

FOUL DRAINAGE DESIGN DISCHARGE UNIT METHOD

TITLE	Job Reference	Revision No.	Calculations by	Date											
CROKERS HILL HOUSING DEVELOPMENT	18KK003	PL1	T.D.	22/11/18	Coefficient of Friction for uPVC pipes (ie 375mm or less) $k_s = 0.60$ Coefficient of Friction for Concrete pipes (ie 450mm or greater) $k_s = 1.50$										
SUBJECT	Drawing No.	Status	Checked by												
Foul Water Drainage Design using the Discharge Unit Method	C-010	Planning	N.P.												
Pipe Section	Discharge Units	Total Discharge Units	Extra Flows (l/sec)	U/S CL (m)	U/S IL (m)	D/S IL (m)	Length L_{pipe} (m)	Pipe Dia. (mm)	Gradient 1 in	Cover to US Soffit (m)	Prop Capacity (%)	Flow Q (l/sec)	Pipe Cap. (l/s)	Velocity (m/s)	Partial Velocity (m/s)
F1.0 to F1.1	0	14	0.00	56.900	54.895	54.520	22.500	150	60	1.86	11%	2.60	22.96	1.30	0.86
F1.1 to F1.2	0	126	0.00	56.140	54.520	54.000	31.000	150	60	1.47	18%	4.10	23.04	1.30	0.98
F1.2 to F1.3	0	70	0.00	57.330	54.000	53.780	30.000	150	136	3.18	30%	4.60	15.15	0.86	0.75
F1.3 to F1.4	0	0	0.00	57.800	53.780	53.660	18.000	225	150	3.79	15%	6.20	42.30	1.06	0.76
F1.4 to F1.5 BD	0	0	0.00	58.000	53.660	53.500	23.000	225	144	4.12	14%	6.20	43.22	1.09	0.77
F1.5 to F1.6 BD	0	0	0.00	54.500	52.110	52.030	12.000	225	150	2.17	15%	6.20	42.30	1.06	0.76
F1.6 to F1.7 BD	0	70	0.00	54.450	51.755	51.075	68.015	225	100	2.47	15%	7.84	51.92	1.31	0.94
F1.7 to F1.8	0	0	0.00	53.000	49.500	48.000	30.000	225	20	3.28	8%	9.07	116.83	2.94	1.73
F1.8 to F1.9	0	0	0.00	50.850	48.000	46.500	30.000	225	20	2.63	8%	9.07	116.83	2.94	1.73
F1.9 to F1.10 BD	0	0	0.00	48.710	46.500	45.000	30.000	225	20	1.99	8%	9.07	116.83	2.94	1.73
* F2.0 to F2.1	0	140	0.00	58.335	57.435	56.685	45.000	150	60	0.75	18%	4.10	22.96	1.30	0.98
F2.1 to F2.2	0	70	0.00	58.720	56.685	56.470	28.000	150	130	1.89	30%	4.60	15.51	0.88	0.76
F2.2 to F1.3 BD	0	112	0.00	59.310	56.470	56.160	40.000	225	129	2.62	11%	5.20	45.65	1.15	0.76
F3.0 to F3.1	0	280	0.00	54.540	52.365	51.950	25.000	150	60	2.03	28%	6.50	22.92	1.30	1.11
F3.1 to F1.6	0	280	0.00	53.775	51.950	51.755	25.000	225	128	1.60	11%	5.00	45.80	1.15	0.75
F4.0 to F4.1	0	84	0.00	55.100	53.055	52.220	50.000	150	60	1.90	17%	3.80	22.99	1.30	0.96
F4.1 to F1.2	0	56	0.00	54.900	52.220	51.870	21.000	150	60	2.53	18%	4.10	22.96	1.30	0.98
F4.2 to F1.7 BD	0	168	0.00	54.290	51.870	51.575	44.100	150	149	2.27	36%	5.20	14.46	0.82	0.75
<p>NOTE * = CONCRETE PROTECTION WILL BE PROVIDED OVER PIPES uPVC PIPES ASSUMED AS THE DRAINAGE MATERIAL, PLEASE NOTIFY ENGINEER IF DIFFERENT.</p>															