

Superseded

Iesis Limited		Page 1																																																																																																																																																																																																																																																																																														
45 Oakfield Road Clifton Bristol BS8 2AX	Heritage Gate NEATH																																																																																																																																																																																																																																																																																															
Date Oct 2019	Designed by NR																																																																																																																																																																																																																																																																																															
File FW2.MDX	Checked by																																																																																																																																																																																																																																																																																															
Innovyze	Network 2018.1.1																																																																																																																																																																																																																																																																																															
FOUL SEWERAGE DESIGN Design Criteria for Foul Network 2 Pipe Sizes STANDARD Manhole Sizes STANDARD Industrial Flow (l/s/ha) 0.00 Add Flow / Climate Change (%) 0 Industrial Peak Flow Factor 0.00 Minimum Backdrop Height (m) 0.200 Flow Per Person (l/per/day) 222.00 Maximum Backdrop Height (m) 1.500 Persons per House 3.00 Min Design Depth for Optimisation (m) 1.200 Domestic (l/s/ha) 0.00 Min Vel for Auto Design only (m/s) 1.00 Domestic Peak Flow Factor 6.00 Min Slope for Optimisation (1:X) 500 Designed with Level Soffits																																																																																																																																																																																																																																																																																																
Network Design Table for Foul Network 2 <table><tr><th>PN</th><th>Length (m)</th><th>Fall (m)</th><th>Slope (1:X)</th><th>Area (ha)</th><th>Houses</th><th>Base Flow (l/s)</th><th>k (mm)</th><th>HYD SECT</th><th>DIA (mm)</th><th>Auto Design</th></tr><tr><td>1.000</td><td>27.255</td><td>0.654</td><td>41.7</td><td>0.000</td><td>12</td><td>0.0</td><td>1.500</td><td>o</td><td>150</td><td></td></tr><tr><td>1.001</td><td>34.324</td><td>1.716</td><td>20.0</td><td>0.000</td><td>5</td><td>0.0</td><td>1.500</td><td>o</td><td>150</td><td></td></tr><tr><td>1.002</td><td>29.041</td><td>2.030</td><td>14.3</td><td>0.000</td><td>2</td><td>0.0</td><td>1.500</td><td>o</td><td>150</td><td></td></tr><tr><td>2.000</td><td>34.652</td><td>2.475</td><td>14.0</td><td>0.000</td><td>7</td><td>0.0</td><td>1.500</td><td>o</td><td>150</td><td></td></tr><tr><td>2.001</td><td>15.063</td><td>1.225</td><td>12.3</td><td>0.000</td><td>4</td><td>0.0</td><td>1.500</td><td>o</td><td>150</td><td></td></tr><tr><td>1.003</td><td>22.674</td><td>1.134</td><td>20.0</td><td>0.000</td><td>0</td><td>0.0</td><td>1.500</td><td>o</td><td>150</td><td></td></tr><tr><td>1.004</td><td>41.876</td><td>2.792</td><td>15.0</td><td>0.000</td><td>10</td><td>0.0</td><td>1.500</td><td>o</td><td>150</td><td></td></tr><tr><td>1.005</td><td>53.980</td><td>4.900</td><td>11.0</td><td>0.000</td><td>5</td><td>0.0</td><td>1.500</td><td>o</td><td>150</td><td></td></tr><tr><td>1.006</td><td>27.052</td><td>0.241</td><td>112.2</td><td>0.000</td><td>6</td><td>0.0</td><td>1.500</td><td>o</td><td>150</td><td></td></tr><tr><td>1.007</td><td>32.313</td><td>1.475</td><td>21.9</td><td>0.000</td><td>0</td><td>0.0</td><td>1.500</td><td>o</td><td>150</td><td></td></tr><tr><td>1.008</td><td>25.462</td><td>0.509</td><td>50.0</td><td>0.000</td><td>0</td><td>0.0</td><td>1.500</td><td>o</td><td>150</td><td></td></tr><tr><td>1.009</td><td>9.833</td><td>0.099</td><td>99.3</td><td>0.000</td><td>6</td><td>0.0</td><td>1.500</td><td>o</td><td>150</td><td></td></tr></table> Network Results Table <table><tr><th>PN</th><th>US/IL (m)</th><th>Σ Area (ha)</th><th>Σ Base Flow (l/s)</th><th>Σ Hse</th><th>Add Flow (l/s)</th><th>P.Dep (mm)</th><th>P.Vel (m/s)</th><th>Vel (m/s)</th><th>Cap (l/s)</th><th>Flow (l/s)</th></tr><tr><td>1.000</td><td>57.700</td><td>0.000</td><td>0.0</td><td>12</td><td>0.0</td><td>16</td><td>0.55</td><td>1.36</td><td>24.0</td><td>0.6</td></tr><tr><td>1.001</td><td>57.046</td><td>0.000</td><td>0.0</td><td>17</td><td>0.0</td><td>16</td><td>0.79</td><td>1.96</td><td>34.7</td><td>0.8</td></tr><tr><td>1.002</td><td>55.330</td><td>0.000</td><td>0.0</td><td>19</td><td>0.0</td><td>15</td><td>0.92</td><td>2.32</td><td>41.1</td><td>0.9</td></tr><tr><td>2.000</td><td>57.000</td><td>0.000</td><td>0.0</td><td>7</td><td>0.0</td><td>10</td><td>0.67</td><td>2.35</td><td>41.5</td><td>0.3</td></tr><tr><td>2.001</td><td>54.525</td><td>0.000</td><td>0.0</td><td>11</td><td>0.0</td><td>12</td><td>0.81</td><td>2.51</td><td>44.3</td><td>0.5</td></tr><tr><td>1.003</td><td>53.300</td><td>0.000</td><td>0.0</td><td>30</td><td>0.0</td><td>21</td><td>0.94</td><td>1.97</td><td>34.7</td><td>1.4</td></tr><tr><td>1.004</td><td>52.166</td><td>0.000</td><td>0.0</td><td>40</td><td>0.0</td><td>22</td><td>1.14</td><td>2.27</td><td>40.1</td><td>1.9</td></tr><tr><td>1.005</td><td>49.374</td><td>0.000</td><td>0.0</td><td>45</td><td>0.0</td><td>22</td><td>1.31</td><td>2.65</td><td>46.8</td><td>2.1</td></tr><tr><td>1.006</td><td>44.474</td><td>0.000</td><td>0.0</td><td>51</td><td>0.0</td><td>41</td><td>0.60</td><td>0.83</td><td>14.6</td><td>2.4</td></tr><tr><td>1.007</td><td>44.233</td><td>0.000</td><td>0.0</td><td>51</td><td>0.0</td><td>27</td><td>1.07</td><td>1.88</td><td>33.2</td><td>2.4</td></tr><tr><td>1.008</td><td>42.758</td><td>0.000</td><td>0.0</td><td>51</td><td>0.0</td><td>33</td><td>0.80</td><td>1.24</td><td>21.9</td><td>2.4</td></tr><tr><td>1.009</td><td>42.249</td><td>0.000</td><td>0.0</td><td>57</td><td>0.0</td><td>42</td><td>0.65</td><td>0.88</td><td>15.5</td><td>2.6</td></tr></table> ©1982-2018 Innovyze			PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Houses	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Auto Design	1.000	27.255	0.654	41.7	0.000	12	0.0	1.500	o	150		1.001	34.324	1.716	20.0	0.000	5	0.0	1.500	o	150		1.002	29.041	2.030	14.3	0.000	2	0.0	1.500	o	150		2.000	34.652	2.475	14.0	0.000	7	0.0	1.500	o	150		2.001	15.063	1.225	12.3	0.000	4	0.0	1.500	o	150		1.003	22.674	1.134	20.0	0.000	0	0.0	1.500	o	150		1.004	41.876	2.792	15.0	0.000	10	0.0	1.500	o	150		1.005	53.980	4.900	11.0	0.000	5	0.0	1.500	o	150		1.006	27.052	0.241	112.2	0.000	6	0.0	1.500	o	150		1.007	32.313	1.475	21.9	0.000	0	0.0	1.500	o	150		1.008	25.462	0.509	50.0	0.000	0	0.0	1.500	o	150		1.009	9.833	0.099	99.3	0.000	6	0.0	1.500	o	150		PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Hse	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	1.000	57.700	0.000	0.0	12	0.0	16	0.55	1.36	24.0	0.6	1.001	57.046	0.000	0.0	17	0.0	16	0.79	1.96	34.7	0.8	1.002	55.330	0.000	0.0	19	0.0	15	0.92	2.32	41.1	0.9	2.000	57.000	0.000	0.0	7	0.0	10	0.67	2.35	41.5	0.3	2.001	54.525	0.000	0.0	11	0.0	12	0.81	2.51	44.3	0.5	1.003	53.300	0.000	0.0	30	0.0	21	0.94	1.97	34.7	1.4	1.004	52.166	0.000	0.0	40	0.0	22	1.14	2.27	40.1	1.9	1.005	49.374	0.000	0.0	45	0.0	22	1.31	2.65	46.8	2.1	1.006	44.474	0.000	0.0	51	0.0	41	0.60	0.83	14.6	2.4	1.007	44.233	0.000	0.0	51	0.0	27	1.07	1.88	33.2	2.4	1.008	42.758	0.000	0.0	51	0.0	33	0.80	1.24	21.9	2.4	1.009	42.249	0.000	0.0	57	0.0	42	0.65	0.88	15.5	2.6
PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Houses	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Auto Design																																																																																																																																																																																																																																																																																						
1.000	27.255	0.654	41.7	0.000	12	0.0	1.500	o	150																																																																																																																																																																																																																																																																																							
1.001	34.324	1.716	20.0	0.000	5	0.0	1.500	o	150																																																																																																																																																																																																																																																																																							
1.002	29.041	2.030	14.3	0.000	2	0.0	1.500	o	150																																																																																																																																																																																																																																																																																							
2.000	34.652	2.475	14.0	0.000	7	0.0	1.500	o	150																																																																																																																																																																																																																																																																																							
2.001	15.063	1.225	12.3	0.000	4	0.0	1.500	o	150																																																																																																																																																																																																																																																																																							
1.003	22.674	1.134	20.0	0.000	0	0.0	1.500	o	150																																																																																																																																																																																																																																																																																							
1.004	41.876	2.792	15.0	0.000	10	0.0	1.500	o	150																																																																																																																																																																																																																																																																																							
1.005	53.980	4.900	11.0	0.000	5	0.0	1.500	o	150																																																																																																																																																																																																																																																																																							
1.006	27.052	0.241	112.2	0.000	6	0.0	1.500	o	150																																																																																																																																																																																																																																																																																							
1.007	32.313	1.475	21.9	0.000	0	0.0	1.500	o	150																																																																																																																																																																																																																																																																																							
1.008	25.462	0.509	50.0	0.000	0	0.0	1.500	o	150																																																																																																																																																																																																																																																																																							
1.009	9.833	0.099	99.3	0.000	6	0.0	1.500	o	150																																																																																																																																																																																																																																																																																							
PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Hse	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)																																																																																																																																																																																																																																																																																						
1.000	57.700	0.000	0.0	12	0.0	16	0.55	1.36	24.0	0.6																																																																																																																																																																																																																																																																																						
1.001	57.046	0.000	0.0	17	0.0	16	0.79	1.96	34.7	0.8																																																																																																																																																																																																																																																																																						
1.002	55.330	0.000	0.0	19	0.0	15	0.92	2.32	41.1	0.9																																																																																																																																																																																																																																																																																						
2.000	57.000	0.000	0.0	7	0.0	10	0.67	2.35	41.5	0.3																																																																																																																																																																																																																																																																																						
2.001	54.525	0.000	0.0	11	0.0	12	0.81	2.51	44.3	0.5																																																																																																																																																																																																																																																																																						
1.003	53.300	0.000	0.0	30	0.0	21	0.94	1.97	34.7	1.4																																																																																																																																																																																																																																																																																						
1.004	52.166	0.000	0.0	40	0.0	22	1.14	2.27	40.1	1.9																																																																																																																																																																																																																																																																																						
1.005	49.374	0.000	0.0	45	0.0	22	1.31	2.65	46.8	2.1																																																																																																																																																																																																																																																																																						
1.006	44.474	0.000	0.0	51	0.0	41	0.60	0.83	14.6	2.4																																																																																																																																																																																																																																																																																						
1.007	44.233	0.000	0.0	51	0.0	27	1.07	1.88	33.2	2.4																																																																																																																																																																																																																																																																																						
1.008	42.758	0.000	0.0	51	0.0	33	0.80	1.24	21.9	2.4																																																																																																																																																																																																																																																																																						
1.009	42.249	0.000	0.0	57	0.0	42	0.65	0.88	15.5	2.6																																																																																																																																																																																																																																																																																						