Table 4.1.8 Evaluation of Existing Sewer Capacity (For Combined Sewer : Case-2)

Sanitary Sewage Flow

Sanitary Sewage per Capita = 440 liter/day (Hourly Maximum)

Storm Water Flow

Rainfall Intensity Formula = $\frac{2750}{t + 17}$ (Return Period : 4 Year)
For Main Pipe (D≧500)

Rainfall Intensity Formula = $\frac{2520}{t + 17}$ (Return Period : 2.5 Year)
For Small Pipe (D≦400)

Runoff Coefficient = 0.5

Inlet Time = 5 min

Assumed Average Velocity = 1.5 m/sec

No.	Down Stream	Length (m) Increment	Area (ha) Increment	Area (ha) Total	Sewage Quantity Sanitary Sewage	Sewage Quantity Storm Water	Sewage Quantity Remain Sewage	Sewage Quantity $Q_1(m^3/s)$	Existing Pipe Specification D (mm)	Existing Pipe Specification I (‰)	Existing Pipe Specification V (m/s)	Existing Pipe Specification $Q_2(m^3/s)$	Capacity Q_1/Q_2	Capacity Judge
1001	1004	826	9.80	9.80	0.013	1.200		1.213	600	12.4	2.42	0.684	177%	NG
1002	1003	94	4.10	4.10	0.006	0.624		0.629	300	17.0	1.78	0.126	500%	NG
1003	1004	295	6.60	10.70	0.014	1.424		1.438	400	19.1	2.29	0.288	500%	NG
1004	1009	355	5.47	25.97	0.035	2.826		2.861	600	22.0	3.22	0.910	314%	NG
1005	1006	450	7.60	7.60	0.010	1.075		1.085	600	18.6	2.96	0.837	130%	NG
1006	1008	249	8.30	15.90	0.021	2.038		2.059	600	2.0	0.97	0.274	751%	NG
1007	1008	205	2.88	2.88	0.004	0.415		0.419	400	20.9	2.40	0.302	139%	NG
1008	1009	252	3.03	21.81	0.029	2.555		2.585	600	16.6	2.80	0.792	326%	NG
1009	1011	360	6.37	54.15	0.073	5.290		5.363	600	27.2	3.58	1.012	530%	NG
1010	1011	564	4.03	4.03	0.005	0.544		0.549	600	21.9	3.21	0.908	61%	OK
Out-11								-5.676						
1011	1012	824	0.97	59.15	0.080		0.157	0.237	600	18.0	2.91	0.823	29%	OK
1012	1021	491	0.00	59.15	0.080		0.157	0.237	600	6.3	1.72	0.486	49%	OK
1013	1014	247	1.33	1.33	0.002	0.206		0.207	600	17.2	2.85	0.806	26%	OK
1014	1015	163	4.25	5.58	0.008	0.734		0.742	400	2.0	0.74	0.093	798%	NG
1015	1016	268	7.90	13.48	0.018	1.745		1.763	500	2.0	0.86	0.169	1044%	NG
1016	1017B	708	7.90	21.38	0.029	2.001		2.030	400	12.8	1.87	0.235	864%	NG
1017A	1017B	186	1.20	1.20	0.002	0.190		0.192	500	41.3	3.91	0.768	25%	OK
1017B	1020	122	1.30	23.88	0.032	2.351		2.383	500	2.6	0.98	0.192	1238%	NG
1018	1019	426	4.59	4.59	0.006	0.657		0.663	600	2.0	0.97	0.274	242%	NG
1019	1020	100	2.85	7.44	0.010	1.022		1.032	800	1.9	1.15	0.578	179%	NG
1020	1021	895	0.00	31.32	0.042	2.456		2.499	800	5.6	1.97	0.990	252%	NG
Out-12								-2.369						
1021	1060	855	0.00	90.47	0.122		0.244	0.366	600	5.2	1.57	0.444	83%	OK
1022	1023	100	0.77	0.77	0.001	0.117		0.118	400	5.9	1.27	0.160	74%	OK
1023	1024	86	0.69	1.46	0.002	0.212		0.214	400	14.0	1.96	0.246	87%	OK
1024	1025	91	0.81	2.27	0.003	0.317		0.320	400	9.8	1.64	0.206	155%	NG
1025	1027	127	0.83	3.10	0.004	0.447		0.451	500	20.4	2.75	0.540	84%	OK
1026	1027	50	0.28	0.28	0.000	0.043		0.044	400	1.9	0.72	0.090	48%	OK
1027	1028	127	0.83	4.21	0.006	0.576		0.582	500	11.8	2.09	0.410	142%	NG
1028	1035	180	1.03	5.24	0.007	0.669		0.676	600	6.1	1.70	0.481	141%	NG
1029	1031	326	2.47	2.47	0.003	0.338		0.341	400	8.2	1.50	0.188	181%	NG
1030	1031	209	1.80	1.80	0.002	0.283		0.285	600	15.3	2.69	0.761	38%	OK
1031	1034	227	2.35	6.62	0.009	0.900		0.909	500	7.6	1.68	0.330	275%	NG
1032	1034	132	1.36	1.36	0.002	0.203		0.204	400	2.0	0.74	0.093	220%	NG
1033	1034	103	1.59	1.59	0.002	0.241		0.243	400	2.0	0.74	0.093	261%	NG
1034	1035	151	1.14	10.71	0.014	1.373		1.387	500	12.5	2.15	0.422	329%	NG
1035	1037	220	2.36	18.31	0.025	2.165		2.190	500	13.6	2.24	0.440	498%	NG
1036	1037	339	2.14	2.14	0.003	0.290		0.293	400	9.4	1.61	0.202	145%	NG
1037	1041	347	4.19	24.64	0.033	2.600		2.633	500	2.0	0.86	0.169	1559%	NG
1038	1039	110	1.70	1.70	0.002	0.256		0.259	400	7.2	1.41	0.177	146%	NG
1039	1040	140	1.15	2.85	0.004	0.439		0.443	500	6.4	1.54	0.302	146%	NG
1040	1041	124	1.15	4.00	0.005	0.583		0.589	600	11.3	2.31	0.653	90%	OK
1041	1044	136	0.85	29.49	0.040	2.988		3.027	500	22.0	2.85	0.560	541%	NG
1042	1044	73	2.17	2.17	0.003	0.364		0.366	500	42.4	3.96	0.778	47%	OK
1043	1044	78	0.49	0.49	0.001	0.082		0.082	500	2.5	0.96	0.188	44%	OK
1044	1049	286	2.08	34.23	0.046	3.197		3.243	500	18.5	2.62	0.514	630%	NG

No.	Down Stream	Length (m) Increment	Area (ha) Increment	Area (ha) Total	Sewage Quantity Sanitary Sewage	Sewage Quantity Storm Water	Sewage Quantity Remain Sewage	Sewage Quantity $Q_1(m^3/s)$	Existing Pipe Specification D (mm)	Existing Pipe Specification I (‰)	Existing Pipe Specification V (m/s)	Existing Pipe Specification $Q_2(m^3/s)$	Capacity Q_1/Q_2	Capacity Judge
1045	1046	283	3.12	3.12	0.004	0.435		0.439	400	12.7	1.87	0.235	187%	NG
1046	1048	125	1.70	4.82	0.007	0.695		0.701	500	10.9	2.01	0.395	178%	NG
1047	1048	123	2.35	2.35	0.003	0.384		0.387	500	16.2	2.45	0.481	80%	OK
1048	1049	156	1.80	8.97	0.012	1.211		1.223	500	4.4	1.28	0.251	487%	NG
1049	1053	274	0.90	44.10	0.060	3.837		3.896	800	2.0	1.18	0.593	657%	NG
1050	1051	56	0.80	0.80	0.001	0.135		0.136	500	2.0	0.86	0.169	81%	OK
1051	1052	149	2.65	3.45	0.005	0.542		0.547	600	2.0	0.97	0.274	199%	NG
1052	1053	157	0.85	4.30	0.006	0.632		0.637	800	1.8	1.12	0.563	113%	NG
1053	1057	121	1.08	49.48	0.067	4.172		4.239	800	2.0	1.18	0.593	715%	NG
1054	1056	325	2.64	2.64	0.004	0.394		0.397	600	16.6	2.80	0.792	50%	OK
1055	1056	373	3.30	3.30	0.004	0.483		0.487	600	12.0	2.38	0.673	72%	OK
1056	1057	296	1.30	7.24	0.010	0.941		0.950	800	2.0	1.18	0.593	160%	NG
1057	1060	444	6.15	62.87	0.085	4.783		4.868	1000	2.0	1.37	1.076	452%	NG
1058	1059	300	3.29	3.29	0.004	0.455		0.460	400	17.6	2.20	0.276	166%	NG
1059	1060	945	7.30	10.59	0.014	1.130		1.144	600	2.0	0.97	0.274	417%	NG
Out-13								-5.715			0.00	0.000		
1060	1061	722	0.00	163.93	0.221		0.442	0.664	600	8.6	2.01	0.568	117%	NG
1061	1062	482	0.00	163.93	0.221		0.442	0.664	600	7.8	1.92	0.543	122%	NG
1062	1063	280	36.20	200.13	0.270		0.442	0.712	800	17.4	3.47	1.744	41%	OK
1063	1065	267	3.45	203.58	0.275		0.442	0.717	800	3.3	1.51	0.759	94%	OK
1064	1065	149	3.83	3.83	0.005	0.617		0.622	1000	3.3	1.75	1.374	45%	OK
1065	To STP	1130	6.20	213.61	0.288		0.442	0.731	1000x600	3.8	1.93	1.042	70%	OK
Out-14								-0.154						
To STP					0.288		0.576	0.865						
2001	2002	480	14.95	14.95	0.023	1.917		1.939	400	5.8	1.26	0.158	1225%	NG
2002	2003	193	4.38	19.33	0.030	2.503		2.532	500	26.2	3.11	0.611	415%	NG
2003	2005	242	3.74	23.07	0.035	2.736		2.772	600	18.5	2.95	0.834	332%	NG
2004	2005	348	6.90	6.90	0.011	1.018		1.028	600	9.1	2.07	0.585	176%	NG
2005	2007	169	1.15	31.12	0.048	3.496		3.543	600	8.2	1.97	0.557	636%	NG
2006	2007	300	1.60	1.60	0.002	0.221		0.224	400	5.0	1.17	0.147	152%	NG
2007	2009	48	0.23	32.95	0.050	3.637		3.688	600	12.5	2.43	0.687	537%	NG
2008	2009	273	2.10	2.10	0.003	0.294		0.297	300	5.1	0.98	0.069	429%	NG
2009	2011	262	2.10	37.15	0.057	3.784		3.841	1500x700	9.5	3.67	3.468	111%	NG
2010A	2010B	50	0.54	0.54	0.001	0.084		0.084	300	11.9	1.49	0.105	80%	OK
2010B	2011	175	1.67	2.21	0.003	0.316		0.319	400	2.0	0.74	0.093	343%	NG
2011	2013	210	0.40	39.76	0.061	3.816		3.876	1500x700	4.0	2.38	2.249	172%	NG
2012	2013	218	5.20	5.20	0.008	0.746		0.754	400	14.2	1.97	0.248	305%	NG
2013	2015	138	0.80	45.76	0.070	4.222		4.292	1500x700	2.0	1.68	1.588	270%	NG
2014	2015	102	1.35	1.35	0.002	0.205		0.207	400	4.9	1.16	0.146	142%	NG
2015	2017	850	6.00	53.11	0.081	3.993		4.074	1500x700	6.3	2.99	2.826	144%	NG
2016	2017	150	1.03	1.03	0.002	0.152		0.154	400	4.0	1.05	0.132	116%	NG
2017	2019	280	1.35	55.49	0.085	3.932		4.017	1500x700	8.3	3.43	3.241	124%	NG
2018	2019	206	1.60	1.60	0.002	0.251		0.254	600	10.6	2.24	0.633	40%	OK
2019	2021	132	0.35	57.44	0.088	3.960		4.048	1000	20.2	4.34	3.409	119%	NG
2020	2021	118	2.82	2.82	0.004	0.424		0.428	400	24.5	2.59	0.325	131%	NG
2021	2025	250	1.14	61.40	0.094	4.029		4.123	1000	2.0	1.37	1.076	383%	NG
2022	2024	269	5.75	5.75	0.009	0.878		0.887	500	10.4	1.96	0.385	231%	NG
2023	2024	313	2.71	2.71	0.004	0.372		0.376	400	6.3	1.32	0.166	227%	NG
2024	2025	150	1.10	9.56	0.015	1.347		1.362	500	1.5	0.74	0.145	937%	NG
2025	2030	290	5.30	76.26	0.116	4.744		4.860	1000	4.4	2.02	1.587	306%	NG
2026	2027	253	3.12	3.12	0.005	0.440		0.445	300	11.8	1.49	0.105	423%	NG
2027	2029	193	1.85	4.97	0.008	0.644		0.652	400	15.5	2.06	0.259	252%	NG
2028	2029	341	2.99	2.99	0.005	0.406		0.410	400	13.3	1.91	0.240	171%	NG
2029	2030	175	0.54	8.50	0.013	1.123		1.136	500	4.2	1.25	0.245	463%	NG
2030	2033	144	1.20	85.96	0.131	5.211		5.343	1500x700	15.9	4.75	4.489	119%	NG
2031	2032	212	1.66	1.66	0.003	0.238		0.241	400	10.8	1.72	0.216	111%	NG
2032	2033	316	2.82	4.48	0.007	0.613		0.620	700x500	5.0	1.84	0.580	107%	NG
2033	2034	95	0.84	91.28	0.139	5.447		5.587	1000	46.3	6.57	5.160	108%	NG
2034	2044	130	0.77	92.05	0.141	5.368		5.508	800	2.0	1.18	0.593	929%	NG
2035	2037	130	0.90	0.90	0.001	0.147		0.148	600	6.1	1.70	0.481	31%	OK
2036	2037	111	1.40	1.40	0.002	0.211		0.213	400	7.2	1.41	0.177	120%	NG

No.	Down Stream	Length (m) Increment	Area (ha) Increment	Area (ha) Total	Sewage Quantity Sanitary Sewage	Sewage Quantity Storm Water	Sewage Quantity Remain Sewage	Sewage Quantity $Q_1(m^3/s)$	Existing Pipe Specification D (mm)	Existing Pipe Specification I (‰)	Existing Pipe Specification V (m/s)	Existing Pipe Specification $Q_2(m^3/s)$	Capacity Q_1/Q_2	Capacity Judge
2037	2040	438	3.80	6.10	0.009	0.823		0.833	600	23.0	3.29	0.930	90%	OK
2038	2040	187	3.08	3.08	0.005	0.447		0.452	400	2.0	0.74	0.093	486%	NG
2039	2040	145	0.80	0.80	0.001	0.129		0.131	500	27.5	3.19	0.626	21%	OK
2040	2042	538	9.90	19.88	0.030	2.214		2.244	800	8.1	2.37	1.191	188%	NG
2041	2042	451	2.14	2.14	0.003	0.277		0.281	400	15.7	2.08	0.261	107%	NG
2042	2044	47	0.08	22.10	0.034	2.426		2.459	1000	2.0	1.37	1.076	229%	NG
2043	2044	102	16.60	16.60	0.025	2.745		2.770	800	16.6	3.39	1.704	163%	NG
2044	2052	302	0.00	130.75	0.200	7.259		7.458	1000	4.0	1.93	1.516	492%	NG
2045	2046	269	2.27	2.27	0.003	0.318		0.321	400	24.9	2.62	0.329	98%	OK
2046	2049	272	4.30	6.57	0.010	0.896		0.906	600	9.9	2.16	0.611	148%	NG
2047	2048	196	5.50	5.50	0.008	0.795		0.804	300	2.0	0.61	0.043	1864%	NG
2048	2049	208	3.40	8.90	0.014	1.175		1.189	400	2.0	0.74	0.093	1279%	NG
2049	2051	618	8.20	23.67	0.036	2.590		2.627	600	6.7	1.78	0.503	522%	NG
2050	2051	130	1.10	1.10	0.002	0.165		0.166	400	4.6	1.12	0.141	118%	NG
2051	2052	365	0.30	25.07	0.038	2.462		2.500	800	4.6	1.78	0.895	279%	NG
2052	2053	469	0.00	155.82	0.238	8.043		8.280	600	6.1	1.70	0.481	1723%	NG
2053	2062	930	6.33	162.15	0.248	7.338		7.585	1000	4.8	2.11	1.657	458%	NG
2054	2055	48	0.80	0.80	0.001	0.124		0.126	400	2.0	0.74	0.093	135%	NG
2055	2056	151	2.47	3.27	0.005	0.516		0.521	500	5.3	1.40	0.275	190%	NG
2056	2057	67	0.24	3.51	0.005	0.536		0.542	600	28.3	3.65	1.032	52%	OK
2057	2058	115	14.50	18.01	0.027	2.626		2.653	500	5.2	1.39	0.273	972%	NG
2058	2059	152	0.00	18.01	0.027	2.466		2.493	500	31.5	3.41	0.670	372%	NG
2059	2061	676	0.00	18.01	0.027	1.943		1.971	600	6.5	1.75	0.495	398%	NG
2060	2061	117	3.00	3.00	0.005	0.492		0.496	500	2.0	0.86	0.169	294%	NG
2061	2062	868	0.00	21.01	0.032	1.779		1.811	1000	2.0	1.37	1.076	168%	NG
2062	To STP	400	0.00	183.16	0.280	7.878		8.158	1000	2.0	1.37	1.076	758%	NG
Out-21								-7.319						
To STP					0.280		0.559	0.839						
3001	3008	725	24.00	24.00	0.043	2.791		2.833	400	18.2	2.24	0.281	1007%	NG
3002	3004	275	5.80	5.80	0.010	0.809		0.819	400	17.8	2.21	0.278	295%	NG
3003	3004	108	0.35	0.35	0.001	0.053		0.053	400	12.9	1.88	0.236	23%	OK
3004	3007	42	0.10	6.25	0.011	0.858		0.869	400	57.1	3.96	0.498	175%	NG
3005	3006	203	1.43	1.43	0.003	0.206		0.209	300	9.8	1.35	0.095	219%	NG
3006	3007	130	0.45	1.88	0.003	0.256		0.259	400	49.2	3.68	0.462	56%	OK
3007	3008	25	0.03	8.16	0.015	1.098		1.113	400	2.0	0.74	0.093	1197%	NG
3008	3009	82	1.57	33.73	0.060	4.156		4.216	500	6.7	1.57	0.308	1368%	NG
3009	3011	215	8.12	41.85	0.075	4.786		4.860	600	13.9	2.56	0.724	671%	NG
3010	3011	152	1.14	1.14	0.002	0.168		0.170	400	12.4	1.85	0.232	73%	OK
3011	3013	66	0.20	43.19	0.077	4.838		4.914	600	21.2	3.16	0.893	550%	NG
3012	3013	149	0.90	0.90	0.002	0.133		0.135	400	7.3	1.42	0.178	75%	OK
3013	3017	58	1.48	45.57	0.081	5.016		5.097	500	10.3	1.95	0.383	1331%	NG
3014	3015	221	2.25	2.25	0.004	0.321		0.325	300	20.3	1.95	0.138	236%	NG
3015	3016	278	4.27	6.52	0.012	0.830		0.841	400	3.4	0.97	0.122	690%	NG
3016	3017	180	2.94	9.46	0.017	1.122		1.139	400	2.7	0.86	0.108	1054%	NG
3017	3021	352	7.25	62.28	0.111	6.163		6.273	800	13.9	3.10	1.558	403%	NG
3018	3019	227	2.42	2.42	0.004	0.377		0.382	500	2.0	0.86	0.169	226%	NG
3019	3020	558	15.68	18.10	0.032	2.252		2.284	600	11.9	2.37	0.670	341%	NG
3020	3021	308	2.50	20.60	0.037	2.307		2.344	600	2.9	1.17	0.331	709%	NG
3021	3025	132	0.60	83.48	0.149	7.951		8.100	600	3.0	1.19	0.336	2407%	NG
3022	3023	120	1.05	1.05	0.002	0.158		0.160	400	12.5	1.85	0.232	69%	OK
3023	3024	268	1.93	2.98	0.005	0.433		0.438	500	19.0	2.65	0.520	84%	OK
3024	3025	93	0.13	3.11	0.006	0.435		0.441	600	20.4	3.10	0.877	50%	OK
3025	3026	63	0.30	86.89	0.155	8.134		8.289	600	7.9	1.93	0.546	1519%	NG
3026	3027	190	2.50	89.39	0.159	7.959		8.118	800	24.7	4.13	2.076	391%	NG
3027	3029	71	0.20	89.59	0.160	7.830		7.990	600	18.3	2.94	0.831	961%	NG
	3028		4.05	4.05	0.007			0.007						
3028	3029	543	7.00	11.05	0.020	0.955		0.975	800	14.7	3.19	1.603	61%	OK
Out-31								-9.502						
3029	3032	256	3.20	103.84	0.185		0.358	0.543	800	15.2	3.24	1.629	33%	OK
3030	3031	402	5.91	5.91	0.011	0.781		0.791	400	11.4	1.77	0.222	356%	NG
3031	3032	305	5.28	11.19	0.020	1.429		1.449	600	19.0	2.99	0.845	171%	NG

No.	Down Stream	Length (m) Increment	Area (ha) Increment	Area (ha) Total	Sewage Quantity Sanitary Sewage	Sewage Quantity Storm Water	Sewage Quantity Remain Sewage	$Q_1(m^3/s)$	Existing Pipe Specification D (mm)	I (‰)	V (m/s)	$Q_2(m^3/s)$	Capacity Q_1/Q_2	Judge
3032	3039	370	3.85	118.88	0.212		0.358	0.570	800	7.2	2.23	1.121	51%	OK
3033	3035	142	0.92	0.92	0.002	0.149		0.151	500	2.0	0.86	0.169	89%	OK
3034	3035	83	0.81	0.81	0.001	0.124		0.125	400	2.0	0.74	0.093	135%	NG
3035	3036	85	0.94	2.67	0.005	0.381		0.386	400	10.7	1.71	0.215	180%	NG
3036	3038	169	1.35	4.02	0.007	0.582		0.589	500	8.2	1.74	0.342	172%	NG
3037	3038	278	1.60	1.60	0.003	0.243		0.246	500	10.4	1.96	0.385	64%	OK
3038	3039	166	1.15	6.77	0.012	0.917		0.929	600	28.9	3.69	1.043	89%	OK
3039	3041	113	0.65	126.30	0.225		0.358	0.583	800	10.9	2.75	1.382	42%	OK
3040	3041	155	1.46	1.46	0.003	0.216		0.218	400	27.7	2.76	0.347	63%	OK
3041	3062	365	2.30	130.06	0.232		0.358	0.590	800	2.8	1.39	0.699	84%	OK
3042	3044	410	5.20	5.20	0.009	0.747		0.756	600	13.4	2.51	0.710	107%	NG
3043	3044	98	0.77	0.77	0.001	0.117		0.118	400	2.0	0.74	0.093	127%	NG
3044	3045	221	2.45	8.42	0.015	1.109		1.124	500	9.9	1.91	0.375	300%	NG
3045	3052	454	11.51	19.93	0.035	2.232		2.268	600	12.3	2.41	0.681	333%	NG
3046	3048	263	4.73	4.73	0.008	0.665		0.673	400	2.0	0.74	0.093	724%	NG
3047	3048	167	2.87	2.87	0.005	0.420		0.425	400	4.7	1.14	0.143	297%	NG
3048	3050	58	0.70	8.30	0.015	1.135		1.150	400	2.0	0.74	0.093	1236%	NG
3049	3050	272	1.83	1.83	0.003	0.256		0.259	400	9.5	1.62	0.204	127%	NG
3050	3051	173	1.42	11.55	0.021	1.470		1.491	400	2.0	0.74	0.093	1603%	NG
3051	3052	77	0.29	11.84	0.021	1.598		1.619	600	2.0	0.97	0.274	590%	NG
3052	3055	174	1.46	33.23	0.059	3.526		3.585	600	2.0	0.97	0.274	1307%	NG
3053	3054	118	0.43	0.43	0.001	0.065		0.065	400	2.0	0.74	0.093	70%	OK
3054	3055	98	0.35	0.78	0.001	0.122		0.123	500	6.7	1.57	0.308	40%	OK
3055	3060	12	0.01	34.02	0.061	3.599		3.660	600	2.0	0.97	0.274	1334%	NG
3056	3059	287	2.82	2.82	0.005	0.427		0.432	500	13.2	2.21	0.434	100%	OK
3057	3059	203	1.29	1.29	0.002	0.203		0.205	500	17.2	2.52	0.495	41%	OK
3058	3059	111	0.46	0.46	0.001	0.069		0.070	400	2.0	0.74	0.093	76%	OK
3059	3060	235	1.18	5.75	0.010	0.790		0.800	600	8.8	2.04	0.577	139%	NG
3060	3061	114	0.45	40.22	0.072	4.107		4.179	600	2.0	0.97	0.274	1524%	NG
3061	3062	348	8.47	48.69	0.087	4.503		4.590	600	6.7	1.78	0.503	912%	NG
3062	3075	514	9.30	188.05	0.335		0.358	0.693	800	3.6	1.58	0.794	87%	OK
3063	3065	256	1.33	1.33	0.002	0.205		0.207	600	7.8	1.92	0.543	38%	OK
3064	3065	216	1.32	1.32	0.002	0.207		0.209	600	8.3	1.98	0.560	37%	OK
3065	3067	86	0.75	3.40	0.006	0.503		0.509	600	2.0	0.97	0.274	186%	NG
3066	3067	232	2.02	2.02	0.004	0.314		0.317	600	9.0	2.06	0.582	54%	OK
3067	3075	372	2.20	7.62	0.014	0.973		0.987	600	11.2	2.30	0.650	152%	NG
3068	3070	416	4.63	4.63	0.008	0.665		0.673	500	2.0	0.86	0.169	399%	NG
3069	3070	285	3.24	3.24	0.006	0.450		0.456	400	2.8	0.88	0.111	412%	NG
3070	3072	176	1.12	8.99	0.016	1.201		1.217	500	2.1	0.88	0.173	704%	NG
3071	3072	114	0.68	0.68	0.001	0.102		0.103	400	9.6	1.62	0.204	51%	OK
3072	3074	100	0.41	10.08	0.018	1.296		1.314	500	2.9	1.04	0.204	644%	NG
3073	3074	127	0.86	0.86	0.002	0.129		0.130	400	14.9	2.02	0.254	51%	OK
3074	3075	574	3.36	14.30	0.025	1.513		1.538	500	7.1	1.62	0.318	484%	NG
3075	3077	415	0.15	210.12	0.374		0.358	0.733	800	2.0	1.18	0.593	123%	NG
3076	3077	220	1.93	1.93	0.003	0.302		0.306	500	9.0	1.82	0.357	86%	OK
Out-32								0.095						
3077	3079	270	2.80	214.85	0.383		0.755	1.138	800	2.0	1.18	0.593	192%	NG
3078	3079	533	5.32	5.32	0.009	0.667		0.677	300	2.0	0.61	0.043	1570%	NG
3079	3085	233	0.76	220.93	0.393		0.755	1.148	800	2.0	1.18	0.593	194%	NG
3080	3082	134	0.47	0.47	0.001	0.070		0.071	200	10.4	1.06	0.033	213%	NG
3081	3082	70	1.43	1.43	0.003	0.220		0.222	400	2.0	0.74	0.093	239%	NG
3082	3084	47	0.21	2.11	0.004	0.308		0.311	400	2.0	0.74	0.093	335%	NG
3083	3084	212	1.68	1.68	0.003	0.263		0.266	500	2.0	0.86	0.169	158%	NG
3084	3085	70	0.21	4.00	0.007	0.609		0.616	500	2.0	0.86	0.169	365%	NG
3085	3104	421	3.12	228.05	0.406		0.755	1.161	1000	5.8	2.32	1.822	64%	OK
3086	3087	290	2.72	2.72	0.005	0.378		0.383	300	6.8	1.13	0.080	479%	NG
3087	3092	95	0.30	3.02	0.005	0.402		0.407	400	27.3	2.74	0.344	118%	NG
3088	3089	52	0.36	0.36	0.001	0.056		0.056	300	2.0	0.61	0.043	131%	NG
3089	3092	220	1.25	1.61	0.003	0.225		0.228	400	20.8	2.39	0.300	76%	OK
3091	3092	199	5.17	5.17	0.009	0.748		0.757	300	3.0	0.75	0.053	1428%	NG
3092	3096	344	4.64	14.44	0.026	1.832		1.858	500	4.9	1.35	0.265	701%	NG

No.	Down Stream	Length (m) Increment	Area (ha) Increment	Area (ha) Total	Sewage Quantity Sanitary Sewage	Sewage Quantity Storm Water	Sewage Quantity Remain Sewage	Sewage Quantity $Q_1(m^3/s)$	Existing Pipe Specification D (mm)	Existing Pipe Specification I (‰)	Existing Pipe Specification V (m/s)	Existing Pipe Specification $Q_2(m^3/s)$	Capacity Q_1/Q_2	Capacity Judge
3093	3095	327	1.95	1.95	0.003	0.267		0.270	300	2.0	0.61	0.043	626%	NG
3094	3095	290	2.15	2.15	0.004	0.299		0.302	300	6.8	1.13	0.080	379%	NG
3095	3096	267	0.30	4.40	0.008	0.538		0.546	400	5.4	1.22	0.153	356%	NG
3096	3097	191	0.38	19.22	0.034	2.280		2.314	600	9.9	2.16	0.611	379%	NG
3097	3100	30	0.02	19.24	0.034	2.254		2.288	600	2.0	0.97	0.274	834%	NG
3098	3099	91	0.34	0.34	0.001	0.052		0.052	300	2.0	0.61	0.043	121%	NG
3099	3100	251	1.24	1.58	0.003	0.234		0.237	600	8.8	2.04	0.577	41%	OK
3100	3103	93	0.78	21.60	0.038	2.455		2.494	800	2.0	1.18	0.593	420%	NG
3101	3102	230	1.92	1.92	0.003	0.273		0.277	300	2.0	0.61	0.043	641%	NG
3102	3103	239	2.20	4.12	0.007	0.579		0.586	600	8.9	2.05	0.580	101%	NG
3103	3104	101	0.82	26.54	0.047	2.921		2.969	800	2.0	1.18	0.593	500%	NG
3104	3107	257	2.41	257.00	0.458		0.755	1.213	1000	2.0	1.37	1.076	113%	NG
3105	3106	187	1.49	1.49	0.003	0.236		0.239	800	2.1	1.21	0.608	39%	OK
3106	3107	210	1.82	3.31	0.006	0.479		0.485	500	2.0	0.86	0.169	287%	NG
3107	3109	667	11.60	271.91	0.484		0.755	1.239	1000	3.1	1.70	1.335	93%	OK
3108	3109	193	2.23	2.23	0.004	0.353		0.357	500	5.1	1.37	0.269	133%	NG
3109	3113	456	4.93	279.07	0.497		0.755	1.252	1000	2.0	1.37	1.076	116%	NG
3110	3112	491	2.69	2.69	0.005	0.374		0.378	600	5.2	1.57	0.444	85%	OK
3111	3112	181	4.18	4.18	0.007	0.610		0.617	400	7.7	1.45	0.182	339%	NG
3112	3113	489	4.41	11.28	0.020	1.310		1.330	600	2.0	0.97	0.274	485%	NG
Out-33								-1.031						
3113	3127	20	0.50	290.85	0.518		1.034	1.552	1000	2.0	1.37	1.076	144%	NG
3114	3116	579	3.68	3.68	0.007	0.495		0.501	500	4.6	1.30	0.255	196%	NG
3115	3116	67	0.44	0.44	0.001	0.068		0.069	400	8.9	1.56	0.196	35%	OK
3116	3118	68	0.32	4.44	0.008	0.581		0.589	600	10.2	2.19	0.619	95%	OK
3117	3118	70	1.40	1.40	0.002	0.215		0.217	400	2.0	0.74	0.093	234%	NG
3118	3121	199	2.38	8.22	0.015	1.000		1.015	1000x500	2.0	1.32	0.594	171%	NG
3119	3120	268	3.27	3.27	0.006	0.458		0.464	400	6.3	1.32	0.166	279%	NG
3120	3121	213	3.16	6.43	0.011	0.900		0.911	500	7.9	1.71	0.336	271%	NG
3121	3125	232	2.40	17.05	0.030	1.915		1.946	500	9.7	1.89	0.371	524%	NG
3122	3124	276	2.60	2.60	0.005	0.363		0.367	400	9.4	1.61	0.202	181%	NG
3123	3124	124	1.80	1.80	0.003	0.269		0.272	400	3.2	0.94	0.118	231%	NG
3124	3125	208	0.81	5.21	0.009	0.666		0.675	400	2.0	0.74	0.093	726%	NG
3125	3126	500	4.58	26.84	0.048	2.378		2.426	400	10.3	1.68	0.211	1149%	NG
3126	3127	1009	0.00	26.84	0.048	2.022		2.070	600	3.2	1.23	0.348	595%	NG
Out-34								-1.925						
3127	3152	97	0.05	317.74	0.566		1.131	1.697						
3128	3129	254	2.27	2.27	0.004	0.320		0.324	300	8.2	1.24	0.088	370%	NG
3129	3131	71	1.33	3.60	0.006	0.492		0.499	400	2.0	0.74	0.093	536%	NG
3130	3131	201	1.00	1.00	0.002	0.145		0.146	400	8.9	1.56	0.196	75%	OK
3131	3136	122	1.40	6.00	0.011	0.849		0.859	500	2.0	0.86	0.169	509%	NG
3132	3133	124	0.60	0.60	0.001	0.090		0.091	300	9.6	1.34	0.095	96%	OK
3133	3135	95	0.40	1.00	0.002	0.143		0.145	400	9.4	1.61	0.202	72%	OK
3134	3135	149	1.16	1.16	0.002	0.171		0.173	400	2.6	0.85	0.107	162%	NG
3135	3136	20	0.05	2.21	0.004	0.313		0.317	400	2.0	0.74	0.093	341%	NG
3136	3141	287	4.10	12.31	0.022	1.557		1.579	600	9.4	2.11	0.597	265%	NG
3137	3138	328	3.02	3.02	0.005	0.451		0.456	500	8.5	1.77	0.348	131%	NG
3138	3140	138	0.60	3.62	0.006	0.508		0.515	600	2.0	0.97	0.274	188%	NG
3139	3140	122	4.10	4.10	0.007	0.613		0.621	400	7.3	1.42	0.178	348%	NG
3140	3141	68	0.39	8.11	0.014	1.110		1.125	800	2.0	1.18	0.593	190%	NG
3141	3142	120	0.43	20.85	0.037	2.528		2.565	800	2.0	1.18	0.593	432%	NG
3142	3148	281	1.25	22.10	0.039	2.440		2.479	800	6.9	2.19	1.101	225%	NG
3143	3144	159	1.39	1.39	0.002	0.204		0.207	300	16.9	1.78	0.126	164%	NG
3144	3145	302	1.76	3.15	0.006	0.407		0.412	400	8.9	1.56	0.196	210%	NG
3145	3147	248	5.98	9.13	0.016	1.166		1.183	500	6.5	1.55	0.304	389%	NG
3146	3147	185	0.70	0.70	0.001	0.111		0.112	600	4.3	1.42	0.401	28%	OK
3147	3148	497	7.44	17.27	0.031	1.863		1.894	600	4.6	1.47	0.416	456%	NG
3148	3151	367	1.19	40.56	0.072	3.922		3.994	1000	4.6	2.07	1.626	246%	NG
3149	3150	218	0.70	0.70	0.001	0.100		0.102	300	15.1	1.68	0.119	86%	OK
3150	3151	404	3.47	4.17	0.007	0.505		0.512	400	2.7	0.86	0.108	474%	NG
3151	3152	430	2.30	47.03	0.084	4.055		4.139	1000	2.0	1.37	1.076	385%	NG

No.	Down Stream	Length (m) Increment	Area (ha) Increment	Area (ha) Total	Sewage Quantity Sanitary Sewage	Sewage Quantity Storm Water	Sewage Quantity Remain Sewage	Sewage Quantity $Q_1(m^3/s)$	Existing Pipe Specification D (mm)	Existing Pipe Specification I (‰)	Existing Pipe Specification V (m/s)	Existing Pipe Specification $Q_2(m^3/s)$	Capacity Q_1/Q_2	Capacity Judge
Out-35								-3.887						
3152	3154	43	0.06	364.83	0.650		1.299	1.949						
3153	3154	464	1.32	1.32	0.002	0.170		0.172	400	2.0	0.74	0.093	185%	NG
3154	3157	22	0.01	366.16	0.652		1.299	1.951						
3155	3156	537	3.38	3.38	0.006	0.423		0.429	300	8.3	1.25	0.088	485%	NG
3156	3157	480	3.45	6.83	0.012	0.718		0.730	400	2.0	0.74	0.093	785%	NG
3157	3164	181	0.70	373.69	0.665		1.299	1.964						
3158	3159	175	1.41	1.41	0.003	0.206		0.209	300	2.8	0.72	0.051	411%	NG
3159	3161	149	0.81	2.22	0.004	0.304		0.307	400	3.3	0.95	0.119	258%	NG
3160	3161	169	1.25	1.25	0.002	0.183		0.185	400	2.0	0.74	0.093	199%	NG
3161	3163	194	5.50	8.97	0.016	1.232		1.248	600	2.0	0.97	0.274	455%	NG
3162	3163	150	2.50	2.50	0.004	0.369		0.374	400	2.0	0.74	0.093	402%	NG
3163	3164	189	0.80	12.27	0.022	1.567		1.589	600	4.2	1.41	0.399	399%	NG
Out-36								-1.492						
3164	3170	439	3.70	389.66	0.694		1.374	2.068						
3165	3166	479	4.05	4.05	0.007	0.519		0.526	300	9.1	1.31	0.093	569%	NG
3166	3167	106	0.56	4.61	0.008	0.566		0.574	300	2.0	0.61	0.043	1332%	NG
3167	3168	144	1.18	5.79	0.010	0.735		0.745	800	4.3	1.73	0.870	86%	OK
3168	3169	137	0.97	6.76	0.012	0.817		0.829	800	2.0	1.18	0.593	140%	NG
3169	3170	392	0.00	6.76	0.012	0.717		0.729	800	13.0	3.00	1.508	48%	OK
Out-37								-0.680						
3170	To STP	930	0.00	396.42	0.706		1.412	2.118						
4001	4002	24	5.70	5.70	0.010	0.895		0.904	200	41.6	2.13	0.067	1351%	NG
4002	4003	64	2.90	8.60	0.015	1.309		1.323	300	46.8	2.96	0.209	633%	NG
4003	4004	837	13.00	21.60	0.037	2.341		2.377	400	8.0	1.48	0.186	1278%	NG
4004	4006	46	0.35	21.95	0.038	2.342		2.380	300	73.1	3.70	0.262	910%	NG
	4005		10.78		0.018			0.018						
4005	4006	637	4.60	4.60	0.026	0.553		0.580	300	17.5	1.81	0.128	453%	NG
4006	4007	34	0.25	26.80	0.064	2.825		2.890	300	11.7	1.48	0.105	2762%	NG
4007	4011	295	2.42	29.22	0.068	2.810		2.878	400	8.1	1.49	0.187	1537%	NG
4009	4010	147	0.72	0.72	0.001	0.107		0.108	300	10.2	1.38	0.098	111%	NG
4010	4011	538	11.78	12.50	0.021	1.478		1.499	400	15.7	2.08	0.261	574%	NG
4011	4012	74	2.68	44.40	0.094	0.411		0.506	400	7.6	1.44	0.181	279%	NG
Out-41								-0.317						
4012	4013	162	2.25	46.65	0.098		0.189	0.287	400	9.2	1.59	0.200	144%	NG
Out-42								-0.090						
4013	4015	156	1.56	48.21	0.101		0.196	0.297	400	5.1	1.18	0.148	200%	NG
4014	4015	377	2.17	2.17	0.004	0.290		0.294	400	15.6	2.07	0.260	113%	NG
4015	4017	266	2.68	53.06	0.109		0.196	0.305	400	12.0	1.82	0.229	134%	NG
4016	4017	913	12.80	12.80	0.022	1.523		1.545	800	22.8	3.97	1.996	77%	OK
4017	4024	154	0.88	66.74	0.132		0.196	0.329	800	20.1	3.73	1.875	18%	OK
4018	4021	313	5.26	5.26	0.009	0.722		0.731	300	17.2	1.79	0.127	578%	NG
4019	4020	68	1.00	1.00	0.002	0.154		0.155	300	2.0	0.61	0.043	360%	NG
4020	4021	260	1.03	2.03	0.003	0.278		0.281	300	19.8	1.92	0.136	207%	NG
4021	4022	57	0.35	7.64	0.013	1.017		1.030	400	24.8	2.61	0.328	314%	NG
4022	4023	36	0.53	8.17	0.014	1.071		1.085	400	55.5	3.90	0.490	221%	NG
	4023		4.01		0.007			0.007						
4023	4024	446	4.60	12.77	0.029	1.414		1.443	400	9.1	1.58	0.199	727%	NG
4024	4025	170	0.88	80.39	0.163		0.196	0.359	800	10.5	2.70	1.357	26%	OK
Out-43								-0.034						
	4025		7.30		0.012			0.012						
4025	4028	196	0.97	81.36	0.177		0.325	0.502	800	22.4	3.94	1.980	25%	OK
4026	4027	976	12.24	12.24	0.021	1.306		1.327	400	30.2	2.88	0.362	367%	NG
4027	4028	305	1.50	13.74	0.023	1.450		1.473	500	7.5	1.67	0.328	449%	NG
	4028		14.00		0.024			0.024						
4028	4054	183	0.85	95.95	0.226		0.325	0.551	800	2.0	1.18	0.593	93%	OK
4029	4030	52	1.41	1.41	0.002	0.218		0.221	300	57.6	3.28	0.232	95%	OK
4030	4031	215	1.92	3.33	0.006	0.466		0.472	400	6.9	1.38	0.173	272%	NG
4031	4036	178	0.78	4.11	0.007	0.584		0.591	500	2.0	0.86	0.169	350%	NG
4032	4033	77	0.65	0.65	0.001	0.099		0.100	200	87.0	3.08	0.097	104%	NG
4033	4034	153	0.88	1.53	0.003	0.218		0.220	300	23.5	2.10	0.148	148%	NG

No.	Down Stream	Length (m) Increment	Area (ha) Increment	Area (ha) Total	Sewage Quantity Sanitary Sewage	Sewage Quantity Storm Water	Sewage Quantity Remain Sewage	$Q_1(m^3/s)$	Existing Pipe Specification D (mm)	I (‰)	V (m/s)	$Q_2(m^3/s)$	Capacity Q_1/Q_2	Judge
4034	4035	169	4.18	5.71	0.010	0.757		0.767	400	20.1	2.35	0.295	260%	NG
4035	4036	55	0.27	5.98	0.010	0.846		0.856	500	12.7	2.17	0.426	201%	NG
4036	4045	343	2.64	12.73	0.022	1.574		1.595	500	29.5	3.30	0.648	246%	NG
4037	4038	175	2.49	2.49	0.004	0.365		0.369	300	18.2	1.85	0.131	282%	NG
4038	4041	89	0.67	3.16	0.005	0.444		0.450	400	26.9	2.72	0.342	132%	NG
4039	4040	119	0.88	0.88	0.002	0.132		0.134	300	47.0	2.97	0.210	64%	OK
4040	4041	50	0.10	0.98	0.002	0.144		0.145	400	2.0	0.74	0.093	156%	NG
4041	4042	210	0.76	4.90	0.008	0.628		0.637	400	19.5	2.31	0.290	219%	NG
4042	4045	10	0.01	4.91	0.008	0.684		0.693	500	3.4	1.12	0.220	315%	NG
4043	4044	119	0.55	0.55	0.001	0.083		0.084	300	42.5	2.82	0.199	42%	OK
4044	4045	259	0.81	1.36	0.002	0.182		0.184	400	16.9	2.15	0.270	68%	OK
4045	4053	231	1.43	20.43	0.035	2.141		2.176	400	4.3	1.09	0.137	1588%	NG
4046	4047	168	1.02	1.02	0.002	0.149		0.151	300	2.3	0.66	0.047	324%	NG
4047	4048	161	1.24	2.26	0.004	0.308		0.312	400	2.0	0.74	0.093	335%	NG
4048	4050	423	9.14	11.40	0.019	1.432		1.452	500	30.2	3.34	0.656	221%	NG
4049	4050	197	0.88	0.88	0.002	0.139		0.140	500	31.4	3.41	0.670	21%	OK
4050	4051	253	2.78	15.06	0.026	1.588		1.613	400	7.1	1.40	0.176	917%	NG
Out-44								-1.562						
4051	4052	354	6.88	21.94	0.037		0.051	0.089	400	2.8	0.88	0.111	80%	OK
	4052		21.39		0.037			0.037						
4052	4053	404	8.05	29.99	0.088	1.876		1.964	600	9.9	2.16	0.611	322%	NG
4053	4054	70	0.30	50.72	0.123	4.365		4.489	600	4.2	1.41	0.399	1126%	NG
4054	4056	115	0.31	146.98	0.349		0.377	0.726	800	2.0	1.18	0.593	122%	NG
4055	4056	265	2.53	2.53	0.004	0.388		0.392	500	8.6	1.78	0.350	112%	NG
4056	4060	99	0.34	149.85	0.354		0.377	0.731	800	2.0	1.18	0.593	123%	NG
4057	4059	62	0.50	0.50	0.001	0.077		0.078	400	2.0	0.74	0.093	84%	OK
4058	4059	58	1.22	1.22	0.002	0.189		0.191	400	2.0	0.74	0.093	205%	NG
4059	4060	279	7.64	9.36	0.016	1.386		1.402	500	14.9	2.35	0.461	304%	NG
4060	4062	25	0.03	159.24	0.370		0.377	0.747	800	2.0	1.18	0.593	126%	NG
4061	4062	712	4.94	4.94	0.008	0.578		0.587	400	5.7	1.25	0.157	374%	NG
Out-45								-0.898						
4062	4064	88	0.27	164.45	0.379		0.758	1.137	800	2.0	1.18	0.593	192%	NG
4063	4064	258	2.07	2.07	0.004	0.318		0.321	600	2.0	0.97	0.274	117%	NG
4064	4068	93	0.31	166.83	0.383		0.758	1.141	800	2.0	1.18	0.593	192%	NG
4065	4068	461	3.64	3.64	0.006	0.513		0.519	600	3.6	1.30	0.368	141%	NG
Out-46								-0.881						
4068	4070	168	0.80	171.27	0.391		0.779	1.170	800	2.0	1.18	0.593	197%	NG
4069	4070	77	0.38	0.38	0.001	0.058		0.059	400	5.1	1.18	0.148	40%	OK
4070	4078	179	1.02	172.67	0.393		0.779	1.172	800	5.9	2.02	1.015	115%	NG
4071	4073	155	1.15	1.15	0.002	0.185		0.187	800	6.4	2.10	1.056	18%	OK
4072	4073	58	0.28	0.28	0.000	0.043		0.044	400	2.0	0.74	0.093	47%	OK
4073	4075	176	1.21	2.64	0.005	0.392		0.397	500	10.7	1.99	0.391	102%	NG
4074	4075	94	0.45	0.45	0.001	0.068		0.069	400	5.3	1.21	0.152	46%	OK
4075	4077	74	0.40	3.49	0.006	0.503		0.509	600	8.1	1.95	0.551	92%	OK
4076	4077	334	1.20	1.20	0.002	0.178		0.180	500	8.9	1.81	0.355	51%	OK
4077	4078	94	0.58	5.27	0.009	0.732		0.741	800	2.0	1.18	0.593	125%	NG
4078	4102	191	1.83	179.77	0.405		0.779	1.185	800	7.9	2.34	1.176	101%	NG
4079	4080	107	1.37	1.37	0.002	0.207		0.209	400	2.0	0.74	0.093	225%	NG
4080	4082	256	2.72	4.09	0.007	0.551		0.558	400	7.7	1.45	0.182	306%	NG
4081	4082	165	0.95	0.95	0.002	0.152		0.154	800	13.9	3.10	1.558	10%	OK
4082	4085	174	1.18	6.22	0.011	0.848		0.859	800	10.3	2.67	1.342	64%	OK
4083	4084	80	0.64	0.64	0.001	0.098		0.099	400	32.5	2.99	0.376	26%	OK
4084	4085	189	3.11	3.75	0.006	0.573		0.579	500	2.0	0.86	0.169	343%	NG
4085	4087	182	1.07	11.04	0.019	1.406		1.424	600	2.0	0.97	0.274	519%	NG
4086	4087	158	3.57	3.57	0.006	0.573		0.579	800	10.1	2.64	1.327	44%	OK
4087	4091	78	0.26	14.87	0.025	1.838		1.863	800	2.0	1.18	0.593	314%	NG
4090	4091	162	1.27	1.27	0.002	0.204		0.206	800	2.0	1.18	0.593	35%	OK
4091	4097	96	0.43	16.57	0.028	1.984		2.012	800	2.0	1.18	0.593	339%	NG
4092	4094	157	1.16	1.16	0.002	0.187		0.189	800	9.5	2.56	1.287	15%	OK
4093	4094	69	0.31	0.31	0.001	0.052		0.052	600	37.6	4.21	1.190	4%	OK
4094	4096	97	0.39	1.86	0.003	0.286		0.290	800	2.0	1.18	0.593	49%	OK

No.	Down Stream	Length (m) Increment	Area (ha) Increment	Area (ha) Total	Sewage Quantity Sanitary Sewage	Sewage Quantity Storm Water	Sewage Quantity Remain Sewage	$Q_1(m^3/s)$	Existing Pipe Specification D (mm)	I (‰)	V (m/s)	$Q_2(m^3/s)$	Capacity Q_1/Q_2	Judge
4095	4096	87	0.24	0.24	0.000	0.040		0.040	800	2.0	1.18	0.593	7%	OK
4096	4097	178	1.28	3.38	0.006	0.482		0.487	500	2.0	0.86	0.169	289%	NG
4097	4099	215	2.23	22.18	0.038	2.470		2.508	600	5.9	1.67	0.472	531%	NG
4098	4099	190	2.50	2.50	0.004	0.396		0.400	500	7.3	1.64	0.322	124%	NG
4099	4101	68	0.35	25.03	0.043	2.724		2.766	1000	2.9	1.64	1.288	215%	NG
4100	4101	177	1.10	1.10	0.002	0.160		0.162	400	11.2	1.75	0.220	74%	OK
4101	4102	174	1.27	27.40	0.047	2.828		2.875	1000	2.0	1.37	1.076	267%	NG
4102	4104	73	0.29	207.46	0.453		0.779	1.232	800	11.6	2.83	1.423	87%	OK
4103	4104	361	2.90	2.90	0.005	0.390		0.395	400	2.4	0.81	0.102	388%	NG
Out-47								-0.712						
4104	4110	420	2.80	213.16	0.462		0.915	1.378	800	3.8	1.62	0.814	169%	NG
4105	4106	62	0.54	0.54	0.001	0.091		0.092	500	12.9	2.18	0.428	21%	OK
4106	4107	243	4.91	5.45	0.009	0.820		0.829	600	18.5	2.95	0.834	99%	OK
4107	4110	627	4.81	10.26	0.018	1.209		1.227	800	4.7	1.80	0.905	136%	NG
4108	4109	384	5.70	5.70	0.010	0.828		0.838	500	2.3	0.92	0.181	464%	NG
4109	4110	99	0.67	6.37	0.011	0.875		0.886	600	2.0	0.97	0.274	323%	NG
4110	4118	95	0.35	230.14	0.492		0.915	1.407	1000	2.0	1.37	1.076	131%	NG
4111	4112	152	1.46	1.46	0.002	0.235		0.238	800	34.2	4.87	2.448	10%	OK
	4112		8.38					0.000						
4112	4113	358	9.88	11.34	0.034	1.564		1.597	800	13.9	3.10	1.558	103%	NG
Out-48								-1.530						
4113	4114	177	3.39	14.73	0.039		0.067	0.107	500	2.2	0.90	0.177	60%	OK
4114	4115	325	8.68	23.41	0.054	1.670		1.725	500	11.9	2.10	0.412	418%	NG
4115	4117	166	0.74	24.15	0.056	1.664		1.720	500	2.0	0.86	0.169	1018%	NG
4116	4117	289	1.68	1.68	0.003	0.233		0.236	200	2.4	0.51	0.016	1474%	NG
4117	4118	80	0.36	26.19	0.059	1.872		1.931	500	5.1	1.37	0.269	718%	NG
4118	4120	447	8.80	265.13	0.573		0.983	1.555	1000	4.2	1.98	1.555	100%	NG
4119	4120	150	0.82	0.82	0.001	0.121		0.122	400	6.6	1.35	0.170	72%	OK
4120	4122	583	2.62	268.57	0.579		0.983	1.561	1000	6.6	2.48	1.948	80%	OK
4121	4122	223	2.72	2.72	0.005	0.389		0.393	300	14.7	1.66	0.117	335%	NG
4122	4132	234	4.20	275.49	0.590		0.983	1.573	1000	2.0	1.37	1.076	146%	NG
4123	4124	110	1.10	1.10	0.002	0.166		0.168	300	2.7	0.71	0.050	334%	NG
4124	4125	548	6.00	7.10	0.012	0.848		0.860	400	6.9	1.38	0.173	496%	NG
4125	4129	368	4.50	11.60	0.020	1.327		1.346	500	18.4	2.61	0.512	263%	NG
4126	4127	473	6.90	6.90	0.012	0.885		0.896	400	9.0	1.57	0.197	454%	NG
4127	4128	341	7.50	14.40	0.025	1.626		1.650	300	7.6	1.19	0.084	1962%	NG
4128	4129	197	1.50	15.90	0.027	1.676		1.703	400	11.6	1.78	0.224	762%	NG
4129	4131	130	0.80	28.30	0.048	2.846		2.895	400	37.6	3.21	0.403	718%	NG
4130	4131	435	5.90	5.90	0.010	0.771		0.781	400	33.5	3.03	0.381	205%	NG
4131	4132	213	0.90	35.10	0.060	3.302		3.362	400	2.0	0.74	0.093	3616%	NG
Out-49								-3.635						
4132	To STP	0	0.00	310.59	0.650		1.301	1.951	1000	2.0	1.37	1.076	181%	NG
5001	5002	94	0.50	0.50	0.001	0.076		0.077	400	28.7	2.81	0.353	22%	OK
5002	5006	519	5.35	5.85	0.009	0.776		0.785	1000	7.3	2.61	2.050	38%	OK
5003	5004	100	0.50	0.50	0.001	0.076		0.077	300	7.9	1.22	0.086	89%	OK
5004	5005	350	2.70	3.20	0.005	0.415		0.420	400	11.1	1.75	0.220	191%	NG
5005	5006	179	4.15	7.35	0.011	0.968		0.979	1000	11.7	3.30	2.592	38%	OK
5006	To STP	195	1.10	14.30	0.021	1.751		1.772	1000	6.6	2.48	1.948	91%	OK
Outfall								-1.729						
To STP					0.021		0.043	0.064						
6001	6002	87	0.30	0.30	0.000	0.046		0.046	200	14.9	1.27	0.040	116%	NG
6002	6003	273	4.20	4.50	0.007	0.606		0.612	300	13.1	1.57	0.111	552%	NG
6003	6006	358	4.80	9.30	0.014	1.085		1.099	300	8.3	1.25	0.088	1244%	NG
6004	6005	216	2.40	2.40	0.004	0.344		0.348	200	14.4	1.25	0.039	886%	NG
6005	6006	396	4.60	7.00	0.010	0.851		0.861	300	25.0	2.16	0.153	564%	NG
6006	6009	225	2.30	18.60	0.028	2.003		2.031	400	16.4	2.12	0.266	762%	NG
6007	6008	117	1.10	1.10	0.002	0.165		0.167	300	2.0	0.61	0.043	387%	NG
6008	6009	290	2.40	3.50	0.005	0.462		0.467	400	2.0	0.74	0.093	503%	NG
6009	6013	48	0.20	22.30	0.033	2.365		2.398	300	2.0	0.61	0.043	5562%	NG
6010	6011	350	3.00	3.00	0.004	0.405		0.410	200	19.1	1.44	0.045	906%	NG
6011	6012	260	4.50	7.50	0.011	0.911		0.923	300	13.0	1.56	0.110	837%	NG

No.	Down Stream	Length (m)	Area (ha)		Sewage Quantity				Existing Pipe Specification				Capacity	
		Increment	Increment	Total	Sanitary Sewage	Storm Water	Remain Sewage	$Q_1(m^3/s)$	D (mm)	I (‰)	V (m/s)	$Q_2(m^3/s)$	Q_1/Q_2	Judge
6012	6013	215	1.30	8.80	0.013	0.987		1.000	400	5.5	1.23	0.155	647%	NG
6013	To STP	961	0.00	31.10	0.046	2.491		2.537	400	2.0	0.74	0.093	2728%	NG
Outfall								-2.444						
To STP					0.046		0.093	0.139						
7001	7002	451	4.08	4.08	0.006	0.529		0.535	200	23.9	1.61	0.051	1058%	NG
7002	7003	100	3.50	7.58	0.011	0.944		0.955	200	12.0	1.14	0.036	2668%	NG
7003	7004	160	3.10	10.68	0.016	1.364		1.380	600	21.8	3.21	0.908	152%	NG
7004	To STP	250	14.90	25.58	0.038	2.988		3.026	600	12.8	2.46	0.696	435%	NG
Outfall								-2.950						
To STP					0.038		0.076	0.114						

Table 4.1.9 Evaluation of Existing Sewer Capacity (For Combined Sewer : Case-3)

Sanitary Sewage Flow

Sanitary Sewage per Capita = 150 liter/day (Hourly Maximum)

Storm Water Flow

Rainfall Intensity Formula = $\frac{1970}{t + 18}$ (Return Period : 0.5 Year)
For Main Pipe (D≧500)

Rainfall Intensity Formula = $\frac{1970}{t + 18}$ (Return Period : 0.5 Year)
For Small Pipe (D≦400)

Runoff Coefficient = 0.4

Inlet Time = 10 min

Assumed Average Velocity = 1.5 m/sec

No.	Down Stream	Length (m) Increment	Area (ha) Increment	Area (ha) Total	Sewage Quantity Sanitary Sewage	Sewage Quantity Storm Water	Sewage Quantity Remain Sewage	Sewage Quantity $Q_1(m^3/s)$	Existing Pipe Specification D (mm)	Existing Pipe Specification I (‰)	Existing Pipe Specification V (m/s)	Existing Pipe Specification $Q_2(m^3/s)$	Capacity Q_1/Q_2	Capacity Judge
1001	1004	826	9.80	9.80	0.004	0.577		0.580	600	12.4	2.42	0.684	85%	OK
1002	1003	94	4.10	4.10	0.002	0.309		0.311	300	17.0	1.78	0.126	247%	NG
1003	1004	295	6.60	10.70	0.004	0.725		0.729	400	19.1	2.29	0.288	253%	NG
1004	1009	355	5.47	25.97	0.010	1.383		1.393	600	22.0	3.22	0.910	153%	NG
1005	1006	450	7.60	7.60	0.003	0.504		0.507	600	18.6	2.96	0.837	61%	OK
1006	1008	249	8.30	15.90	0.006	0.972		0.978	600	2.0	0.97	0.274	357%	NG
1007	1008	205	2.88	2.88	0.001	0.208		0.209	400	20.9	2.40	0.302	69%	OK
1008	1009	252	3.03	21.81	0.008	1.237		1.245	600	16.6	2.80	0.792	157%	NG
1009	1011	360	6.37	54.15	0.021	2.628		2.649	600	27.2	3.58	1.012	262%	NG
1010	1011	564	4.03	4.03	0.002	0.257		0.259	600	21.9	3.21	0.908	29%	OK
Out-11								-2.840						
1011	1012	824	0.97	59.15	0.023	0.057	0.045	0.125	600	18.0	2.91	0.823	15%	OK
1012	1021	491	0.00	59.15	0.023	0.050	0.045	0.118	600	6.3	1.72	0.486	24%	OK
1013	1014	247	1.33	1.33	0.001	0.095		0.095	600	17.2	2.85	0.806	12%	OK
1014	1015	163	4.25	5.58	0.002	0.375		0.377	400	2.0	0.74	0.093	405%	NG
1015	1016	268	7.90	13.48	0.005	0.831		0.836	500	2.0	0.86	0.169	495%	NG
1016	1017B	708	7.90	21.38	0.008	1.078		1.087	400	12.8	1.87	0.235	462%	NG
1017A	1017B	186	1.20	1.20	0.000	0.087		0.088	500	41.3	3.91	0.768	11%	OK
1017B	1020	122	1.30	23.88	0.009	1.167		1.176	500	2.6	0.98	0.192	611%	NG
1018	1019	426	4.59	4.59	0.002	0.307		0.309	600	2.0	0.97	0.274	113%	NG
1019	1020	100	2.85	7.44	0.003	0.482		0.485	800	1.9	1.15	0.578	84%	OK
1020	1021	895	0.00	31.32	0.012	1.253		1.266	800	5.6	1.97	0.990	128%	NG
Out-12								-1.278						
1021	1060	855	0.00	90.47	0.035	0.000	0.070	0.106	600	5.2	1.57	0.444	24%	OK
1022	1023	100	0.77	0.77	0.000	0.058		0.058	400	5.9	1.27	0.160	36%	OK
1023	1024	86	0.69	1.46	0.001	0.106		0.107	400	14.0	1.96	0.246	43%	OK
1024	1025	91	0.81	2.27	0.001	0.160		0.161	400	9.8	1.64	0.206	78%	OK
1025	1027	127	0.83	3.10	0.001	0.209		0.210	500	20.4	2.75	0.540	39%	OK
1026	1027	50	0.28	0.28	0.000	0.021		0.022	400	1.9	0.72	0.090	24%	OK
1027	1028	127	0.83	4.21	0.002	0.272		0.273	500	11.8	2.09	0.410	67%	OK
1028	1035	180	1.03	5.24	0.002	0.319		0.322	600	6.1	1.70	0.481	67%	OK
1029	1031	326	2.47	2.47	0.001	0.171		0.172	400	8.2	1.50	0.188	91%	OK
1030	1031	209	1.80	1.80	0.001	0.130		0.131	600	15.3	2.69	0.761	17%	OK
1031	1034	227	2.35	6.62	0.003	0.425		0.428	500	7.6	1.68	0.330	130%	NG
1032	1034	132	1.36	1.36	0.001	0.101		0.101	400	2.0	0.74	0.093	109%	NG
1033	1034	103	1.59	1.59	0.001	0.120		0.120	400	2.0	0.74	0.093	129%	NG
1034	1035	151	1.14	10.71	0.004	0.655		0.659	500	12.5	2.15	0.422	156%	NG
1035	1037	220	2.36	18.31	0.007	1.046		1.054	500	13.6	2.24	0.440	240%	NG
1036	1037	339	2.14	2.14	0.001	0.147		0.148	400	9.4	1.61	0.202	73%	OK
1037	1041	347	4.19	24.64	0.010	1.278		1.288	500	2.0	0.86	0.169	763%	NG
1038	1039	110	1.70	1.70	0.001	0.127		0.128	400	7.2	1.41	0.177	72%	OK
1039	1040	140	1.15	2.85	0.001	0.203		0.204	500	6.4	1.54	0.302	67%	OK
1040	1041	124	1.15	4.00	0.002	0.272		0.273	600	11.3	2.31	0.653	42%	OK
1041	1044	136	0.85	29.49	0.011	1.477		1.489	500	22.0	2.85	0.560	266%	NG
1042	1044	73	2.17	2.17	0.001	0.165		0.166	500	42.4	3.96	0.778	21%	OK
1043	1044	78	0.49	0.49	0.000	0.037		0.037	500	2.5	0.96	0.188	20%	OK
1044	1049	286	2.08	34.23	0.013	1.598		1.611	500	18.5	2.62	0.514	313%	NG

No.	Down Stream	Length (m)	Area (ha)		Sewage Quantity				Existing Pipe Specification				Capacity	
		Increment	Increment	Total	Sanitary Sewage	Storm Water	Remain Sewage	$Q_1(m^3/s)$	D (mm)	I (‰)	V (m/s)	$Q_2(m^3/s)$	Q_1/Q_2	Judge
1045	1046	283	3.12	3.12	0.001	0.220		0.221	400	12.7	1.87	0.235	94%	OK
1046	1048	125	1.70	4.82	0.002	0.325		0.327	500	10.9	2.01	0.395	83%	OK
1047	1048	123	2.35	2.35	0.001	0.175		0.176	500	16.2	2.45	0.481	37%	OK
1048	1049	156	1.80	8.97	0.003	0.572		0.576	500	4.4	1.28	0.251	229%	NG
1049	1053	274	0.90	44.10	0.017	1.934		1.952	800	2.0	1.18	0.593	329%	NG
1050	1051	56	0.80	0.80	0.000	0.061		0.062	500	2.0	0.86	0.169	36%	OK
1051	1052	149	2.65	3.45	0.001	0.249		0.251	600	2.0	0.97	0.274	91%	OK
1052	1053	157	0.85	4.30	0.002	0.294		0.296	800	1.8	1.12	0.563	53%	OK
1053	1057	121	1.08	49.48	0.019	2.111		2.130	800	2.0	1.18	0.593	359%	NG
1054	1056	325	2.64	2.64	0.001	0.183		0.184	600	16.6	2.80	0.792	23%	OK
1055	1056	373	3.30	3.30	0.001	0.225		0.226	600	12.0	2.38	0.673	34%	OK
1056	1057	296	1.30	7.24	0.003	0.448		0.450	800	2.0	1.18	0.593	76%	OK
1057	1060	444	6.15	62.87	0.024	2.449		2.473	1000	2.0	1.37	1.076	230%	NG
1058	1059	300	3.29	3.29	0.001	0.230		0.231	400	17.6	2.20	0.276	84%	OK
1059	1060	945	7.30	10.59	0.004	0.555		0.559	600	2.0	0.97	0.274	204%	NG
Out-13								-2.946			0.00	0.000		
1060	1061	722	0.00	163.93	0.064	0.000	0.128	0.191	600	8.6	2.01	0.568	34%	OK
1061	1062	482	0.00	163.93	0.064	0.000	0.128	0.191	600	7.8	1.92	0.543	35%	OK
1062	1063	280	36.20	200.13	0.078	1.781	0.128	1.986	800	17.4	3.47	1.744	114%	NG
1063	1065	267	3.45	203.58	0.079	1.827	0.128	2.034	800	3.3	1.51	0.759	268%	NG
1064	1065	149	3.83	3.83	0.001	0.282		0.284	1000	3.3	1.75	1.374	21%	OK
1065	To STP	1130	6.20	213.61	0.083	1.827	0.128	2.038	1000x600	3.8	1.93	1.042	196%	NG
Out-14								-1.872						
To STP					0.083		0.166	0.249						
2001	2002	480	14.95	14.95	0.007	0.983		0.989	400	5.8	1.26	0.158	625%	NG
2002	2003	193	4.38	19.33	0.009	1.192		1.200	500	26.2	3.11	0.611	197%	NG
2003	2005	242	3.74	23.07	0.010	1.322		1.332	600	18.5	2.95	0.834	160%	NG
2004	2005	348	6.90	6.90	0.003	0.473		0.476	600	9.1	2.07	0.585	81%	OK
2005	2007	169	1.15	31.12	0.014	1.703		1.717	600	8.2	1.97	0.557	308%	NG
2006	2007	300	1.60	1.60	0.001	0.112		0.113	400	5.0	1.17	0.147	77%	OK
2007	2009	48	0.23	32.95	0.015	1.776		1.791	600	12.5	2.43	0.687	261%	NG
2008	2009	273	2.10	2.10	0.001	0.148		0.149	300	5.1	0.98	0.069	215%	NG
2009	2011	262	2.10	37.15	0.016	1.869		1.886	1500x700	9.5	3.67	3.468	54%	OK
2010A	2010B	50	0.54	0.54	0.000	0.041		0.042	300	11.9	1.49	0.105	39%	OK
2010B	2011	175	1.67	2.21	0.001	0.159		0.160	400	2.0	0.74	0.093	172%	NG
2011	2013	210	0.40	39.76	0.018	1.900		1.918	1500x700	4.0	2.38	2.249	85%	OK
2012	2013	218	5.20	5.20	0.002	0.374		0.377	400	14.2	1.97	0.248	152%	NG
2013	2015	138	0.80	45.76	0.020	2.113		2.133	1500x700	2.0	1.68	1.588	134%	NG
2014	2015	102	1.35	1.35	0.001	0.102		0.102	400	4.9	1.16	0.146	70%	OK
2015	2017	850	6.00	53.11	0.023	2.047		2.070	1500x700	6.3	2.99	2.826	73%	OK
2016	2017	150	1.03	1.03	0.000	0.076		0.076	400	4.0	1.05	0.132	58%	OK
2017	2019	280	1.35	55.49	0.024	2.028		2.052	1500x700	8.3	3.43	3.241	63%	OK
2018	2019	206	1.60	1.60	0.001	0.116		0.116	600	10.6	2.24	0.633	18%	OK
2019	2021	132	0.35	57.44	0.025	2.048		2.073	1000	20.2	4.34	3.409	61%	OK
2020	2021	118	2.82	2.82	0.001	0.211		0.212	400	24.5	2.59	0.325	65%	OK
2021	2025	250	1.14	61.40	0.027	2.093		2.120	1000	2.0	1.37	1.076	197%	NG
2022	2024	269	5.75	5.75	0.003	0.406		0.409	500	10.4	1.96	0.385	106%	NG
2023	2024	313	2.71	2.71	0.001	0.188		0.190	400	6.3	1.32	0.166	114%	NG
2024	2025	150	3.10	9.56	0.004	0.632		0.636	500	1.5	0.74	0.145	438%	NG
2025	2030	290	5.30	76.26	0.034	2.477		2.510	1000	4.4	2.02	1.587	158%	NG
2026	2027	253	3.12	3.12	0.001	0.222		0.223	300	11.8	1.49	0.105	212%	NG
2027	2029	193	1.85	4.97	0.002	0.330		0.332	400	15.5	2.06	0.259	128%	NG
2028	2029	341	2.99	2.99	0.001	0.206		0.207	400	13.3	1.91	0.240	86%	OK
2029	2030	175	0.54	8.50	0.004	0.533		0.537	500	4.2	1.25	0.245	219%	NG
2030	2033	144	1.20	85.96	0.038	2.727		2.765	1500x700	15.9	4.75	4.489	62%	OK
2031	2032	212	1.66	1.66	0.001	0.120		0.120	400	10.8	1.72	0.216	56%	OK
2032	2033	316	2.82	4.48	0.002	0.289		0.291	700x500	5.0	1.84	0.580	50%	OK
2033	2034	95	0.84	91.28	0.040	2.854		2.895	1000	46.3	6.57	5.160	56%	OK
2034	2044	130	0.77	92.05	0.041	2.818		2.859	800	2.0	1.18	0.593	482%	NG
2035	2037	130	0.90	0.90	0.000	0.067		0.067	600	6.1	1.70	0.481	14%	OK
2036	2037	111	1.40	1.40	0.001	0.105		0.106	400	7.2	1.41	0.177	60%	OK

No.	Down Stream	Length (m) Increment	Area (ha) Increment	Area (ha) Total	Sewage Quantity Sanitary Sewage	Sewage Quantity Storm Water	Sewage Quantity Remain Sewage	Sewage Quantity $Q_1(m^3/s)$	Existing Pipe Specification D (mm)	Existing Pipe Specification I (‰)	Existing Pipe Specification V (m/s)	Existing Pipe Specification $Q_2(m^3/s)$	Capacity Q_1/Q_2	Capacity Judge
2037	2040	438	3.80	6.10	0.003	0.389		0.392	600	23.0	3.29	0.930	42%	OK
2038	2040	187	3.08	3.08	0.001	0.224		0.225	400	2.0	0.74	0.093	242%	NG
2039	2040	145	0.80	0.80	0.000	0.059		0.060	500	27.5	3.19	0.626	10%	OK
2040	2042	538	9.90	19.88	0.009	1.080		1.089	800	8.1	2.37	1.191	91%	OK
2041	2042	451	2.14	2.14	0.001	0.142		0.143	400	15.7	2.08	0.261	55%	OK
2042	2044	47	0.08	22.10	0.010	1.186		1.195	1000	2.0	1.37	1.076	111%	NG
2043	2044	102	16.60	16.60	0.007	1.249		1.256	800	16.6	3.39	1.704	74%	OK
2044	2052	302	0.00	130.75	0.058	3.826		3.884	1000	4.0	1.93	1.516	256%	NG
2045	2046	269	2.27	2.27	0.001	0.160		0.161	400	24.9	2.62	0.329	49%	OK
2046	2049	272	4.30	6.57	0.003	0.423		0.426	600	9.9	2.16	0.611	70%	OK
2047	2048	196	5.50	5.50	0.002	0.399		0.401	300	2.0	0.61	0.043	930%	NG
2048	2049	208	3.40	8.90	0.004	0.599		0.603	400	2.0	0.74	0.093	649%	NG
2049	2051	618	8.20	23.67	0.010	1.267		1.277	600	6.7	1.78	0.503	254%	NG
2050	2051	130	1.10	1.10	0.000	0.082		0.082	400	4.6	1.12	0.141	59%	OK
2051	2052	365	0.30	25.07	0.011	1.222		1.233	800	4.6	1.78	0.895	138%	NG
2052	2053	469	0.00	155.82	0.069	4.263		4.332	600	6.1	1.70	0.481	901%	NG
2053	2062	930	6.33	162.15	0.071	3.926		3.998	1000	4.8	2.11	1.657	241%	NG
2054	2055	48	0.80	0.80	0.000	0.061		0.062	400	2.0	0.74	0.093	66%	OK
2055	2056	151	2.47	3.27	0.001	0.237		0.238	500	5.3	1.40	0.275	87%	OK
2056	2057	67	0.24	3.51	0.002	0.248		0.249	600	28.3	3.65	1.032	24%	OK
2057	2058	115	14.50	18.01	0.008	1.224		1.232	500	5.2	1.39	0.273	451%	NG
2058	2059	152	0.00	18.01	0.008	1.163		1.171	500	31.5	3.41	0.670	175%	NG
2059	2061	676	0.00	18.01	0.008	0.952		0.960	600	6.5	1.75	0.495	194%	NG
2060	2061	117	3.00	3.00	0.001	0.224		0.225	500	2.0	0.86	0.169	134%	NG
2061	2062	868	0.00	21.01	0.009	0.900		0.909	1000	2.0	1.37	1.076	85%	OK
2062	To STP	400	0.00	183.16	0.081	4.229		4.310	1000	2.0	1.37	1.076	401%	NG
Out-21								-4.068						
To STP					0.081		0.161	0.242						
3001	3008	725	24.00	24.00	0.012	1.455		1.468	400	18.2	2.24	0.281	521%	NG
3002	3004	275	5.80	5.80	0.003	0.408		0.411	400	17.8	2.21	0.278	148%	NG
3003	3004	108	0.35	0.35	0.000	0.026		0.026	400	12.9	1.88	0.236	11%	OK
3004	3007	42	0.10	6.25	0.003	0.434		0.438	400	57.1	3.96	0.498	88%	OK
3005	3006	203	1.43	1.43	0.001	0.103		0.104	300	9.8	1.35	0.095	109%	NG
3006	3007	130	0.45	1.88	0.001	0.130		0.131	400	49.2	3.68	0.462	28%	OK
3007	3008	25	0.03	8.16	0.004	0.558		0.562	400	2.0	0.74	0.093	605%	NG
3008	3009	82	1.57	33.73	0.017	1.995		2.013	500	6.7	1.57	0.308	653%	NG
3009	3011	215	8.12	41.85	0.021	2.325		2.346	600	13.9	2.56	0.724	324%	NG
3010	3011	152	1.14	1.14	0.001	0.084		0.085	400	12.4	1.85	0.232	36%	OK
3011	3013	66	0.20	43.19	0.022	2.358		2.380	600	21.2	3.16	0.893	266%	NG
3012	3013	149	0.90	0.90	0.000	0.066		0.067	400	7.3	1.42	0.178	37%	OK
3013	3017	58	1.48	45.57	0.023	2.451		2.474	500	10.3	1.95	0.383	646%	NG
3014	3015	221	2.25	2.25	0.001	0.161		0.163	300	20.3	1.95	0.138	118%	NG
3015	3016	278	4.27	6.52	0.003	0.426		0.429	400	3.4	0.97	0.122	352%	NG
3016	3017	180	2.94	9.46	0.005	0.583		0.588	400	2.7	0.86	0.108	544%	NG
3017	3021	352	7.25	62.28	0.032	3.057		3.089	800	13.9	3.10	1.558	198%	NG
3018	3019	227	2.42	2.42	0.001	0.174		0.175	500	2.0	0.86	0.169	104%	NG
3019	3020	558	15.68	18.10	0.009	1.080		1.089	600	11.9	2.37	0.670	162%	NG
3020	3021	308	2.50	20.60	0.011	1.124		1.135	600	2.9	1.17	0.331	343%	NG
3021	3025	132	0.60	83.48	0.043	3.964		4.007	600	3.0	1.19	0.336	1191%	NG
3022	3023	120	1.05	1.05	0.001	0.078		0.079	400	12.5	1.85	0.232	34%	OK
3023	3024	268	1.93	2.98	0.002	0.202		0.203	500	19.0	2.65	0.520	39%	OK
3024	3025	93	0.13	3.11	0.002	0.204		0.206	600	20.4	3.10	0.877	24%	OK
3025	3026	63	0.30	86.89	0.045	4.064		4.109	600	7.9	1.93	0.546	753%	NG
3026	3027	190	2.50	89.39	0.046	4.001		4.047	800	24.7	4.13	2.076	195%	NG
3027	3029	71	0.20	89.59	0.046	3.946		3.992	600	18.3	2.94	0.831	480%	NG
	3028		4.05	4.05	0.002			0.002						
3028	3029	543	7.00	11.05	0.006	0.451		0.456	800	14.7	3.19	1.603	28%	OK
Out-31								-4.603						
3029	3032	256	3.20	103.84	0.053	0.227	0.103	0.384	800	15.2	3.24	1.629	24%	OK
3030	3031	402	5.91	5.91	0.003	0.398		0.401	400	11.4	1.77	0.222	180%	NG
3031	3032	305	5.28	11.19	0.006	0.682		0.688	600	19.0	2.99	0.845	81%	OK

No.	Down Stream	Length (m) Increment	Area (ha) Increment	Area (ha) Total	Sewage Quantity Sanitary Sewage	Sewage Quantity Storm Water	Sewage Quantity Remain Sewage	Sewage Quantity $Q_1(m^3/s)$	Existing Pipe Specification D (mm)	Existing Pipe Specification I (‰)	Existing Pipe Specification V (m/s)	Existing Pipe Specification $Q_2(m^3/s)$	Capacity Q_1/Q_2	Capacity Judge
3032	3039	370	3.85	118.88	0.061	1.141	0.103	1.305	800	7.2	2.23	1.121	116%	NG
3033	3035	142	0.92	0.92	0.000	0.068		0.069	500	2.0	0.86	0.169	41%	OK
3034	3035	83	0.81	0.81	0.000	0.061		0.062	400	2.0	0.74	0.093	66%	OK
3035	3036	85	0.94	2.67	0.001	0.192		0.193	400	10.7	1.71	0.215	90%	OK
3036	3038	169	1.35	4.02	0.002	0.272		0.274	500	8.2	1.74	0.342	80%	OK
3037	3038	278	1.60	1.60	0.001	0.113		0.113	500	10.4	1.96	0.385	29%	OK
3038	3039	166	1.15	6.77	0.003	0.433		0.437	600	28.9	3.69	1.043	42%	OK
3039	3041	113	0.65	126.30	0.065	1.552	0.103	1.720	800	10.9	2.75	1.382	124%	NG
3040	3041	155	1.46	1.46	0.001	0.108		0.108	400	27.7	2.76	0.347	31%	OK
3041	3062	365	2.30	130.06	0.067	1.598	0.103	1.768	800	2.8	1.39	0.699	253%	NG
3042	3044	410	5.20	5.20	0.003	0.349		0.352	600	13.4	2.51	0.710	50%	OK
3043	3044	98	0.77	0.77	0.000	0.058		0.058	400	2.0	0.74	0.093	63%	OK
3044	3045	221	2.45	8.42	0.004	0.527		0.531	500	9.9	1.91	0.375	142%	NG
3045	3052	454	11.51	19.93	0.010	1.088		1.098	600	12.3	2.41	0.681	161%	NG
3046	3048	263	4.73	4.73	0.002	0.335		0.337	400	2.0	0.74	0.093	363%	NG
3047	3048	167	2.87	2.87	0.001	0.210		0.212	400	4.7	1.14	0.143	148%	NG
3048	3050	58	0.70	8.30	0.004	0.575		0.579	400	2.0	0.74	0.093	623%	NG
3049	3050	272	1.83	1.83	0.001	0.129		0.130	400	9.5	1.62	0.204	64%	OK
3050	3051	173	1.42	11.55	0.006	0.755		0.761	400	2.0	0.74	0.093	818%	NG
3051	3052	77	0.29	11.84	0.006	0.756		0.762	600	2.0	0.97	0.274	278%	NG
3052	3055	174	1.46	33.23	0.017	1.732		1.749	600	2.0	0.97	0.274	638%	NG
3053	3054	118	0.43	0.43	0.000	0.032		0.032	400	2.0	0.74	0.093	35%	OK
3054	3055	98	0.35	0.78	0.000	0.056		0.057	500	6.7	1.57	0.308	18%	OK
3055	3060	12	0.01	34.02	0.017	1.769		1.786	600	2.0	0.97	0.274	651%	NG
3056	3059	287	2.82	2.82	0.001	0.198		0.199	500	13.2	2.21	0.434	46%	OK
3057	3059	203	1.29	1.29	0.001	0.093		0.094	500	17.2	2.52	0.495	19%	OK
3058	3059	111	0.46	0.46	0.000	0.034		0.035	400	2.0	0.74	0.093	37%	OK
3059	3060	235	1.18	5.75	0.003	0.372		0.375	600	8.8	2.04	0.577	65%	OK
3060	3061	114	0.45	40.22	0.021	2.029		2.049	600	2.0	0.97	0.274	747%	NG
3061	3062	348	8.47	48.69	0.025	2.253		2.278	600	6.7	1.78	0.503	453%	NG
3062	3075	514	9.30	188.05	0.097	4.159	0.103	4.359	800	3.6	1.58	0.794	549%	NG
3063	3065	256	1.33	1.33	0.001	0.095		0.095	600	7.8	1.92	0.543	18%	OK
3064	3065	216	1.32	1.32	0.001	0.095		0.096	600	8.3	1.98	0.560	17%	OK
3065	3067	86	0.75	3.40	0.002	0.234		0.236	600	2.0	0.97	0.274	86%	OK
3066	3067	232	2.02	2.02	0.001	0.144		0.146	600	9.0	2.06	0.582	25%	OK
3067	3075	372	2.20	7.62	0.004	0.465		0.469	600	11.2	2.30	0.650	72%	OK
3068	3070	416	4.63	4.63	0.002	0.311		0.313	500	2.0	0.86	0.169	186%	NG
3069	3070	285	3.24	3.24	0.002	0.227		0.229	400	2.8	0.88	0.111	207%	NG
3070	3072	176	1.12	8.99	0.005	0.569		0.573	500	2.1	0.88	0.173	332%	NG
3071	3072	114	0.68	0.68	0.000	0.051		0.051	400	9.6	1.62	0.204	25%	OK
3072	3074	100	0.41	10.08	0.005	0.618		0.623	500	2.9	1.04	0.204	305%	NG
3073	3074	127	0.86	0.86	0.000	0.064		0.064	400	14.9	2.02	0.254	25%	OK
3074	3075	574	3.36	14.30	0.007	0.743		0.751	500	7.1	1.62	0.318	236%	NG
3075	3077	415	0.15	210.12	0.108	4.736	0.103	4.947	800	2.0	1.18	0.593	834%	NG
3076	3077	220	1.93	1.93	0.001	0.139		0.140	500	9.0	1.82	0.357	39%	OK
Out-32								-4.760						
3077	3079	270	2.80	214.85	0.110	0.198	0.218	0.526	800	2.0	1.18	0.593	89%	OK
3078	3079	533	5.32	5.32	0.003	0.344		0.346	300	2.0	0.61	0.043	803%	NG
3079	3085	233	0.76	220.93	0.113	0.578	0.218	0.910	800	2.0	1.18	0.593	153%	NG
3080	3082	134	0.47	0.47	0.000	0.035		0.035	200	10.4	1.06	0.033	105%	NG
3081	3082	70	1.43	1.43	0.001	0.109		0.109	400	2.0	0.74	0.093	118%	NG
3082	3084	47	0.21	2.11	0.001	0.154		0.155	400	2.0	0.74	0.093	167%	NG
3083	3084	212	1.68	1.68	0.001	0.121		0.122	500	2.0	0.86	0.169	72%	OK
3084	3085	70	0.21	4.00	0.002	0.282		0.284	500	2.0	0.86	0.169	168%	NG
3085	3104	421	3.12	228.05	0.117	0.914	0.218	1.249	1000	5.8	2.32	1.822	69%	OK
3086	3087	290	2.72	2.72	0.001	0.191		0.192	300	6.8	1.13	0.080	241%	NG
3087	3092	95	0.30	3.02	0.002	0.205		0.206	400	27.3	2.74	0.344	60%	OK
3088	3089	52	0.36	0.36	0.000	0.028		0.028	300	2.0	0.61	0.043	64%	OK
3089	3092	220	1.25	1.61	0.001	0.114		0.115	400	20.8	2.39	0.300	38%	OK
3091	3092	199	5.17	5.17	0.003	0.375		0.377	300	3.0	0.75	0.053	712%	NG
3092	3096	344	4.64	14.44	0.007	0.876		0.883	500	4.9	1.35	0.265	333%	NG

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3093	3095	327	1.95	1.95	0.001	0.135		0.136	300	2.0	0.61	0.043	316%	NG
3094	3095	290	2.15	2.15	0.001	0.151		0.152	300	6.8	1.13	0.080	190%	NG
3095	3096	267	0.30	4.40	0.002	0.278		0.281	400	5.4	1.22	0.153	183%	NG
3096	3097	191	0.38	19.22	0.010	1.101		1.111	600	9.9	2.16	0.611	182%	NG
3097	3100	30	0.02	19.24	0.010	1.091		1.101	600	2.0	0.97	0.274	401%	NG
3098	3099	91	0.34	0.34	0.000	0.026		0.026	300	2.0	0.61	0.043	60%	OK
3099	3100	251	1.24	1.58	0.001	0.109		0.110	600	8.8	2.04	0.577	19%	OK
3100	3103	93	0.78	21.60	0.011	1.194		1.205	800	2.0	1.18	0.593	203%	NG
3101	3102	230	1.92	1.92	0.001	0.137		0.138	300	2.0	0.61	0.043	321%	NG
3102	3103	239	2.20	4.12	0.002	0.272		0.274	600	8.9	2.05	0.580	47%	OK
3103	3104	101	0.82	26.54	0.014	1.427		1.441	800	2.0	1.18	0.593	243%	NG
3104	3107	257	2.41	257.00	0.132	2.394	0.218	2.744	1000	2.0	1.37	1.076	255%	NG
3105	3106	187	1.49	1.49	0.001	0.108		0.109	800	2.1	1.21	0.608	18%	OK
3106	3107	210	1.82	3.31	0.002	0.224		0.225	500	2.0	0.86	0.169	133%	NG
3107	3109	667	11.60	271.91	0.140	2.702	0.218	3.059	1000	3.1	1.70	1.335	229%	NG
3108	3109	193	2.23	2.23	0.001	0.162		0.163	500	5.1	1.37	0.269	61%	OK
3109	3113	456	4.93	279.07	0.143	2.737	0.218	3.098	1000	2.0	1.37	1.076	288%	NG
3110	3112	491	2.69	2.69	0.001	0.176		0.177	600	5.2	1.57	0.444	40%	OK
3111	3112	181	4.18	4.18	0.002	0.305		0.307	400	7.7	1.45	0.182	169%	NG
3112	3113	489	4.41	11.28	0.006	0.635		0.641	600	2.0	0.97	0.274	234%	NG
Out-33								-3.291						
3113	3127	20	0.50	290.85	0.149		0.298	0.448	1000	2.0	1.37	1.076	42%	OK
3114	3116	579	3.68	3.68	0.002	0.234		0.236	500	4.6	1.30	0.255	92%	OK
3115	3116	67	0.44	0.44	0.000	0.034		0.034	400	8.9	1.56	0.196	17%	OK
3116	3118	68	0.32	4.44	0.002	0.276		0.278	600	10.2	2.19	0.619	45%	OK
3117	3118	70	1.40	1.40	0.001	0.106		0.107	400	2.0	0.74	0.093	115%	NG
3118	3121	199	2.38	8.22	0.004	0.481		0.485	1000x500	2.0	1.32	0.594	82%	OK
3119	3120	268	3.27	3.27	0.002	0.231		0.233	400	6.3	1.32	0.166	140%	NG
3120	3121	213	3.16	6.43	0.003	0.423		0.426	500	7.9	1.71	0.336	127%	NG
3121	3125	232	2.40	17.05	0.009	0.933		0.942	500	9.7	1.89	0.371	254%	NG
3122	3124	276	2.60	2.60	0.001	0.183		0.184	400	9.4	1.61	0.202	91%	OK
3123	3124	124	1.80	1.80	0.001	0.134		0.135	400	3.2	0.94	0.118	114%	NG
3124	3125	208	0.81	5.21	0.003	0.341		0.344	400	2.0	0.74	0.093	370%	NG
3125	3126	500	4.58	26.84	0.014	1.291		1.305	400	10.3	1.68	0.211	618%	NG
3126	3127	1009	0.00	26.84	0.014	1.036		1.050	600	3.2	1.23	0.348	302%	NG
Out-34								-1.008						
3127	3152	97	0.05	317.74	0.163		0.326	0.490						
3128	3129	254	2.27	2.27	0.001	0.161		0.162	300	8.2	1.24	0.088	185%	NG
3129	3131	71	1.33	3.60	0.002	0.249		0.251	400	2.0	0.74	0.093	270%	NG
3130	3131	201	1.00	1.00	0.001	0.072		0.073	400	8.9	1.56	0.196	37%	OK
3131	3136	122	1.40	6.00	0.003	0.398		0.401	500	2.0	0.86	0.169	238%	NG
3132	3133	124	0.60	0.60	0.000	0.045		0.045	300	9.6	1.34	0.095	47%	OK
3133	3135	95	0.40	1.00	0.001	0.072		0.073	400	9.4	1.61	0.202	36%	OK
3134	3135	149	1.16	1.16	0.001	0.085		0.086	400	2.6	0.85	0.107	81%	OK
3135	3136	20	0.05	2.21	0.001	0.158		0.159	400	2.0	0.74	0.093	171%	NG
3136	3141	287	4.10	12.31	0.006	0.744		0.751	600	9.4	2.11	0.597	126%	NG
3137	3138	328	3.02	3.02	0.002	0.209		0.211	500	8.5	1.77	0.348	61%	OK
3138	3140	138	0.60	3.62	0.002	0.239		0.241	600	2.0	0.97	0.274	88%	OK
3139	3140	122	4.10	4.10	0.002	0.305		0.307	400	7.3	1.42	0.178	172%	NG
3140	3141	68	0.39	8.11	0.004	0.524		0.528	800	2.0	1.18	0.593	89%	OK
3141	3142	120	0.43	20.85	0.011	1.217		1.228	800	2.0	1.18	0.593	207%	NG
3142	3148	281	1.25	22.10	0.011	1.191		1.203	800	6.9	2.19	1.101	109%	NG
3143	3144	159	1.39	1.39	0.001	0.102		0.103	300	16.9	1.78	0.126	82%	OK
3144	3145	302	1.76	3.15	0.002	0.208		0.210	400	8.9	1.56	0.196	107%	NG
3145	3147	248	5.98	9.13	0.005	0.557		0.561	500	6.5	1.55	0.304	184%	NG
3146	3147	185	0.70	0.70	0.000	0.051		0.051	600	4.3	1.42	0.401	13%	OK
3147	3148	497	7.44	17.27	0.009	0.913		0.922	600	4.6	1.47	0.416	222%	NG
3148	3151	367	1.19	40.56	0.021	1.951		1.972	1000	4.6	2.07	1.626	121%	NG
3149	3150	218	0.70	0.70	0.000	0.050		0.051	300	15.1	1.68	0.119	43%	OK
3150	3151	404	3.47	4.17	0.002	0.262		0.264	400	2.7	0.86	0.108	244%	NG
3151	3152	430	2.30	47.03	0.024	2.047		2.071	1000	2.0	1.37	1.076	192%	NG

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Out-35								-1.998						
3152	3154	43	0.06	364.83	0.187		0.375	0.562						
3153	3154	464	1.32	1.32	0.001	0.087		0.088	400	2.0	0.74	0.093	94%	OK
3154	3157	22	0.01	366.16	0.188	0.087	0.375	0.650						
3155	3156	537	3.38	3.38	0.002	0.218		0.219	300	8.3	1.25	0.088	248%	NG
3156	3157	480	3.45	6.83	0.004	0.380		0.384	400	2.0	0.74	0.093	413%	NG
3157	3164	181	0.70	373.69	0.192	0.467	0.375	1.034						
3158	3159	175	1.41	1.41	0.001	0.103		0.104	300	2.8	0.72	0.051	204%	NG
3159	3161	149	0.81	2.22	0.001	0.154		0.155	400	3.3	0.95	0.119	130%	NG
3160	3161	169	1.25	1.25	0.001	0.092		0.092	400	2.0	0.74	0.093	99%	OK
3161	3163	194	5.50	8.97	0.005	0.581		0.586	600	2.0	0.97	0.274	213%	NG
3162	3163	150	2.50	2.50	0.001	0.184		0.186	400	2.0	0.74	0.093	200%	NG
3163	3164	189	0.80	12.27	0.006	0.748		0.754	600	4.2	1.41	0.399	189%	NG
Out-36								-1.194						
3164	3170	439	3.70	389.66	0.200		0.397	0.597						
3165	3166	479	4.05	4.05	0.002	0.266		0.268	300	9.1	1.31	0.093	290%	NG
3166	3167	106	0.56	4.61	0.002	0.292		0.295	300	2.0	0.61	0.043	684%	NG
3167	3168	144	1.18	5.79	0.003	0.351		0.354	800	4.3	1.73	0.870	41%	OK
3168	3169	137	0.97	6.76	0.003	0.394		0.397	800	2.0	1.18	0.593	67%	OK
3169	3170	392	0.00	6.76	0.003	0.352		0.356	800	13.0	3.00	1.508	24%	OK
Out-37								-0.342						
3170	To STP	930	0.00	396.42	0.204		0.407	0.611						
4001	4002	24	5.70	5.70	0.003	0.441		0.444	200	41.6	2.13	0.067	663%	NG
4002	4003	64	2.90	8.60	0.004	0.649		0.653	300	46.8	2.96	0.209	312%	NG
4003	4004	837	13.00	21.60	0.011	1.234		1.245	400	8.0	1.48	0.186	669%	NG
4004	4006	46	0.35	21.95	0.011	1.238		1.249	300	73.1	3.70	0.262	478%	NG
	4005		10.78		0.005			0.005						
4005	4006	637	4.60	4.60	0.008	0.287		0.294	300	17.5	1.81	0.128	230%	NG
4006	4007	34	0.25	26.80	0.019	1.496		1.515	300	11.7	1.48	0.105	1448%	NG
4007	4011	295	2.42	29.22	0.020	1.508		1.528	400	8.1	1.49	0.187	816%	NG
4009	4010	147	0.72	0.72	0.000	0.053		0.054	300	10.2	1.38	0.098	55%	OK
4010	4011	538	11.78	12.50	0.006	0.769		0.775	400	15.7	2.08	0.261	296%	NG
4011	4012	74	2.68	44.40	0.027	0.204		0.231	400	7.6	1.44	0.181	128%	NG
Out-41								-0.176						
4012	4013	162	2.25	46.65	0.028	0.165	0.054	0.248	400	9.2	1.59	0.200	124%	NG
Out-42								-0.191						
4013	4015	156	1.56	48.21	0.029	0.115	0.057	0.201	400	5.1	1.18	0.148	135%	NG
4014	4015	377	2.17	2.17	0.001	0.148		0.149	400	15.6	2.07	0.260	57%	OK
4015	4017	266	2.68	53.06	0.031	0.429	0.057	0.517	400	12.0	1.82	0.229	226%	NG
4016	4017	913	12.80	12.80	0.006	0.735		0.742	800	22.8	3.97	1.996	37%	OK
4017	4024	154	0.88	66.74	0.038	1.278	0.057	1.373	800	20.1	3.73	1.875	73%	OK
4018	4021	313	5.26	5.26	0.003	0.366		0.368	300	17.2	1.79	0.127	291%	NG
4019	4020	68	1.00	1.00	0.000	0.076		0.076	300	2.0	0.61	0.043	177%	NG
4020	4021	260	1.03	2.03	0.001	0.141		0.142	300	19.8	1.92	0.136	104%	NG
4021	4022	57	0.35	7.64	0.004	0.518		0.522	400	24.8	2.61	0.328	159%	NG
4022	4023	36	0.53	8.17	0.004	0.547		0.551	400	55.5	3.90	0.490	112%	NG
	4023		4.01		0.002			0.002						
4023	4024	446	4.60	12.77	0.008	0.743		0.752	400	9.1	1.58	0.199	379%	NG
4024	4025	170	0.88	80.39	0.047	2.035	0.057	2.138	800	10.5	2.70	1.357	158%	NG
Out-43								-2.044						
	4025		7.30		0.004			0.004						
4025	4028	196	0.97	81.36	0.051	0.070	0.094	0.215	800	22.4	3.94	1.980	11%	OK
4026	4027	976	12.24	12.24	0.006	0.691		0.697	400	30.2	2.88	0.362	192%	NG
4027	4028	305	1.50	13.74	0.007	0.713		0.719	500	7.5	1.67	0.328	219%	NG
	4028		14.00		0.007			0.007						
4028	4054	183	0.85	95.95	0.065	1.058	0.094	1.217	800	2.0	1.18	0.593	205%	NG
4029	4030	52	1.41	1.41	0.001	0.108		0.109	300	57.6	3.28	0.232	47%	OK
4030	4031	215	1.92	3.33	0.002	0.235		0.237	400	6.9	1.38	0.173	137%	NG
4031	4036	178	0.78	4.11	0.002	0.273		0.275	500	2.0	0.86	0.169	163%	NG
4032	4033	77	0.65	0.65	0.000	0.049		0.050	200	87.0	3.08	0.097	51%	OK
4033	4034	153	0.88	1.53	0.001	0.109		0.110	300	23.5	2.10	0.148	74%	OK

No.	Down Stream	Length (m) Increment	Area (ha) Increment	Area (ha) Total	Sewage Quantity Sanitary Sewage	Sewage Quantity Storm Water	Sewage Quantity Remain Sewage	Sewage Quantity $Q_1(m^3/s)$	Existing Pipe Specification D (mm)	Existing Pipe Specification I (‰)	Existing Pipe Specification V (m/s)	Existing Pipe Specification $Q_2(m^3/s)$	Capacity Q_1/Q_2	Capacity Judge
4034	4035	169	4.18	5.71	0.003	0.386		0.389	400	20.1	2.35	0.295	132%	NG
4035	4036	55	0.27	5.98	0.003	0.397		0.400	500	12.7	2.17	0.426	94%	OK
4036	4045	343	2.64	12.73	0.006	0.755		0.761	500	29.5	3.30	0.648	118%	NG
4037	4038	175	2.49	2.49	0.001	0.182		0.184	300	18.2	1.85	0.131	140%	NG
4038	4041	89	0.67	3.16	0.002	0.224		0.225	400	26.9	2.72	0.342	66%	OK
4039	4040	119	0.88	0.88	0.000	0.066		0.066	300	47.0	2.97	0.210	32%	OK
4040	4041	50	0.10	0.98	0.000	0.072		0.072	400	2.0	0.74	0.093	78%	OK
4041	4042	210	0.76	4.90	0.002	0.322		0.325	400	19.5	2.31	0.290	112%	NG
4042	4045	10	0.01	4.91	0.002	0.322		0.324	500	3.4	1.12	0.220	147%	NG
4043	4044	119	0.55	0.55	0.000	0.041		0.041	300	42.5	2.82	0.199	21%	OK
4044	4045	259	0.81	1.36	0.001	0.092		0.093	400	16.9	2.15	0.270	34%	OK
4045	4053	231	1.43	20.43	0.010	1.135		1.145	400	4.3	1.09	0.137	836%	NG
4046	4047	168	1.02	1.02	0.001	0.075		0.075	300	2.3	0.66	0.047	161%	NG
4047	4048	161	1.24	2.26	0.001	0.156		0.157	400	2.0	0.74	0.093	169%	NG
4048	4050	423	9.14	11.40	0.006	0.686		0.691	500	30.2	3.34	0.656	105%	NG
4049	4050	197	0.88	0.88	0.000	0.064		0.064	500	31.4	3.41	0.670	10%	OK
4050	4051	253	2.78	15.06	0.007	0.841		0.848	400	7.1	1.40	0.176	482%	NG
Out-44								-0.834						
4051	4052	354	6.88	21.94	0.011	0.472	0.015	0.498	400	2.8	0.88	0.111	450%	NG
	4052		21.39		0.011			0.011						
4052	4053	404	8.05	29.99	0.025	0.898		0.923	600	9.9	2.16	0.611	151%	NG
4053	4054	70	0.30	50.72	0.036	2.098		2.134	600	4.2	1.41	0.399	535%	NG
4054	4056	115	0.31	146.98	0.101	3.367	0.109	3.577	800	2.0	1.18	0.593	603%	NG
4055	4056	265	2.53	2.53	0.001	0.179		0.180	500	8.6	1.78	0.350	52%	OK
4056	4060	99	0.34	149.85	0.102	3.441	0.109	3.652	800	2.0	1.18	0.593	616%	NG
4057	4059	62	0.50	0.50	0.000	0.038		0.038	400	2.0	0.74	0.093	41%	OK
4058	4059	58	1.22	1.22	0.001	0.093		0.094	400	2.0	0.74	0.093	101%	NG
4059	4060	279	7.64	9.36	0.005	0.644		0.649	500	14.9	2.35	0.461	141%	NG
4060	4062	25	0.03	159.24	0.107	4.001	0.109	4.216	800	2.0	1.18	0.593	711%	NG
4061	4062	712	4.94	4.94	0.002	0.301		0.304	400	5.7	1.25	0.157	193%	NG
Out-45								-4.425						
4062	4064	88	0.27	164.45	0.109	0.020	0.219	0.348	800	2.0	1.18	0.593	59%	OK
4063	4064	258	2.07	2.07	0.001	0.147		0.148	600	2.0	0.97	0.274	54%	OK
4064	4068	93	0.31	166.83	0.111	0.193	0.219	0.523	800	2.0	1.18	0.593	88%	OK
4065	4068	461	3.64	3.64	0.002	0.241		0.243	600	3.6	1.30	0.368	66%	OK
Out-46								-0.540						
4068	4070	168	0.80	171.27	0.113	0.059	0.225	0.396	800	2.0	1.18	0.593	67%	OK
4069	4070	77	0.38	0.38	0.000	0.029		0.029	400	5.1	1.18	0.148	20%	OK
4070	4078	179	1.02	172.67	0.114	0.151	0.225	0.489	800	5.9	2.02	1.015	48%	OK
4071	4073	155	1.15	1.15	0.001	0.085		0.085	800	6.4	2.10	1.056	8%	OK
4072	4073	58	0.28	0.28	0.000	0.021		0.022	400	2.0	0.74	0.093	23%	OK
4073	4075	176	1.21	2.64	0.001	0.182		0.184	500	10.7	1.99	0.391	47%	OK
4074	4075	94	0.45	0.45	0.000	0.034		0.034	400	5.3	1.21	0.152	22%	OK
4075	4077	74	0.40	3.49	0.002	0.235		0.237	600	8.1	1.95	0.551	43%	OK
4076	4077	334	1.20	1.20	0.001	0.083		0.083	500	8.9	1.81	0.355	23%	OK
4077	4078	94	0.58	5.27	0.003	0.344		0.347	800	2.0	1.18	0.593	58%	OK
4078	4102	191	1.83	179.77	0.117	0.599	0.225	0.941	800	7.9	2.34	1.176	80%	OK
4079	4080	107	1.37	1.37	0.001	0.103		0.103	400	2.0	0.74	0.093	111%	NG
4080	4082	256	2.72	4.09	0.002	0.280		0.282	400	7.7	1.45	0.182	155%	NG
4081	4082	165	0.95	0.95	0.000	0.070		0.070	800	13.9	3.10	1.558	5%	OK
4082	4085	174	1.18	6.22	0.003	0.400		0.404	800	10.3	2.67	1.342	30%	OK
4083	4084	80	0.64	0.64	0.000	0.048		0.049	400	32.5	2.99	0.376	13%	OK
4084	4085	189	3.11	3.75	0.002	0.265		0.267	500	2.0	0.86	0.169	158%	NG
4085	4087	182	1.07	11.04	0.005	0.671		0.677	600	2.0	0.97	0.274	247%	NG
4086	4087	158	3.57	3.57	0.002	0.262		0.264	800	10.1	2.64	1.327	20%	OK
4087	4091	78	0.26	14.87	0.007	0.882		0.889	800	2.0	1.18	0.593	150%	NG
4090	4091	162	1.27	1.27	0.001	0.093		0.094	800	2.0	1.18	0.593	16%	OK
4091	4097	96	0.43	16.57	0.008	0.957		0.965	800	2.0	1.18	0.593	163%	NG
4092	4094	157	1.16	1.16	0.001	0.085		0.086	800	9.5	2.56	1.287	7%	OK
4093	4094	69	0.31	0.31	0.000	0.024		0.024	600	37.6	4.21	1.190	2%	OK
4094	4096	97	0.39	1.86	0.001	0.132		0.133	800	2.0	1.18	0.593	22%	OK

No.	Down Stream	Length (m) Increment	Area (ha) Increment	Area (ha) Total	Sewage Quantity Sanitary Sewage	Sewage Quantity Storm Water	Sewage Quantity Remain Sewage	Sewage Quantity $Q_1(m^3/s)$	Existing Pipe Specification D (mm)	Existing Pipe Specification I (‰)	Existing Pipe Specification V (m/s)	Existing Pipe Specification $Q_2(m^3/s)$	Capacity Q_1/Q_2	Capacity Judge
4095	4096	87	0.24	0.24	0.000	0.018		0.018	800	2.0	1.18	0.593	3%	OK
4096	4097	178	1.28	3.38	0.002	0.226		0.227	500	2.0	0.86	0.169	135%	NG
4097	4099	215	2.23	22.18	0.011	1.205		1.216	600	5.9	1.67	0.472	257%	NG
4098	4099	190	2.50	2.50	0.001	0.182		0.183	500	7.3	1.64	0.322	57%	OK
4099	4101	68	0.35	25.03	0.012	1.333		1.345	1000	2.9	1.64	1.288	104%	NG
4100	4101	177	1.10	1.10	0.001	0.080		0.081	400	11.2	1.75	0.220	37%	OK
4101	4102	174	1.27	27.40	0.014	1.395		1.408	1000	2.0	1.37	1.076	131%	NG
4102	4104	73	0.29	207.46	0.131	2.327	0.225	2.682	800	11.6	2.83	1.423	189%	NG
4103	4104	361	2.90	2.90	0.001	0.198		0.200	400	2.4	0.81	0.102	196%	NG
Out-47								-2.618						
4104	4110	420	2.80	213.16	0.133	0.187	0.264	0.585	800	3.8	1.62	0.814	72%	OK
4105	4106	62	0.54	0.54	0.000	0.041		0.041	500	12.9	2.18	0.428	10%	OK
4106	4107	243	4.91	5.45	0.003	0.380		0.383	600	18.5	2.95	0.834	46%	OK
4107	4110	627	4.81	10.26	0.005	0.585		0.590	800	4.7	1.80	0.905	65%	OK
4108	4109	384	5.70	5.70	0.003	0.386		0.389	500	2.3	0.92	0.181	215%	NG
4109	4110	99	0.67	6.37	0.003	0.413		0.416	600	2.0	0.97	0.274	152%	NG
4110	4118	95	0.35	230.14	0.142	1.203	0.264	1.609	1000	2.0	1.37	1.076	150%	NG
4111	4112	152	1.46	1.46	0.001	0.108		0.108	800	34.2	4.87	2.448	4%	OK
	4112		8.38					0.000						
4112	4113	358	9.88	19.72	0.010	0.737		0.746	800	13.9	3.10	1.558	48%	OK
Out-48								-0.727						
4113	4114	177	3.39	23.11	0.011	0.247	0.019	0.278	500	2.2	0.90	0.177	157%	NG
4114	4115	325	8.68	31.79	0.016	0.786		0.802	500	11.9	2.10	0.412	194%	NG
4115	4117	166	0.74	32.53	0.016	0.792		0.808	500	2.0	0.86	0.169	479%	NG
4116	4117	289	1.68	1.68	0.001	0.118		0.119	200	2.4	0.51	0.016	741%	NG
4117	4118	80	0.36	34.57	0.017	0.895		0.913	500	5.1	1.37	0.269	339%	NG
4118	4120	447	8.80	273.51	0.165	2.319	0.284	2.768	1000	4.2	1.98	1.555	178%	NG
4119	4120	150	0.82	0.82	0.000	0.060		0.061	400	6.6	1.35	0.170	36%	OK
4120	4122	583	2.62	276.95	0.167	2.160	0.284	2.610	1000	6.6	2.48	1.948	134%	NG
4121	4122	223	2.72	2.72	0.001	0.195		0.197	300	14.7	1.66	0.117	168%	NG
4122	4132	234	4.20	283.87	0.170	2.350	0.284	2.804	1000	2.0	1.37	1.076	261%	NG
4123	4124	110	1.10	1.10	0.001	0.082		0.083	300	2.7	0.71	0.050	165%	NG
4124	4125	548	6.00	7.10	0.004	0.440		0.444	400	6.9	1.38	0.173	256%	NG
4125	4129	368	4.50	11.60	0.006	0.644		0.650	500	18.4	2.61	0.512	127%	NG
4126	4127	473	6.90	6.90	0.003	0.454		0.457	400	9.0	1.57	0.197	232%	NG
4127	4128	341	7.50	14.40	0.007	0.852		0.859	300	7.6	1.19	0.084	1021%	NG
4128	4129	197	1.50	15.90	0.008	0.888		0.896	400	11.6	1.78	0.224	400%	NG
4129	4131	130	0.80	28.30	0.014	1.518		1.532	400	37.6	3.21	0.403	380%	NG
4130	4131	435	5.90	5.90	0.003	0.394		0.397	400	33.5	3.03	0.381	104%	NG
4131	4132	213	0.90	35.10	0.017	1.778		1.796	400	2.0	0.74	0.093	1931%	NG
Out-49								-4.225						
4132	To STP	0	0.00	318.97	0.188		0.375	0.563	1000	2.0	1.37	1.076	52%	OK
5001	5002	94	0.50	0.50	0.000	0.038		0.038	400	28.7	2.81	0.353	11%	OK
5002	5006	519	5.35	5.85	0.003	0.368		0.370	1000	7.3	2.61	2.050	18%	OK
5003	5004	100	0.50	0.50	0.000	0.038		0.038	300	7.9	1.22	0.086	44%	OK
5004	5005	350	2.70	3.20	0.001	0.212		0.214	400	11.1	1.75	0.220	97%	OK
5005	5006	179	4.15	7.35	0.003	0.460		0.463	1000	11.7	3.30	2.592	18%	OK
5006	To STP	195	1.10	14.30	0.006	0.841		0.848	1000	6.6	2.48	1.948	44%	OK
Outfall								-0.835						
To STP					0.006		0.012	0.018						
6001	6002	87	0.30	0.30	0.000	0.023		0.023	200	14.9	1.27	0.040	57%	OK
6002	6003	273	4.20	4.50	0.002	0.308		0.310	300	13.1	1.57	0.111	279%	NG
6003	6006	358	4.80	9.30	0.004	0.565		0.569	300	8.3	1.25	0.088	645%	NG
6004	6005	216	2.40	2.40	0.001	0.173		0.174	200	14.4	1.25	0.039	443%	NG
6005	6006	396	4.60	7.00	0.003	0.440		0.443	300	25.0	2.16	0.153	290%	NG
6006	6009	225	2.30	18.60	0.008	1.057		1.065	400	16.4	2.12	0.266	400%	NG
6007	6008	117	1.10	1.10	0.000	0.082		0.083	300	2.0	0.61	0.043	192%	NG
6008	6009	290	2.40	3.50	0.002	0.236		0.237	400	2.0	0.74	0.093	255%	NG
6009	6013	48	0.20	22.30	0.010	1.252		1.261	300	2.0	0.61	0.043	2925%	NG
6010	6011	350	3.00	3.00	0.001	0.206		0.207	200	19.1	1.44	0.045	458%	NG
6011	6012	260	4.50	7.50	0.003	0.472		0.475	300	13.0	1.56	0.110	431%	NG

No.	Down Stream	Length (m)	Area (ha)		Sewage Quantity				Existing Pipe Specification				Capacity	
		Increment	Increment	Total	Sanitary Sewage	Storm Water	Remain Sewage	$Q_1(m^3/s)$	D (mm)	I (‰)	V (m/s)	$Q_2(m^3/s)$	Q_1/Q_2	Judge
6012	6013	215	1.30	8.80	0.004	0.518		0.522	400	5.5	1.23	0.155	337%	NG
6013	To STP	961	0.00	31.10	0.013	1.370		1.383	400	2.0	0.74	0.093	1487%	NG
Outfall								-1.356						
To STP					0.013		0.027	0.040						
7001	7002	451	4.08	4.08	0.002	0.271		0.272	200	23.9	1.61	0.051	539%	NG
7002	7003	100	3.50	7.58	0.003	0.487		0.490	200	12.0	1.14	0.036	1368%	NG
7003	7004	150	3.10	10.68	0.005	0.651		0.656	600	21.8	3.21	0.908	72%	OK
7004	To STP	250	14.90	25.58	0.011	1.447		1.458	600	12.8	2.46	0.696	210%	NG
Outfall								-1.436						
To STP					0.011		0.022	0.033						

Table 4.1.10 Evaluation of Existing Sewer Capacity (For SeparateSystem Storm Sewer)

Storm Water Flow

Rainfall Intensity Formula = $\frac{2750}{t + 17}$ (Return Period : 4 Year)
For Main Pipe (D≧500)

Rainfall Intensity Formula = $\frac{2520}{t + 17}$ (Return Period : 2.5 Year)
For Small Pipe (D≦400)

Runoff Coefficient = 0.5

Inlet Time = 5 min

Assumed Average Velocity = 1.5 m/sec

No.	Down Stream	Length (m)		Area (ha)		Storm Water Quantity		Existing Pipe Specification				Capacity	
		Increment	Total	Increment	Total	Time	$Q_1(m^3/s)$	D (mm)	I (‰)	V (m/s)	$Q_2(m^3/s)$	Q_1/Q_2	Judge
1001	1004	826	826	9.80	9.80	14.2	1.200	600	12.4	2.42	0.684	175%	NG
1002	1003	94	94	4.10	4.10	6.0	0.624	300	17.0	1.78	0.126	496%	NG
1003	1004	295	389	6.60	10.70	9.3	1.424	400	19.1	2.29	0.288	495%	NG
1004	1009	355	1181	5.47	25.97	18.1	2.826	600	22.0	3.22	0.910	310%	NG
1005	1006	450	450	7.60	7.60	10.0	1.075	600	18.6	2.96	0.837	128%	NG
1006	1008	249	699	8.30	15.90	12.8	2.038	600	2.0	0.97	0.274	743%	NG
1007	1008	205	205	2.88	2.88	7.3	0.415	400	20.9	2.40	0.302	138%	NG
1008	1009	252	951	3.03	21.81	15.6	2.555	600	16.6	2.80	0.792	323%	NG
1009	Out-11	360	1541	6.37	54.15	22.1	5.290	600	27.2	3.58	1.012	523%	NG
1010	Out-11	564	564	4.03	4.03	11.3	0.544	600	21.9	3.21	0.908	60%	OK
1011	1012	824	824	0.97	0.97	14.2	0.119	600	18.0	2.91	0.823	14%	OK
1012	Out-12	491	1315	0.00	0.97	19.6	0.101	600	6.3	1.72	0.486	21%	OK
1013	1014	247	247	1.33	1.33	7.7	0.206	600	17.2	2.85	0.806	26%	OK
1014	1015	163	410	4.25	5.58	9.6	0.734	400	2.0	0.74	0.093	790%	NG
1015	1016	268	678	7.90	13.48	12.5	1.745	500	2.0	0.86	0.169	1034%	NG
1016	1017B	708	1386	7.90	21.38	20.4	2.001	400	12.8	1.87	0.235	851%	NG
1017A	1017B	186	186	1.20	1.20	7.1	0.190	300	41.3	3.91	0.768	25%	OK
1017B	1020	122	1508	1.30	23.88	21.8	2.351	500	2.6	0.98	0.192	1222%	NG
1018	1019	426	426	4.59	4.59	9.7	0.657	600	2.0	0.97	0.274	239%	NG
1019	1020	100	526	2.85	7.44	10.8	1.022	800	1.9	1.15	0.578	177%	NG
1020	Out-12	895	2403	0.00	31.32	31.7	2.456	800	5.6	1.97	0.990	248%	NG
1021	Out-13	855	855	0.00	0.00	14.5	0.000	600	5.2	1.57	0.444	0%	OK
1022	1023	100	100	0.77	0.77	6.1	0.117	400	5.9	1.27	0.160	73%	OK
1023	1024	86	186	0.69	1.46	7.1	0.212	400	14.0	1.96	0.246	86%	OK
1024	1025	91	277	0.81	2.27	8.1	0.317	400	9.8	1.64	0.206	154%	NG
1025	1027	127	404	0.83	3.10	9.5	0.447	500	20.4	2.75	0.540	83%	OK
1026	1027	50	50	0.28	0.28	5.6	0.043	400	1.9	0.72	0.090	48%	OK
1027	1028	127	531	0.83	4.21	10.9	0.576	500	11.8	2.09	0.410	140%	NG
1028	1035	180	711	1.03	5.24	12.9	0.669	600	6.1	1.70	0.481	139%	NG
1029	1031	326	326	2.47	2.47	8.6	0.338	400	8.2	1.50	0.188	179%	NG
1030	1031	209	209	1.80	1.80	7.3	0.283	600	15.3	2.69	0.761	37%	OK
1031	1034	227	553	2.35	6.62	11.1	0.900	500	7.6	1.68	0.330	273%	NG
1032	1034	132	132	1.36	1.36	6.5	0.203	400	2.0	0.74	0.093	218%	NG
1033	1034	103	103	1.59	1.59	6.1	0.241	400	2.0	0.74	0.093	259%	NG
1034	1035	151	704	1.14	10.71	12.8	1.373	500	12.5	2.15	0.422	325%	NG
1035	1037	220	931	2.36	18.31	15.3	2.165	500	13.6	2.24	0.440	492%	NG
1036	1037	339	339	2.14	2.14	8.8	0.290	400	9.4	1.61	0.202	143%	NG
1037	1041	347	1278	4.19	24.64	19.2	2.600	500	2.0	0.86	0.169	1540%	NG
1038	1039	110	110	1.70	1.70	6.2	0.256	400	7.2	1.41	0.177	145%	NG
1039	1040	140	250	1.15	2.85	7.8	0.439	500	6.4	1.54	0.302	145%	NG
1040	1041	124	374	1.15	4.00	9.2	0.583	600	11.3	2.31	0.653	89%	OK
1041	1044	136	1414	0.85	29.49	20.7	2.988	500	22.0	2.85	0.560	534%	NG
1042	1044	73	73	2.17	2.17	5.8	0.364	500	42.4	3.96	0.778	47%	OK
1043	1044	78	78	0.49	0.49	5.9	0.082	500	2.5	0.96	0.188	43%	OK
1044	1049	286	1700	2.08	34.23	23.9	3.197	500	18.5	2.62	0.514	621%	NG
1045	1046	283	283	3.12	3.12	8.1	0.435	400	12.7	1.87	0.235	185%	NG
1046	1048	125	408	1.70	4.82	9.5	0.695	500	10.9	2.01	0.395	176%	NG
1047	1048	123	123	2.35	2.35	6.4	0.384	500	16.2	2.45	0.481	80%	OK
1048	1049	156	564	1.80	8.97	11.3	1.211	500	4.4	1.28	0.251	482%	NG
1049	1053	274	1974	0.90	44.10	26.9	3.837	800	2.0	1.18	0.593	647%	NG
1050	1051	56	56	0.80	0.80	5.6	0.135	500	2.0	0.86	0.169	80%	OK
1051	1052	149	205	2.65	3.45	7.3	0.542	600	2.0	0.97	0.274	198%	NG

No.	Down Stream	Length (m)		Area (ha)		Storm Water Quantity		Existing Pipe Specification				Capacity	
		Increment	Total	Increment	Total	Time	$Q_1(m^3/s)$	D (mm)	I (‰)	V (m/s)	$Q_2(m^3/s)$	Q_1/Q_2	Judge
1052	1053	157	362	0.85	4.30	9.0	0.632	800	1.8	1.12	0.563	112%	NG
1053	1057	121	2095	1.08	49.48	28.3	4.172	800	2.0	1.18	0.593	703%	NG
1054	1056	325	325	2.64	2.64	8.6	0.394	600	16.6	2.80	0.792	50%	OK
1055	1056	373	373	3.30	3.30	9.1	0.483	600	12.0	2.38	0.673	72%	OK
1056	1057	296	669	1.30	7.24	12.4	0.941	800	2.0	1.18	0.593	159%	NG
1057	Out-13	444	2539	6.15	62.87	33.2	4.783	1000	2.0	1.37	1.076	445%	NG
1058	1059	300	300	3.29	3.29	8.3	0.455	400	17.6	2.20	0.276	165%	NG
1059	Out-13	945	1245	7.30	10.59	18.8	1.130	600	2.0	0.97	0.274	412%	NG
1060	1061	722	722	0.00	0.00	13.0	0.000	600	8.6	2.01	0.568	0%	OK
1061	1062	482	1204	0.00	0.00	18.4	0.000	600	7.8	1.92	0.543	0%	OK
1062	1063	280	1484	36.20	36.20	21.5	3.591	800	17.4	3.47	1.744	206%	NG
1063	1065	267	1751	3.45	39.65	24.5	3.649	800	3.3	1.51	0.759	481%	NG
1064	1065	149	149	3.83	3.83	6.7	0.617	1000	3.3	1.75	1.374	45%	OK
1065	Out-14	1130	2881	6.20	49.68	37.0	3.514	1000x600	3.8	1.93	1.042	337%	NG
2001	2002	480	480	14.95	14.95	10.3	1.917	400	5.8	1.26	0.158	1211%	NG
2002	2003	193	673	4.38	19.33	12.5	2.503	500	26.2	3.11	0.611	410%	NG
2003	2005	242	915	3.74	23.07	15.2	2.736	600	18.5	2.95	0.834	328%	NG
2004	2005	348	348	6.90	6.90	8.9	1.018	600	9.1	2.07	0.585	174%	NG
2005	2007	169	1084	1.15	31.12	17.0	3.496	600	8.2	1.97	0.557	628%	NG
2006	2007	300	300	1.60	1.60	8.3	0.221	400	5.0	1.17	0.147	151%	NG
2007	2009	48	1132	0.23	32.95	17.6	3.637	600	12.5	2.43	0.687	529%	NG
2008	2009	273	273	2.10	2.10	8.0	0.294	300	5.1	0.98	0.069	424%	NG
2009	2011	262	1394	2.10	37.15	20.5	3.784	1500x700	9.5	3.67	3.468	109%	NG
2010A	2010B	50	50	0.54	0.54	5.6	0.084	300	11.9	1.49	0.105	79%	OK
2010B	2011	175	225	1.67	2.21	7.5	0.316	400	2.0	0.74	0.093	340%	NG
2011	2013	210	1604	0.40	39.76	22.8	3.816	1500x700	4.0	2.38	2.249	170%	NG
2012	2013	218	218	5.20	5.20	7.4	0.746	400	14.2	1.97	0.248	301%	NG
2013	2015	138	1742	0.80	45.76	24.4	4.222	1500x700	2.0	1.68	1.588	266%	NG
2014	2015	102	102	1.35	1.35	6.1	0.205	400	4.9	1.16	0.146	140%	NG
2015	2017	850	2592	6.00	53.11	33.8	3.993	1500x700	6.3	2.99	2.826	141%	NG
2016	2017	150	150	1.03	1.03	6.7	0.152	400	4.0	1.05	0.132	115%	NG
2017	2019	280	2872	1.35	55.49	36.9	3.932	1500x700	8.3	3.43	3.241	121%	NG
2018	2019	206	206	1.60	1.60	7.3	0.251	600	10.6	2.24	0.633	40%	OK
2019	2021	132	3004	0.35	57.44	38.4	3.960	1000	20.2	4.34	3.409	116%	NG
2020	2021	118	118	2.82	2.82	6.3	0.424	400	24.5	2.59	0.325	130%	NG
2021	2025	250	3254	1.14	61.40	41.2	4.029	1000	2.0	1.37	1.076	374%	NG
2022	2024	269	269	5.75	5.75	8.0	0.878	500	10.4	1.96	0.385	228%	NG
2023	2024	313	313	2.71	2.71	8.5	0.372	400	6.3	1.32	0.166	224%	NG
2024	2025	150	463	1.10	9.56	10.1	1.347	500	1.5	0.74	0.145	927%	NG
2025	2030	290	3544	5.30	76.26	44.4	4.744	1000	4.4	2.02	1.587	299%	NG
2026	2027	253	253	3.12	3.12	7.8	0.440	300	11.8	1.49	0.105	418%	NG
2027	2029	193	446	1.85	4.97	10.0	0.644	400	15.5	2.06	0.259	249%	NG
2028	2029	341	341	2.99	2.99	8.8	0.406	400	13.3	1.91	0.240	169%	NG
2029	2030	175	621	0.54	8.50	11.9	1.123	500	4.2	1.25	0.245	458%	NG
2030	2033	144	3688	1.20	85.96	46.0	5.211	1500x700	15.9	4.75	4.489	116%	NG
2031	2032	212	212	1.66	1.66	7.4	0.238	400	10.8	1.72	0.216	110%	NG
2032	2033	316	528	2.82	4.48	10.9	0.613	700x500	5.0	1.84	0.580	106%	NG
2033	2034	95	3783	0.84	91.28	47.0	5.447	1000	46.3	6.57	5.160	106%	NG
2034	2044	130	3913	0.77	92.05	48.5	5.368	800	2.0	1.18	0.593	905%	NG
2035	2037	130	130	0.90	0.90	6.4	0.147	600	6.1	1.70	0.481	31%	OK
2036	2037	111	111	1.40	1.40	6.2	0.211	400	7.2	1.41	0.177	119%	NG
2037	2040	438	568	3.80	6.10	11.3	0.823	600	23.0	3.29	0.930	89%	OK
2038	2040	187	187	3.08	3.08	7.1	0.447	400	2.0	0.74	0.093	481%	NG
2039	2040	145	145	0.80	0.80	6.6	0.129	500	27.5	3.19	0.626	21%	OK
2040	2042	538	1106	9.90	19.88	17.3	2.214	800	8.1	2.37	1.191	186%	NG
2041	2042	451	451	2.14	2.14	10.0	0.277	400	15.7	2.08	0.261	106%	NG
2042	2044	47	1153	0.08	22.10	17.8	2.426	1000	2.0	1.37	1.076	225%	NG
2043	2044	102	102	16.60	16.60	6.1	2.745	800	16.6	3.39	1.704	161%	NG
2044	2052	302	4215	0.00	130.75	51.8	7.259	1000	4.0	1.93	1.516	479%	NG
2045	2046	269	269	2.27	2.27	8.0	0.318	400	24.9	2.62	0.329	97%	OK
2046	2049	272	541	4.30	6.57	11.0	0.896	600	9.9	2.16	0.611	147%	NG
2047	2048	196	196	5.50	5.50	7.2	0.795	300	2.0	0.61	0.043	1845%	NG
2048	2049	208	404	3.40	8.90	9.5	1.175	400	2.0	0.74	0.093	1264%	NG

No.	Down Stream	Length (m)		Area (ha)		Storm Water Quantity		Existing Pipe Specification				Capacity	
		Increment	Total	Increment	Total	Time	$Q_1(m^3/s)$	D (mm)	I (‰)	V (m/s)	$Q_2(m^3/s)$	Q_1/Q_2	Judge
2049	2051	618	1159	8.20	23.67	17.9	2.590	600	6.7	1.78	0.503	515%	NG
2050	2051	130	130	1.10	1.10	6.4	0.165	400	4.6	1.12	0.141	117%	NG
2051	2052	365	1524	0.30	25.07	21.9	2.462	800	4.6	1.78	0.895	275%	NG
2052	2053	469	4684	0.00	155.82	57.0	8.043	600	6.1	1.70	0.481	1673%	NG
2053	2062	930	5614	6.33	162.15	67.4	7.338	1000	4.8	2.11	1.657	443%	NG
2054	2055	48	48	0.80	0.80	5.5	0.124	400	2.0	0.74	0.093	134%	NG
2055	2056	151	199	2.47	3.27	7.2	0.516	500	5.3	1.40	0.275	188%	NG
2056	2057	67	266	0.24	3.51	8.0	0.536	600	28.3	3.65	1.032	52%	OK
2057	2058	115	381	14.50	18.01	9.2	2.626	500	5.2	1.39	0.273	962%	NG
2058	2059	152	533	0.00	18.01	10.9	2.466	500	31.5	3.41	0.670	368%	NG
2059	2061	676	1209	0.00	18.01	18.4	1.943	600	6.5	1.75	0.495	393%	NG
2060	2061	117	117	3.00	3.00	6.3	0.492	500	2.0	0.86	0.169	291%	NG
2061	2062	868	2077	0.00	21.01	28.1	1.779	1000	2.0	1.37	1.076	165%	NG
2062	Out-21	400	6014	0.00	183.16	71.8	7.878	1000	2.0	1.37	1.076	732%	NG
3001	3008	725	725	24.00	24.00	13.1	2.791	400	18.2	2.24	0.281	991%	NG
3002	3004	275	275	5.80	5.80	8.1	0.809	400	17.8	2.21	0.278	291%	NG
3003	3004	108	108	0.35	0.35	6.2	0.053	400	12.9	1.88	0.236	22%	OK
3004	3007	42	317	0.10	6.25	8.5	0.858	400	57.1	3.96	0.498	172%	NG
3005	3006	203	203	1.43	1.43	7.3	0.206	300	9.8	1.35	0.095	216%	NG
3006	3007	130	333	0.45	1.88	8.7	0.256	400	49.2	3.68	0.462	55%	OK
3007	3008	25	358	0.03	8.16	9.0	1.098	400	2.0	0.74	0.093	1181%	NG
3008	3009	82	807	1.57	33.73	14.0	4.156	500	6.7	1.57	0.308	1348%	NG
3009	3011	215	1022	8.12	41.85	16.4	4.786	600	13.9	2.56	0.724	661%	NG
3010	3011	152	152	1.14	1.14	6.7	0.168	400	12.4	1.85	0.232	72%	OK
3011	3013	66	1088	0.20	43.19	17.1	4.838	600	21.2	3.16	0.893	541%	NG
3012	3013	149	149	0.90	0.90	6.7	0.133	400	7.3	1.42	0.178	74%	OK
3013	3017	58	1146	1.48	45.57	17.7	5.016	500	10.3	1.95	0.383	1310%	NG
3014	3015	221	221	2.25	2.25	7.5	0.321	300	20.3	1.95	0.138	233%	NG
3015	3016	278	499	4.27	6.52	10.5	0.830	400	3.4	0.97	0.122	681%	NG
3016	3017	180	679	2.94	9.46	12.5	1.122	400	2.7	0.86	0.108	1039%	NG
3017	3021	352	1498	7.25	62.28	21.6	6.163	800	13.9	3.10	1.558	395%	NG
3018	3019	227	227	2.42	2.42	7.5	0.377	500	2.0	0.86	0.169	223%	NG
3019	3020	558	785	15.68	18.10	13.7	2.252	600	11.9	2.37	0.670	336%	NG
3020	3021	308	1093	2.50	20.60	17.1	2.307	600	2.9	1.17	0.331	697%	NG
3021	3025	132	1630	0.60	83.48	23.1	7.951	600	3.0	1.19	0.336	2363%	NG
3022	3023	120	120	1.05	1.05	6.3	0.158	400	12.5	1.85	0.232	68%	OK
3023	3024	268	388	1.93	2.98	9.3	0.433	500	19.0	2.65	0.520	83%	OK
3024	3025	93	481	0.13	3.11	10.3	0.435	600	20.4	3.10	0.877	50%	OK
3025	3026	63	1693	0.30	86.89	23.8	8.134	600	7.9	1.93	0.546	1491%	NG
3026	3027	190	1883	2.50	89.39	25.9	7.959	800	24.7	4.13	2.076	383%	NG
3027	Out-31	71	1954	0.20	89.59	26.7	7.830	600	18.3	2.94	0.831	942%	NG
3028	Out-31	543	543	7.00	7.00	11.0	0.955	800	14.7	3.19	1.603	60%	OK
3029	3032	256	256	3.20	3.20	7.8	0.493	800	15.2	3.24	1.629	30%	OK
3030	3031	402	402	5.91	5.91	9.5	0.781	400	11.4	1.77	0.222	351%	NG
3031	3032	305	707	5.28	11.19	12.9	1.429	600	19.0	2.99	0.845	169%	NG
3032	3039	370	626	3.85	18.24	12.0	2.402	800	7.2	2.23	1.121	214%	NG
3033	3035	142	142	0.92	0.92	6.6	0.149	500	2.0	0.86	0.169	88%	OK
3034	3035	83	83	0.81	0.81	5.9	0.124	400	2.0	0.74	0.093	133%	NG
3035	3036	85	227	0.94	2.67	7.5	0.381	400	10.7	1.71	0.215	178%	NG
3036	3038	169	396	1.35	4.02	9.4	0.582	500	8.2	1.74	0.342	170%	NG
3037	3038	278	278	1.60	1.60	8.1	0.243	500	10.4	1.96	0.385	63%	OK
3038	3039	166	562	1.15	6.77	11.2	0.917	600	28.9	3.69	1.043	88%	OK
3039	3041	113	739	0.65	25.66	13.2	3.245	800	10.9	2.75	1.382	235%	NG
3040	3041	155	155	1.46	1.46	6.7	0.216	400	27.7	2.76	0.347	62%	OK
3041	3062	365	1104	2.30	29.42	17.3	3.276	800	2.8	1.39	0.699	469%	NG
3042	3044	410	410	5.20	5.20	9.6	0.747	600	13.4	2.51	0.710	105%	NG
3043	3044	98	98	0.77	0.77	6.1	0.117	400	2.0	0.74	0.093	125%	NG
3044	3045	221	631	2.45	8.42	12.0	1.109	500	9.9	1.91	0.375	296%	NG
3045	3052	454	1085	11.51	19.93	17.1	2.232	600	12.3	2.41	0.681	328%	NG
3046	3048	263	263	4.73	4.73	7.9	0.665	400	2.0	0.74	0.093	715%	NG
3047	3048	167	167	2.87	2.87	6.9	0.420	400	4.7	1.14	0.143	293%	NG
3048	3050	58	321	0.70	8.30	8.6	1.135	400	2.0	0.74	0.093	1220%	NG
3049	3050	272	272	1.83	1.83	8.0	0.256	400	9.5	1.62	0.204	126%	NG

No.	Down Stream	Length (m)		Area (ha)		Storm Water Quantity		Existing Pipe Specification				Capacity	
		Increment	Total	Increment	Total	Time	$Q_1(m^3/s)$	D (mm)	I (‰)	V (m/s)	$Q_2(m^3/s)$	Q_1/Q_2	Judge
3050	3051	173	494	1.42	11.55	10.5	1.470	400	2.0	0.74	0.093	1581%	NG
3051	3052	77	571	0.29	11.84	11.3	1.598	600	2.0	0.97	0.274	583%	NG
3052	3055	174	1259	1.46	33.23	19.0	3.526	600	2.0	0.97	0.274	1285%	NG
3053	3054	118	118	0.43	0.43	6.3	0.065	400	2.0	0.74	0.093	69%	OK
3054	3055	98	216	0.35	0.78	7.4	0.122	500	6.7	1.57	0.308	40%	OK
3055	3060	12	1271	0.01	34.02	19.1	3.599	600	2.0	0.97	0.274	1312%	NG
3056	3059	287	287	2.82	2.82	8.2	0.427	500	13.2	2.21	0.434	98%	OK
3057	3059	203	203	1.29	1.29	7.3	0.203	500	17.2	2.52	0.495	41%	OK
3058	3059	111	111	0.46	0.46	6.2	0.069	400	2.0	0.74	0.093	75%	OK
3059	3060	235	522	1.18	5.75	10.8	0.790	600	8.8	2.04	0.577	137%	NG
3060	3061	114	1385	0.45	40.22	20.4	4.107	600	2.0	0.97	0.274	1498%	NG
3061	3062	348	1733	8.47	48.69	24.3	4.503	600	6.7	1.78	0.503	895%	NG
3062	3075	514	1618	9.30	87.41	23.0	8.346	800	3.6	1.58	0.794	1051%	NG
3063	3065	256	256	1.33	1.33	7.8	0.205	600	7.8	1.92	0.543	38%	OK
3064	3065	216	216	1.32	1.32	7.4	0.207	600	8.3	1.98	0.560	37%	OK
3065	3067	86	342	0.75	3.40	8.8	0.503	600	2.0	0.97	0.274	184%	NG
3066	3067	232	232	2.02	2.02	7.6	0.314	600	9.0	2.06	0.582	54%	OK
3067	3075	372	714	2.20	7.62	12.9	0.973	600	11.2	2.30	0.650	150%	NG
3068	3070	416	416	4.63	4.63	9.6	0.665	500	2.0	0.86	0.169	394%	NG
3069	3070	285	285	3.24	3.24	8.2	0.450	400	2.8	0.88	0.111	407%	NG
3070	3072	176	592	1.12	8.99	11.6	1.201	500	2.1	0.88	0.173	695%	NG
3071	3072	114	114	0.68	0.68	6.3	0.102	400	9.6	1.62	0.204	50%	OK
3072	3074	100	692	0.41	10.08	12.7	1.296	500	2.9	1.04	0.204	635%	NG
3073	3074	127	127	0.86	0.86	6.4	0.129	400	14.9	2.02	0.254	51%	OK
3074	3075	574	1266	3.36	14.30	19.1	1.513	500	7.1	1.62	0.318	476%	NG
3075	Out-32	415	2033	0.15	109.48	27.6	9.376	800	2.0	1.18	0.593	1581%	NG
3076	Out-32	220	220	1.93	1.93	7.4	0.302	500	9.0	1.82	0.357	85%	OK
3077	3079	270	270	2.80	2.80	8.0	0.428	800	2.0	1.18	0.593	72%	OK
3078	3079	533	533	5.32	5.32	10.9	0.667	300	2.0	0.61	0.043	1548%	NG
3079	3085	233	503	0.76	8.88	10.6	1.229	800	2.0	1.18	0.593	207%	NG
3080	3082	134	134	0.47	0.47	6.5	0.070	200	10.4	1.06	0.033	210%	NG
3081	3082	70	70	1.43	1.43	5.8	0.220	400	2.0	0.74	0.093	236%	NG
3082	3084	47	181	0.21	2.11	7.0	0.308	400	2.0	0.74	0.093	331%	NG
3083	3084	212	212	1.68	1.68	7.4	0.263	500	2.0	0.86	0.169	156%	NG
3084	3085	70	282	0.21	4.00	8.1	0.609	500	2.0	0.86	0.169	360%	NG
3085	3104	421	924	3.12	16.00	15.3	1.892	1000	5.8	2.32	1.822	104%	NG
3086	3087	290	290	2.72	2.72	8.2	0.378	300	6.8	1.13	0.080	473%	NG
3087	3092	95	385	0.30	3.02	9.3	0.402	400	27.3	2.74	0.344	117%	NG
3088	3089	52	52	0.36	0.36	5.6	0.056	300	2.0	0.61	0.043	129%	NG
3089	3092	220	272	1.25	1.61	8.0	0.225	400	20.8	2.39	0.300	75%	OK
3091	3092	199	199	5.17	5.17	7.2	0.748	300	3.0	0.75	0.053	1410%	NG
3092	3096	344	729	4.64	14.44	13.1	1.832	500	4.9	1.35	0.265	691%	NG
3093	3095	327	327	1.95	1.95	8.6	0.267	300	2.0	0.61	0.043	618%	NG
3094	3095	290	290	2.15	2.15	8.2	0.299	300	6.8	1.13	0.080	374%	NG
3095	3096	267	594	0.30	4.40	11.6	0.538	400	5.4	1.22	0.153	351%	NG
3096	3097	191	920	0.38	19.22	15.2	2.280	600	9.9	2.16	0.611	373%	NG
3097	3100	30	950	0.02	19.24	15.6	2.254	600	2.0	0.97	0.274	822%	NG
3098	3099	91	91	0.34	0.34	6.0	0.052	300	2.0	0.61	0.043	120%	NG
3099	3100	251	342	1.24	1.58	8.8	0.234	600	8.8	2.04	0.577	41%	OK
3100	3103	93	1043	0.78	21.60	16.6	2.455	800	2.0	1.18	0.593	414%	NG
3101	3102	230	230	1.92	1.92	7.6	0.273	300	2.0	0.61	0.043	634%	NG
3102	3103	239	469	2.20	4.12	10.2	0.579	600	8.9	2.05	0.580	100%	OK
3103	3104	101	1144	0.82	26.54	17.7	2.921	800	2.0	1.18	0.593	493%	NG
3104	3107	257	1181	2.41	44.95	18.1	4.891	1000	2.0	1.37	1.076	455%	NG
3105	3106	187	187	1.49	1.49	7.1	0.236	800	2.1	1.21	0.608	39%	OK
3106	3107	210	397	1.82	3.31	9.4	0.479	500	2.0	0.86	0.169	284%	NG
3107	3109	667	1848	11.60	59.86	25.5	5.380	1000	3.1	1.70	1.335	403%	NG
3108	3109	193	193	2.23	2.23	7.1	0.353	500	5.1	1.37	0.269	131%	NG
3109	Out-33	456	2304	4.93	67.02	30.6	5.378	1000	2.0	1.37	1.076	500%	NG
3110	3112	491	491	2.69	2.69	10.5	0.374	600	5.2	1.57	0.444	84%	OK
3111	3112	181	181	4.18	4.18	7.0	0.610	400	7.7	1.45	0.182	335%	NG
3112	Out-33	489	980	4.41	11.28	15.9	1.310	600	2.0	0.97	0.274	477%	NG
3114	3116	579	579	3.68	3.68	11.4	0.495	500	4.6	1.30	0.255	194%	NG

No.	Down Stream	Length (m)		Area (ha)		Storm Water Quantity		Existing Pipe Specification				Capacity	
		Increment	Total	Increment	Total	Time	$Q_1(m^3/s)$	D (mm)	I (‰)	V (m/s)	$Q_2(m^3/s)$	Q_1/Q_2	Judge
3115	3116	67	67	0.44	0.44	5.7	0.068	400	8.9	1.56	0.196	35%	OK
3116	3118	68	647	0.32	4.44	12.2	0.581	600	10.2	2.19	0.619	94%	OK
3117	3118	70	70	1.40	1.40	5.8	0.215	400	2.0	0.74	0.093	231%	NG
3118	3121	199	846	2.38	8.22	14.4	1.000	1000x500	2.0	1.32	0.594	168%	NG
3119	3120	268	268	3.27	3.27	8.0	0.458	400	6.3	1.32	0.166	276%	NG
3120	3121	213	481	3.16	6.43	10.3	0.900	500	7.9	1.71	0.336	268%	NG
3121	3125	232	1078	2.40	17.05	17.0	1.915	500	9.7	1.89	0.371	516%	NG
3122	3124	276	276	2.60	2.60	8.1	0.363	400	9.4	1.61	0.202	179%	NG
3123	3124	124	124	1.80	1.80	6.4	0.269	400	3.2	0.94	0.118	228%	NG
3124	3125	208	484	0.81	5.21	10.4	0.666	400	2.0	0.74	0.093	716%	NG
3125	3126	500	1578	4.58	26.84	22.5	2.378	400	10.3	1.68	0.211	1127%	NG
3126	Out-34	1009	2587	0.00	26.84	33.7	2.022	600	3.2	1.23	0.348	581%	NG
3128	3129	254	254	2.27	2.27	7.8	0.320	300	8.2	1.24	0.088	366%	NG
3129	3131	71	325	1.33	3.60	8.6	0.492	400	2.0	0.74	0.093	529%	NG
3130	3131	201	201	1.00	1.00	7.2	0.145	400	8.9	1.56	0.196	74%	OK
3131	3136	122	447	1.40	6.00	10.0	0.849	500	2.0	0.86	0.169	503%	NG
3132	3133	124	124	0.60	0.60	6.4	0.090	300	9.6	1.34	0.095	95%	OK
3133	3135	95	219	0.40	1.00	7.4	0.143	400	9.4	1.61	0.202	71%	OK
3134	3135	149	149	1.16	1.16	6.7	0.171	400	2.6	0.85	0.107	160%	NG
3135	3136	20	239	0.05	2.21	7.7	0.313	400	2.0	0.74	0.093	337%	NG
3136	3141	287	734	4.10	12.31	13.2	1.557	600	9.4	2.11	0.597	261%	NG
3137	3138	328	328	3.02	3.02	8.6	0.451	500	8.5	1.77	0.348	130%	NG
3138	3140	138	466	0.60	3.62	10.2	0.508	600	2.0	0.97	0.274	185%	NG
3139	3140	122	122	4.10	4.10	6.4	0.613	400	7.3	1.42	0.178	344%	NG
3140	3141	68	534	0.39	8.11	10.9	1.110	800	2.0	1.18	0.593	187%	NG
3141	3142	120	854	0.43	20.85	14.5	2.528	800	2.0	1.18	0.593	426%	NG
3142	3148	281	1135	1.25	22.10	17.6	2.440	800	6.9	2.19	1.101	222%	NG
3143	3144	159	159	1.39	1.39	6.8	0.204	300	16.9	1.78	0.126	162%	NG
3144	3145	302	461	1.76	3.15	10.1	0.407	400	8.9	1.56	0.196	208%	NG
3145	3147	248	709	5.98	9.13	12.9	1.166	500	6.5	1.55	0.304	383%	NG
3146	3147	185	185	0.70	0.70	7.1	0.111	600	4.3	1.42	0.401	28%	OK
3147	3148	497	1206	7.44	17.27	18.4	1.863	600	4.6	1.47	0.416	448%	NG
3148	3151	367	1573	1.19	40.56	22.5	3.922	1000	4.6	2.07	1.626	241%	NG
3149	3150	218	218	0.70	0.70	7.4	0.100	300	15.1	1.68	0.119	85%	OK
3150	3151	404	622	3.47	4.17	11.9	0.505	400	2.7	0.86	0.108	467%	NG
3151	Out-35	430	2003	2.30	47.03	27.3	4.055	1000	2.0	1.37	1.076	377%	NG
3153	Out-36	464	464	1.32	1.32	10.2	0.170	400	2.0	0.74	0.093	183%	NG
3155	3156	537	537	3.38	3.38	11.0	0.423	300	8.3	1.25	0.088	478%	NG
3156	Out-37	480	1017	3.45	6.83	16.3	0.718	400	2.0	0.74	0.093	772%	NG
3158	3159	175	175	1.41	1.41	6.9	0.206	300	2.8	0.72	0.051	406%	NG
3159	3161	149	324	0.81	2.22	8.6	0.304	400	3.3	0.95	0.119	254%	NG
3160	3161	169	169	1.25	1.25	6.9	0.183	400	2.0	0.74	0.093	197%	NG
3161	3163	194	518	5.50	8.97	10.8	1.232	600	2.0	0.97	0.274	449%	NG
3162	3163	150	150	2.50	2.50	6.7	0.369	400	2.0	0.74	0.093	397%	NG
3163	Out-38	189	707	0.80	12.27	12.9	1.567	600	4.2	1.41	0.399	393%	NG
3165	3166	479	479	4.05	4.05	10.3	0.519	300	9.1	1.31	0.093	561%	NG
3166	3167	106	585	0.56	4.61	11.5	0.566	300	2.0	0.61	0.043	1313%	NG
3167	3168	144	729	1.18	5.79	13.1	0.735	800	4.3	1.73	0.870	84%	OK
3168	3169	137	866	0.97	6.76	14.6	0.817	800	2.0	1.18	0.593	138%	NG
3169	Out-39	392	1258	0.00	6.76	19.0	0.717	800	13.0	3.00	1.508	48%	OK
4001	4002	24	24	5.70	5.70	5.3	0.895	200	41.6	2.13	0.067	1337%	NG
4002	4003	64	88	2.90	8.60	6.0	1.309	300	46.8	2.96	0.209	625%	NG
4003	4004	837	925	13.00	21.60	15.3	2.341	400	8.0	1.48	0.186	1258%	NG
4004	4006	46	971	0.35	21.95	15.8	2.342	300	73.1	3.70	0.262	896%	NG
4005	4006	637	637	4.60	4.60	12.1	0.553	300	17.5	1.81	0.128	432%	NG
4006	4007	34	1005	0.25	26.80	16.2	2.825	300	11.7	1.48	0.105	2701%	NG
4007	4011	295	1300	2.42	29.22	19.4	2.810	400	8.1	1.49	0.187	1501%	NG
4009	4010	147	147	0.72	0.72	6.6	0.107	300	10.2	1.38	0.098	109%	NG
4010	4011	538	685	11.78	12.50	12.6	1.478	400	15.7	2.08	0.261	565%	NG
4011	Out-41	74	74	2.68	2.68	5.8	0.411	400	7.6	1.44	0.181	227%	NG
4012	Out-42	162	162	2.25	2.25	6.8	0.331	400	9.2	1.59	0.200	166%	NG
4013	4015	156	156	1.56	1.56	6.7	0.230	400	5.1	1.18	0.148	155%	NG
4014	4015	377	377	2.17	2.17	9.2	0.290	400	15.6	2.07	0.260	111%	NG

No.	Down Stream	Length (m)		Area (ha)		Storm Water Quantity		Existing Pipe Specification				Capacity	
		Increment	Total	Increment	Total	Time	$Q_1(m^3/s)$	D (mm)	I (‰)	V (m/s)	$Q_2(m^3/s)$	Q_1/Q_2	Judge
4015	4017	266	422	2.68	6.41	9.7	0.840	400	12.0	1.82	0.229	367%	NG
4016	4017	913	913	12.80	12.80	15.1	1.523	800	22.8	3.97	1.996	76%	OK
4017	4024	154	576	0.88	20.09	11.4	2.702	800	20.1	3.73	1.875	144%	NG
4018	4021	313	313	5.26	5.26	8.5	0.722	300	17.2	1.79	0.127	571%	NG
4019	4020	68	68	1.00	1.00	5.8	0.154	300	2.0	0.61	0.043	356%	NG
4020	4021	260	328	1.03	2.03	8.6	0.278	300	19.8	1.92	0.136	204%	NG
4021	4022	57	385	0.35	7.64	9.3	1.017	400	24.8	2.61	0.328	310%	NG
4022	4023	36	421	0.53	8.17	9.7	1.071	400	55.5	3.90	0.490	219%	NG
4023	4024	446	867	4.60	12.77	14.6	1.414	400	9.1	1.58	0.199	712%	NG
4024	Out-43	170	746	0.88	33.74	13.3	4.253	800	10.5	2.70	1.357	313%	NG
4025	4028	196	196	0.97	0.97	7.2	0.153	800	22.4	3.94	1.980	8%	OK
4026	4027	976	976	12.24	12.24	15.8	1.306	400	30.2	2.88	0.362	361%	NG
4027	4028	305	1281	1.50	13.74	19.2	1.450	500	7.5	1.67	0.328	442%	NG
4028	4054	183	379	0.85	15.56	9.2	2.268	800	2.0	1.18	0.593	382%	NG
4029	4030	52	52	1.41	1.41	5.6	0.218	300	57.6	3.28	0.232	94%	OK
4030	4031	215	267	1.92	3.33	8.0	0.466	400	6.9	1.38	0.173	269%	NG
4031	4036	178	445	0.78	4.11	9.9	0.584	500	2.0	0.86	0.169	346%	NG
4032	4033	77	77	0.65	0.65	5.9	0.099	200	87.0	3.08	0.097	103%	NG
4033	4034	153	230	0.88	1.53	7.6	0.218	300	23.5	2.10	0.148	147%	NG
4034	4035	169	399	4.18	5.71	9.4	0.757	400	20.1	2.35	0.295	256%	NG
4035	4036	55	454	0.27	5.98	10.0	0.846	500	12.7	2.17	0.426	199%	NG
4036	4045	343	797	2.64	12.73	13.9	1.574	500	29.5	3.30	0.648	243%	NG
4037	4038	175	175	2.49	2.49	6.9	0.365	300	18.2	1.85	0.131	279%	NG
4038	4041	89	264	0.67	3.16	7.9	0.444	400	26.9	2.72	0.342	130%	NG
4039	4040	119	119	0.88	0.88	6.3	0.132	300	47.0	2.97	0.210	63%	OK
4040	4041	50	169	0.10	0.98	6.9	0.144	400	2.0	0.74	0.093	154%	NG
4041	4042	210	474	0.76	4.90	10.3	0.628	400	19.5	2.31	0.290	216%	NG
4042	4045	10	484	0.01	4.91	10.4	0.684	500	3.4	1.12	0.220	311%	NG
4043	4044	119	119	0.55	0.55	6.3	0.083	300	42.5	2.82	0.199	41%	OK
4044	4045	259	378	0.81	1.36	9.2	0.182	400	16.9	2.15	0.270	67%	OK
4045	4053	231	1028	1.43	20.43	16.4	2.141	400	4.3	1.09	0.137	1563%	NG
4046	4047	168	168	1.02	1.02	6.9	0.149	300	2.3	0.66	0.047	320%	NG
4047	4048	161	329	1.24	2.26	8.7	0.308	400	2.0	0.74	0.093	331%	NG
4048	4050	423	752	9.14	11.40	13.4	1.432	500	30.2	3.34	0.656	218%	NG
4049	4050	197	197	0.88	0.88	7.2	0.139	500	31.4	3.41	0.670	21%	OK
4050	Out-44	253	1005	2.78	15.06	16.2	1.588	400	7.1	1.40	0.176	902%	NG
4051	4052	354	354	6.88	6.88	8.9	0.930	400	2.8	0.88	0.111	841%	NG
4052	4053	404	758	8.05	14.93	13.4	1.876	600	9.9	2.16	0.611	307%	NG
4053	4054	70	828	0.30	35.66	14.2	4.365	600	4.2	1.41	0.399	1095%	NG
4054	4056	115	494	0.31	51.53	10.5	7.157	800	2.0	1.18	0.593	1207%	NG
4055	4056	265	265	2.53	2.53	7.9	0.388	500	8.6	1.78	0.350	111%	NG
4056	4060	99	593	0.34	54.40	11.6	7.265	800	2.0	1.18	0.593	1225%	NG
4057	4059	62	62	0.50	0.50	5.7	0.077	400	2.0	0.74	0.093	83%	OK
4058	4059	58	58	1.22	1.22	5.6	0.189	400	2.0	0.74	0.093	203%	NG
4059	4060	279	341	7.64	9.36	8.8	1.386	500	14.9	2.35	0.461	300%	NG
4060	Out-45	25	618	0.03	63.79	11.9	8.431	800	2.0	1.18	0.593	1421%	NG
4061	Out-45	712	712	4.94	4.94	12.9	0.578	400	5.7	1.25	0.157	368%	NG
4062	4064	88	88	0.27	0.27	6.0	0.045	800	2.0	1.18	0.593	8%	OK
4063	4064	258	258	2.07	2.07	7.9	0.318	600	2.0	0.97	0.274	116%	NG
4064	Out-46	93	181	0.31	2.65	7.0	0.422	800	2.0	1.18	0.593	71%	OK
4065	Out-46	461	461	3.64	3.64	10.1	0.513	600	3.6	1.30	0.368	140%	NG
4068	4070	168	168	0.80	0.80	6.9	0.128	800	2.0	1.18	0.593	22%	OK
4069	4070	77	77	0.38	0.38	5.9	0.058	400	5.1	1.18	0.148	39%	OK
4070	4078	179	347	1.02	2.20	8.9	0.324	800	5.9	2.02	1.015	32%	OK
4071	4073	155	155	1.15	1.15	6.7	0.185	800	6.4	2.10	1.056	18%	OK
4072	4073	58	58	0.28	0.28	5.6	0.043	400	2.0	0.74	0.093	47%	OK
4073	4075	176	331	1.21	2.64	8.7	0.392	500	10.7	1.99	0.391	100%	NG
4074	4075	94	94	0.45	0.45	6.0	0.068	400	5.3	1.21	0.152	45%	OK
4075	4077	74	405	0.40	3.49	9.5	0.503	600	8.1	1.95	0.551	91%	OK
4076	4077	334	334	1.20	1.20	8.7	0.178	500	8.9	1.81	0.355	50%	OK
4077	4078	94	499	0.58	5.27	10.5	0.732	800	2.0	1.18	0.593	123%	NG
4078	4102	191	538	1.83	9.30	11.0	1.269	800	7.9	2.34	1.176	108%	NG
4079	4080	107	107	1.37	1.37	6.2	0.207	400	2.0	0.74	0.093	222%	NG

No.	Down Stream	Length (m)		Area (ha)		Storm Water Quantity		Existing Pipe Specification				Capacity	
		Increment	Total	Increment	Total	Time	$Q_1(m^3/s)$	D (mm)	I (‰)	V (m/s)	$Q_2(m^3/s)$	Q_1/Q_2	Judge
4080	4082	256	363	2.72	4.09	9.0	0.551	400	7.7	1.45	0.182	302%	NG
4081	4082	165	165	0.95	0.95	6.8	0.152	800	13.9	3.10	1.558	10%	OK
4082	4085	174	537	1.18	6.22	11.0	0.848	800	10.3	2.67	1.342	63%	OK
4083	4084	80	80	0.64	0.64	5.9	0.098	400	32.5	2.99	0.376	26%	OK
4084	4085	189	269	3.11	3.75	8.0	0.573	500	2.0	0.86	0.169	339%	NG
4085	4087	182	719	1.07	11.04	13.0	1.406	600	2.0	0.97	0.274	512%	NG
4086	4087	158	158	3.57	3.57	6.8	0.573	800	10.1	2.64	1.327	43%	OK
4087	4091	78	797	0.26	14.87	13.9	1.838	800	2.0	1.18	0.593	310%	NG
4090	4091	162	162	1.27	1.27	6.8	0.204	800	2.0	1.18	0.593	34%	OK
4091	4097	96	893	0.43	16.57	14.9	1.984	800	2.0	1.18	0.593	334%	NG
4092	4094	157	157	1.16	1.16	6.7	0.187	800	9.5	2.56	1.287	15%	OK
4093	4094	69	69	0.31	0.31	5.8	0.052	600	37.6	4.21	1.190	4%	OK
4094	4096	97	254	0.39	1.86	7.8	0.286	800	2.0	1.18	0.593	48%	OK
4095	4096	87	87	0.24	0.24	6.0	0.040	800	2.0	1.18	0.593	7%	OK
4096	4097	178	432	1.28	3.38	9.8	0.482	500	2.0	0.86	0.169	285%	NG
4097	4099	215	1108	2.23	22.18	17.3	2.470	600	5.9	1.67	0.472	523%	NG
4098	4099	190	190	2.50	2.50	7.1	0.396	500	7.3	1.64	0.322	123%	NG
4099	4101	68	1176	0.35	25.03	18.1	2.724	1000	2.9	1.64	1.288	211%	NG
4100	4101	177	177	1.10	1.10	7.0	0.160	400	11.2	1.75	0.220	73%	OK
4101	4102	174	1350	1.27	27.40	20.0	2.828	1000	2.0	1.37	1.076	263%	NG
4102	Out-47	73	611	0.29	36.99	11.8	4.906	800	11.6	2.83	1.423	345%	NG
4103	Out-47	361	361	2.90	2.90	9.0	0.390	400	2.4	0.81	0.102	384%	NG
4104	4110	420	420	2.80	2.80	9.7	0.401	800	3.8	1.62	0.814	49%	OK
4105	4106	62	62	0.54	0.54	5.7	0.091	500	12.9	2.18	0.428	21%	OK
4106	4107	243	305	4.91	5.45	8.4	0.820	600	18.5	2.95	0.834	98%	OK
4107	4110	627	932	4.81	10.26	15.4	1.209	800	4.7	1.80	0.905	134%	NG
4108	4109	384	384	5.70	5.70	9.3	0.828	500	2.3	0.92	0.181	458%	NG
4109	4110	99	519	0.67	6.37	10.8	0.875	600	2.0	0.97	0.274	319%	NG
4110	4118	95	722	0.35	19.78	13.0	2.518	1000	2.0	1.37	1.076	234%	NG
4111	4112	152	152	1.46	1.46	6.7	0.235	800	34.2	4.87	2.448	10%	OK
4112	Out-48	358	510	9.88	11.34	10.7	1.564	800	13.9	3.10	1.558	100%	NG
4113	4114	177	177	3.39	3.39	7.0	0.539	500	2.2	0.90	0.177	305%	NG
4114	4115	325	502	8.68	12.07	10.6	1.670	500	11.9	2.10	0.412	405%	NG
4115	4117	166	668	0.74	12.81	12.4	1.664	500	2.0	0.86	0.169	986%	NG
4116	4117	289	289	1.68	1.68	8.2	0.233	200	2.4	0.51	0.016	1456%	NG
4117	4118	80	748	0.36	14.85	13.3	1.872	500	5.1	1.37	0.269	696%	NG
4118	4120	447	1169	8.80	43.43	18.0	4.739	1000	4.2	1.98	1.555	305%	NG
4119	4120	150	150	0.82	0.82	6.7	0.121	400	6.6	1.35	0.170	71%	OK
4120	4122	583	1752	2.62	46.87	24.5	4.314	1000	6.6	2.48	1.948	221%	NG
4121	4122	223	223	2.72	2.72	7.5	0.389	300	14.7	1.66	0.117	331%	NG
4122	4132	234	1986	4.20	53.79	27.1	4.659	1000	2.0	1.37	1.076	433%	NG
4123	4124	110	110	1.10	1.10	6.2	0.166	300	2.7	0.71	0.050	331%	NG
4124	4125	548	658	6.00	7.10	12.3	0.848	400	6.9	1.38	0.173	489%	NG
4125	4129	368	1026	4.50	11.60	16.4	1.327	500	18.4	2.61	0.512	259%	NG
4126	4127	473	473	6.90	6.90	10.3	0.885	400	9.0	1.57	0.197	448%	NG
4127	4128	341	814	7.50	14.40	14.0	1.626	300	7.6	1.19	0.084	1933%	NG
4128	4129	197	1011	1.50	15.90	16.2	1.676	400	11.6	1.78	0.224	749%	NG
4129	4131	130	1156	0.80	28.30	17.8	2.846	400	37.6	3.21	0.403	706%	NG
4130	4131	435	435	5.90	5.90	9.8	0.771	400	33.5	3.03	0.381	202%	NG
4131	4132	213	1369	0.90	35.10	20.2	3.302	400	2.0	0.74	0.093	3551%	NG
4132	Out-49	0	1986	0.00	88.89	27.1	7.699	1000	2.0	1.37	1.076	715%	NG
5001	5002	94	94	0.50	0.50	6.0	0.076	400	28.7	2.81	0.353	22%	OK
5002	5006	519	613	5.35	5.85	11.8	0.776	1000	7.3	2.61	2.050	38%	OK
5003	5004	100	100	0.50	0.50	6.1	0.076	300	7.9	1.22	0.086	88%	OK
5004	5005	350	450	2.70	3.20	10.0	0.415	400	11.1	1.75	0.220	189%	NG
5005	5006	179	629	4.15	7.35	12.0	0.968	1000	11.7	3.30	2.592	37%	OK
5006	Out-51	195	824	1.10	14.30	14.2	1.751	1000	6.6	2.48	1.948	90%	OK
6001	6002	87	87	0.30	0.30	6.0	0.046	200	14.9	1.27	0.040	114%	NG
6002	6003	273	360	4.20	4.50	9.0	0.606	300	13.1	1.57	0.111	546%	NG
6003	6006	358	718	4.80	9.30	13.0	1.085	300	8.3	1.25	0.088	1228%	NG
6004	6005	216	216	2.40	2.40	7.4	0.344	200	14.4	1.25	0.039	877%	NG
6005	6006	396	612	4.60	7.00	11.8	0.851	300	25.0	2.16	0.153	557%	NG
6006	6009	225	943	2.30	18.60	15.5	2.003	400	16.4	2.12	0.266	752%	NG

No.	Down Stream	Length (m)		Area (ha)		Storm Water Quantity		Existing Pipe Specification				Capacity	
		Increment	Total	Increment	Total	Time	$Q_1(m^3/s)$	D (mm)	I (‰)	V (m/s)	$Q_2(m^3/s)$	Q_1/Q_2	Judge
6007	6008	117	117	1.10	1.10	6.3	0.165	300	2.0	0.61	0.043	383%	NG
6008	6009	290	407	2.40	3.50	9.5	0.462	400	2.0	0.74	0.093	497%	NG
6009	6013	48	991	0.20	22.30	16.0	2.365	300	2.0	0.61	0.043	5485%	NG
6010	6011	350	350	3.00	3.00	8.9	0.405	200	19.1	1.44	0.045	896%	NG
6011	6012	260	610	4.50	7.50	11.8	0.911	300	13.0	1.56	0.110	827%	NG
6012	6013	215	825	1.30	8.80	14.2	0.987	400	5.5	1.23	0.155	639%	NG
6013	Out-61	961	1952	0.00	31.10	26.7	2.491	400	2.0	0.74	0.093	2679%	NG
7001	7002	451	451	4.08	4.08	10.0	0.529	200	23.9	1.61	0.051	1046%	NG
7002	7003	100	551	3.50	7.58	11.1	0.944	200	12.0	1.14	0.036	2636%	NG
7003	7004	160	711	3.10	10.68	12.9	1.364	600	21.8	3.21	0.908	150%	NG
7004	Out-71	250	961	14.90	25.58	15.7	2.988	600	12.8	2.46	0.696	430%	NG