

**ECONODRAIN<sup>®</sup> #10 SYSTEM - HYDRAULIC DATA**

Standard Depth & Slope <sup>1</sup>		
EPS Form Number	[Slope [S <sub>t</sub> ] = 0.5% or 0.005 ft/ft]	
	Min. (in)	Max. (in)
1010	8	8 1/2
1011	8 1/2	9
1012	9	9 1/2
1013	9 1/2	10
1014	10	10 1/2
1015	10 1/2	11
1016	11	11 1/2
1017	11 1/2	12
1018	12	12 1/2
1019	12 1/2	13
1020	13	13 1/2
1021	13 1/2	14
1022	14	14 1/2
1023	14 1/2	15
1024	15	15 1/2
1025	15 1/2	16
1026	16	16 1/2
1027	16 1/2	17
1028	17	17 1/2
1029	17 1/2	18
1030	18	18 1/2
1031	18 1/2	19
1032	19	19 1/2
1033	19 1/2	20
1034	20	20 1/2
1035	20 1/2	21
1036	21	21 1/2
1037	21 1/2	22
1038	22	22 1/2
1039	22 1/2	23
1040	23	23 1/2
1041	23 1/2	24
1042	24	24 1/2
1043	24 1/2	25
1044	25	25 1/2
1045	25 1/2	26

Radius Bottom Trench (Std.)			
Q <sub>max</sub> <sup>2</sup> Flow (cfs)	Q <sub>max</sub> <sup>2</sup> Flow (gpm)	(F <sub>k</sub> is not a Flow Rate)	
		F <sub>k</sub> <sup>3</sup> (cfs)	F <sub>k</sub> <sup>3</sup> (gpm)
1.35	606	18.70	8,393
1.49	671	20.71	9,295
1.64	736	22.74	10,205
1.79	803	24.78	11,123
1.94	869	26.84	12,048
2.09	937	28.92	12,978
2.24	1004	31.00	13,914
2.39	1072	33.09	14,854
2.54	1140	35.20	15,798
2.69	1209	37.31	16,746
2.85	1277	39.43	17,697
3.00	1346	41.55	18,651
3.15	1415	43.69	19,607
3.31	1484	45.82	20,566
3.46	1554	47.96	21,527
3.62	1623	50.11	22,490
3.77	1693	52.26	23,455
3.93	1762	54.41	24,421
4.08	1832	56.57	25,389
4.24	1902	58.73	26,358
4.39	1972	60.89	27,329
4.55	2042	63.05	28,300
4.71	2113	65.22	29,273
4.86	2183	67.39	30,247
5.02	2253	69.56	31,221
5.18	2324	71.73	32,197
5.33	2394	73.91	33,173
5.49	2465	76.09	34,150
5.65	2535	78.27	35,128
5.81	2606	80.45	36,107
5.96	2676	82.63	37,086
6.12	2747	84.81	38,065
6.28	2818	86.99	39,046
6.44	2889	89.18	40,026
6.59	2959	91.37	41,008
6.75	3030	93.55	41,989

Rectangular Trench (Optional Custom)			
Q <sub>max</sub> <sup>2</sup> Flow (cfs)	Q <sub>max</sub> <sup>2</sup> Flow (gpm)	(F <sub>k</sub> is not a Flow Rate)	
		F <sub>k</sub> <sup>3</sup> (cfs)	F <sub>k</sub> <sup>3</sup> (gpm)
1.56	701	21.64	9,713
1.70	765	23.62	10,604
1.85	830	25.63	11,503
2.00	896	27.65	12,410
2.14	962	29.68	13,323
2.29	1028	31.73	14,243
2.44	1095	33.79	15,167
2.59	1162	35.86	16,096
2.74	1229	37.94	17,029
2.89	1297	40.03	17,967
3.04	1365	42.13	18,907
3.19	1433	44.23	19,851
3.34	1501	46.34	20,798
3.50	1569	48.45	21,747
3.65	1638	50.57	22,699
3.80	1707	52.70	23,653
3.96	1776	54.83	24,609
4.11	1845	56.96	25,567
4.27	1914	59.10	26,526
4.42	1984	61.24	27,488
4.57	2053	63.39	28,451
4.73	2123	65.54	29,415
4.88	2193	67.69	30,380
5.04	2262	69.84	31,347
5.20	2332	72.00	32,315
5.35	2402	74.16	33,284
5.51	2472	76.32	34,254
5.66	2542	78.48	35,225
5.82	2612	80.65	36,197
5.98	2683	82.82	37,170
6.13	2753	84.98	38,144
6.29	2823	87.15	39,118
6.45	2893	89.33	40,093
6.60	2964	91.50	41,069
6.76	3034	93.68	42,045
6.92	3105	95.85	43,022

- Standard Depth is measured from the top of the grate rail to the trench invert.
- Q<sub>max</sub> is based on Manning's Equation n = 0.13 and S<sub>t</sub> = 0.5%. The outlet end depth flow area is utilized and the grate area is excluded. The flow values shown do not include site grade slope.
- F<sub>k</sub> is used to include site grade slope in trench flow calculations. The equation is: Flow, Q = F<sub>k</sub> × (S<sub>s</sub> + S<sub>t</sub>)<sup>1/2</sup> where S<sub>s</sub> is the site slope and S<sub>t</sub> is the trench form slope (ft/ft), (dimensionless).

**MultiDrain Systems, Inc.**  
1405 Industrial Drive • Statesville, NC 28625 • (704) 508-1010 • (800) 433-1119 • Fax (704) 508-1011 • md.multidrainsystems.com

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