ARCH ASSOCIATES

# APPENDIX 2

# REVISED SURFACE WATER DRAINAGE CALCULATIONS

## Simulation Settings

| | | | |
|---|---|---|---|
| Rainfall Methodology | FEH-22 | Drain Down Time (mins) | 240 |
| Rainfall Events | Singular | Additional Storage (m³/ha) | 0.0 |
| Summer CV | 1.000 | Starting Level (m) | |
| Winter CV | 1.000 | Check Discharge Rate(s) | x |
| Analysis Speed | Detailed | Check Discharge Volume | x |
| Skip Steady State | x | | |

### Storm Durations

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15 | 60 | 180 | 360 | 600 | 960 | 2160 | 4320 | 7200 | 10080 |
| 30 | 120 | 240 | 480 | 720 | 1440 | 2880 | 5760 | 8640 | |

| Return Period (years) | Climate Change (CC %) | Additional Area (A %) | Additional Flow (Q %) |
|---|---|---|---|
| 1 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 |
| 30 | 40 | 0 | 0 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Design Settings

| | | | |
|---|---|---|---|
| Rainfall Methodology | FEH-22 | Minimum Velocity (m/s) | 1.00 |
| Return Period (years) | 2 | Connection Type | Level Soffits |
| Additional Flow (%) | 0 | Minimum Backdrop Height (m) | 0.200 |
| CV | 1.000 | Preferred Cover Depth (m) | 1.200 |
| Time of Entry (mins) | 5.00 | Include Intermediate Ground | ✓ |
| Maximum Time of Concentration (mins) | 30.00 | Enforce best practice design rules | ✓ |
| Maximum Rainfall (mm/hr) | 100.0 | | |

## Nodes

| Name | Area (ha) | T of E (mins) | Cover Level (m) | Diameter (mm) | Easting (m) | Northing (m) | Depth (m) | Invert Level (m) |
|---|---|---|---|---|---|---|---|---|
| ATT. TANK 1 | 0.010 | 5.00 | 56.050 | | 517849.845 | 131708.585 | 1.150 | 54.900 |
| 28 | 0.023 | 5.00 | 55.939 | 450 | 517846.382 | 131711.141 | 0.933 | 55.006 |
| 25 | 0.025 | 5.00 | 55.682 | 1200 | 517858.513 | 131679.298 | 1.070 | 54.612 |
| 24 | 0.032 | 5.00 | 55.656 | 1200 | 517864.466 | 131667.969 | 1.096 | 54.560 |
| 19 | 0.008 | 5.00 | 57.462 | 1200 | 517965.671 | 131650.708 | 2.508 | 54.954 |
| 22 | 0.040 | 5.00 | 57.142 | 1200 | 518023.651 | 131607.590 | 1.531 | 55.611 |
| 21 | 0.045 | 5.00 | 57.427 | 1200 | 518031.924 | 131649.627 | 2.068 | 55.359 |
| 20 | 0.063 | 5.00 | 57.179 | 1200 | 518014.510 | 131653.054 | 1.924 | 55.255 |
| MH33 | | | 56.256 | | 517849.632 | 131719.735 | 1.416 | 54.840 |
| ATT. TANK 6 | 0.097 | 5.00 | 56.699 | | 517956.593 | 131585.062 | 1.464 | 55.235 |
| PP8 | 0.071 | 5.00 | 57.140 | | 517997.731 | 131589.449 | 1.070 | 56.070 |
| ATT. TANK 4 | | | 57.360 | | 517955.812 | 131650.234 | 2.425 | 54.935 |
| 3 | | | 56.605 | 1500 | 517916.467 | 131697.466 | 2.276 | 54.329 |
| 31 | 0.095 | 5.00 | 57.047 | 1350 | 517983.529 | 131561.822 | 1.481 | 55.566 |
| J2 | 0.017 | 5.00 | 57.221 | | 517982.245 | 131588.641 | 1.470 | 55.751 |
| PP7 | 0.031 | 5.00 | 57.440 | | 517996.212 | 131622.424 | 0.820 | 56.620 |
| 32 | 0.079 | 5.00 | 57.411 | 1200 | 517980.886 | 131616.837 | 1.545 | 55.866 |
| ATT. TANK 5 | 0.031 | 5.00 | 57.080 | | 518006.536 | 131652.671 | 1.840 | 55.240 |
| 18 | 0.017 | 5.00 | 57.236 | 1200 | 517942.048 | 131649.573 | 2.314 | 54.922 |
| PP6 | 0.044 | 5.00 | 57.000 | | 517942.177 | 131635.020 | 0.820 | 56.180 |
| 17 | 0.032 | 5.00 | 57.160 | 1500 | 517935.991 | 131645.548 | 2.356 | 54.804 |
| 16 | 0.071 | 5.00 | 56.066 | 1200 | 517904.423 | 131624.573 | 1.417 | 54.649 |
| DIVERSION MH | | | 56.161 | | 517929.927 | 131574.833 | 0.990 | 55.171 |
| Rain Garden 2 | | 5.00 | 56.767 | | 517890.695 | 131741.804 | 0.400 | 56.367 |
| 15 | 0.053 | 5.00 | 57.385 | 1200 | 517908.190 | 131795.187 | 1.800 | 55.585 |
| 14 | 0.047 | 5.00 | 56.328 | 1200 | 517880.595 | 131757.793 | 1.439 | 54.889 |
| Rain Garden 1 | | 5.00 | 56.904 | | 517897.668 | 131751.372 | 0.400 | 56.504 |
| 10 | | | 57.798 | 1200 | 517974.176 | 131775.736 | 2.022 | 55.776 |
| PP2 | 0.089 | 5.00 | 56.590 | | 517894.226 | 131723.236 | 1.220 | 55.370 |
| PP1 | 0.089 | 5.00 | 56.780 | | 517916.519 | 131753.271 | 1.170 | 55.610 |
| J4 | 0.060 | 5.00 | 56.600 | | 517905.806 | 131739.204 | 1.839 | 54.761 |
| Rain Garden 3 | 0.016 | 5.00 | 57.273 | | 517924.044 | 131731.815 | 0.400 | 56.873 |
| Rain Garden 4 | 0.016 | 5.00 | 57.106 | | 517917.071 | 131722.357 | 0.400 | 56.706 |
| 33 | | | 56.565 | 1350 | 517948.346 | 131584.693 | 1.334 | 55.231 |
| PP3 | 0.035 | 5.00 | 58.120 | | 517998.367 | 131772.535 | 0.820 | 57.300 |
| 12 | 0.022 | 5.00 | 58.311 | 1200 | 518020.938 | 131779.639 | 2.133 | 56.178 |
| J5 | 0.027 | 5.00 | 58.189 | | 518002.267 | 131785.367 | 2.126 | 56.063 |
| 27 | | | 56.175 | 600 | 517853.359 | 131713.350 | 1.281 | 54.894 |
| 13 | 0.036 | 5.00 | 57.829 | 1200 | 517950.194 | 131801.344 | 1.728 | 56.101 |
| 11 | 0.029 | 5.00 | 58.005 | 1200 | 517979.294 | 131792.416 | 2.158 | 55.847 |
| 9 | 0.043 | 5.00 | 57.602 | 1200 | 517964.948 | 131763.220 | 2.815 | 54.787 |
| ATT. TANK 3 | 0.088 | 5.00 | 57.464 | | 517956.959 | 131752.384 | 2.699 | 54.765 |
| PP5 | 0.094 | 5.00 | 57.100 | | 517951.152 | 131689.157 | 0.770 | 56.330 |
| 7 | 0.023 | 5.00 | 58.328 | 1200 | 518039.652 | 131758.335 | 1.725 | 56.603 |
| 6 | 0.119 | 5.00 | 58.098 | 1200 | 518033.328 | 131737.721 | 2.994 | 55.104 |
| 34 | | 5.00 | 57.300 | 450 | 517997.742 | 131554.501 | 1.349 | 55.951 |
| 8 | | 5.00 | 57.378 | 450 | 517953.612 | 131693.218 | 1.494 | 55.884 |
| 5 | 0.151 | 5.00 | 57.269 | 1350 | 517976.716 | 131686.922 | 2.550 | 54.719 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Nodes

| Name | Area (ha) | T of E (mins) | Cover Level (m) | Diameter (mm) | Easting (m) | Northing (m) | Depth (m) | Invert Level (m) |
|---|---|---|---|---|---|---|---|---|
| PP4 | 0.097 | 5.00 | 57.420 | | 517965.217 | 131708.263 | 0.870 | 56.550 |
| J6 | 0.023 | 5.00 | 57.140 | | 517959.023 | 131699.967 | 2.489 | 54.651 |
| 4 | 0.079 | 5.00 | 57.025 | 1500 | 517932.649 | 131719.413 | 2.625 | 54.400 |
| 2 | 0.021 | 5.00 | 56.380 | 1800 | 517898.278 | 131672.796 | 2.066 | 54.314 |
| 23 | | 5.00 | 57.407 | 450 | 517959.969 | 131647.555 | 1.393 | 56.014 |
| 1 | 0.025 | 5.00 | 55.783 | 2400 | 517877.897 | 131655.146 | 1.527 | 54.256 |
| MH91 | | | 55.690 | | 517873.297 | 131650.814 | 1.450 | 54.240 |
| 26 | 0.045 | 5.00 | 56.029 | 1200 | 517851.964 | 131720.069 | 1.175 | 54.854 |
| 29 | 0.013 | 5.00 | 56.253 | 1500 | 517936.277 | 131572.973 | 1.066 | 55.187 |
| ATT. TANK 2 | 0.090 | 5.00 | 56.375 | | 517908.202 | 131686.256 | 2.050 | 54.325 |
| Rain Garden 5 | 0.016 | 5.00 | 57.250 | | 517939.637 | 131705.015 | 0.400 | 56.850 |
| Rain Garden 6 | 0.014 | 5.00 | 57.650 | | 517972.893 | 131637.406 | 0.400 | 57.250 |
| Rain Garden 7 | 0.018 | 5.00 | 57.440 | | 517974.433 | 131604.515 | 0.400 | 57.040 |
| 30 | | | 56.544 | 1350 | 517955.179 | 131543.587 | 1.271 | 55.273 |

## Links

| Name | US Node | DS Node | Length (m) | ks (mm) / n | US IL (m) | DS IL (m) | Fall (m) | Slope (1:X) | Dia (mm) | T of C (mins) | Rain (mm/hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.009 | 1 | MH91 | 4.963 | 0.600 | 54.256 | 54.240 | 0.016 | 310.2 | 600 | 8.30 | 41.6 |
| 20.001 | 24 | 1 | 18.569 | 0.600 | 54.560 | 54.484 | 0.076 | 245.0 | 300 | 5.52 | 51.8 |
| 16.004 | 19 | ATT. TANK 4 | 1.871 | 0.600 | 54.954 | 54.935 | 0.019 | 98.5 | 225 | 6.56 | 47.8 |
| 16.005 | ATT. TANK 4 | 18 | 1.780 | 0.600 | 54.935 | 54.922 | 0.013 | 136.9 | 225 | 6.58 | 47.7 |
| 1.007 | 2 | 1 | 26.961 | 0.600 | 54.314 | 54.259 | 0.055 | 490.0 | 525 | 8.24 | 42.7 |
| 1.004 | 4 | 3 | 27.268 | 0.600 | 54.400 | 54.329 | 0.071 | 384.1 | 525 | 7.69 | 44.2 |
| 1.005 | 3 | ATT. TANK 2 | 1.527 | 0.600 | 54.329 | 54.325 | 0.004 | 381.8 | 525 | 7.71 | 44.2 |
| 5.005 | ATT. TANK 3 | 4 | 32.963 | 0.600 | 54.765 | 54.625 | 0.140 | 235.5 | 300 | 6.71 | 47.3 |
| 1.003 | J6 | 4 | 32.768 | 0.600 | 54.651 | 54.550 | 0.101 | 325.0 | 375 | 7.29 | 45.4 |
| 2.000 | PP5 | J6 | 13.372 | 0.600 | 56.330 | 55.834 | 0.496 | 27.0 | 225 | 5.09 | 53.6 |
| 1.002 | 5 | J6 | 21.982 | 0.600 | 54.719 | 54.651 | 0.068 | 325.0 | 375 | 6.74 | 47.2 |
| 3.000 | PP4 | J6 | 10.353 | 0.600 | 56.550 | 56.446 | 0.104 | 100.0 | 225 | 5.13 | 53.4 |
| 25.001 | 33 | 29 | 16.823 | 0.600 | 55.231 | 55.187 | 0.044 | 382.3 | 450 | 5.30 | 52.7 |
| 24.000 | 34 | 31 | 15.988 | 0.600 | 55.951 | 55.791 | 0.160 | 99.9 | 150 | 5.27 | 52.9 |
| 1.001 | 6 | 5 | 76.062 | 0.600 | 55.104 | 54.794 | 0.310 | 245.0 | 300 | 6.37 | 48.5 |
| 1.000 | 7 | 6 | 21.562 | 0.600 | 56.603 | 55.179 | 1.424 | 15.1 | 225 | 5.11 | 53.5 |

| Name | Vel (m/s) | Cap (l/s) | Flow (l/s) | US Depth (m) | DS Depth (m) | Σ Area (ha) | Σ Add Inflow (l/s) | Pro Depth (mm) | Pro Velocity (m/s) |
|---|---|---|---|---|---|---|---|---|---|
| 1.009 | 1.377 | 389.3 | 272.0 | 0.927 | 0.850 | 1.809 | 0.0 | 371 | 1.484 |
| 20.001 | 1.000 | 70.7 | 10.8 | 0.796 | 0.999 | 0.058 | 0.0 | 79 | 0.728 |
| 16.004 | 1.317 | 52.4 | 34.7 | 2.283 | 2.200 | 0.201 | 0.0 | 134 | 1.406 |
| 16.005 | 1.115 | 44.3 | 34.6 | 2.200 | 2.089 | 0.201 | 0.0 | 150 | 1.230 |
| 1.007 | 1.005 | 217.5 | 210.3 | 1.541 | 0.999 | 1.362 | 0.0 | 418 | 1.137 |
| 1.004 | 1.137 | 246.1 | 199.9 | 2.100 | 1.751 | 1.251 | 0.0 | 361 | 1.260 |
| 1.005 | 1.140 | 246.8 | 199.6 | 1.751 | 1.525 | 1.251 | 0.0 | 360 | 1.263 |
| 5.005 | 1.020 | 72.1 | 47.7 | 2.399 | 2.100 | 0.279 | 0.0 | 178 | 1.088 |
| 1.003 | 0.999 | 110.4 | 83.4 | 2.114 | 2.100 | 0.508 | 0.0 | 244 | 1.094 |
| 2.000 | 2.529 | 100.6 | 18.2 | 0.545 | 1.081 | 0.094 | 0.0 | 65 | 1.933 |
| 1.002 | 0.999 | 110.4 | 50.1 | 2.175 | 2.114 | 0.294 | 0.0 | 177 | 0.975 |
| 3.000 | 1.307 | 52.0 | 18.8 | 0.645 | 0.469 | 0.097 | 0.0 | 94 | 1.205 |
| 25.001 | 1.033 | 164.4 | 18.6 | 0.884 | 0.616 | 0.097 | 0.0 | 102 | 0.694 |
| 24.000 | 1.005 | 17.8 | 0.0 | 1.199 | 1.106 | 0.000 | 0.0 | 0 | 0.000 |
| 1.001 | 1.000 | 70.7 | 24.9 | 2.694 | 2.175 | 0.142 | 0.0 | 123 | 0.915 |
| 1.000 | 3.379 | 134.4 | 4.5 | 1.500 | 2.694 | 0.023 | 0.0 | 28 | 1.567 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Links

| Name | US Node | DS Node | Length (m) | ks (mm) / n | US IL (m) | DS IL (m) | Fall (m) | Slope (1:X) | Dia (mm) | T of C (mins) | Rain (mm/hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.004 | 9 | ATT. TANK 3 | 5.464 | 0.600 | 54.787 | 54.765 | 0.022 | 245.0 | 300 | 6.17 | 49.2 |
| 5.002 | 11 | 10 | 17.448 | 0.600 | 55.847 | 55.776 | 0.071 | 245.0 | 300 | 6.02 | 49.7 |
| 5.001 | J5 | 11 | 24.030 | 0.600 | 56.063 | 55.922 | 0.141 | 170.0 | 225 | 5.73 | 50.9 |
| 7.000 | 13 | 11 | 30.439 | 0.600 | 56.101 | 55.922 | 0.179 | 170.0 | 225 | 5.51 | 51.9 |
| 26.002 | 27 | 26 | 6.862 | 0.600 | 54.894 | 54.854 | 0.040 | 170.0 | 225 | 5.18 | 53.2 |
| 6.000 | PP3 | J5 | 13.412 | 0.600 | 57.300 | 57.063 | 0.237 | 56.6 | 225 | 5.13 | 53.5 |
| 5.000 | 12 | J5 | 19.530 | 0.600 | 56.178 | 56.063 | 0.115 | 170.0 | 225 | 5.33 | 52.6 |
| 8.002 | J4 | 4 | 33.350 | 0.600 | 54.761 | 54.625 | 0.136 | 245.0 | 300 | 6.48 | 48.1 |
| 15.000 | Rain Garden 3 | 4 | 15.095 | 0.600 | 56.873 | 55.600 | 1.273 | 11.9 | 100 | 5.11 | 53.5 |
| 14.000 | Rain Garden 4 | 4 | 15.854 | 0.600 | 56.706 | 55.600 | 1.106 | 14.3 | 100 | 5.13 | 53.5 |
| 5.003 | 10 | 9 | 15.550 | 0.600 | 55.776 | 54.787 | 0.989 | 15.7 | 300 | 6.08 | 49.5 |
| 9.000 | PP2 | J4 | 19.725 | 0.600 | 55.370 | 55.173 | 0.197 | 100.0 | 150 | 5.33 | 52.6 |
| 10.000 | PP1 | J4 | 17.682 | 0.600 | 55.610 | 55.433 | 0.177 | 100.0 | 150 | 5.29 | 52.8 |
| 11.000 | Rain Garden 2 | J4 | 15.333 | 0.600 | 56.367 | 56.251 | 0.116 | 132.2 | 100 | 5.38 | 52.4 |
| 8.001 | 14 | J4 | 31.323 | 0.600 | 54.889 | 54.761 | 0.128 | 245.0 | 300 | 5.92 | 50.1 |
| 12.000 | Rain Garden 1 | J4 | 14.639 | 0.600 | 56.504 | 56.251 | 0.253 | 57.9 | 100 | 5.24 | 53.0 |
| 8.000 | 15 | 14 | 46.474 | 0.600 | 55.585 | 54.889 | 0.696 | 66.8 | 300 | 5.40 | 52.3 |
| 16.008 | 16 | 1 | 40.476 | 0.600 | 54.649 | 54.484 | 0.165 | 245.0 | 300 | 8.01 | 43.3 |
| 21.005 | 29 | DIVERSION MH | 6.617 | 0.600 | 55.187 | 55.171 | 0.016 | 413.6 | 450 | 7.27 | 45.5 |
| 16.007 | 17 | 16 | 37.901 | 0.600 | 54.804 | 54.649 | 0.155 | 245.0 | 300 | 7.33 | 45.3 |
| 16.006 | 18 | 17 | 7.272 | 0.600 | 54.922 | 54.879 | 0.043 | 170.0 | 225 | 6.70 | 47.3 |
| 19.000 | PP6 | 17 | 12.211 | 0.600 | 56.180 | 56.058 | 0.122 | 100.0 | 225 | 5.16 | 53.3 |
| 16.003 | ATT. TANK 5 | 19 | 34.912 | 0.600 | 55.240 | 54.954 | 0.286 | 122.1 | 225 | 6.53 | 47.9 |
| 16.002 | 20 | ATT. TANK 5 | 1.983 | 0.600 | 55.255 | 55.240 | 0.015 | 132.2 | 225 | 6.04 | 49.6 |
| 4.000 | 8 | J6 | 8.650 | 0.600 | 55.884 | 54.909 | 0.975 | 8.9 | 150 | 5.04 | 53.8 |
| 21.001 | 32 | J2 | 28.229 | 0.600 | 55.866 | 55.751 | 0.115 | 245.0 | 300 | 5.74 | 50.9 |
| 21.000 | PP7 | 32 | 16.313 | 0.600 | 56.620 | 56.457 | 0.163 | 100.0 | 150 | 5.27 | 52.9 |

| Name | Vel (m/s) | Cap (l/s) | Flow (l/s) | US Depth (m) | DS Depth (m) | Σ Area (ha) | Σ Add Inflow (l/s) | Pro Depth (mm) | Pro Velocity (m/s) |
|---|---|---|---|---|---|---|---|---|---|
| 5.004 | 1.000 | 70.7 | 34.0 | 2.515 | 2.399 | 0.191 | 0.0 | 147 | 0.991 |
| 5.002 | 1.000 | 70.7 | 26.8 | 1.858 | 1.722 | 0.149 | 0.0 | 128 | 0.933 |
| 5.001 | 1.000 | 39.7 | 15.4 | 1.901 | 1.858 | 0.084 | 0.0 | 97 | 0.937 |
| 7.000 | 1.000 | 39.7 | 6.7 | 1.503 | 1.858 | 0.036 | 0.0 | 62 | 0.745 |
| 26.002 | 1.000 | 39.7 | 6.4 | 1.056 | 0.950 | 0.034 | 0.0 | 61 | 0.739 |
| 6.000 | 1.742 | 69.3 | 6.7 | 0.595 | 0.901 | 0.035 | 0.0 | 47 | 1.111 |
| 5.000 | 1.000 | 39.7 | 4.2 | 1.908 | 1.901 | 0.022 | 0.0 | 49 | 0.650 |
| 8.002 | 1.000 | 70.7 | 58.8 | 1.539 | 2.100 | 0.338 | 0.0 | 209 | 1.114 |
| 15.000 | 2.256 | 17.7 | 3.0 | 0.300 | 1.325 | 0.016 | 0.0 | 28 | 1.677 |
| 14.000 | 2.051 | 16.1 | 3.0 | 0.300 | 1.325 | 0.016 | 0.0 | 29 | 1.572 |
| 5.003 | 3.984 | 281.6 | 26.6 | 1.722 | 2.515 | 0.149 | 0.0 | 62 | 2.537 |
| 9.000 | 1.005 | 17.8 | 16.9 | 1.070 | 1.277 | 0.089 | 0.0 | 117 | 1.140 |
| 10.000 | 1.005 | 17.8 | 17.0 | 1.020 | 1.017 | 0.089 | 0.0 | 118 | 1.141 |
| 11.000 | 0.667 | 5.2 | 0.0 | 0.300 | 0.249 | 0.000 | 0.0 | 0 | 0.000 |
| 8.001 | 1.000 | 70.7 | 18.1 | 1.139 | 1.539 | 0.100 | 0.0 | 103 | 0.841 |
| 12.000 | 1.014 | 8.0 | 0.0 | 0.300 | 0.249 | 0.000 | 0.0 | 0 | 0.000 |
| 8.000 | 1.927 | 136.2 | 9.9 | 1.500 | 1.139 | 0.053 | 0.0 | 54 | 1.134 |
| 16.008 | 1.000 | 70.7 | 57.0 | 1.117 | 0.999 | 0.365 | 0.0 | 205 | 1.108 |
| 21.005 | 0.993 | 158.0 | 69.4 | 0.616 | 0.540 | 0.422 | 0.0 | 209 | 0.963 |
| 16.007 | 1.000 | 70.7 | 48.0 | 2.056 | 1.117 | 0.294 | 0.0 | 182 | 1.073 |
| 16.006 | 1.000 | 39.7 | 37.2 | 2.089 | 2.056 | 0.218 | 0.0 | 174 | 1.132 |
| 19.000 | 1.307 | 52.0 | 8.4 | 0.595 | 0.877 | 0.044 | 0.0 | 61 | 0.967 |
| 16.003 | 1.182 | 47.0 | 31.1 | 1.615 | 2.283 | 0.179 | 0.0 | 134 | 1.262 |
| 16.002 | 1.135 | 45.1 | 26.6 | 1.699 | 1.615 | 0.148 | 0.0 | 124 | 1.181 |
| 4.000 | 3.403 | 60.1 | 0.0 | 1.344 | 2.081 | 0.000 | 0.0 | 0 | 0.000 |
| 21.001 | 1.000 | 70.7 | 20.3 | 1.245 | 1.170 | 0.110 | 0.0 | 110 | 0.867 |
| 21.000 | 1.005 | 17.8 | 5.9 | 0.670 | 0.804 | 0.031 | 0.0 | 59 | 0.904 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Links

| Name | US Node | DS Node | Length (m) | ks (mm) / n | US IL (m) | DS IL (m) | Fall (m) | Slope (1:X) | Dia (mm) | T of C (mins) | Rain (mm/hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 25.000 | ATT. TANK 6 | 33 | 1.506 | 0.600 | 55.235 | 55.231 | 0.004 | 376.5 | 450 | 5.02 | 53.9 |
| 23.000 | PP8 | J2 | 15.507 | 0.600 | 56.070 | 55.915 | 0.155 | 100.0 | 150 | 5.26 | 52.9 |
| 21.002 | J2 | 31 | 26.850 | 0.600 | 55.751 | 55.641 | 0.110 | 245.0 | 300 | 6.19 | 49.1 |
| 21.003 | 31 | 30 | 33.708 | 0.600 | 55.566 | 55.348 | 0.218 | 154.6 | 375 | 6.58 | 47.7 |
| 18.000 | 23 | ATT. TANK 4 | 1.000 | 0.600 | 56.014 | 56.004 | 0.010 | 100.0 | 150 | 5.02 | 53.9 |
| 26.000 | 28 | ATT. TANK 1 | 3.142 | 0.600 | 55.006 | 54.975 | 0.031 | 100.0 | 150 | 5.05 | 53.8 |
| 16.001 | 21 | 20 | 17.748 | 0.600 | 55.359 | 55.255 | 0.104 | 170.0 | 225 | 6.01 | 49.7 |
| 16.000 | 22 | 21 | 42.843 | 0.600 | 55.611 | 55.359 | 0.252 | 170.0 | 225 | 5.71 | 51.0 |
| 26.003 | 26 | MH33 | 2.356 | 0.600 | 54.854 | 54.840 | 0.014 | 170.0 | 225 | 5.22 | 53.1 |
| 20.000 | 25 | 24 | 12.798 | 0.600 | 54.612 | 54.560 | 0.052 | 245.0 | 300 | 5.21 | 53.1 |
| 26.001 | ATT. TANK 1 | 27 | 1.000 | 0.600 | 54.900 | 54.894 | 0.006 | 166.7 | 225 | 5.07 | 53.7 |
| 1.006 | ATT. TANK 2 | 2 | 4.954 | 0.600 | 54.325 | 54.314 | 0.011 | 450.4 | 525 | 7.79 | 43.9 |
| 13.000 | Rain Garden 5 | 4 | 16.004 | 0.600 | 56.850 | 56.723 | 0.127 | 126.0 | 100 | 5.39 | 52.3 |
| 17.000 | Rain Garden 6 | 19 | 15.136 | 0.600 | 57.250 | 57.127 | 0.123 | 123.1 | 100 | 5.36 | 52.5 |
| 22.000 | Rain Garden 7 | J2 | 17.692 | 0.600 | 57.040 | 56.000 | 1.040 | 17.0 | 100 | 5.16 | 53.3 |
| 21.004 | 30 | 29 | 34.940 | 0.600 | 55.273 | 55.187 | 0.086 | 405.0 | 450 | 7.16 | 45.8 |

| Name | Vel (m/s) | Cap (l/s) | Flow (l/s) | US Depth (m) | DS Depth (m) | Σ Area (ha) | Σ Add Inflow (l/s) | Pro Depth (mm) | Pro Velocity (m/s) |
|---|---|---|---|---|---|---|---|---|---|
| 25.000 | 1.042 | 165.6 | 19.0 | 1.014 | 0.884 | 0.097 | 0.0 | 102 | 0.702 |
| 23.000 | 1.005 | 17.8 | 13.6 | 0.920 | 1.156 | 0.071 | 0.0 | 98 | 1.104 |
| 21.002 | 1.000 | 70.7 | 38.4 | 1.170 | 1.106 | 0.217 | 0.0 | 158 | 1.020 |
| 21.003 | 1.454 | 160.6 | 53.8 | 1.106 | 0.821 | 0.312 | 0.0 | 149 | 1.314 |
| 18.000 | 1.005 | 17.8 | 0.0 | 1.243 | 1.206 | 0.000 | 0.0 | 0 | 0.000 |
| 26.000 | 1.005 | 17.8 | 4.5 | 0.783 | 0.925 | 0.023 | 0.0 | 51 | 0.838 |
| 16.001 | 1.000 | 39.7 | 15.3 | 1.843 | 1.699 | 0.085 | 0.0 | 97 | 0.937 |
| 16.000 | 1.000 | 39.7 | 7.5 | 1.306 | 1.843 | 0.040 | 0.0 | 65 | 0.768 |
| 26.003 | 1.000 | 39.7 | 15.0 | 0.950 | 1.191 | 0.078 | 0.0 | 95 | 0.930 |
| 20.000 | 1.000 | 70.7 | 4.9 | 0.770 | 0.796 | 0.025 | 0.0 | 53 | 0.578 |
| 26.001 | 1.010 | 40.1 | 6.5 | 0.925 | 1.056 | 0.034 | 0.0 | 61 | 0.746 |
| 1.006 | 1.049 | 227.0 | 212.9 | 1.525 | 1.541 | 1.341 | 0.0 | 406 | 1.184 |
| 13.000 | 0.683 | 5.4 | 2.9 | 0.300 | 0.202 | 0.016 | 0.0 | 53 | 0.699 |
| 17.000 | 0.692 | 5.4 | 2.6 | 0.300 | 0.235 | 0.014 | 0.0 | 48 | 0.680 |
| 22.000 | 1.882 | 14.8 | 3.5 | 0.300 | 1.121 | 0.018 | 0.0 | 33 | 1.544 |
| 21.004 | 1.004 | 159.6 | 51.6 | 0.821 | 0.616 | 0.312 | 0.0 | 175 | 0.899 |

## Pipeline Schedule

| Link | Length (m) | Slope (1:X) | Dia (mm) | Link Type | US CL (m) | US IL (m) | US Depth (m) | DS CL (m) | DS IL (m) | DS Depth (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.009 | 4.963 | 310.2 | 600 | Circular | 55.783 | 54.256 | 0.927 | 55.690 | 54.240 | 0.850 |
| 20.001 | 18.569 | 245.0 | 300 | Circular | 55.656 | 54.560 | 0.796 | 55.783 | 54.484 | 0.999 |
| 16.004 | 1.871 | 98.5 | 225 | Circular | 57.462 | 54.954 | 2.283 | 57.360 | 54.935 | 2.200 |
| 16.005 | 1.780 | 136.9 | 225 | Circular | 57.360 | 54.935 | 2.200 | 57.236 | 54.922 | 2.089 |
| 1.007 | 26.961 | 490.0 | 525 | Circular | 56.380 | 54.314 | 1.541 | 55.783 | 54.259 | 0.999 |

| Link | US Node | Dia (mm) | Node Type | MH Type | DS Node | Dia (mm) | Node Type | MH Type |
|---|---|---|---|---|---|---|---|---|
| 1.009 | 1 | 2400 | Manhole | Adoptable | MH91 | | Junction | |
| 20.001 | 24 | 1200 | Manhole | Adoptable | 1 | 2400 | Manhole | Adoptable |
| 16.004 | 19 | 1200 | Manhole | Adoptable | ATT. TANK 4 | | Junction | |
| 16.005 | ATT. TANK 4 | | Junction | | 18 | 1200 | Manhole | Adoptable |
| 1.007 | 2 | 1800 | Manhole | Adoptable | 1 | 2400 | Manhole | Adoptable |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Pipeline Schedule

| Link | Length (m) | Slope (1:X) | Dia (mm) | Link Type | US CL (m) | US IL (m) | US Depth (m) | DS CL (m) | DS IL (m) | DS Depth (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.004 | 27.268 | 384.1 | 525 | Circular | 57.025 | 54.400 | 2.100 | 56.605 | 54.329 | 1.751 |
| 1.005 | 1.527 | 381.8 | 525 | Circular | 56.605 | 54.329 | 1.751 | 56.375 | 54.325 | 1.525 |
| 5.005 | 32.963 | 235.5 | 300 | Circular | 57.464 | 54.765 | 2.399 | 57.025 | 54.625 | 2.100 |
| 1.003 | 32.768 | 325.0 | 375 | Circular | 57.140 | 54.651 | 2.114 | 57.025 | 54.550 | 2.100 |
| 2.000 | 13.372 | 27.0 | 225 | Circular | 57.100 | 56.330 | 0.545 | 57.140 | 55.834 | 1.081 |
| 1.002 | 21.982 | 325.0 | 375 | Circular | 57.269 | 54.719 | 2.175 | 57.140 | 54.651 | 2.114 |
| 3.000 | 10.353 | 100.0 | 225 | Circular | 57.420 | 56.550 | 0.645 | 57.140 | 56.446 | 0.469 |
| 25.001 | 16.823 | 382.3 | 450 | Circular | 56.565 | 55.231 | 0.884 | 56.253 | 55.187 | 0.616 |
| 24.000 | 15.988 | 99.9 | 150 | Circular | 57.300 | 55.951 | 1.199 | 57.047 | 55.791 | 1.106 |
| 1.001 | 76.062 | 245.0 | 300 | Circular | 58.098 | 55.104 | 2.694 | 57.269 | 54.794 | 2.175 |
| 1.000 | 21.562 | 15.1 | 225 | Circular | 58.328 | 56.603 | 1.500 | 58.098 | 55.179 | 2.694 |
| 5.004 | 5.464 | 245.0 | 300 | Circular | 57.602 | 54.787 | 2.515 | 57.464 | 54.765 | 2.399 |
| 5.002 | 17.448 | 245.0 | 300 | Circular | 58.005 | 55.847 | 1.858 | 57.798 | 55.776 | 1.722 |
| 5.001 | 24.030 | 170.0 | 225 | Circular | 58.189 | 56.063 | 1.901 | 58.005 | 55.922 | 1.858 |
| 7.000 | 30.439 | 170.0 | 225 | Circular | 57.829 | 56.101 | 1.503 | 58.005 | 55.922 | 1.858 |
| 26.002 | 6.862 | 170.0 | 225 | Circular | 56.175 | 54.894 | 1.056 | 56.029 | 54.854 | 0.950 |
| 6.000 | 13.412 | 56.6 | 225 | Circular | 58.120 | 57.300 | 0.595 | 58.189 | 57.063 | 0.901 |
| 5.000 | 19.530 | 170.0 | 225 | Circular | 58.311 | 56.178 | 1.908 | 58.189 | 56.063 | 1.901 |
| 8.002 | 33.350 | 245.0 | 300 | Circular | 56.600 | 54.761 | 1.539 | 57.025 | 54.625 | 2.100 |
| 15.000 | 15.095 | 11.9 | 100 | Circular | 57.273 | 56.873 | 0.300 | 57.025 | 55.600 | 1.325 |
| 14.000 | 15.854 | 14.3 | 100 | Circular | 57.106 | 56.706 | 0.300 | 57.025 | 55.600 | 1.325 |
| 5.003 | 15.550 | 15.7 | 300 | Circular | 57.798 | 55.776 | 1.722 | 57.602 | 54.787 | 2.515 |
| 9.000 | 19.725 | 100.0 | 150 | Circular | 56.590 | 55.370 | 1.070 | 56.600 | 55.173 | 1.277 |
| 10.000 | 17.682 | 100.0 | 150 | Circular | 56.780 | 55.610 | 1.020 | 56.600 | 55.433 | 1.017 |
| 11.000 | 15.333 | 132.2 | 100 | Circular | 56.767 | 56.367 | 0.300 | 56.600 | 56.251 | 0.249 |
| 8.001 | 31.323 | 245.0 | 300 | Circular | 56.328 | 54.889 | 1.139 | 56.600 | 54.761 | 1.539 |
| 12.000 | 14.639 | 57.9 | 100 | Circular | 56.904 | 56.504 | 0.300 | 56.600 | 56.251 | 0.249 |
| 8.000 | 46.474 | 66.8 | 300 | Circular | 57.385 | 55.585 | 1.500 | 56.328 | 54.889 | 1.139 |

| Link | US Node | Dia (mm) | Node Type | MH Type | DS Node | Dia (mm) | Node Type | MH Type |
|---|---|---|---|---|---|---|---|---|
| 1.004 | 4 | 1500 | Manhole | Adoptable | 3 | 1500 | Manhole | Adoptable |
| 1.005 | 3 | 1500 | Manhole | Adoptable | ATT. TANK 2 | | Junction | |
| 5.005 | ATT. TANK 3 | | Junction | | 4 | 1500 | Manhole | Adoptable |
| 1.003 | J6 | | Junction | | 4 | 1500 | Manhole | Adoptable |
| 2.000 | PP5 | | Junction | | J6 | | Junction | |
| 1.002 | 5 | 1350 | Manhole | Adoptable | J6 | | Junction | |
| 3.000 | PP4 | | Junction | | J6 | | Junction | |
| 25.001 | 33 | 1350 | Manhole | Adoptable | 29 | 1500 | Manhole | Adoptable |
| 24.000 | 34 | 450 | Manhole | Adoptable | 31 | 1350 | Manhole | Adoptable |
| 1.001 | 6 | 1200 | Manhole | Adoptable | 5 | 1350 | Manhole | Adoptable |
| 1.000 | 7 | 1200 | Manhole | Adoptable | 6 | 1200 | Manhole | Adoptable |
| 5.004 | 9 | 1200 | Manhole | Adoptable | ATT. TANK 3 | | Junction | |
| 5.002 | 11 | 1200 | Manhole | Adoptable | 10 | 1200 | Manhole | Adoptable |
| 5.001 | J5 | | Junction | | 11 | 1200 | Manhole | Adoptable |
| 7.000 | 13 | 1200 | Manhole | Adoptable | 11 | 1200 | Manhole | Adoptable |
| 26.002 | 27 | 600 | Manhole | Adoptable | 26 | 1200 | Manhole | Adoptable |
| 6.000 | PP3 | | Junction | | J5 | | Junction | |
| 5.000 | 12 | 1200 | Manhole | Adoptable | J5 | | Junction | |
| 8.002 | J4 | | Junction | | 4 | 1500 | Manhole | Adoptable |
| 15.000 | Rain Garden 3 | | Junction | | 4 | 1500 | Manhole | Adoptable |
| 14.000 | Rain Garden 4 | | Junction | | 4 | 1500 | Manhole | Adoptable |
| 5.003 | 10 | 1200 | Manhole | Adoptable | 9 | 1200 | Manhole | Adoptable |
| 9.000 | PP2 | | Junction | | J4 | | Junction | |
| 10.000 | PP1 | | Junction | | J4 | | Junction | |
| 11.000 | Rain Garden 2 | | Junction | | J4 | | Junction | |
| 8.001 | 14 | 1200 | Manhole | Adoptable | J4 | | Junction | |
| 12.000 | Rain Garden 1 | | Junction | | J4 | | Junction | |
| 8.000 | 15 | 1200 | Manhole | Adoptable | 14 | 1200 | Manhole | Adoptable |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Pipeline Schedule

| Link | Length (m) | Slope (1:X) | Dia (mm) | Link Type | US CL (m) | US IL (m) | US Depth (m) | DS CL (m) | DS IL (m) | DS Depth (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| 16.008 | 40.476 | 245.0 | 300 | Circular | 56.066 | 54.649 | 1.117 | 55.783 | 54.484 | 0.999 |
| 21.005 | 6.617 | 413.6 | 450 | Circular | 56.253 | 55.187 | 0.616 | 56.161 | 55.171 | 0.540 |
| 16.007 | 37.901 | 245.0 | 300 | Circular | 57.160 | 54.804 | 2.056 | 56.066 | 54.649 | 1.117 |
| 16.006 | 7.272 | 170.0 | 225 | Circular | 57.236 | 54.922 | 2.089 | 57.160 | 54.879 | 2.056 |
| 19.000 | 12.211 | 100.0 | 225 | Circular | 57.000 | 56.180 | 0.595 | 57.160 | 56.058 | 0.877 |
| 16.003 | 34.912 | 122.1 | 225 | Circular | 57.080 | 55.240 | 1.615 | 57.462 | 54.954 | 2.283 |
| 16.002 | 1.983 | 132.2 | 225 | Circular | 57.179 | 55.255 | 1.699 | 57.080 | 55.240 | 1.615 |
| 4.000 | 8.650 | 8.9 | 150 | Circular | 57.378 | 55.884 | 1.344 | 57.140 | 54.909 | 2.081 |
| 21.001 | 28.229 | 245.0 | 300 | Circular | 57.411 | 55.866 | 1.245 | 57.221 | 55.751 | 1.170 |
| 21.000 | 16.313 | 100.0 | 150 | Circular | 57.440 | 56.620 | 0.670 | 57.411 | 56.457 | 0.804 |
| 25.000 | 1.506 | 376.5 | 450 | Circular | 56.699 | 55.235 | 1.014 | 56.565 | 55.231 | 0.884 |
| 23.000 | 15.507 | 100.0 | 150 | Circular | 57.140 | 56.070 | 0.920 | 57.221 | 55.915 | 1.156 |
| 21.002 | 26.850 | 245.0 | 300 | Circular | 57.221 | 55.751 | 1.170 | 57.047 | 55.641 | 1.106 |
| 21.003 | 33.708 | 154.6 | 375 | Circular | 57.047 | 55.566 | 1.106 | 56.544 | 55.348 | 0.821 |
| 18.000 | 1.000 | 100.0 | 150 | Circular | 57.407 | 56.014 | 1.243 | 57.360 | 56.004 | 1.206 |
| 26.000 | 3.142 | 100.0 | 150 | Circular | 55.939 | 55.006 | 0.783 | 56.050 | 54.975 | 0.925 |
| 16.001 | 17.748 | 170.0 | 225 | Circular | 57.427 | 55.359 | 1.843 | 57.179 | 55.255 | 1.699 |
| 16.000 | 42.843 | 170.0 | 225 | Circular | 57.142 | 55.611 | 1.306 | 57.427 | 55.359 | 1.843 |
| 26.003 | 2.356 | 170.0 | 225 | Circular | 56.029 | 54.854 | 0.950 | 56.256 | 54.840 | 1.191 |
| 20.000 | 12.798 | 245.0 | 300 | Circular | 55.682 | 54.612 | 0.770 | 55.656 | 54.560 | 0.796 |
| 26.001 | 1.000 | 166.7 | 225 | Circular | 56.050 | 54.900 | 0.925 | 56.175 | 54.894 | 1.056 |
| 1.006 | 4.954 | 450.4 | 525 | Circular | 56.375 | 54.325 | 1.525 | 56.380 | 54.314 | 1.541 |
| 13.000 | 16.004 | 126.0 | 100 | Circular | 57.250 | 56.850 | 0.300 | 57.025 | 56.723 | 0.202 |
| 17.000 | 15.136 | 123.1 | 100 | Circular | 57.650 | 57.250 | 0.300 | 57.462 | 57.127 | 0.235 |
| 22.000 | 17.692 | 17.0 | 100 | Circular | 57.440 | 57.040 | 0.300 | 57.221 | 56.000 | 1.121 |
| 21.004 | 34.940 | 405.0 | 450 | Circular | 56.544 | 55.273 | 0.821 | 56.253 | 55.187 | 0.616 |

| Link | US Node | Dia (mm) | Node Type | MH Type | DS Node | Dia (mm) | Node Type | MH Type |
|---|---|---|---|---|---|---|---|---|
| 16.008 | 16 | 1200 | Manhole | Adoptable | 1 | 2400 | Manhole | Adoptable |
| 21.005 | 29 | 1500 | Manhole | Adoptable | DIVERSION MH | | Junction | |
| 16.007 | 17 | 1500 | Manhole | Adoptable | 16 | 1200 | Manhole | Adoptable |
| 16.006 | 18 | 1200 | Manhole | Adoptable | 17 | 1500 | Manhole | Adoptable |
| 19.000 | PP6 | | Junction | | 17 | 1500 | Manhole | Adoptable |
| 16.003 | ATT. TANK 5 | | Junction | | 19 | 1200 | Manhole | Adoptable |
| 16.002 | 20 | 1200 | Manhole | Adoptable | ATT. TANK 5 | | Junction | |
| 4.000 | 8 | 450 | Manhole | Adoptable | J6 | | Junction | |
| 21.001 | 32 | 1200 | Manhole | Adoptable | J2 | | Junction | |
| 21.000 | PP7 | | Junction | | 32 | 1200 | Manhole | Adoptable |
| 25.000 | ATT. TANK 6 | | Junction | | 33 | 1350 | Manhole | Adoptable |
| 23.000 | PP8 | | Junction | | J2 | | Junction | |
| 21.002 | J2 | | Junction | | 31 | 1350 | Manhole | Adoptable |
| 21.003 | 31 | 1350 | Manhole | Adoptable | 30 | 1350 | Manhole | Adoptable |
| 18.000 | 23 | 450 | Manhole | Adoptable | ATT. TANK 4 | | Junction | |
| 26.000 | 28 | 450 | Manhole | Adoptable | ATT. TANK 1 | | Junction | |
| 16.001 | 21 | 1200 | Manhole | Adoptable | 20 | 1200 | Manhole | Adoptable |
| 16.000 | 22 | 1200 | Manhole | Adoptable | 21 | 1200 | Manhole | Adoptable |
| 26.003 | 26 | 1200 | Manhole | Adoptable | MH33 | | Junction | |
| 20.000 | 25 | 1200 | Manhole | Adoptable | 24 | 1200 | Manhole | Adoptable |
| 26.001 | ATT. TANK 1 | | Junction | | 27 | 600 | Manhole | Adoptable |
| 1.006 | ATT. TANK 2 | | Junction | | 2 | 1800 | Manhole | Adoptable |
| 13.000 | Rain Garden 5 | | Junction | | 4 | 1500 | Manhole | Adoptable |
| 17.000 | Rain Garden 6 | | Junction | | 19 | 1200 | Manhole | Adoptable |
| 22.000 | Rain Garden 7 | | Junction | | J2 | | Junction | |
| 21.004 | 30 | 1350 | Manhole | Adoptable | 29 | 1500 | Manhole | Adoptable |

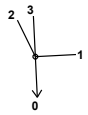
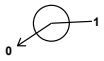
Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Manhole Schedule

| Node | Easting (m) | Northing (m) | CL (m) | Depth (m) | Dia (mm) | Connections | Link | IL (m) | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| ATT. TANK 1 | 517849.845 | 131708.585 | 56.050 | 1.150 | | 1 | 26.000 | 54.975 | 150 |
| | | | | | | 0 | 26.001 | 54.900 | 225 |
| 28 | 517846.382 | 131711.141 | 55.939 | 0.933 | 450 | 0 | 26.000 | 55.006 | 150 |
| 25 | 517858.513 | 131679.298 | 55.682 | 1.070 | 1200 | 0 | 20.000 | 54.612 | 300 |
| 24 | 517864.466 | 131667.969 | 55.656 | 1.096 | 1200 | 1 | 20.000 | 54.560 | 300 |
| | | | | | | 0 | 20.001 | 54.560 | 300 |
| 19 | 517965.671 | 131650.708 | 57.462 | 2.508 | 1200 | 1 | 17.000 | 57.127 | 100 |
| | | | | | | 2 | 16.003 | 54.954 | 225 |
| | | | | | | 0 | 16.004 | 54.954 | 225 |
| 22 | 518023.651 | 131607.590 | 57.142 | 1.531 | 1200 | 0 | 16.000 | 55.611 | 225 |
| 21 | 518031.924 | 131649.627 | 57.427 | 2.068 | 1200 | 1 | 16.000 | 55.359 | 225 |
| | | | | | | 0 | 16.001 | 55.359 | 225 |
| 20 | 518014.510 | 131653.054 | 57.179 | 1.924 | 1200 | 1 | 16.001 | 55.255 | 225 |
| | | | | | | 0 | 16.002 | 55.255 | 225 |
| MH33 | 517849.632 | 131719.735 | 56.256 | 1.416 | | 1 | 26.003 | 54.840 | 225 |
| ATT. TANK 6 | 517956.593 | 131585.062 | 56.699 | 1.464 | | 0 | 25.000 | 55.235 | 450 |
| PP8 | 517997.731 | 131589.449 | 57.140 | 1.070 | | 0 | 23.000 | 56.070 | 150 |
| ATT. TANK 4 | 517955.812 | 131650.234 | 57.360 | 2.425 | | 1 | 18.000 | 56.004 | 150 |
| | | | | | | 2 | 16.004 | 54.935 | 225 |
| | | | | | | 0 | 16.005 | 54.935 | 225 |
| 3 | 517916.467 | 131697.466 | 56.605 | 2.276 | 1500 | 1 | 1.004 | 54.329 | 525 |
| | | | | | | 0 | 1.005 | 54.329 | 525 |
| 31 | 517983.529 | 131561.822 | 57.047 | 1.481 | 1350 | 1 | 24.000 | 55.791 | 150 |
| | | | | | | 2 | 21.002 | 55.641 | 300 |
| | | | | | | 0 | 21.003 | 55.566 | 375 |

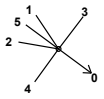
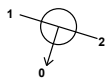
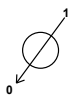
Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Manhole Schedule

| Node | Easting (m) | Northing (m) | CL (m) | Depth (m) | Dia (mm) | Connections | Link | IL (m) | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| J2 | 517982.245 | 131588.641 | 57.221 | 1.470 | |  | 1 | 23.000 | 55.915 | 150 |
| | | | | | | | 2 | 22.000 | 56.000 | 100 |
| | | | | | | | 3 | 21.001 | 55.751 | 300 |
| | | | | | | | 0 | 21.002 | 55.751 | 300 |
| PP7 | 517996.212 | 131622.424 | 57.440 | 0.820 | |  | 0 | 21.000 | 56.620 | 150 |
| 32 | 517980.886 | 131616.837 | 57.411 | 1.545 | 1200 |  | 1 | 21.000 | 56.457 | 150 |
| | | | | | | | 0 | 21.001 | 55.866 | 300 |
| ATT. TANK 5 | 518006.536 | 131652.671 | 57.080 | 1.840 | |  | 1 | 16.002 | 55.240 | 225 |
| | | | | | | | 0 | 16.003 | 55.240 | 225 |
| 18 | 517942.048 | 131649.573 | 57.236 | 2.314 | 1200 |  | 1 | 16.005 | 54.922 | 225 |
| | | | | | | | 0 | 16.006 | 54.922 | 225 |
| PP6 | 517942.177 | 131635.020 | 57.000 | 0.820 | |  | 0 | 19.000 | 56.180 | 225 |
| 17 | 517935.991 | 131645.548 | 57.160 | 2.356 | 1500 |  | 1 | 19.000 | 56.058 | 225 |
| | | | | | | | 2 | 16.006 | 54.879 | 225 |
| | | | | | | | 0 | 16.007 | 54.804 | 300 |
| 16 | 517904.423 | 131624.573 | 56.066 | 1.417 | 1200 |  | 1 | 16.007 | 54.649 | 300 |
| | | | | | | | 0 | 16.008 | 54.649 | 300 |
| DIVERSION MH | 517929.927 | 131574.833 | 56.161 | 0.990 | |  | 1 | 21.005 | 55.171 | 450 |
| Rain Garden 2 | 517890.695 | 131741.804 | 56.767 | 0.400 | |  | 0 | 11.000 | 56.367 | 100 |
| 15 | 517908.190 | 131795.187 | 57.385 | 1.800 | 1200 |  | 0 | 8.000 | 55.585 | 300 |
| 14 | 517880.595 | 131757.793 | 56.328 | 1.439 | 1200 |  | 1 | 8.000 | 54.889 | 300 |
| | | | | | | | 0 | 8.001 | 54.889 | 300 |
| Rain Garden 1 | 517897.668 | 131751.372 | 56.904 | 0.400 | |  | 0 | 12.000 | 56.504 | 100 |
| 10 | 517974.176 | 131775.736 | 57.798 | 2.022 | 1200 |  | 1 | 5.002 | 55.776 | 300 |
| | | | | | | | 0 | 5.003 | 55.776 | 300 |

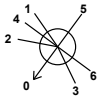
Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Manhole Schedule

| Node | Easting (m) | Northing (m) | CL (m) | Depth (m) | Dia (mm) | Connections | Link | IL (m) | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| PP2 | 517894.226 | 131723.236 | 56.590 | 1.220 | |  | 0 | 9.000 | 55.370 | 150 |
| PP1 | 517916.519 | 131753.271 | 56.780 | 1.170 | |  | 0 | 10.000 | 55.610 | 150 |
| J4 | 517905.806 | 131739.204 | 56.600 | 1.839 | |  | 1 | 12.000 | 56.251 | 100 |
| | | | | | | | 2 | 11.000 | 56.251 | 100 |
| | | | | | | | 3 | 10.000 | 55.433 | 150 |
| | | | | | | | 4 | 9.000 | 55.173 | 150 |
| | | | | | | | 5 | 8.001 | 54.761 | 300 |
| | | | | | | | 0 | 8.002 | 54.761 | 300 |
| Rain Garden 3 | 517924.044 | 131731.815 | 57.273 | 0.400 | |  | 0 | 15.000 | 56.873 | 100 |
| Rain Garden 4 | 517917.071 | 131722.357 | 57.106 | 0.400 | |  | 0 | 14.000 | 56.706 | 100 |
| 33 | 517948.346 | 131584.693 | 56.565 | 1.334 | 1350 |  | 1 | 25.000 | 55.231 | 450 |
| | | | | | | | 0 | 25.001 | 55.231 | 450 |
| PP3 | 517998.367 | 131772.535 | 58.120 | 0.820 | |  | 0 | 6.000 | 57.300 | 225 |
| 12 | 518020.938 | 131779.639 | 58.311 | 2.133 | 1200 |  | 0 | 5.000 | 56.178 | 225 |
| J5 | 518002.267 | 131785.367 | 58.189 | 2.126 | |  | 1 | 6.000 | 57.063 | 225 |
| | | | | | | | 2 | 5.000 | 56.063 | 225 |
| | | | | | | | 0 | 5.001 | 56.063 | 225 |
| 27 | 517853.359 | 131713.350 | 56.175 | 1.281 | 600 |  | 1 | 26.001 | 54.894 | 225 |
| | | | | | | | 0 | 26.002 | 54.894 | 225 |
| 13 | 517950.194 | 131801.344 | 57.829 | 1.728 | 1200 |  | 0 | 7.000 | 56.101 | 225 |
| 11 | 517979.294 | 131792.416 | 58.005 | 2.158 | 1200 |  | 1 | 7.000 | 55.922 | 225 |
| | | | | | | | 2 | 5.001 | 55.922 | 225 |
| | | | | | | | 0 | 5.002 | 55.847 | 300 |
| 9 | 517964.948 | 131763.220 | 57.602 | 2.815 | 1200 |  | 1 | 5.003 | 54.787 | 300 |
| | | | | | | | 0 | 5.004 | 54.787 | 300 |
| ATT. TANK 3 | 517956.959 | 131752.384 | 57.464 | 2.699 | |  | 1 | 5.004 | 54.765 | 300 |
| | | | | | | | 0 | 5.005 | 54.765 | 300 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Manhole Schedule

| Node | Easting (m) | Northing (m) | CL (m) | Depth (m) | Dia (mm) | Connections | Link | IL (m) | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| PP5 | 517951.152 | 131689.157 | 57.100 | 0.770 | |  | 0 | 2.000 | 56.330 | 225 |
| 7 | 518039.652 | 131758.335 | 58.328 | 1.725 | 1200 |  | 0 | 1.000 | 56.603 | 225 |
| 6 | 518033.328 | 131737.721 | 58.098 | 2.994 | 1200 |  | 1 | 1.000 | 55.179 | 225 |
| | | | | | | | 0 | 1.001 | 55.104 | 300 |
| 34 | 517997.742 | 131554.501 | 57.300 | 1.349 | 450 |  | 0 | 24.000 | 55.951 | 150 |
| 8 | 517953.612 | 131693.218 | 57.378 | 1.494 | 450 |  | 0 | 4.000 | 55.884 | 150 |
| 5 | 517976.716 | 131686.922 | 57.269 | 2.550 | 1350 |  | 1 | 1.001 | 54.794 | 300 |
| | | | | | | | 0 | 1.002 | 54.719 | 375 |
| PP4 | 517965.217 | 131708.263 | 57.420 | 0.870 | |  | 0 | 3.000 | 56.550 | 225 |
| J6 | 517959.023 | 131699.967 | 57.140 | 2.489 | |  | 1 | 4.000 | 54.909 | 150 |
| | | | | | | | 2 | 3.000 | 56.446 | 225 |
| | | | | | | | 3 | 2.000 | 55.834 | 225 |
| | | | | | | | 4 | 1.002 | 54.651 | 375 |
| | | | | | | | 0 | 1.003 | 54.651 | 375 |
| 4 | 517932.649 | 131719.413 | 57.025 | 2.625 | 1500 |  | 1 | 15.000 | 55.600 | 100 |
| | | | | | | | 2 | 14.000 | 55.600 | 100 |
| | | | | | | | 3 | 13.000 | 56.723 | 100 |
| | | | | | | | 4 | 8.002 | 54.625 | 300 |
| | | | | | | | 5 | 5.005 | 54.625 | 300 |
| | | | | | | | 6 | 1.003 | 54.550 | 375 |
| | | | | | | | 0 | 1.004 | 54.400 | 525 |
| 2 | 517898.278 | 131672.796 | 56.380 | 2.066 | 1800 |  | 1 | 1.006 | 54.314 | 525 |
| | | | | | | | 0 | 1.007 | 54.314 | 525 |
| 23 | 517959.969 | 131647.555 | 57.407 | 1.393 | 450 |  | 0 | 18.000 | 56.014 | 150 |
| 1 | 517877.897 | 131655.146 | 55.783 | 1.527 | 2400 |  | 1 | 20.001 | 54.484 | 300 |
| | | | | | | | 2 | 16.008 | 54.484 | 300 |
| | | | | | | | 3 | 1.007 | 54.259 | 525 |
| | | | | | | | 0 | 1.009 | 54.256 | 600 |
| MH91 | 517873.297 | 131650.814 | 55.690 | 1.450 | |  | 1 | 1.009 | 54.240 | 600 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Manhole Schedule

| Node | Easting (m) | Northing (m) | CL (m) | Depth (m) | Dia (mm) | Connections | Link | IL (m) | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 26 | 517851.964 | 131720.069 | 56.029 | 1.175 | 1200 | 1 | 26.002 | 54.854 | 225 |
| | | | | | |  | | | |
| | | | | | | 0 | 26.003 | 54.854 | 225 |
| 29 | 517936.277 | 131572.973 | 56.253 | 1.066 | 1500 | 1 | 25.001 | 55.187 | 450 |
| | | | | | |  | | | |
| | | | | | | 2 | 21.004 | 55.187 | 450 |
| | | | | | | 0 | 21.005 | 55.187 | 450 |
| ATT. TANK 2 | 517908.202 | 131686.256 | 56.375 | 2.050 | | 1 | 1.005 | 54.325 | 525 |
| | | | | | |  | | | |
| | | | | | | 0 | 1.006 | 54.325 | 525 |
| Rain Garden 5 | 517939.637 | 131705.015 | 57.250 | 0.400 | |  | | | |
| | | | | | | 0 | 13.000 | 56.850 | 100 |
| Rain Garden 6 | 517972.893 | 131637.406 | 57.650 | 0.400 | |  | | | |
| | | | | | | 0 | 17.000 | 57.250 | 100 |
| Rain Garden 7 | 517974.433 | 131604.515 | 57.440 | 0.400 | |  | | | |
| | | | | | | 0 | 22.000 | 57.040 | 100 |
| 30 | 517955.179 | 131543.587 | 56.544 | 1.271 | 1350 | 1 | 21.003 | 55.348 | 375 |
| | | | | | |  | | | |
| | | | | | | 0 | 21.004 | 55.273 | 450 |

## Node 1 Online Hydro-Brake® Control

| | |
|---|---|
| Flap Valve | x |
| Replaces Downstream Link | ✓ |
| Invert Level (m) | 54.256 |
| Design Depth (m) | 1.387 |
| Design Flow (l/s) | 60.0 |
| Objective | (HE) Minimise upstream storage |
| Sump Available | ✓ |
| Product Number | CTL-SHE-0314-6000-1387-6000 |
| Min Outlet Diameter (m) | 0.375 |
| Min Node Diameter (mm) | 2400 |

## Node 2 Online Hydro-Brake® Control

| | |
|---|---|
| Flap Valve | x |
| Replaces Downstream Link | ✓ |
| Invert Level (m) | 54.314 |
| Design Depth (m) | 1.734 |
| Design Flow (l/s) | 20.0 |
| Objective | (HE) Minimise upstream storage |
| Sump Available | ✓ |
| Product Number | CTL-SHE-0188-2000-1734-2000 |
| Min Outlet Diameter (m) | 0.225 |
| Min Node Diameter (mm) | 1800 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Node 17 Online Hydro-Brake® Control

| | |
|---|---|
| Flap Valve | x |
| Replaces Downstream Link | x |
| Invert Level (m) | 54.804 |
| Design Depth (m) | 2.265 |
| Design Flow (l/s) | 8.2 |
| Objective | (HE) Minimise upstream storage |
| Sump Available | ✓ |
| Product Number | CTL-SHE-0115-8200-2265-8200 |
| Min Outlet Diameter (m) | 0.150 |
| Min Node Diameter (mm) | 1500 |

## Node 29 Online Hydro-Brake® Control

| | |
|---|---|
| Flap Valve | x |
| Replaces Downstream Link | ✓ |
| Invert Level (m) | 55.187 |
| Design Depth (m) | 1.021 |
| Design Flow (l/s) | 21.5 |
| Objective | (HE) Minimise upstream storage |
| Sump Available | ✓ |
| Product Number | CTL-SHE-0205-2150-1021-2150 |
| Min Outlet Diameter (m) | 0.225 |
| Min Node Diameter (mm) | 1500 |

## Node PP6 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.550 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 56.180 | Diameter (m) | 0.025 | | |

## Node PP2 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.750 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 55.370 | Diameter (m) | 0.023 | | |

## Node PP1 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.700 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 55.610 | Diameter (m) | 0.024 | | |

## Node PP4 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.750 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 56.550 | Diameter (m) | 0.023 | | |

## Node PP5 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.650 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 56.330 | Diameter (m) | 0.024 | | |

## Node PP7 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.550 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 56.620 | Diameter (m) | 0.025 | | |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Node PP3 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.550 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 57.300 | Diameter (m) | 0.025 | | |

## Node PP8 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.700 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 56.070 | Diameter (m) | 0.024 | | |

## Node 26 Online Hydro-Brake® Control

| | |
|---|---|
| Flap Valve | x |
| Replaces Downstream Link | ✓ |
| Invert Level (m) | 54.854 |
| Design Depth (m) | 0.935 |
| Design Flow (l/s) | 7.0 |
| Objective | (HE) Minimise upstream storage |
| Sump Available | ✓ |
| Product Number | CTL-SHE-0125-7000-0935-7000 |
| Min Outlet Diameter (m) | 0.150 |
| Min Node Diameter (mm) | 1200 |

## Node PP2 Carpark Storage Structure

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 55.370 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | | Depth (m) | 1.000 |
| Safety Factor | 2.0 | Width (m) | 13.300 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

## Node PP1 Carpark Storage Structure

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 55.610 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | | Depth (m) | 0.950 |
| Safety Factor | 2.0 | Width (m) | 13.450 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

## Node ATT. TANK 3 Soakaway Storage Structure

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 54.765 | Depth (m) | 1.470 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 0 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 15.000 | Number Required | 1 |
| Porosity | 0.95 | Pit Length (m) | 15.270 | | |

## Node PP4 Carpark Storage Structure

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.550 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | | Depth (m) | 0.800 |
| Safety Factor | 2.0 | Width (m) | 19.900 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

## Node PP5 Carpark Storage Structure

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.330 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | | Depth (m) | 0.700 |
| Safety Factor | 2.0 | Width (m) | 23.350 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Node PP3 Carpark Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 57.300 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 0 | Depth (m) | 0.600 |
| Safety Factor | 2.0 | Width (m) | 15.350 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

**Node PP6 Carpark Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.180 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 0 | Depth (m) | 0.600 |
| Safety Factor | 2.0 | Width (m) | 16.100 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

**Node PP7 Carpark Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.620 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 0 | Depth (m) | 0.600 |
| Safety Factor | 2.0 | Width (m) | 10.650 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

**Node ATT. TANK 6 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 55.235 | Depth (m) | 1.050 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 26 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 10.000 | Number Required | 1 |
| Porosity | 0.95 | Pit Length (m) | 13.500 | | |

**Node PP8 Carpark Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.070 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 248 | Depth (m) | 0.800 |
| Safety Factor | 2.0 | Width (m) | 13.050 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

**Node ATT. TANK 4 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 54.935 | Depth (m) | 1.320 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 96 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 3.680 | Number Required | 1 |
| Porosity | 0.95 | Pit Length (m) | 20.000 | | |

**Node ATT. TANK 5 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 55.240 | Depth (m) | 0.690 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 100 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 4.800 | Number Required | 1 |
| Porosity | 0.95 | Pit Length (m) | 12.000 | | |

**Node Rain Garden 1 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.504 | Depth (m) | 0.400 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 1.800 | Number Required | 1 |
| Porosity | 0.30 | Pit Length (m) | 20.000 | | |

**Node Rain Garden 2 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.367 | Depth (m) | 0.400 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 1.800 | Number Required | 1 |
| Porosity | 0.30 | Pit Length (m) | 20.000 | | |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Node Rain Garden 3 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.873 | Depth (m) | 0.400 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 2 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 1.800 | Number Required | 1 |
| Porosity | 0.30 | Pit Length (m) | 13.000 | | |

**Node Rain Garden 4 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.706 | Depth (m) | 0.400 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 2 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 1.800 | Number Required | 1 |
| Porosity | 0.30 | Pit Length (m) | 16.000 | | |

**Node Rain Garden 5 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.850 | Depth (m) | 0.400 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 7 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 1.800 | Number Required | 1 |
| Porosity | 0.30 | Pit Length (m) | 16.000 | | |

**Node Rain Garden 6 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 57.250 | Depth (m) | 0.400 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 5 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 1.800 | Number Required | 1 |
| Porosity | 0.30 | Pit Length (m) | 13.000 | | |

**Node Rain Garden 7 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 57.040 | Depth (m) | 0.400 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 3 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 1.800 | Number Required | 1 |
| Porosity | 0.30 | Pit Length (m) | 16.000 | | |

**Node ATT. TANK 2 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 54.325 | Depth (m) | 1.350 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 16.000 | Number Required | 1 |
| Porosity | 0.95 | Pit Length (m) | 17.800 | | |

**Node ATT. TANK 1 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 54.900 | Depth (m) | 0.630 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 25 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 6.000 | Number Required | 1 |
| Porosity | 0.95 | Pit Length (m) | 8.000 | | |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Results for 1 year Critical Storm Duration. Lowest mass balance: 100.00%**

| Node Event | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|---|---|---|---|---|---|---|---|---|
| 30 minute summer | ATT. TANK 1 | 22 | 54.942 | 0.042 | 4.6 | 1.9270 | 0.0000 | OK |
| 15 minute summer | 28 | 10 | 55.047 | 0.041 | 2.7 | 0.0066 | 0.0000 | OK |
| 15 minute summer | 25 | 10 | 54.653 | 0.041 | 3.0 | 0.0468 | 0.0000 | OK |
| 15 minute summer | 24 | 11 | 54.623 | 0.063 | 6.7 | 0.0715 | 0.0000 | OK |
| 120 minute summer | 19 | 82 | 55.076 | 0.122 | 11.5 | 0.1383 | 0.0000 | OK |
| 15 minute summer | 22 | 10 | 55.662 | 0.051 | 4.8 | 0.0581 | 0.0000 | OK |
| 15 minute summer | 21 | 11 | 55.436 | 0.077 | 9.9 | 0.0874 | 0.0000 | OK |
| 15 minute summer | 20 | 11 | 55.349 | 0.094 | 16.8 | 0.1068 | 0.0000 | OK |
| 15 minute summer | MH33 | 1 | 54.840 | 0.000 | 3.5 | 0.0000 | 0.0000 | OK |
| 120 minute summer | ATT. TANK 6 | 74 | 55.323 | 0.088 | 10.1 | 11.3039 | 0.0000 | OK |
| 600 minute summer | PP8 | 405 | 56.199 | 0.129 | 1.7 | 10.0305 | 0.0000 | OK |
| 120 minute summer | ATT. TANK 4 | 82 | 55.076 | 0.141 | 11.2 | 9.8611 | 0.0000 | OK |
| 360 minute summer | 3 | 224 | 54.623 | 0.294 | 27.5 | 0.5196 | 0.0000 | OK |
| 15 minute summer | 31 | 11 | 55.666 | 0.100 | 23.8 | 0.1425 | 0.0000 | OK |
| 15 minute summer | J2 | 11 | 55.839 | 0.088 | 13.1 | 0.0000 | 0.0000 | OK |
| 720 minute summer | PP7 | 435 | 56.680 | 0.060 | 0.7 | 3.7954 | 0.0000 | OK |
| 15 minute summer | 32 | 10 | 55.938 | 0.072 | 9.3 | 0.0819 | 0.0000 | OK |
| 30 minute summer | ATT. TANK 5 | 21 | 55.322 | 0.082 | 18.5 | 4.4971 | 0.0000 | OK |
| 120 minute summer | 18 | 82 | 55.076 | 0.154 | 5.6 | 0.1738 | 0.0000 | OK |
| 480 minute summer | PP6 | 328 | 56.242 | 0.062 | 1.3 | 5.9325 | 0.0000 | OK |
| 120 minute summer | 17 | 82 | 55.075 | 0.271 | 6.4 | 0.4783 | 0.0000 | OK |
| 15 minute summer | 16 | 11 | 54.734 | 0.085 | 12.6 | 0.0960 | 0.0000 | OK |
| 15 minute summer | DIVERSION MH | 1 | 55.171 | 0.000 | 13.2 | 0.0000 | 0.0000 | OK |
| 15 minute summer | Rain Garden 2 | 1 | 56.367 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 15 minute summer | 15 | 10 | 55.628 | 0.043 | 6.2 | 0.0485 | 0.0000 | OK |
| 15 minute summer | 14 | 11 | 54.969 | 0.080 | 11.7 | 0.0908 | 0.0000 | OK |
| 15 minute summer | Rain Garden 1 | 1 | 56.504 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 15 minute summer | 10 | 11 | 55.820 | 0.044 | 13.1 | 0.0497 | 0.0000 | OK |

| Link Event (Upstream Depth) | US Node | Link | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|---|---|---|---|---|---|---|---|---|
| 30 minute summer | ATT. TANK 1 | 26.001 | 27 | 2.0 | 0.494 | 0.050 | 0.0056 | |
| 15 minute summer | 28 | 26.000 | ATT. TANK 1 | 2.7 | 0.703 | 0.151 | 0.0120 | |
| 15 minute summer | 25 | 20.000 | 24 | 2.9 | 0.361 | 0.042 | 0.1057 | |
| 15 minute summer | 24 | 20.001 | 1 | 6.6 | 0.631 | 0.093 | 0.1943 | |
| 120 minute summer | 19 | 16.004 | ATT. TANK 4 | 11.2 | 0.977 | 0.214 | 0.0451 | |
| 15 minute summer | 22 | 16.000 | 21 | 4.6 | 0.501 | 0.116 | 0.4039 | |
| 15 minute summer | 21 | 16.001 | 20 | 9.7 | 0.699 | 0.244 | 0.2472 | |
| 15 minute summer | 20 | 16.002 | ATT. TANK 5 | 16.9 | 1.588 | 0.374 | 0.0267 | |
| 120 minute summer | ATT. TANK 6 | 25.000 | 33 | 5.0 | 0.354 | 0.030 | 0.0339 | |
| 600 minute summer | PP8 | 23.000 | J2 | 0.4 | 0.416 | 0.023 | 0.0151 | |
| 120 minute summer | ATT. TANK 4 | 16.005 | 18 | 5.4 | 0.604 | 0.123 | 0.0490 | |
| 360 minute summer | 3 | 1.005 | ATT. TANK 2 | 26.8 | 0.897 | 0.109 | 0.1915 | |
| 15 minute summer | 31 | 21.003 | 30 | 23.7 | 1.039 | 0.148 | 0.7691 | |
| 15 minute summer | J2 | 21.002 | 31 | 13.1 | 0.771 | 0.185 | 0.4556 | |
| 720 minute summer | PP7 | 21.000 | 32 | 0.3 | 0.373 | 0.016 | 0.0124 | |
| 15 minute summer | 32 | 21.001 | J2 | 9.2 | 0.633 | 0.130 | 0.4253 | |
| 30 minute summer | ATT. TANK 5 | 16.003 | 19 | 13.3 | 1.020 | 0.283 | 0.4548 | |
| 120 minute summer | 18 | 16.006 | 17 | 5.7 | 0.520 | 0.143 | 0.2384 | |
| 480 minute summer | PP6 | 19.000 | 17 | 0.3 | 0.352 | 0.006 | 0.0101 | |
| 120 minute summer | 17 | 16.007 | 16 | 6.3 | 0.595 | 0.090 | 0.4522 | |
| 15 minute summer | 16 | 16.008 | 1 | 12.0 | 0.749 | 0.169 | 0.6489 | |
| 15 minute summer | Rain Garden 2 | 11.000 | J4 | 0.0 | 0.000 | 0.000 | 0.0000 | |
| 15 minute summer | 15 | 8.000 | 14 | 6.1 | 0.606 | 0.045 | 0.4933 | |
| 15 minute summer | 14 | 8.001 | J4 | 11.3 | 0.618 | 0.160 | 0.5776 | |
| 15 minute summer | Rain Garden 1 | 12.000 | J4 | 0.0 | 0.000 | 0.000 | 0.0000 | |
| 15 minute summer | 10 | 5.003 | 9 | 13.2 | 0.993 | 0.047 | 0.2142 | |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Results for 1 year Critical Storm Duration. Lowest mass balance: 100.00%**

| Node Event | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|---|---|---|---|---|---|---|---|---|
| 720 minute summer | PP2 | 495 | 55.537 | 0.167 | 1.9 | 13.2824 | 0.0000 | SURCHARGED |
| 720 minute summer | PP1 | 480 | 55.771 | 0.161 | 1.9 | 12.9448 | 0.0000 | SURCHARGED |
| 15 minute summer | J4 | 11 | 54.865 | 0.104 | 18.3 | 0.0000 | 0.0000 | OK |
| 15 minute summer | Rain Garden 3 | 11 | 56.895 | 0.022 | 1.8 | 0.1510 | 0.0000 | OK |
| 15 minute summer | Rain Garden 4 | 11 | 56.728 | 0.022 | 1.8 | 0.1915 | 0.0000 | OK |
| 120 minute summer | 33 | 74 | 55.323 | 0.092 | 5.0 | 0.1314 | 0.0000 | OK |
| 360 minute summer | PP3 | 240 | 57.351 | 0.051 | 1.2 | 4.5837 | 0.0000 | OK |
| 15 minute summer | 12 | 10 | 56.216 | 0.038 | 2.6 | 0.0435 | 0.0000 | OK |
| 15 minute summer | J5 | 11 | 56.121 | 0.058 | 5.8 | 0.0000 | 0.0000 | OK |
| 30 minute summer | 27 | 21 | 54.941 | 0.047 | 2.0 | 0.0134 | 0.0000 | OK |
| 15 minute summer | 13 | 11 | 56.150 | 0.049 | 4.2 | 0.0555 | 0.0000 | OK |
| 15 minute summer | 11 | 11 | 55.937 | 0.090 | 13.1 | 0.1023 | 0.0000 | OK |
| 15 minute summer | 9 | 11 | 54.889 | 0.102 | 18.0 | 0.1157 | 0.0000 | OK |
| 120 minute summer | ATT. TANK 3 | 74 | 54.834 | 0.069 | 15.6 | 15.0178 | 0.0000 | OK |
| 960 minute summer | PP5 | 645 | 56.442 | 0.112 | 1.7 | 15.5208 | 0.0000 | OK |
| 15 minute summer | 7 | 10 | 56.625 | 0.022 | 2.7 | 0.0252 | 0.0000 | OK |
| 15 minute summer | 6 | 11 | 55.200 | 0.096 | 16.7 | 0.1090 | 0.0000 | OK |
| 15 minute summer | 34 | 1 | 55.951 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 15 minute summer | 8 | 1 | 55.884 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 15 minute summer | 5 | 11 | 54.862 | 0.143 | 32.5 | 0.2042 | 0.0000 | OK |
| 1440 minute summer | PP4 | 930 | 56.683 | 0.133 | 1.3 | 15.7847 | 0.0000 | OK |
| 15 minute summer | J6 | 11 | 54.797 | 0.146 | 35.3 | 0.0000 | 0.0000 | OK |
| 360 minute summer | 4 | 224 | 54.624 | 0.224 | 28.1 | 0.3954 | 0.0000 | OK |
| 360 minute summer | 2 | 224 | 54.623 | 0.309 | 16.8 | 0.7853 | 0.0000 | OK |
| 15 minute summer | 23 | 1 | 56.014 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 240 minute summer | 1 | 148 | 54.429 | 0.173 | 25.4 | 0.7837 | 0.0000 | OK |
| 15 minute summer | MH91 | 1 | 54.240 | 0.000 | 20.3 | 0.0000 | 0.0000 | OK |
| 30 minute summer | 26 | 21 | 54.940 | 0.086 | 4.7 | 0.0975 | 0.0000 | OK |

| Link Event (Upstream Depth) | US Node | Link | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|---|---|---|---|---|---|---|---|---|
| 720 minute summer | PP2 | 9.000 | J4 | 0.4 | 0.423 | 0.024 | 0.0200 | |
| 720 minute summer | PP1 | 10.000 | J4 | 0.5 | 0.432 | 0.026 | 0.0187 | |
| 15 minute summer | J4 | 8.002 | 4 | 18.0 | 0.844 | 0.255 | 0.7136 | |
| 15 minute summer | Rain Garden 3 | 15.000 | 4 | 1.8 | 1.431 | 0.099 | 0.0185 | |
| 15 minute summer | Rain Garden 4 | 14.000 | 4 | 1.7 | 1.324 | 0.105 | 0.0203 | |
| 120 minute summer | 33 | 25.001 | 29 | 5.2 | 0.215 | 0.031 | 0.5303 | |
| 360 minute summer | PP3 | 6.000 | J5 | 0.3 | 0.417 | 0.004 | 0.0082 | |
| 15 minute summer | 12 | 5.000 | J5 | 2.6 | 0.415 | 0.064 | 0.1224 | |
| 15 minute summer | J5 | 5.001 | 11 | 5.7 | 0.714 | 0.144 | 0.1923 | |
| 30 minute summer | 27 | 26.002 | 26 | 2.0 | 0.269 | 0.052 | 0.0688 | |
| 15 minute summer | 13 | 7.000 | 11 | 4.1 | 0.646 | 0.102 | 0.1919 | |
| 15 minute summer | 11 | 5.002 | 10 | 13.1 | 1.119 | 0.186 | 0.2114 | |
| 15 minute summer | 9 | 5.004 | ATT. TANK 3 | 18.0 | 1.703 | 0.254 | 0.0676 | |
| 120 minute summer | ATT. TANK 3 | 5.005 | 4 | 8.4 | 0.690 | 0.116 | 0.3994 | |
| 960 minute summer | PP5 | 2.000 | J6 | 0.4 | 0.608 | 0.004 | 0.0084 | |
| 15 minute summer | 7 | 1.000 | 6 | 2.7 | 1.334 | 0.020 | 0.0432 | |
| 15 minute summer | 6 | 1.001 | 5 | 15.5 | 0.809 | 0.220 | 1.4630 | |
| 15 minute summer | 34 | 24.000 | 31 | 0.0 | 0.000 | 0.000 | 0.0000 | |
| 15 minute summer | 8 | 4.000 | J6 | 0.0 | 0.000 | 0.000 | 0.0000 | |
| 15 minute summer | 5 | 1.002 | J6 | 32.5 | 0.834 | 0.295 | 0.8576 | |
| 1440 minute summer | PP4 | 3.000 | J6 | 0.4 | 0.384 | 0.007 | 0.0103 | |
| 15 minute summer | J6 | 1.003 | 4 | 34.7 | 0.934 | 0.314 | 1.2258 | |
| 360 minute summer | 4 | 1.004 | 3 | 27.5 | 0.517 | 0.112 | 2.8917 | |
| 360 minute summer | 2 | Hydro-Brake® | 1 | 16.8 | | | | |
| 15 minute summer | 23 | 18.000 | ATT. TANK 4 | 0.0 | 0.000 | 0.000 | 0.0000 | |
| 240 minute summer | 1 | Hydro-Brake® | MH91 | 25.4 | | | | 260.5 |
| 30 minute summer | 26 | Hydro-Brake® | MH33 | 3.6 | | | | 5.0 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Results for 1 year Critical Storm Duration. Lowest mass balance: 100.00%**

| Node Event | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|---|---|---|---|---|---|---|---|---|
| 15 minute summer | 29 | 12 | 55.334 | 0.147 | 24.9 | 0.2592 | 0.0000 | OK |
| 360 minute summer | ATT. TANK 2 | 224 | 54.623 | 0.298 | 30.0 | 80.5863 | 0.0000 | OK |
| 15 minute summer | Rain Garden 5 | 12 | 56.885 | 0.035 | 1.8 | 0.3044 | 0.0000 | OK |
| 15 minute summer | Rain Garden 6 | 12 | 57.283 | 0.033 | 1.6 | 0.2332 | 0.0000 | OK |
| 15 minute summer | Rain Garden 7 | 11 | 57.065 | 0.025 | 2.2 | 0.2172 | 0.0000 | OK |
| 15 minute summer | 30 | 11 | 55.390 | 0.117 | 23.7 | 0.1668 | 0.0000 | OK |

| Link Event (Upstream Depth) | US Node | Link | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|---|---|---|---|---|---|---|---|---|
| 15 minute summer | 29 | Hydro-Brake® | DIVERSION MH | 13.2 | | | | 18.6 |
| 360 minute summer | ATT. TANK 2 | 1.006 | 2 | 16.6 | 0.220 | 0.073 | 0.6398 | |
| 15 minute summer | Rain Garden 5 | 13.000 | 4 | 1.4 | 0.576 | 0.262 | 0.0391 | |
| 15 minute summer | Rain Garden 6 | 17.000 | 19 | 1.3 | 0.565 | 0.235 | 0.0342 | |
| 15 minute summer | Rain Garden 7 | 22.000 | J2 | 2.0 | 1.317 | 0.137 | 0.0272 | |
| 15 minute summer | 30 | 21.004 | 29 | 23.4 | 0.622 | 0.147 | 1.3397 | |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Results for 10 year Critical Storm Duration. Lowest mass balance: 99.97%**

| Node Event | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|---|---|---|---|---|---|---|---|---|
| 30 minute summer | ATT. TANK 1 | 23 | 55.070 | 0.170 | 17.4 | 7.7734 | 0.0000 | OK |
| 15 minute summer | 28 | 10 | 55.082 | 0.076 | 8.1 | 0.0121 | 0.0000 | OK |
| 15 minute summer | 25 | 10 | 54.687 | 0.075 | 8.9 | 0.0845 | 0.0000 | OK |
| 15 minute summer | 24 | 10 | 54.674 | 0.114 | 20.2 | 0.1285 | 0.0000 | OK |
| 120 minute summer | 19 | 90 | 55.409 | 0.455 | 30.0 | 0.5151 | 0.0000 | SURCHARGED |
| 15 minute summer | 22 | 10 | 55.702 | 0.091 | 14.3 | 0.1034 | 0.0000 | OK |
| 15 minute summer | 21 | 11 | 55.520 | 0.161 | 29.8 | 0.1816 | 0.0000 | OK |
| 15 minute summer | 20 | 12 | 55.456 | 0.201 | 50.6 | 0.2278 | 0.0000 | OK |
| 15 minute summer | MH33 | 1 | 54.840 | 0.000 | 6.8 | 0.0000 | 0.0000 | OK |
| 60 minute summer | ATT. TANK 6 | 43 | 55.509 | 0.274 | 49.7 | 35.0766 | 0.0000 | OK |
| 360 minute winter | PP8 | 296 | 56.352 | 0.282 | 3.5 | 21.9831 | 0.0000 | SURCHARGED |
| 120 minute summer | ATT. TANK 4 | 90 | 55.409 | 0.474 | 29.0 | 33.1405 | 0.0000 | SURCHARGED |
| 180 minute summer | 3 | 136 | 54.960 | 0.631 | 87.3 | 1.1154 | 0.0000 | SURCHARGED |
| 15 minute summer | 31 | 11 | 55.751 | 0.185 | 72.3 | 0.2653 | 0.0000 | OK |
| 15 minute summer | J2 | 11 | 55.915 | 0.164 | 40.2 | 0.0000 | 0.0000 | OK |
| 240 minute winter | PP7 | 192 | 56.753 | 0.133 | 2.1 | 8.4075 | 0.0000 | OK |
| 15 minute summer | 32 | 10 | 55.998 | 0.132 | 28.2 | 0.1493 | 0.0000 | OK |
| 15 minute summer | ATT. TANK 5 | 13 | 55.422 | 0.182 | 63.5 | 9.9555 | 0.0000 | OK |
| 120 minute summer | 18 | 90 | 55.409 | 0.487 | 6.6 | 0.5502 | 0.0000 | SURCHARGED |
| 360 minute summer | PP6 | 272 | 56.318 | 0.138 | 3.3 | 13.2184 | 0.0000 | OK |
| 120 minute summer | 17 | 90 | 55.407 | 0.603 | 7.8 | 1.0654 | 0.0000 | SURCHARGED |
| 15 minute summer | 16 | 11 | 54.790 | 0.141 | 30.9 | 0.1595 | 0.0000 | OK |
| 15 minute summer | DIVERSION MH | 1 | 55.171 | 0.000 | 21.2 | 0.0000 | 0.0000 | OK |
| 15 minute summer | Rain Garden 2 | 1 | 56.367 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 15 minute summer | 15 | 10 | 55.659 | 0.074 | 18.6 | 0.0835 | 0.0000 | OK |
| 15 minute summer | 14 | 11 | 55.036 | 0.147 | 35.0 | 0.1661 | 0.0000 | OK |
| 15 minute summer | Rain Garden 1 | 1 | 56.504 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 15 minute summer | 10 | 11 | 55.851 | 0.075 | 39.5 | 0.0854 | 0.0000 | OK |

| Link Event (Upstream Depth) | US Node | Link | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|---|---|---|---|---|---|---|---|---|
| 30 minute summer | ATT. TANK 1 | 26.001 | 27 | -6.8 | 0.551 | -0.169 | 0.0328 | |
| 15 minute summer | 28 | 26.000 | ATT. TANK 1 | 8.1 | 0.940 | 0.455 | 0.0270 | |
| 15 minute summer | 25 | 20.000 | 24 | 8.8 | 0.464 | 0.124 | 0.2438 | |
| 15 minute summer | 24 | 20.001 | 1 | 19.9 | 0.846 | 0.281 | 0.4357 | |
| 120 minute summer | 19 | 16.004 | ATT. TANK 4 | 29.0 | 1.207 | 0.553 | 0.0744 | |
| 15 minute summer | 22 | 16.000 | 21 | 14.0 | 0.631 | 0.352 | 0.9699 | |
| 15 minute summer | 21 | 16.001 | 20 | 29.4 | 0.875 | 0.740 | 0.5924 | |
| 15 minute summer | 20 | 16.002 | ATT. TANK 5 | 52.5 | 1.719 | 1.162 | 0.0713 | |
| | | | | | | | | |
| 60 minute summer | ATT. TANK 6 | 25.000 | 33 | -26.4 | -0.508 | -0.159 | 0.1531 | |
| 360 minute winter | PP8 | 23.000 | J2 | 0.6 | 0.473 | 0.035 | 0.0202 | |
| 120 minute summer | ATT. TANK 4 | 16.005 | 18 | 6.6 | 0.596 | 0.149 | 0.0708 | |
| 180 minute summer | 3 | 1.005 | ATT. TANK 2 | 85.1 | 1.187 | 0.345 | 0.3299 | |
| 15 minute summer | 31 | 21.003 | 30 | 72.8 | 1.396 | 0.453 | 1.7585 | |
| 15 minute summer | J2 | 21.002 | 31 | 40.2 | 1.058 | 0.569 | 1.0203 | |
| 240 minute winter | PP7 | 21.000 | 32 | 0.4 | 0.427 | 0.025 | 0.0170 | |
| 15 minute summer | 32 | 21.001 | J2 | 27.9 | 0.813 | 0.395 | 0.9698 | |
| 15 minute summer | ATT. TANK 5 | 16.003 | 19 | 46.2 | 1.310 | 0.982 | 1.2946 | |
| 120 minute summer | 18 | 16.006 | 17 | 6.7 | 0.501 | 0.167 | 0.2892 | |
| 360 minute summer | PP6 | 19.000 | 17 | 0.5 | 0.404 | 0.009 | 0.0138 | |
| 120 minute summer | 17 | 16.007 | 16 | 7.2 | 0.639 | 0.101 | 0.6226 | |
| 15 minute summer | 16 | 16.008 | 1 | 30.2 | 0.964 | 0.428 | 1.2700 | |
| | | | | | | | | |
| 15 minute summer | Rain Garden 2 | 11.000 | J4 | 0.0 | 0.000 | 0.000 | 0.0000 | |
| 15 minute summer | 15 | 8.000 | 14 | 18.4 | 0.793 | 0.135 | 1.1031 | |
| 15 minute summer | 14 | 8.001 | J4 | 34.5 | 0.811 | 0.488 | 1.3295 | |
| 15 minute summer | Rain Garden 1 | 12.000 | J4 | 0.0 | 0.000 | 0.000 | 0.0000 | |
| 15 minute summer | 10 | 5.003 | 9 | 39.6 | 1.336 | 0.141 | 0.4676 | |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Results for 10 year Critical Storm Duration. Lowest mass balance: 99.97%**

| Node Event | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|---|---|---|---|---|---|---|---|---|
| 360 minute winter | PP2 | 344 | 55.734 | 0.364 | 4.4 | 28.9602 | 0.0000 | SURCHARGED |
| 480 minute summer | PP1 | 384 | 55.963 | 0.353 | 5.3 | 28.4392 | 0.0000 | SURCHARGED |
| 15 minute summer | J4 | 11 | 54.964 | 0.203 | 55.4 | 0.0000 | 0.0000 | OK |
| 15 minute summer | Rain Garden 3 | 11 | 56.911 | 0.038 | 5.5 | 0.2695 | 0.0000 | OK |
| 15 minute summer | Rain Garden 4 | 11 | 56.746 | 0.040 | 5.5 | 0.3481 | 0.0000 | OK |
| 60 minute summer | 33 | 43 | 55.508 | 0.277 | 28.3 | 0.3969 | 0.0000 | OK |
| 360 minute summer | PP3 | 256 | 57.410 | 0.110 | 2.6 | 9.9972 | 0.0000 | OK |
| 15 minute summer | 12 | 10 | 56.244 | 0.066 | 7.7 | 0.0749 | 0.0000 | OK |
| 15 minute summer | J5 | 10 | 56.168 | 0.105 | 17.4 | 0.0000 | 0.0000 | OK |
| 30 minute summer | 27 | 23 | 55.070 | 0.176 | 7.2 | 0.0499 | 0.0000 | OK |
| 15 minute summer | 13 | 10 | 56.189 | 0.088 | 12.6 | 0.0995 | 0.0000 | OK |
| 15 minute summer | 11 | 10 | 56.006 | 0.159 | 39.6 | 0.1802 | 0.0000 | OK |
| 15 minute summer | 9 | 10 | 54.975 | 0.188 | 54.0 | 0.2125 | 0.0000 | OK |
| 180 minute summer | ATT. TANK 3 | 140 | 54.961 | 0.196 | 29.2 | 42.6834 | 0.0000 | OK |
| 480 minute winter | PP5 | 456 | 56.563 | 0.233 | 3.7 | 32.5506 | 0.0000 | SURCHARGED |
| 15 minute summer | 7 | 10 | 56.641 | 0.038 | 8.2 | 0.0425 | 0.0000 | OK |
| 15 minute summer | 6 | 10 | 55.289 | 0.185 | 50.2 | 0.2088 | 0.0000 | OK |
| 15 minute summer | 34 | 1 | 55.951 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 15 minute summer | 8 | 1 | 55.884 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 15 minute summer | 5 | 11 | 55.015 | 0.296 | 102.7 | 0.4240 | 0.0000 | OK |
| 480 minute winter | PP4 | 456 | 56.834 | 0.284 | 3.8 | 33.7599 | 0.0000 | SURCHARGED |
| 180 minute summer | J6 | 136 | 54.961 | 0.310 | 38.6 | 0.0000 | 0.0000 | OK |
| 180 minute summer | 4 | 136 | 54.961 | 0.561 | 94.4 | 0.9908 | 0.0000 | SURCHARGED |
| 180 minute summer | 2 | 136 | 54.960 | 0.646 | 20.2 | 1.6439 | 0.0000 | SURCHARGED |
| 15 minute summer | 23 | 1 | 56.014 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 15 minute summer | 1 | 11 | 54.553 | 0.297 | 58.4 | 1.3452 | 0.0000 | OK |
| 15 minute summer | MH91 | 1 | 54.240 | 0.000 | 55.3 | 0.0000 | 0.0000 | OK |
| 30 minute summer | 26 | 23 | 55.070 | 0.216 | 14.3 | 0.2441 | 0.0000 | OK |

| Link Event (Upstream Depth) | US Node | Link | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|---|---|---|---|---|---|---|---|---|
| 360 minute winter | PP2 | 9.000 | J4 | 0.6 | 0.480 | 0.037 | 0.0266 | |
| 480 minute summer | PP1 | 10.000 | J4 | 0.7 | 0.490 | 0.039 | 0.0250 | |
| 15 minute summer | J4 | 8.002 | 4 | 55.5 | 1.159 | 0.785 | 1.5952 | |
| 15 minute summer | Rain Garden 3 | 15.000 | 4 | 5.4 | 1.958 | 0.303 | 0.0414 | |
| 15 minute summer | Rain Garden 4 | 14.000 | 4 | 5.3 | 1.824 | 0.331 | 0.0464 | |
| 60 minute summer | 33 | 25.001 | 29 | -28.3 | -0.400 | -0.172 | 1.8775 | |
| 360 minute summer | PP3 | 6.000 | J5 | 0.4 | 0.477 | 0.006 | 0.0114 | |
| 15 minute summer | 12 | 5.000 | J5 | 7.6 | 0.552 | 0.192 | 0.2716 | |
| 15 minute summer | J5 | 5.001 | 11 | 17.1 | 0.963 | 0.431 | 0.4275 | |
| 30 minute summer | 27 | 26.002 | 26 | -7.2 | 0.346 | -0.180 | 0.2490 | |
| 15 minute summer | 13 | 7.000 | 11 | 12.3 | 0.877 | 0.309 | 0.4271 | |
| 15 minute summer | 11 | 5.002 | 10 | 39.5 | 1.550 | 0.559 | 0.4515 | |
| 15 minute summer | 9 | 5.004 | ATT. TANK 3 | 54.9 | 2.042 | 0.777 | 0.1781 | |
| 180 minute summer | ATT. TANK 3 | 5.005 | 4 | 23.2 | 0.835 | 0.322 | 1.9649 | |
| 480 minute winter | PP5 | 2.000 | J6 | 0.6 | 0.682 | 0.006 | 0.0111 | |
| 15 minute summer | 7 | 1.000 | 6 | 8.2 | 1.455 | 0.061 | 0.2535 | |
| 15 minute summer | 6 | 1.001 | 5 | 49.4 | 1.006 | 0.699 | 3.8148 | |
| 15 minute summer | 34 | 24.000 | 31 | 0.0 | 0.000 | 0.000 | 0.0000 | |
| 15 minute summer | 8 | 4.000 | J6 | 0.0 | 0.000 | 0.000 | 0.0133 | |
| 15 minute summer | 5 | 1.002 | J6 | 100.0 | 1.091 | 0.906 | 2.0411 | |
| 480 minute winter | PP4 | 3.000 | J6 | 0.6 | 0.435 | 0.011 | 0.0136 | |
| 180 minute summer | J6 | 1.003 | 4 | 38.1 | 0.894 | 0.346 | 3.4033 | |
| 180 minute summer | 4 | 1.004 | 3 | 87.3 | 0.616 | 0.355 | 5.8908 | |
| 180 minute summer | 2 | Hydro-Brake® | 1 | 20.0 | | | | |
| 15 minute summer | 23 | 18.000 | ATT. TANK 4 | 0.0 | 0.000 | 0.000 | 0.0000 | |
| 15 minute summer | 1 | Hydro-Brake® | MH91 | 55.3 | | | | 214.6 |
| 30 minute summer | 26 | Hydro-Brake® | MH33 | 6.9 | | | | 15.7 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Results for 10 year Critical Storm Duration. Lowest mass balance: 99.97%**

| Node Event | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|---|---|---|---|---|---|---|---|---|
| 60 minute summer | 29 | 43 | 55.507 | 0.320 | 52.8 | 0.5659 | 0.0000 | OK |
| 180 minute summer | ATT. TANK 2 | 136 | 54.960 | 0.635 | 95.8 | 171.8379 | 0.0000 | SURCHARGED |
| 15 minute summer | Rain Garden 5 | 12 | 56.924 | 0.074 | 5.5 | 0.6370 | 0.0000 | OK |
| 15 minute summer | Rain Garden 6 | 11 | 57.318 | 0.068 | 4.8 | 0.4756 | 0.0000 | OK |
| 15 minute summer | Rain Garden 7 | 11 | 57.086 | 0.046 | 6.5 | 0.3942 | 0.0000 | OK |
| 60 minute summer | 30 | 42 | 55.508 | 0.235 | 50.6 | 0.3364 | 0.0000 | OK |

| Link Event (Upstream Depth) | US Node | Link | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|---|---|---|---|---|---|---|---|---|
| 60 minute summer | 29 | Hydro-Brake® | DIVERSION MH | 21.5 | | | | 93.5 |
| 180 minute summer | ATT. TANK 2 | 1.006 | 2 | 19.9 | 0.172 | 0.088 | 1.0702 | |
| 15 minute summer | Rain Garden 5 | 13.000 | 4 | 4.7 | 0.776 | 0.872 | 0.0966 | |
| 15 minute summer | Rain Garden 6 | 17.000 | 19 | 4.2 | 0.762 | 0.777 | 0.0842 | |
| 15 minute summer | Rain Garden 7 | 22.000 | J2 | 6.3 | 1.803 | 0.424 | 0.0615 | |
| 60 minute summer | 30 | 21.004 | 29 | 49.7 | 0.695 | 0.311 | 3.5706 | |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.92%**

| Node Event | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|---|---|---|---|---|---|---|---|---|
| 60 minute summer | ATT. TANK 1 | 45 | 55.320 | 0.420 | 26.2 | 19.1742 | 0.0000 | SURCHARGED |
| 60 minute summer | 28 | 45 | 55.321 | 0.315 | 10.3 | 0.0501 | 0.0000 | SURCHARGED |
| 30 minute summer | 25 | 21 | 55.012 | 0.400 | 15.0 | 0.4524 | 0.0000 | SURCHARGED |
| 30 minute summer | 24 | 21 | 55.012 | 0.452 | 31.5 | 0.5112 | 0.0000 | SURCHARGED |
| 120 minute winter | 19 | 118 | 55.835 | 0.881 | 28.9 | 0.9961 | 0.0000 | SURCHARGED |
| 15 minute summer | 22 | 11 | 55.996 | 0.385 | 26.3 | 0.4359 | 0.0000 | SURCHARGED |
| 15 minute summer | 21 | 11 | 55.889 | 0.530 | 51.9 | 0.6000 | 0.0000 | SURCHARGED |
| 120 minute winter | 20 | 118 | 55.837 | 0.582 | 28.3 | 0.6582 | 0.0000 | SURCHARGED |
| 15 minute summer | MH33 | 1 | 54.840 | 0.000 | 7.0 | 0.0000 | 0.0000 | OK |
| 60 minute summer | ATT. TANK 6 | 53 | 55.885 | 0.650 | 104.9 | 83.3130 | 0.0000 | SURCHARGED |
| 360 minute winter | PP8 | 344 | 56.595 | 0.525 | 6.1 | 41.0119 | 0.0000 | SURCHARGED |
| 120 minute winter | ATT. TANK 4 | 118 | 55.834 | 0.899 | 28.0 | 62.8890 | 0.0000 | SURCHARGED |
| 240 minute winter | 3 | 232 | 55.434 | 1.105 | 72.9 | 1.9528 | 0.0000 | SURCHARGED |
| 60 minute summer | 31 | 53 | 55.887 | 0.321 | 94.7 | 0.4587 | 0.0000 | OK |
| 15 minute summer | J2 | 11 | 56.002 | 0.251 | 73.5 | 0.0000 | 0.0000 | OK |
| 360 minute winter | PP7 | 280 | 56.865 | 0.245 | 2.7 | 15.5838 | 0.0000 | SURCHARGED |
| 15 minute summer | 32 | 10 | 56.067 | 0.201 | 51.7 | 0.2274 | 0.0000 | OK |
| 120 minute winter | ATT. TANK 5 | 118 | 55.837 | 0.597 | 33.5 | 32.6590 | 0.0000 | SURCHARGED |
| 120 minute winter | 18 | 118 | 55.834 | 0.912 | 6.5 | 1.0317 | 0.0000 | SURCHARGED |
| 360 minute winter | PP6 | 336 | 56.432 | 0.252 | 3.8 | 24.2758 | 0.0000 | SURCHARGED |
| 120 minute winter | 17 | 118 | 55.833 | 1.029 | 7.8 | 1.8186 | 0.0000 | SURCHARGED |
| 30 minute summer | 16 | 20 | 55.035 | 0.386 | 49.1 | 0.4367 | 0.0000 | SURCHARGED |
| 15 minute summer | DIVERSION MH | 1 | 55.171 | 0.000 | 21.5 | 0.0000 | 0.0000 | OK |
| 15 minute summer | Rain Garden 2 | 1 | 56.367 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 15 minute summer | 15 | 10 | 55.686 | 0.101 | 34.2 | 0.1143 | 0.0000 | OK |
| 240 minute summer | 14 | 240 | 55.435 | 0.546 | 17.6 | 0.6177 | 0.0000 | SURCHARGED |
| 15 minute summer | Rain Garden 1 | 1 | 56.504 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 15 minute summer | 10 | 11 | 55.879 | 0.103 | 72.9 | 0.1170 | 0.0000 | OK |

| Link Event (Upstream Depth) | US Node | Link | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|---|---|---|---|---|---|---|---|---|
| 60 minute summer | ATT. TANK 1 | 26.001 | 27 | -11.8 | 0.548 | -0.293 | 0.0398 | |
| 60 minute summer | 28 | 26.000 | ATT. TANK 1 | 9.7 | 0.918 | 0.546 | 0.0553 | |
| 30 minute summer | 25 | 20.000 | 24 | 13.0 | 0.481 | 0.184 | 0.9012 | |
| 30 minute summer | 24 | 20.001 | 1 | 28.8 | 0.845 | 0.407 | 1.3076 | |
| 120 minute winter | 19 | 16.004 | ATT. TANK 4 | 27.8 | 1.504 | 0.531 | 0.0744 | |
| 15 minute summer | 22 | 16.000 | 21 | 24.1 | 0.676 | 0.607 | 1.7039 | |
| 15 minute summer | 21 | 16.001 | 20 | 50.9 | 1.280 | 1.281 | 0.7059 | |
| 120 minute winter | 20 | 16.002 | ATT. TANK 5 | 27.5 | 1.284 | 0.609 | 0.0789 | |
| 60 minute summer | ATT. TANK 6 | 25.000 | 33 | -64.4 | -0.693 | -0.389 | 0.2386 | |
| 360 minute winter | PP8 | 23.000 | J2 | 0.9 | 0.521 | 0.048 | 0.0254 | |
| 120 minute winter | ATT. TANK 4 | 16.005 | 18 | 6.5 | 0.539 | 0.147 | 0.0708 | |
| 240 minute winter | 3 | 1.005 | ATT. TANK 2 | 71.7 | 1.219 | 0.291 | 0.3299 | |
| 60 minute summer | 31 | 21.003 | 30 | 94.9 | 1.393 | 0.591 | 3.5500 | |
| 15 minute summer | J2 | 21.002 | 31 | 73.2 | 1.258 | 1.036 | 1.5558 | |
| 360 minute winter | PP7 | 21.000 | 32 | 0.6 | 0.472 | 0.035 | 0.0214 | |
| 15 minute summer | 32 | 21.001 | J2 | 50.8 | 0.916 | 0.718 | 1.5873 | |
| 120 minute winter | ATT. TANK 5 | 16.003 | 19 | 25.6 | 0.802 | 0.546 | 1.3885 | |
| 120 minute winter | 18 | 16.006 | 17 | 6.6 | 0.442 | 0.165 | 0.2892 | |
| 360 minute winter | PP6 | 19.000 | 17 | 0.6 | 0.447 | 0.012 | 0.0173 | |
| 120 minute winter | 17 | 16.007 | 16 | 7.2 | 0.639 | 0.101 | 0.6778 | |
| 30 minute summer | 16 | 16.008 | 1 | 48.0 | 0.965 | 0.679 | 2.8503 | |
| 15 minute summer | Rain Garden 2 | 11.000 | J4 | 0.0 | 0.000 | 0.000 | 0.0000 | |
| 15 minute summer | 15 | 8.000 | 14 | 33.9 | 0.889 | 0.249 | 2.1204 | |
| 240 minute summer | 14 | 8.001 | J4 | 16.1 | 0.621 | 0.227 | 2.2057 | |
| 15 minute summer | Rain Garden 1 | 12.000 | J4 | 0.0 | 0.000 | 0.000 | 0.0000 | |
| 15 minute summer | 10 | 5.003 | 9 | 73.1 | 1.667 | 0.260 | 0.6722 | |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.92%**

| Node Event | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|---|---|---|---|---|---|---|---|---|
| 480 minute winter | PP2 | 456 | 56.044 | 0.674 | 6.1 | 53.6724 | 0.0000 | SURCHARGED |
| 360 minute winter | PP1 | 344 | 56.267 | 0.657 | 7.7 | 52.9271 | 0.0000 | SURCHARGED |
| 240 minute summer | J4 | 240 | 55.435 | 0.674 | 27.2 | 0.0000 | 0.0000 | SURCHARGED |
| 15 minute summer | Rain Garden 3 | 11 | 56.928 | 0.055 | 10.1 | 0.3829 | 0.0000 | OK |
| 15 minute summer | Rain Garden 4 | 11 | 56.764 | 0.058 | 10.1 | 0.4992 | 0.0000 | OK |
| 60 minute summer | 33 | 53 | 55.885 | 0.654 | 66.1 | 0.9353 | 0.0000 | SURCHARGED |
| 360 minute summer | PP3 | 288 | 57.502 | 0.202 | 4.6 | 18.4712 | 0.0000 | OK |
| 15 minute summer | 12 | 10 | 56.270 | 0.092 | 14.2 | 0.1036 | 0.0000 | OK |
| 15 minute summer | J5 | 10 | 56.219 | 0.156 | 32.0 | 0.0000 | 0.0000 | OK |
| 60 minute summer | 27 | 45 | 55.320 | 0.426 | 12.4 | 0.1207 | 0.0000 | SURCHARGED |
| 15 minute summer | 13 | 10 | 56.225 | 0.124 | 23.1 | 0.1408 | 0.0000 | OK |
| 15 minute summer | 11 | 10 | 56.075 | 0.228 | 73.6 | 0.2582 | 0.0000 | OK |
| 240 minute winter | 9 | 232 | 55.435 | 0.648 | 18.8 | 0.7332 | 0.0000 | SURCHARGED |
| 240 minute winter | ATT. TANK 3 | 232 | 55.435 | 0.670 | 41.8 | 145.8291 | 0.0000 | SURCHARGED |
| 600 minute winter | PP5 | 570 | 56.760 | 0.430 | 5.3 | 60.0493 | 0.0000 | SURCHARGED |
| 15 minute summer | 7 | 10 | 56.654 | 0.051 | 15.1 | 0.0573 | 0.0000 | OK |
| 15 minute summer | 6 | 11 | 56.111 | 1.007 | 92.3 | 1.1390 | 0.0000 | SURCHARGED |
| 15 minute summer | 34 | 1 | 55.951 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 15 minute summer | 8 | 1 | 55.884 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 15 minute summer | 5 | 11 | 55.563 | 0.844 | 182.5 | 1.2081 | 0.0000 | SURCHARGED |
| 480 minute winter | PP4 | 464 | 57.074 | 0.524 | 6.6 | 62.4187 | 0.0000 | SURCHARGED |
| 240 minute winter | J6 | 232 | 55.435 | 0.784 | 36.0 | 0.0000 | 0.0000 | SURCHARGED |
| 240 minute winter | 4 | 232 | 55.435 | 1.035 | 77.8 | 1.8281 | 0.0000 | SURCHARGED |
| 240 minute winter | 2 | 232 | 55.434 | 1.120 | 20.4 | 2.8502 | 0.0000 | SURCHARGED |
| 15 minute summer | 23 | 1 | 56.014 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 30 minute summer | 1 | 21 | 55.003 | 0.747 | 83.2 | 3.3781 | 0.0000 | SURCHARGED |
| 15 minute summer | MH91 | 1 | 54.240 | 0.000 | 60.0 | 0.0000 | 0.0000 | OK |
| 60 minute summer | 26 | 45 | 55.320 | 0.466 | 20.0 | 0.5267 | 0.0000 | SURCHARGED |

| Link Event (Upstream Depth) | US Node | Link | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|---|---|---|---|---|---|---|---|---|
| 480 minute winter | PP2 | 9.000 | J4 | 0.9 | 0.522 | 0.050 | 0.1903 | |
| 360 minute winter | PP1 | 10.000 | J4 | 1.0 | 0.540 | 0.054 | 0.0314 | |
| 240 minute summer | J4 | 8.002 | 4 | 24.8 | 0.793 | 0.351 | 2.3485 | |
| 15 minute summer | Rain Garden 3 | 15.000 | 4 | 9.8 | 2.284 | 0.555 | 0.0651 | |
| 15 minute summer | Rain Garden 4 | 14.000 | 4 | 9.8 | 2.122 | 0.609 | 0.0733 | |
| 60 minute summer | 33 | 25.001 | 29 | -66.1 | -0.467 | -0.402 | 2.6655 | |
| 360 minute summer | PP3 | 6.000 | J5 | 0.6 | 0.528 | 0.008 | 0.0143 | |
| 15 minute summer | 12 | 5.000 | J5 | 14.1 | 0.630 | 0.354 | 0.4355 | |
| 15 minute summer | J5 | 5.001 | 11 | 31.6 | 1.087 | 0.795 | 0.6998 | |
| 60 minute summer | 27 | 26.002 | 26 | -12.4 | 0.346 | -0.311 | 0.2729 | |
| 15 minute summer | 13 | 7.000 | 11 | 22.9 | 0.898 | 0.577 | 0.7814 | |
| 15 minute summer | 11 | 5.002 | 10 | 72.9 | 1.829 | 1.032 | 0.6884 | |
| 240 minute winter | 9 | 5.004 | ATT. TANK 3 | 18.2 | 1.048 | 0.257 | 0.3848 | |
| 240 minute winter | ATT. TANK 3 | 5.005 | 4 | 19.4 | 0.784 | 0.268 | 2.3212 | |
| 600 minute winter | PP5 | 2.000 | J6 | 0.8 | 0.752 | 0.008 | 0.0138 | |
| 15 minute summer | 7 | 1.000 | 6 | 15.0 | 1.395 | 0.112 | 0.5007 | |
| 15 minute summer | 6 | 1.001 | 5 | 88.7 | 1.260 | 1.256 | 5.3562 | |
| 15 minute summer | 34 | 24.000 | 31 | 0.0 | 0.000 | 0.000 | 0.0526 | |
| 15 minute summer | 8 | 4.000 | J6 | 0.0 | 0.000 | 0.000 | 0.0761 | |
| 15 minute summer | 5 | 1.002 | J6 | 182.7 | 1.656 | 1.655 | 2.4246 | |
| 480 minute winter | PP4 | 3.000 | J6 | 0.8 | 0.481 | 0.015 | 0.0169 | |
| 240 minute winter | J6 | 1.003 | 4 | 35.8 | 0.792 | 0.324 | 3.6142 | |
| 240 minute winter | 4 | 1.004 | 3 | 72.9 | 0.638 | 0.296 | 5.8908 | |
| 240 minute winter | 2 | Hydro-Brake® | 1 | 20.0 | | | | |
| 15 minute summer | 23 | 18.000 | ATT. TANK 4 | 0.0 | 0.000 | 0.000 | 0.0000 | |
| 30 minute summer | 1 | Hydro-Brake® | MH91 | 60.0 | | | | 446.7 |
| 60 minute summer | 26 | Hydro-Brake® | MH33 | 7.0 | | | | 37.1 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.92%**

| Node Event | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|---|---|---|---|---|---|---|---|---|
| 60 minute summer | 29 | 53 | 55.885 | 0.698 | 90.9 | 1.2326 | 0.0000 | SURCHARGED |
| 240 minute winter | ATT. TANK 2 | 232 | 55.434 | 1.109 | 80.7 | 300.0648 | 0.0000 | SURCHARGED |
| 15 minute summer | Rain Garden 5 | 12 | 57.006 | 0.156 | 10.1 | 1.3463 | 0.0000 | FLOOD RISK |
| 15 minute summer | Rain Garden 6 | 12 | 57.388 | 0.138 | 8.8 | 0.9668 | 0.0000 | FLOOD RISK |
| 15 minute summer | Rain Garden 7 | 11 | 57.107 | 0.067 | 11.9 | 0.5746 | 0.0000 | OK |
| 60 minute summer | 30 | 53 | 55.885 | 0.612 | 94.9 | 0.8761 | 0.0000 | SURCHARGED |

| Link Event (Upstream Depth) | US Node | Link | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|---|---|---|---|---|---|---|---|---|
| 60 minute summer | 29 | Hydro-Brake® | DIVERSION MH | 21.5 | | | | 170.0 |
| 240 minute winter | ATT. TANK 2 | 1.006 | 2 | 19.9 | 0.109 | 0.087 | 1.0702 | |
| 15 minute summer | Rain Garden 5 | 13.000 | 4 | 6.8 | 0.871 | 1.258 | 0.1186 | |
| 15 minute summer | Rain Garden 6 | 17.000 | 19 | 6.5 | 0.846 | 1.204 | 0.1115 | |
| 15 minute summer | Rain Garden 7 | 22.000 | J2 | 11.5 | 2.077 | 0.777 | 0.0978 | |
| 60 minute summer | 30 | 21.004 | 29 | 85.0 | 0.682 | 0.532 | 5.5360 | |

**Water Quality (TSS)**

| Node | Treatment | Effectiveness | SuDS Component | Mitigation TSS | Cumulative TSS |
|---|---|---|---|---|---|
| ATT. TANK 5 | Soakaway | 1.0 | Bioretention System | 0.800 | 0.000 |
| MH91 | | | | | 0.000 |
| DIVERSION MH | | | | | 0.000 |
| MH33 | | | | | 0.000 |

**Water Quality (Metals)**

| Node | Treatment | Effectiveness | SuDS Component | Mitigation Metals | Cumulative Metals |
|---|---|---|---|---|---|
| ATT. TANK 5 | Soakaway | 1.0 | Bioretention System | 0.800 | 0.000 |
| MH91 | | | | | 0.000 |
| DIVERSION MH | | | | | 0.000 |
| MH33 | | | | | 0.000 |

**Water Quality (Hydrocarbons)**

| Node | Treatment | Effectiveness | SuDS Component | Mitigation Hydrocarbons | Cumulative Hydrocarbons |
|---|---|---|---|---|---|
| ATT. TANK 5 | Soakaway | 1.0 | Bioretention System | 0.800 | 0.000 |
| MH91 | | | | | 0.000 |
| DIVERSION MH | | | | | 0.000 |
| MH33 | | | | | 0.000 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Simulation Settings

| | | | |
|---|---|---|---|
| Rainfall Methodology | FEH-22 | Drain Down Time (mins) | 240 |
| Rainfall Events | Singular | Additional Storage (m³/ha) | 0.0 |
| Summer CV | 1.000 | Starting Level (m) | |
| Winter CV | 1.000 | Check Discharge Rate(s) | x |
| Analysis Speed | Detailed | Check Discharge Volume | x |
| Skip Steady State | x | | |

### Storm Durations

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15 | 60 | 180 | 360 | 600 | 960 | 2160 | 4320 | 7200 | 10080 |
| 30 | 120 | 240 | 480 | 720 | 1440 | 2880 | 5760 | 8640 | |

| Return Period (years) | Climate Change (CC %) | Additional Area (A %) | Additional Flow (Q %) |
|---|---|---|---|
| 100 | 45 | 10 | 0 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Design Settings

| | | | |
|---|---|---|---|
| Rainfall Methodology | FEH-22 | Minimum Velocity (m/s) | 1.00 |
| Return Period (years) | 2 | Connection Type | Level Soffits |
| Additional Flow (%) | 0 | Minimum Backdrop Height (m) | 0.200 |
| CV | 1.000 | Preferred Cover Depth (m) | 1.200 |
| Time of Entry (mins) | 5.00 | Include Intermediate Ground | ✓ |
| Maximum Time of Concentration (mins) | 30.00 | Enforce best practice design rules | ✓ |
| Maximum Rainfall (mm/hr) | 100.0 | | |

## Nodes

| Name | Area (ha) | T of E (mins) | Cover Level (m) | Diameter (mm) | Easting (m) | Northing (m) | Depth (m) | Invert Level (m) |
|---|---|---|---|---|---|---|---|---|
| ATT. TANK 1 | 0.010 | 5.00 | 56.050 | | 517849.845 | 131708.585 | 1.150 | 54.900 |
| 28 | 0.022 | 5.00 | 55.939 | 450 | 517846.382 | 131711.141 | 0.933 | 55.006 |
| 25 | 0.023 | 5.00 | 55.682 | 1200 | 517858.513 | 131679.298 | 1.070 | 54.612 |
| 24 | 0.031 | 5.00 | 55.656 | 1200 | 517864.466 | 131667.969 | 1.096 | 54.560 |
| 19 | 0.007 | 5.00 | 57.462 | 1200 | 517965.671 | 131650.708 | 2.508 | 54.954 |
| 22 | 0.038 | 5.00 | 57.142 | 1200 | 518023.651 | 131607.590 | 1.531 | 55.611 |
| 21 | 0.041 | 5.00 | 57.427 | 1200 | 518031.924 | 131649.627 | 2.068 | 55.359 |
| 20 | 0.058 | 5.00 | 57.179 | 1200 | 518014.510 | 131653.054 | 1.924 | 55.255 |
| MH33 | | | 56.256 | | 517849.632 | 131719.735 | 1.416 | 54.840 |
| ATT. TANK 6 | 0.094 | 5.00 | 56.699 | | 517956.593 | 131585.062 | 1.464 | 55.235 |
| PP8 | 0.068 | 5.00 | 57.140 | | 517997.731 | 131589.449 | 1.070 | 56.070 |
| ATT. TANK 4 | | | 57.360 | | 517955.812 | 131650.234 | 2.425 | 54.935 |
| 3 | | | 56.605 | 1500 | 517916.467 | 131697.466 | 2.276 | 54.329 |
| 31 | 0.087 | 5.00 | 57.047 | 1350 | 517983.529 | 131561.822 | 1.481 | 55.566 |
| J2 | 0.016 | 5.00 | 57.221 | | 517982.245 | 131588.641 | 1.470 | 55.751 |
| PP7 | 0.029 | 5.00 | 57.440 | | 517996.212 | 131622.424 | 0.820 | 56.620 |
| 32 | 0.074 | 5.00 | 57.411 | 1200 | 517980.886 | 131616.837 | 1.545 | 55.866 |
| ATT. TANK 5 | 0.030 | 5.00 | 57.080 | | 518006.536 | 131652.671 | 1.840 | 55.240 |
| 18 | 0.015 | 5.00 | 57.236 | 1200 | 517942.048 | 131649.573 | 2.314 | 54.922 |
| PP6 | 0.041 | 5.00 | 57.000 | | 517942.177 | 131635.020 | 0.820 | 56.180 |
| 17 | 0.030 | 5.00 | 57.160 | 1500 | 517935.991 | 131645.548 | 2.356 | 54.804 |
| 16 | 0.068 | 5.00 | 56.066 | 1200 | 517904.423 | 131624.573 | 1.417 | 54.649 |
| DIVERSION MH | | | 56.161 | | 517929.927 | 131574.833 | 0.990 | 55.171 |
| Rain Garden 2 | | 5.00 | 56.767 | | 517890.695 | 131741.804 | 0.400 | 56.367 |
| 15 | 0.048 | 5.00 | 57.385 | 1200 | 517908.190 | 131795.187 | 1.800 | 55.585 |
| 14 | 0.044 | 5.00 | 56.328 | 1200 | 517880.595 | 131757.793 | 1.439 | 54.889 |
| Rain Garden 1 | | 5.00 | 56.904 | | 517897.668 | 131751.372 | 0.400 | 56.504 |
| 10 | | | 57.798 | 1200 | 517974.176 | 131775.736 | 2.022 | 55.776 |
| PP2 | 0.085 | 5.00 | 56.590 | | 517894.226 | 131723.236 | 1.220 | 55.370 |
| PP1 | 0.086 | 5.00 | 56.780 | | 517916.519 | 131753.271 | 1.170 | 55.610 |
| J4 | 0.055 | 5.00 | 56.600 | | 517905.806 | 131739.204 | 1.839 | 54.761 |
| Rain Garden 3 | 0.016 | 5.00 | 57.273 | | 517924.044 | 131731.815 | 0.400 | 56.873 |
| Rain Garden 4 | 0.016 | 5.00 | 57.106 | | 517917.071 | 131722.357 | 0.400 | 56.706 |
| 33 | | | 56.565 | 1350 | 517948.346 | 131584.693 | 1.334 | 55.231 |
| PP3 | 0.031 | 5.00 | 58.120 | | 517998.367 | 131772.535 | 0.820 | 57.300 |
| 12 | 0.021 | 5.00 | 58.311 | 1200 | 518020.938 | 131779.639 | 2.133 | 56.178 |
| J5 | 0.025 | 5.00 | 58.189 | | 518002.267 | 131785.367 | 2.126 | 56.063 |
| 27 | | | 56.175 | 600 | 517853.359 | 131713.350 | 1.281 | 54.894 |
| 13 | 0.034 | 5.00 | 57.829 | 1200 | 517950.194 | 131801.344 | 1.728 | 56.101 |
| 11 | 0.027 | 5.00 | 58.005 | 1200 | 517979.294 | 131792.416 | 2.158 | 55.847 |
| 9 | 0.041 | 5.00 | 57.602 | 1200 | 517964.948 | 131763.220 | 2.815 | 54.787 |
| ATT. TANK 3 | 0.085 | 5.00 | 57.464 | | 517956.959 | 131752.384 | 2.699 | 54.765 |
| PP5 | 0.090 | 5.00 | 57.100 | | 517951.152 | 131689.157 | 0.770 | 56.330 |
| 7 | 0.023 | 5.00 | 58.328 | 1200 | 518039.652 | 131758.335 | 1.725 | 56.603 |
| 6 | 0.111 | 5.00 | 58.098 | 1200 | 518033.328 | 131737.721 | 2.994 | 55.104 |
| 34 | | 5.00 | 57.300 | 450 | 517997.742 | 131554.501 | 1.349 | 55.951 |
| 8 | | 5.00 | 57.378 | 450 | 517953.612 | 131693.218 | 1.494 | 55.884 |
| 5 | 0.143 | 5.00 | 57.269 | 1350 | 517976.716 | 131686.922 | 2.550 | 54.719 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Nodes

| Name | Area (ha) | T of E (mins) | Cover Level (m) | Diameter (mm) | Easting (m) | Northing (m) | Depth (m) | Invert Level (m) |
|---|---|---|---|---|---|---|---|---|
| PP4 | 0.094 | 5.00 | 57.420 | | 517965.217 | 131708.263 | 0.870 | 56.550 |
| J6 | 0.021 | 5.00 | 57.140 | | 517959.023 | 131699.967 | 2.489 | 54.651 |
| 4 | 0.073 | 5.00 | 57.025 | 1500 | 517932.649 | 131719.413 | 2.625 | 54.400 |
| 2 | 0.020 | 5.00 | 56.380 | 1800 | 517898.278 | 131672.796 | 2.066 | 54.314 |
| 23 | | 5.00 | 57.407 | 450 | 517959.969 | 131647.555 | 1.393 | 56.014 |
| 1 | 0.023 | 5.00 | 55.783 | 2400 | 517877.897 | 131655.146 | 1.527 | 54.256 |
| MH91 | | | 55.690 | | 517873.297 | 131650.814 | 1.450 | 54.240 |
| 26 | 0.041 | 5.00 | 56.029 | 1200 | 517851.964 | 131720.069 | 1.175 | 54.854 |
| 29 | 0.013 | 5.00 | 56.253 | 1500 | 517936.277 | 131572.973 | 1.066 | 55.187 |
| ATT. TANK 2 | 0.085 | 5.00 | 56.375 | | 517908.202 | 131686.256 | 2.050 | 54.325 |
| Rain Garden 5 | 0.016 | 5.00 | 57.250 | | 517939.637 | 131705.015 | 0.400 | 56.850 |
| Rain Garden 6 | 0.014 | 5.00 | 57.650 | | 517972.893 | 131637.406 | 0.400 | 57.250 |
| Rain Garden 7 | 0.018 | 5.00 | 57.440 | | 517974.433 | 131604.515 | 0.400 | 57.040 |
| 30 | | | 56.544 | 1350 | 517955.179 | 131543.587 | 1.271 | 55.273 |

## Links

| Name | US Node | DS Node | Length (m) | ks (mm) / n | US IL (m) | DS IL (m) | Fall (m) | Slope (1:X) | Dia (mm) | T of C (mins) | Rain (mm/hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.009 | 1 | MH91 | 4.963 | 0.600 | 54.256 | 54.240 | 0.016 | 310.2 | 600 | 8.30 | 41.6 |
| 20.001 | 24 | 1 | 18.569 | 0.600 | 54.560 | 54.484 | 0.076 | 245.0 | 300 | 5.52 | 51.8 |
| 16.004 | 19 | ATT. TANK 4 | 1.871 | 0.600 | 54.954 | 54.935 | 0.019 | 98.5 | 225 | 6.56 | 47.8 |
| 16.005 | ATT. TANK 4 | 18 | 1.780 | 0.600 | 54.935 | 54.922 | 0.013 | 136.9 | 225 | 6.58 | 47.7 |
| 1.007 | 2 | 1 | 26.961 | 0.600 | 54.314 | 54.259 | 0.055 | 490.0 | 525 | 8.24 | 42.7 |
| 1.004 | 4 | 3 | 27.268 | 0.600 | 54.400 | 54.329 | 0.071 | 384.1 | 525 | 7.69 | 44.2 |
| 1.005 | 3 | ATT. TANK 2 | 1.527 | 0.600 | 54.329 | 54.325 | 0.004 | 381.8 | 525 | 7.71 | 44.2 |
| 5.005 | ATT. TANK 3 | 4 | 32.963 | 0.600 | 54.765 | 54.625 | 0.140 | 235.5 | 300 | 6.71 | 47.3 |
| 1.003 | J6 | 4 | 32.768 | 0.600 | 54.651 | 54.550 | 0.101 | 325.0 | 375 | 7.29 | 45.4 |
| 2.000 | PP5 | J6 | 13.372 | 0.600 | 56.330 | 55.834 | 0.496 | 27.0 | 225 | 5.09 | 53.6 |
| 1.002 | 5 | J6 | 21.982 | 0.600 | 54.719 | 54.651 | 0.068 | 325.0 | 375 | 6.74 | 47.2 |
| 3.000 | PP4 | J6 | 10.353 | 0.600 | 56.550 | 56.446 | 0.104 | 100.0 | 225 | 5.13 | 53.4 |
| 25.001 | 33 | 29 | 16.823 | 0.600 | 55.231 | 55.187 | 0.044 | 382.3 | 450 | 5.30 | 52.7 |
| 24.000 | 34 | 31 | 15.988 | 0.600 | 55.951 | 55.791 | 0.160 | 99.9 | 150 | 5.27 | 52.9 |
| 1.001 | 6 | 5 | 76.062 | 0.600 | 55.104 | 54.794 | 0.310 | 245.0 | 300 | 6.37 | 48.5 |
| 1.000 | 7 | 6 | 21.562 | 0.600 | 56.603 | 55.179 | 1.424 | 15.1 | 225 | 5.11 | 53.5 |

| Name | Vel (m/s) | Cap (l/s) | Flow (l/s) | US Depth (m) | DS Depth (m) | Σ Area (ha) | Σ Add Inflow (l/s) | Pro Depth (mm) | Pro Velocity (m/s) |
|---|---|---|---|---|---|---|---|---|---|
| 1.009 | 1.377 | 389.3 | 256.5 | 0.927 | 0.850 | 1.706 | 0.0 | 357 | 1.466 |
| 20.001 | 1.000 | 70.7 | 10.1 | 0.796 | 0.999 | 0.054 | 0.0 | 76 | 0.716 |
| 16.004 | 1.317 | 52.4 | 32.4 | 2.283 | 2.200 | 0.188 | 0.0 | 128 | 1.384 |
| 16.005 | 1.115 | 44.3 | 32.3 | 2.200 | 2.089 | 0.188 | 0.0 | 143 | 1.214 |
| 1.007 | 1.005 | 217.5 | 198.7 | 1.541 | 0.999 | 1.288 | 0.0 | 397 | 1.132 |
| 1.004 | 1.137 | 246.1 | 189.0 | 2.100 | 1.751 | 1.183 | 0.0 | 346 | 1.248 |
| 1.005 | 1.140 | 246.8 | 188.7 | 1.751 | 1.525 | 1.183 | 0.0 | 345 | 1.250 |
| 5.005 | 1.020 | 72.1 | 45.1 | 2.399 | 2.100 | 0.264 | 0.0 | 172 | 1.074 |
| 1.003 | 0.999 | 110.4 | 79.0 | 2.114 | 2.100 | 0.482 | 0.0 | 235 | 1.083 |
| 2.000 | 2.529 | 100.6 | 17.4 | 0.545 | 1.081 | 0.090 | 0.0 | 63 | 1.904 |
| 1.002 | 0.999 | 110.4 | 47.2 | 2.175 | 2.114 | 0.277 | 0.0 | 171 | 0.961 |
| 3.000 | 1.307 | 52.0 | 18.1 | 0.645 | 0.469 | 0.094 | 0.0 | 92 | 1.195 |
| 25.001 | 1.033 | 164.4 | 17.9 | 0.884 | 0.616 | 0.094 | 0.0 | 100 | 0.687 |
| 24.000 | 1.005 | 17.8 | 0.0 | 1.199 | 1.106 | 0.000 | 0.0 | 0 | 0.000 |
| 1.001 | 1.000 | 70.7 | 23.4 | 2.694 | 2.175 | 0.134 | 0.0 | 119 | 0.900 |
| 1.000 | 3.379 | 134.4 | 4.4 | 1.500 | 2.694 | 0.023 | 0.0 | 28 | 1.567 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Links

| Name | US Node | DS Node | Length (m) | ks (mm) / n | US IL (m) | DS IL (m) | Fall (m) | Slope (1:X) | Dia (mm) | T of C (mins) | Rain (mm/hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.004 | 9 | ATT. TANK 3 | 5.464 | 0.600 | 54.787 | 54.765 | 0.022 | 245.0 | 300 | 6.17 | 49.2 |
| 5.002 | 11 | 10 | 17.448 | 0.600 | 55.847 | 55.776 | 0.071 | 245.0 | 300 | 6.02 | 49.7 |
| 5.001 | J5 | 11 | 24.030 | 0.600 | 56.063 | 55.922 | 0.141 | 170.0 | 225 | 5.73 | 50.9 |
| 7.000 | 13 | 11 | 30.439 | 0.600 | 56.101 | 55.922 | 0.179 | 170.0 | 225 | 5.51 | 51.9 |
| 26.002 | 27 | 26 | 6.862 | 0.600 | 54.894 | 54.854 | 0.040 | 170.0 | 225 | 5.18 | 53.2 |
| 6.000 | PP3 | J5 | 13.412 | 0.600 | 57.300 | 57.063 | 0.237 | 56.6 | 225 | 5.13 | 53.5 |
| 5.000 | 12 | J5 | 19.530 | 0.600 | 56.178 | 56.063 | 0.115 | 170.0 | 225 | 5.33 | 52.6 |
| 8.002 | J4 | 4 | 33.350 | 0.600 | 54.761 | 54.625 | 0.136 | 245.0 | 300 | 6.48 | 48.1 |
| 15.000 | Rain Garden 3 | 4 | 15.095 | 0.600 | 56.873 | 55.600 | 1.273 | 11.9 | 100 | 5.11 | 53.5 |
| 14.000 | Rain Garden 4 | 4 | 15.854 | 0.600 | 56.706 | 55.600 | 1.106 | 14.3 | 100 | 5.13 | 53.5 |
| 5.003 | 10 | 9 | 15.550 | 0.600 | 55.776 | 54.787 | 0.989 | 15.7 | 300 | 6.08 | 49.5 |
| 9.000 | PP2 | J4 | 19.725 | 0.600 | 55.370 | 55.173 | 0.197 | 100.0 | 150 | 5.33 | 52.6 |
| 10.000 | PP1 | J4 | 17.682 | 0.600 | 55.610 | 55.433 | 0.177 | 100.0 | 150 | 5.29 | 52.8 |
| 11.000 | Rain Garden 2 | J4 | 15.333 | 0.600 | 56.367 | 56.251 | 0.116 | 132.2 | 100 | 5.38 | 52.4 |
| 8.001 | 14 | J4 | 31.323 | 0.600 | 54.889 | 54.761 | 0.128 | 245.0 | 300 | 5.92 | 50.1 |
| 12.000 | Rain Garden 1 | J4 | 14.639 | 0.600 | 56.504 | 56.251 | 0.253 | 57.9 | 100 | 5.24 | 53.0 |
| 8.000 | 15 | 14 | 46.474 | 0.600 | 55.585 | 54.889 | 0.696 | 66.8 | 300 | 5.40 | 52.3 |
| 16.008 | 16 | 1 | 40.476 | 0.600 | 54.649 | 54.484 | 0.165 | 245.0 | 300 | 8.01 | 43.3 |
| 21.005 | 29 | DIVERSION MH | 6.617 | 0.600 | 55.187 | 55.171 | 0.016 | 413.6 | 450 | 7.27 | 45.5 |
| 16.007 | 17 | 16 | 37.901 | 0.600 | 54.804 | 54.649 | 0.155 | 245.0 | 300 | 7.33 | 45.3 |
| 16.006 | 18 | 17 | 7.272 | 0.600 | 54.922 | 54.879 | 0.043 | 170.0 | 225 | 6.70 | 47.3 |
| 19.000 | PP6 | 17 | 12.211 | 0.600 | 56.180 | 56.058 | 0.122 | 100.0 | 225 | 5.16 | 53.3 |
| 16.003 | ATT. TANK 5 | 19 | 34.912 | 0.600 | 55.240 | 54.954 | 0.286 | 122.1 | 225 | 6.53 | 47.9 |
| 16.002 | 20 | ATT. TANK 5 | 1.983 | 0.600 | 55.255 | 55.240 | 0.015 | 132.2 | 225 | 6.04 | 49.6 |
| 4.000 | 8 | J6 | 8.650 | 0.600 | 55.884 | 54.909 | 0.975 | 8.9 | 150 | 5.04 | 53.8 |
| 21.001 | 32 | J2 | 28.229 | 0.600 | 55.866 | 55.751 | 0.115 | 245.0 | 300 | 5.74 | 50.9 |
| 21.000 | PP7 | 32 | 16.313 | 0.600 | 56.620 | 56.457 | 0.163 | 100.0 | 150 | 5.27 | 52.9 |

| Name | Vel (m/s) | Cap (l/s) | Flow (l/s) | US Depth (m) | DS Depth (m) | Σ Area (ha) | Σ Add Inflow (l/s) | Pro Depth (mm) | Pro Velocity (m/s) |
|---|---|---|---|---|---|---|---|---|---|
| 5.004 | 1.000 | 70.7 | 31.8 | 2.515 | 2.399 | 0.179 | 0.0 | 141 | 0.974 |
| 5.002 | 1.000 | 70.7 | 24.9 | 1.858 | 1.722 | 0.139 | 0.0 | 123 | 0.915 |
| 5.001 | 1.000 | 39.7 | 14.3 | 1.901 | 1.858 | 0.078 | 0.0 | 94 | 0.922 |
| 7.000 | 1.000 | 39.7 | 6.4 | 1.503 | 1.858 | 0.034 | 0.0 | 61 | 0.739 |
| 26.002 | 1.000 | 39.7 | 6.2 | 1.056 | 0.950 | 0.032 | 0.0 | 60 | 0.733 |
| 6.000 | 1.742 | 69.3 | 6.1 | 0.595 | 0.901 | 0.031 | 0.0 | 45 | 1.087 |
| 5.000 | 1.000 | 39.7 | 4.0 | 1.908 | 1.901 | 0.021 | 0.0 | 48 | 0.643 |
| 8.002 | 1.000 | 70.7 | 55.2 | 1.539 | 2.100 | 0.318 | 0.0 | 200 | 1.102 |
| 15.000 | 2.256 | 17.7 | 3.0 | 0.300 | 1.325 | 0.016 | 0.0 | 28 | 1.677 |
| 14.000 | 2.051 | 16.1 | 3.0 | 0.300 | 1.325 | 0.016 | 0.0 | 29 | 1.572 |
| 5.003 | 3.984 | 281.6 | 24.8 | 1.722 | 2.515 | 0.139 | 0.0 | 59 | 2.481 |
| 9.000 | 1.005 | 17.8 | 16.2 | 1.070 | 1.277 | 0.085 | 0.0 | 113 | 1.136 |
| 10.000 | 1.005 | 17.8 | 16.3 | 1.020 | 1.017 | 0.086 | 0.0 | 114 | 1.137 |
| 11.000 | 0.667 | 5.2 | 0.0 | 0.300 | 0.249 | 0.000 | 0.0 | 0 | 0.000 |
| 8.001 | 1.000 | 70.7 | 16.6 | 1.139 | 1.539 | 0.092 | 0.0 | 99 | 0.821 |
| 12.000 | 1.014 | 8.0 | 0.0 | 0.300 | 0.249 | 0.000 | 0.0 | 0 | 0.000 |
| 8.000 | 1.927 | 136.2 | 9.1 | 1.500 | 1.139 | 0.048 | 0.0 | 52 | 1.104 |
| 16.008 | 1.000 | 70.7 | 53.4 | 1.117 | 0.999 | 0.342 | 0.0 | 195 | 1.095 |
| 21.005 | 0.993 | 158.0 | 65.8 | 0.616 | 0.540 | 0.400 | 0.0 | 203 | 0.950 |
| 16.007 | 1.000 | 70.7 | 44.8 | 2.056 | 1.117 | 0.274 | 0.0 | 174 | 1.057 |
| 16.006 | 1.000 | 39.7 | 34.7 | 2.089 | 2.056 | 0.203 | 0.0 | 163 | 1.122 |
| 19.000 | 1.307 | 52.0 | 7.8 | 0.595 | 0.877 | 0.041 | 0.0 | 58 | 0.944 |
| 16.003 | 1.182 | 47.0 | 28.9 | 1.615 | 2.283 | 0.167 | 0.0 | 128 | 1.241 |
| 16.002 | 1.135 | 45.1 | 24.6 | 1.699 | 1.615 | 0.137 | 0.0 | 118 | 1.158 |
| 4.000 | 3.403 | 60.1 | 0.0 | 1.344 | 2.081 | 0.000 | 0.0 | 0 | 0.000 |
| 21.001 | 1.000 | 70.7 | 19.0 | 1.245 | 1.170 | 0.103 | 0.0 | 106 | 0.851 |
| 21.000 | 1.005 | 17.8 | 5.5 | 0.670 | 0.804 | 0.029 | 0.0 | 57 | 0.886 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Links

| Name | US Node | DS Node | Length (m) | ks (mm) / n | US IL (m) | DS IL (m) | Fall (m) | Slope (1:X) | Dia (mm) | T of C (mins) | Rain (mm/hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 25.000 | ATT. TANK 6 | 33 | 1.506 | 0.600 | 55.235 | 55.231 | 0.004 | 376.5 | 450 | 5.02 | 53.9 |
| 23.000 | PP8 | J2 | 15.507 | 0.600 | 56.070 | 55.915 | 0.155 | 100.0 | 150 | 5.26 | 52.9 |
| 21.002 | J2 | 31 | 26.850 | 0.600 | 55.751 | 55.641 | 0.110 | 245.0 | 300 | 6.19 | 49.1 |
| 21.003 | 31 | 30 | 33.708 | 0.600 | 55.566 | 55.348 | 0.218 | 154.6 | 375 | 6.58 | 47.7 |
| 18.000 | 23 | ATT. TANK 4 | 1.000 | 0.600 | 56.014 | 56.004 | 0.010 | 100.0 | 150 | 5.02 | 53.9 |
| 26.000 | 28 | ATT. TANK 1 | 3.142 | 0.600 | 55.006 | 54.975 | 0.031 | 100.0 | 150 | 5.05 | 53.8 |
| 16.001 | 21 | 20 | 17.748 | 0.600 | 55.359 | 55.255 | 0.104 | 170.0 | 225 | 6.01 | 49.7 |
| 16.000 | 22 | 21 | 42.843 | 0.600 | 55.611 | 55.359 | 0.252 | 170.0 | 225 | 5.71 | 51.0 |
| 26.003 | 26 | MH33 | 2.356 | 0.600 | 54.854 | 54.840 | 0.014 | 170.0 | 225 | 5.22 | 53.1 |
| 20.000 | 25 | 24 | 12.798 | 0.600 | 54.612 | 54.560 | 0.052 | 245.0 | 300 | 5.21 | 53.1 |
| 26.001 | ATT. TANK 1 | 27 | 1.000 | 0.600 | 54.900 | 54.894 | 0.006 | 166.7 | 225 | 5.07 | 53.7 |
| 1.006 | ATT. TANK 2 | 2 | 4.954 | 0.600 | 54.325 | 54.314 | 0.011 | 450.4 | 525 | 7.79 | 43.9 |
| 13.000 | Rain Garden 5 | 4 | 16.004 | 0.600 | 56.850 | 56.723 | 0.127 | 126.0 | 100 | 5.39 | 52.3 |
| 17.000 | Rain Garden 6 | 19 | 15.136 | 0.600 | 57.250 | 57.127 | 0.123 | 123.1 | 100 | 5.36 | 52.5 |
| 22.000 | Rain Garden 7 | J2 | 17.692 | 0.600 | 57.040 | 56.000 | 1.040 | 17.0 | 100 | 5.16 | 53.3 |
| 21.004 | 30 | 29 | 34.940 | 0.600 | 55.273 | 55.187 | 0.086 | 405.0 | 450 | 7.16 | 45.8 |

| Name | Vel (m/s) | Cap (l/s) | Flow (l/s) | US Depth (m) | DS Depth (m) | Σ Area (ha) | Σ Add Inflow (l/s) | Pro Depth (mm) | Pro Velocity (m/s) |
|---|---|---|---|---|---|---|---|---|---|
| 25.000 | 1.042 | 165.6 | 18.3 | 1.014 | 0.884 | 0.094 | 0.0 | 100 | 0.692 |
| 23.000 | 1.005 | 17.8 | 13.1 | 0.920 | 1.156 | 0.068 | 0.0 | 96 | 1.097 |
| 21.002 | 1.000 | 70.7 | 36.6 | 1.170 | 1.106 | 0.206 | 0.0 | 153 | 1.008 |
| 21.003 | 1.454 | 160.6 | 50.6 | 1.106 | 0.821 | 0.293 | 0.0 | 144 | 1.293 |
| 18.000 | 1.005 | 17.8 | 0.0 | 1.243 | 1.206 | 0.000 | 0.0 | 0 | 0.000 |
| 26.000 | 1.005 | 17.8 | 4.2 | 0.783 | 0.925 | 0.022 | 0.0 | 50 | 0.828 |
| 16.001 | 1.000 | 39.7 | 14.2 | 1.843 | 1.699 | 0.079 | 0.0 | 93 | 0.917 |
| 16.000 | 1.000 | 39.7 | 7.0 | 1.306 | 1.843 | 0.038 | 0.0 | 64 | 0.756 |
| 26.003 | 1.000 | 39.7 | 14.0 | 0.950 | 1.191 | 0.073 | 0.0 | 92 | 0.913 |
| 20.000 | 1.000 | 70.7 | 4.5 | 0.770 | 0.796 | 0.023 | 0.0 | 51 | 0.563 |
| 26.001 | 1.010 | 40.1 | 6.3 | 0.925 | 1.056 | 0.032 | 0.0 | 60 | 0.740 |
| 1.006 | 1.049 | 227.0 | 201.3 | 1.525 | 1.541 | 1.268 | 0.0 | 387 | 1.177 |
| 13.000 | 0.683 | 5.4 | 2.9 | 0.300 | 0.202 | 0.016 | 0.0 | 53 | 0.699 |
| 17.000 | 0.692 | 5.4 | 2.6 | 0.300 | 0.235 | 0.014 | 0.0 | 48 | 0.680 |
| 22.000 | 1.882 | 14.8 | 3.5 | 0.300 | 1.121 | 0.018 | 0.0 | 33 | 1.544 |
| 21.004 | 1.004 | 159.6 | 48.6 | 0.821 | 0.616 | 0.293 | 0.0 | 170 | 0.886 |

## Pipeline Schedule

| Link | Length (m) | Slope (1:X) | Dia (mm) | Link Type | US CL (m) | US IL (m) | US Depth (m) | DS CL (m) | DS IL (m) | DS Depth (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.009 | 4.963 | 310.2 | 600 | Circular | 55.783 | 54.256 | 0.927 | 55.690 | 54.240 | 0.850 |
| 20.001 | 18.569 | 245.0 | 300 | Circular | 55.656 | 54.560 | 0.796 | 55.783 | 54.484 | 0.999 |
| 16.004 | 1.871 | 98.5 | 225 | Circular | 57.462 | 54.954 | 2.283 | 57.360 | 54.935 | 2.200 |
| 16.005 | 1.780 | 136.9 | 225 | Circular | 57.360 | 54.935 | 2.200 | 57.236 | 54.922 | 2.089 |
| 1.007 | 26.961 | 490.0 | 525 | Circular | 56.380 | 54.314 | 1.541 | 55.783 | 54.259 | 0.999 |

| Link | US Node | Dia (mm) | Node Type | MH Type | DS Node | Dia (mm) | Node Type | MH Type |
|---|---|---|---|---|---|---|---|---|
| 1.009 | 1 | 2400 | Manhole | Adoptable | MH91 | | Junction | |
| 20.001 | 24 | 1200 | Manhole | Adoptable | 1 | 2400 | Manhole | Adoptable |
| 16.004 | 19 | 1200 | Manhole | Adoptable | ATT. TANK 4 | | Junction | |
| 16.005 | ATT. TANK 4 | | Junction | | 18 | 1200 | Manhole | Adoptable |
| 1.007 | 2 | 1800 | Manhole | Adoptable | 1 | 2400 | Manhole | Adoptable |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Pipeline Schedule

| Link | Length (m) | Slope (1:X) | Dia (mm) | Link Type | US CL (m) | US IL (m) | US Depth (m) | DS CL (m) | DS IL (m) | DS Depth (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.004 | 27.268 | 384.1 | 525 | Circular | 57.025 | 54.400 | 2.100 | 56.605 | 54.329 | 1.751 |
| 1.005 | 1.527 | 381.8 | 525 | Circular | 56.605 | 54.329 | 1.751 | 56.375 | 54.325 | 1.525 |
| 5.005 | 32.963 | 235.5 | 300 | Circular | 57.464 | 54.765 | 2.399 | 57.025 | 54.625 | 2.100 |
| 1.003 | 32.768 | 325.0 | 375 | Circular | 57.140 | 54.651 | 2.114 | 57.025 | 54.550 | 2.100 |
| 2.000 | 13.372 | 27.0 | 225 | Circular | 57.100 | 56.330 | 0.545 | 57.140 | 55.834 | 1.081 |
| 1.002 | 21.982 | 325.0 | 375 | Circular | 57.269 | 54.719 | 2.175 | 57.140 | 54.651 | 2.114 |
| 3.000 | 10.353 | 100.0 | 225 | Circular | 57.420 | 56.550 | 0.645 | 57.140 | 56.446 | 0.469 |
| 25.001 | 16.823 | 382.3 | 450 | Circular | 56.565 | 55.231 | 0.884 | 56.253 | 55.187 | 0.616 |
| 24.000 | 15.988 | 99.9 | 150 | Circular | 57.300 | 55.951 | 1.199 | 57.047 | 55.791 | 1.106 |
| 1.001 | 76.062 | 245.0 | 300 | Circular | 58.098 | 55.104 | 2.694 | 57.269 | 54.794 | 2.175 |
| 1.000 | 21.562 | 15.1 | 225 | Circular | 58.328 | 56.603 | 1.500 | 58.098 | 55.179 | 2.694 |
| 5.004 | 5.464 | 245.0 | 300 | Circular | 57.602 | 54.787 | 2.515 | 57.464 | 54.765 | 2.399 |
| 5.002 | 17.448 | 245.0 | 300 | Circular | 58.005 | 55.847 | 1.858 | 57.798 | 55.776 | 1.722 |
| 5.001 | 24.030 | 170.0 | 225 | Circular | 58.189 | 56.063 | 1.901 | 58.005 | 55.922 | 1.858 |
| 7.000 | 30.439 | 170.0 | 225 | Circular | 57.829 | 56.101 | 1.503 | 58.005 | 55.922 | 1.858 |
| 26.002 | 6.862 | 170.0 | 225 | Circular | 56.175 | 54.894 | 1.056 | 56.029 | 54.854 | 0.950 |
| 6.000 | 13.412 | 56.6 | 225 | Circular | 58.120 | 57.300 | 0.595 | 58.189 | 57.063 | 0.901 |
| 5.000 | 19.530 | 170.0 | 225 | Circular | 58.311 | 56.178 | 1.908 | 58.189 | 56.063 | 1.901 |
| 8.002 | 33.350 | 245.0 | 300 | Circular | 56.600 | 54.761 | 1.539 | 57.025 | 54.625 | 2.100 |
| 15.000 | 15.095 | 11.9 | 100 | Circular | 57.273 | 56.873 | 0.300 | 57.025 | 55.600 | 1.325 |
| 14.000 | 15.854 | 14.3 | 100 | Circular | 57.106 | 56.706 | 0.300 | 57.025 | 55.600 | 1.325 |
| 5.003 | 15.550 | 15.7 | 300 | Circular | 57.798 | 55.776 | 1.722 | 57.602 | 54.787 | 2.515 |
| 9.000 | 19.725 | 100.0 | 150 | Circular | 56.590 | 55.370 | 1.070 | 56.600 | 55.173 | 1.277 |
| 10.000 | 17.682 | 100.0 | 150 | Circular | 56.780 | 55.610 | 1.020 | 56.600 | 55.433 | 1.017 |
| 11.000 | 15.333 | 132.2 | 100 | Circular | 56.767 | 56.367 | 0.300 | 56.600 | 56.251 | 0.249 |
| 8.001 | 31.323 | 245.0 | 300 | Circular | 56.328 | 54.889 | 1.139 | 56.600 | 54.761 | 1.539 |
| 12.000 | 14.639 | 57.9 | 100 | Circular | 56.904 | 56.504 | 0.300 | 56.600 | 56.251 | 0.249 |
| 8.000 | 46.474 | 66.8 | 300 | Circular | 57.385 | 55.585 | 1.500 | 56.328 | 54.889 | 1.139 |

| Link | US Node | Dia (mm) | Node Type | MH Type | DS Node | Dia (mm) | Node Type | MH Type |
|---|---|---|---|---|---|---|---|---|
| 1.004 | 4 | 1500 | Manhole | Adoptable | 3 | 1500 | Manhole | Adoptable |
| 1.005 | 3 | 1500 | Manhole | Adoptable | ATT. TANK 2 | | Junction | |
| 5.005 | ATT. TANK 3 | | Junction | | 4 | 1500 | Manhole | Adoptable |
| 1.003 | J6 | | Junction | | 4 | 1500 | Manhole | Adoptable |
| 2.000 | PP5 | | Junction | | J6 | | Junction | |
| 1.002 | 5 | 1350 | Manhole | Adoptable | J6 | | Junction | |
| 3.000 | PP4 | | Junction | | J6 | | Junction | |
| 25.001 | 33 | 1350 | Manhole | Adoptable | 29 | 1500 | Manhole | Adoptable |
| 24.000 | 34 | 450 | Manhole | Adoptable | 31 | 1350 | Manhole | Adoptable |
| 1.001 | 6 | 1200 | Manhole | Adoptable | 5 | 1350 | Manhole | Adoptable |
| 1.000 | 7 | 1200 | Manhole | Adoptable | 6 | 1200 | Manhole | Adoptable |
| 5.004 | 9 | 1200 | Manhole | Adoptable | ATT. TANK 3 | | Junction | |
| 5.002 | 11 | 1200 | Manhole | Adoptable | 10 | 1200 | Manhole | Adoptable |
| 5.001 | J5 | | Junction | | 11 | 1200 | Manhole | Adoptable |
| 7.000 | 13 | 1200 | Manhole | Adoptable | 11 | 1200 | Manhole | Adoptable |
| 26.002 | 27 | 600 | Manhole | Adoptable | 26 | 1200 | Manhole | Adoptable |
| 6.000 | PP3 | | Junction | | J5 | | Junction | |
| 5.000 | 12 | 1200 | Manhole | Adoptable | J5 | | Junction | |
| 8.002 | J4 | | Junction | | 4 | 1500 | Manhole | Adoptable |
| 15.000 | Rain Garden 3 | | Junction | | 4 | 1500 | Manhole | Adoptable |
| 14.000 | Rain Garden 4 | | Junction | | 4 | 1500 | Manhole | Adoptable |
| 5.003 | 10 | 1200 | Manhole | Adoptable | 9 | 1200 | Manhole | Adoptable |
| 9.000 | PP2 | | Junction | | J4 | | Junction | |
| 10.000 | PP1 | | Junction | | J4 | | Junction | |
| 11.000 | Rain Garden 2 | | Junction | | J4 | | Junction | |
| 8.001 | 14 | 1200 | Manhole | Adoptable | J4 | | Junction | |
| 12.000 | Rain Garden 1 | | Junction | | J4 | | Junction | |
| 8.000 | 15 | 1200 | Manhole | Adoptable | 14 | 1200 | Manhole | Adoptable |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Pipeline Schedule

| Link | Length (m) | Slope (1:X) | Dia (mm) | Link Type | US CL (m) | US IL (m) | US Depth (m) | DS CL (m) | DS IL (m) | DS Depth (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| 16.008 | 40.476 | 245.0 | 300 | Circular | 56.066 | 54.649 | 1.117 | 55.783 | 54.484 | 0.999 |
| 21.005 | 6.617 | 413.6 | 450 | Circular | 56.253 | 55.187 | 0.616 | 56.161 | 55.171 | 0.540 |
| 16.007 | 37.901 | 245.0 | 300 | Circular | 57.160 | 54.804 | 2.056 | 56.066 | 54.649 | 1.117 |
| 16.006 | 7.272 | 170.0 | 225 | Circular | 57.236 | 54.922 | 2.089 | 57.160 | 54.879 | 2.056 |
| 19.000 | 12.211 | 100.0 | 225 | Circular | 57.000 | 56.180 | 0.595 | 57.160 | 56.058 | 0.877 |
| 16.003 | 34.912 | 122.1 | 225 | Circular | 57.080 | 55.240 | 1.615 | 57.462 | 54.954 | 2.283 |
| 16.002 | 1.983 | 132.2 | 225 | Circular | 57.179 | 55.255 | 1.699 | 57.080 | 55.240 | 1.615 |
| 4.000 | 8.650 | 8.9 | 150 | Circular | 57.378 | 55.884 | 1.344 | 57.140 | 54.909 | 2.081 |
| 21.001 | 28.229 | 245.0 | 300 | Circular | 57.411 | 55.866 | 1.245 | 57.221 | 55.751 | 1.170 |
| 21.000 | 16.313 | 100.0 | 150 | Circular | 57.440 | 56.620 | 0.670 | 57.411 | 56.457 | 0.804 |
| 25.000 | 1.506 | 376.5 | 450 | Circular | 56.699 | 55.235 | 1.014 | 56.565 | 55.231 | 0.884 |
| 23.000 | 15.507 | 100.0 | 150 | Circular | 57.140 | 56.070 | 0.920 | 57.221 | 55.915 | 1.156 |
| 21.002 | 26.850 | 245.0 | 300 | Circular | 57.221 | 55.751 | 1.170 | 57.047 | 55.641 | 1.106 |
| 21.003 | 33.708 | 154.6 | 375 | Circular | 57.047 | 55.566 | 1.106 | 56.544 | 55.348 | 0.821 |
| 18.000 | 1.000 | 100.0 | 150 | Circular | 57.407 | 56.014 | 1.243 | 57.360 | 56.004 | 1.206 |
| 26.000 | 3.142 | 100.0 | 150 | Circular | 55.939 | 55.006 | 0.783 | 56.050 | 54.975 | 0.925 |
| 16.001 | 17.748 | 170.0 | 225 | Circular | 57.427 | 55.359 | 1.843 | 57.179 | 55.255 | 1.699 |
| 16.000 | 42.843 | 170.0 | 225 | Circular | 57.142 | 55.611 | 1.306 | 57.427 | 55.359 | 1.843 |
| 26.003 | 2.356 | 170.0 | 225 | Circular | 56.029 | 54.854 | 0.950 | 56.256 | 54.840 | 1.191 |
| 20.000 | 12.798 | 245.0 | 300 | Circular | 55.682 | 54.612 | 0.770 | 55.656 | 54.560 | 0.796 |
| 26.001 | 1.000 | 166.7 | 225 | Circular | 56.050 | 54.900 | 0.925 | 56.175 | 54.894 | 1.056 |
| 1.006 | 4.954 | 450.4 | 525 | Circular | 56.375 | 54.325 | 1.525 | 56.380 | 54.314 | 1.541 |
| 13.000 | 16.004 | 126.0 | 100 | Circular | 57.250 | 56.850 | 0.300 | 57.025 | 56.723 | 0.202 |
| 17.000 | 15.136 | 123.1 | 100 | Circular | 57.650 | 57.250 | 0.300 | 57.462 | 57.127 | 0.235 |
| 22.000 | 17.692 | 17.0 | 100 | Circular | 57.440 | 57.040 | 0.300 | 57.221 | 56.000 | 1.121 |
| 21.004 | 34.940 | 405.0 | 450 | Circular | 56.544 | 55.273 | 0.821 | 56.253 | 55.187 | 0.616 |

| Link | US Node | Dia (mm) | Node Type | MH Type | DS Node | Dia (mm) | Node Type | MH Type |
|---|---|---|---|---|---|---|---|---|
| 16.008 | 16 | 1200 | Manhole | Adoptable | 1 | 2400 | Manhole | Adoptable |
| 21.005 | 29 | 1500 | Manhole | Adoptable | DIVERSION MH | | Junction | |
| 16.007 | 17 | 1500 | Manhole | Adoptable | 16 | 1200 | Manhole | Adoptable |
| 16.006 | 18 | 1200 | Manhole | Adoptable | 17 | 1500 | Manhole | Adoptable |
| 19.000 | PP6 | | Junction | | 17 | 1500 | Manhole | Adoptable |
| 16.003 | ATT. TANK 5 | | Junction | | 19 | 1200 | Manhole | Adoptable |
| 16.002 | 20 | 1200 | Manhole | Adoptable | ATT. TANK 5 | | Junction | |
| 4.000 | 8 | 450 | Manhole | Adoptable | J6 | | Junction | |
| 21.001 | 32 | 1200 | Manhole | Adoptable | J2 | | Junction | |
| 21.000 | PP7 | | Junction | | 32 | 1200 | Manhole | Adoptable |
| 25.000 | ATT. TANK 6 | | Junction | | 33 | 1350 | Manhole | Adoptable |
| 23.000 | PP8 | | Junction | | J2 | | Junction | |
| 21.002 | J2 | | Junction | | 31 | 1350 | Manhole | Adoptable |
| 21.003 | 31 | 1350 | Manhole | Adoptable | 30 | 1350 | Manhole | Adoptable |
| 18.000 | 23 | 450 | Manhole | Adoptable | ATT. TANK 4 | | Junction | |
| 26.000 | 28 | 450 | Manhole | Adoptable | ATT. TANK 1 | | Junction | |
| 16.001 | 21 | 1200 | Manhole | Adoptable | 20 | 1200 | Manhole | Adoptable |
| 16.000 | 22 | 1200 | Manhole | Adoptable | 21 | 1200 | Manhole | Adoptable |
| 26.003 | 26 | 1200 | Manhole | Adoptable | MH33 | | Junction | |
| 20.000 | 25 | 1200 | Manhole | Adoptable | 24 | 1200 | Manhole | Adoptable |
| 26.001 | ATT. TANK 1 | | Junction | | 27 | 600 | Manhole | Adoptable |
| 1.006 | ATT. TANK 2 | | Junction | | 2 | 1800 | Manhole | Adoptable |
| 13.000 | Rain Garden 5 | | Junction | | 4 | 1500 | Manhole | Adoptable |
| 17.000 | Rain Garden 6 | | Junction | | 19 | 1200 | Manhole | Adoptable |
| 22.000 | Rain Garden 7 | | Junction | | J2 | | Junction | |
| 21.004 | 30 | 1350 | Manhole | Adoptable | 29 | 1500 | Manhole | Adoptable |

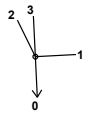
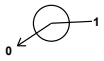
Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Manhole Schedule

| Node | Easting (m) | Northing (m) | CL (m) | Depth (m) | Dia (mm) | Connections | Link | IL (m) | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| ATT. TANK 1 | 517849.845 | 131708.585 | 56.050 | 1.150 | | 1 | 26.000 | 54.975 | 150 |
| | | | | | | 0 | 26.001 | 54.900 | 225 |
| 28 | 517846.382 | 131711.141 | 55.939 | 0.933 | 450 | 0 | 26.000 | 55.006 | 150 |
| 25 | 517858.513 | 131679.298 | 55.682 | 1.070 | 1200 | 0 | 20.000 | 54.612 | 300 |
| 24 | 517864.466 | 131667.969 | 55.656 | 1.096 | 1200 | 1 | 20.000 | 54.560 | 300 |
| | | | | | | 0 | 20.001 | 54.560 | 300 |
| 19 | 517965.671 | 131650.708 | 57.462 | 2.508 | 1200 | 1 | 17.000 | 57.127 | 100 |
| | | | | | | 2 | 16.003 | 54.954 | 225 |
| | | | | | | 0 | 16.004 | 54.954 | 225 |
| 22 | 518023.651 | 131607.590 | 57.142 | 1.531 | 1200 | 0 | 16.000 | 55.611 | 225 |
| 21 | 518031.924 | 131649.627 | 57.427 | 2.068 | 1200 | 1 | 16.000 | 55.359 | 225 |
| | | | | | | 0 | 16.001 | 55.359 | 225 |
| 20 | 518014.510 | 131653.054 | 57.179 | 1.924 | 1200 | 1 | 16.001 | 55.255 | 225 |
| | | | | | | 0 | 16.002 | 55.255 | 225 |
| MH33 | 517849.632 | 131719.735 | 56.256 | 1.416 | | 1 | 26.003 | 54.840 | 225 |
| ATT. TANK 6 | 517956.593 | 131585.062 | 56.699 | 1.464 | | 0 | 25.000 | 55.235 | 450 |
| PP8 | 517997.731 | 131589.449 | 57.140 | 1.070 | | 0 | 23.000 | 56.070 | 150 |
| ATT. TANK 4 | 517955.812 | 131650.234 | 57.360 | 2.425 | | 1 | 18.000 | 56.004 | 150 |
| | | | | | | 2 | 16.004 | 54.935 | 225 |
| | | | | | | 0 | 16.005 | 54.935 | 225 |
| 3 | 517916.467 | 131697.466 | 56.605 | 2.276 | 1500 | 1 | 1.004 | 54.329 | 525 |
| | | | | | | 0 | 1.005 | 54.329 | 525 |
| 31 | 517983.529 | 131561.822 | 57.047 | 1.481 | 1350 | 1 | 24.000 | 55.791 | 150 |
| | | | | | | 2 | 21.002 | 55.641 | 300 |
| | | | | | | 0 | 21.003 | 55.566 | 375 |

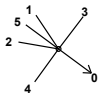
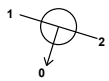
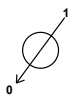
Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Manhole Schedule

| Node | Easting (m) | Northing (m) | CL (m) | Depth (m) | Dia (mm) | Connections | Link | IL (m) | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| J2 | 517982.245 | 131588.641 | 57.221 | 1.470 | |  | 1 | 23.000 | 55.915 | 150 |
| | | | | | | | 2 | 22.000 | 56.000 | 100 |
| | | | | | | | 3 | 21.001 | 55.751 | 300 |
| | | | | | | | 0 | 21.002 | 55.751 | 300 |
| PP7 | 517996.212 | 131622.424 | 57.440 | 0.820 | |  | 0 | 21.000 | 56.620 | 150 |
| 32 | 517980.886 | 131616.837 | 57.411 | 1.545 | 1200 |  | 1 | 21.000 | 56.457 | 150 |
| | | | | | | | 0 | 21.001 | 55.866 | 300 |
| ATT. TANK 5 | 518006.536 | 131652.671 | 57.080 | 1.840 | |  | 1 | 16.002 | 55.240 | 225 |
| | | | | | | | 0 | 16.003 | 55.240 | 225 |
| 18 | 517942.048 | 131649.573 | 57.236 | 2.314 | 1200 |  | 1 | 16.005 | 54.922 | 225 |
| | | | | | | | 0 | 16.006 | 54.922 | 225 |
| PP6 | 517942.177 | 131635.020 | 57.000 | 0.820 | |  | 0 | 19.000 | 56.180 | 225 |
| 17 | 517935.991 | 131645.548 | 57.160 | 2.356 | 1500 |  | 1 | 19.000 | 56.058 | 225 |
| | | | | | | | 2 | 16.006 | 54.879 | 225 |
| | | | | | | | 0 | 16.007 | 54.804 | 300 |
| 16 | 517904.423 | 131624.573 | 56.066 | 1.417 | 1200 |  | 1 | 16.007 | 54.649 | 300 |
| | | | | | | | 0 | 16.008 | 54.649 | 300 |
| DIVERSION MH | 517929.927 | 131574.833 | 56.161 | 0.990 | |  | 1 | 21.005 | 55.171 | 450 |
| Rain Garden 2 | 517890.695 | 131741.804 | 56.767 | 0.400 | |  | 0 | 11.000 | 56.367 | 100 |
| 15 | 517908.190 | 131795.187 | 57.385 | 1.800 | 1200 |  | 0 | 8.000 | 55.585 | 300 |
| 14 | 517880.595 | 131757.793 | 56.328 | 1.439 | 1200 |  | 1 | 8.000 | 54.889 | 300 |
| | | | | | | | 0 | 8.001 | 54.889 | 300 |
| Rain Garden 1 | 517897.668 | 131751.372 | 56.904 | 0.400 | |  | 0 | 12.000 | 56.504 | 100 |
| 10 | 517974.176 | 131775.736 | 57.798 | 2.022 | 1200 |  | 1 | 5.002 | 55.776 | 300 |
| | | | | | | | 0 | 5.003 | 55.776 | 300 |

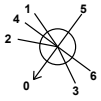
Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Manhole Schedule

| Node | Easting (m) | Northing (m) | CL (m) | Depth (m) | Dia (mm) | Connections | Link | IL (m) | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| PP2 | 517894.226 | 131723.236 | 56.590 | 1.220 | |  | 0 | 9.000 | 55.370 | 150 |
| PP1 | 517916.519 | 131753.271 | 56.780 | 1.170 | |  | 0 | 10.000 | 55.610 | 150 |
| J4 | 517905.806 | 131739.204 | 56.600 | 1.839 | |  | 1 | 12.000 | 56.251 | 100 |
| | | | | | | | 2 | 11.000 | 56.251 | 100 |
| | | | | | | | 3 | 10.000 | 55.433 | 150 |
| | | | | | | | 4 | 9.000 | 55.173 | 150 |
| | | | | | | | 5 | 8.001 | 54.761 | 300 |
| | | | | | | | 0 | 8.002 | 54.761 | 300 |
| Rain Garden 3 | 517924.044 | 131731.815 | 57.273 | 0.400 | |  | 0 | 15.000 | 56.873 | 100 |
| Rain Garden 4 | 517917.071 | 131722.357 | 57.106 | 0.400 | |  | 0 | 14.000 | 56.706 | 100 |
| 33 | 517948.346 | 131584.693 | 56.565 | 1.334 | 1350 |  | 1 | 25.000 | 55.231 | 450 |
| | | | | | | | 0 | 25.001 | 55.231 | 450 |
| PP3 | 517998.367 | 131772.535 | 58.120 | 0.820 | |  | 0 | 6.000 | 57.300 | 225 |
| 12 | 518020.938 | 131779.639 | 58.311 | 2.133 | 1200 |  | 0 | 5.000 | 56.178 | 225 |
| J5 | 518002.267 | 131785.367 | 58.189 | 2.126 | |  | 1 | 6.000 | 57.063 | 225 |
| | | | | | | | 2 | 5.000 | 56.063 | 225 |
| | | | | | | | 0 | 5.001 | 56.063 | 225 |
| 27 | 517853.359 | 131713.350 | 56.175 | 1.281 | 600 |  | 1 | 26.001 | 54.894 | 225 |
| | | | | | | | 0 | 26.002 | 54.894 | 225 |
| 13 | 517950.194 | 131801.344 | 57.829 | 1.728 | 1200 |  | 0 | 7.000 | 56.101 | 225 |
| 11 | 517979.294 | 131792.416 | 58.005 | 2.158 | 1200 |  | 1 | 7.000 | 55.922 | 225 |
| | | | | | | | 2 | 5.001 | 55.922 | 225 |
| | | | | | | | 0 | 5.002 | 55.847 | 300 |
| 9 | 517964.948 | 131763.220 | 57.602 | 2.815 | 1200 |  | 1 | 5.003 | 54.787 | 300 |
| | | | | | | | 0 | 5.004 | 54.787 | 300 |
| ATT. TANK 3 | 517956.959 | 131752.384 | 57.464 | 2.699 | |  | 1 | 5.004 | 54.765 | 300 |
| | | | | | | | 0 | 5.005 | 54.765 | 300 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Manhole Schedule

| Node | Easting (m) | Northing (m) | CL (m) | Depth (m) | Dia (mm) | Connections | Link | IL (m) | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| PP5 | 517951.152 | 131689.157 | 57.100 | 0.770 | |  | 0 | 2.000 | 56.330 | 225 |
| 7 | 518039.652 | 131758.335 | 58.328 | 1.725 | 1200 |  | 0 | 1.000 | 56.603 | 225 |
| 6 | 518033.328 | 131737.721 | 58.098 | 2.994 | 1200 |  | 1 | 1.000 | 55.179 | 225 |
| | | | | | | | 0 | 1.001 | 55.104 | 300 |
| 34 | 517997.742 | 131554.501 | 57.300 | 1.349 | 450 |  | 0 | 24.000 | 55.951 | 150 |
| 8 | 517953.612 | 131693.218 | 57.378 | 1.494 | 450 |  | 0 | 4.000 | 55.884 | 150 |
| 5 | 517976.716 | 131686.922 | 57.269 | 2.550 | 1350 |  | 1 | 1.001 | 54.794 | 300 |
| | | | | | | | 0 | 1.002 | 54.719 | 375 |
| PP4 | 517965.217 | 131708.263 | 57.420 | 0.870 | |  | 0 | 3.000 | 56.550 | 225 |
| J6 | 517959.023 | 131699.967 | 57.140 | 2.489 | |  | 1 | 4.000 | 54.909 | 150 |
| | | | | | | | 2 | 3.000 | 56.446 | 225 |
| | | | | | | | 3 | 2.000 | 55.834 | 225 |
| | | | | | | | 4 | 1.002 | 54.651 | 375 |
| | | | | | | | 0 | 1.003 | 54.651 | 375 |
| 4 | 517932.649 | 131719.413 | 57.025 | 2.625 | 1500 |  | 1 | 15.000 | 55.600 | 100 |
| | | | | | | | 2 | 14.000 | 55.600 | 100 |
| | | | | | | | 3 | 13.000 | 56.723 | 100 |
| | | | | | | | 4 | 8.002 | 54.625 | 300 |
| | | | | | | | 5 | 5.005 | 54.625 | 300 |
| | | | | | | | 6 | 1.003 | 54.550 | 375 |
| | | | | | | | 0 | 1.004 | 54.400 | 525 |
| 2 | 517898.278 | 131672.796 | 56.380 | 2.066 | 1800 |  | 1 | 1.006 | 54.314 | 525 |
| | | | | | | | 0 | 1.007 | 54.314 | 525 |
| 23 | 517959.969 | 131647.555 | 57.407 | 1.393 | 450 |  | 0 | 18.000 | 56.014 | 150 |
| 1 | 517877.897 | 131655.146 | 55.783 | 1.527 | 2400 |  | 1 | 20.001 | 54.484 | 300 |
| | | | | | | | 2 | 16.008 | 54.484 | 300 |
| | | | | | | | 3 | 1.007 | 54.259 | 525 |
| | | | | | | | 0 | 1.009 | 54.256 | 600 |
| MH91 | 517873.297 | 131650.814 | 55.690 | 1.450 | |  | 1 | 1.009 | 54.240 | 600 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Manhole Schedule

| Node | Easting (m) | Northing (m) | CL (m) | Depth (m) | Dia (mm) | Connections | Link | IL (m) | Dia (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 26 | 517851.964 | 131720.069 | 56.029 | 1.175 | 1200 | 1 | 26.002 | 54.854 | 225 |
| | | | | | |  | | | |
| | | | | | | 0 | 26.003 | 54.854 | 225 |
| 29 | 517936.277 | 131572.973 | 56.253 | 1.066 | 1500 | 1 | 25.001 | 55.187 | 450 |
| | | | | | |  | | | |
| | | | | | | 2 | 21.004 | 55.187 | 450 |
| | | | | | | 0 | 21.005 | 55.187 | 450 |
| ATT. TANK 2 | 517908.202 | 131686.256 | 56.375 | 2.050 | | 1 | 1.005 | 54.325 | 525 |
| | | | | | |  | | | |
| | | | | | | 0 | 1.006 | 54.325 | 525 |
| Rain Garden 5 | 517939.637 | 131705.015 | 57.250 | 0.400 | |  | | | |
| | | | | | | 0 | 13.000 | 56.850 | 100 |
| Rain Garden 6 | 517972.893 | 131637.406 | 57.650 | 0.400 | |  | | | |
| | | | | | | 0 | 17.000 | 57.250 | 100 |
| Rain Garden 7 | 517974.433 | 131604.515 | 57.440 | 0.400 | |  | | | |
| | | | | | | 0 | 22.000 | 57.040 | 100 |
| 30 | 517955.179 | 131543.587 | 56.544 | 1.271 | 1350 | 1 | 21.003 | 55.348 | 375 |
| | | | | | |  | | | |
| | | | | | | 0 | 21.004 | 55.273 | 450 |

## Node 1 Online Hydro-Brake® Control

| | |
|---|---|
| Flap Valve | x |
| Replaces Downstream Link | ✓ |
| Invert Level (m) | 54.256 |
| Design Depth (m) | 1.387 |
| Design Flow (l/s) | 60.0 |
| Objective | (HE) Minimise upstream storage |
| Sump Available | ✓ |
| Product Number | CTL-SHE-0314-6000-1387-6000 |
| Min Outlet Diameter (m) | 0.375 |
| Min Node Diameter (mm) | 2400 |

## Node 2 Online Hydro-Brake® Control

| | |
|---|---|
| Flap Valve | x |
| Replaces Downstream Link | ✓ |
| Invert Level (m) | 54.314 |
| Design Depth (m) | 1.734 |
| Design Flow (l/s) | 20.0 |
| Objective | (HE) Minimise upstream storage |
| Sump Available | ✓ |
| Product Number | CTL-SHE-0188-2000-1734-2000 |
| Min Outlet Diameter (m) | 0.225 |
| Min Node Diameter (mm) | 1800 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Node 17 Online Hydro-Brake® Control

| | |
|---|---|
| Flap Valve | x |
| Replaces Downstream Link | x |
| Invert Level (m) | 54.804 |
| Design Depth (m) | 2.265 |
| Design Flow (l/s) | 8.2 |
| Objective | (HE) Minimise upstream storage |
| Sump Available | ✓ |
| Product Number | CTL-SHE-0115-8200-2265-8200 |
| Min Outlet Diameter (m) | 0.150 |
| Min Node Diameter (mm) | 1500 |

## Node 29 Online Hydro-Brake® Control

| | |
|---|---|
| Flap Valve | x |
| Replaces Downstream Link | ✓ |
| Invert Level (m) | 55.187 |
| Design Depth (m) | 1.021 |
| Design Flow (l/s) | 21.5 |
| Objective | (HE) Minimise upstream storage |
| Sump Available | ✓ |
| Product Number | CTL-SHE-0205-2150-1021-2150 |
| Min Outlet Diameter (m) | 0.225 |
| Min Node Diameter (mm) | 1500 |

## Node PP6 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.550 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 56.180 | Diameter (m) | 0.025 | | |

## Node PP2 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.750 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 55.370 | Diameter (m) | 0.023 | | |

## Node PP1 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.700 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 55.610 | Diameter (m) | 0.024 | | |

## Node PP4 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.750 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 56.550 | Diameter (m) | 0.023 | | |

## Node PP5 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.650 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 56.330 | Diameter (m) | 0.024 | | |

## Node PP7 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.550 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 56.620 | Diameter (m) | 0.025 | | |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

## Node PP3 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.550 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 57.300 | Diameter (m) | 0.025 | | |

## Node PP8 Online Orifice Control

| | | | | | |
|---|---|---|---|---|---|
| Flap Valve | x | Design Depth (m) | 0.700 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x | Design Flow (l/s) | 1.0 | | |
| Invert Level (m) | 56.070 | Diameter (m) | 0.024 | | |

## Node 26 Online Hydro-Brake® Control

| | |
|---|---|
| Flap Valve | x |
| Replaces Downstream Link | ✓ |
| Invert Level (m) | 54.854 |
| Design Depth (m) | 0.935 |
| Design Flow (l/s) | 7.0 |
| Objective | (HE) Minimise upstream storage |
| Sump Available | ✓ |
| Product Number | CTL-SHE-0125-7000-0935-7000 |
| Min Outlet Diameter (m) | 0.150 |
| Min Node Diameter (mm) | 1200 |

## Node PP2 Carpark Storage Structure

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 55.370 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | | Depth (m) | 1.000 |
| Safety Factor | 2.0 | Width (m) | 13.300 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

## Node PP1 Carpark Storage Structure

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 55.610 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | | Depth (m) | 0.950 |
| Safety Factor | 2.0 | Width (m) | 13.450 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

## Node ATT. TANK 3 Soakaway Storage Structure

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 54.765 | Depth (m) | 1.470 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 228 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 15.000 | Number Required | 1 |
| Porosity | 0.95 | Pit Length (m) | 15.270 | | |

## Node PP4 Carpark Storage Structure

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.550 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | | Depth (m) | 0.800 |
| Safety Factor | 2.0 | Width (m) | 19.900 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

## Node PP5 Carpark Storage Structure

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.330 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | | Depth (m) | 0.700 |
| Safety Factor | 2.0 | Width (m) | 23.350 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Node PP3 Carpark Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 57.300 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 48 | Depth (m) | 0.600 |
| Safety Factor | 2.0 | Width (m) | 15.350 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

**Node PP6 Carpark Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.180 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 224 | Depth (m) | 0.600 |
| Safety Factor | 2.0 | Width (m) | 16.100 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

**Node PP7 Carpark Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.620 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 124 | Depth (m) | 0.600 |
| Safety Factor | 2.0 | Width (m) | 10.650 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

**Node ATT. TANK 6 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 55.235 | Depth (m) | 1.050 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 68 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 10.000 | Number Required | 1 |
| Porosity | 0.95 | Pit Length (m) | 13.500 | | |

**Node PP8 Carpark Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.070 | Slope (1:X) | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | | Depth (m) | 0.800 |
| Safety Factor | 2.0 | Width (m) | 13.050 | Inf Depth (m) | |
| Porosity | 0.30 | Length (m) | 20.000 | | |

**Node ATT. TANK 4 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 54.935 | Depth (m) | 1.320 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 214 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 3.680 | Number Required | 1 |
| Porosity | 0.95 | Pit Length (m) | 20.000 | | |

**Node ATT. TANK 5 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 55.240 | Depth (m) | 0.690 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 138 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 4.800 | Number Required | 1 |
| Porosity | 0.95 | Pit Length (m) | 12.000 | | |

**Node Rain Garden 1 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.504 | Depth (m) | 0.400 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 1.800 | Number Required | 1 |
| Porosity | 0.30 | Pit Length (m) | 20.000 | | |

**Node Rain Garden 2 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.367 | Depth (m) | 0.400 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 1.800 | Number Required | 1 |
| Porosity | 0.30 | Pit Length (m) | 20.000 | | |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Node Rain Garden 3 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.873 | Depth (m) | 0.400 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 3 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 1.800 | Number Required | 1 |
| Porosity | 0.30 | Pit Length (m) | 13.000 | | |

**Node Rain Garden 4 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.706 | Depth (m) | 0.400 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 3 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 1.800 | Number Required | 1 |
| Porosity | 0.30 | Pit Length (m) | 16.000 | | |

**Node Rain Garden 5 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 56.850 | Depth (m) | 0.400 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 8 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 1.800 | Number Required | 1 |
| Porosity | 0.30 | Pit Length (m) | 16.000 | | |

**Node Rain Garden 6 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 57.250 | Depth (m) | 0.400 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 8 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 1.800 | Number Required | 1 |
| Porosity | 0.30 | Pit Length (m) | 13.000 | | |

**Node Rain Garden 7 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 57.040 | Depth (m) | 0.400 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 3 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 1.800 | Number Required | 1 |
| Porosity | 0.30 | Pit Length (m) | 16.000 | | |

**Node ATT. TANK 2 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 54.325 | Depth (m) | 1.350 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 16.000 | Number Required | 1 |
| Porosity | 0.95 | Pit Length (m) | 17.880 | | |

**Node ATT. TANK 1 Soakaway Storage Structure**

| | | | | | |
|---|---|---|---|---|---|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m) | 54.900 | Depth (m) | 0.630 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 41 | Inf Depth (m) | |
| Safety Factor | 2.0 | Pit Width (m) | 6.000 | Number Required | 1 |
| Porosity | 0.95 | Pit Length (m) | 8.000 | | |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 99.83%**

| Node Event | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|---|---|---|---|---|---|---|---|---|
| 60 minute summer | ATT. TANK 1 | 49 | 55.792 | 0.892 | 38.5 | 28.7508 | 0.0000 | FLOOD RISK |
| 60 minute summer | 28 | 49 | 55.792 | 0.786 | 14.3 | 0.1250 | 0.0000 | FLOOD RISK |
| 30 minute summer | 25 | 20 | 55.664 | 1.052 | 20.0 | 1.1904 | 0.0000 | FLOOD RISK |
| 30 minute summer | 24 | 20 | 55.656 | 1.096 | 40.8 | 1.2396 | 0.6018 | FLOOD |
| 120 minute winter | 19 | 118 | 56.768 | 1.814 | 35.6 | 2.0519 | 0.0000 | SURCHARGED |
| 120 minute winter | 22 | 118 | 56.774 | 1.163 | 10.8 | 1.3152 | 0.0000 | SURCHARGED |
| 120 minute winter | 21 | 118 | 56.774 | 1.415 | 21.8 | 1.6000 | 0.0000 | SURCHARGED |
| 120 minute winter | 20 | 118 | 56.773 | 1.518 | 36.9 | 1.7170 | 0.0000 | SURCHARGED |
| 15 minute summer | MH33 | 1 | 54.840 | 0.000 | 7.0 | 0.0000 | 0.0000 | OK |
| 60 minute winter | ATT. TANK 6 | 59 | 56.248 | 1.013 | 111.8 | 129.9696 | 0.0000 | SURCHARGED |
| 480 minute winter | PP8 | 456 | 56.811 | 0.741 | 6.6 | 57.9421 | 0.0000 | SURCHARGED |
| 120 minute winter | ATT. TANK 4 | 118 | 56.768 | 1.833 | 37.4 | 92.3294 | 0.0000 | SURCHARGED |
| 240 minute winter | 3 | 236 | 56.018 | 1.689 | 74.1 | 2.9846 | 0.0000 | SURCHARGED |
| 60 minute winter | 31 | 58 | 56.251 | 0.685 | 93.5 | 0.9797 | 0.0000 | SURCHARGED |
| 30 minute summer | J2 | 19 | 56.341 | 0.590 | 89.1 | 0.0000 | 0.0000 | SURCHARGED |
| 240 minute winter | PP7 | 228 | 56.953 | 0.333 | 4.8 | 21.2415 | 0.0000 | SURCHARGED |
| 30 minute summer | 32 | 19 | 56.426 | 0.560 | 64.4 | 0.6330 | 0.0000 | SURCHARGED |
| 120 minute winter | ATT. TANK 5 | 118 | 56.773 | 1.533 | 44.8 | 37.7842 | 0.0000 | SURCHARGED |
| 120 minute winter | 18 | 118 | 56.767 | 1.845 | 7.9 | 2.0866 | 0.0000 | SURCHARGED |
| 180 minute winter | PP6 | 184 | 56.535 | 0.355 | 8.4 | 34.1713 | 0.0000 | SURCHARGED |
| 120 minute winter | 17 | 118 | 56.765 | 1.961 | 9.1 | 3.4645 | 0.0000 | SURCHARGED |
| 30 minute summer | 16 | 20 | 55.705 | 1.056 | 63.1 | 1.1948 | 0.0000 | SURCHARGED |
| 15 minute summer | DIVERSION MH | 1 | 55.171 | 0.000 | 21.5 | 0.0000 | 0.0000 | OK |
| 15 minute summer | Rain Garden 2 | 1 | 56.367 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 240 minute winter | 15 | 236 | 56.019 | 0.434 | 8.0 | 0.4906 | 0.0000 | SURCHARGED |
| 240 minute winter | 14 | 236 | 56.019 | 1.130 | 15.3 | 1.2779 | 0.0000 | SURCHARGED |
| 15 minute summer | Rain Garden 1 | 1 | 56.504 | 0.000 | 0.0 | 0.0000 | 0.0000 | OK |
| 240 minute winter | 10 | 236 | 56.020 | 0.244 | 18.3 | 0.2759 | 0.0000 | OK |

| Link Event (Upstream Depth) | US Node | Link | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|---|---|---|---|---|---|---|---|---|
| 60 minute summer | ATT. TANK 1 | 26.001 | 27 | -18.1 | 0.549 | -0.451 | 0.0398 | |
| 60 minute summer | 28 | 26.000 | ATT. TANK 1 | 13.5 | 0.920 | 0.758 | 0.0553 | |
| 30 minute summer | 25 | 20.000 | 24 | 14.4 | 0.473 | 0.203 | 0.9012 | |
| 30 minute summer | 24 | 20.001 | 1 | 36.4 | 0.844 | 0.515 | 1.3076 | |
| 120 minute winter | 19 | 16.004 | ATT. TANK 4 | 35.0 | 1.587 | 0.669 | 0.0744 | |
| 120 minute winter | 22 | 16.000 | 21 | 10.5 | 0.596 | 0.264 | 1.7039 | |
| 120 minute winter | 21 | 16.001 | 20 | 20.4 | 0.725 | 0.513 | 0.7059 | |
| 120 minute winter | 20 | 16.002 | ATT. TANK 5 | 36.4 | 1.351 | 0.807 | 0.0789 | |
| | | | | | | | | |
| 60 minute winter | ATT. TANK 6 | 25.000 | 33 | -67.2 | -0.883 | -0.406 | 0.2386 | |
| 480 minute winter | PP8 | 23.000 | J2 | 1.0 | 0.549 | 0.057 | 0.0287 | |
| 120 minute winter | ATT. TANK 4 | 16.005 | 18 | 7.0 | 0.483 | 0.159 | 0.0708 | |
| 240 minute winter | 3 | 1.005 | ATT. TANK 2 | 72.9 | 1.280 | 0.296 | 0.3299 | |
| 60 minute winter | 31 | 21.003 | 30 | 90.3 | 1.331 | 0.562 | 3.7179 | |
| 30 minute summer | J2 | 21.002 | 31 | 85.2 | 1.225 | 1.206 | 1.8908 | |
| 240 minute winter | PP7 | 21.000 | 32 | 0.7 | 0.495 | 0.041 | 0.0240 | |
| 30 minute summer | 32 | 21.001 | J2 | 60.8 | 0.928 | 0.861 | 1.9879 | |
| 120 minute winter | ATT. TANK 5 | 16.003 | 19 | 31.4 | 0.865 | 0.667 | 1.3885 | |
| 120 minute winter | 18 | 16.006 | 17 | 7.4 | 0.380 | 0.186 | 0.2892 | |
| 180 minute winter | PP6 | 19.000 | 17 | 1.1 | 0.468 | 0.021 | 0.4856 | |
| 120 minute winter | 17 | 16.007 | 16 | 7.6 | 0.636 | 0.107 | 1.3465 | |
| 30 minute summer | 16 | 16.008 | 1 | 52.1 | 0.956 | 0.737 | 2.8503 | |
| | | | | | | | | |
| 15 minute summer | Rain Garden 2 | 11.000 | J4 | 0.0 | 0.000 | 0.000 | 0.0000 | |
| 240 minute winter | 15 | 8.000 | 14 | 8.0 | 0.585 | 0.059 | 3.2727 | |
| 240 minute winter | 14 | 8.001 | J4 | 14.1 | 0.588 | 0.200 | 2.2057 | |
| 15 minute summer | Rain Garden 1 | 12.000 | J4 | 0.0 | 0.000 | 0.000 | 0.0000 | |
| 240 minute winter | 10 | 5.003 | 9 | 18.3 | 0.897 | 0.065 | 1.0245 | |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 99.83%**

| Node Event | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|---|---|---|---|---|---|---|---|---|
| 480 minute summer | PP2 | 480 | 56.361 | 0.991 | 12.5 | 78.9948 | 0.0000 | FLOOD RISK |
| 480 minute winter | PP1 | 464 | 56.554 | 0.944 | 8.3 | 76.0679 | 0.0000 | FLOOD RISK |
| 240 minute winter | J4 | 236 | 56.019 | 1.258 | 24.8 | 0.0000 | 0.0000 | SURCHARGED |
| 15 minute summer | Rain Garden 3 | 11 | 56.943 | 0.070 | 14.5 | 0.4898 | 0.0000 | OK |
| 15 minute summer | Rain Garden 4 | 11 | 56.781 | 0.075 | 14.5 | 0.6477 | 0.0000 | OK |
| 60 minute winter | 33 | 59 | 56.248 | 1.017 | 68.5 | 1.4558 | 0.0000 | SURCHARGED |
| 360 minute winter | PP3 | 328 | 57.568 | 0.268 | 3.8 | 24.5794 | 0.0000 | SURCHARGED |
| 15 minute summer | 12 | 11 | 56.306 | 0.128 | 19.5 | 0.1448 | 0.0000 | OK |
| 15 minute summer | J5 | 11 | 56.288 | 0.225 | 42.7 | 0.0000 | 0.0000 | SURCHARGED |
| 60 minute summer | 27 | 49 | 55.792 | 0.898 | 18.9 | 0.2540 | 0.0000 | SURCHARGED |
| 15 minute summer | 13 | 10 | 56.255 | 0.154 | 31.7 | 0.1737 | 0.0000 | OK |
| 15 minute summer | 11 | 11 | 56.138 | 0.291 | 97.8 | 0.3287 | 0.0000 | OK |
| 240 minute winter | 9 | 236 | 56.020 | 1.233 | 25.1 | 1.3944 | 0.0000 | SURCHARGED |
| 240 minute winter | ATT. TANK 3 | 236 | 56.020 | 1.255 | 55.8 | 273.0377 | 0.0000 | SURCHARGED |
| 600 minute winter | PP5 | 585 | 56.934 | 0.604 | 7.3 | 84.4557 | 0.0000 | FLOOD RISK |
| 15 minute summer | 7 | 11 | 57.137 | 0.534 | 21.3 | 0.6041 | 0.0000 | SURCHARGED |
| 15 minute summer | 6 | 11 | 57.105 | 2.001 | 118.4 | 2.2626 | 0.0000 | SURCHARGED |
| 60 minute winter | 34 | 58 | 56.251 | 0.300 | 0.8 | 0.0476 | 0.0000 | SURCHARGED |
| 240 minute winter | 8 | 236 | 56.019 | 0.135 | 0.1 | 0.0214 | 0.0000 | OK |
| 15 minute summer | 5 | 11 | 56.160 | 1.441 | 243.8 | 2.0619 | 0.0000 | SURCHARGED |
| 720 minute winter | PP4 | 690 | 57.296 | 0.746 | 6.6 | 88.9822 | 0.0000 | FLOOD RISK |
| 240 minute winter | J6 | 236 | 56.019 | 1.368 | 48.5 | 0.0000 | 0.0000 | SURCHARGED |
| 240 minute winter | 4 | 236 | 56.019 | 1.619 | 90.9 | 2.8600 | 0.0000 | SURCHARGED |
| 240 minute winter | 2 | 236 | 56.018 | 1.704 | 20.6 | 4.3361 | 0.0000 | SURCHARGED |
| 120 minute winter | 23 | 118 | 56.768 | 0.754 | 0.6 | 0.1198 | 0.0000 | SURCHARGED |
| 30 minute summer | 1 | 20 | 55.645 | 1.389 | 96.2 | 6.2822 | 0.0000 | FLOOD RISK |
| 15 minute summer | MH91 | 1 | 54.240 | 0.000 | 60.0 | 0.0000 | 0.0000 | OK |
| 60 minute summer | 26 | 49 | 55.791 | 0.937 | 26.7 | 1.0598 | 0.0000 | FLOOD RISK |

| Link Event (Upstream Depth) | US Node | Link | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|---|---|---|---|---|---|---|---|---|
| 480 minute summer | PP2 | 9.000 | J4 | 1.0 | 0.503 | 0.057 | 0.3473 | |
| 480 minute winter | PP1 | 10.000 | J4 | 2.0 | 0.552 | 0.113 | 0.3113 | |
| 240 minute winter | J4 | 8.002 | 4 | 24.4 | 0.752 | 0.345 | 2.3485 | |
| 15 minute summer | Rain Garden 3 | 15.000 | 4 | 14.1 | 2.461 | 0.797 | 0.0866 | |
| 15 minute summer | Rain Garden 4 | 14.000 | 4 | 14.1 | 2.269 | 0.872 | 0.0982 | |
| 60 minute winter | 33 | 25.001 | 29 | -68.5 | -0.432 | -0.417 | 2.6655 | |
| 360 minute winter | PP3 | 6.000 | J5 | 0.7 | 0.552 | 0.009 | 0.0159 | |
| 15 minute summer | 12 | 5.000 | J5 | 18.7 | 0.656 | 0.471 | 0.6158 | |
| 15 minute summer | J5 | 5.001 | 11 | 41.6 | 1.112 | 1.046 | 0.9481 | |
| 60 minute summer | 27 | 26.002 | 26 | -18.9 | -0.476 | -0.477 | 0.2729 | |
| 15 minute summer | 13 | 7.000 | 11 | 31.3 | 0.922 | 0.787 | 1.0342 | |
| 15 minute summer | 11 | 5.002 | 10 | 96.9 | 1.916 | 1.371 | 0.8392 | |
| 240 minute winter | 9 | 5.004 | ATT. TANK 3 | 24.5 | 1.130 | 0.347 | 0.3848 | |
| 240 minute winter | ATT. TANK 3 | 5.005 | 4 | -30.7 | 0.771 | -0.425 | 2.3212 | |
| 600 minute winter | PP5 | 2.000 | J6 | 0.9 | 0.793 | 0.009 | 0.0159 | |
| 15 minute summer | 7 | 1.000 | 6 | 24.2 | 1.420 | 0.180 | 0.8575 | |
| 15 minute summer | 6 | 1.001 | 5 | 116.3 | 1.652 | 1.646 | 5.3562 | |
| 60 minute winter | 34 | 24.000 | 31 | -0.8 | -0.047 | -0.042 | 0.2815 | |
| 240 minute winter | 8 | 4.000 | J6 | -0.1 | -0.009 | -0.002 | 0.1483 | |
| 15 minute summer | 5 | 1.002 | J6 | 241.6 | 2.190 | 2.189 | 2.4246 | |
| 720 minute winter | PP4 | 3.000 | J6 | 0.9 | 0.508 | 0.018 | 0.0192 | |
| 240 minute winter | J6 | 1.003 | 4 | 48.3 | 0.799 | 0.437 | 3.6142 | |
| 240 minute winter | 4 | 1.004 | 3 | 74.1 | 0.688 | 0.301 | 5.8908 | |
| 240 minute winter | 2 | Hydro-Brake® | 1 | 20.0 | | | | |
| 120 minute winter | 23 | 18.000 | ATT. TANK 4 | 0.6 | -0.206 | 0.036 | 0.0176 | |
| 30 minute summer | 1 | Hydro-Brake® | MH91 | 60.0 | | | | 453.8 |
| 60 minute summer | 26 | Hydro-Brake® | MH33 | 7.0 | | | | 50.6 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd

**Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 99.83%**

| Node Event | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|---|---|---|---|---|---|---|---|---|
| 60 minute winter | 29 | 59 | 56.248 | 1.061 | 91.3 | 1.8746 | 0.0000 | FLOOD RISK |
| 240 minute winter | ATT. TANK 2 | 236 | 56.018 | 1.693 | 86.9 | 367.0335 | 0.0000 | SURCHARGED |
| 15 minute summer | Rain Garden 5 | 13 | 57.119 | 0.269 | 14.5 | 2.3253 | 0.0000 | FLOOD RISK |
| 15 minute summer | Rain Garden 6 | 12 | 57.490 | 0.240 | 12.6 | 1.6869 | 0.0000 | FLOOD RISK |
| 15 minute summer | Rain Garden 7 | 12 | 57.166 | 0.126 | 17.1 | 1.0907 | 0.0000 | FLOOD RISK |
| 60 minute winter | 30 | 58 | 56.248 | 0.975 | 90.3 | 1.3955 | 0.0000 | FLOOD RISK |

| Link Event (Upstream Depth) | US Node | Link | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|---|---|---|---|---|---|---|---|---|
| 60 minute winter | 29 | Hydro-Brake® | DIVERSION MH | 21.9 | | | | 232.6 |
| 240 minute winter | ATT. TANK 2 | 1.006 | 2 | 18.9 | 0.111 | 0.083 | 1.0702 | |
| 15 minute summer | Rain Garden 5 | 13.000 | 4 | 8.2 | 1.055 | 1.537 | 0.1220 | |
| 15 minute summer | Rain Garden 6 | 17.000 | 19 | 8.1 | 1.030 | 1.482 | 0.1151 | |
| 15 minute summer | Rain Garden 7 | 22.000 | J2 | 15.1 | 2.125 | 1.023 | 0.1384 | |
| 60 minute winter | 30 | 21.004 | 29 | 85.1 | 0.643 | 0.533 | 5.5360 | |

**Water Quality (TSS)**

| Node | Treatment | Effectiveness | SuDS Component | Mitigation TSS | Cumulative TSS |
|---|---|---|---|---|---|
| ATT. TANK 5 | Soakaway | 1.0 | Bioretention System | 0.800 | 0.000 |
| MH91 | | | | | 0.000 |
| DIVERSION MH | | | | | 0.000 |
| MH33 | | | | | 0.000 |

**Water Quality (Metals)**

| Node | Treatment | Effectiveness | SuDS Component | Mitigation Metals | Cumulative Metals |
|---|---|---|---|---|---|
| ATT. TANK 5 | Soakaway | 1.0 | Bioretention System | 0.800 | 0.000 |
| MH91 | | | | | 0.000 |
| DIVERSION MH | | | | | 0.000 |
| MH33 | | | | | 0.000 |

**Water Quality (Hydrocarbons)**

| Node | Treatment | Effectiveness | SuDS Component | Mitigation Hydrocarbons | Cumulative Hydrocarbons |
|---|---|---|---|---|---|
| ATT. TANK 5 | Soakaway | 1.0 | Bioretention System | 0.800 | 0.000 |
| MH91 | | | | | 0.000 |
| DIVERSION MH | | | | | 0.000 |
| MH33 | | | | | 0.000 |

Flow+ v18.0 Copyright © 1988-2026 Causeway Technologies Ltd