## Time Area Diagram for Storm

| Time (mins) | Area (ha) | Time (mins) | Area (ha) |
|---|---|---|---|
| 0-4 | 0.319 | 4-8 | 0.181 |

Total Area Contributing (ha) = 0.500

Total Pipe Volume ($m^3$) = 135.038

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## Existing Network Details for Storm

| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | HYD SECT | DIA (mm) | Section Type |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.000 | 13.058 | 0.060 | 217.6 | 0.041 | 5.00 | 0.0 | 0.600 | o | 225 | Pipe/Conduit |
| 2.000 | 5.070 | 1.055 | 4.8 | 0.027 | 5.00 | 0.0 | 0.600 | o | 150 | Pipe/Conduit |
| 1.001 | 15.906 | 0.074 | 214.9 | 0.000 | 0.00 | 0.0 | 0.600 | o | 225 | Pipe/Conduit |
| 3.000 | 5.665 | 2.172 | 2.6 | 0.000 | 5.00 | 0.0 | 0.600 | o | 150 | Pipe/Conduit |
| 1.002 | 18.843 | 0.086 | 219.1 | 0.000 | 0.00 | 0.0 | 0.600 | o | 225 | Pipe/Conduit |
| 1.003 | 13.459 | 0.070 | 192.3 | 0.022 | 0.00 | 0.0 | 0.600 | o | 225 | Pipe/Conduit |
| 4.000 | 6.451 | 0.125 | 51.6 | 0.013 | 5.00 | 0.0 | 0.600 | o | 225 | Pipe/Conduit |
| 5.000 | 6.451 | 0.650 | 9.9 | 0.008 | 5.00 | 0.0 | 0.600 | o | 150 | Pipe/Conduit |
| 4.001 | 8.724 | 0.165 | 52.9 | 0.000 | 0.00 | 0.0 | 0.600 | o | 225 | Pipe/Conduit |
| 6.000 | 5.385 | 0.090 | 59.8 | 0.079 | 5.00 | 0.0 | 0.600 | o | 150 | Pipe/Conduit |
| 1.004 | 17.452 | 0.582 | 30.0 | 0.035 | 0.00 | 0.0 | 0.600 | o | 300 | Pipe/Conduit |
| 7.000 | 4.325 | 0.787 | 5.5 | 0.014 | 5.00 | 0.0 | 0.600 | o | 150 | Pipe/Conduit |
| 1.005 | 19.721 | 0.653 | 30.2 | 0.000 | 0.00 | 0.0 | 0.600 | o | 300 | Pipe/Conduit |
| 8.000 | 8.008 | 0.340 | 23.6 | 0.027 | 5.00 | 0.0 | 0.600 | o | 150 | Pipe/Conduit |
| 1.006 | 6.300 | 0.050 | 126.0 | 0.009 | 0.00 | 0.0 | 0.600 | o | 300 | Pipe/Conduit |

## Network Results Table

| PN | US/IL (m) | Σ I.Area (ha) | Σ Base Flow (l/s) | Vel (m/s) | Cap (l/s) |
|---|---|---|---|---|---|
| 1.000 | 162.500 | 0.041 | 0.0 | 0.88 | 35.1 |
| 2.000 | 163.570 | 0.027 | 0.0 | 4.63 | 81.8 |
| 1.001 | 162.440 | 0.068 | 0.0 | 0.89 | 35.3 |
| 3.000 | 163.800 | 0.000 | 0.0 | 6.29 | 111.1 |
| 1.002 | 162.366 | 0.068 | 0.0 | 0.88 | 35.0 |
| 1.003 | 162.280 | 0.090 | 0.0 | 0.94 | 37.4 |
| 4.000 | 162.500 | 0.013 | 0.0 | 1.82 | 72.6 |
| 5.000 | 163.100 | 0.008 | 0.0 | 3.22 | 56.9 |
| 4.001 | 162.375 | 0.021 | 0.0 | 1.80 | 71.7 |
| 6.000 | 162.375 | 0.079 | 0.0 | 1.30 | 23.0 |
| 1.004 | 162.135 | 0.225 | 0.0 | 2.88 | 203.7 |
| 7.000 | 162.490 | 0.014 | 0.0 | 4.33 | 76.5 |
| 1.005 | 161.553 | 0.239 | 0.0 | 2.87 | 203.0 |
| 8.000 | 161.390 | 0.027 | 0.0 | 2.08 | 36.8 |
| 1.006 | 160.900 | 0.275 | 0.0 | 1.40 | 98.9 |

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## Existing Network Details for Storm

| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | HYD SECT | DIA (mm) | Section Type |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.007 | 21.368 | 1.740 | 12.3 | 0.009 | 0.00 | 0.0 | 0.600 | o | 300 | Pipe/Conduit |
| 1.008 | 16.727 | 0.060 | 278.8 | 0.000 | 0.00 | 0.0 | 0.600 | o | 450 | Pipe/Conduit |
| 9.000 | 8.299 | 0.210 | 39.5 | 0.029 | 5.00 | 0.0 | 0.600 | o | 150 | Pipe/Conduit |
| 1.009 | 7.236 | 0.060 | 120.6 | 0.025 | 0.00 | 0.0 | 0.600 | o | 450 | Pipe/Conduit |
| 1.010 | 34.383 | 0.115 | 299.0 | 0.017 | 0.00 | 0.0 | 0.600 | o | 1500 | Pipe/Conduit |
| 10.000 | 9.808 | 0.385 | 25.5 | 0.075 | 5.00 | 0.0 | 0.600 | o | 150 | Pipe/Conduit |
| 1.011 | 34.383 | 0.115 | 299.0 | 0.040 | 0.00 | 0.0 | 0.600 | o | 1500 | Pipe/Conduit |
| 1.012 | 16.243 | 0.160 | 101.5 | 0.030 | 0.00 | 0.0 | 0.600 | o | 300 | Pipe/Conduit |

## Network Results Table

| PN | US/IL (m) | Σ I.Area (ha) | Σ Base Flow (l/s) | Vel (m/s) | Cap (l/s) |
|---|---|---|---|---|---|
| 1.007 | 159.350 | 0.284 | 0.0 | 4.51 | 318.8 |
| 1.008 | 157.460 | 0.284 | 0.0 | 1.21 | 192.9 |
| 9.000 | 157.910 | 0.029 | 0.0 | 1.61 | 28.4 |
| 1.009 | 157.400 | 0.338 | 0.0 | 1.85 | 294.3 |
| 1.010 | 156.290 | 0.355 | 0.0 | 2.48 | 4374.7 |
| 10.000 | 157.910 | 0.075 | 0.0 | 2.00 | 35.4 |
| 1.011 | 156.175 | 0.470 | 0.0 | 2.48 | 4374.7 |
| 1.012 | 156.010 | 0.500 | 0.0 | 1.56 | 110.3 |

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## Manhole Schedules for Storm

| MH Name | MH CL (m) | MH Depth (m) | MH Connection | MH Diam.,L*W (mm) | Pipe Out PN | Pipe Out Invert Level (m) | Pipe Out Diameter (mm) | Pipes In PN | Pipes In Invert Level (m) | Pipes In Diameter (mm) | Backdrop (mm) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 164.260 | 1.760 | Open Manhole | 1200 | 1.000 | 162.500 | 225 | | | | |
| 2 | 164.810 | 1.240 | Open Manhole | 460 | 2.000 | 163.570 | 150 | | | | |
| 2 | 164.491 | 2.051 | Junction | | 1.001 | 162.440 | 225 | 1.000 | 162.440 | 225 | |
| | | | | | | | | 2.000 | 162.515 | 150 | |
| 3 | 164.935 | 1.135 | Open Manhole | 460 | 3.000 | 163.800 | 150 | | | | |
| 2 | 162.729 | 1.101 | Junction | | 1.002 | 162.366 | 225 | 1.001 | 162.366 | 225 | |
| | | | | | | | | 3.000 | 161.628 | 150 | |
| 2 | 164.330 | 2.050 | Open Manhole | 1200 | 1.003 | 162.280 | 225 | 1.002 | 162.280 | 225 | |
| 3 | 163.900 | 1.400 | Open Manhole | 1200 | 4.000 | 162.500 | 225 | | | | |
| 6 | 164.133 | 1.033 | Open Manhole | 460 | 5.000 | 163.100 | 150 | | | | |
| 6 | 163.952 | 1.577 | Junction | | 4.001 | 162.375 | 225 | 4.000 | 162.375 | 225 | |
| | | | | | | | | 5.000 | 162.450 | 150 | |
| 10 | 164.150 | 1.775 | Open Manhole | 460 | 6.000 | 162.375 | 150 | | | | |
| 3 | 163.860 | 1.725 | Open Manhole | 1200 | 1.004 | 162.135 | 300 | 1.003 | 162.210 | 225 | |
| | | | | | | | | 4.001 | 162.210 | 225 | |
| | | | | | | | | 6.000 | 162.285 | 150 | |
| 7 | 164.133 | 1.643 | Open Manhole | 460 | 7.000 | 162.490 | 150 | | | | |
| 5 | 163.306 | 1.753 | Junction | | 1.005 | 161.553 | 300 | 1.004 | 161.553 | 300 | |
| | | | | | | | | 7.000 | 161.703 | 150 | |
| 5 | 164.133 | 2.743 | Open Manhole | 460 | 8.000 | 161.390 | 150 | | | | |
| 4 | 162.400 | 1.500 | Open Manhole | 1200 | 1.006 | 160.900 | 300 | 1.005 | 160.900 | 300 | |
| | | | | | | | | 8.000 | 161.050 | 150 | |
| 5 | 162.150 | 2.800 | Open Manhole | 1200 | 1.007 | 159.350 | 300 | 1.006 | 160.850 | 300 | 1500 |
| 6 | 161.450 | 3.990 | Open Manhole | 1200 | 1.008 | 157.460 | 450 | 1.007 | 157.610 | 300 | |
| 9 | 160.700 | 2.790 | Open Manhole | 460 | 9.000 | 157.910 | 150 | | | | |
| 7 | 160.700 | 3.300 | Open Manhole | 1200 | 1.009 | 157.400 | 450 | 1.008 | 157.400 | 450 | |
| | | | | | | | | 9.000 | 157.700 | 150 | |
| 8 | 160.700 | 4.410 | Open Manhole | 2700 | 1.010 | 156.290 | 1500 | 1.009 | 157.340 | 450 | |
| 12 | 160.561 | 2.651 | Open Manhole | 460 | 10.000 | 157.910 | 150 | | | | |
| 9 | 160.200 | 4.025 | Open Manhole | 2700 | 1.011 | 156.175 | 1500 | 1.010 | 156.175 | 1500 | |
| | | | | | | | | 10.000 | 157.525 | 150 | |
| 10 | 159.850 | 3.840 | Open Manhole | 2700 | 1.012 | 156.010 | 300 | 1.011 | 156.060 | 1500 | 1250 |
| | 159.475 | 3.625 | Open Manhole | 300 | | OUTFALL | | 1.012 | 155.850 | 300 | |

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## PIPELINE SCHEDULES for Storm

### Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|---|
| 1.000 | o | 225 | 1 | 164.260 | 162.500 | 1.535 | Open Manhole | 1200 |
| 2.000 | o | 150 | 2 | 164.810 | 163.570 | 1.090 | Open Manhole | 460 |
| 1.001 | o | 225 | 2 | 164.491 | 162.440 | 1.826 | Junction | |
| 3.000 | o | 150 | 3 | 164.935 | 163.800 | 0.985 | Open Manhole | 460 |
| 1.002 | o | 225 | 2 | 162.729 | 162.366 | 0.138 | Junction | |
| 1.003 | o | 225 | 2 | 164.330 | 162.280 | 1.825 | Open Manhole | 1200 |
| 4.000 | o | 225 | 3 | 163.900 | 162.500 | 1.175 | Open Manhole | 1200 |
| 5.000 | o | 150 | 6 | 164.133 | 163.100 | 0.883 | Open Manhole | 460 |
| 4.001 | o | 225 | 6 | 163.952 | 162.375 | 1.352 | Junction | |
| 6.000 | o | 150 | 10 | 164.150 | 162.375 | 1.625 | Open Manhole | 460 |
| 1.004 | o | 300 | 3 | 163.860 | 162.135 | 1.425 | Open Manhole | 1200 |
| 7.000 | o | 150 | 7 | 164.133 | 162.490 | 1.493 | Open Manhole | 460 |
| 1.005 | o | 300 | 5 | 163.306 | 161.553 | 1.453 | Junction | |
| 8.000 | o | 150 | 5 | 164.133 | 161.390 | 2.593 | Open Manhole | 460 |

### Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|---|
| 1.000 | 13.058 | 217.6 | 2 | 164.491 | 162.440 | 1.826 | Junction | |
| 2.000 | 5.070 | 4.8 | 2 | 164.491 | 162.515 | 1.826 | Junction | |
| 1.001 | 15.906 | 214.9 | 2 | 162.729 | 162.366 | 0.138 | Junction | |
| 3.000 | 5.665 | 2.6 | 2 | 162.729 | 161.628 | 0.951 | Junction | |
| 1.002 | 18.843 | 219.1 | 2 | 164.330 | 162.280 | 1.825 | Open Manhole | 1200 |
| 1.003 | 13.459 | 192.3 | 3 | 163.860 | 162.210 | 1.425 | Open Manhole | 1200 |
| 4.000 | 6.451 | 51.6 | 6 | 163.952 | 162.375 | 1.352 | Junction | |
| 5.000 | 6.451 | 9.9 | 6 | 163.952 | 162.450 | 1.352 | Junction | |
| 4.001 | 8.724 | 52.9 | 3 | 163.860 | 162.210 | 1.425 | Open Manhole | 1200 |
| 6.000 | 5.385 | 59.8 | 3 | 163.860 | 162.285 | 1.425 | Open Manhole | 1200 |
| 1.004 | 17.452 | 30.0 | 5 | 163.306 | 161.553 | 1.453 | Junction | |
| 7.000 | 4.325 | 5.5 | 5 | 163.306 | 161.703 | 1.453 | Junction | |
| 1.005 | 19.721 | 30.2 | 4 | 162.400 | 160.900 | 1.200 | Open Manhole | 1200 |
| 8.000 | 8.008 | 23.6 | 4 | 162.400 | 161.050 | 1.200 | Open Manhole | 1200 |

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## PIPELINE SCHEDULES for Storm

### Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|---|
| 1.006 | o | 300 | 4 | 162.400 | 160.900 | 1.200 | Open Manhole | 1200 |
| 1.007 | o | 300 | 5 | 162.150 | 159.350 | 2.500 | Open Manhole | 1200 |
| 1.008 | o | 450 | 6 | 161.450 | 157.460 | 3.540 | Open Manhole | 1200 |
| 9.000 | o | 150 | 9 | 160.700 | 157.910 | 2.640 | Open Manhole | 460 |
| 1.009 | o | 450 | 7 | 160.700 | 157.400 | 2.850 | Open Manhole | 1200 |
| 1.010 | o | 1500 | 8 | 160.700 | 156.290 | 2.910 | Open Manhole | 2700 |
| 10.000 | o | 150 | 12 | 160.561 | 157.910 | 2.501 | Open Manhole | 460 |
| 1.011 | o | 1500 | 9 | 160.200 | 156.175 | 2.525 | Open Manhole | 2700 |
| 1.012 | o | 300 | 10 | 159.850 | 156.010 | 3.540 | Open Manhole | 2700 |

### Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---|---|---|---|---|---|---|---|---|
| 1.006 | 6.300 | 126.0 | 5 | 162.150 | 160.850 | 1.000 | Open Manhole | 1200 |
| 1.007 | 21.368 | 12.3 | 6 | 161.450 | 157.610 | 3.540 | Open Manhole | 1200 |
| 1.008 | 16.727 | 278.8 | 7 | 160.700 | 157.400 | 2.850 | Open Manhole | 1200 |
| 9.000 | 8.299 | 39.5 | 7 | 160.700 | 157.700 | 2.850 | Open Manhole | 1200 |
| 1.009 | 7.236 | 120.6 | 8 | 160.700 | 157.340 | 2.910 | Open Manhole | 2700 |
| 1.010 | 34.383 | 299.0 | 9 | 160.200 | 156.175 | 2.525 | Open Manhole | 2700 |
| 10.000 | 9.808 | 25.5 | 9 | 160.200 | 157.525 | 2.525 | Open Manhole | 2700 |
| 1.011 | 34.383 | 299.0 | 10 | 159.850 | 156.060 | 2.290 | Open Manhole | 2700 |
| 1.012 | 16.243 | 101.5 | | 159.475 | 155.850 | 3.325 | Open Manhole | 300 |

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## Area Summary for Storm

| Pipe Number | PIMP Type | PIMP Name | PIMP (%) | Gross Area (ha) | Imp. Area (ha) | Pipe Total (ha) |
|---|---|---|---|---|---|---|
| 1.000 | - | - | 100 | 0.041 | 0.041 | 0.041 |
| 2.000 | - | - | 100 | 0.027 | 0.027 | 0.027 |
| 1.001 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 3.000 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.002 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.003 | - | - | 100 | 0.022 | 0.022 | 0.022 |
| 4.000 | - | - | 100 | 0.013 | 0.013 | 0.013 |
| 5.000 | - | - | 100 | 0.008 | 0.008 | 0.008 |
| 4.001 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 6.000 | - | - | 100 | 0.079 | 0.079 | 0.079 |
| 1.004 | - | - | 100 | 0.035 | 0.035 | 0.035 |
| 7.000 | - | - | 100 | 0.014 | 0.014 | 0.014 |
| 1.005 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 8.000 | - | - | 100 | 0.027 | 0.027 | 0.027 |
| 1.006 | - | - | 100 | 0.009 | 0.009 | 0.009 |
| 1.007 | - | - | 100 | 0.009 | 0.009 | 0.009 |
| 1.008 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 9.000 | - | - | 100 | 0.029 | 0.029 | 0.029 |
| 1.009 | - | - | 100 | 0.025 | 0.025 | 0.025 |
| 1.010 | - | - | 100 | 0.017 | 0.017 | 0.017 |
| 10.000 | - | - | 100 | 0.075 | 0.075 | 0.075 |
| 1.011 | - | - | 100 | 0.040 | 0.040 | 0.040 |
| 1.012 | - | - | 100 | 0.030 | 0.030 | 0.030 |
| | | | | Total | Total | Total |
| | | | | 0.500 | 0.500 | 0.500 |

## Free Flowing Outfall Details for Storm

| Outfall Pipe Number | Outfall Name | C. Level (m) | I. Level (m) | Min I. Level (m) | D,L (mm) | W (mm) |
|---|---|---|---|---|---|---|
| 1.012 | | 159.475 | 155.850 | 0.000 | 300 | 0 |

## Simulation Criteria for Storm

| | | | |
|---|---|---|---|
| Volumetric Runoff Coeff | 0.750 | Additional Flow - % of Total Flow | 0.000 |
| Areal Reduction Factor | 1.000 | MADD Factor * 10m³/ha Storage | 2.000 |
| Hot Start (mins) | 0 | Inlet Coeffiecient | 0.800 |
| Hot Start Level (mm) | 0 | Flow per Person per Day (l/per/day) | 0.000 |
| Manhole Headloss Coeff (Global) | 0.500 | Run Time (mins) | 60 |
| Foul Sewage per hectare (l/s) | 0.000 | Output Interval (mins) | 1 |

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 0 Number of Real Time Controls 0

## Synthetic Rainfall Details

| | | | |
|---|---|---|---|
| Rainfall Model | FSR | Profile Type | Summer |
| Return Period (years) | 2 | Cv (Summer) | 0.750 |
| Region | England and Wales | Cv (Winter) | 0.840 |
| M5-60 (mm) | 19.700 | Storm Duration (mins) | 30 |
| Ratio R | 0.255 | | |

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## Online Controls for Storm

### Hydro-Brake® Optimum Manhole: 10, DS/PN: 1.012, Volume (m³): 78.0

| | |
|---|---|
| Unit Reference | MD-SHE-0219-2700-1500-2700 |
| Design Head (m) | 1.500 |
| Design Flow (l/s) | 27.0 |
| Flush-Flo™ | Calculated |
| Objective | Minimise upstream storage |
| Application | Surface |
| Sump Available | Yes |
| Diameter (mm) | 219 |
| Invert Level (m) | 156.010 |
| Minimum Outlet Pipe Diameter (mm) | 300 |
| Suggested Manhole Diameter (mm) | 1800 |

| Control Points | Head (m) | Flow (l/s) | Control Points | Head (m) | Flow (l/s) |
|---|---|---|---|---|---|
| Design Point (Calculated) | 1.500 | 27.0 | Kick-Flo® | 1.005 | 22.3 |
| Flush-Flo™ | 0.457 | 27.0 | Mean Flow over Head Range | - | 23.2 |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|---|---|---|---|---|---|---|---|---|---|
| 0.100 | 7.4 | 0.800 | 25.6 | 2.000 | 31.0 | 4.000 | 43.3 | 7.000 | 56.7 |
| 0.200 | 21.6 | 1.000 | 22.5 | 2.200 | 32.4 | 4.500 | 45.8 | 7.500 | 58.6 |
| 0.300 | 26.2 | 1.200 | 24.3 | 2.400 | 33.8 | 5.000 | 48.2 | 8.000 | 60.5 |
| 0.400 | 26.9 | 1.400 | 26.1 | 2.600 | 35.1 | 5.500 | 50.5 | 8.500 | 62.3 |
| 0.500 | 26.9 | 1.600 | 27.8 | 3.000 | 37.6 | 6.000 | 52.6 | 9.000 | 64.1 |
| 0.600 | 26.7 | 1.800 | 29.5 | 3.500 | 40.6 | 6.500 | 54.7 | 9.500 | 65.8 |

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## 100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

### Simulation Criteria

| | | | |
|---|---|---|---|
| Areal Reduction Factor | 1.000 | Additional Flow - % of Total Flow | 0.000 |
| Hot Start (mins) | 0 | MADD Factor * 10m³/ha Storage | 2.000 |
| Hot Start Level (mm) | 0 | Inlet Coeffiecient | 0.800 |
| Manhole Headloss Coeff (Global) | 0.500 | Flow per Person per Day (l/per/day) | 0.000 |
| Foul Sewage per hectare (l/s) | 0.000 | | |

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 0 Number of Real Time Controls 0

### Synthetic Rainfall Details

| | | | |
|---|---|---|---|
| Rainfall Model | FSR | M5-60 (mm) | 19.000 |
| Region | England and Wales | Ratio R | 0.274 |
| Cv (Summer) | 0.750 | | |
| Cv (Winter) | 0.840 | | |

Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF
Analysis Timestep Fine Inertia Status OFF
DTS Status ON

| | |
|---|---|
| Profile(s) | Summer and Winter |
| Duration(s) (mins) | 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080 |
| Return Period(s) (years) | 100 |
| Climate Change (%) | 40 |

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surcharge | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water Level (m) | Surcharged Depth (m) | Flooded Volume (m³) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.000 | 1 | 15 Winter | 100 | +40% | | | | | 162.707 | -0.018 | 0.000 |
| 2.000 | 2 | 15 Winter | 100 | +40% | | | | | 163.617 | -0.103 | 0.000 |
| 1.001 | 2 | 15 Winter | 100 | +40% | | | | | 162.665 | 0.000 | 0.000 |
| 3.000 | 3 | 360 Winter | 100 | +40% | | | | | 163.800 | -0.150 | 0.000 |
| 1.002 | 2 | 15 Winter | 100 | +40% | | | | | 162.591 | 0.000 | 0.000 |
| 1.003 | 2 | 15 Winter | 100 | +40% | 100/15 Summer | | | | 162.540 | 0.035 | 0.000 |
| 4.000 | 3 | 15 Winter | 100 | +40% | | | | | 162.555 | -0.170 | 0.000 |
| 5.000 | 6 | 15 Winter | 100 | +40% | | | | | 163.130 | -0.120 | 0.000 |
| 4.001 | 6 | 15 Winter | 100 | +40% | | | | | 162.441 | -0.159 | 0.000 |
| 6.000 | 10 | 15 Winter | 100 | +40% | 100/15 Summer | | | | 162.858 | 0.333 | 0.000 |
| 1.004 | 3 | 15 Winter | 100 | +40% | | | | | 162.309 | -0.126 | 0.000 |
| 7.000 | 7 | 15 Winter | 100 | +40% | | | | | 162.526 | -0.114 | 0.000 |
| 1.005 | 5 | 15 Winter | 100 | +40% | | | | | 161.717 | -0.136 | 0.000 |
| 8.000 | 5 | 15 Winter | 100 | +40% | | | | | 161.474 | -0.066 | 0.000 |
| 1.006 | 4 | 15 Winter | 100 | +40% | 100/15 Summer | | | | 161.412 | 0.212 | 0.000 |
| 1.007 | 5 | 15 Winter | 100 | +40% | | | | | 159.498 | -0.152 | 0.000 |
| 1.008 | 6 | 15 Winter | 100 | +40% | | | | | 157.802 | -0.108 | 0.000 |
| 9.000 | 9 | 15 Winter | 100 | +40% | | | | | 157.995 | -0.065 | 0.000 |
| 1.009 | 7 | 15 Winter | 100 | +40% | | | | | 157.749 | -0.101 | 0.000 |
| 1.010 | 8 | 120 Winter | 100 | +40% | | | | | 157.742 | -0.048 | 0.000 |
| 10.000 | 12 | 15 Winter | 100 | +40% | 100/15 Summer | | | | 158.260 | 0.200 | 0.000 |
| 1.011 | 9 | 120 Winter | 100 | +40% | 100/60 Winter | | | | 157.737 | 0.062 | 0.000 |
| 1.012 | 10 | 120 Winter | 100 | +40% | 100/15 Summer | | | | 157.737 | 1.427 | 0.000 |

| PN | US/MH Name | Flow / Cap. | Overflow (l/s) | Pipe Flow (l/s) | Status | Level Exceeded |
|---|---|---|---|---|---|---|
| 1.000 | 1 | 0.65 | | 19.8 | OK | |
| 2.000 | 2 | 0.22 | | 13.9 | OK | |
| 1.001 | 2 | 0.92 | | 32.5 | SURCHARGED* | |
| 3.000 | 3 | 0.00 | | 0.0 | OK | |
| 1.002 | 2 | 0.92 | | 32.3 | FLOOD RISK* | |

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

| PN | US/MH Name | Flow / Cap. | Overflow (l/s) | Pipe Flow (l/s) | Status | Level Exceeded |
|---|---|---|---|---|---|---|
| 1.003 | 2 | 1.25 | | 40.6 | SURCHARGED | |
| 4.000 | 3 | 0.13 | | 6.7 | OK | |
| 5.000 | 6 | 0.09 | | 4.1 | OK | |
| 4.001 | 6 | 0.19 | | 10.7 | OK* | |
| 6.000 | 10 | 2.13 | | 40.0 | SURCHARGED | |
| 1.004 | 3 | 0.62 | | 108.0 | OK | |
| 7.000 | 7 | 0.13 | | 7.2 | OK | |
| 1.005 | 5 | 0.57 | | 115.3 | OK* | |
| 8.000 | 5 | 0.43 | | 13.9 | OK | |
| 1.006 | 4 | 2.16 | | 132.4 | SURCHARGED | |
| 1.007 | 5 | 0.49 | | 136.0 | OK | |
| 1.008 | 6 | 0.90 | | 135.4 | OK | |
| 9.000 | 9 | 0.60 | | 14.9 | OK | |
| 1.009 | 7 | 0.94 | | 159.1 | OK | |
| 1.010 | 8 | 0.02 | | 66.7 | OK | |
| 10.000 | 12 | 1.21 | | 38.0 | SURCHARGED | |
| 1.011 | 9 | 0.02 | | 53.3 | SURCHARGED | |
| 1.012 | 10 | 0.31 | | 28.9 | SURCHARGED | |

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