain, ft		0.11		Avg Clopper Soil Loss, ft		-0.08																	
35 ft	Cross-section 7		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft								
	To original Surface Elev, ft		6.146	6.396	6.656	6.771	6.802	6.813	6.792	6.646	6.396	26.590				3.3		6.6							
	To eroded Surface Elev, ft		6.156	6.406	6.656	6.802	6.833	6.854	6.823	6.688	6.396	26.696			Vavg (fps) =	3.30	Bed Max Shear Stress (psf)	Water Depth (ft)							
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.041										
	Clopper Soil Loss, ft		-0.010	-0.010	0.000	-0.031	-0.031	-0.042	-0.031	-0.042	0.000	-0.106	-0.318	Flow (cfs) =	1.72		0.81	0.26							
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.02																	
40 ft	Cross-section 8		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft								
	To original Surface Elev, ft		6.438	6.698	6.948	7.021	7.021	7.010	6.958	6.771	6.427	27.453				4.4		6.9							
	To eroded Surface Elev, ft		6.438	6.698	6.958	7.042	7.063	7.063	6.969	6.771	6.427	27.523			Vavg (fps) =	4.40	Bed Max Shear Stress (psf)	Water Depth (ft)							
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.025										
	Clopper Soil Loss, ft		0.000	0.000	-0.010	-0.021	-0.042	-0.052	-0.010	0.000	0.000	-0.069	-0.208	Flow (cfs) =	1.65		0.58	0.19							
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.02																	
40 ft	Cross-section 9		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft								
	To original Surface Elev, ft		6.740	6.979	7.229	7.292	7.396	7.333	7.281	7.094	6.854	28.700				4.7		7.3							
	To eroded Surface Elev, ft		6.740	6.979	7.235	7.365	7.458	7.417	7.313	7.094	6.854	28.837			Vavg (fps) =	4.70	Bed Max Shear Stress (psf)	Water Depth (ft)							
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.022										
	Clopper Soil Loss, ft		0.000	0.000	-0.006	-0.073	-0.063	-0.083	-0.031	0.000	0.000	-0.138	-0.413	Flow (cfs) =	1.66		0.55	0.18							
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft		-0.03																	
		Soil Gain, in		0.000		0.000		0.001		0.009		0.005		0.002		0.001		0.001		0.000		Volume		Avg Bottom Gain per Xsection, ft = 0.000	
		Clopper Soil Loss, in		-0.005		-0.015		-0.004		-0.010		-0.016		-0.016		-0.012		0.000		-0.007		[ft ²]		Avg Clopper Soil Loss per Xsection, ft = -0.012	
Trapezoidal Analysis	Original Surface Elev		584.288		1 thru 6:		X-Section Spacing, ft = 5		Original Surface Elev		275.490		7 thru 9:		X-Section Spacing, ft = 5										
	Eroded Surface Elev		585.048				Test Section Length, ft = 40		Eroded Surface Elev		276.446				Test Section Length, ft = 40										
	Soil Gain		2.188		0.164		gauge spacing, ft = 0.5		Soil Gain		0.000		0.000		gauge spacing, ft = 0.5										
	CSLI		-2.947		-0.221		channel width measured, ft = 4		CSLI		-0.956		-0.072		channel width measured, ft = 4										



TYPICAL TEST PICTURES

2.0 cfs Flow



Check Structure Installation over Bare Soil



Initial Flow & Upstream Ponding



Increased Ponding and Overtopping



End-of-test and Post-test condition.



Project: ASTM D 7208: Standard Test Method for Determination of Temporary Ditch Check Performance in Protecting Earthen Channels from Stormwater-Induced Erosion.

Test Setup: Trapezoid with 2-ft wide bottom and 2:1 side slopes x 40-ft long; 5% Bed Slope;

Client: GSWCC

Product: Rock Check over Geotextile

Flow: 0.5 cfs for 30 minutes

Test Date: 6/8/2012

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf	
0	0.00	-0.09	0.00	-0.034	1.46	6.36	2.80	0.38	
5	0.00	-0.11	0.00	-0.044	1.06	11.98	3.00	0.28	
10	0.00	-0.09	0.00	-0.035	1.50	12.79	2.69	0.39	
15	0.00	-0.09	0.00	-0.042	3.19	15.94	1.72	0.83	
20	0.00	-0.10	0.00	-0.021	5.39	20.05	1.65	1.40	
25	1.02	-0.05	0.39	-0.026	5.24	19.76	0.50	1.36	
30	0.00	-0.08	0.00	-0.027	1.81	13.37	2.20	0.47	
35	0.00	-0.26	0.00	-0.086	1.42	12.64	2.68	0.37	
40	0.00	-0.21	0.00	-0.079	1.10	6.03	3.10	0.29	
			Total Soil Gain, ft³	Total Soil Loss, ft³			Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index
			0.97	-1.55			118.92	0.82	-1.31

15" High Check Location

Flow: 1.0 cfs for 30 minutes

Test Date: 6/19/2012

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf	
0	0.00	-0.22	0.00	-0.087	1.97	6.83	3.71	0.51	
5	0.00	-0.29	0.00	-0.108	1.57	12.93	3.98	0.41	
10	0.00	-0.30	0.00	-0.106	1.73	13.23	3.87	0.45	
15	0.22	-0.24	0.08	-0.078	5.75	20.71	2.35	1.49	
20	0.86	-0.32	0.32	-0.121	6.38	21.88	1.28	1.66	
25	0.90	-0.14	0.35	-0.018	8.35	25.55	0.37	2.17	
30	0.00	-0.10	0.00	-0.039	2.09	13.89	2.04	0.54	
35	0.00	-0.15	0.00	-0.043	1.69	13.15	3.10	0.44	
40	0.00	-0.34	0.00	-0.118	1.54	6.43	3.43	0.40	
			Total Soil Gain, ft³	Total Soil Loss, ft³			Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index
			2.87	-2.94			134.62	2.13	-2.18

15" High Check Location

Flow: 2.0 cfs for 30 minutes

Test Date: 6/19/2012

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf	
0	0.00	-0.26	0.00	-0.102	3.03	7.82	4.37	0.79	
5	0.00	-0.26	0.00	-0.094	1.97	13.67	5.05	0.51	
10	0.00	-0.27	0.00	-0.094	2.17	14.03	4.95	0.56	
15	0.17	-0.21	0.06	-0.068	5.47	20.20	3.84	1.42	
20	0.48	-0.31	0.18	-0.102	7.56	24.09	1.80	1.96	
25	1.14	-0.49	0.42	-0.119	9.45	27.61	0.86	2.46	
30	0.00	-0.06	0.00	-0.019	2.76	15.14	3.60	0.72	
35	0.00	-0.52	0.00	-0.167	2.17	14.03	4.42	0.56	
40	0.00	-0.46	0.00	-0.175	2.09	6.94	4.80	0.54	
			Total Soil Gain, ft³	Total Soil Loss, ft³			Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index
			2.22	-3.66			143.53	1.54	-2.55

15" High Check Location

ASTM D7208		Date: 6/8/12		Start Time: 3:58 PM		End Time: 4:28 PM													
60 ft long flume		40 ft test section		Soil: Sandy Clay		Target Flow (cfs): 0.50		Slope: 5%											
SRD: Rock Check		Installation: over Geotextile																	
2 ft wide flume		TEST DATA																	
1 2 3		Outlet Weir									Channel Targets								
FLOW		Water Depth, in									1.00								
Weir width (ft) = 2		Water Velocity, ft/s									3 - 4								
0 ft C D E F G H		Flow Rate, cfs									0.50								
5 ft	Cross-section 1		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft		
	To original Surface Elev, ft		1.873	2.139	2.349	2.431	2.444	2.461	2.438	2.260	2.021	9.254					2.3		
	To eroded Surface Elev, ft		1.873	2.139	2.352	2.451	2.467	2.477	2.441	2.260	2.021	9.288					2.3		
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
	Clopper Soil Loss, ft		0.000	0.000	-0.003	-0.020	-0.023	-0.016	-0.003	0.000	0.000	-0.034	-0.102	Flow (cfs) =	0.50		0.38	0.12	
	Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft							-0.01							
	Vavg (fps) =		2.80									3.00		Bed Max Shear Stress (psf)		Water Depth (ft)			
	navg =		0.029									0.022							
	Flow (cfs) =		0.50									0.50							
10 ft	Cross-section 2		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft		
	To original Surface Elev, ft		2.073	2.326	2.579	2.677	2.684	2.677	2.671	2.474	2.241	10.133					2.6		
	To eroded Surface Elev, ft		2.073	2.326	2.579	2.687	2.700	2.717	2.687	2.474	2.241	10.177					2.6		
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
	Clopper Soil Loss, ft		0.000	0.000	0.000	-0.010	-0.016	-0.039	-0.016	0.000	0.000	-0.044	-0.131	Flow (cfs) =	0.50		0.28	0.09	
	Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft							-0.01							
	Vavg (fps) =		3.00									3.00		Bed Max Shear Stress (psf)		Water Depth (ft)			
	navg =		0.022									0.022							
	Flow (cfs) =		0.50									0.50							
15 ft	Cross-section 3		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft		
	To original Surface Elev, ft		1.824	2.087	2.349	2.444	2.461	2.470	2.457	2.277	2.044	9.253					2.4		
	To eroded Surface Elev, ft		1.824	2.087	2.356	2.461	2.484	2.490	2.461	2.277	2.044	9.288					2.4		
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
	Clopper Soil Loss, ft		0.000	0.000	-0.007	-0.016	-0.023	-0.020	-0.003	0.000	0.000	-0.035	-0.105	Flow (cfs) =	0.50		0.39	0.12	
	Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft							-0.01							
	Vavg (fps) =		2.69									2.69		Bed Max Shear Stress (psf)		Water Depth (ft)			
	navg =		0.031									0.031							
	Flow (cfs) =		0.50									0.50							
20 ft	Cross-section 4		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft		
	To original Surface Elev, ft		1.932	2.185	2.441	2.559	2.569	2.592	2.569	2.388	2.152	9.690					2.3		
	To eroded Surface Elev, ft		1.932	2.185	2.441	2.572	2.579	2.635	2.572	2.388	2.152	9.732					2.3		
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
	Clopper Soil Loss, ft		0.000	0.000	0.000	-0.013	-0.010	-0.043	-0.003	0.000	0.000	-0.042	-0.125	Flow (cfs) =	0.50		0.83	0.27	
	Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft							-0.01							
	Vavg (fps) =		1.72									1.72		Bed Max Shear Stress (psf)		Water Depth (ft)			
	navg =		0.080									0.080							
	Flow (cfs) =		0.50									0.50							
25 ft	Cross-section 5		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft		
	To original Surface Elev, ft		1.637	1.919	2.142	2.280	2.303	2.326	2.280	2.159	1.939	8.628					1.9		
	To eroded Surface Elev, ft		1.637	1.919	2.156	2.283	2.310	2.329	2.290	2.159	1.978	8.648					1.9		
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
	Clopper Soil Loss, ft		0.000	0.000	-0.013	-0.003	-0.007	-0.003	-0.010	0.000	-0.039	-0.021	-0.062	Flow (cfs) =	0.50		1.40	0.45	
	Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft							-0.01							
	Vavg (fps) =		1.65									1.65		Bed Max Shear Stress (psf)		Water Depth (ft)			
	navg =		0.118									0.118							
	Flow (cfs) =		0.50									0.50							
30 ft	Cross-section 6		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft		
	To original Surface Elev, ft		1.857	2.087	2.339	2.421	2.434	2.425	2.434	2.218	1.995	9.145					1.8		
	To eroded Surface Elev, ft		1.837	2.077	2.270	2.270	2.241	2.178	2.356	2.257	1.995	8.783					1.8		
	Soil Gain, ft		0.020	0.010	0.069	0.151	0.194	0.246	0.079	0.000	0.000	0.388	1.165	navg =	0.382				
	Clopper Soil Loss, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.039	0.000	-0.026	-0.079	Flow (cfs) =	0.44		1.36	0.44	
	Avg Bottom Gain, ft		0.09		Avg Clopper Soil Loss, ft							0.00							
	Vavg (fps) =		0.50									0.50		Bed Max Shear Stress (psf)		Water Depth (ft)			
	navg =		0.382									0.382							
	Flow (cfs) =		0.44									0.44							
35 ft	Cross-section 7		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft		
	To original Surface Elev, ft		1.617	1.873	2.100	2.211	2.238	2.238	2.215	2.037	1.827	8.331					2.1		
	To eroded Surface Elev, ft		1.617	1.873	2.110	2.215	2.244	2.241	2.234	2.054	1.827	8.358					2.1		
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
	Clopper Soil Loss, ft		0.000	0.000	-0.010	-0.003	-0.007	-0.003	-0.020	-0.016	0.000	-0.027	-0.082	Flow (cfs) =	0.66		0.47	0.15	
	Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft							-0.01							
	Vavg (fps) =		2.20									2.20		Bed Max Shear Stress (psf)		Water Depth (ft)			
	navg =		0.043									0.043							
	Flow (cfs) =		0.66									0.66							
40 ft	Cross-section 8		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft		
	To original Surface Elev, ft		1.847	2.110	2.346	2.425	2.444	2.434	2.408	2.192	1.939	9.137					2.4		
	To eroded Surface Elev, ft		1.847	2.110	2.379	2.470	2.500	2.454	2.448	2.192	1.939	9.224					2.4		
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
	Clopper Soil Loss, ft		0.000	0.000	-0.033	-0.046	-0.056	-0.020	-0.039	0.000	0.000	-0.086	-0.259	Flow (cfs) =	0.63		0.37	0.12	
	Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft							-0.02							
	Vavg (fps) =		2.68									2.68		Bed Max Shear Stress (psf)		Water Depth (ft)			
	navg =		0.030									0.030							
	Flow (cfs) =		0.63									0.63							
Trapezoidal Analysis	Cross-section 9		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft		
	To original Surface Elev, ft		1.765	1.995	2.185	2.323	2.326	2.306	2.297	2.073	1.818	8.665					2.3		
	To eroded Surface Elev, ft		1.765	1.995	2.208	2.362	2.372	2.343	2.313	2.073	1.818	8.743					2.3		
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
	Clopper Soil Loss, ft		0.000	0.000	-0.023	-0.039	-0.046	-0.036	-0.016	0.000	0.000	-0.079	-0.236	Flow (cfs) =	0.57		0.29	0.09	
	Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft							-0.02							
	Vavg (fps) =		3.10									3.10		Bed Max Shear Stress (psf)		Water Depth (ft)			
	navg =		0.022									0.022							
	Flow (cfs) =		0.57									0.57							
Soil Loss / Gain, in		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Volume	Avg Bottom Gain per Xsection, ft = 0.000					
Clopper Soil Loss, in		0.000	0.000	-0.004	-0.008	-0.010	-0.010	-0.005	0.000	-0.002	0.000	0.000	Volume	Avg Clopper Soil Loss per Xsection, ft = -0.022					
Trapezoidal Analysis	Original Surface Elev		234.510	1 thru 6:	X-Section Spacing, ft = 5				Original Surface Elev		88.175	7 thru 9:	X-Section Spacing, ft = 5						
	Eroded Surface Elev		234.396		Test Section Length, ft = 40				Eroded Surface Elev		88.872		Test Section Length, ft = 40						
	Soil Gain		0.971		gauge spacing, ft = 0.5				Soil Gain		0.000		gauge spacing, ft = 0.5						
	CSLI		-0.856		channel width measured, ft = 4				CSLI		-0.697		channel width measured, ft = 4						



TYPICAL TEST PICTURES

0.5 cfs Flow



Check Structure Installation over Bare Soil



Initial Flow & Upstream Ponding



Increased Ponding and Seepage



End-of-test and Post-test condition.



ASTM D7208		Date: 6/19/12		Start Time: 2:58 AM		End Time: 3:28 PM									
60 ft long flume 40 ft test section		Soil: Sandy Clay		Target Flow (cfs): 1.00		Slope: 5%									
2 ft wide flume		RECP: Rock Check		Anchorage: over Geotextile											
1 2 3		TEST DATA													
FLOW		Outlet Weir										Channel Targets			
Weir width (ft) = 2		Water Depth, in										1.50			
0 ft C D E F G H		Water Velocity, ft/s										4 - 5			
5 ft		Flow Rate, cfs										1.00			
10 ft		Cross-section 1										To Water Surf, ft			
15 ft		To original Surface Elev, ft										2.2			
20 ft		To eroded Surface Elev, ft										2.2			
25 ft		Soil Gain, ft										0.000			
30 ft		Clopper Soil Loss, ft										0.000			
35 ft		Avg Bottom Gain, ft										0.00			
40 ft		Avg Clopper Soil Loss, ft										-0.02			
		Cross-section 2										To Water Surf, ft			
		To original Surface Elev, ft										2.4			
		To eroded Surface Elev, ft										2.4			
		Soil Gain, ft										0.000			
		Clopper Soil Loss, ft										0.000			
		Avg Bottom Gain, ft										0.00			
		Avg Clopper Soil Loss, ft										-0.02			
		Cross-section 3										To Water Surf, ft			
		To original Surface Elev, ft										2.3			
		To eroded Surface Elev, ft										2.3			
		Soil Gain, ft										0.000			
		Clopper Soil Loss, ft										0.000			
		Avg Bottom Gain, ft										0.00			
		Avg Clopper Soil Loss, ft										-0.03			
		Cross-section 4										To Water Surf, ft			
		To original Surface Elev, ft										2.1			
		To eroded Surface Elev, ft										2.1			
		Soil Gain, ft										0.000			
		Clopper Soil Loss, ft										0.000			
		Avg Bottom Gain, ft										0.02			
		Avg Clopper Soil Loss, ft										-0.02			
		Cross-section 5										To Water Surf, ft			
		To original Surface Elev, ft										1.7			
		To eroded Surface Elev, ft										1.7			
		Soil Gain, ft										0.000			
		Clopper Soil Loss, ft										-0.033			
		Avg Bottom Gain, ft										0.00			
		Avg Clopper Soil Loss, ft										-0.03			
		Cross-section 6										To Water Surf, ft			
		To original Surface Elev, ft										1.7			
		To eroded Surface Elev, ft										1.7			
		Soil Gain, ft										0.000			
		Clopper Soil Loss, ft										-0.108			
		Avg Bottom Gain, ft										0.08			
		Avg Clopper Soil Loss, ft										-0.01			
		Cross-section 7										To Water Surf, ft			
		To original Surface Elev, ft										2.0			
		To eroded Surface Elev, ft										2.0			
		Soil Gain, ft										0.000			
		Clopper Soil Loss, ft										0.000			
		Avg Bottom Gain, ft										0.00			
		Avg Clopper Soil Loss, ft										-0.03			
		Cross-section 8										To Water Surf, ft			
		To original Surface Elev, ft										2.3			
		To eroded Surface Elev, ft										2.3			
		Soil Gain, ft										0.000			
		Clopper Soil Loss, ft										0.000			
		Avg Bottom Gain, ft										0.00			
		Avg Clopper Soil Loss, ft										-0.01			
		Cross-section 9										To Water Surf, ft			
		To original Surface Elev, ft										2.3			
		To eroded Surface Elev, ft										2.3			
		Soil Gain, ft										0.000			
		Clopper Soil Loss, ft										0.000			
		Avg Bottom Gain, ft										0.00			
		Avg Clopper Soil Loss, ft										-0.03			
		Soil Loss / Gain, in										0.000			
		Clopper Soil Loss, in										-0.002			
		Volume										Avg Bottom Gain per Xsection, ft = 0.000			
		[ft ³] [in]										Avg Clopper Soil Loss per Xsection, ft = -0.013			
Trapezoidal Analysis		Original Surface Elev		1 thru 6:		X-Section Spacing, ft = 5		Original Surface Elev		7 thru 9:		X-Section Spacing, ft = 5			
		Eroded Surface Elev		6:		Test Section Length, ft = 40		Eroded Surface Elev		9:		Test Section Length, ft = 40			
		Soil Gain		2.871		0.215		gauge spacing, ft = 0.5		0.000		0.000		gauge spacing, ft = 0.5	
		CSLI		-2.331		-0.175		channel width measured, ft = 4		-0.607		-0.046		channel width measured, ft = 4	



TYPICAL TEST PICTURES

1.0 cfs Flow



Check Structure Installation over Bare Soil



Initial Flow & Upstream Ponding



Increased Ponding & Overtopping



End-of-test and Post-test

ASTM D7208		Date: 6/19/12	Start Time: 4:44 AM	End Time: 5:14 PM												
60 ft long flume		Soil: Sandy Clay		Target Flow (cfs): 2.00												
40 ft test section		RECP: Rock Check	Anchorage: over Geotextile													
2 ft wide flume		TEST DATA														
1 2 3		Weir		Channel Targets												
FLOW		Water Depth, in		1.50												
Weir width (ft) = 2		Water Velocity, ft/s		5 - 6												
0 ft C D E F G H		Flow Rate, cfs		2.00												
5 ft		Cross-section 1		To Water Surf, ft												
		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft 1.837 2.054 2.320 2.385 2.388 2.379 2.444 2.274 1.939 9.074														
		To eroded Surface Elev, ft 1.837 2.054 2.320 2.411 2.441 2.464 2.474 2.274 1.939 9.176														
		Soil Gain, ft 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000														
		Clopper Soil Loss, ft 0.000 0.000 0.000 -0.026 -0.052 -0.085 -0.030 0.000 0.000 -0.102 -0.305														
		Avg Bottom Gain, ft 0.00 Avg Clopper Soil Loss, ft -0.02														
		Cross-section 2		To Water Surf, ft												
		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft 2.041 2.280 2.543 2.602 2.625 2.615 2.615 2.441 2.201 9.926														
		To eroded Surface Elev, ft 2.041 2.280 2.559 2.625 2.690 2.680 2.638 2.441 2.198 10.020														
		Soil Gain, ft 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.003 0.001 0.002														
		Clopper Soil Loss, ft 0.000 0.000 -0.016 -0.023 -0.066 -0.066 -0.023 0.000 0.000 -0.094 -0.282														
		Avg Bottom Gain, ft 0.00 Avg Clopper Soil Loss, ft -0.02														
		Cross-section 3		To Water Surf, ft												
		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft 1.729 1.988 2.280 2.346 2.346 2.349 2.388 2.172 1.962 8.857														
		To eroded Surface Elev, ft 1.729 1.988 2.287 2.408 2.444 2.369 2.402 2.172 1.962 8.951														
		Soil Gain, ft 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000														
		Clopper Soil Loss, ft 0.000 0.000 -0.007 -0.062 -0.098 -0.020 -0.013 0.000 0.000 -0.094 -0.282														
		Avg Bottom Gain, ft 0.00 Avg Clopper Soil Loss, ft -0.02														
		Cross-section 4		To Water Surf, ft												
		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft 1.909 2.182 2.438 2.490 2.520 2.526 2.516 2.343 2.116 9.523														
		To eroded Surface Elev, ft 1.909 2.182 2.444 2.559 2.556 2.484 2.431 2.343 2.162 9.534														
		Soil Gain, ft 0.000 0.000 0.000 0.000 0.000 0.043 0.085 0.000 0.000 0.057 0.171														
		Clopper Soil Loss, ft 0.000 0.000 -0.007 -0.069 -0.036 0.000 0.000 0.000 -0.046 -0.068 -0.203														
		Avg Bottom Gain, ft 0.01 Avg Clopper Soil Loss, ft -0.02														
		Cross-section 5		To Water Surf, ft												
		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft 1.578 1.854 2.103 2.201 2.224 2.254 2.234 2.123 1.886 8.386														
		To eroded Surface Elev, ft 1.578 1.877 2.188 2.264 2.231 2.080 2.051 2.133 1.932 8.310														
		Soil Gain, ft 0.000 0.000 0.000 0.000 0.000 0.174 0.184 0.000 0.000 0.177 0.531														
		Clopper Soil Loss, ft 0.000 -0.023 -0.085 -0.062 -0.007 0.000 0.000 -0.010 -0.046 -0.102 -0.305														
		Avg Bottom Gain, ft 0.04 Avg Clopper Soil Loss, ft -0.03														
		Cross-section 6		To Water Surf, ft												
		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft 1.736 1.975 2.224 2.343 2.352 2.349 2.303 2.172 1.962 8.802														
		To eroded Surface Elev, ft 1.818 2.070 2.287 2.339 2.313 2.047 1.883 2.080 2.090 8.503														
		Soil Gain, ft 0.000 0.000 0.000 0.003 0.039 0.302 0.420 0.092 0.000 0.418 1.253														
		Clopper Soil Loss, ft -0.082 -0.095 -0.062 0.000 0.000 0.000 0.000 -0.128 -0.119 -0.358														
		Avg Bottom Gain, ft 0.10 Avg Clopper Soil Loss, ft -0.04														
		Cross-section 7		To Water Surf, ft												
		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft 1.608 1.886 2.087 2.221 2.205 2.208 2.244 2.051 1.831 8.329														
		To eroded Surface Elev, ft 1.614 1.886 2.106 2.221 2.208 2.221 2.247 2.051 1.831 8.348														
		Soil Gain, ft 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000														
		Clopper Soil Loss, ft -0.007 0.000 -0.020 0.000 -0.003 -0.013 -0.003 0.000 0.000 -0.019 -0.056														
		Avg Bottom Gain, ft 0.00 Avg Clopper Soil Loss, ft -0.01														
		Cross-section 8		To Water Surf, ft												
		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft 1.811 2.057 2.251 2.382 2.388 2.379 2.195 2.073 1.867 8.818														
		To eroded Surface Elev, ft 1.811 2.057 2.320 2.382 2.405 2.398 2.388 2.165 1.867 8.986														
		Soil Gain, ft 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000														
		Clopper Soil Loss, ft 0.000 0.000 -0.069 0.000 -0.016 -0.020 -0.194 -0.092 0.000 -0.167 -0.502														
		Avg Bottom Gain, ft 0.00 Avg Clopper Soil Loss, ft -0.04														
		Cross-section 9		To Water Surf, ft												
		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf, ft
		To original Surface Elev, ft 1.703 1.946 2.165 2.277 2.303 2.290 2.267 2.083 1.850 8.568														
		To eroded Surface Elev, ft 1.703 1.946 2.218 2.346 2.356 2.402 2.326 2.083 1.850 8.743														
		Soil Gain, ft 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000														
		Clopper Soil Loss, ft 0.000 0.000 -0.052 -0.069 -0.052 -0.112 -0.059 0.000 0.000 -0.175 -0.525														
		Avg Bottom Gain, ft 0.00 Avg Clopper Soil Loss, ft -0.04														
		Soil Loss / Gain, in 0.000 0.000 0.000 0.000 0.000 0.012 0.015 0.000 0.000														
		Clopper Soil Loss, in 0.000 -0.001 -0.013 -0.018 -0.018 -0.017 -0.018 -0.006 -0.005														
		Volume Avg Bottom Gain per Xsection, ft = 0.000														
		Avg Clopper Soil Loss per Xsection, ft = -0.043														
Trapezoidal Analysis		Original Surface Elev	228.147	1 thru 6:		X-Section Spacing, ft = 5	Original Surface Elev		86.334	7 thru 9:		X-Section Spacing, ft = 5				
		Eroded Surface Elev	228.270	Test Section Length, ft = 40		Eroded Surface Elev		87.654	Test Section Length, ft = 40							
		Soil Gain	2.217	0.166		gauge spacing, ft = 0.5		Soil Gain		0.000	0.000		gauge spacing, ft = 0.5			
		CSLI	-2.340	-0.176		channel width measured, ft = 4		CSLI		-1.321	-0.099		channel width measured, ft = 4			



TYPICAL TEST PICTURES

2.0 cfs Flow



Check Structure Installation over Bare Soil



Initial Flow & Upstream Ponding



Increased Ponding and Overtopping



End-of-test and Post-test condition.



Project: ASTM D 7208: Standard Test Method for Determination of Temporary Ditch Check Performance in Protecting Earthen Channels from Stormwater-Induced Erosion.

Test Setup: Trapezoid with 2-ft wide bottom and 2:1 side slopes x 40-ft long; 5% Bed Slope;

Client: GSWCC

Product: Silt Fence +

Steel Posts & Wire Fence

Flow: 0.5 cfs for 30 minutes

Test Date: 7/18/2012

21" High
Check
Location

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf
0	0.00	-0.17	0.00	-0.078	0.91	5.84	3.03	0.24
5	0.02	-0.08	0.01	-0.037	1.54	12.86	2.13	0.40
10	0.00	-0.41	0.00	-0.161	1.77	13.30	1.82	0.46
15	0.00	-0.28	0.00	-0.105	1.57	12.93	1.63	0.41
20	0.03	-0.24	0.01	-0.087	3.07	15.72	1.87	0.80
25	0.10	-0.08	0.03	-0.035	4.88	19.10	0.39	1.27
30	0.35	-0.43	0.13	-0.207	1.93	13.59	2.75	0.50
35	0.11	-0.51	0.06	-0.181	3.27	16.09	2.86	0.85
40	0.01	-0.44	0.00	-0.193	1.69	6.58	2.98	0.44
			Total Soil Gain, ft³	Total Soil Loss, ft³		Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index
			0.77	-4.14		116.02	0.67	-3.57

Flow: 0.5 cfs for 30 minutes

Test Date: 7/20/2012

21" High
Check
Location

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf
0	0.00	-0.36	0.00	-0.163	1.18	6.10	2.96	0.31
5	0.00	-0.41	0.00	-0.177	1.89	13.52	2.91	0.49
10	0.00	-0.45	0.00	-0.173	1.77	13.30	2.81	0.46
15	0.19	-0.22	0.09	-0.086	4.06	17.56	2.99	1.05
20	0.30	-0.22	0.15	-0.068	5.04	19.39	0.78	1.31
25	0.37	-0.12	0.18	-0.031	6.69	22.47	0.72	1.74
30	0.07	-1.42	0.01	-0.432	3.98	17.41	2.75	1.03
35	0.52	-0.37	0.13	-0.119	1.93	13.59	3.07	0.50
40	0.58	-0.08	0.22	-0.042	-0.08	5.07	3.06	-0.02
			Total Soil Gain, ft³	Total Soil Loss, ft³		Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index
			2.90	-4.78		128.42	2.26	-3.73



TYPICAL TEST PICTURES

0.5 cfs Flow



Check Structure Installation over Bare Soil



Initial Flow & Upstream Ponding Starting



Increased Ponding Reaches Maximum and then Blows Out Under Fence



Post-test With Upstream Scour Hole

ASTM D7208		Date: 7/20/12		Start Time: 5:00 PM		End Time: 5:30 PM							
60 ft long flume		Soil: Sandy Clay		Target Flow (cfs): 0.50		Slope: 5%							
40 ft test section		SRD: Silt Fence +		Installation: Steel Posts & Wire Fence									
2 ft wide flume		TEST DATA											
1 2 3		Outlet Weir		Weir		Channel Targets							
FLOW		Water Depth, in		1.50		1.00							
Weir width (ft) = 2		Water Velocity, ft/s		0.00		0.00							
0 ft		Flow Rate, cfs		0.00		0.00							
5 ft		Cross-section 1		A B C D E F G H I		[ft ²] [in] V @ 0.2d V @ 0.6d V @ 0.8d To Water Surf, ft							
10 ft		To original Surface Elev, ft		0.928 1.371 1.864 2.303 2.392 2.369 1.880 1.411 0.981 7.333		2.96 2.3							
15 ft		To eroded Surface Elev, ft		0.928 1.371 1.864 2.467 2.431 2.425 1.890 1.411 0.981 7.496		Vavg (fps) = 2.96 Bed Max Shear Stress (psf) Water Depth (ft)							
20 ft		Soil Gain, ft		0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000		navg = 0.024 0.31 0.10							
25 ft		Clopper Soil Loss, ft		0.000 0.000 0.000 -0.164 -0.039 -0.056 -0.010 0.000 0.000 -0.163 -0.489		Flow (cfs) = 0.50 0.31 0.10							
30 ft		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft -0.03							
35 ft		Cross-section 2		A B C D E F G H I		[ft ²] [in] V @ 0.2d V @ 0.6d V @ 0.8d To Water Surf, ft							
40 ft		To original Surface Elev, ft		0.965 1.470 1.975 2.431 2.520 2.484 2.011 1.555 1.102 7.806		2.91 2.4							
		To eroded Surface Elev, ft		0.965 1.470 1.975 2.628 2.598 2.513 2.011 1.555 1.102 7.983		Vavg (fps) = 2.91 Bed Max Shear Stress (psf) Water Depth (ft)							
		Soil Gain, ft		0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000		navg = 0.033 0.49 0.16							
		Clopper Soil Loss, ft		0.000 0.000 0.000 -0.197 -0.079 -0.030 0.000 0.000 0.000 -0.177 -0.531		Flow (cfs) = 0.50 0.49 0.16							
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft -0.03							
		Cross-section 3		A B C D E F G H I		[ft ²] [in] V @ 0.2d V @ 0.6d V @ 0.8d To Water Surf, ft							
		To original Surface Elev, ft		0.925 1.401 1.870 2.402 2.405 2.303 1.818 1.375 0.915 7.324		2.81 2.4							
		To eroded Surface Elev, ft		0.925 1.401 1.893 2.579 2.546 2.300 1.818 1.375 0.915 7.495		Vavg (fps) = 2.81 Bed Max Shear Stress (psf) Water Depth (ft)							
		Soil Gain, ft		0.000 0.000 0.000 0.000 0.000 0.003 0.000 0.000 0.000 0.002		navg = 0.033 0.46 0.15							
		Clopper Soil Loss, ft		0.000 0.000 -0.023 -0.177 -0.141 0.000 0.000 0.000 0.000 -0.173 -0.518		Flow (cfs) = 0.50 0.46 0.15							
		Avg Bottom Gain, ft		0.00		Avg Clopper Soil Loss, ft -0.04							
		Cross-section 4		A B C D E F G H I		[ft ²] [in] V @ 0.2d V @ 0.6d V @ 0.8d To Water Surf, ft							
		To original Surface Elev, ft		1.106 1.581 2.110 2.582 2.651 2.562 2.083 1.627 1.171 8.229		2.99 2.4							
		To eroded Surface Elev, ft		1.106 1.581 2.090 2.677 2.717 2.441 2.087 1.627 1.171 8.228		Vavg (fps) = 2.99 Bed Max Shear Stress (psf) Water Depth (ft)							
		Soil Gain, ft		0.000 0.000 0.020 0.000 0.000 0.121 0.000 0.000 0.000 0.087		navg = 0.054 1.05 0.34							
		Clopper Soil Loss, ft		0.000 0.000 0.000 -0.095 -0.066 0.000 -0.003 0.000 0.000 -0.086 -0.259		Flow (cfs) = 0.50 1.05 0.34							
		Avg Bottom Gain, ft		0.02		Avg Clopper Soil Loss, ft -0.02							
		Cross-section 5		A B C D E F G H I		[ft ²] [in] V @ 0.2d V @ 0.6d V @ 0.8d To Water Surf, ft							
		To original Surface Elev, ft		0.830 1.293 1.818 2.297 2.365 2.300 1.798 1.322 1.194 7.139		0.78 1.9							
		To eroded Surface Elev, ft		0.830 1.293 1.883 2.336 2.365 2.073 1.857 1.322 1.194 7.055		Vavg (fps) = 0.78 Bed Max Shear Stress (psf) Water Depth (ft)							
		Soil Gain, ft		0.000 0.000 0.000 0.000 0.000 0.226 0.000 0.000 0.000 0.151		navg = 0.239 1.31 0.42							
		Clopper Soil Loss, ft		0.000 0.000 -0.066 -0.039 0.000 0.000 -0.059 0.000 0.000 -0.068 -0.203		Flow (cfs) = 0.50 1.31 0.42							
		Avg Bottom Gain, ft		0.03		Avg Clopper Soil Loss, ft -0.02							
		Cross-section 6		A B C D E F G H I		[ft ²] [in] V @ 0.2d V @ 0.6d V @ 0.8d To Water Surf, ft							
		To original Surface Elev, ft		1.047 1.506 1.972 2.451 2.503 2.425 1.959 1.526 1.109 7.775		0.72 2.0							
		To eroded Surface Elev, ft		1.047 1.506 1.959 2.385 2.523 2.257 2.031 1.493 1.109 7.624		Vavg (fps) = 0.72 Bed Max Shear Stress (psf) Water Depth (ft)							
		Soil Gain, ft		0.000 0.000 0.013 0.066 0.000 0.167 0.000 0.033 0.000 0.182		navg = 0.313 1.74 0.56							
		Clopper Soil Loss, ft		0.000 0.000 0.000 0.000 -0.020 0.000 -0.072 0.000 0.000 -0.031 -0.092		Flow (cfs) = 0.80 1.74 0.56							
		Avg Bottom Gain, ft		0.03		Avg Clopper Soil Loss, ft -0.01							
		Cross-section 7		A B C D E F G H I		[ft ²] [in] V @ 0.2d V @ 0.6d V @ 0.8d To Water Surf, ft							
		To original Surface Elev, ft		2.661 2.838 3.310 3.907 3.927 3.944 3.494 2.966 2.631 13.562		2.75 3.7							
		To eroded Surface Elev, ft		2.605 2.927 3.337 3.917 4.049 4.098 3.642 3.123 2.992 13.985		Vavg (fps) = 2.75 Bed Max Shear Stress (psf) Water Depth (ft)							
		Soil Gain, ft		0.056 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.009		navg = 0.058 1.03 0.33							
		Clopper Soil Loss, ft		0.000 -0.089 -0.026 -0.010 -0.121 -0.154 -0.148 -0.157 -0.361 -0.432 -1.296		Flow (cfs) = 1.82 1.03 0.33							
		Avg Bottom Gain, ft		0.01		Avg Clopper Soil Loss, ft -0.12							
		Cross-section 8		A B C D E F G H I		[ft ²] [in] V @ 0.2d V @ 0.6d V @ 0.8d To Water Surf, ft							
		To original Surface Elev, ft		2.730 3.045 3.576 4.006 4.147 4.127 3.773 3.255 2.858 14.385		3.07 4.1							
		To eroded Surface Elev, ft		2.700 2.940 3.704 4.055 4.213 4.160 3.753 3.228 2.648 14.370		Vavg (fps) = 3.07 Bed Max Shear Stress (psf) Water Depth (ft)							
		Soil Gain, ft		0.030 0.105 0.000 0.000 0.000 0.000 0.020 0.026 0.210 0.134		navg = 0.032 0.99 0.16							
		Clopper Soil Loss, ft		0.000 0.000 -0.128 -0.049 -0.066 -0.033 0.000 0.000 0.000 -0.119 -0.358		Flow (cfs) = 0.99 0.50 0.16							
		Avg Bottom Gain, ft		0.04		Avg Clopper Soil Loss, ft -0.03							
		Cross-section 9		A B C D E F G H I		[ft ²] [in] V @ 0.2d V @ 0.6d V @ 0.8d To Water Surf, ft							
		To original Surface Elev, ft		2.618 2.913 3.330 3.822 4.003 3.999 3.632 3.107 2.644 13.760		3.06 3.9							
		To eroded Surface Elev, ft		2.618 2.874 3.327 3.724 3.930 4.062 3.501 3.015 2.644 13.579		Vavg (fps) = 3.06 Bed Max Shear Stress (psf) Water Depth (ft)							
		Soil Gain, ft		0.000 0.039 0.003 0.098 0.072 0.000 0.131 0.092 0.000 0.222		navg = #NUM! -0.02 -0.01							
		Clopper Soil Loss, ft		0.000 0.000 0.000 0.000 0.000 -0.062 0.000 0.000 0.000 -0.042 -0.125		Flow (cfs) = #NUM! -0.02 -0.01							
		Avg Bottom Gain, ft		0.05		Avg Clopper Soil Loss, ft -0.01							
		Soil Gain, in		0.002 0.008 0.001 0.006 0.004 0.020 0.008 0.007 0.012		Volume							
		Clopper Soil Loss, in		0.000 0.000 -0.012 -0.041 -0.022 -0.010 -0.004 0.000 0.000		Avg Bottom Gain per Xsection, ft = 0.048							
						Avg Clopper Soil Loss per Xsection, ft = -0.007							
Trapezoidal Analysis		Original Surface Elev		190.263		1 thru 6: X-Section Spacing, ft = 5		Original Surface Elev		140.230		7 thru 9: X-Section Spacing, ft = 5	
		Eroded Surface Elev		191.611		Test Section Length, ft = 40		Eroded Surface Elev		140.762		Test Section Length, ft = 40	
		Soil Gain		1.657		0.124 gauge spacing, ft = 1		Soil Gain		1.248		0.094 gauge spacing, ft = 0.5	
		CSLI		-3.005		channel width measured, ft = 8		CSLI		-1.780		-0.133 channel width measured, ft = 4	

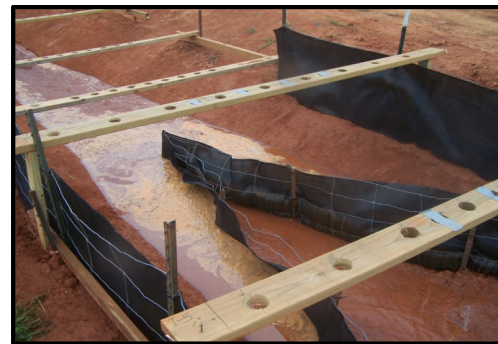
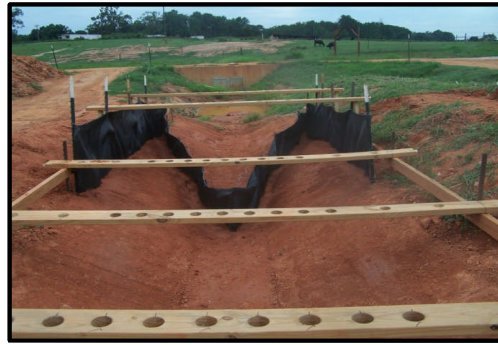


TYPICAL TEST PICTURES

0.5 cfs Flow (RETEST)



Check Structure Installation over Bare Soil



Initial Flow & Upstream Ponding



Increased Ponding & Very Near Overtopping



Close-up of Blowout and End-of-test Upstream Scour Hole



TYPICAL TEST PICTURES

2.0 cfs Flow



Check Structure Installation over Bare Soil



Initial Flow & Upstream Ponding



Increased Ponding and Overtopping



End-of-test and Post-test condition.



Project: ASTM D 7208: Standard Test Method for Determination of Temporary Ditch Check Performance in Protecting Earthen Channels from Stormwater-Induced Erosion.

Test Setup: Trapezoid with 2-ft wide bottom and 2:1 side slopes x 40-ft long; 5% Bed Slope;

Client: GSWCC

Product: Control Runs - No Check Structures

Flow: 0.5 cfs for 30 minutes

Test Date: 6/21/2012

No Check Structure

Station, ft	Avg Soil Gain, in	Avg Soil Loss, in.	Avg Soil Gain, ft ²	Avg Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf
0	0.00	-0.07	0.00	-0.022	1.14	6.06	2.31	0.30
5	0.00	-0.10	0.00	-0.040	0.98	11.83	2.61	0.26
10	0.00	-0.10	0.00	-0.034	1.06	11.98	2.81	0.28
15	0.00	-0.17	0.00	-0.065	0.91	11.69	3.03	0.24
20	0.00	-0.18	0.00	-0.070	1.14	12.13	2.96	0.30
25	0.00	-0.15	0.00	-0.059	0.98	11.83	3.10	0.26
30	0.00	-0.18	0.00	-0.068	0.98	11.83	3.15	0.26
35	0.00	-0.26	0.00	-0.103	1.06	11.98	3.18	0.28
40	0.00	-0.24	0.00	-0.084	0.94	5.88	3.20	0.25
			Total Soil Gain, ft³	Total Soil Loss, ft³		Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index
			0.00	-2.53		95.22	0.00	-2.65

Flow: 1.0 cfs for 30 minutes

Test Date: 6/21/2012

No Check Structure

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf
0	0.00	-0.28	0.00	-0.110	1.61	6.50	3.78	0.42
5	0.00	-0.23	0.00	-0.075	1.54	12.86	3.94	0.40
10	0.00	-0.33	0.00	-0.121	1.50	12.79	4.03	0.39
15	0.00	-0.25	0.00	-0.085	1.38	12.57	3.99	0.36
20	0.00	-0.28	0.00	-0.105	1.54	12.86	3.94	0.40
25	0.00	-0.36	0.00	-0.139	1.54	12.86	3.94	0.40
30	0.00	-0.28	0.00	-0.097	1.34	12.49	4.08	0.35
35	0.00	-0.28	0.00	-0.094	1.57	12.93	4.05	0.41
40	0.00	-0.30	0.00	-0.107	1.50	6.39	4.10	0.39
			Total Soil Gain, ft³	Total Soil Loss, ft³		Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index
			0.00	-4.07		102.27	0.00	-3.98

Flow: 2.0 cfs for 30 minutes

Test Date: 6/27/2012

No Check Structure

Station, ft	Soil Gain, in	Soil Loss, in.	Soil Gain, ft ²	Soil Loss, ft ²	Flow Depth, in	Wetted Area, ft ²	Flow Velocity, ft/s	Shear, psf
0	0.00	-0.27	0.00	-0.100	2.20	7.05	4.84	0.57
5	0.00	-0.43	0.00	-0.171	2.28	14.25	4.80	0.59
10	0.00	-0.52	0.00	-0.186	2.13	13.96	4.90	0.55
15	0.00	-0.59	0.00	-0.170	2.13	13.96	5.10	0.55
20	0.00	-0.44	0.00	-0.145	2.48	14.62	5.05	0.64
25	0.00	-0.57	0.00	-0.161	2.05	13.81	5.15	0.53
30	0.00	-0.47	0.00	-0.164	2.20	14.11	5.10	0.57
35	0.00	-0.56	0.00	-0.194	1.97	13.67	5.10	0.51
40	0.00	-0.63	0.00	-0.203	2.13	6.98	5.17	0.55
			Total Soil Gain, ft³	Total Soil Loss, ft³		Total Wetted Area, ft²	SAI - Soil Accretion Index	CSLI - Clopper Soil Loss Index
			0.00	-6.79		112.43	0.00	-6.04

ASTM D7208		Date: 6/21/12		Start Time: 3:58 PM		End Time: 4:28 PM												
		Soil: Sandy Clay		Target Flow (cfs): 0.50		Slope: 5%												
60 ft long flume		40 ft test section		SRD: Control		Installation: Bare Soil												
2 ft wide flume		TEST DATA																
FLOW		Weir								Channel Targets								
Weir width (ft) = 2		Water Depth, in								1.00								
Water Velocity, ft/s		0.00								3 - 4								
0 ft C D E F G H		Flow Rate, cfs								0.50								
5 ft	Cross-section 1	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft		
	To original Surface Elev, ft	1.808	2.041	2.293	2.310	2.320	2.306	2.306	2.067	1.821	8.727						2.2	
	To eroded Surface Elev, ft	1.808	2.041	2.313	2.310	2.336	2.320	2.310	2.067	1.821	8.749		Vavg (fps) =	2.31				
	Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.030			Bed Max Shear Stress (psf)	
	Clopper Soil Loss, ft	0.000	0.000	-0.020	0.000	-0.016	-0.013	-0.003	0.000	0.000	-0.022	-0.066	Flow (cfs) =	0.00			0.30	Water Depth (ft)
		Avg Bottom Gain, ft	0.00			Avg Clopper Soil Loss, ft			-0.01									
10 ft	Cross-section 2	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft		
	To original Surface Elev, ft	1.913	2.175	2.405	2.454	2.493	2.474	2.431	2.208	1.982	9.300						2.4	
	To eroded Surface Elev, ft	1.913	2.175	2.405	2.484	2.516	2.493	2.431	2.208	1.982	9.340		Vavg (fps) =	2.61				
	Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.024			Bed Max Shear Stress (psf)	
	Clopper Soil Loss, ft	0.000	0.000	0.000	-0.030	-0.023	-0.020	0.000	0.000	0.000	-0.040	-0.121	Flow (cfs) =	0.00			0.26	Water Depth (ft)
		Avg Bottom Gain, ft	0.00			Avg Clopper Soil Loss, ft			-0.01									
15 ft	Cross-section 3	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft		
	To original Surface Elev, ft	1.831	2.080	2.290	2.316	2.310	2.287	2.001	1.768	8.709							2.2	
	To eroded Surface Elev, ft	1.831	2.080	2.323	2.343	2.336	2.310	2.303	2.001	1.768	8.743		Vavg (fps) =	2.81				
	Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.023			Bed Max Shear Stress (psf)	
	Clopper Soil Loss, ft	0.000	0.000	-0.033	-0.026	0.000	0.000	-0.016	0.000	0.000	-0.034	-0.102	Flow (cfs) =	0.00			0.28	Water Depth (ft)
		Avg Bottom Gain, ft	0.00			Avg Clopper Soil Loss, ft			-0.01									
20 ft	Cross-section 4	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft		
	To original Surface Elev, ft	2.051	2.320	2.533	2.536	2.559	2.549	2.480	2.234	1.985	9.623						2.5	
	To eroded Surface Elev, ft	2.051	2.320	2.556	2.559	2.579	2.589	2.507	2.234	1.985	9.687		Vavg (fps) =	3.03				
	Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.020			Bed Max Shear Stress (psf)	
	Clopper Soil Loss, ft	0.000	0.000	-0.023	-0.023	-0.020	-0.039	-0.026	0.000	0.000	-0.065	-0.194	Flow (cfs) =	0.00			0.24	Water Depth (ft)
		Avg Bottom Gain, ft	0.00			Avg Clopper Soil Loss, ft			-0.01									
25 ft	Cross-section 5	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft		
	To original Surface Elev, ft	1.873	2.152	2.316	2.310	2.326	2.306	2.283	2.021	1.788	8.778						2.2	
	To eroded Surface Elev, ft	1.873	2.152	2.343	2.329	2.329	2.359	2.320	2.021	1.788	8.848		Vavg (fps) =	2.96				
	Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.023			Bed Max Shear Stress (psf)	
	Clopper Soil Loss, ft	0.000	0.000	-0.026	-0.020	-0.003	-0.052	-0.036	0.000	0.000	-0.070	-0.210	Flow (cfs) =	0.00			0.30	Water Depth (ft)
		Avg Bottom Gain, ft	0.00			Avg Clopper Soil Loss, ft			-0.02									
30 ft	Cross-section 6	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft		
	To original Surface Elev, ft	1.949	2.188	2.438	2.490	2.523	2.513	2.520	2.287	2.073	9.483						2.4	
	To eroded Surface Elev, ft	1.949	2.188	2.467	2.536	2.526	2.530	2.539	2.287	2.073	9.542		Vavg (fps) =	3.10				
	Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.020			Bed Max Shear Stress (psf)	
	Clopper Soil Loss, ft	0.000	0.000	-0.030	-0.046	-0.003	-0.016	-0.020	0.000	0.000	-0.059	-0.177	Flow (cfs) =	0.51			0.26	Water Depth (ft)
		Avg Bottom Gain, ft	0.00			Avg Clopper Soil Loss, ft			-0.01									
35 ft	Cross-section 7	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft		
	To original Surface Elev, ft	1.706	2.005	2.198	2.218	2.208	2.205	2.152	1.893	1.647	8.292						2.1	
	To eroded Surface Elev, ft	1.706	2.005	2.224	2.260	2.224	2.231	2.175	1.893	1.647	8.360		Vavg (fps) =	3.15				
	Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.020			Bed Max Shear Stress (psf)	
	Clopper Soil Loss, ft	0.000	0.000	-0.026	-0.043	-0.016	-0.026	-0.023	0.000	0.000	-0.068	-0.203	Flow (cfs) =	0.52			0.26	Water Depth (ft)
		Avg Bottom Gain, ft	0.00			Avg Clopper Soil Loss, ft			-0.01									
40 ft	Cross-section 8	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft		
	To original Surface Elev, ft	1.896	2.156	2.408	2.454	2.484	2.500	2.438	2.231	1.995	9.319						2.4	
	To eroded Surface Elev, ft	1.896	2.156	2.434	2.516	2.500	2.552	2.474	2.231	1.995	9.421		Vavg (fps) =	3.18				
	Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.021			Bed Max Shear Stress (psf)	
	Clopper Soil Loss, ft	0.000	0.000	-0.026	-0.062	-0.016	-0.052	-0.036	0.000	0.000	-0.103	-0.308	Flow (cfs) =	0.56			0.28	Water Depth (ft)
		Avg Bottom Gain, ft	0.00			Avg Clopper Soil Loss, ft			-0.02									
40 ft	Cross-section 9	A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft		
	To original Surface Elev, ft	1.870	2.119	2.365	2.425	2.408	2.402	2.333	2.106	1.837	9.021						2.4	
	To eroded Surface Elev, ft	1.870	2.119	2.425	2.464	2.434	2.434	2.356	2.106	1.837	9.105		Vavg (fps) =	3.20				
	Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.019			Bed Max Shear Stress (psf)	
	Clopper Soil Loss, ft	0.000	0.000	-0.059	-0.039	-0.026	-0.033	-0.023	0.000	0.000	-0.084	-0.253	Flow (cfs) =	0.50			0.25	Water Depth (ft)
		Avg Bottom Gain, ft	0.00			Avg Clopper Soil Loss, ft			-0.02									

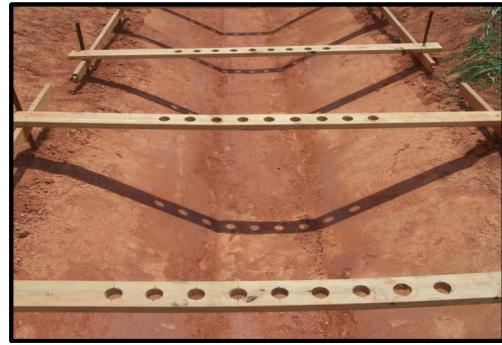
Avg Soil Gain, ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Volume	Avg Bottom Gain per Xsection, ft = 0.000	
Avg Clopper Soil Loss, ft	0.000	0.000	-0.027	-0.029	-0.015	-0.030	-0.020	0.000	0.000	[ft ³]	[in]	Avg Clopper Soil Loss per Xsection, ft = -0.006
Original Surface Elev	367.002									X-Section Spacing, ft = 5		
Eroded Surface Elev	369.530									Test Section Length, ft = 40		
Soil Loss/ Gain	0.000									gauge spacing, ft = 0.5		
CSLI	-2.528									channel width measured, ft = 4		



TYPICAL TEST PICTURES

0.5 cfs Flow

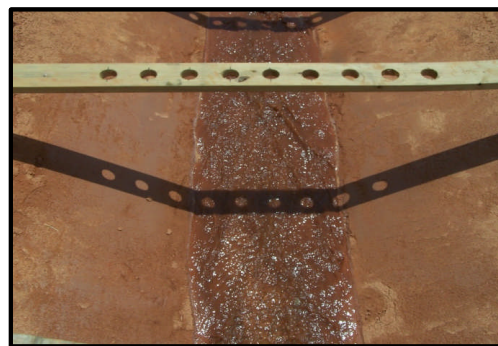
5



10

Control Channel Prepared

15



20

Initial Flow

25



30

On-going Flow . . . And Erosion

35



40

End-of-test Eroded Condition.



TYPICAL TEST PICTURES

1.0 cfs Flow



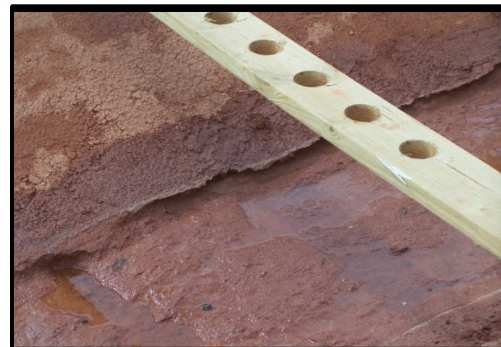
Control Channel Prepared



Initial Flow & Inlet Weir



On-going Flow . . . And Erosion



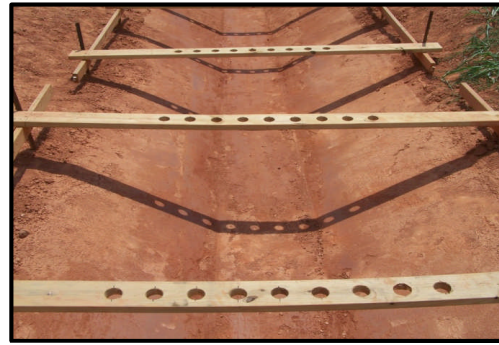
End-of-test Eroded Condition.

ASTM D7208		Date: 6/27/12	Start Time: 2:29 PM		End Time: 2:59 PM													
		Soil: Sandy Clay	Target Flow (cfs): 2.00		Slope: 5%													
60 ft long flume 40 ft test section		RECP: Control		Anchorage: Bare Soil														
2 ft wide flume		TEST DATA																
FLOW											Weir		Channel Targets					
Weir width (ft) = 2											2.50		1.75					
Water Depth, in											0.00		5.5 - 6					
Water Velocity, ft/s											0.00		2.00					
Flow Rate, cfs											0.00		0.00					
0 ft C D E F G H																		
5 ft	Cross-section 1		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft	
	To original Surface Elev, ft		1.814	2.047	2.303	2.329	2.339	2.346	2.320	2.116	1.870	8.827			4.84			2.2
	To eroded Surface Elev, ft		1.814	2.047	2.343	2.382	2.365	2.392	2.356	2.116	1.870	8.927		Vavg (fps) =	4.84			
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.022			Bed Max Shear Stress (psf)
	Clopper Soil Loss, ft		0.000	0.000	-0.039	-0.052	-0.026	-0.046	-0.036	0.000	0.000	-0.100	-0.299	Flow (cfs) =	2.00			0.57
		Avg Bottom Gain, ft				Avg Clopper Soil Loss, ft												
		0.00				-0.02												
10 ft	Cross-section 2		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft	
	To original Surface Elev, ft		1.923	2.126	2.402	2.441	2.461	2.441	2.411	2.188	1.972	9.204			4.8			2.3
	To eroded Surface Elev, ft		1.923	2.126	2.418	2.539	2.497	2.533	2.490	2.188	1.972	9.375		Vavg (fps) =	4.80			
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.023			Bed Max Shear Stress (psf)
	Clopper Soil Loss, ft		0.000	0.000	-0.016	-0.098	-0.036	-0.092	-0.079	0.000	0.000	-0.171	-0.512	Flow (cfs) =	2.00			0.59
		Avg Bottom Gain, ft				Avg Clopper Soil Loss, ft												
		0.00				-0.04												
15 ft	Cross-section 3		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft	
	To original Surface Elev, ft		1.745	1.972	2.211	2.270	2.306	2.267	2.238	2.008	1.814	8.523			4.9			2.2
	To eroded Surface Elev, ft		1.749	1.972	2.283	2.395	2.336	2.310	2.359	2.008	1.814	8.710		Vavg (fps) =	4.90			
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.021			Bed Max Shear Stress (psf)
	Clopper Soil Loss, ft		-0.003	0.000	-0.072	-0.125	-0.030	-0.043	-0.121	0.000	0.000	-0.186	-0.559	Flow (cfs) =	1.74			0.55
		Avg Bottom Gain, ft				Avg Clopper Soil Loss, ft												
		0.00				-0.04												
20 ft	Cross-section 4		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft	
	To original Surface Elev, ft		2.018	2.274	2.493	2.549	2.572	2.536	2.520	2.287	2.037	9.635			5.1			2.4
	To eroded Surface Elev, ft		2.018	2.274	2.713	2.579	2.595	2.575	2.648	2.287	2.037	9.804		Vavg (fps) =	5.10			
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.021			Bed Max Shear Stress (psf)
	Clopper Soil Loss, ft		0.000	0.000	-0.220	-0.030	-0.023	-0.039	-0.128	0.000	0.000	-0.170	-0.509	Flow (cfs) =	1.81			0.55
		Avg Bottom Gain, ft				Avg Clopper Soil Loss, ft												
		0.00				-0.05												
25 ft	Cross-section 5		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft	
	To original Surface Elev, ft		1.781	2.051	2.228	2.254	2.277	2.274	2.238	2.021	1.788	8.575			5.05			2.1
	To eroded Surface Elev, ft		1.788	2.051	2.320	2.316	2.323	2.323	2.310	2.021	1.788	8.720		Vavg (fps) =	5.05			
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.023			Bed Max Shear Stress (psf)
	Clopper Soil Loss, ft		-0.007	0.000	-0.092	-0.062	-0.046	-0.049	-0.072	0.000	0.000	-0.145	-0.436	Flow (cfs) =	2.09			0.64
		Avg Bottom Gain, ft				Avg Clopper Soil Loss, ft												
		0.00				-0.04												
30 ft	Cross-section 6		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft	
	To original Surface Elev, ft		1.909	2.169	2.421	2.487	2.510	2.513	2.474	2.290	2.057	9.435			5.15			2.4
	To eroded Surface Elev, ft		1.909	2.169	2.536	2.523	2.559	2.530	2.687	2.290	2.057	9.596		Vavg (fps) =	5.15			
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.020			Bed Max Shear Stress (psf)
	Clopper Soil Loss, ft		0.000	0.000	-0.115	-0.036	-0.049	-0.016	-0.213	0.000	0.000	-0.161	-0.482	Flow (cfs) =	1.76			0.53
		Avg Bottom Gain, ft				Avg Clopper Soil Loss, ft												
		0.00				-0.05												
35 ft	Cross-section 7		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft	
	To original Surface Elev, ft		1.617	1.896	2.126	2.175	2.195	2.192	2.149	1.959	1.690	8.189			5.1			2.1
	To eroded Surface Elev, ft		1.624	1.896	2.195	2.264	2.241	2.247	2.234	1.959	1.690	8.353		Vavg (fps) =	5.10			
	Soil Gain, ft		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	navg =	0.021			Bed Max Shear Stress (psf)
	Clopper Soil Loss, ft		-0.007	0.000	-0.069	-0.089	-0.046	-0.056	-0.085	0.000	0.000	-0.164	-0.492	Flow (cfs) =	1.87			0.57
		Avg Bottom Gain, ft				Avg Clopper Soil Loss, ft												
		0.00				-0.04												
40 ft	Cross-section 8		A	B	C	D	E	F	G	H	I	[ft ²]	[in]	V @ 0.2d	V @ 0.6d	V @ 0.8d	To Water Surf. ft	
	To original Surface Elev, ft		1.795	2.031	2.303	2.359	2.402	2.415	2.392	2.234	2.011	9.026			5.1			2.3
	To eroded Surface Elev, ft		1.791	2.031	2.402	2.451	2.493	2.480	2.467	2.234	2.011	9.219		Vavg (fps) =	5.10			
	Soil Gain, ft		0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	navg =	0.020			Bed Max Shear Stress (psf)
	Clopper Soil Loss, ft		0.000	0.000	-0.098	-0.092	-0.092	-0.066	-0.075	0.000	0.000	-0.194	-0.581	Flow (cfs) =	1.67			0.51
		Avg Bottom Gain, ft				Avg Clopper Soil Loss, ft												
		0.00				-0.05												
		Avg Soil Gain, ft									0.000		0.000		0.000		0.000	
		Avg Clopper Soil Loss, ft									-0.001		0.000		-0.098		-0.082	
											-0.048		-0.051		-0.088		0.000	
											[ft ²]		[in]		Volume		Avg Bottom Gain per Xsection, ft = 0.000	
											362.440		369.224				Avg Clopper Soil Loss per Xsection, ft = -0.022	
											Original Surface Elev		Eroded Surface Elev		Soil Loss/ Gain		CSLI	
											362.440		369.224		0.004		-6.788	
													0.000				-0.509	
																	X-Section Spacing, ft = 5	
																	Test Section Length, ft = 40	
																	gauge spacing, ft = 0.5	
																	channel width measured, ft = 4	



TYPICAL TEST PICTURES

2.0 cfs Flow



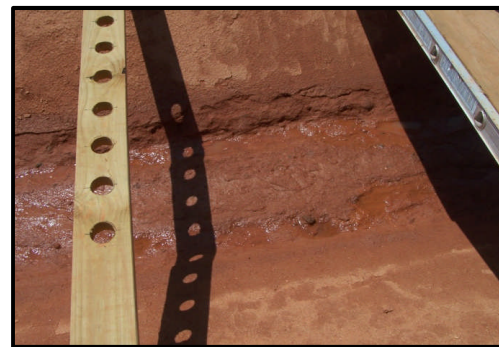
Control Channel Prepared



Initial Flow & Closeup



On-going Flow . . . And Erosion



End-of-test Eroded Condition.



APPENDIX C – SEDIMENT BARRIER TEST PROCEDURE



Approved: _____ Date: _____
Sam R. Allen, Vice President

Approved: _____ Date: _____
Alfred J. Ransom, Corporate Quality Officer

Standard Test Method for Determination of Sediment Retention Devices (SRDs) Performance in Reducing Sediment Loss from Rainfall-Induced Erosion during Perimeter Control Applications

DDRF Division

Title	Large-scale Slope Sediment Retention
Test Method Reference	GSWCC-SB / WK11340
Test Category	Hydraulic Performance
Material Applicability	Sediment Retention Devices (a.k.a. SRDs)
Target Property	Soil Loss / Seepage
Units of Test Result	Practice Factor (as used in the Universal Soil Loss Equation)
Test Specimen Configuration	8 feet wide
Number of Replicate Specimens	Three (one each on three different slopes)
Equipment Required	Rainfall simulators, water source, runoff and sediment collection system, other miscellaneous equipment including: rain gauges, sieve set (standard US sieves), drying cans, a drying oven or microwave oven, balances, meteorological equipment (wind speed, temperature, precipitation), sample bottles, and camera and video recorder.

1.0 PURPOSE

- 1.1 This test method covers the determination of a practice factor (a.k.a. "P-Factor") for a sediment retention device.

2.0 SCOPE

- 2.1 This test method is a performance test, but can be used for quality assurance to determine product conformance to project specifications. Caution is advised since information regarding laboratory specific precision is incomplete. For project specific conformance, unique project-specific conditions may be taken into consideration.
- 2.2 This test method covers the guidelines, requirements and procedures for evaluating the ability of Sediment Retention Devices (SRDs) to retain sediments resulting from rainfall-induced erosion.
- 2.3 This test method utilizes full-scale testing procedures, and is patterned after conditions typically found on construction sites prior to revegetation work. Further, procedures for evaluation of baseline conditions are provided. Thus, test preparation, test execution, data collection, data analysis and reporting procedures herein are intended to be suitable for testing of bare soil and SRDs.
- 2.4 One control plot (bare soil) shall be tested either before or after the product testing. All testing shall follow identical procedures. The control plot results are combined with previous control runs to characterize control plot performance and to obtain an associated "K-Factor" for use in P-Factor computations.



3.0 RESPONSIBILITIES

- 3.1 The Corporate Quality Officer in conjunction with the laboratory director is responsible for the implementation and maintenance of the standard operating procedure.
- 3.2 The Laboratory Director/Assistant Laboratory Director is responsible for informing the technicians of the maintenance and operation requirements for specific equipment and provides training to technicians.
- 3.3 The Technicians are responsible for performing apparatus/facility setup, conducting the test, performing the required equipment preventive maintenance and documenting the results.

4.0 SAFETY

- 4.1 Take care when performing testing preparation and testing operations on the slope.

5.0 APPARATUS / FACILITY

- 5.1 Testing is performed on three earthen embankment test plots having a surface slope of 3H:1V and a slope length of 40 ft, though the actual exposed surface upstream of the SRD is 27 ft. The test plot width is 8 ft.
- 5.2 The test plot shall be constructed with a minimum 12-inch thick veneer of compacted soil of the type requested for testing. The default soil type is sandy clay as defined by the USDA soil triangle. Representative samples of the test soil shall be sent to a geotechnical laboratory at least once per year, or whenever the stockpile is changed, for determination of grain size distribution, Atterberg limits, organic matter content, standard Proctor density, and optimum moisture content.
- 5.3 The test plot soil is compacted to create a geotechnically (structurally) stable subgrade. Place soil in a minimum of two lifts and compact to 90 ± 3 % of standard Proctor density in accordance with Test Method D 698. In-situ density shall be verified via any generally accepted method, such as ASTM D 2937 (drive cylinder method).
- 5.4 Test plots are separated sufficiently to prevent work activities and overspray from one plot from impacting adjacent plots. The top and side edges of each plot are constructed with edging sufficient to prevent run-on of water from outside the plot.
- 5.5 The test plots are encircled by sprinkler risers around the perimeter of the test plot to provide uniform distribution of the rainfall intensities to be used in testing. The sprinkler risers and locations shall be established based on the calibration procedures set forth in Section 7.0. The sprinkler risers are supplied and connected by a piping system capable of providing consistent water supply to maintain the calibrated performance.

6.0 PROCEDURE

- 6.1 Test Plot Preparation:
 - 6.1.1 Repair depressions, voids, soft, or uncompacted areas.
 - 6.1.2 Also, free the plot from obstructions or protrusions, such as roots, large stones, or other foreign material.



- 6.1.3 If the plots have been used for previous test series, discard the soil carried off the plot and obliterate any rills and gullies. Spread new soil of the same type across the plot and blend (rake or till) into the surface.
- 6.1.4 Loosen the soil veneer to a depth of approximately 10 cm (4 in.) using a tiller or other appropriate tool.
- 6.1.5 Determine the moisture content of the soil on each test plot.
- 6.1.6 Wet or dry each plot until the soil reaches the optimum moisture content \pm 4%.
- 6.1.7 Rake the tilled plot smooth with a steel hand rake.
- 6.1.8 Lightly compact the soil surface using a turf roller.

6.2 Test Set-Up

- 6.2.1 Control (Bare Soil) Testing – Proceed to 6.2.4
- 6.2.2 Product Testing
 - 6.2.2.1 Install the SRD at the base of the plot as directed by the client after the test plot has been prepared.
 - 6.2.2.2 Permit no foot traffic on the plot, once the SRD has been installed.
 - 6.2.2.3 Document the installation methodology for the SRD.
 - 6.2.2.4 Install the SRD so that no runoff is allowed to run around the ends of the SRD.
- 6.2.3 Take soil samples from each test plot to determine the pretest soil moisture content within 1 hour prior to the test. Generally, 3 samples are taken from each test plot at the horizontal quarter points.
- 6.2.4 Place rain gauges on each test plot to document actual rainfall amount. Generally, 6 gauges are used on each test plot and positioned in pairs, each 2 ft from the plot edge, at the horizontal quarter points.
- 6.2.5 Take photographs of the plot prior to testing.

6.3 Pre-Test Documentation:

- 6.3.1 Maintain a digital test folder for each test, including the following information:
 - 6.3.1.1 Calibrated rainfall properties.
 - 6.3.1.2 Calibrated test soil properties, including soil classification; standard proctor moisture-density relationship; “K” factor; gradation (including hydrometer test for the P200 fraction); and Atterberg limits.
 - 6.3.1.3 Data from the on-site weather station at the time of the test, including ambient air temperature, wind speed, and precipitation.
 - 6.3.1.4 Product manufacturer; product name; description; specifications; size; and a picture of the material, if practical.
 - 6.3.1.5 Test data, including soil moisture condition, all measurements made during testing, and pictures and videos of the test.



6.3.2 When product testing, obtain a sufficient size sample of the product to be tested and submit the sample for the index tests shown in the following table:

SRD – Silt Fence	SRD – RECP	SRD - Wattle
Mass/Area	Mass/Area	Mass/Volume
Thickness	Thickness	Circumference / Perimeter
Tensile Strength	Ground Cover	
Permittivity	Tensile Strength	
Apparent Opening Size	Absorption (temporary)	
Percent Open Area	Specific Gravity (permanent)	

6.4 Test Operation and Data Collection:

- 6.4.1 Include the following test data:
 - 6.4.1.1 operator identification;
 - 6.4.1.2 operating pressure;
 - 6.4.1.3 sprinkler heads activated;
 - 6.4.1.4 time rainfall began;
 - 6.4.1.5 time stopped;
 - 6.4.1.6 time runoff stopped, and;
 - 6.4.1.7 volume (timed) readings taken at 1 minute intervals;
 - 6.4.1.8 sediment concentrations taken at 3 minute intervals.

- 6.4.2 Perform testing at sequential target intensities of 5.1, 10.2, 15.2 cm/hr (2, 4, 6 in/hr) for 20 min.

- 6.4.3 During each target intensity, collect all runoff. Take timed volume samples at 1 minute intervals and grab samples at 3 minute intervals to determine runoff rate and sediment concentration, respectively. Commence sampling when runoff starts and continue until runoff stops (or becomes minimal). Take timed volume samples from the plot apron in appropriately sized containers. Take grab samples from the plot apron in 250 mL laboratory sample bottles and analyze for suspended sediment.

- 6.4.4 When the test is stopped at the end of each intensity (20 minutes of catastrophic failure) measure and record the depth of rainfall collected in each rain gauge.

- 6.4.5 Determine total sediment from the plot tested by allowing settlement to occur in the runoff collection tanks. Allow a minimum of 12 hours for settlement or use a flocculating agent. Decant and discard excess water, making sure that the sediment in the bottom of the tank is not disturbed. Collect the entire amount of the settled sediment.

- 6.4.6 Repeat 6.4.1 thru 6.4.5 for two additional slopes when testing a product.

- 6.4.7 Dry, weigh, and record the dry sediment weight.

- 6.4.8 Record general observations regarding the condition of the tested SRD at the conclusion of the data collection. Take photographs of the test plot after testing has been completed.

- 6.4.9 Carefully remove the SRD from the plot with as little disturbance of the soil as possible. Note general observations regarding the condition and erosion patterns (rills, etc.). Take photographs to record the condition of the soil.



6.5 Test Data:

- 6.5.1 Tabulate runoff data showing discharge as a function of time.
- 6.5.2 Tabulate sediment concentration as a function of time.
- 6.5.3 From the total sediment yield and available control data, compute the cumulative practice factor (P-Factor), comparing soil loss from the protected condition to that of the bare soil condition.

6.6 Report

Report at a minimum the following information:

- 6.6.1 General information, including test facility location, date, time and operator(s),
- 6.6.2 Test plot preparation,
- 6.6.3 Calibration data and analysis,
- 6.6.4 Materials documentation including SRD material and installation description,
- 6.6.5 Test operation, data collected, and data analysis.
- 6.6.6 Cumulative results of associated control (bare soil) testing.

7.0 Calibration and Associated Calculations

7.1 Simulated Rainfall Calibration

- 7.1.1 Calibration of the rainfall simulation equipment includes establishing: Rainfall intensity; Uniformity of rainfall application across the plot; Drop size distribution for each intensity, and; Rainfall drop height.
- 7.1.2 To ensure uniform distribution, do not conduct calibration and testing when the wind velocity is greater than 8 km/h (3 mph).
- 7.1.3 Conduct calibration annually or following equipment maintenance work. Conduct one intensity/uniformity check every 90 days, or after no more than four test series, whichever comes first.
- 7.1.4 Place sprinkler risers around the perimeter of the test plot to provide uniform distribution. The precise location of the risers to provide uniform rainfall distribution will be determined by the calibration process and the nuances of any given simulator system.
- 7.1.5 To measure rainfall intensity and uniformity, calibration tests shall be run for 15 minutes, recorded to the nearest second. The data shall be used to calculate the rainfall intensity uniformity using the Christiansen uniformity coefficient. Uniformity calibration shall be based on 14 rain gauges positioned equi-distant from each other across and down the slope. Thus, they are located 2 ft from the closest edge and 4 ft from each other. Perform calibrations at uniform pressure for each intensity. Adjust valve and pressure settings until an acceptably uniform rainfall distribution pattern is achieved.



- 7.1.6 To measure drop size distribution, completely fill three labeled pie pans with sifted flour, struck off with a ruler to produce a smooth, uncompacted surface.
- 7.1.6.1 Identify three locations along the vertical centerline of the test plot, and at the horizontal quarter points.
- 7.1.6.2 Extend the covered, filled pie pans out into the rainfall at the identified locations.
- 7.1.6.3 At the desired test intensity, remove the cover briefly so that drops impinge on the flour to form pellets.
- 7.1.6.4 Re-cover the pans after only a few seconds and before the drops start to touch each other, and remove the pans from the rainfall.
- 7.1.6.5 Repeat this procedure at each desired intensity.
- 7.1.6.6 Air-dry the flour pellets for a minimum of 12 h. Screen each sample of these semi-dry pellets by emptying the entire contents of the pan onto a 70 mesh sieve to carefully remove as much loose flour as possible. Then transfer the remaining pellets to evaporating dishes and heat in an oven at approximately 43°C (110°F) for 2 h.
- 7.1.6.7 Record the total weight of the hard flour pellets.
- 7.1.6.8 Sieve the pellets through standard soil sieves by shaking for 2 min.
- 7.1.6.9 Cull foreign matter and any double pellets from each sieve and record the total weight and pellet count for each size.
- 7.1.6.10 Raindrop sizes shall be shown to include no more than 10% greater than 6mm (0.24 in) and no more than 10% less than 1mm (0.04 in).
- 7.1.6.11 Repeat the raindrop size calibration procedure three times for each desired intensity.
- 7.1.7 Determine raindrop fall height by measuring the average height of the raindrop trajectory using a surveyor's rod. Hold the rod vertically in the spray of a single riser and measure the wetted height. Repeat the height measurement for each desired intensity.

7.2 Calibration Data:

- 7.2.1 Calculate the Christiansen uniformity coefficient (C_u) using the network of rain gauges described in 7.1.5, each of which represents an equal area of the test plot. Calculate the C_u as follows:

7.2.1.1 where: C_u = Christiansen uniformity coefficient,

$$C_u = 100 [1.00 - \sum |d| \div n \bar{X}]$$

where:

C_u = Christiansen uniformity coefficient,

d = $X_i - \bar{X}$,

n = number of observations (20 in this case),

X = average depth caught, and

X_i = depth caught in each rain gauge, i .



7.2.2 The average rainfall intensity over the entire test plot is the average depth of rainfall collected in the rain gauges divided by the elapsed time of the test. The formula to calculate intensity (in centimeters per hour) is:

$$i = 60[\sum_{j=1}^J P_j \div Jt]$$

where:

- i = rainfall intensity (cm / h),
- P_j = depth of rainfall (cm),
- J = number of rain gauges (20 in this case), and
- t = time of test (minutes).

7.2.3 Plot the raindrop size distribution for each rainfall intensity. The plot should relate the percent of total volume to drop diameter.

8.0 TRAINING

8.1 The Laboratory Director and Assistant Laboratory Director in conjunction with Division Management are responsible for providing initial and ongoing training. This SOP and all associated SOPs are included in the department training program of all department new hires that perform any part of this SOP's activities and as continued training for existing personnel.

9.0 REFERENCES

- 9.1 ISO 9001, Quality Management System – Requirements
- 9.2 ISO/IEC 17025, General Requirements for the Competence of Testing and Calibration Laboratories
- 9.3 01CQSP, Corporate Quality System Plan
- 9.4 ASTM WK11340 (February 2012)
- 9.5 ASTM D 698
- 9.6 ASTM D 2937

10.0 CHANGES TO PROCEDURE

Each change shall be documented.

Changes	Date	Revision Level
New	9/01/12	0



APPENDIX D – CHECK DAM TEST PROCEDURE



Approved: _____ Date: _____
Sam R. Allen, Vice President

Approved: _____ Date: _____
Alfred J. Ransom, Corporate Quality Officer

Standard Test Method for Determination of Temporary Ditch Check Performance in Protecting Earthen Channels from Stormwater-Induced Erosion

DDRF Division

Title	Large-scale Channel Erosion
Test Method Reference	GSWCC-CD / ASTM D 7208-06
Test Category	Hydraulic Performance
Material Applicability	Sediment Retention Devices (a.k.a. SRDs)
Target Property	Soil Loss
Units of Test Result	Soil Loss
Test Specimen Configuration	Minimum 12 ft long to fit across trapezoidal channel having 0.61 m (2 ft) bottom width and 2:1 side slopes.
Number of Replicate Specimens	Three (one each in three different flumes)
Equipment Required	Water delivery system, water source, survey apparatus, velocity probe, earthwork equipment, photographic equipment: camera and video recorder.

1.0 PURPOSE

1.1 This test method covers the determination of a check structure performance via its ability to slow runoff, trap sediments, and decrease erosion.

2.0 SCOPE

2.1 This test method is a performance test, but can be used for quality assurance to determine product conformance to project specifications. Caution is advised since information regarding laboratory specific precision is incomplete. For project specific conformance, unique project-specific conditions may be taken into consideration.

2.2 This test method covers the guidelines, requirements, and procedures for evaluating the ability of temporary ditch checks to protect earthen channels from stormwater-induced erosion. Critical elements of this protection are the ability of the temporary ditch check to:

- 2.2.1 Slow and/or pond runoff to encourage sedimentation, thereby reducing soil particle transport downstream;
- 2.2.2 Trap soil particles upstream of the check structure; and
- 2.2.3 Decrease soil erosion.

2.3 This test method utilizes full-scale testing procedures, and is patterned after conditions typically found on construction sites at the conclusion of earthwork operations, but prior to the start of revegetation work. Therefore this test method considers only unvegetated conditions. This test method provides a comparative evaluation of a temporary ditch check to baseline bare soil conditions under controlled and documented conditions.



3.0 RESPONSIBILITIES

- 3.1 The Corporate Quality Officer in conjunction with the laboratory director is responsible for the implementation and maintenance of the standard operating procedure.
- 3.2 The Laboratory Director/Assistant Laboratory Director is responsible for informing the technicians of the maintenance and operation requirements for specific equipment and provides training to technicians.
- 3.3 The Technicians are responsible for performing apparatus/facility setup, conducting the test, performing the required apparatus preventive maintenance and documenting the results.

4.0 SAFETY

- 4.1 Take care when performing preparation and testing operations in the channels.

5.0 APPARATUS / FACILITY

- 5.1 Testing is performed in trapezoidal cross section channels. Test channels have an approximate bed slope of 5% and a test channel length of 60 ft. The trapezoidal channel has a 2 ft bottom width and 2:1 side slopes.
- 5.2 The test channel shall be constructed with a minimum 12-inch thick veneer of compacted soil of the type requested for testing. The default soil type is sandy clay as defined by the USDA soil triangle. Representative samples of the test soil shall be sent to a geotechnical laboratory at least once per year, or whenever the stockpile is changed, for determination of grain size distribution, Atterberg limits, organic matter content, standard Proctor density, and optimum moisture content.
- 5.3 The channel bed soil is compacted to create a geotechnically (structurally) stable subgrade. Place soil in a minimum of two lifts and compact to $90 \pm 3\%$ of standard Proctor density in accordance with Test Method D 698. In-situ density shall be verified via any generally accepted method, such as ASTM D2937 (drive cylinder method).

6.0 PROCEDURE

6.1 Test Channel Preparation:

- 6.1.1 Soil preparation methods for bare soil (control) testing should be identical to soil preparation methods for the protected scenario.
 - 6.1.1.1 In the case previous testing was completed in the channel, obliterate any rills and gullies and spread new soil of the same type across the plot and blend (rake or till) into the surface.
 - 6.1.1.2 Determine the moisture content of the soil on each test plot.
 - 6.1.1.3 Wet or dry each plot until the soil reaches the optimum moisture content $\pm 4\%$.
 - 6.1.1.4 Rake the plot smooth with a steel hand rake.
 - 6.1.1.5 Compact the soil surface using a trapezoid form "drag" and/or hand compaction.
- 6.1.2 Locate a 40 ft test reach sufficiently downstream of the channel inlet structure or transitions of flow to ensure straight and parallel stream lines. Flow should enter test reach as uniform flow, or as close to uniform flow as possible.



6.1.3 Check Dam Installation - Install the check dam in accordance with the client's directions. Locate the check structure (and associated scour apron, if required) at a point in the test reach that will allow any upstream ponding to be contained in the test reach. (Data acquisition cross-sections should be 2.5 ft upstream and downstream of the center of the check dam.)

6.1.3.1 Record all pertinent information.

6.1.3.2 Extend the check dam ends up the channel side slopes to prohibit flow from circumventing the check dam.

6.2 Pre-Test Documentation:

6.2.1 Maintain a digital test folder for each test, including the following information:

6.2.1.1 Calibrated flow properties.

6.2.1.2 Calibrated test soil properties, including soil classification; standard proctor moisture-density relationship; "K" factor; gradation (including hydrometer test for the P200 fraction); and Atterberg limits.

6.2.1.3 Product manufacturer; product name; description; specifications; size; and a picture of the material, if practical.

6.2.1.4 Test data, including all measurements made during testing and pictures and videos of the test.

6.2.2 When product testing, obtain a sufficient size sample of the product to be tested and submit the sample for the index tests shown in the following table:

SRD – Silt Fence	SRD - Wattle	SRD - Other
Mass/Area	Mass/Volume	TBD
Thickness	Circumference / Perimeter	TBD
Tensile Strength		
Permittivity		
Apparent Opening Size		
Percent Open Area		

6.3 Test Section Preparation:

6.3.1 Test Section - Immediately prior to testing, delineate cross sections for data acquisition. At a minimum, nine cross sections should be included through the test reach, with a maximum spacing between sections of 5 ft in the direction of flow. The test section shall be a minimum of 40 ft long.

6.3.2 Establish a sufficient number of uniformly spaced data acquisition locations within each cross section to record water surface elevation and bed elevation both below and above the maximum water level. At a minimum, three data acquisition locations along the bed of the channel and up each side slope must be identified and monitored at each cross section. Record the elevation of each data acquisition location by survey apparatus or point gauge assembly. If using a point gauge assembly in a relative frame of reference, determine the longitudinal slope of the installation by survey apparatus. Elevation readings can be sensitive to the diameter of the probe (rod or point gauge assembly) in contact with the ground surface. Thus, the point gauge assembly or survey rod should include an extension



rod between 6.4 mm (0.25 in.) and 9.5 mm (0.375 in.) in diameter to make contact with the ground surface.

6.3.3 Use an upstream hydraulic control structure with a calibrated weir to introduce volumetric flows to the channel. Three increasing flows – one per channel – will be used in the testing. The test flow rates shall be 0.5, 1.0, and 2.0 cfs.

6.4 Prepare facility for testing.

6.4.1 Provide access to each data acquisition cross section to permit measurement of bed and water surface elevations by means of survey apparatus or point gauge assembly without walking on channel surface. Record elevation of each data acquisition location to establish the baseline elevations.

6.5 Test Operation and Data Collection:

6.5.1 Record the following information and test data:

- 6.5.1.1 operator identification;
- 6.5.1.2 baseline channel elevations;
- 6.5.1.3 actual discharge recorded during testing, time flow began;
- 6.5.1.4 time flow stopped;
- 6.5.1.5 flow depths; and measured velocities;
- 6.5.1.6 final channel elevations.

6.5.2 Slowly increase flow to initial target discharge.

6.5.3 Allow flow to increase over approximately ten minutes to minimize shock to the system.

6.5.4 Once the flow has been increased to the target discharge, allow the flow to reach equilibrium.

6.5.5 Record water surface elevation measurements at each data acquisition location at each cross section using the point gauge assembly or survey apparatus used to record bed elevations.

6.5.6 Record velocity measurements at the centerline point of each test cross section using the velocity probe.

6.5.7 Velocity measurements at approximately the mid-point of depth.

6.5.8 Record photographs and video footage of the testing. Convey flow for thirty minutes at the target discharge or until the check dam becomes dislodged, whichever is shorter.

6.5.9 At the conclusion of the initial target discharge, inspect the test channel noting any changes in SRD or bed soil condition. Record photographs and video footage of the installation. Record elevation of each data acquisition location at the same locations as recorded during initial data collection.

6.5.10 Carefully remove the SRD from the channel, with as little disturbance of the soil as possible. Note general observations regarding the condition and scour patterns. Take photographs to record the condition of the test channel. Markers may be used to identify any scour patterns for the pictorial documentation. Photographs should show the final condition of the test plot with and without the SRD in place.

6.5.11 Setup and run identical channels for each of the higher flows.



6.5.12 A total of three tests (1 each at 0.5, 1.0, and 2.0 cfs) should be performed on each check dam system to obtain a range of performance measurements. Each test should follow identical procedures as noted above.

6.6 Test Data:

6.6.1 Tabulate before and after elevations and flow (velocity/depth), as well as flow at weir measurements.

6.6.2 From the available data, compute soil loss and associated flow (shear/velocity) characteristics and channel properties as discussed in 7.0.

7.0 Data Analysis

7.1 The objective of the analysis of test data is to determine the relationship between volumetric flow (including velocity) and soil loss and to determine the hydraulic conditions created by check dams.

7.2 Determine total discharge from weir, inline flow meter, or alternative procedure.

7.3 Develop profile plot for each test to include bed surface, water surface and energy grade line.

7.4 Bed elevation prior to testing should be plotted in conjunction with the water surface elevation measured during testing.

7.5 Flow depth is computed as the vertical difference between water surface and bed surface elevation measurements.

7.7 Calculate the Clopper Soil Loss Index (CSLI) from the topographic data gathered before and after test flows. Use the change in channel topography to define the performance of the SRD. Quantify areas of degradation (soil loss) as "cut" and quantify areas of aggradation (sediment deposition) as "fill." Compute CSLI as follows:

$$CSLI = (C_T/A_T) \times 100$$

Where:

SAI = Soil Aggradation Index

C_T = total cut, m^3 , and

A_T = wetted channel area, m^2

7.9 Calculate the Soil Aggradation Index (SAI) from the topographic data gathered before and after test flows. Use the change in channel topography to define the performance of the SRD. Quantify areas of degradation (soil loss) as "cut" and quantify areas of aggradation (sediment deposition) as "fill." Compute SAI as follows:

$$SAI = (F_T/A_T) \times 100$$

Where:

SAI = Soil Aggradation Index

F_T = total aggradation, m^3 , and

A_T = wetted channel area, m^2

8.0 **Report** - An engineering report documenting the test facility, test preparation, test execution, collected data, data analysis and results must be generated to include:

8.1 General information, including test facility location, date, and time,



- 8.2 Test channel preparation including geotechnical properties of test soil,
- 8.3 In-situ compaction validation,
- 8.4 Weir calibration data and analysis, if used,
- 8.5 Materials documentation including check dam material and installation details,
- 8.6 Test operation and data collected, and
- 8.7 Data analysis,
- 8.8 Table and/or plot of flow depth, flow velocity, and soil loss.

9.0 TRAINING

- 9.1 The Laboratory Director and Assistant Laboratory Director in conjunction with Division Management are responsible for providing initial and ongoing training. This SOP and all associated SOPs are included in the department training program of all department new hires that perform any part of this SOP's activities and as continued training for existing personnel.

10.0 REFERENCES

- 10.1 ISO 9001, Quality Management System – Requirements
- 10.2 ISO/IEC 17025, General Requirements for the Competence of Testing and Calibration Laboratories
- 10.3 01CQSP, Corporate Quality System Plan
- 10.4 ASTM D 7208
- 10.5 ASTM D 698
- 10.6 ASTM D 2937

11.0 CHANGES TO PROCEDURE

Each change shall be documented.

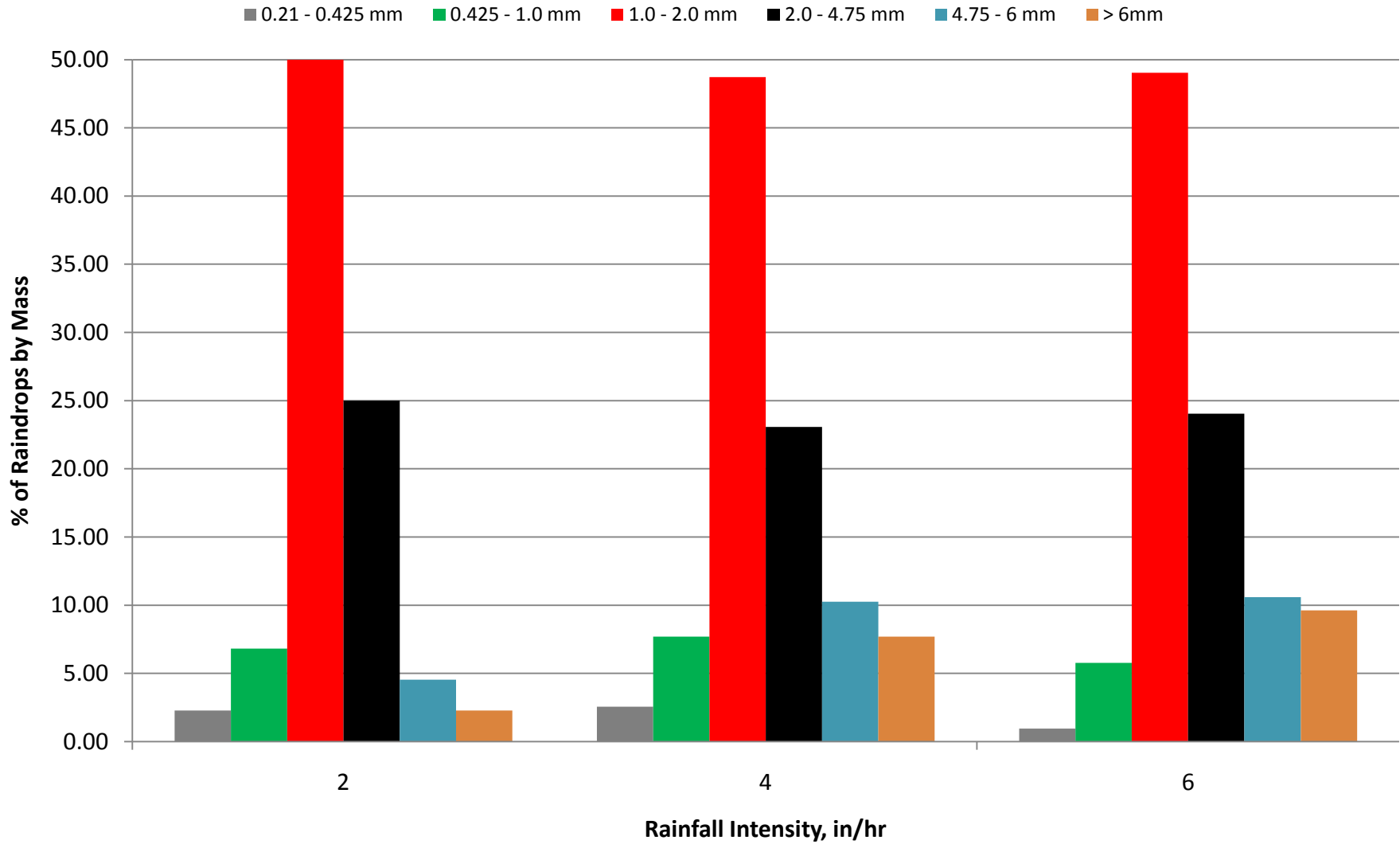
Changes	Date	Revision Level
New	9/1/12	0



APPENDIX E – RAINFALL CALIBRATION DATA



Raindrop Size Distribution April 2012



Target raindrop size and distribution (no more than 10 % greater than 6 mm (0.24 in.) and no more than 10 % smaller than 1 mm (0.04 in.)).



DDRF
Rainfall Calibration
Slope 2 - Target 6 in/hr

Date: 13-Apr-12

Start Time: 12:30 PM

End Time: 12:45 PM

Test Time: 15 min.

(circle "x" for open valves)

TOP OF SLOPE

x X X X

P = _____ psi

A

	d = _____ mm i = 0.00 in/hr	1	2	B d = _____ mm i = 0.00 in/hr	P = _____ psi	X X
X X P = _____ psi	d = _____ mm i = 0.00 in/hr	3	4	d = _____ mm i = 0.00 in/hr		X x
X x	d = _____ mm i = 0.00 in/hr	5	6	D d = _____ mm i = 0.00 in/hr	P = <u>9</u> psi	X X
X X P = <u>9</u> psi	d = <u>35</u> mm i = 5.51 in/hr	7	8	d = <u>35</u> mm i = 5.51 in/hr		X x
X x	d = <u>39</u> mm i = 6.14 in/hr	9	10	F d = <u>37</u> mm i = 5.83 in/hr	P = <u>9</u> psi	x X
x X P = <u>9</u> psi	d = <u>40</u> mm i = 6.30 in/hr	11	12	d = <u>39</u> mm i = 6.14 in/hr		X X
X X	d = <u>41</u> mm i = 6.46 in/hr	13	14	H d = <u>41</u> mm i = 6.46 in/hr	P = <u>9</u> psi	x X
X X P = <u>9</u> psi	d = <u>41</u> mm i = 6.46 in/hr	15	16	d = <u>39</u> mm i = 6.14 in/hr		X X
X X	d = <u>38</u> mm i = 5.98 in/hr	17	18	J d = <u>36</u> mm i = 5.67 in/hr	P = <u>9</u> psi	X X
	d = <u>36</u> mm i = 5.67 in/hr	19	20	d = <u>34</u> mm i = 5.35 in/hr		X X

Bottom Catch: 175 gal

Inlet Pressure: 16 psi

Average Wind: 0 mph

Average Depth: 37.93 mm

Average Rainfall Intensity: 5.97 in/hr

Christiansen Uniformity Coefficient: 95



DDRF
Rainfall Calibration
Slope 2 - Target 4 in/hr

Date: 13-Apr-12 Start Time: 1:30 PM End Time: 1:45 PM

Test Time: 15 min. (circle "x" for open valves)

TOP OF SLOPE

x x X X

P = _____ psi

A

	d = _____ mm i = 0.00 in/hr	1	2	d = _____ mm i = 0.00 in/hr	P = _____ psi	X
X	d = _____ mm i = 0.00 in/hr	3	4	d = _____ mm i = 0.00 in/hr		x
X P = _____ psi		C				x
x	d = _____ mm i = 0.00 in/hr	5	6	d = _____ mm i = 0.00 in/hr	P = <u>9</u> psi	X
X	d = _____ mm i = 0.00 in/hr					X
X P = <u>9</u> psi	d = <u>25</u> mm i = 3.94 in/hr	E	7	8	d = <u>23</u> mm i = 3.62 in/hr	x
x	d = _____ mm i = 0.00 in/hr					x
X	d = <u>25</u> mm i = 3.94 in/hr	9	10	10	d = <u>24</u> mm i = 3.78 in/hr	P = <u>9</u> psi
x	d = _____ mm i = 0.00 in/hr					x
X P = <u>9</u> psi	d = <u>26</u> mm i = 4.09 in/hr	G	11	12	d = <u>27</u> mm i = 4.25 in/hr	X
X	d = _____ mm i = 0.00 in/hr					X
X	d = <u>28</u> mm i = 4.41 in/hr	13	14	14	d = <u>28</u> mm i = 4.41 in/hr	P = <u>9</u> psi
x	d = _____ mm i = 0.00 in/hr					x
X P = <u>9</u> psi	d = <u>26</u> mm i = 4.09 in/hr	I	15	16	d = <u>27</u> mm i = 4.25 in/hr	X
X	d = _____ mm i = 0.00 in/hr					X
X	d = <u>24</u> mm i = 3.78 in/hr	17	18	18	d = <u>25</u> mm i = 3.94 in/hr	P = <u>9</u> psi
	d = _____ mm i = 0.00 in/hr					x
	d = <u>23</u> mm i = 3.62 in/hr	19	20	20	d = <u>24</u> mm i = 3.78 in/hr	X

Bottom Catch: 130 gal

Inlet Pressure: 16 psi

Average Wind: 0 mph

Average Depth: 25.3571 mm

Average Rainfall Intensity: 3.99 in/hr

Christiansen Uniformity Coefficient: 94



DDRF
Rainfall Calibration
Slope 2 - Target 2 in/hr

Date: 13-Apr-12 Start Time: 2:00 PM End Time: 2:15 PM

Test Time: 15 min. (circle "x" for open valves)

TOP OF SLOPE

x x **X** x

P = _____ psi

A

	d = _____ mm i = 0.00 in/hr	1	2	B d = _____ mm i = 0.00 in/hr	P = _____ psi	x X
x X P = _____ psi	d = _____ mm i = 0.00 in/hr	C 3	4	d = _____ mm i = 0.00 in/hr		x x
x x	d = _____ mm i = 0.00 in/hr	5	6	D d = _____ mm i = 0.00 in/hr	P = <u>9</u> psi	x X
x X P = <u>9</u> psi	d = <u>13</u> mm i = 2.05 in/hr	E 7	8	d = <u>13</u> mm i = 2.05 in/hr		x x
x x	d = <u>13</u> mm i = 2.05 in/hr	9	10	F d = <u>14</u> mm i = 2.20 in/hr	P = <u>9</u> psi	x x
x x P = <u>9</u> psi	d = <u>14</u> mm i = 2.20 in/hr	G 11	12	d = <u>14</u> mm i = 2.20 in/hr		X x
X x	d = <u>13</u> mm i = 2.05 in/hr	13	14	H d = <u>15</u> mm i = 2.36 in/hr	P = <u>9</u> psi	x x
x x P = <u>9</u> psi	d = <u>13</u> mm i = 2.05 in/hr	I 15	16	d = <u>13</u> mm i = 2.05 in/hr		X x
X X	d = <u>14</u> mm i = 2.20 in/hr	17	18	J d = <u>13</u> mm i = 2.05 in/hr	P = <u>9</u> psi	x x
	d = <u>12</u> mm i = 1.89 in/hr	19	20	d = <u>12</u> mm i = 1.89 in/hr		X X

Bottom Catch: 60 gal

Inlet Pressure: 16 psi

Average Wind: 0 mph

Average Depth: 13.28571 mm

Average Rainfall Intensity: 2.09 in/hr

Christiansen Uniformity Coefficient: 95



DDRF
Rainfall Calibration
Slope 1 - Target 6 in/hr

Date: 13-Apr-12

Start Time: 9:10 AM

End Time: 9:25 AM

Test Time: 15 min.

(circle "x" for open valves)

TOP OF SLOPE

x **X** **X** **X**

P = 9 psi

A

X	d = _____ mm		1	2	d = _____ mm	
X P = <u>9</u> psi	i = 0.00 in/hr	B			i = 0.00 in/hr	
X	d = _____ mm		3	4	d = _____ mm	X
x	i = 0.00 in/hr				C i = 0.00 in/hr	P = <u>9</u> psi X
X	d = _____ mm		5	6	d = _____ mm	X
X P = <u>9</u> psi	i = 0.00 in/hr	D			i = 0.00 in/hr	x
X	d = <u>39</u> mm		7	8	d = <u>37</u> mm	X
x	i = 6.14 in/hr				E i = 5.83 in/hr	P = <u>9</u> psi X
X	d = <u>40</u> mm		9	10	d = <u>39</u> mm	X
X P = <u>9</u> psi	i = 6.30 in/hr	F			i = 6.14 in/hr	x
X	d = <u>41</u> mm		11	12	d = <u>40</u> mm	x
x	i = 6.46 in/hr				G i = 6.30 in/hr	P = <u>9</u> psi X
x	d = <u>40</u> mm		13	14	d = <u>40</u> mm	X
X P = <u>9</u> psi	i = 6.30 in/hr	H			i = 6.30 in/hr	X
X	d = <u>38</u> mm		15	16	d = <u>38</u> mm	X
X	i = 5.98 in/hr				I i = 5.98 in/hr	P = <u>9</u> psi X
X	d = <u>37</u> mm		17	18	d = <u>39</u> mm	X
X P = <u>9</u> psi	i = 5.83 in/hr	J			i = 6.14 in/hr	X
X	d = <u>34</u> mm		19	20	d = <u>36</u> mm	
X	i = 5.35 in/hr				i = 5.67 in/hr	

Bottom Catch: 175 gal

Inlet Pressure: 16 psi

Average Wind: 0 mph

Average Depth: 38.43 mm

Average Rainfall Intensity: 6.05 in/hr

Christiansen Uniformity Coefficient: 96



DDRF
Rainfall Calibration
Slope 1 - Target 4 in/hr

Date: 13-Apr-12 Start Time: 8:30 AM End Time: 8:45 AM

Test Time: 15 min. (circle "x" for open valves)

TOP OF SLOPE

x x **X** **X**

P = 9 psi

A

X	d = _____ mm			d = _____ mm	
X P = <u>9</u> psi	i = 0.00 in/hr	B	1	2	i = 0.00 in/hr
x	d = _____ mm		3	4	d = _____ mm
x	i = 0.00 in/hr				i = 0.00 in/hr
X	d = _____ mm		5	6	d = _____ mm
X P = <u>9</u> psi	i = 0.00 in/hr	D			i = 0.00 in/hr
x	d = <u>23</u> mm		7	8	d = <u>24</u> mm
x	i = 3.62 in/hr				i = 3.78 in/hr
x	d = <u>26</u> mm		9	10	d = <u>26</u> mm
x P = <u>9</u> psi	i = 4.09 in/hr	F			i = 4.09 in/hr
X	d = <u>26</u> mm		11	12	d = <u>27</u> mm
X	i = 4.09 in/hr				i = 4.25 in/hr
x	d = <u>25</u> mm		13	14	d = <u>28</u> mm
x P = <u>9</u> psi	i = 3.94 in/hr	H			i = 4.41 in/hr
X	d = <u>24</u> mm		15	16	d = <u>27</u> mm
X	i = 3.78 in/hr				i = 4.25 in/hr
x	d = <u>24</u> mm		17	18	d = <u>25</u> mm
X P = <u>9</u> psi	i = 3.78 in/hr	J			i = 3.94 in/hr
X	d = <u>23</u> mm		19	20	d = <u>24</u> mm
X	i = 3.62 in/hr				i = 3.78 in/hr

Bottom Catch: 125 gal

Inlet Pressure: 16 psi

Average Wind: 0 mph

Average Depth: 25.14 mm

Average Rainfall Intensity: 3.96 in/hr

Christiansen Uniformity Coefficient: 95



DDRF
Rainfall Calibration
Slope 1 - Target 2 in/hr

Date: 13-Apr-12 Start Time: 8:10 AM End Time: 8:25 AM

Test Time: 15 min. (circle "x" for open valves)

TOP OF SLOPE

x x **X** x

P = _____ psi

A

x	d = _____ mm		1	2	d = _____ mm	
X	P = _____ psi	i = 0.00 in/hr	B		i = 0.00 in/hr	
x	d = _____ mm		3	4	d = _____ mm	x
x		i = 0.00 in/hr			C i = 0.00 in/hr	P = _____ psi X
x	d = _____ mm		5	6	d = _____ mm	x
X	P = <u>9</u> psi	i = 0.00 in/hr	D		i = 0.00 in/hr	x
x	d = <u>12</u> mm		7	8	d = <u>12</u> mm	x
x		i = 1.89 in/hr			E i = 1.89 in/hr	P = <u>9</u> psi x
x	d = <u>14</u> mm		9	10	d = <u>14</u> mm	X
X	P = <u>9</u> psi	i = 2.20 in/hr	F		i = 2.20 in/hr	x
x	d = <u>14</u> mm		11	12	d = <u>15</u> mm	x
x		i = 2.20 in/hr			G i = 2.36 in/hr	P = <u>9</u> psi x
x	d = <u>13</u> mm		13	14	d = <u>15</u> mm	X
x	P = <u>9</u> psi	i = 2.05 in/hr	H		i = 2.36 in/hr	x
X	d = <u>12</u> mm		15	16	d = <u>13</u> mm	x
x		i = 1.89 in/hr			I i = 2.05 in/hr	P = <u>9</u> psi X
x	d = <u>12</u> mm		17	18	d = <u>13</u> mm	X
X	P = <u>9</u> psi	i = 1.89 in/hr	J		i = 2.05 in/hr	x
X	d = <u>11</u> mm		19	20	d = <u>11</u> mm	
x		i = 1.73 in/hr			i = 1.73 in/hr	

Bottom Catch: 60 gal

Inlet Pressure: 16 psi

Average Wind: 0 mph

Average Depth: 12.93 mm

Average Rainfall Intensity: 2.04 in/hr

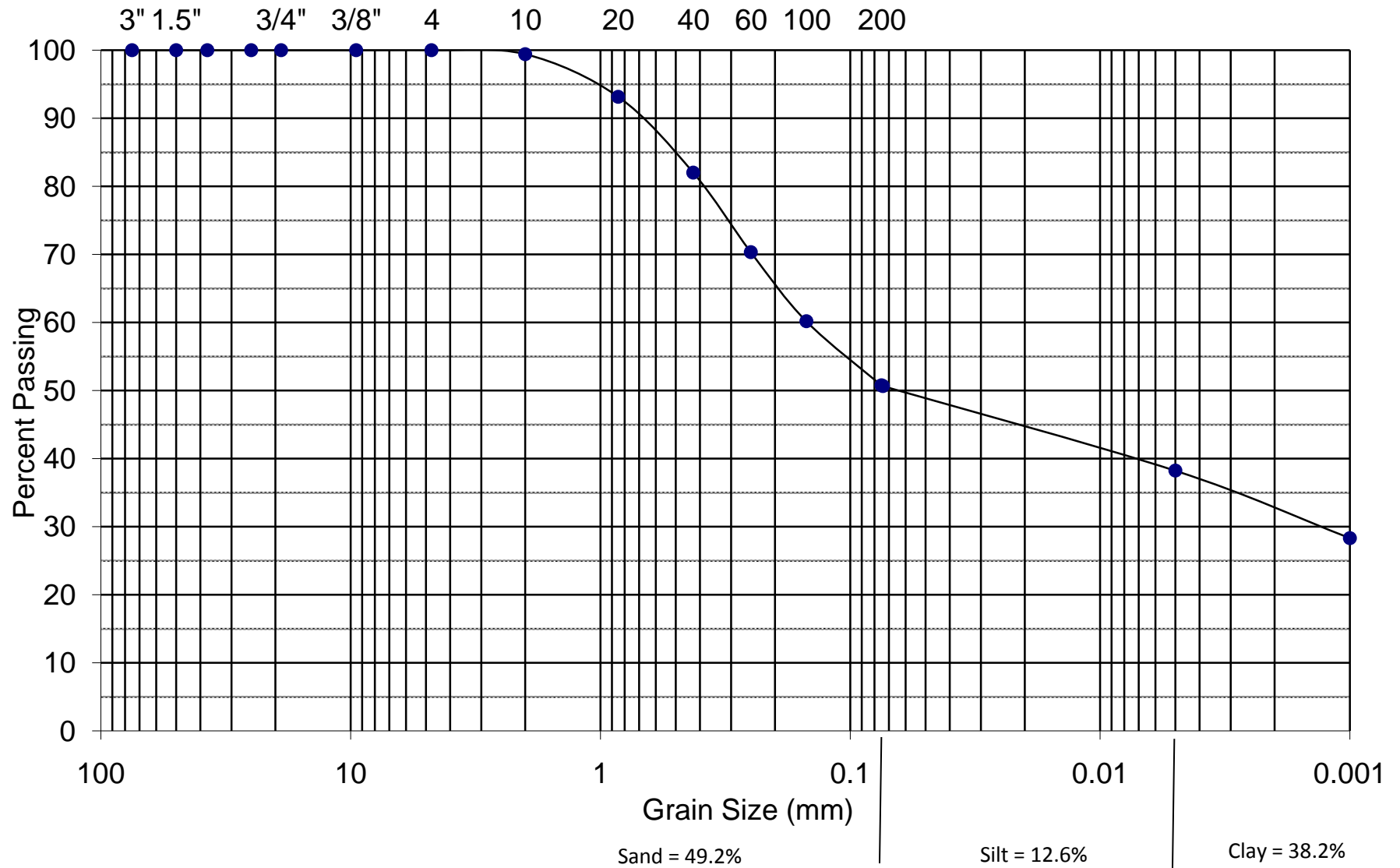
Christiansen Uniformity Coefficient: 92



APPENDIX F – TEST SOIL CHARACTERIZATION



Grain Size Distribution - DDRF - Sandy Clay





Soil Texture Calculator

Percent Sand:
49.2

- *Very Coarse Sand: 0
- *Coarse Sand: 0
- *Medium Sand: 0
- *Fine Sand: 0
- *Very Fine Sand: 0

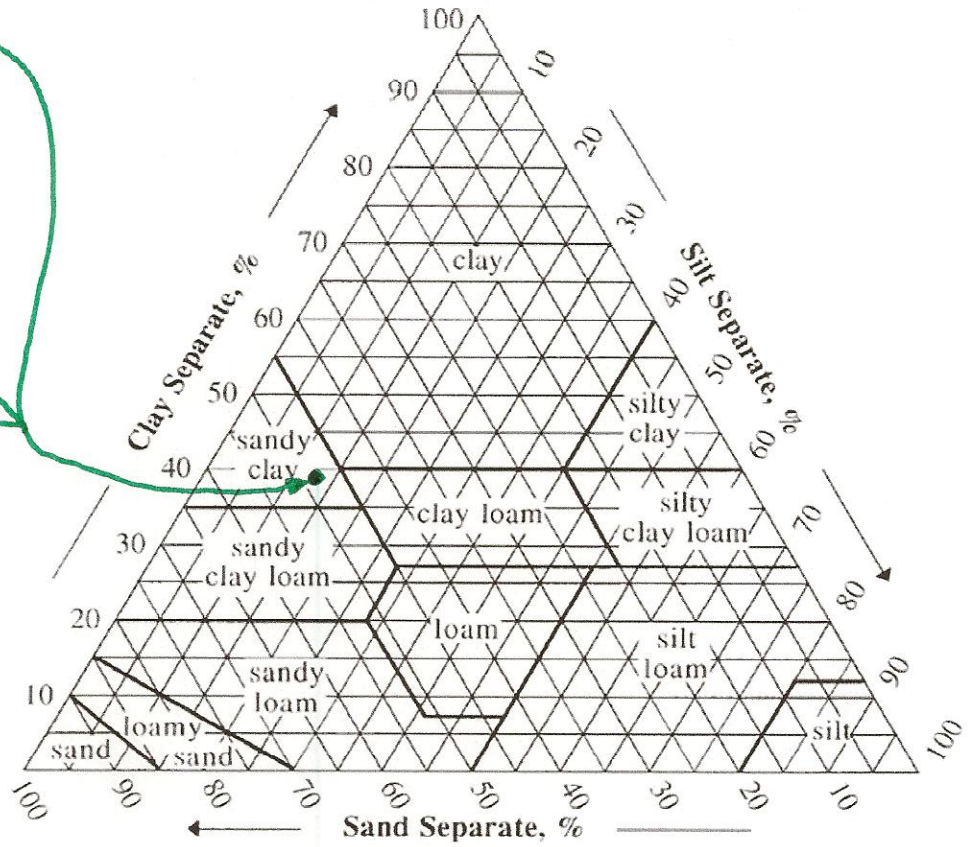
Percent Clay:
38.2

Graph Color:
Red

Percent Silt:
12.599999999999994

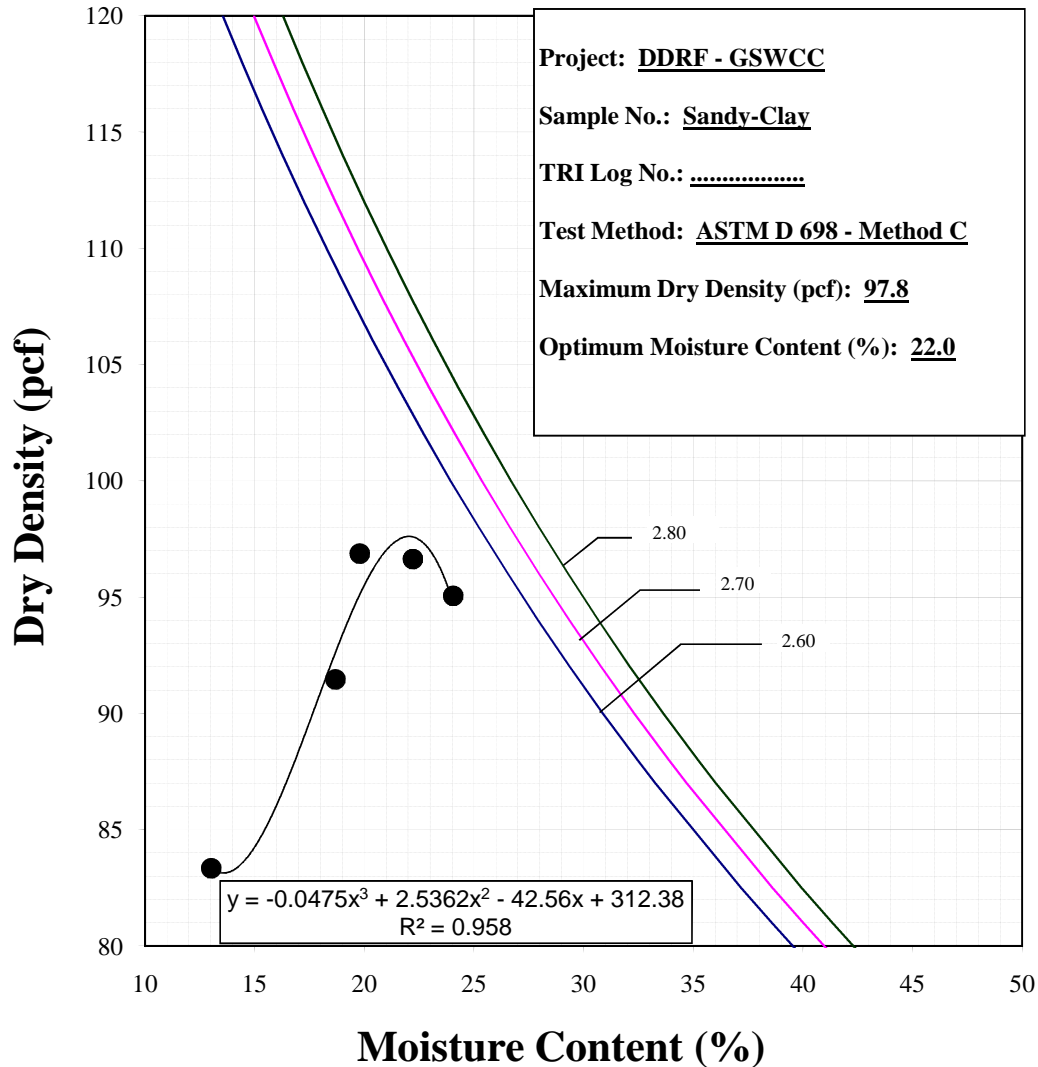
Texture:
Sandy Clay

**Optional*





Proctor Compaction Test



ASTM D 4718, Oversize Particle Correction	
Corrected Maximum Dry Density (pcf):	97.8
Corrected Optimum Moisture Content (%):	22.0

C. Joel Sprague, 8/19/12

Quality Review/Date

Tested by: J. Sprague

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



TRI/ENVIRONMENTAL, INC.

A Texas Research International Company

Compaction Worksheet ASTM D 2937

Location: GSWCC Slopes

Date: 8/19/2012

Drive Cylinder: Dia., mm = 98 Length, mm = 127 Volume, ft³ = 0.034

Compaction						
Tube #	1	2	3	4	5	6
Wt. of Wet Soil + Mold (g)	2266.0	2311.0	2311.0	2339.0	2323.0	2325.0
Wt. of Mold (g)	613.0	612.0	613.0	615.0	615.0	615.0
Wt. of Wet Soil (g)	1653.0	1699.0	1698.0	1724.0	1708.0	1710.0
Moisture Content						
Tare Number	D-13	D-17	D-15	D-4	D-3	D-9
Wt. of Tare (g)	236.0	232.0	231.0	234.0	232.0	231.0
Wt. of Wet Soil + Tare (g)	1889.0	1931.0	1929.0	1958.0	1940.0	1941.0
Wt. of Dry Soil + Tare (g)	1507.0	1530.0	1544.0	1577.0	1546.0	1558.0
Water Content, w (%)	30.055	30.894	29.322	28.369	29.985	28.862

Wet density, $\gamma_{wet} = W / V_h$ (lb/ft ³) =	107.63	110.62	110.56	112.25	111.21	111.34
Dry density, $\gamma_{dry} = \gamma_{wet} / [1 + w]$ (lb/ft ³) =	82.75	84.51	85.49	87.44	85.55	86.40
Max Std. Proctor Dry density (lb/ft ³) =	97.80	97.80	97.80	97.80	97.80	97.80
Opt. Moisture (%) =	22.00	22.00	22.00	22.00	22.00	22.00
Compaction as % of Std. Proctor =	84.6%	86.4%	87.4%	89.4%	87.5%	88.3%
Avg Compaction as % of Std. Proctor =	87.3%					

C. Joel Sprague, 8/19/12

Quality Review/Date

Tested by: J. Sprague

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



TRI/ENVIRONMENTAL, INC.

A Texas Research International Company

Compaction Worksheet ASTM D 2937

Location: GSWCC Channels

Date: 8/19/2012

Drive Cylinder: Dia., mm = 98 Length, mm = 127 Volume, ft³ = 0.034

Compaction						
Tube #	1	2	3	4	5	6
Wt. of Wet Soil + Mold (g)	2357.0	2333.0	2358.0			
Wt. of Mold (g)	613.0	612.0	613.0			
Wt. of Wet Soil (g)	1744.0	1721.0	1745.0	0.0	0.0	0.0
Moisture Content						
Tare Number	B	T	M			
Wt. of Tare (g)	217.0	217.1	216.8			
Wt. of Wet Soil + Tare (g)	334.4	341.1	357.4			
Wt. of Dry Soil + Tare (g)	309.1	314.6	326.8			
Water Content, w (%)	27.482	27.218	27.802	#DIV/0!	#DIV/0!	#DIV/0!
Wet density, $\gamma_{wet} = W / V_h$ (lb/ft ³) =	113.55	112.05	113.62	0.00	0.00	0.00
Dry density, $\gamma_{dry} = \gamma_{wet} / [1 + w]$ (lb/ft ³) =	89.07	88.08	88.90	#DIV/0!	#DIV/0!	#DIV/0!
Max Std. Proctor Dry density (lb/ft ³) =	97.80	97.80	97.80			
Opt. Moisture (%) =	22.00	22.00	22.00			
Compaction as % of Std. Proctor =	91.1%	90.1%	90.9%	#DIV/0!	#DIV/0!	#DIV/0!
Avg Compaction as % of Std. Proctor =	90.7%					

C. Joel Sprague, 8/19/12

Quality Review/Date

Tested by: J. Sprague

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APPENDIX G – TESTED PRODUCTS



GEO FABRICS

GFG-B

Type B



August 14, 2012

Mail To:

Mr. C. Joel Sprague
DDRF , TRI / Environmental
P.O. Box 9192
Greenville, SC 29604

Bill To:

<= Same

email: jsprae@tri-env.com
email: jesprae@tri-env.com

Dear Mr. Sprague:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

TRI Job Reference Number: E2368-68-04

Material(s) Tested: 1, GeoFabrics GFG-B Woven Geotextile

Test(s) Requested: Thickness (ASTM D 5199)
Mass/Unit Area (ASTM D 5261)
Grab Tensile (ASTM D 4632)
Apparent Opening Size (ASTM D 4751)
Percent Open Area (COE Method)
Falling Head Permittivity (ASTM D 4491)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager



LABORATORY TEST RESULTS
TRI Client: DDRF , TRI / Environmental

Material: GeoFabrics GFG-B Woven Geotextile
Sample Identification: GFG-B-1
TRI Log #: E2368-68-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5199)													
Thickness (mils)	27	26	27	27	27	27	27	27	27	29	27	27 26	1 << min
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	1.98	1.98	2.02	2.01	1.96	1.96	1.98	1.97	1.98	1.97		1.98	0.02
Mass/Unit Area (oz/sq.yd)	4.61	4.61	4.70	4.68	4.56	4.56	4.61	4.58	4.61	4.58		4.61	0.05
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	240	241	229	224	235	218	259	200	247	224		232	17
TD - Tensile Strength (lbs)	168	161	156	175	175	171	181	162	181	179		171	9
MD - Elong. @ Max. Load (%)	21	21	23	19	21	20	23	17	21	19		21	2
TD - Elong. @ Max. Load (%)	14	15	15	17	16	15	19	15	17	16		16	1
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.558	0.420	0.419	0.443	0.487							0.465	0.058
Sieve No.	30	40	40	35	35							35	
MD Machine Direction TD Transverse Direction													

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



LABORATORY TEST RESULTS
TRI Client: DDRF , TRI / Environmental

Material: GeoFabrics GFG-B Woven Geotextile
Sample Identification: GFG-B-1
TRI Log #: E2368-68-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Percent Open Area (COE Method)												
Open Area (%)	14.2	5.2	2.4									7.3
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2.0 in opening)												
Water Temp. (C):	20.7											
Correction Factor:	0.99											
Test Speciemn No. >:	1					2						
Thickness (mils)	27.4	27.4	27.4	27.4	27.4	27.6	27.6	27.6	27.6	27.6		
Time (s)	12.7	12.7	12.6	12.2	12.7	13.2	13.2	13.2	13.1	13.2		
Specimen Permittivity (s-1)	2.23	2.23	2.25	2.33	2.23	2.15	2.15	2.15	2.17	2.15		
Specimen Permittivity @20°C (sec-1)	2.21	2.21	2.22	2.30	2.21	2.12	2.12	2.12	2.14	2.12		
Specimen Flow rate (GPM/ft2)	165	165	166	172	165	159	159	159	160	159		
Specimen Permeability (cm/s)	0.15	0.15	0.15	0.16	0.15	0.15	0.15	0.15	0.15	0.15		
Test Speciemn No. >:	3					4						
Thickness (mils)	27.9	27.9	27.9	27.9	27.9	27.3	27.3	27.3	27.3	27.3		
Time (s)	11.6	11.6	12.1	12.0	11.6	12.2	12.1	12.1	12.2	12.2		
Permittivity (s-1)	2.45	2.45	2.34	2.36	2.45	2.33	2.34	2.34	2.33	2.33		
Specimen Permittivity @20°C (sec-1)	2.42	2.42	2.32	2.34	2.42	2.30	2.32	2.31	2.30	2.30		
Specimen Flow rate (GPM/ft2)	181	181	173	175	181	172	173	173	172	172		
Specimen Permeability (cm/s)	0.17	0.17	0.16	0.17	0.17	0.16	0.16	0.16	0.16	0.16		
	TEMPERATURE CORRECTED VALUES					Permittivity (s-1) Flow rate (GPM/ft2) Permeability (cm/s)					2.26	
											169	
											0.16	

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

SILT SAVER

BSRF

C-AH per GSWCC



May 7, 2012

Mail To:

Mr. C. Joel Sprague
DDRF, TRI/Environmental
P.O. Box 9192
Greenville, SC 29604

Bill To:

<= Same

email: jsprague@tri-env.com

Dear Mr. Sprague:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

TRI Job Reference Number:	E2366-60-08
Material(s) Tested:	1, Siltsaver - BSRF Nonwoven Geotextile
Test(s) Requested:	Thickness (ASTM D 5199) Mass/Unit Area (ASTM D 5261) Grab Tensile (ASTM D 4632) Apparent Opening Size (ASTM D 4751) Constant Head Permittivity (4491)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager



GEOTEXTILE TEST RESULTS
TRI Client: DDRF, TRI/Environmental

Material: SiltSaver BSRF Nonwoven Geotextile
Sample Identification: GSWCC - BSRF
TRI Log #: E2366-60-08

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	48	46	37	46	44	37	49	35	50	37	43 35	6 << min
Mass/Unit Area (ASTM D 5261)												
5" diameter circle (grams)	2.01	1.93	2.07	2.19	1.79	1.84	2.20	1.90	2.03	1.83	1.98	0.15
Mass/Unit Area (oz/sq.yd)	4.68	4.49	4.81	5.09	4.16	4.28	5.12	4.42	4.72	4.26	4.60	0.34
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	102	115	106	108	86	102	114	114	101	106	105	9
TD - Tensile Strength (lbs)	68	100	73	82	107	92	100	79	122	77	90	17
MD - Elong. @ Max. Load (%)	95	111	94	102	83	99	105	98	81	94	96	9
TD - Elong. @ Max. Load (%)	132	117	120	123	113	104	122	118	109	115	117	8
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.200	0.156	0.209	0.148	0.105						0.164	0.042
Sieve No.	70	80	70	100	140						80	
Constant Head Permittivity (ASTM D 4491, 51-mm Constant Head; 2 in opening)												
Water Temp. (C):	20											
Correction Factor:	1.000											
Test Specimen No. >:	1					2						
Thickness (mils)	40.75	40.75	40.75	40.75	40.75	39.35	39.35	39.35	39.35	39.35		
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Time (s)	17.1	17.1	17.4	17.6	17.6	11.1	11.2	11.2	11.2	11.1		
Specimen Permittivity @20°C (sec-1)	1.15	1.15	1.13	1.12	1.12	1.77	1.76	1.76	1.76	1.77		
Specimen Flow rate (GPM/ft2)	86	86	85	84	84	133	131	131	131	133		
Specimen Permeability (cm/s)	0.12	0.12	0.12	0.12	0.12	0.18	0.18	0.18	0.18	0.18		
Test Specimen No. >:	3					4						
Thickness (mils)	47	47	47	47	47	38.4	38.4	38.4	38.4	38.4		
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Time (s)	13.8	13.8	13.8	13.8	13.8	11.7	11.7	11.7	11.7	11.7		
Specimen Permittivity @20°C (sec-1)	1.43	1.43	1.43	1.43	1.43	1.68	1.68	1.68	1.68	1.68		
Specimen Flow rate (GPM/ft2)	107	107	107	107	107	126	126	126	126	126		
Specimen Permeability (cm/s)	0.17	0.17	0.17	0.17	0.17	0.20	0.20	0.16	0.16	0.16		
						TEMPERATURE CORRECTED VALUES		Permittivity (s-1) Flow rate (GPM/ft2) Permeability (cm/s)			1.50	
											112	
											0.16	

MD Machine Direction TD Transverse Direction

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

THRACE LINQ
GRF - 400EO
Type C



June 28, 2012

Mail To:

Mr. C. Joel Sprague
DDRF , TRI / Environmental
P.O. Box 9192
Greenville, SC 29604

Bill To:

<= Same

email: jsprague@tri-env.com
email: jesprague@tri-env.com

Dear Mr. Sprague:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

TRI Job Reference Number: E2368-16-09

Material(s) Tested: 1, Thrace Linq GTF-400EO Woven Geotextile

Test(s) Requested: Thickness (ASTM D 5199)
Mass/Unit Area (ASTM D 5261)
Grab Tensile (ASTM D 4632)
Apparent Opening Size (ASTM D 4751)
Percent Open Area (COE Method)
Falling Head Permittivity (ASTM D 4491)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager



LABORATORY TEST RESULTS
TRI Client: DDRF , TRI / Environmental

Material: Thrace Linq GTF-400EO Woven Geotextile
Sample Identification: Thrace Linq 400EO
TRI Log #: E2368-16-09

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	30	28	29	30	29	29	29	28	29	29	29	1
											28	<< min
Mass/Unit Area (ASTM D 5261)												
5" diameter circle (grams)	2.85	2.82	2.81	2.76	2.77	2.74	2.85	2.83	2.83	2.77	2.80	0.04
Mass/Unit Area (oz/sq.yd)	6.63	6.56	6.54	6.42	6.44	6.37	6.63	6.58	6.58	6.44	6.52	0.09
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	339	326	336	326	346	375	340	312	346	377	342	21
TD - Tensile Strength (lbs)	186	187	182	178	198	184	193	180	180	171	184	8
MD - Elong. @ Max. Load (%)	24	24	26	23	24	27	25	23	23	27	25	2
TD - Elong. @ Max. Load (%)	11	11	13	13	11	11	12	12	13	12	12	1
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.418	0.589	0.677	0.423	0.418						0.505	0.121
Sieve No.	40	30	25	40	40						30	

MD Machine Direction TD Transverse Direction

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LABORATORY TEST RESULTS
TRI Client: DDRF , TRI / Environmental

Material: Thrace Linq GTF 400EO Woven Geotextile
Sample Identification: Thrace Linq 400EO
TRI Log #: E2368-16-09

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Percent Open Area (COE Method)												
Open Area (%)	24.4	18.4	21.1									21.3
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 1.5 in opening)												
Water Temp. (C):	19.5											
Correction Factor:	1.02											
Test Specimen No. >:	1					2						
Thickness (mils)	29.1	29.1	29.1	29.1	29.1	28.5	28.5	28.5	28.5	28.5		
Time (s)	15.5	15.4	15.4	14.9	15.4	14.3	14.3	14.3	14.3	14.3		
Specimen Permittivity (s-1)	3.25	3.28	3.28	3.39	3.28	3.53	3.53	3.53	3.53	3.53		
Specimen Permittivity @20°C (sec-1)	3.30	3.32	3.32	3.44	3.32	3.58	3.58	3.58	3.58	3.58		
Specimen Flow rate (GPM/ft2)	247	249	249	257	249	268	268	268	268	268		
Specimen Permeability (cm/s)	0.24	0.25	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.26		
Test Specimen No. >:	3					4						
Thickness (mils)	28.5	28.5	28.5	28.5	28.5	29.1	29.1	29.1	29.1	29.1		
Time (s)	14.8	14.3	14.9	14.3	14.9	14.8	14.8	14.8	14.3	14.8		
Permittivity (s-1)	3.41	3.53	3.39	3.53	3.39	3.41	3.41	3.41	3.53	3.41		
Specimen Permittivity @20°C (sec-1)	3.46	3.58	3.44	3.58	3.44	3.46	3.46	3.46	3.58	3.46		
Specimen Flow rate (GPM/ft2)	259	268	257	268	257	259	259	259	268	259		
Specimen Permeability (cm/s)	0.25	0.26	0.25	0.26	0.25	0.26	0.26	0.26	0.26	0.26		
											3.48	
											260	
											0.25	

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WILLACOCHEE

1215

Type A



May 16, 2012

Mail To:

Mr. C. Joel Sprague
DDRF , TRI / Environmental
P.O. Box 9192
Greenville, SC 29604

Bill To:

<= Same

email: jsprague@tri-env.com

Dear Mr. Sprague:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

TRI Job Reference Number: E2366-72-03

Material(s) Tested: 1 Willacooche 1215 Woven Geotextile

Test(s) Requested: Thickness (ASTM D 5199)
Mass/Unit Area (ASTM D 5261)
Grab Tensile (ASTM D 4632)
Apparent Opening Size (ASTM D 4751)
Percent Open Area (COE Method)
Constant Head Permittivity (ASTM D 4491)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager



LABORATORY TEST RESULTS
TRI Client: DDRF , TRI / Environmental

Material: Willacoochee 1215 Woven Geotextile
Sample Identification: Willacoochee 1215
TRI Log #: E2366-72-03

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	25	25	28	27	26	24	25	25	22	23	25 22	2 << min
Mass/Unit Area (ASTM D 5261)												
5" diameter circle (grams)	1.43	1.44	1.44	1.43	1.42	1.44	1.45	1.45	1.44	1.44	1.44	0.01
Mass/Unit Area (oz/sq.yd)	3.33	3.35	3.35	3.33	3.30	3.35	3.37	3.37	3.35	3.35	3.34	0.02
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	191	191	180	171	172	169	159	169	159	166	173 119	11 9
TD - Tensile Strength (lbs)	114	127	117	120	135	124	118	118	101	119		
MD - Elong. @ Max. Load (%)	29	27	28	25	25	26	25	27	23	25	26 23	2 1
TD - Elong. @ Max. Load (%)	24	24	23	23	25	26	22	24	23	23		
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.514	0.532	0.830	0.592	0.568						0.607 25	0.128
Sieve No.	30	30	20	30	30							

MD Machine Direction TD Transverse Direction

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LABORATORY TEST RESULTS
TRI Client: DDRF , TRI / Environmental

Material: Willacoochee 1215 Woven Geotextile
Sample Identification: Willacoochee 1215
TRI Log #: E2366-72-03

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Percent Open Area (COE Method)												
Open Area (%)	8.1										8.1	#DIV/0!
Constant Head Permittivity (ASTM D 4491, 51-mm Constant Head; 2 in opening)												
Water Temp. (C):	22											
Correction Factor:	0.953											
Test Specimen No. >:	1					2						
Thickness (mils)	21	21	21	21	21	24	24	24	24	24		
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Time (s)	16.3	17.4	16.9	17.4	17.4	17.4	17.4	17.4	18.5	18.4		
Specimen Permittivity @20°C (sec-1)	1.15	1.08	1.11	1.08	1.08	1.08	1.08	1.08	1.01	1.02		
Specimen Flow rate (GPM/ft ²)	86.1	80.6	83.0	80.6	80.6	80.6	80.6	80.6	75.8	76.3		
Specimen Permeability (cm/s)	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.06		
Test Specimen No. >:	3					4						
Thickness (mils)	24	24	24	24	24	23	23	23	23	23		
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Time (s)	15.8	15.8	15.8	15.8	16.4	14.8	14.8	15.3	16.7	15.9		
Specimen Permittivity @20°C (sec-1)	1.19	1.19	1.19	1.19	1.14	1.27	1.27	1.23	1.12	1.18		
Specimen Flow rate (GPM/ft ²)	88.8	88.8	88.8	88.8	85.6	94.8	94.8	91.7	84.0	88.2		
Specimen Permeability (cm/s)	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.07	0.07	0.07		
											1.14	
											85.0	
											0.07	

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TEN CATE

FW40Z

Type C



May 25, 2012

Mail To:

Mr. C. Joel Sprague
DDRF , TRI / Environmental
P.O. Box 9192
Greenville, SC 29604

Bill To:

<= Same

email: jsprague@tri-env.com

Dear Mr. Sprague:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

TRI Job Reference Number: E2366-71-10

Material(s) Tested: 1, Ten Cate FW402 Woven Geotextile

Test(s) Requested: Thickness (ASTM D 5199)
Mass/Unit Area (ASTM D 5261)
Grab Tensile (ASTM D 4632)
Apparent Opening Size (ASTM D 4751)
Percent Open Area (COE Method)
Constant Head Permittivity (ASTM D 4491)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager



LABORATORY TEST RESULTS
TRI Client: DDRF , TRI / Environmental

Material: Ten Cate FW 402 Woven Geotextile
Sample Identification: Ten Cate FAS 402-125-30
TRI Log #: E2366-71-10

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	29	28	27	31	28	27	27	28	34	29	29	2
											27	<< min
Mass/Unit Area (ASTM D 5261)												
5" diameter circle (grams)	2.58	2.55	2.58	2.55	2.53	2.67	2.62	2.62	2.67	2.60	2.60	0.05
Mass/Unit Area (oz/sq.yd)	6.00	5.93	6.00	5.93	5.88	6.21	6.09	6.09	6.21	6.05	6.04	0.11
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	474	477	421	387	446	418	413	490	491	494	451	39
TD - Tensile Strength (lbs)	322	276	285	256	257	234	213	264	233	220	256	33
MD - Elong. @ Max. Load (%)	44	45	40	39	43	40	39	45	43	45	42	2
TD - Elong. @ Max. Load (%)	95	77	82	80	84	64	63	73	69	71	76	10
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.415	0.415	0.416	0.417	0.786						0.490	0.166
Sieve No.	40	40	40	40	20						35	

MD Machine Direction TD Transverse Direction

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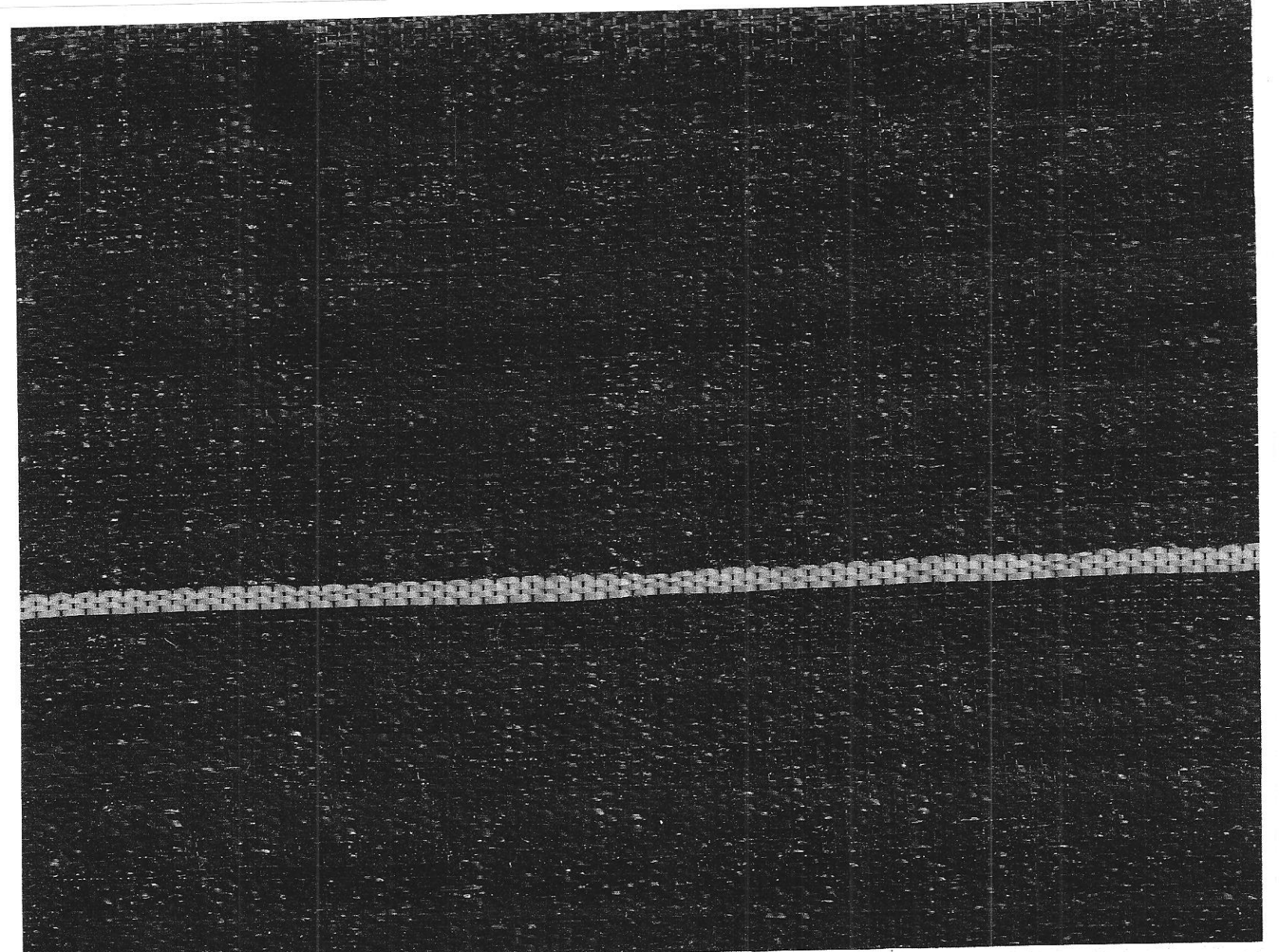


LABORATORY TEST RESULTS
 TRI Client: DDRF , TRI / Environmental

Material: Ten Cate FW 402 Woven Geotextile
Sample Identification: Ten Cate FAS 402-125-30
TRI Log #: E2366-71-10

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Percent Open Area (COE Method)												
Open Area (%)	28.0	27.2										27.6
Constant Head Permittivity (ASTM D 4491, 51-mm Constant Head; 1 in opening)												
Water Temp. (C):	20.7											
Correction Factor:	0.99											
Test Specimen No. >:	1					2						
Opening Diameter, cm	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54		
Contant Head, cm	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08		
Thickness (mils)	27.5	27.5	27.5	27.5	27.5	28.5	28.5	28.5	28.5	28.5		
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Time (s)	13.3	13.3	13.4	12.8	13.2	14.3	13.8	14.3	13.7	14.8		
Specimen Permittivity @20°C (sec-1)	5.77	5.77	5.73	6.00	5.81	5.37	5.56	5.37	5.60	5.19		
Specimen Flow rate (GPM/ft2)	432	432	428	449	435	401	416	401	419	388		
Specimen Permeability (cm/s)	0.40	0.40	0.40	0.42	0.41	0.37	0.39	0.39	0.41	0.38		
Test Specimen No. >:	3*					4						
Opening Diameter, cm	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54		
Contant Head, cm	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08		
Thickness (mils)	27.6	27.6	27.6	27.6	27.6	26.7	26.7	26.7	26.7	26.7		
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Time (s)	14.8	14.7	14.8	15.3	15.3	16.4	16.4	15.9	16.4	16.4		
Specimen Permittivity @20°C (sec-1)	5.19	5.22	5.19	5.02	5.02	4.68	4.68	4.83	4.68	4.68		
Specimen Flow rate (GPM/ft2)	388	391	388	375	375	350	350	361	350	350		
Specimen Permeability (cm/s)	0.36	0.37	0.36	0.35	0.35	0.33	0.33	0.33	0.32	0.32		
	TEMPERATURE CORRECTED VALUES					Permittivity (s-1) Flow rate (GPM/ft2) Permeability (cm/s)					5.27	
											394	
											0.37	

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



HANES
GASF-A
Type A



May 17, 2012

Mail To:

Mr. C. Joel Sprague
DDRF , TRI / Environmental
P.O. Box 9192
Greenville, SC 29604

Bill To:

<= Same

email: jsprague@tri-env.com

Dear Mr. Sprague:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

TRI Job Reference Number: E2366-72-04

Material(s) Tested: 1, Terratex GASF-A Woven Geotextile

Test(s) Requested: Thickness (ASTM D 5199)
Mass/Unit Area (ASTM D 5261)
Grab Tensile (ASTM D 4632)
Apparent Opening Size (ASTM D 4751)
Percent Open Area (COE Method)
Constant Head Permittivity (ASTM D 4491)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager



LABORATORY TEST RESULTS
TRI Client: DDRF , TRI / Environmental

Material: Hanes Terratex GASF-A Woven Geotextile
Sample Identification: Terratex GASF , 402/125/30
TRI Log #: E2366-72-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	25.7	24.1	25.6	24.6	24.5	25.0	23.5	23.0	23.2	24.8	24.4	0.9
											23.0	<< min
Mass/Unit Area (ASTM D 5261)												
5" diameter circle (grams)	1.58	0.56	1.55	1.57	1.58	1.52	1.54	1.50	1.50	1.57	1.45	0.31
Mass/Unit Area (oz/sq.yd)	3.68	1.30	3.61	3.65	3.68	3.54	3.58	3.49	3.49	3.65	3.37	0.73
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	173	172	164	153	171	165	165	166	172	174	167	6
TD - Tensile Strength (lbs)	127	119	134	140	111	132	114	127	130	135	127	10
MD - Elong. @ Max. Load (%)	23	27	26	21	23	25	23	27	25	27	25	2
TD - Elong. @ Max. Load (%)	23	21	25	25	19	23	19	19	25	25	22	3
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.586	0.599	0.589	0.524	0.597						0.579	0.031
Sieve No.	30	30	30	30	30						30	

MD Machine Direction TD Transverse Direction

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



LABORATORY TEST RESULTS
TRI Client: DDRF , TRI / Environmental

Material: Belton 1935 Woven Geotextile
Sample Identification: Belton 1935
TRI Log #: E2366-72-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Percent Open Area (COE Method)												
Open Area (%)	9.05	13.3	26.0									16.1
Constant Head Permittivity (ASTM D 4491, 51-mm Constant Head; 2 in opening)												
Water Temp. (C):	22											
Correction Factor:	0.958											
Test Specimen No. >:	1					2						
Thickness (mils)	25.7	25.7	25.7	25.7	25.7	24.3	24.3	24.3	24.3	24.3		
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Time (s)	11.0	11.1	10.6	11.1	10.5	11.6	12.6	12.6	13.2	13.2		
Specimen Permittivity @20°C (sec-1)	1.71	1.70	1.78	1.70	1.80	1.63	1.50	1.50	1.43	1.43		
Specimen Flow rate (GPM/ft ²)	128	127	133	127	134	122	112	112	107	107		
Specimen Permeability (cm/s)	0.11	0.11	0.12	0.11	0.12	0.11	0.10	0.09	0.09	0.09		
Test Specimen No. >:	3					4						
Thickness (mils)	23.9	23.9	23.9	23.9	23.9	24.9	24.9	24.9	24.9	24.9		
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Time (s)	13.7	13.7	14.2	13.8	14.3	13.7	13.8	13.7	13.7	13.7		
Specimen Permittivity @20°C (sec-1)	1.38	1.38	1.33	1.37	1.32	1.38	1.37	1.38	1.38	1.38		
Specimen Flow rate (GPM/ft ²)	103	103	99	102	99	103	102	103	103	103		
Specimen Permeability (cm/s)	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09		
	TEMPERATURE CORRECTED VALUES					Permittivity (s-1) Flow rate (GPM/ft²) Permeability (cm/s)					1.49	
											111	
											0.09	

MD Machine Direction TD Transverse Direction

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

DDID

GA-CSA

C-System

May 7, 2012

Mail To:

Mr. C. Joel Sprague
DDRF , TRI / Environmental
P.O. Box 9192
Greenville, SC 29604

Bill To:

<= Same

email: jspraue@tri-env.com

Dear Mr. Sprague:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

TRI Job Reference Number: E2366-60-09

Material(s) Tested: 1 GA-CSA Woven Geotextile -Netting Composite Material

Test(s) Requested: Thickness (ASTM D 5199)
Mass/Unit Area (ASTM D 5261)
Grab Tensile (ASTM D 4632)
Apparent Opening Size (ASTM D 4751)
Percent Open Area (COE Method)
Constant Head Permittivity (CGSB 148,1 Method 4-94;)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

LABORATORY TEST RESULTS
TRI Client: DDRF , TRI / Environmental

Material: Woven Geotextile - Netting Composite Material
Sample Identification: GSWCC - DDD GA-CSA
TRI Log #: E2366-60-09

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	83	88	87	84	84	88	84	82	89	87	86	2 << min
											82	
Mass/Unit Area (ASTM D 5261)												
5" diameter circle (grams)	3.26	3.26	3.23	3.27	3.22	3.30	3.26	3.27	3.23	3.29	3.26	0.03
Mass/Unit Area (oz/sq.yd)	7.58	7.58	7.51	7.61	7.49	7.68	7.58	7.61	7.51	7.65	7.58	0.06
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	330	353	344	358	370	404	361	326	374	418	364	29
TD - Tensile Strength (lbs)	222	200	208	193	164	197	180	211	214	223	201	19
MD - Elong. @ Max. Load (%)	20	21	21	19	21	22	22	19	21	23	21	1
TD - Elong. @ Max. Load (%)	15	13	13	13	14	16	13	17	17	17	15	2
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.419	0.416	0.417	0.417	0.409						0.416	0.004
Sieve No.	40	40	40	40	40						40	

MD Machine Direction TD Transverse Direction

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

LABORATORY TEST RESULTS
TRI Client: DDRF , TRI / Environmental

Material: Woven Geotextile - Netting Composite Material
Sample Identification: GSWCC - DDD GA-CSA
TRI Log #: E2366-60-09

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	
	1	2	3	4	5	6	7	8	9	10			
Percent Open Area (COE Method)													
Open Area (%)	20.9	24.8											22.9
Constant Head Permittivity (ASTM D 4491, 51-mm Constant Head; 2 in opening)													
Water Temp. (C):	20												
Correction Factor:	1.000												
Test Specimen No. >:	1					2							
Thickness (mils)	88.55	88.55	88.55	88.55	88.55	90.45	90.45	90.45	90.45	90.45			
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
Time (s)	9.5	10.0	9.5	10.0	10.1	8.6	8.9	8.6	8.5	9.0			
Specimen Permittivity @20°C (sec-1)	2.07	1.97	2.07	1.97	1.95	2.29	2.21	2.29	2.32	2.19			
Specimen Flow rate (GPM/ft2)	155	147	155	147	146	171	165	171	173	164			
Specimen Permeability (cm/s)	0.47	0.44	0.47	0.44	0.44	0.51	0.50	0.53	0.53	0.50			
Test Specimen No. >:	3					4							
Thickness (mils)	89.7	89.7	89.7	89.7	89.7	91.1	91.1	91.1	91.1	91.1			
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
Time (s)	7.5	7.4	8.0	7.5	8.0	8.5	8.4	8.5	8.5	8.5			
Specimen Permittivity @20°C (sec-1)	2.62	2.66	2.46	2.62	2.46	2.32	2.34	2.32	2.32	2.32			
Specimen Flow rate (GPM/ft2)	196	199	184	196	184	173	175	173	173	173			
Specimen Permeability (cm/s)	0.60	0.61	0.56	0.60	0.56	0.53	0.53	0.54	0.54	0.54			
	TEMPERATURE CORRECTED VALUES					Permittivity (s-1) Flow rate (GPM/ft2) Permeability (cm/s)					2.29		
											171		
											0.52		
MD Machine Direction	TD Transverse Direction												

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

PROPEX
Geotex 111F
Type C



May 7, 2012

Mail To:

Mr. C. Joel Sprague
DDRF - TRI/Environmental, Inc.
P.O. Box 9192
Greenville, SC 29604

Bill To:

<= Same

email: jsprae@tri-env.com

Dear Mr. Sprague:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

TRI Job Reference Number: E2366-60-10

Material(s) Tested: 1 ,Propex 111F Black Woven Geotextile

Test(s) Requested: Thickness (ASTM D 5199)
Mass/Unit Area (ASTM D 5261)
Grab Tensile (ASTM D 4632)
Apparent Opening Size (ASTM D 4751)
Constant Head Permittivity (ASTM D 4491)
Percent Open Area (COE Method)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager



GEOTEXTILE TEST RESULTS
 TRI Client: DDRF - TRI/Environmental, Inc.

Material: Propex 111F Black Woven Geotextile
Sample Identification: GSWCC - Propex - 111F
TRI Log #: E2366-60-10

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	34	34	33	35	34	35	35	34	32	34	34	1
											32	<< min
Mass/Unit Area (ASTM D 5261)												
5" diameter circle (grams)	3.13	3.09	3.10	3.14	3.11	3.12	3.10	3.08	3.11	3.13	3.11	0.02
Mass/Unit Area (oz/sq.yd)	7.28	7.19	7.21	7.30	7.23	7.26	7.21	7.16	7.23	7.28	7.24	0.04
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	359	349	343	360	355	362	352	321	348	358	351	12
TD - Tensile Strength (lbs)	231	266.5	237	234	254	281	265	290	280	259	259	22
MD - Elong. @ Max. Load (%)	21	20	19	20	21	20	20	20	19	21	20	1
TD - Elong. @ Max. Load (%)	11	13	11	9	13	12	13	13	13	13	12	1
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.414	0.414	0.416	0.417	0.417						0.416	0.001
Sieve No.	40	40	40	40	40						40	

MD Machine Direction TD Transverse Direction

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

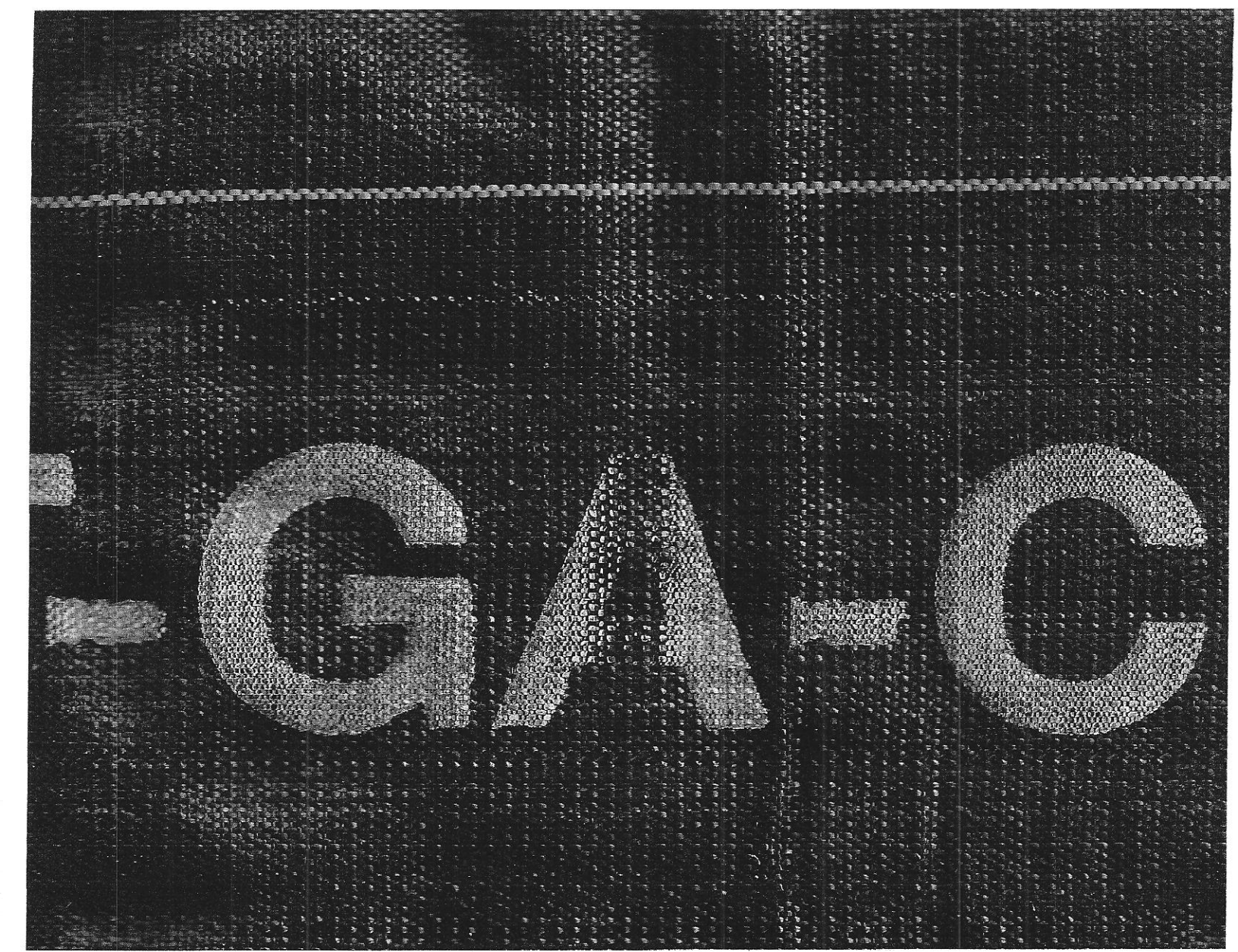


GEOTEXTILE TEST RESULTS
 TRI Client: DDRF - TRI/Environmental, Inc.

Material: Propex 111F Black Woven Geotextile
Sample Identification: GSWCC - Propex - 111F
TRI Log #: E2366-60-10

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Percent Open Area (COE Method)												
Open Area (%)	22.2	21.1	11.1									18.2
Constant Head Permittivity (ASTM D 4491, 51-mm Constant Head; 2 in opening)												
Water Temp. (C):	20.5											
Correction Factor:	0.988											
Test Specimen No. >:	1					2						
Thickness (mils)	33	33	33	33	33	33	33	33	33	33		
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Time (s)	10.6	10.5	10.5	11.1	10.6	10.5	10.6	10.6	10.6	10.6		
Specimen Permittivity @20°C (sec-1)	1.83	1.85	1.85	1.75	1.83	1.85	1.83	1.83	1.83	1.83		
Specimen Flow rate (GPM/ft2)	137	139	139	131	137	139	137	137	137	137		
Specimen Permeability (cm/s)	0.15	0.16	0.16	0.15	0.15	0.16	0.15	0.15	0.15	0.15		
Test Specimen No. >:	3					4						
Thickness (mils)	33	33	33	33	33	32	32	32	32	32		
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Time (s)	10.6	10.6	10.5	10.6	10.5	12.7	13.2	13.2	13.7	13.2		
Specimen Permittivity @20°C (sec-1)	1.83	1.83	1.85	1.83	1.85	1.53	1.47	1.47	1.42	1.47		
Specimen Flow rate (GPM/ft2)	137	137	139	137	139	115	110	110	106	110		
Specimen Permeability (cm/s)	0.15	0.15	0.16	0.15	0.16	0.13	0.12	0.12	0.12	0.12		
											1.74	
											131	
											0.15	

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GA-C

Erosion Tech

ET-GA-C

C-System



June 11, 2012

Mail To:

Mr. C. Joel Sprague
DDRF , TRI / Environmental
P.O. Box 9192
Greenville, SC 29604

Bill To:

<= Same

email: jsprague@tri-env.com

Dear Mr. Sprague:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

TRI Job Reference Number: E2366-93-07

Material(s) Tested: 1, Erosion Tech ET-GA-C Woven Geotextile -Geo Grid Composite

Test(s) Requested: Thickness (ASTM D 5199)
Mass/Unit Area (ASTM D 5261)
Grab Tensile (ASTM D 4632)
Apparent Opening Size (ASTM D 4751)
Percent Open Area (COE Method)
Constant Head Permittivity (ASTM D 4491)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager



LABORATORY TEST RESULTS
TRI Client: DDRF , TRI / Environmental

Material: Erosion Tech ET-GA-C System Woven Geotextile - Geo Grid Composite Material
Sample Identification: ET-GA-C
TRI Log #: E2366-93-07

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	91	81	84	87	84	94	83	94	82	87	87 81	5 << min
Mass/Unit Area (ASTM D 5261)												
5" diameter circle (grams)	3.31	3.28	3.32	3.31	3.20	3.37	3.28	3.37	3.27	3.35	3.31	0.05
Mass/Unit Area (oz/sq.yd)	7.70	7.63	7.72	7.70	7.44	7.84	7.63	7.84	7.61	7.79	7.69	0.12
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	302	278	303	302	306	313	267	295	274	321	296	18
TD - Tensile Strength (lbs)	173	169	201	185	203	192	179	164	169	171	181	14
MD - Elong. @ Max. Load (%)	17	19	20	19	19	20	19	19	16	18	19	1
TD - Elong. @ Max. Load (%)	11	9	17	12	17	19	13	15	13	14	14	3
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.418	0.415	0.418	0.415	0.417						0.417	0.001
Sieve No.	40	40	40	40	40						40	

MD Machine Direction TD Transverse Direction

White Spray paint marks area where posts were attached to fabric had been avoided for index testing

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



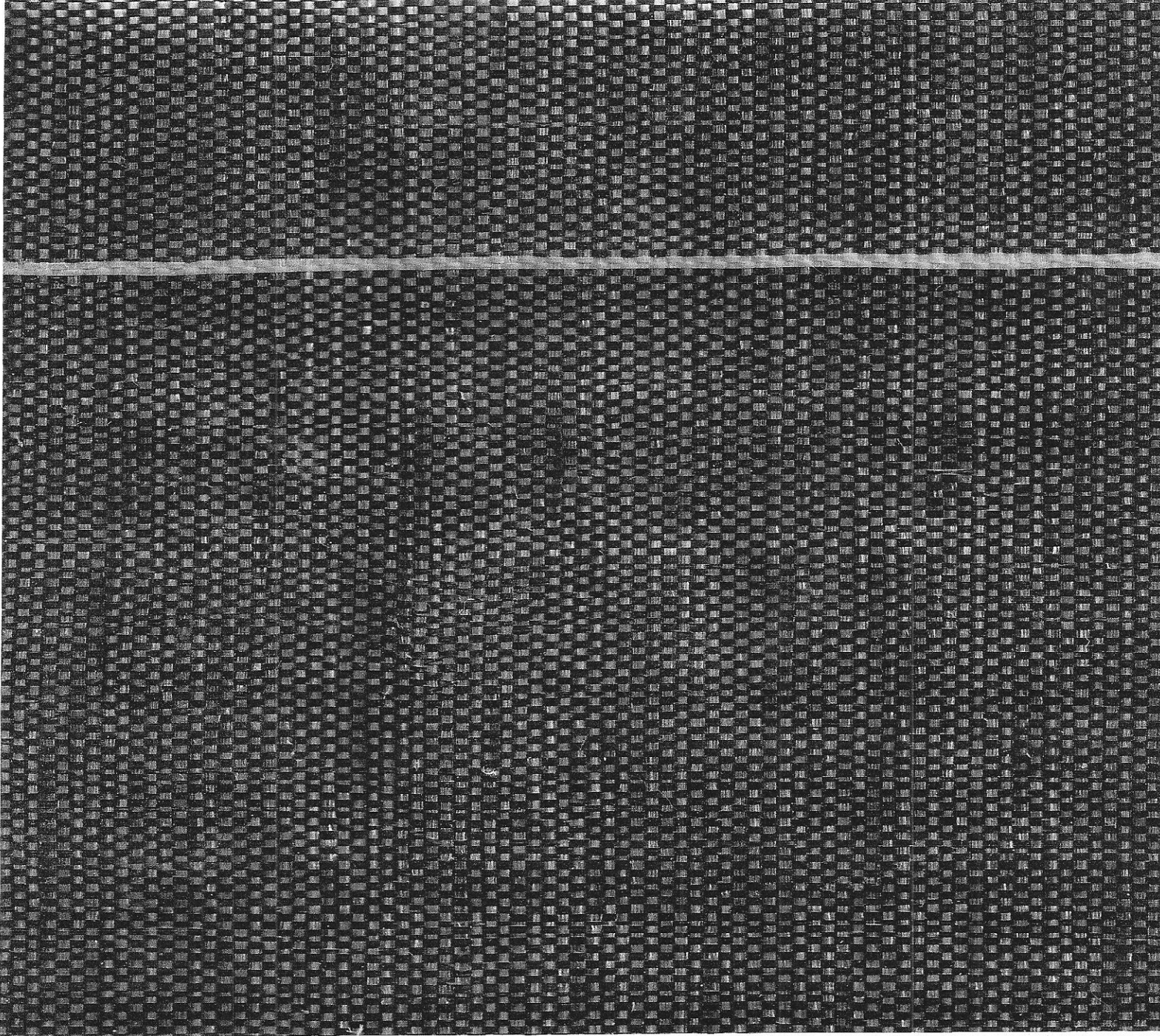
LABORATORY TEST RESULTS
TRI Client: DDRF , TRI / Environmental

Material: Erosion Tech ET-GA-C Woven Geotextile - Geo Grid Composite Material
Sample Identification: ET-GA-C
TRI Log #: E2366-93-07

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Percent Open Area (COE Method)												
Open Area (%)	13.50										13.50	
Constant Head Permittivity (ASTM D 4491, 51-mm Constant Head; 2 in opening)												
Water Temp. (C):	20.2											
Correction Factor:	1.00											
Test Specimen No. >:	1					2						
Thickness (mils)	80.7	80.7	80.7	80.7	80.7	85.9	85.9	85.9	85.9	85.9		
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Time (s)	12.8	12.8	12.8	12.8	12.8	13.4	13.3	13.4	13.3	13.4		
Specimen Permittivity @20°C (sec-1)	1.54	1.54	1.54	1.54	1.54	1.47	1.48	1.47	1.48	1.47		
Specimen Flow rate (GPM/ft2)	115	115	115	115	115	110	111	110	111	110		
Specimen Permeability (cm/s)	0.31	0.31	0.31	0.31	0.31	0.30	0.30	0.32	0.32	0.32		
Test Specimen No. >:	3					4						
Thickness (mils)	81.8	81.8	81.8	81.8	81.8	80.7	80.7	80.7	80.7	80.7		
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Time (s)	13.3	13.3	13.4	13.3	13.0	12.3	12.3	12.3	12.2	12.3		
Specimen Permittivity @20°C (sec-1)	1.48	1.48	1.47	1.48	1.51	1.60	1.60	1.60	1.61	1.60		
Specimen Flow rate (GPM/ft2)	111	111	110	111	113	120	120	120	121	120		
Specimen Permeability (cm/s)	0.31	0.31	0.30	0.31	0.31	0.33	0.33	0.33	0.33	0.33		
											1.52	
											114	
											0.32	

White Spray paint marks area where posts were attached to fabric had been avoided for index testing

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



BELTON
BELTECH 935
Type A
Type B



May 17, 2012

Mail To:

Mr. C. Joel Sprague
DDRF , TRI / Environmental
P.O. Box 9192
Greenville, SC 29604

Bill To:

<= Same

email: jsprague@tri-env.com

Dear Mr. Sprague:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

TRI Job Reference Number:	E2366-72-02
Material(s) Tested:	1, Beltech 1935 Woven Geotextile
Test(s) Requested:	Thickness (ASTM D 5199) Mass/Unit Area (ASTM D 5261) Grab Tensile (ASTM D 4632) Apparent Opening Size (ASTM D 4751) Percent Open Area (COE Method) Constant Head Permittivity (ASTM D 4491)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager



LABORATORY TEST RESULTS
 TRI Client: DDRF , TRI / Environmental

Material: Beltech 1935 Woven Geotextile
Sample Identification: Beltech 1935
TRI Log #: E2366-72-02

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	15	19	16	19	17	15	16	17	16	19	17 15	2 << min
Mass/Unit Area (ASTM D 5261)												
5" diameter circle (grams)	1.51	1.53	1.52	1.48	1.49	1.47	1.49	1.47	1.42	1.41	1.48	0.04
Mass/Unit Area (oz/sq.yd)	3.51	3.56	3.54	3.44	3.47	3.42	3.47	3.42	3.30	3.28	3.44	0.09
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	177	182	184	189	175	168	160	176	164	172	175	9
TD - Tensile Strength (lbs)	150	166	157	155	161	167	165	150	149	147	157	8
MD - Elong. @ Max. Load (%)	33	35	33	34	33	28	29	29	27	28	31	3
TD - Elong. @ Max. Load (%)	21	21	21	20	21	21	21	21	19	19	20	1
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.501	0.388	0.537	0.564	0.707						0.539	0.115
Sieve No.	30	40	30	30	25						30	

MD Machine Direction TD Transverse Direction

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



LABORATORY TEST RESULTS
TRI Client: DDRF , TRI / Environmental

Material: Beltech 1935 Woven Geotextile
Sample Identification: Beltech 1935
TRI Log #: E2366-72-02

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Percent Open Area (COE Method)												
Open Area (%)	3.83	1.21	4.83									3.29
Constant Head Permittivity (ASTM D 4491, 51-mm Constant Head; 2 in opening)												
Water Temp. (C):	20											
Correction Factor:	1.000											
Test Specimen No. >:	1					2						
Thickness (mils)	16.4	16.4	16.4	16.4	16.4	16.5	16.5	16.5	16.5	16.5		
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Time (s)	53.2	53.8	53.8	54.3	54.3	68.6	69.1	69.1	69.7	70.2		
Specimen Permittivity @20°C (sec-1)	0.37	0.37	0.37	0.36	0.36	0.29	0.28	0.28	0.28	0.28		
Specimen Flow rate (GPM/ft ²)	27.7	27.4	27.4	27.1	27.1	21.5	21.3	21.3	21.1	21.0		
Specimen Permeability (cm/s)	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01		
Test Specimen No. >:	3					4						
Thickness (mils)	17.9	17.9	17.9	17.9	17.9	17.5	17.5	17.5	17.5	17.5		
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Time (s)	56.9	57.5	57.0	57.5	57.5	85.5	85.1	85.5	86.0	85.4		
Specimen Permittivity @20°C (sec-1)	0.35	0.34	0.35	0.34	0.34	0.23	0.23	0.23	0.23	0.23		
Specimen Flow rate (GPM/ft ²)	25.9	25.6	25.8	25.6	25.6	17.2	17.3	17.2	17.1	17.2		
Specimen Permeability (cm/s)	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01		
	TEMPERATURE CORRECTED VALUES					Permittivity (s-1) Flow rate (GPM/ft²) Permeability (cm/s)					0.31	
											22.9	
											0.01	

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