

Ujjain Underground Sewerage Scheme-Sewer Network Design 1/3

SL	Starting Node	Ending Node	Chainage	Intial Population 2020	Initial Ultimate Population (Pi)	Contributory Population (Pc)	Total Ultimate population (Pu) 2050	Dry Weather Flow in LPS	Infiltration in LPS	Total Ultimate Flow in LPS	Peak Factor for Q20 (Initial Flow)	Peak Factor for Q50 (Ultimate Flow)	Qp20 (Initial Flow)	Qp50 (Ultimate Flow)	Type of Pipe	Pipe Dia (in m)
1	JM-3	MH-81	100	1284	2384	0	2384	2.98	0.0116	2.992	3	3	4.815	8.976	DWC NP3	0.8
2	MH-81	MH-80	220.92	1552	2883	2384	5268	6.58	0.0116	6.596	3	3	5.822	19.788	DWC NP3	0.8
3	MH-80	MH-79	472.21	3226	5992	5268	11259	14.07	0.0116	14.086	3	3	12.099	42.257	DWC NP3	0.8
4	MH-79	MH-78	806.23	4288	7964	11259	19224	24.03	0.0116	24.041	3	3	16.082	72.123	DWC NP3	0.8
5	MH-78	MH-77	900.47	1210	2247	19224	21471	26.84	0.0116	26.850	3	2.5	4.537	67.125	DWC NP3	0.8
6	MH-77	MH-76	1017.81	1507	2798	21471	24269	30.34	0.0116	30.347	3	2.5	5.649	75.868	DWC NP3	0.8
7	MH-76	MH-75	1449.77	5546	10300	24269	34568	43.21	0.0116	43.222	3	2.5	20.797	108.054	DWC NP3	0.8
8	MH-75	MH-74	1702.88	3250	6035	34568	40603	50.75	0.0116	50.766	3	2.5	12.186	126.914	DWC NP3	0.8
9	MH-74	MH-73	1981.47	3577	6643	40603	47246	59.06	0.0116	59.069	3	2.5	13.413	147.672	DWC NP3	0.8
10	MH-73	MH-72	2256.21	3527	6551	47246	53797	67.25	0.0116	67.257	3	2.25	13.228	151.329	DWC NP3	0.8
11	MH-72	MH-71	2483.38	2917	5417	53797	59213	74.02	0.0116	74.028	3	2.25	10.937	166.564	DWC NP3	0.8
12	MH-71	MH-70	2629.25	1873	3478	59213	62691	78.36	0.0116	78.376	3	2.25	7.023	176.346	DWC NP3	0.8
13	MH-70	MH-69	2726.07	1243	2309	62691	65000	81.25	0.0116	81.262	3	2.25	4.662	182.839	DWC NP3	0.8

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SL	Starting Node	Ending Node	Qfull by Manning's Formula in LPS	Q20/Qfull	Q50/Qfull	Vfull(Vf) by Manning's formula	V20/Vf	V50/Vf	V20 Actual	V50 Actual	Depth ratio corresponding to calculated discharge ratio (d / D) for designed year 50	Remarks
1	JM-3	MH-81	922.94	0.005	0.010	1.678	0.257	0.401	0.43	0.67	0.10	d/D ratio and V50 been very small may be ignored since downstream velocity arriving is quite sartisfactory
2	MH-81	MH-80	652.62	0.009	0.030	1.187	0.401	0.517	0.48	0.61	0.10	
3	MH-80	MH-79	652.62	0.019	0.065	1.187	0.401	0.615	0.48	0.73	0.10	
4	MH-79	MH-78	652.62	0.025	0.111	1.187	0.517	0.701	0.61	0.83	0.15	
5	MH-78	MH-77	652.62	0.007	0.103	1.187	0.401	0.701	0.48	0.83	0.10	
6	MH-77	MH-76	652.62	0.009	0.116	1.187	0.401	0.701	0.48	0.83	0.10	
7	MH-76	MH-75	1598.58	0.013	0.068	2.907	0.401	0.615	1.17	1.79	0.10	
8	MH-75	MH-74	1598.58	0.008	0.079	2.907	0.401	0.615	1.17	1.79	0.10	
9	MH-74	MH-73	461.47	0.029	0.320	0.839	0.517	0.902	0.43	0.76	0.15	
10	MH-73	MH-72	461.47	0.029	0.328	0.839	0.517	0.902	0.43	0.76	0.15	
11	MH-72	MH-71	461.47	0.024	0.361	0.839	0.517	0.954	0.43	0.80	0.15	
12	MH-71	MH-70	399.64	0.018	0.441	0.727	0.401	1	0.29	0.73	0.10	
13	MH-70	MH-69	2918.59	0.002	0.063	5.307	0.257	0.615	1.36	3.26	0.05	

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SL	Node	G.L	Slope Available	Provided slope	Invert level	Pipe Dia (in m)	Thickness	Crown level	Excavation level	Depth of Excavation	Difference between invert level and Excavation level	Difference between GL and Crown level	Depth of Manhole
1	JM-3	488.038	0.0037	0.0000	486.538	0.8	0.05	487.388	486.288	1.750	0.250	0.650	1.500
2	MH-81	487.668	0.0038	0.0017	486.336	0.8	0.05	487.186	486.086	1.582	0.250	0.482	1.332
3	MH-80	488.133	0.0001	0.0017	485.918	0.8	0.05	486.768	485.668	2.465	0.250	1.365	2.215
4	MH-79	488.17	0.0023	0.0017	485.361	0.8	0.05	486.211	485.111	3.059	0.250	1.959	2.809
5	MH-78	488.945	0.0100	0.0017	485.204	0.8	0.05	486.054	484.954	3.991	0.250	2.891	3.741
6	MH-77	488.005	0.0150	0.0017	485.008	0.8	0.05	485.858	484.758	3.247	0.250	2.147	2.997
7	MH-76	486.243	0.0095	0.0100	480.689	0.8	0.05	481.539	480.439	5.804	0.250	4.704	5.554
8	MH-75	482.134	0.0028	0.0100	478.158	0.8	0.05	479.008	477.908	4.226	0.250	3.126	3.976
9	MH-74	482.846	0.0029	0.0008	477.925	0.8	0.05	478.775	477.675	5.171	0.250	4.071	4.921
10	MH-73	483.656	0.0034	0.0008	477.697	0.8	0.05	478.547	477.447	6.209	0.250	5.109	5.959
11	MH-72	484.595	0.0035	0.0008	477.507	0.8	0.05	478.357	477.257	7.338	0.250	6.238	7.088
12	MH-71	485.381	0.0689	0.0006	477.416	0.8	0.05	478.266	477.166	8.215	0.250	7.115	7.965
13	MH-70	475.326	0.1039	0.0333	474.189	0.8	0.05	475.039	473.939	1.387	0.250	0.287	1.137