PARABOLIC WATERWAY DESIGN

RETARDANCE - D & B
GRADE, % - 12 & 15

V_1 Based on Permissible Velocity of the Soil with Retardance "D"
Top Width, Depth and V_2 Based on Retardance "B"

Grade = 12%

V_1	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
V_2	0.8	1.0	1.3	1.6	1.9	2.2	2.5	2.9	3.3
D	0.5	0.6	0.7	0.7	0.7	0.8	0.8	0.8	0.9
Q	Top Widths								
15	49	36	27	21	17	14	11	10	8
20	66	48	36	28	22	18	15	13	11
25	82	60	46	35	28	23	19	16	13
30	99	72	55	42	34	28	23	19	16
35	115	84	64	49	39	32	27	22	19
40		96	73	56	45	37	31	25	21
45		108	82	63	51	41	34	28	24
50			91	70	56	46	38	32	27
55			100	77	62	50	42	35	29
60			109	84	67	55	46	38	32
65				91	73	60	49	41	35
70				98	79	64	53	44	37
75				105	84	69	57	47	40
80					90	73	61	50	43
90					101	82	68	57	48
100					112	92	76	63	53
110						101	84	69	59
120						110	91	76	64
130							99	82	69
140							106	88	75
150							114	94	80
160								101	85
170								107	90
180								113	96

Grade = 15%

V_1	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
V_2	0.9	1.0	1.2	1.5	1.8	2.2	2.5	2.8	3.2
D	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8
Q	Top Widths								
15	53	40	31	23	19	15	13	11	9
20	71	53	41	31	26	21	17	14	12
25	89	66	51	39	32	26	22	18	15
30	107	80	61	47	38	31	26	22	18
35	125	93	71	55	45	36	30	25	21
40		106	81	62	51	41	35	29	24
45		119	91	70	57	46	39	32	27
50			102	78	64	51	43	36	31
55			112	86	70	56	48	40	34
60				93	76	61	52	43	37
65				101	83	67	56	47	40
70				109	89	72	60	50	43
75					95	77	65	54	46
80					102	82	69	58	49
90					115	92	78	65	55
100						102	86	72	61
110						112	95	79	67
120							103	86	73
130							112	93	79
140								101	85
150								108	91
160								115	97

Exhibit 7-4.2

REFERENCE
SCS - TP - 61

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ENGINEERING & WATERSHED PLANNING UNIT
BROOMALL PENNSYLVANIA

TSC - NE - ENG. 705
SHEET 1 OF 1

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