PARABOLIC WATERWAY DESIGN, WITHOUT FREEBOARD

RETARDANCE - D & B
GRADE, % - 0.25 to 2.0

	Grade, 0.25%			Grade, 0.50%			Grade, 0.75%			Grade, 1.0%			Grade, 1.25%			Grade, 1.50%			Grade, 2.0%		
V	0.5	1.0	1.5	0.5	1.0	1.5	0.5	1.0	1.5	0.5	1.0	1.5	0.5	1.0	1.5	0.5	1.0	1.5	0.5	1.0	1.5
D	1.5	2.1	2.5	1.0	1.6	1.8	0.8	1.4	1.6	0.7	1.2	1.4	0.7	1.1	1.3	0.6	1.0	1.2	0.5	0.8	1.1
Q										Top Width											
5	22			27	11		32	14	7	34	15	8	36	17	9	39	19	10	43	20	12
10	43	15		55	23	12	63	27	14	68	31	17	73	34	19	77	36	20	85	40	23
15	65	24	12	82	34	18	95	41	22	102	46	25	109	50	28	115	54	31	128	60	35
20	87	32	16	110	46	24		54	29		61	33		67	37		71	41		79	47
25	108	41	21		57	30		68	36		77	41		84	47		89	51		99	58
30		49	25		69	36		82	43		92	50		101	56		107	61			70
35		57	29		80	41		95	50		107	58			66			72			82
40		65	33		92	47		109	57			66			75			82			93
45		73	37		103	53			64			75			84			92			105
50		81	42			59			72			83			94			102			
55		90	46			65			79			91			103						
60		98	50			71			86			100									
65		106	58			77			93												
70			63			83			100												
75			67			89															
80			75			95															
90			83			107															
100			92																		
110			100																		

V, permissible velocity of soil with vegetative retardance "D"
Depth and top width are for cross section with retardance "B"

Q, in cfs
V, in fps
D, depth in ft.
Top Width, in ft.

7-14.1

Exhibit 7-4.1

REFERENCE	U. S. DEPARTMENT OF AGRICULTURE	TSC - NE - ENG.
SCS - TP - 61	SOIL CONSERVATION SERVICE ENGINEERING & WATERSHED PLANNING UNIT BROOMALL, PENNSYLVANIA	702 SHEET 1 OF 1

USDA-SCS-HYATTSVILLE, MD. 1970