

### Nodes

| Name | Area<br>(ha) | T of E<br>(mins) | Add<br>Inflow<br>(l/s) | Cover<br>Level<br>(m) | Diameter<br>(mm) | Easting<br>(m) | Northing<br>(m) | Depth<br>(m) | Invert<br>Level<br>(m) |
|------|--------------|------------------|------------------------|-----------------------|------------------|----------------|-----------------|--------------|------------------------|
| 424  |              |                  |                        | 102.200               | 1200             | 537504.472     | 138761.899      | 1.500        | 100.700                |
| 425  |              |                  |                        | 101.750               | 1200             | 537490.368     | 138761.746      | 1.500        | 100.250                |
| 426  | 0.053        | 5.00             |                        | 102.200               | 1350             | 537476.957     | 138757.508      | 2.083        | 100.117                |
| IR82 | 0.057        | 5.00             |                        | 102.066               | 1350             | 537433.553     | 138756.248      | 2.083        | 99.983                 |
| IR83 | 0.083        | 5.00             |                        | 102.817               | 1200             | 537423.994     | 138725.648      | 2.245        | 100.572                |
| IR84 | 0.040        | 5.00             |                        | 101.611               | 1200             | 537422.414     | 138764.717      | 1.425        | 100.186                |
| IR85 |              |                  |                        | 101.916               | 1350             | 537422.862     | 138753.616      | 2.254        | 99.662                 |
| IR86 |              |                  |                        | 100.650               |                  | 537401.210     | 138752.740      | 2.850        | 97.800                 |
| 427  |              | 5.00             |                        | 100.650               |                  | 537373.301     | 138751.542      | 2.850        | 97.800                 |
| 428  |              |                  |                        | 100.650               | 2100             | 537365.023     | 138753.474      | 2.887        | 97.763                 |
| 429  |              |                  |                        | 98.800                |                  | 537352.402     | 138756.420      | 1.100        | 97.700                 |

### Pipeline Schedule

| Link       | Length<br>(m) | Slope<br>(1:X) | Dia<br>(mm) | Link<br>Type | US CL<br>(m) | US IL<br>(m) | US Depth<br>(m) | DS CL<br>(m) | DS IL<br>(m) | DS Depth<br>(m) |
|------------|---------------|----------------|-------------|--------------|--------------|--------------|-----------------|--------------|--------------|-----------------|
| S278_1.000 | 37.865        | 38.8           | 225         | Circular     | 124.433      | 122.755      | 1.453           | 123.910      | 121.778      | 1.907           |
| S278_2.000 | 20.984        | 34.6           | 225         | Circular     | 123.809      | 122.384      | 1.200           | 123.910      | 121.778      | 1.907           |
| S278_3.000 | 14.851        | 18.6           | 225         | Circular     | 124.256      | 122.578      | 1.453           | 123.910      | 121.778      | 1.907           |
| S278_1.001 | 20.646        | 242.9          | 300         | Circular     | 123.910      | 121.703      | 1.907           | 123.644      | 121.618      | 1.726           |
| S278_1.002 | 34.175        | 30.4           | 225         | Circular     | 123.644      | 121.618      | 1.801           | 122.230      | 120.494      | 1.511           |
| S1.000     | 49.789        | 39.7           | 225         | Circular     | 122.230      | 120.494      | 1.511           | 120.666      | 119.241      | 1.200           |
| S1.001     | 29.575        | 22.7           | 225         | Circular     | 120.666      | 119.241      | 1.200           | 119.386      | 117.938      | 1.223           |
| S1.002     | 22.976        | 20.4           | 225         | Circular     | 119.386      | 117.938      | 1.223           | 118.268      | 116.814      | 1.229           |
| S1.003     | 17.184        | 21.9           | 225         | Circular     | 118.268      | 116.814      | 1.229           | 117.487      | 116.029      | 1.233           |
| S1.004     | 21.705        | 33.0           | 300         | Circular     | 117.487      | 115.954      | 1.233           | 116.896      | 115.296      | 1.300           |
| S1.005     | 20.152        | 20.9           | 300         | Circular     | 116.896      | 115.296      | 1.300           | 116.545      | 114.330      | 1.915           |
| 4.000      | 9.743         | 150.0          | 225         | Circular     | 116.620      | 114.470      | 1.925           | 116.545      | 114.405      | 1.915           |
| S1.006     | 74.821        | 45.0           | 300         | Circular     | 116.545      | 114.330      | 1.915           | 114.272      | 112.666      | 1.306           |
| S1.007     | 24.071        | 40.6           | 300         | Circular     | 114.272      | 112.666      | 1.306           | 113.598      | 112.073      | 1.225           |
| S1.008     | 20.561        | 25.8           | 300         | Circular     | 113.598      | 112.073      | 1.225           | 112.801      | 111.276      | 1.225           |
| S1.009     | 38.911        | 25.3           | 375         | Circular     | 112.801      | 111.201      | 1.225           | 111.241      | 109.666      | 1.200           |
| S1.010     | 83.713        | 26.6           | 450         | Circular     | 111.241      | 109.641      | 1.150           | 108.091      | 106.491      | 1.150           |
| S1.011     | 32.719        | 26.2           | 525         | Circular     | 108.091      | 106.416      | 1.150           | 106.944      | 105.167      | 1.252           |
| S1.012     | 22.785        | 25.5           | 525         | Circular     | 106.944      | 105.167      | 1.252           | 106.127      | 104.273      | 1.329           |
| S1.013     | 27.820        | 32.9           | 525         | Circular     | 106.127      | 104.273      | 1.329           | 105.175      | 103.427      | 1.223           |

| Link       | US<br>Node | Dia<br>(mm) | Node<br>Type | MH<br>Type | DS<br>Node | Dia<br>(mm) | Node<br>Type | MH<br>Type |
|------------|------------|-------------|--------------|------------|------------|-------------|--------------|------------|
| S278_1.000 | S278 01    | 1200        | Manhole      | Adoptable  | S278 04    | 1200        | Manhole      | Adoptable  |
| S278_2.000 | S279 02    | 1200        | Manhole      | Adoptable  | S278 04    | 1200        | Manhole      | Adoptable  |
| S278_3.000 | S278 03    | 1200        | Manhole      | Adoptable  | S278 04    | 1200        | Manhole      | Adoptable  |
| S278_1.001 | S278 04    | 1200        | Manhole      | Adoptable  | S278 05    | 1200        | Manhole      | Adoptable  |
| S278_1.002 | S278 05    | 1200        | Manhole      | Adoptable  | IR61       | 1200        | Manhole      | Adoptable  |
| S1.000     | IR61       | 1200        | Manhole      | Adoptable  | IR62       | 1200        | Manhole      | Adoptable  |
| S1.001     | IR62       | 1200        | Manhole      | Adoptable  | IR63       | 1200        | Manhole      | Adoptable  |
| S1.002     | IR63       | 1200        | Manhole      | Adoptable  | IR64       | 1200        | Manhole      | Adoptable  |
| S1.003     | IR64       | 1200        | Manhole      | Adoptable  | IR65       | 1200        | Manhole      | Adoptable  |
| S1.004     | IR65       | 1200        | Manhole      | Adoptable  | IR66       | 1200        | Manhole      | Adoptable  |
| S1.005     | IR66       | 1200        | Manhole      | Adoptable  | IR68       | 1200        | Manhole      | Adoptable  |
| 4.000      | IR67       | 1200        | Manhole      | Adoptable  | IR68       | 1200        | Manhole      | Adoptable  |
| S1.006     | IR68       | 1200        | Manhole      | Adoptable  | IR69       | 1200        | Manhole      | Adoptable  |
| S1.007     | IR69       | 1200        | Manhole      | Adoptable  | IR70       | 1200        | Manhole      | Adoptable  |
| S1.008     | IR70       | 1200        | Manhole      | Adoptable  | IR71       | 1350        | Manhole      | Adoptable  |
| S1.009     | IR71       | 1350        | Manhole      | Adoptable  | IR72       | 1350        | Manhole      | Adoptable  |
| S1.010     | IR72       | 1350        | Manhole      | Adoptable  | IR73       | 1500        | Manhole      | Adoptable  |
| S1.011     | IR73       | 1500        | Manhole      | Adoptable  | IR74       | 1500        | Manhole      | Adoptable  |
| S1.012     | IR74       | 1500        | Manhole      | Adoptable  | IR75       | 1500        | Manhole      | Adoptable  |
| S1.013     | IR75       | 1500        | Manhole      | Adoptable  | IR76       | 1500        | Manhole      | Adoptable  |

### Pipeline Schedule

| Link   | Length<br>(m) | Slope<br>(1:X) | Dia<br>(mm) | Link<br>Type | US CL<br>(m) | US IL<br>(m) | US Depth<br>(m) | DS CL<br>(m) | DS IL<br>(m) | DS Depth<br>(m) |
|--------|---------------|----------------|-------------|--------------|--------------|--------------|-----------------|--------------|--------------|-----------------|
| S1.014 | 19.270        | 27.5           | 525         | Circular     | 105.175      | 103.427      | 1.223           | 104.452      | 102.727      | 1.200           |
| S1.015 | 21.563        | 28.2           | 525         | Circular     | 104.452      | 102.727      | 1.200           | 103.686      | 101.961      | 1.200           |
| 5.000  | 49.192        | 32.7           | 225         | Circular     | 112.743      | 110.393      | 2.125           | 110.314      | 108.889      | 1.200           |
| 6.000  | 36.536        | 243.6          | 300         | Circular     | 109.420      | 107.920      | 1.200           | 110.314      | 107.770      | 2.244           |
| 5.001  | 25.185        | 322.9          | 375         | Circular     | 110.314      | 107.695      | 2.244           | 109.691      | 107.617      | 1.699           |
| 5.002  | 23.792        | 39.7           | 375         | Circular     | 109.691      | 107.617      | 1.699           | 108.997      | 107.017      | 1.605           |
| 5.003  | 10.720        | 487.3          | 525         | Circular     | 108.997      | 106.867      | 1.605           | 108.651      | 106.845      | 1.281           |
| 7.000  | 37.039        | 29.9           | 225         | Circular     | 110.526      | 108.808      | 1.493           | 109.019      | 107.568      | 1.226           |
| 7.001  | 9.924         | 17.3           | 300         | Circular     | 109.019      | 107.493      | 1.226           | 108.651      | 106.920      | 1.431           |
| 5.004  | 9.642         | 9.9            | 375         | Circular     | 108.651      | 106.845      | 1.431           | 108.348      | 105.873      | 2.100           |
| 5.005  | 56.954        | 73.1           | 450         | Circular     | 108.348      | 105.798      | 2.100           | 106.669      | 105.019      | 1.200           |
| 5.006  | 8.270         | 17.0           | 450         | Circular     | 106.669      | 105.019      | 1.200           | 106.669      | 104.534      | 1.685           |
| 8.000  | 39.656        | 53.5           | 225         | Circular     | 107.851      | 105.500      | 2.126           | 106.669      | 104.759      | 1.685           |
| 5.007  | 19.627        | 50.8           | 450         | Circular     | 106.669      | 104.534      | 1.685           | 105.797      | 104.147      | 1.200           |
| 9.000  | 46.616        | 37.3           | 225         | Circular     | 107.211      | 104.488      | 2.498           | 104.662      | 103.237      | 1.200           |
| 10.000 | 35.064        | 11.7           | 225         | Circular     | 106.700      | 104.856      | 1.619           | 104.662      | 101.870      | 2.567           |
| 9.001  | 54.276        | 323.1          | 375         | Circular     | 104.662      | 101.720      | 2.567           | 103.161      | 101.552      | 1.234           |
| 9.002  | 9.516         | 59.8           | 450         | Circular     | 103.161      | 101.477      | 1.234           | 103.369      | 101.318      | 1.601           |
| 9.003  | 52.696        | 60.0           | 600         | Circular     | 103.369      | 101.168      | 1.601           | 105.797      | 100.290      | 4.907           |
| 5.008  | 4.609         | 45.2           | 600         | Circular     | 105.797      | 100.290      | 4.907           | 105.819      | 100.188      | 5.031           |
| 5.009  | 53.639        | 45.3           | 600         | Circular     | 105.819      | 100.038      | 5.181           | 104.065      | 98.853       | 4.612           |
| S2.000 | 10.311        | 45.0           | 600         | Circular     | 104.065      | 98.853       | 4.612           | 103.686      | 98.624       | 4.462           |
| S1.016 | 16.322        | 500.0          | 750         | Circular     | 103.686      | 97.981       | 4.955           | 103.076      | 97.948       | 4.378           |
| S1.017 | 47.961        | 500.0          | 750         | Circular     | 103.076      | 97.948       | 4.378           | 101.634      | 97.852       | 3.032           |
| S1.018 | 25.851        | 500.0          | 750         | Circular     | 101.634      | 97.852       | 3.032           | 100.650      | 97.800       | 2.100           |
| 11.000 | 16.369        | 28.7           | 225         | Circular     | 105.029      | 103.604      | 1.200           | 104.459      | 103.034      | 1.200           |
| 11.001 | 8.508         | 27.0           | 225         | Circular     | 104.459      | 103.034      | 1.200           | 104.144      | 102.719      | 1.200           |
| 11.002 | 44.719        | 23.0           | 300         | Circular     | 104.144      | 102.644      | 1.200           | 102.200      | 100.700      | 1.200           |

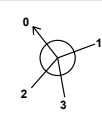
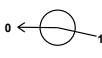
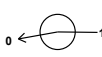
| Link   | US<br>Node | Dia<br>(mm) | Node<br>Type | MH<br>Type | DS<br>Node | Dia<br>(mm) | Node<br>Type | MH<br>Type |
|--------|------------|-------------|--------------|------------|------------|-------------|--------------|------------|
| S1.014 | IR76       | 1500        | Manhole      | Adoptable  | IR77       | 1500        | Manhole      | Adoptable  |
| S1.015 | IR77       | 1500        | Manhole      | Adoptable  | IR79       | 1800        | Manhole      | Adoptable  |
| 5.000  | 401        | 1200        | Manhole      | Adoptable  | 403        | 1350        | Manhole      | Adoptable  |
| 6.000  | 402        | 1200        | Manhole      | Adoptable  | 403        | 1350        | Manhole      | Adoptable  |
| 5.001  | 403        | 1350        | Manhole      | Adoptable  | 404        | 1350        | Manhole      | Adoptable  |
| 5.002  | 404        | 1350        | Manhole      | Adoptable  | 405        | 1500        | Manhole      | Adoptable  |
| 5.003  | 405        | 1500        | Manhole      | Adoptable  | 408        | 1500        | Manhole      | Adoptable  |
| 7.000  | 406        | 1200        | Manhole      | Adoptable  | 407        | 1200        | Manhole      | Adoptable  |
| 7.001  | 407        | 1200        | Manhole      | Adoptable  | 408        | 1500        | Manhole      | Adoptable  |
| 5.004  | 408        | 1500        | Manhole      | Adoptable  | 409        | 1350        | Manhole      | Adoptable  |
| 5.005  | 409        | 1350        | Manhole      | Adoptable  | 410        | 1500        | Manhole      | Adoptable  |
| 5.006  | 410        | 1500        | Manhole      | Adoptable  | 412        | 1350        | Manhole      | Adoptable  |
| 8.000  | 411        | 1200        | Manhole      | Adoptable  | 412        | 1350        | Manhole      | Adoptable  |
| 5.007  | 412        | 1350        | Manhole      | Adoptable  | 418        | 1500        | Manhole      | Adoptable  |
| 9.000  | 413        | 1200        | Manhole      | Adoptable  | 415        | 1350        | Manhole      | Adoptable  |
| 10.000 | 414        | 1200        | Manhole      | Adoptable  | 415        | 1350        | Manhole      | Adoptable  |
| 9.001  | 415        | 1350        | Manhole      | Adoptable  | 416        | 1350        | Manhole      | Adoptable  |
| 9.002  | 416        | 1350        | Manhole      | Adoptable  | 417        | 1500        | Manhole      | Adoptable  |
| 9.003  | 417        | 1500        | Manhole      | Adoptable  | 418        | 1500        | Manhole      | Adoptable  |
| 5.008  | 418        | 1500        | Manhole      | Adoptable  | 419        | 1500        | Manhole      | Adoptable  |
| 5.009  | 419        | 1500        | Manhole      | Adoptable  | IR78       | 1500        | Manhole      | Adoptable  |
| S2.000 | IR78       | 1500        | Manhole      | Adoptable  | IR79       | 1800        | Manhole      | Adoptable  |
| S1.016 | IR79       | 1800        | Manhole      | Adoptable  | IR80       | 1800        | Manhole      | Adoptable  |
| S1.017 | IR80       | 1800        | Manhole      | Adoptable  | IR81       | 1800        | Manhole      | Adoptable  |
| S1.018 | IR81       | 1800        | Manhole      | Adoptable  | 420        |             | Junction     |            |
| 11.000 | 421        | 1200        | Manhole      | Adoptable  | 422        | 1200        | Manhole      | Adoptable  |
| 11.001 | 422        | 1200        | Manhole      | Adoptable  | 423        | 1200        | Manhole      | Adoptable  |
| 11.002 | 423        | 1200        | Manhole      | Adoptable  | 424        | 1200        | Manhole      | Adoptable  |

### Pipeline Schedule

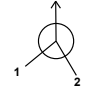
| Link   | Length (m) | Slope (1:X) | Dia (mm) | Link Type | US CL (m) | US IL (m) | US Depth (m) | DS CL (m) | DS IL (m) | DS Depth (m) |
|--------|------------|-------------|----------|-----------|-----------|-----------|--------------|-----------|-----------|--------------|
| 11.003 | 14.105     | 31.3        | 300      | Circular  | 102.200   | 100.700   | 1.200        | 101.750   | 100.250   | 1.200        |
| 11.004 | 14.065     | 242.5       | 300      | Circular  | 101.750   | 100.250   | 1.200        | 102.200   | 100.192   | 1.708        |
| 11.005 | 43.422     | 324.0       | 375      | Circular  | 102.200   | 100.117   | 1.708        | 102.066   | 99.983    | 1.708        |
| 11.006 | 11.010     | 34.3        | 375      | Circular  | 102.066   | 99.983    | 1.708        | 101.916   | 99.662    | 1.879        |
| 12.000 | 27.991     | 36.8        | 225      | Circular  | 102.817   | 100.572   | 2.020        | 101.916   | 99.812    | 1.879        |
| 13.000 | 11.110     | 29.7        | 225      | Circular  | 101.611   | 100.186   | 1.200        | 101.916   | 99.812    | 1.879        |
| 11.007 | 21.670     | 36.9        | 375      | Circular  | 101.916   | 99.662    | 1.879        | 100.650   | 99.075    | 1.200        |
| 45.000 | 8.500      | 229.7       | 300      | Circular  | 100.650   | 97.800    | 2.550        | 100.650   | 97.763    | 2.587        |
| 45.001 | 12.960     | 205.7       | 300      | Circular  | 100.650   | 97.763    | 2.587        | 98.800    | 97.700    | 0.800        |

| Link   | US Node | Dia (mm) | Node Type | MH Type   | DS Node | Dia (mm) | Node Type | MH Type   |
|--------|---------|----------|-----------|-----------|---------|----------|-----------|-----------|
| 11.003 | 424     | 1200     | Manhole   | Adoptable | 425     | 1200     | Manhole   | Adoptable |
| 11.004 | 425     | 1200     | Manhole   | Adoptable | 426     | 1350     | Manhole   | Adoptable |
| 11.005 | 426     | 1350     | Manhole   | Adoptable | IR82    | 1350     | Manhole   | Adoptable |
| 11.006 | IR82    | 1350     | Manhole   | Adoptable | IR85    | 1350     | Manhole   | Adoptable |
| 12.000 | IR83    | 1200     | Manhole   | Adoptable | IR85    | 1350     | Manhole   | Adoptable |
| 13.000 | IR84    | 1200     | Manhole   | Adoptable | IR85    | 1350     | Manhole   | Adoptable |
| 11.007 | IR85    | 1350     | Manhole   | Adoptable | IR86    |          | Junction  |           |
| 45.000 | 427     |          | Junction  |           | 428     | 2100     | Manhole   | Adoptable |
| 45.001 | 428     | 2100     | Manhole   | Adoptable | 429     |          | Junction  |           |

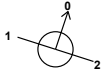
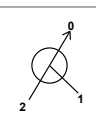
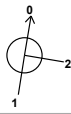
### Manhole Schedule

| Node    | Easting (m) | Northing (m) | CL (m)  | Depth (m) | Dia (mm) | Node Type | MH Type   | Connections                                                                          | Link             | IL (m)                                               | Dia (mm)                                 | Link Type                |                                              |
|---------|-------------|--------------|---------|-----------|----------|-----------|-----------|--------------------------------------------------------------------------------------|------------------|------------------------------------------------------|------------------------------------------|--------------------------|----------------------------------------------|
| S278 01 | 537656.783  | 138268.547   | 124.433 | 1.678     | 1200     | Manhole   | Adoptable |  | 0                | S278_1.000                                           | 122.755                                  | 225                      | Circular                                     |
| S279 02 | 537636.223  | 138290.038   | 123.809 | 1.425     | 1200     | Manhole   | Adoptable |  | 0                | S278_2.000                                           | 122.384                                  | 225                      | Circular                                     |
| S278 03 | 537663.984  | 138310.984   | 124.256 | 1.678     | 1200     | Manhole   | Adoptable |  | 0                | S278_3.000                                           | 122.578                                  | 225                      | Circular                                     |
| S278 04 | 537650.063  | 138305.811   | 123.910 | 2.207     | 1200     | Manhole   | Adoptable |  | 1<br>2<br>3<br>0 | S278_3.000<br>S278_2.000<br>S278_1.000<br>S278_1.001 | 121.778<br>121.778<br>121.778<br>121.703 | 225<br>225<br>225<br>300 | Circular<br>Circular<br>Circular<br>Circular |
| S278 05 | 537637.305  | 138322.044   | 123.644 | 2.026     | 1200     | Manhole   | Adoptable |  | 1<br>0           | S278_1.001<br>S278_1.002                             | 121.618<br>121.618                       | 300<br>225               | Circular<br>Circular                         |
| IR61    | 537611.046  | 138343.916   | 122.230 | 1.736     | 1200     | Manhole   | Adoptable |  | 1<br>0           | S278_1.002<br>S1.000                                 | 120.494<br>120.494                       | 225<br>225               | Circular<br>Circular                         |
| IR62    | 537562.418  | 138354.607   | 120.666 | 1.425     | 1200     | Manhole   | Adoptable |  | 1<br>0           | S1.000<br>S1.001                                     | 119.241<br>119.241                       | 225<br>225               | Circular<br>Circular                         |
| IR63    | 537532.845  | 138354.950   | 119.386 | 1.448     | 1200     | Manhole   | Adoptable |  | 1<br>0           | S1.001<br>S1.002                                     | 117.938<br>117.938                       | 225<br>225               | Circular<br>Circular                         |

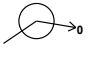
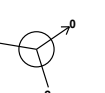
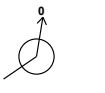
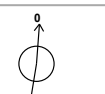
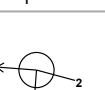
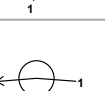
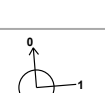
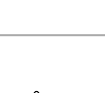
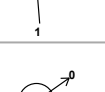
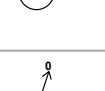
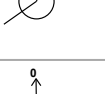
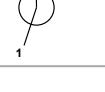
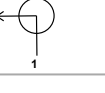
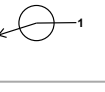
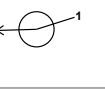
### Manhole Schedule

| Node | Easting (m) | Northing (m) | CL (m)  | Depth (m) | Dia (mm) | Node Type | MH Type   | Connections                                                                            | Link   | IL (m)  | Dia (mm) | Link Type |
|------|-------------|--------------|---------|-----------|----------|-----------|-----------|----------------------------------------------------------------------------------------|--------|---------|----------|-----------|
| IR64 | 537510.229  | 138350.900   | 118.268 | 1.454     | 1200     | Manhole   | Adoptable |  1   | S1.002 | 116.814 | 225      | Circular  |
|      |             |              |         |           |          |           |           | 0                                                                                      | S1.003 | 116.814 | 225      | Circular  |
| IR65 | 537493.502  | 138346.965   | 117.487 | 1.533     | 1200     | Manhole   | Adoptable |  1   | S1.003 | 116.029 | 225      | Circular  |
|      |             |              |         |           |          |           |           | 0                                                                                      | S1.004 | 115.954 | 300      | Circular  |
| IR66 | 537472.950  | 138353.944   | 116.896 | 1.600     | 1200     | Manhole   | Adoptable |  1   | S1.004 | 115.296 | 300      | Circular  |
|      |             |              |         |           |          |           |           | 0                                                                                      | S1.005 | 115.296 | 300      | Circular  |
| IR67 | 537455.157  | 138365.104   | 116.620 | 2.150     | 1200     | Manhole   | Adoptable |  0   | 4.000  | 114.470 | 225      | Circular  |
| IR68 | 537462.687  | 138371.287   | 116.545 | 2.215     | 1200     | Manhole   | Adoptable |  1   | 4.000  | 114.405 | 225      | Circular  |
|      |             |              |         |           |          |           |           | 2                                                                                      | S1.005 | 114.330 | 300      | Circular  |
|      |             |              |         |           |          |           |           | 0                                                                                      | S1.006 | 114.330 | 300      | Circular  |
| IR69 | 537461.974  | 138446.105   | 114.272 | 1.606     | 1200     | Manhole   | Adoptable |  1  | S1.006 | 112.666 | 300      | Circular  |
|      |             |              |         |           |          |           |           | 0                                                                                      | S1.007 | 112.666 | 300      | Circular  |
| IR70 | 537467.173  | 138469.608   | 113.598 | 1.525     | 1200     | Manhole   | Adoptable |  1 | S1.007 | 112.073 | 300      | Circular  |
|      |             |              |         |           |          |           |           | 0                                                                                      | S1.008 | 112.073 | 300      | Circular  |
| IR71 | 537473.247  | 138489.251   | 112.801 | 1.600     | 1350     | Manhole   | Adoptable |  1 | S1.008 | 111.276 | 300      | Circular  |
|      |             |              |         |           |          |           |           | 0                                                                                      | S1.009 | 111.201 | 375      | Circular  |
| IR72 | 537479.596  | 138527.641   | 111.241 | 1.600     | 1350     | Manhole   | Adoptable |  1 | S1.009 | 109.666 | 375      | Circular  |
|      |             |              |         |           |          |           |           | 0                                                                                      | S1.010 | 109.641 | 450      | Circular  |
| IR73 | 537493.206  | 138610.240   | 108.091 | 1.675     | 1500     | Manhole   | Adoptable |  1 | S1.010 | 106.491 | 450      | Circular  |
|      |             |              |         |           |          |           |           | 0                                                                                      | S1.011 | 106.416 | 525      | Circular  |
| IR74 | 537497.908  | 138642.619   | 106.944 | 1.777     | 1500     | Manhole   | Adoptable |  1 | S1.011 | 105.167 | 525      | Circular  |
|      |             |              |         |           |          |           |           | 0                                                                                      | S1.012 | 105.167 | 525      | Circular  |
| IR75 | 537492.585  | 138664.773   | 106.127 | 1.854     | 1500     | Manhole   | Adoptable |  1 | S1.012 | 104.273 | 525      | Circular  |
|      |             |              |         |           |          |           |           | 0                                                                                      | S1.013 | 104.273 | 525      | Circular  |
| IR76 | 537477.627  | 138688.230   | 105.175 | 1.748     | 1500     | Manhole   | Adoptable |  1 | S1.013 | 103.427 | 525      | Circular  |
|      |             |              |         |           |          |           |           | 0                                                                                      | S1.014 | 103.427 | 525      | Circular  |
| IR77 | 537461.048  | 138698.052   | 104.452 | 1.725     | 1500     | Manhole   | Adoptable |  1 | S1.014 | 102.727 | 525      | Circular  |
|      |             |              |         |           |          |           |           | 0                                                                                      | S1.015 | 102.727 | 525      | Circular  |
| 401  | 537437.568  | 138479.095   | 112.743 | 2.350     | 1200     | Manhole   | Adoptable |  0 | 5.000  | 110.393 | 225      | Circular  |

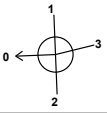
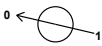
### Manhole Schedule

| Node | Easting (m) | Northing (m) | CL (m)  | Depth (m) | Dia (mm) | Node Type | MH Type   | Connections                                                                           | Link   | IL (m)          | Dia (mm)           | Link Type                    |
|------|-------------|--------------|---------|-----------|----------|-----------|-----------|---------------------------------------------------------------------------------------|--------|-----------------|--------------------|------------------------------|
| 402  | 537355.921  | 138505.230   | 109.420 | 1.500     | 1200     | Manhole   | Adoptable |    | 0      | 6.000           | 107.920            | 300 Circular                 |
| 403  | 537390.718  | 138494.092   | 110.314 | 2.619     | 1350     | Manhole   | Adoptable |     | 1<br>2 | 6.000<br>5.000  | 107.770<br>108.889 | 300 Circular<br>225 Circular |
| 404  | 537398.674  | 138517.987   | 109.691 | 2.074     | 1350     | Manhole   | Adoptable |    | 1      | 5.001           | 107.617            | 375 Circular                 |
| 405  | 537406.333  | 138540.513   | 108.997 | 2.130     | 1500     | Manhole   | Adoptable |    | 1      | 5.002           | 107.017            | 375 Circular                 |
| 406  | 537454.249  | 138531.484   | 110.526 | 1.718     | 1200     | Manhole   | Adoptable |     | 0      | 7.000           | 108.808            | 225 Circular                 |
| 407  | 537418.996  | 138542.846   | 109.019 | 1.526     | 1200     | Manhole   | Adoptable |     | 1      | 7.000           | 107.568            | 225 Circular                 |
| 408  | 537411.833  | 138549.714   | 108.651 | 1.806     | 1500     | Manhole   | Adoptable |   | 1<br>2 | 7.001<br>5.003  | 106.920<br>106.845 | 300 Circular<br>525 Circular |
| 409  | 537416.780  | 138557.990   | 108.348 | 2.550     | 1350     | Manhole   | Adoptable |  | 1      | 5.004           | 105.873            | 375 Circular                 |
| 410  | 537426.252  | 138614.151   | 106.669 | 1.650     | 1500     | Manhole   | Adoptable |  | 1      | 5.005           | 105.019            | 450 Circular                 |
| 411  | 537472.036  | 138612.780   | 107.851 | 2.351     | 1200     | Manhole   | Adoptable |   | 0      | 8.000           | 105.500            | 225 Circular                 |
| 412  | 537432.885  | 138619.091   | 106.669 | 2.135     | 1350     | Manhole   | Adoptable |   | 1<br>2 | 8.000<br>5.006  | 104.759<br>104.534 | 225 Circular<br>450 Circular |
| 413  | 537404.169  | 138579.850   | 107.211 | 2.723     | 1200     | Manhole   | Adoptable |   | 0      | 9.000           | 104.488            | 225 Circular                 |
| 414  | 537352.770  | 138552.947   | 106.700 | 1.844     | 1200     | Manhole   | Adoptable |  | 0      | 10.000          | 104.856            | 225 Circular                 |
| 415  | 537358.200  | 138587.588   | 104.662 | 2.942     | 1350     | Manhole   | Adoptable |  | 1<br>2 | 10.000<br>9.000 | 101.870<br>103.237 | 225 Circular<br>225 Circular |
| 416  | 537367.169  | 138641.118   | 103.161 | 1.684     | 1350     | Manhole   | Adoptable |  | 1      | 9.001           | 101.552            | 375 Circular                 |
|      |             |              |         |           |          |           |           |  | 0      | 9.002           | 101.477            | 450 Circular                 |

### Manhole Schedule

| Node | Easting (m) | Northing (m) | CL (m)  | Depth (m) | Dia (mm) | Node Type | MH Type   | Connections                                                                          | Link | IL (m) | Dia (mm) | Link Type |          |
|------|-------------|--------------|---------|-----------|----------|-----------|-----------|--------------------------------------------------------------------------------------|------|--------|----------|-----------|----------|
| 417  | 537375.044  | 138646.460   | 103.369 | 2.201     | 1500     | Manhole   | Adoptable |    | 1    | 9.002  | 101.318  | 450       | Circular |
| 418  | 537427.027  | 138637.823   | 105.797 | 5.507     | 1500     | Manhole   | Adoptable |    | 0    | 9.003  | 101.168  | 600       | Circular |
|      |             |              |         |           |          |           |           |                                                                                      | 1    | 9.003  | 100.290  | 600       | Circular |
|      |             |              |         |           |          |           |           |                                                                                      | 2    | 5.007  | 104.147  | 450       | Circular |
| 419  | 537430.830  | 138640.426   | 105.819 | 5.781     | 1500     | Manhole   | Adoptable |    | 0    | 5.008  | 100.290  | 600       | Circular |
|      |             |              |         |           |          |           |           |                                                                                      | 1    | 5.008  | 100.188  | 600       | Circular |
| IR78 | 537439.458  | 138693.367   | 104.065 | 5.212     | 1500     | Manhole   | Adoptable |    | 1    | 5.009  | 98.853   | 600       | Circular |
| IR79 | 537440.224  | 138703.650   | 103.686 | 5.705     | 1800     | Manhole   | Adoptable |    | 0    | S2.000 | 98.853   | 600       | Circular |
|      |             |              |         |           |          |           |           |                                                                                      | 1    | S2.000 | 98.624   | 600       | Circular |
|      |             |              |         |           |          |           |           |                                                                                      | 2    | S1.015 | 101.961  | 525       | Circular |
| IR80 | 537423.948  | 138704.877   | 103.076 | 5.128     | 1800     | Manhole   | Adoptable |    | 0    | S1.016 | 97.981   | 750       | Circular |
|      |             |              |         |           |          |           |           |                                                                                      | 1    | S1.016 | 97.948   | 750       | Circular |
|      |             |              |         |           |          |           |           |                                                                                      | 0    | S1.017 | 97.948   | 750       | Circular |
| IR81 | 537376.143  | 138701.013   | 101.634 | 3.782     | 1800     | Manhole   | Adoptable |  | 1    | S1.017 | 97.852   | 750       | Circular |
|      |             |              |         |           |          |           |           |                                                                                      | 0    | S1.018 | 97.852   | 750       | Circular |
| 420  | 537374.060  | 138726.780   | 100.650 | 2.850     |          | Junction  |           |  | 1    | S1.018 | 97.800   | 750       | Circular |
| 421  | 537488.915  | 138699.678   | 105.029 | 1.425     | 1200     | Manhole   | Adoptable |  | 0    | 11.000 | 103.604  | 225       | Circular |
| 422  | 537502.301  | 138709.100   | 104.459 | 1.425     | 1200     | Manhole   | Adoptable |  | 1    | 11.000 | 103.034  | 225       | Circular |
|      |             |              |         |           |          |           |           |                                                                                      | 0    | 11.001 | 103.034  | 225       | Circular |
| 423  | 537504.958  | 138717.183   | 104.144 | 1.500     | 1200     | Manhole   | Adoptable |  | 1    | 11.001 | 102.719  | 225       | Circular |
|      |             |              |         |           |          |           |           |                                                                                      | 0    | 11.002 | 102.644  | 300       | Circular |
| 424  | 537504.472  | 138761.899   | 102.200 | 1.500     | 1200     | Manhole   | Adoptable |  | 1    | 11.002 | 100.700  | 300       | Circular |
|      |             |              |         |           |          |           |           |                                                                                      | 0    | 11.003 | 100.700  | 300       | Circular |
| 425  | 537490.368  | 138761.746   | 101.750 | 1.500     | 1200     | Manhole   | Adoptable |  | 1    | 11.003 | 100.250  | 300       | Circular |
|      |             |              |         |           |          |           |           |                                                                                      | 0    | 11.004 | 100.250  | 300       | Circular |
| 426  | 537476.957  | 138757.508   | 102.200 | 2.083     | 1350     | Manhole   | Adoptable |  | 1    | 11.004 | 100.192  | 300       | Circular |
|      |             |              |         |           |          |           |           |                                                                                      | 0    | 11.005 | 100.117  | 375       | Circular |
| IR82 | 537433.553  | 138756.248   | 102.066 | 2.083     | 1350     | Manhole   | Adoptable |  | 1    | 11.005 | 99.983   | 375       | Circular |
|      |             |              |         |           |          |           |           |                                                                                      | 0    | 11.006 | 99.983   | 375       | Circular |

### Manhole Schedule

| Node | Easting (m) | Northing (m) | CL (m)  | Depth (m) | Dia (mm) | Node Type | MH Type   | Connections                                                                           | Link             | IL (m)                               | Dia (mm)                             | Link Type                                                    |
|------|-------------|--------------|---------|-----------|----------|-----------|-----------|---------------------------------------------------------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------------------------------|
| IR83 | 537423.994  | 138725.648   | 102.817 | 2.245     | 1200     | Manhole   | Adoptable |    | 0                | 12.000                               | 100.572                              | 225 Circular                                                 |
| IR84 | 537422.414  | 138764.717   | 101.611 | 1.425     | 1200     | Manhole   | Adoptable |    | 0                | 13.000                               | 100.186                              | 225 Circular                                                 |
| IR85 | 537422.862  | 138753.616   | 101.916 | 2.254     | 1350     | Manhole   | Adoptable |     | 1<br>2<br>3<br>0 | 13.000<br>12.000<br>11.006<br>11.007 | 99.812<br>99.812<br>99.662<br>99.662 | 225 Circular<br>225 Circular<br>375 Circular<br>375 Circular |
| IR86 | 537401.210  | 138752.740   | 100.650 | 2.850     |          | Junction  |           |    | 1                | 11.007                               | 99.075                               | 375 Circular                                                 |
| 427  | 537373.301  | 138751.542   | 100.650 | 2.850     |          | Junction  |           |     | 0                | 45.000                               | 97.800                               | 300 Circular                                                 |
| 428  | 537365.023  | 138753.474   | 100.650 | 2.887     | 2100     | Manhole   | Adoptable |    | 1                | 45.000                               | 97.763                               | 300 Circular                                                 |
| 429  | 537352.402  | 138756.420   | 98.800  | 1.100     |          | Junction  |           |  | 0<br>1           | 45.001<br>45.001                     | 97.763<br>97.700                     | 300 Circular<br>300 Circular                                 |

### Simulation Settings

|                      |          |                            |          |                         |   |
|----------------------|----------|----------------------------|----------|-------------------------|---|
| Rainfall Methodology | FEH-22   | Analysis Speed             | Detailed | Starting Level (m)      |   |
| Rainfall Events      | Singular | Skip Steady State          | x        | Check Discharge Rate(s) | x |
| Summer CV            | 1.000    | Drain Down Time (mins)     | 240      | Check Discharge Volume  | x |
| Winter CV            | 1.000    | Additional Storage (m³/ha) | 20.0     |                         |   |

### 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 %) | Return Period (years) | Climate Change (CC %) | Additional Area (A %) | Additional Flow (Q %) |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1                     | 0                     | 0                     | 0                     | 100                   | 45                    | 0                     | 0                     |
| 30                    | 0                     | 0                     | 0                     |                       |                       |                       |                       |

### Node 428 Online Hydro-Brake® Control

|                          |        |                         |                                |
|--------------------------|--------|-------------------------|--------------------------------|
| Flap Valve               | x      | Objective               | (HE) Minimise upstream storage |
| Downstream Link          | 45.001 | Sump Available          | ✓                              |
| Replaces Downstream Link | x      | Product Number          | CTL-SHE-0151-1520-2700-1520    |
| Invert Level (m)         | 97.763 | Min Outlet Diameter (m) | 0.225                          |
| Design Depth (m)         | 2.700  | Min Node Diameter (mm)  | 1800                           |
| Design Flow (l/s)        | 15.2   |                         |                                |

### Node 427 Pond Storage Structure

|                  |        |                           |                                |   |
|------------------|--------|---------------------------|--------------------------------|---|
| Invert Level (m) | 97.800 | Time to half empty (mins) | Analyse flow through structure | x |
|------------------|--------|---------------------------|--------------------------------|---|

### Inlets

|      |     |
|------|-----|
| IR86 | 420 |
|------|-----|

| Depth<br>(m) | Area<br>(m <sup>2</sup> ) | Depth<br>(m) | Area<br>(m <sup>2</sup> ) | Depth<br>(m) | Area<br>(m <sup>2</sup> ) | Depth<br>(m) | Area<br>(m <sup>2</sup> ) |
|--------------|---------------------------|--------------|---------------------------|--------------|---------------------------|--------------|---------------------------|
| 0.000        | 783.2                     | 2.400        | 1791.0                    | 2.700        | 1938.8                    | 2.850        | 2014.6                    |

**Results for 1 year Critical Storm Duration. Lowest mass balance: 99.88%**

| Node Event       | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|--------|
| 15 minute summer | S278 01 | 10          | 122.808   | 0.053     | 10.3         | 0.1156        | 0.0000     | OK     |
| 15 minute summer | S279 02 | 10          | 122.394   | 0.010     | 0.4          | 0.0121        | 0.0000     | OK     |
| 15 minute summer | S278 03 | 1           | 122.578   | 0.000     | 0.0          | 0.0000        | 0.0000     | OK     |
| 15 minute summer | S278 04 | 11          | 121.783   | 0.080     | 10.4         | 0.0904        | 0.0000     | OK     |
| 15 minute summer | S278 05 | 11          | 121.668   | 0.050     | 10.4         | 0.0569        | 0.0000     | OK     |
| 15 minute summer | IR61    | 11          | 120.562   | 0.067     | 15.2         | 0.1083        | 0.0000     | OK     |
| 15 minute summer | IR62    | 11          | 119.301   | 0.060     | 16.9         | 0.0811        | 0.0000     | OK     |
| 15 minute summer | IR63    | 11          | 118.003   | 0.064     | 20.4         | 0.1013        | 0.0000     | OK     |
| 15 minute summer | IR64    | 11          | 116.885   | 0.071     | 22.1         | 0.0953        | 0.0000     | OK     |
| 15 minute summer | IR65    | 11          | 116.025   | 0.071     | 21.9         | 0.0803        | 0.0000     | OK     |
| 15 minute summer | IR66    | 12          | 115.359   | 0.063     | 23.7         | 0.0848        | 0.0000     | OK     |
| 15 minute summer | IR67    | 7           | 114.500   | 0.030     | 1.5          | 0.0335        | 0.0000     | OK     |
| 15 minute summer | IR68    | 12          | 114.411   | 0.081     | 27.3         | 0.1068        | 0.0000     | OK     |
| 15 minute summer | IR69    | 12          | 112.760   | 0.094     | 34.1         | 0.1883        | 0.0000     | OK     |
| 15 minute summer | IR70    | 12          | 112.159   | 0.086     | 36.0         | 0.1196        | 0.0000     | OK     |
| 15 minute summer | IR71    | 12          | 111.285   | 0.084     | 41.8         | 0.1845        | 0.0000     | OK     |
| 15 minute summer | IR72    | 11          | 109.747   | 0.106     | 78.1         | 0.5965        | 0.0000     | OK     |
| 15 minute summer | IR73    | 11          | 106.525   | 0.109     | 87.5         | 0.3305        | 0.0000     | OK     |
| 15 minute summer | IR74    | 11          | 105.280   | 0.113     | 93.4         | 0.2715        | 0.0000     | OK     |
| 15 minute summer | IR75    | 11          | 104.399   | 0.126     | 99.6         | 0.3067        | 0.0000     | OK     |
| 15 minute summer | IR76    | 12          | 103.552   | 0.125     | 103.8        | 0.2829        | 0.0000     | OK     |
| 15 minute summer | IR77    | 12          | 102.858   | 0.131     | 109.1        | 0.3124        | 0.0000     | OK     |
| 15 minute summer | 401     | 10          | 110.453   | 0.060     | 14.2         | 0.1289        | 0.0000     | OK     |
| 15 minute summer | 402     | 11          | 108.004   | 0.084     | 12.0         | 0.2080        | 0.0000     | OK     |
| 15 minute summer | 403     | 11          | 107.817   | 0.122     | 25.5         | 0.1749        | 0.0000     | OK     |
| 15 minute summer | 404     | 11          | 107.695   | 0.078     | 28.3         | 0.1293        | 0.0000     | OK     |
| 15 minute summer | 405     | 11          | 106.996   | 0.129     | 36.1         | 0.3125        | 0.0000     | OK     |
| 15 minute summer | 406     | 10          | 108.869   | 0.060     | 14.9         | 0.1572        | 0.0000     | OK     |

| Link Event (Outflow) | US Node | Link       | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|----------------------|---------|------------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute summer     | S278 01 | S278_1.000 | S278 04 | 10.0          | 1.418          | 0.120    | 0.2683        |                    |
| 15 minute summer     | S279 02 | S278_2.000 | S278 04 | 0.3           | 0.539          | 0.004    | 0.0133        |                    |
| 15 minute summer     | S278 03 | S278_3.000 | S278 04 | 0.0           | 0.000          | 0.000    | 0.0015        |                    |
| 15 minute summer     | S278 04 | S278_1.001 | S278 05 | 10.4          | 0.929          | 0.147    | 0.2355        |                    |
| 15 minute summer     | S278 05 | S278_1.002 | IR61    | 10.5          | 1.273          | 0.111    | 0.2821        |                    |
| 15 minute summer     | IR61    | S1.000     | IR62    | 15.1          | 1.653          | 0.183    | 0.4564        |                    |
| 15 minute summer     | IR62    | S1.001     | IR63    | 16.8          | 1.888          | 0.153    | 0.2630        |                    |
| 15 minute summer     | IR63    | S1.002     | IR64    | 20.3          | 2.030          | 0.175    | 0.2296        |                    |
| 15 minute summer     | IR64    | S1.003     | IR65    | 21.9          | 2.126          | 0.196    | 0.1767        |                    |
| 15 minute summer     | IR65    | S1.004     | IR66    | 21.7          | 1.870          | 0.112    | 0.2529        |                    |
| 15 minute summer     | IR66    | S1.005     | IR68    | 23.6          | 1.838          | 0.097    | 0.2625        |                    |
| 15 minute summer     | IR67    | 4.000      | IR68    | 1.5           | 0.498          | 0.035    | 0.0293        |                    |
| 15 minute summer     | IR68    | S1.006     | IR69    | 27.2          | 1.588          | 0.164    | 1.2828        |                    |
| 15 minute summer     | IR69    | S1.007     | IR70    | 34.2          | 1.926          | 0.195    | 0.4270        |                    |
| 15 minute summer     | IR70    | S1.008     | IR71    | 36.1          | 2.248          | 0.164    | 0.3302        |                    |
| 15 minute summer     | IR71    | S1.009     | IR72    | 42.0          | 2.348          | 0.105    | 0.6971        |                    |
| 15 minute summer     | IR72    | S1.010     | IR73    | 75.7          | 2.706          | 0.120    | 2.3495        |                    |
| 15 minute summer     | IR73    | S1.011     | IR74    | 87.0          | 2.622          | 0.092    | 1.0868        |                    |
| 15 minute summer     | IR74    | S1.012     | IR75    | 92.6          | 2.529          | 0.096    | 0.8387        |                    |
| 15 minute summer     | IR75    | S1.013     | IR76    | 99.1          | 2.523          | 0.117    | 1.0954        |                    |
| 15 minute summer     | IR76    | S1.014     | IR77    | 104.1         | 2.575          | 0.112    | 0.7795        |                    |
| 15 minute summer     | IR77    | S1.015     | IR79    | 110.0         | 2.779          | 0.120    | 0.8540        |                    |
| 15 minute summer     | 401     | 5.000      | 403     | 13.8          | 1.654          | 0.151    | 0.4112        |                    |
| 15 minute summer     | 402     | 6.000      | 403     | 11.7          | 0.744          | 0.165    | 0.5742        |                    |
| 15 minute summer     | 403     | 5.001      | 404     | 25.6          | 1.088          | 0.231    | 0.5996        |                    |
| 15 minute summer     | 404     | 5.002      | 405     | 28.3          | 1.767          | 0.089    | 0.3809        |                    |
| 15 minute summer     | 405     | 5.003      | 408     | 36.1          | 1.184          | 0.165    | 0.3316        |                    |
| 15 minute summer     | 406     | 7.000      | 407     | 14.6          | 1.729          | 0.153    | 0.3131        |                    |

**Results for 1 year Critical Storm Duration. Lowest mass balance: 99.88%**

| Node Event        | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|-------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|--------|
| 15 minute summer  | 407     | 10          | 107.543   | 0.050     | 14.6         | 0.0563        | 0.0000     | OK     |
| 15 minute summer  | 408     | 11          | 106.925   | 0.080     | 53.5         | 0.1640        | 0.0000     | OK     |
| 15 minute summer  | 409     | 11          | 105.939   | 0.141     | 70.6         | 0.3688        | 0.0000     | OK     |
| 15 minute summer  | 410     | 11          | 105.115   | 0.096     | 70.8         | 0.1697        | 0.0000     | OK     |
| 15 minute summer  | 411     | 10          | 105.571   | 0.071     | 15.3         | 0.1593        | 0.0000     | OK     |
| 15 minute summer  | 412     | 11          | 104.676   | 0.142     | 85.5         | 0.2036        | 0.0000     | OK     |
| 15 minute summer  | 413     | 10          | 104.539   | 0.051     | 9.8          | 0.0891        | 0.0000     | OK     |
| 15 minute summer  | 414     | 10          | 104.891   | 0.035     | 8.0          | 0.0657        | 0.0000     | OK     |
| 15 minute summer  | 415     | 11          | 101.854   | 0.133     | 29.7         | 0.2854        | 0.0000     | OK     |
| 15 minute summer  | 416     | 11          | 101.564   | 0.087     | 28.9         | 0.1239        | 0.0000     | OK     |
| 15 minute summer  | 417     | 11          | 101.256   | 0.088     | 43.2         | 0.2578        | 0.0000     | OK     |
| 15 minute summer  | 418     | 11          | 100.470   | 0.180     | 128.2        | 0.3187        | 0.0000     | OK     |
| 15 minute summer  | 419     | 11          | 100.186   | 0.148     | 138.7        | 0.3168        | 0.0000     | OK     |
| 15 minute summer  | IR78    | 12          | 99.026    | 0.173     | 137.8        | 0.3049        | 0.0000     | OK     |
| 15 minute summer  | IR79    | 12          | 98.381    | 0.400     | 250.3        | 1.0377        | 0.0000     | OK     |
| 15 minute summer  | IR80    | 12          | 98.322    | 0.374     | 262.2        | 1.1312        | 0.0000     | OK     |
| 960 minute summer | IR81    | 645         | 98.322    | 0.470     | 47.4         | 1.1950        | 0.0000     | OK     |
| 960 minute summer | 420     | 645         | 98.322    | 0.522     | 46.1         | 0.0000        | 0.0000     | OK     |
| 15 minute summer  | 421     | 10          | 103.673   | 0.069     | 18.9         | 0.2335        | 0.0000     | OK     |
| 15 minute summer  | 422     | 10          | 103.105   | 0.071     | 18.7         | 0.0805        | 0.0000     | OK     |
| 15 minute summer  | 423     | 10          | 102.701   | 0.057     | 18.6         | 0.0644        | 0.0000     | OK     |
| 15 minute summer  | 424     | 11          | 100.762   | 0.062     | 18.5         | 0.0696        | 0.0000     | OK     |
| 15 minute summer  | 425     | 11          | 100.361   | 0.111     | 18.6         | 0.1253        | 0.0000     | OK     |
| 15 minute summer  | 426     | 11          | 100.239   | 0.122     | 24.6         | 0.2375        | 0.0000     | OK     |
| 15 minute summer  | IR82    | 11          | 100.062   | 0.079     | 30.9         | 0.1560        | 0.0000     | OK     |
| 15 minute summer  | IR83    | 10          | 100.624   | 0.052     | 9.8          | 0.0968        | 0.0000     | OK     |
| 15 minute summer  | IR84    | 10          | 100.221   | 0.035     | 4.7          | 0.0588        | 0.0000     | OK     |
| 15 minute summer  | IR85    | 11          | 99.757    | 0.095     | 44.7         | 0.1354        | 0.0000     | OK     |

| Link Event (Outflow) | US Node | Link   | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|----------------------|---------|--------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute summer     | 407     | 7.001  | 408     | 14.5          | 1.977          | 0.054    | 0.0730        |                    |
| 15 minute summer     | 408     | 5.004  | 409     | 53.5          | 3.344          | 0.084    | 0.1544        |                    |
| 15 minute summer     | 409     | 5.005  | 410     | 70.8          | 2.131          | 0.187    | 1.9069        |                    |
| 15 minute summer     | 410     | 5.006  | 412     | 70.6          | 2.106          | 0.090    | 0.2798        |                    |
| 15 minute summer     | 411     | 8.000  | 412     | 14.9          | 1.412          | 0.209    | 0.4199        |                    |
| 15 minute summer     | 412     | 5.007  | 418     | 85.3          | 2.111          | 0.188    | 0.7934        |                    |
| 15 minute summer     | 413     | 9.000  | 415     | 9.5           | 1.420          | 0.111    | 0.3122        |                    |
| 15 minute summer     | 414     | 10.000 | 415     | 7.9           | 2.024          | 0.052    | 0.1370        |                    |
| 15 minute summer     | 415     | 9.001  | 416     | 28.9          | 0.876          | 0.261    | 1.7937        |                    |
| 15 minute summer     | 416     | 9.002  | 417     | 28.8          | 1.443          | 0.069    | 0.1900        |                    |
| 15 minute summer     | 417     | 9.003  | 418     | 42.9          | 0.914          | 0.048    | 2.5493        |                    |
| 15 minute summer     | 418     | 5.008  | 419     | 126.7         | 2.108          | 0.123    | 0.2784        |                    |
| 15 minute summer     | 419     | 5.009  | IR78    | 137.8         | 2.301          | 0.134    | 3.2206        |                    |
| 15 minute summer     | IR78    | S2.000 | IR79    | 138.9         | 2.322          | 0.135    | 0.6178        |                    |
| 15 minute summer     | IR79    | S1.016 | IR80    | 250.8         | 1.095          | 0.456    | 3.7366        |                    |
| 15 minute summer     | IR80    | S1.017 | IR81    | 261.8         | 1.298          | 0.476    | 9.6777        |                    |
| 15 minute summer     | IR81    | S1.018 | 420     | 255.4         | 2.696          | 0.465    | 2.8315        |                    |
|                      |         |        |         |               |                |          |               |                    |
| 15 minute summer     | 421     | 11.000 | 422     | 18.7          | 1.776          | 0.192    | 0.1727        |                    |
| 15 minute summer     | 422     | 11.001 | 423     | 18.6          | 1.832          | 0.185    | 0.0864        |                    |
| 15 minute summer     | 423     | 11.002 | 424     | 18.5          | 1.897          | 0.079    | 0.4386        |                    |
| 15 minute summer     | 424     | 11.003 | 425     | 18.6          | 1.126          | 0.093    | 0.2397        |                    |
| 15 minute summer     | 425     | 11.004 | 426     | 18.6          | 0.825          | 0.262    | 0.3177        |                    |
| 15 minute summer     | 426     | 11.005 | IR82    | 24.5          | 1.035          | 0.222    | 1.0420        |                    |
| 15 minute summer     | IR82    | 11.006 | IR85    | 30.6          | 1.597          | 0.089    | 0.2124        |                    |
| 15 minute summer     | IR83    | 12.000 | IR85    | 9.6           | 1.420          | 0.112    | 0.1896        |                    |
| 15 minute summer     | IR84    | 13.000 | IR85    | 4.7           | 1.229          | 0.049    | 0.0421        |                    |
| 15 minute summer     | IR85    | 11.007 | IR86    | 44.5          | 2.085          | 0.135    | 0.4624        |                    |

**Results for 1 year Critical Storm Duration. Lowest mass balance: 99.88%**

| Node Event        | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 960 minute summer | IR86    | 660         | 98.316    | 0.516     | 13.4         | 0.0000        | 0.0000     | OK         |
| 960 minute summer | 427     | 660         | 98.314    | 0.514     | 32.0         | 461.1568      | 0.0000     | SURCHARGED |
| 960 minute summer | 428     | 660         | 98.312    | 0.549     | 13.5         | 1.9010        | 0.0000     | SURCHARGED |
| 960 minute summer | 429     | 660         | 97.784    | 0.084     | 13.5         | 0.0000        | 0.0000     | OK         |

| Link Event (Outflow) | US Node | Link   | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|----------------------|---------|--------|---------|---------------|----------------|----------|---------------|--------------------|
| 960 minute summer    | 427     | 45.000 | 428     | 13.5          | 0.202          | 0.186    | 0.5986        |                    |
| 960 minute summer    | 428     | 45.001 | 429     | 13.5          | 0.822          | 0.175    | 0.2138        | 690.6              |

**Results for 30 year Critical Storm Duration. Lowest mass balance: 99.89%**

| Node Event       | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|--------|
| 15 minute summer | S278 01 | 10          | 122.870   | 0.115     | 41.8         | 0.2503        | 0.0000     | OK     |
| 15 minute summer | S279 02 | 11          | 122.404   | 0.020     | 1.4          | 0.0232        | 0.0000     | OK     |
| 15 minute summer | S278 03 | 1           | 122.578   | 0.000     | 0.0          | 0.0000        | 0.0000     | OK     |
| 15 minute summer | S278 04 | 10          | 121.869   | 0.166     | 42.6         | 0.1879        | 0.0000     | OK     |
| 15 minute summer | S278 05 | 11          | 121.723   | 0.105     | 42.4         | 0.1190        | 0.0000     | OK     |
| 15 minute summer | IR61    | 11          | 120.648   | 0.153     | 61.8         | 0.2471        | 0.0000     | OK     |
| 15 minute summer | IR62    | 11          | 119.375   | 0.134     | 69.5         | 0.1813        | 0.0000     | OK     |
| 15 minute summer | IR63    | 11          | 118.087   | 0.149     | 84.2         | 0.2341        | 0.0000     | OK     |
| 15 minute summer | IR64    | 11          | 116.991   | 0.176     | 91.5         | 0.2382        | 0.0000     | OK     |
| 15 minute summer | IR65    | 11          | 116.112   | 0.158     | 91.3         | 0.1789        | 0.0000     | OK     |
| 15 minute summer | IR66    | 11          | 115.434   | 0.138     | 99.4         | 0.1868        | 0.0000     | OK     |
| 15 minute summer | IR67    | 11          | 114.504   | 0.034     | 1.5          | 0.0381        | 0.0000     | OK     |
| 15 minute summer | IR68    | 11          | 114.505   | 0.174     | 109.4        | 0.2289        | 0.0000     | OK     |
| 15 minute summer | IR69    | 11          | 112.892   | 0.226     | 140.4        | 0.4523        | 0.0000     | OK     |
| 15 minute summer | IR70    | 11          | 112.275   | 0.202     | 147.4        | 0.2807        | 0.0000     | OK     |
| 15 minute summer | IR71    | 11          | 111.377   | 0.176     | 174.3        | 0.3878        | 0.0000     | OK     |
| 15 minute summer | IR72    | 11          | 109.877   | 0.236     | 327.0        | 1.3284        | 0.0000     | OK     |
| 15 minute summer | IR73    | 11          | 106.660   | 0.244     | 372.7        | 0.7370        | 0.0000     | OK     |
| 15 minute summer | IR74    | 11          | 105.428   | 0.261     | 398.3        | 0.6296        | 0.0000     | OK     |
| 15 minute summer | IR75    | 11          | 104.567   | 0.293     | 425.9        | 0.7145        | 0.0000     | OK     |
| 15 minute summer | IR76    | 11          | 103.726   | 0.299     | 445.2        | 0.6787        | 0.0000     | OK     |
| 15 minute summer | IR77    | 11          | 103.040   | 0.313     | 469.0        | 0.7488        | 0.0000     | OK     |
| 15 minute summer | 401     | 10          | 110.526   | 0.133     | 57.6         | 0.2856        | 0.0000     | OK     |
| 15 minute summer | 402     | 10          | 108.111   | 0.191     | 49.0         | 0.4763        | 0.0000     | OK     |
| 15 minute summer | 403     | 11          | 107.957   | 0.262     | 104.9        | 0.3753        | 0.0000     | OK     |
| 15 minute summer | 404     | 11          | 107.787   | 0.170     | 115.8        | 0.2819        | 0.0000     | OK     |
| 15 minute summer | 405     | 11          | 107.130   | 0.263     | 148.2        | 0.6343        | 0.0000     | OK     |
| 15 minute summer | 406     | 10          | 108.943   | 0.135     | 60.5         | 0.3503        | 0.0000     | OK     |

| Link Event (Outflow) | US Node | Link       | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|----------------------|---------|------------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute summer     | S278 01 | S278_1.000 | S278 04 | 41.2          | 2.064          | 0.492    | 0.7558        |                    |
| 15 minute summer     | S279 02 | S278_2.000 | S278 04 | 1.4           | 0.546          | 0.016    | 0.1756        |                    |
| 15 minute summer     | S278 03 | S278_3.000 | S278 04 | 0.0           | 0.000          | 0.000    | 0.1118        |                    |
| 15 minute summer     | S278 04 | S278_1.001 | S278 05 | 42.4          | 1.372          | 0.598    | 0.6402        |                    |
| 15 minute summer     | S278 05 | S278_1.002 | IR61    | 42.6          | 1.809          | 0.450    | 0.8023        |                    |
| 15 minute summer     | IR61    | S1.000     | IR62    | 62.2          | 2.329          | 0.751    | 1.3278        |                    |
| 15 minute summer     | IR62    | S1.001     | IR63    | 69.5          | 2.649          | 0.634    | 0.7755        |                    |
| 15 minute summer     | IR63    | S1.002     | IR64    | 84.2          | 2.742          | 0.729    | 0.7036        |                    |
| 15 minute summer     | IR64    | S1.003     | IR65    | 91.3          | 2.929          | 0.818    | 0.5347        |                    |
| 15 minute summer     | IR65    | S1.004     | IR66    | 91.2          | 2.637          | 0.470    | 0.7510        |                    |
| 15 minute summer     | IR66    | S1.005     | IR68    | 99.3          | 2.680          | 0.406    | 0.7462        |                    |
| 15 minute summer     | IR67    | 4.000      | IR68    | 1.9           | 0.498          | 0.046    | 0.1005        |                    |
| 15 minute summer     | IR68    | S1.006     | IR69    | 108.2         | 2.178          | 0.651    | 3.7186        |                    |
| 15 minute summer     | IR69    | S1.007     | IR70    | 138.2         | 2.583          | 0.790    | 1.2903        |                    |
| 15 minute summer     | IR70    | S1.008     | IR71    | 146.1         | 3.132          | 0.665    | 0.9611        |                    |
| 15 minute summer     | IR71    | S1.009     | IR72    | 173.4         | 3.084          | 0.435    | 2.2312        |                    |
| 15 minute summer     | IR72    | S1.010     | IR73    | 324.6         | 3.967          | 0.516    | 6.8494        |                    |
| 15 minute summer     | IR73    | S1.011     | IR74    | 372.2         | 3.623          | 0.392    | 3.3619        |                    |
| 15 minute summer     | IR74    | S1.012     | IR75    | 397.5         | 3.437          | 0.413    | 2.6351        |                    |
| 15 minute summer     | IR75    | S1.013     | IR76    | 425.0         | 3.392          | 0.501    | 3.4899        |                    |
| 15 minute summer     | IR76    | S1.014     | IR77    | 444.2         | 3.406          | 0.479    | 2.5154        |                    |
| 15 minute summer     | IR77    | S1.015     | IR79    | 467.2         | 3.886          | 0.510    | 2.5946        |                    |
| 15 minute summer     | 401     | 5.000      | 403     | 56.7          | 2.384          | 0.621    | 1.1694        |                    |
| 15 minute summer     | 402     | 6.000      | 403     | 48.2          | 1.030          | 0.680    | 1.7098        |                    |
| 15 minute summer     | 403     | 5.001      | 404     | 104.8         | 1.597          | 0.947    | 1.6456        |                    |
| 15 minute summer     | 404     | 5.002      | 405     | 116.6         | 2.556          | 0.366    | 1.0854        |                    |
| 15 minute summer     | 405     | 5.003      | 408     | 148.5         | 1.769          | 0.681    | 0.9041        |                    |
| 15 minute summer     | 406     | 7.000      | 407     | 59.7          | 2.480          | 0.625    | 0.8915        |                    |

**Results for 30 year Critical Storm Duration. Lowest mass balance: 99.89%**

| Node Event        | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute summer  | 407     | 10          | 107.601   | 0.108     | 59.7         | 0.1216        | 0.0000     | OK         |
| 15 minute summer  | 408     | 11          | 107.015   | 0.170     | 219.0        | 0.3503        | 0.0000     | OK         |
| 15 minute summer  | 409     | 11          | 106.117   | 0.319     | 289.3        | 0.8371        | 0.0000     | OK         |
| 15 minute summer  | 410     | 11          | 105.265   | 0.246     | 291.0        | 0.4354        | 0.0000     | OK         |
| 15 minute summer  | 411     | 10          | 105.670   | 0.170     | 62.4         | 0.3803        | 0.0000     | OK         |
| 15 minute summer  | 412     | 11          | 104.891   | 0.357     | 352.6        | 0.5113        | 0.0000     | OK         |
| 15 minute summer  | 413     | 10          | 104.598   | 0.110     | 39.9         | 0.1914        | 0.0000     | OK         |
| 15 minute summer  | 414     | 10          | 104.926   | 0.070     | 32.7         | 0.1313        | 0.0000     | OK         |
| 15 minute summer  | 415     | 11          | 102.053   | 0.333     | 121.6        | 0.7126        | 0.0000     | OK         |
| 15 minute summer  | 416     | 11          | 101.669   | 0.192     | 117.9        | 0.2744        | 0.0000     | OK         |
| 15 minute summer  | 417     | 11          | 101.345   | 0.177     | 176.5        | 0.5196        | 0.0000     | OK         |
| 15 minute summer  | 418     | 11          | 100.721   | 0.431     | 530.1        | 0.7612        | 0.0000     | OK         |
| 15 minute summer  | 419     | 11          | 100.374   | 0.336     | 578.5        | 0.7185        | 0.0000     | OK         |
| 15 minute summer  | IR78    | 11          | 99.524    | 0.671     | 576.8        | 1.1860        | 0.0000     | SURCHARGED |
| 15 minute summer  | IR79    | 11          | 99.338    | 1.357     | 1039.2       | 3.5229        | 0.0000     | SURCHARGED |
| 720 minute winter | IR80    | 690         | 99.184    | 1.236     | 111.7        | 3.7377        | 0.0000     | SURCHARGED |
| 360 minute summer | IR81    | 280         | 99.264    | 1.411     | 236.8        | 3.5923        | 0.0000     | SURCHARGED |
| 960 minute winter | 420     | 930         | 99.173    | 1.373     | 114.7        | 0.0000        | 0.0000     | OK         |
| 15 minute summer  | 421     | 10          | 103.770   | 0.166     | 76.8         | 0.5607        | 0.0000     | OK         |
| 15 minute summer  | 422     | 10          | 103.213   | 0.179     | 76.2         | 0.2026        | 0.0000     | OK         |
| 15 minute summer  | 423     | 10          | 102.761   | 0.117     | 75.7         | 0.1325        | 0.0000     | OK         |
| 15 minute summer  | 424     | 11          | 100.837   | 0.137     | 75.3         | 0.1553        | 0.0000     | OK         |
| 15 minute summer  | 425     | 11          | 100.522   | 0.272     | 75.7         | 0.3078        | 0.0000     | OK         |
| 15 minute summer  | 426     | 11          | 100.385   | 0.268     | 100.4        | 0.5195        | 0.0000     | OK         |
| 15 minute summer  | IR82    | 11          | 100.167   | 0.184     | 126.7        | 0.3639        | 0.0000     | OK         |
| 15 minute summer  | IR83    | 10          | 100.684   | 0.112     | 39.9         | 0.2096        | 0.0000     | OK         |
| 15 minute summer  | IR84    | 10          | 100.259   | 0.073     | 19.2         | 0.1232        | 0.0000     | OK         |
| 15 minute summer  | IR85    | 11          | 99.872    | 0.210     | 183.7        | 0.3008        | 0.0000     | OK         |

| Link Event (Outflow) | US Node | Link   | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|----------------------|---------|--------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute summer     | 407     | 7.001  | 408     | 59.5          | 2.842          | 0.222    | 0.2079        |                    |
| 15 minute summer     | 408     | 5.004  | 409     | 219.4         | 3.649          | 0.344    | 0.6009        |                    |
| 15 minute summer     | 409     | 5.005  | 410     | 291.0         | 2.775          | 0.769    | 5.9534        |                    |
| 15 minute summer     | 410     | 5.006  | 412     | 292.0         | 2.590          | 0.371    | 0.9255        |                    |
| 15 minute summer     | 411     | 8.000  | 412     | 61.2          | 1.973          | 0.858    | 1.2328        |                    |
| 15 minute summer     | 412     | 5.007  | 418     | 353.6         | 2.890          | 0.778    | 2.3913        |                    |
| 15 minute summer     | 413     | 9.000  | 415     | 39.2          | 2.079          | 0.459    | 0.8790        |                    |
| 15 minute summer     | 414     | 10.000 | 415     | 32.5          | 2.573          | 0.213    | 0.7875        |                    |
| 15 minute summer     | 415     | 9.001  | 416     | 117.9         | 1.275          | 1.065    | 4.9590        |                    |
| 15 minute summer     | 416     | 9.002  | 417     | 117.9         | 2.050          | 0.282    | 0.5478        |                    |
| 15 minute summer     | 417     | 9.003  | 418     | 176.5         | 1.242          | 0.198    | 7.5385        |                    |
| 15 minute summer     | 418     | 5.008  | 419     | 529.5         | 2.957          | 0.516    | 0.8210        |                    |
| 15 minute summer     | 419     | 5.009  | IR78    | 576.8         | 2.911          | 0.563    | 11.9115       |                    |
| 15 minute summer     | IR78    | S2.000 | IR79    | 570.1         | 2.911          | 0.555    | 2.9044        |                    |
| 15 minute summer     | IR79    | S1.016 | IR80    | 1040.7        | 2.365          | 1.893    | 7.1837        |                    |
| 15 minute summer     | IR80    | S1.017 | IR81    | 1096.0        | 2.491          | 1.994    | 20.7108       |                    |
| 15 minute winter     | IR81    | S1.018 | 420     | 1186.8        | 4.024          | 2.159    | 9.3535        |                    |
| 15 minute summer     | 421     | 11.000 | 422     | 76.2          | 2.332          | 0.782    | 0.5345        |                    |
| 15 minute summer     | 422     | 11.001 | 423     | 75.7          | 2.476          | 0.753    | 0.2590        |                    |
| 15 minute summer     | 423     | 11.002 | 424     | 75.3          | 2.663          | 0.324    | 1.2659        |                    |
| 15 minute summer     | 424     | 11.003 | 425     | 75.7          | 1.497          | 0.380    | 0.6952        |                    |
| 15 minute summer     | 425     | 11.004 | 426     | 76.1          | 1.241          | 1.071    | 0.8530        |                    |
| 15 minute summer     | 426     | 11.005 | IR82    | 100.6         | 1.459          | 0.910    | 2.9943        |                    |
| 15 minute summer     | IR82    | 11.006 | IR85    | 126.8         | 2.171          | 0.370    | 0.6456        |                    |
| 15 minute summer     | IR83    | 12.000 | IR85    | 39.4          | 2.065          | 0.459    | 0.5344        |                    |
| 15 minute summer     | IR84    | 13.000 | IR85    | 19.1          | 1.803          | 0.199    | 0.1175        |                    |
| 15 minute summer     | IR85    | 11.007 | IR86    | 184.0         | 3.013          | 0.557    | 1.3237        |                    |

**Results for 30 year Critical Storm Duration. Lowest mass balance: 99.89%**

| Node Event           | US Node | Peak (mins) | Level (m) | Depth (m)     | Inflow (l/s)   | Node Vol (m³) | Flood (m³)    | Status             |
|----------------------|---------|-------------|-----------|---------------|----------------|---------------|---------------|--------------------|
| 960 minute winter    | IR86    | 945         | 99.167    | 1.367         | 24.5           | 0.0000        | 0.0000        | OK                 |
| 960 minute winter    | 427     | 930         | 99.164    | 1.364         | 50.9           | 1463.8210     | 0.0000        | SURCHARGED         |
| 960 minute winter    | 428     | 930         | 99.163    | 1.400         | 14.1           | 4.8480        | 0.0000        | SURCHARGED         |
| 60 minute winter     | 429     | 41          | 97.785    | 0.085         | 13.9           | 0.0000        | 0.0000        | OK                 |
| Link Event (Outflow) | US Node | Link        | DS Node   | Outflow (l/s) | Velocity (m/s) | Flow/Cap      | Link Vol (m³) | Discharge Vol (m³) |
| 15 minute winter     | 427     | 45.000      | 428       | 21.2          | 0.719          | 0.291         | 0.5986        |                    |
| 60 minute winter     | 428     | 45.001      | 429       | 13.9          | 0.827          | 0.179         | 0.2172        | 229.0              |

**Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.37%**

| Node Event       | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute summer | S278 01 | 10          | 122.935   | 0.180     | 76.9         | 0.3902        | 0.0000     | OK         |
| 15 minute summer | S279 02 | 10          | 122.411   | 0.027     | 2.7          | 0.0313        | 0.0000     | OK         |
| 15 minute summer | S278 03 | 1           | 122.578   | 0.000     | 0.0          | 0.0000        | 0.0000     | OK         |
| 15 minute summer | S278 04 | 12          | 122.162   | 0.459     | 78.8         | 0.5194        | 0.0000     | SURCHARGED |
| 15 minute summer | S278 05 | 12          | 122.089   | 0.471     | 75.6         | 0.5325        | 0.0000     | SURCHARGED |
| 15 minute summer | IR61    | 12          | 121.609   | 1.115     | 107.4        | 1.8000        | 0.0000     | SURCHARGED |
| 15 minute summer | IR62    | 12          | 120.123   | 0.882     | 102.8        | 1.1957        | 0.0000     | SURCHARGED |
| 15 minute summer | IR63    | 12          | 118.959   | 1.021     | 122.3        | 1.6062        | 0.0000     | SURCHARGED |
| 15 minute summer | IR64    | 12          | 117.540   | 0.726     | 127.2        | 0.9809        | 0.0000     | SURCHARGED |
| 15 minute summer | IR65    | 12          | 116.150   | 0.196     | 127.2        | 0.2221        | 0.0000     | OK         |
| 15 minute summer | IR66    | 13          | 115.479   | 0.183     | 140.1        | 0.2485        | 0.0000     | OK         |
| 15 minute summer | IR67    | 13          | 114.888   | 0.418     | 7.2          | 0.4729        | 0.0000     | SURCHARGED |
| 15 minute summer | IR68    | 13          | 114.875   | 0.545     | 155.8        | 0.7150        | 0.0000     | SURCHARGED |
| 15 minute summer | IR69    | 11          | 113.447   | 0.780     | 203.6        | 1.5633        | 0.0000     | SURCHARGED |
| 15 minute summer | IR70    | 12          | 112.504   | 0.431     | 210.0        | 0.6009        | 0.0000     | SURCHARGED |
| 15 minute summer | IR71    | 11          | 111.422   | 0.221     | 255.7        | 0.4872        | 0.0000     | OK         |
| 15 minute summer | IR72    | 11          | 109.979   | 0.338     | 545.5        | 1.8978        | 0.0000     | OK         |
| 15 minute summer | IR73    | 11          | 106.761   | 0.345     | 627.8        | 1.0414        | 0.0000     | OK         |
| 15 minute summer | IR74    | 11          | 105.581   | 0.414     | 678.7        | 0.9973        | 0.0000     | OK         |
| 15 minute summer | IR75    | 11          | 104.909   | 0.635     | 719.4        | 1.5477        | 0.0000     | SURCHARGED |
| 15 minute summer | IR76    | 12          | 104.048   | 0.621     | 751.6        | 1.4099        | 0.0000     | SURCHARGED |
| 15 minute summer | IR77    | 12          | 103.307   | 0.580     | 789.1        | 1.3886        | 0.0000     | SURCHARGED |
| 15 minute summer | 401     | 11          | 111.035   | 0.642     | 106.0        | 1.3814        | 0.0000     | SURCHARGED |
| 15 minute summer | 402     | 12          | 108.592   | 0.672     | 90.0         | 1.6741        | 0.0000     | SURCHARGED |
| 15 minute summer | 403     | 12          | 108.404   | 0.709     | 183.4        | 1.0148        | 0.0000     | SURCHARGED |
| 15 minute summer | 404     | 12          | 108.163   | 0.546     | 197.9        | 0.9073        | 0.0000     | SURCHARGED |
| 15 minute summer | 405     | 12          | 107.878   | 1.011     | 253.6        | 2.4425        | 0.0000     | SURCHARGED |
| 15 minute summer | 406     | 11          | 109.459   | 0.651     | 111.3        | 1.6923        | 0.0000     | SURCHARGED |

| Link Event (Outflow) | US Node | Link       | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|----------------------|---------|------------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute summer     | S278 01 | S278_1.000 | S278 04 | 76.2          | 2.301          | 0.909    | 1.3335        |                    |
| 15 minute summer     | S279 02 | S278_2.000 | S278 04 | 2.6           | 0.546          | 0.030    | 0.4416        |                    |
| 15 minute summer     | S278 03 | S278_3.000 | S278 04 | 0.0           | 0.000          | 0.000    | 0.2953        |                    |
| 15 minute summer     | S278 04 | S278_1.001 | S278 05 | 75.6          | 1.529          | 1.066    | 1.4539        |                    |
| 15 minute summer     | S278 05 | S278_1.002 | IR61    | 70.3          | 1.827          | 0.743    | 1.3592        |                    |
| 15 minute summer     | IR61    | S1.000     | IR62    | 88.7          | 2.302          | 1.072    | 1.9802        |                    |
| 15 minute summer     | IR62    | S1.001     | IR63    | 95.4          | 2.541          | 0.870    | 1.1762        |                    |
| 15 minute summer     | IR63    | S1.002     | IR64    | 116.1         | 2.920          | 1.005    | 0.9138        |                    |
| 15 minute summer     | IR64    | S1.003     | IR65    | 127.2         | 3.199          | 1.139    | 0.6834        |                    |
| 15 minute summer     | IR65    | S1.004     | IR66    | 127.6         | 2.838          | 0.657    | 1.0154        |                    |
| 15 minute summer     | IR66    | S1.005     | IR68    | 138.9         | 2.774          | 0.568    | 1.1637        |                    |
| 15 minute summer     | IR67    | 4.000      | IR68    | 7.8           | 0.498          | 0.183    | 0.3875        |                    |
| 30 minute summer     | IR68    | S1.006     | IR69    | 157.9         | 2.302          | 0.950    | 5.2688        |                    |
| 15 minute summer     | IR69    | S1.007     | IR70    | 193.0         | 2.742          | 1.104    | 1.6951        |                    |
| 15 minute summer     | IR70    | S1.008     | IR71    | 205.8         | 3.257          | 0.937    | 1.3121        |                    |
| 15 minute summer     | IR71    | S1.009     | IR72    | 253.9         | 3.446          | 0.637    | 3.2243        |                    |
| 15 minute summer     | IR72    | S1.010     | IR73    | 539.3         | 4.392          | 0.857    | 10.2736       |                    |
| 15 minute summer     | IR73    | S1.011     | IR74    | 630.6         | 3.861          | 0.664    | 5.4470        |                    |
| 15 minute summer     | IR74    | S1.012     | IR75    | 664.6         | 3.656          | 0.690    | 4.5421        |                    |
| 15 minute summer     | IR75    | S1.013     | IR76    | 712.7         | 3.555          | 0.841    | 6.0100        |                    |
| 15 minute summer     | IR76    | S1.014     | IR77    | 741.4         | 3.536          | 0.800    | 4.1630        |                    |
| 15 minute summer     | IR77    | S1.015     | IR79    | 782.0         | 4.283          | 0.853    | 4.0424        |                    |
| 15 minute summer     | 401     | 5.000      | 403     | 98.6          | 2.660          | 1.080    | 1.9563        |                    |
| 15 minute summer     | 402     | 6.000      | 403     | 87.5          | 1.242          | 1.234    | 2.5728        |                    |
| 15 minute summer     | 403     | 5.001      | 404     | 176.7         | 1.746          | 1.596    | 2.7778        |                    |
| 15 minute summer     | 404     | 5.002      | 405     | 195.2         | 2.739          | 0.613    | 2.6242        |                    |
| 15 minute summer     | 405     | 5.003      | 408     | 235.2         | 1.715          | 1.078    | 2.3159        |                    |
| 15 minute summer     | 406     | 7.000      | 407     | 100.3         | 2.568          | 1.050    | 1.4731        |                    |

**Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.37%**

| Node Event         | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|--------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute summer   | 407     | 12          | 107.949   | 0.456     | 100.3        | 0.5158        | 0.0000     | SURCHARGED |
| 15 minute summer   | 408     | 12          | 107.822   | 0.977     | 350.3        | 2.0082        | 0.0000     | SURCHARGED |
| 15 minute summer   | 409     | 12          | 107.257   | 1.460     | 463.9        | 3.8285        | 0.0000     | SURCHARGED |
| 15 minute summer   | 410     | 12          | 105.875   | 0.855     | 459.9        | 1.5116        | 0.0000     | SURCHARGED |
| 15 minute summer   | 411     | 11          | 107.271   | 1.771     | 114.8        | 3.9612        | 0.0000     | SURCHARGED |
| 15 minute summer   | 412     | 12          | 105.488   | 0.954     | 561.7        | 1.3655        | 0.0000     | SURCHARGED |
| 15 minute summer   | 413     | 10          | 104.654   | 0.166     | 73.4         | 0.2898        | 0.0000     | OK         |
| 15 minute summer   | 414     | 10          | 104.953   | 0.097     | 60.1         | 0.1819        | 0.0000     | OK         |
| 15 minute summer   | 415     | 12          | 103.430   | 1.710     | 223.8        | 3.6559        | 0.0000     | SURCHARGED |
| 15 minute summer   | 416     | 12          | 102.985   | 1.508     | 210.6        | 2.1580        | 0.0000     | FLOOD RISK |
| 15 minute summer   | 417     | 12          | 102.932   | 1.764     | 321.9        | 5.1684        | 0.0000     | SURCHARGED |
| 15 minute summer   | 418     | 12          | 102.851   | 2.561     | 806.8        | 4.5248        | 0.0000     | SURCHARGED |
| 15 minute summer   | 419     | 12          | 102.582   | 2.544     | 875.6        | 5.4371        | 0.0000     | SURCHARGED |
| 15 minute summer   | IR78    | 12          | 101.482   | 2.629     | 868.9        | 4.6460        | 0.0000     | SURCHARGED |
| 15 minute summer   | IR79    | 12          | 101.079   | 3.098     | 1656.6       | 8.0444        | 0.0000     | SURCHARGED |
| 30 minute summer   | IR80    | 20          | 100.464   | 2.516     | 1677.7       | 7.6076        | 0.0000     | SURCHARGED |
| 2160 minute winter | IR81    | 2040        | 100.259   | 2.407     | 76.9         | 6.1259        | 0.0000     | SURCHARGED |
| 2160 minute winter | 420     | 2040        | 100.259   | 2.459     | 76.8         | 0.0000        | 0.0000     | OK         |
| 15 minute summer   | 421     | 11          | 105.013   | 1.409     | 141.3        | 4.7592        | 0.0000     | FLOOD RISK |
| 15 minute summer   | 422     | 11          | 103.712   | 0.678     | 127.7        | 0.7673        | 0.0000     | SURCHARGED |
| 15 minute summer   | 423     | 12          | 102.800   | 0.156     | 126.6        | 0.1767        | 0.0000     | OK         |
| 15 minute summer   | 424     | 12          | 101.135   | 0.435     | 126.7        | 0.4916        | 0.0000     | SURCHARGED |
| 15 minute summer   | 425     | 12          | 100.869   | 0.619     | 124.3        | 0.7006        | 0.0000     | SURCHARGED |
| 15 minute summer   | 426     | 12          | 100.606   | 0.489     | 160.7        | 0.9485        | 0.0000     | SURCHARGED |
| 2160 minute winter | IR82    | 2100        | 100.251   | 0.268     | 8.6          | 0.5312        | 0.0000     | OK         |
| 15 minute summer   | IR83    | 10          | 100.744   | 0.172     | 73.4         | 0.3212        | 0.0000     | OK         |
| 15 minute summer   | IR84    | 10          | 100.285   | 0.099     | 35.4         | 0.1675        | 0.0000     | OK         |
| 2160 minute winter | IR85    | 2100        | 100.251   | 0.589     | 12.5         | 0.8434        | 0.0000     | SURCHARGED |

| Link Event (Outflow) | US Node | Link   | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|----------------------|---------|--------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute summer     | 407     | 7.001  | 408     | 106.7         | 2.945          | 0.398    | 0.6988        |                    |
| 15 minute summer     | 408     | 5.004  | 409     | 359.8         | 3.719          | 0.564    | 1.0635        |                    |
| 15 minute summer     | 409     | 5.005  | 410     | 459.9         | 2.903          | 1.215    | 9.0240        |                    |
| 15 minute summer     | 410     | 5.006  | 412     | 460.9         | 2.909          | 0.586    | 1.3103        |                    |
| 15 minute summer     | 411     | 8.000  | 412     | 102.8         | 2.585          | 1.443    | 1.5772        |                    |
| 15 minute summer     | 412     | 5.007  | 418     | 562.3         | 3.550          | 1.237    | 3.1090        |                    |
| 15 minute summer     | 413     | 9.000  | 415     | 72.1          | 2.366          | 0.844    | 1.4502        |                    |
| 15 minute summer     | 414     | 10.000 | 415     | 59.8          | 2.512          | 0.392    | 0.9855        |                    |
| 15 minute summer     | 415     | 9.001  | 416     | 210.6         | 1.912          | 1.902    | 5.9865        |                    |
| 15 minute summer     | 416     | 9.002  | 417     | 208.9         | 2.327          | 0.499    | 1.5077        |                    |
| 30 minute summer     | 417     | 9.003  | 418     | 283.6         | 1.386          | 0.319    | 14.8433       |                    |
| 15 minute summer     | 418     | 5.008  | 419     | 801.2         | 2.958          | 0.781    | 1.2983        |                    |
| 15 minute summer     | 419     | 5.009  | IR78    | 868.9         | 3.085          | 0.848    | 15.1089       |                    |
| 15 minute summer     | IR78    | S2.000 | IR79    | 864.2         | 3.068          | 0.841    | 2.9044        |                    |
| 15 minute summer     | IR79    | S1.016 | IR80    | 1650.9        | 3.751          | 3.003    | 7.1837        |                    |
| 15 minute summer     | IR80    | S1.017 | IR81    | 1730.3        | 3.932          | 3.148    | 21.1086       |                    |
| 15 minute summer     | IR81    | S1.018 | 420     | 1721.5        | 4.501          | 3.131    | 11.3776       |                    |
| 15 minute summer     | 421     | 11.000 | 422     | 127.7         | 3.211          | 1.310    | 0.6510        |                    |
| 15 minute summer     | 422     | 11.001 | 423     | 126.6         | 3.183          | 1.260    | 0.3384        |                    |
| 15 minute summer     | 423     | 11.002 | 424     | 126.7         | 2.812          | 0.545    | 2.4039        |                    |
| 15 minute summer     | 424     | 11.003 | 425     | 124.3         | 1.766          | 0.624    | 0.9933        |                    |
| 15 minute summer     | 425     | 11.004 | 426     | 125.4         | 1.781          | 1.765    | 0.9904        |                    |
| 15 minute summer     | 426     | 11.005 | IR82    | 160.6         | 1.591          | 1.453    | 4.2171        |                    |
| 15 minute summer     | IR82    | 11.006 | IR85    | 203.7         | 2.400          | 0.595    | 1.0033        |                    |
| 15 minute summer     | IR83    | 12.000 | IR85    | 72.5          | 2.332          | 0.843    | 0.8693        |                    |
| 15 minute summer     | IR84    | 13.000 | IR85    | 35.3          | 1.936          | 0.368    | 0.2601        |                    |
| 15 minute summer     | IR85    | 11.007 | IR86    | 308.0         | 3.295          | 0.933    | 2.0224        |                    |

**Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.37%**

| Node Event         | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|--------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 2160 minute winter | IR86    | 2100        | 100.251   | 2.451     | 25.7         | 0.0000        | 0.0000     | OK         |
| 2160 minute winter | 427     | 2040        | 100.248   | 2.448     | 50.8         | 3183.8550     | 0.0000     | SURCHARGED |
| 2160 minute winter | 428     | 2040        | 100.246   | 2.483     | 14.4         | 8.5994        | 0.0000     | SURCHARGED |
| 2160 minute winter | 429     | 2040        | 97.787    | 0.087     | 14.4         | 0.0000        | 0.0000     | OK         |

| Link Event (Outflow) | US Node | Link   | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|----------------------|---------|--------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute winter     | 427     | 45.000 | 428     | 24.3          | 0.762          | 0.333    | 0.5986        |                    |
| 2160 minute winter   | 428     | 45.001 | 429     | 14.4          | 0.835          | 0.186    | 0.2231        | 1726.3             |

## **Appendix D - SuDS Management Plan**

| SUDS Element                  | Tanks                                                                                                                                    |                                                |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Maintenance Period            | Maintenance Task                                                                                                                         | Frequency                                      |
| <b>Regular Maintenance</b>    | Inspect for sediment and debris in pre-treatment components and flood of inspection tube or chamber and inside of concrete manhole rings | Annually                                       |
|                               | Cleaning of gutters and any filters on downpipes                                                                                         | Annually (or as required based on inspections) |
|                               | Trimming any roots that may be causing blockages                                                                                         | Annually (or as required)                      |
| <b>Occasional Maintenance</b> | Remove sediment and debris from pre-treatment components and flood of inspection tube or chamber and inside concrete manhole rings       | As required, based on inspections              |
| <b>Remedial Actions</b>       | Reconstruct soakaway and/or replace or clean void fill if performance deteriorates or failure occurs                                     | As required                                    |
|                               | Replacement of clogged geotextile (will require reconstruction of soakaway)                                                              | As required                                    |
| <b>Monitoring</b>             | Inspect silt traps and note rate of sediment accumulation                                                                                | Monthly in the first year and then annually    |
|                               | Check soakaway to ensure emptying is occurring                                                                                           | Annually                                       |

| <b>SUDS Element</b>           | <b>Detention Basin</b>                                                                                    |                                                         |
|-------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| <b>Maintenance Period</b>     | <b>Maintenance Task</b>                                                                                   | <b>Frequency</b>                                        |
| <b>Regular Maintenance</b>    | Remove litter and debris                                                                                  | Monthly (or as required)                                |
|                               | Cut the grass – for spillways and access routes                                                           | Monthly (during growing season), or as required         |
|                               | Cut grass - meadow grass in and around basin                                                              | Half yearly (spring, before nesting season, and autumn) |
|                               | Manage other vegetation and remove nuisance plants                                                        | Monthly (at start, then as required)                    |
|                               | Inspect inlets, outlets, and overflows for blockages, and clear is required                               | Monthly                                                 |
|                               | Inspect banksides, structures, pipework etc. for evidence of physical damage                              | Monthly                                                 |
|                               | Inspect inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies | Monthly (for first year), then annually or as required  |
|                               | Check any penstocks and other mechanical devices                                                          | Annually                                                |
|                               | Tidy all dead growth before start of growing season                                                       | Annually                                                |
|                               | Remove sediment from inlets, outlets and forebays                                                         | Annually (or as required)                               |
|                               | Manage wetland plants in outlet pool- where provided                                                      | Annually                                                |
| <b>Occasional Maintenance</b> | Reseed areas of poor vegetation growth                                                                    | As required                                             |

|                         |                                                                            |                                                                                                                       |
|-------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
|                         | Prune and trim any trees and remove cuttings                               | Every 2 years, or as required                                                                                         |
|                         | Remove sediment from inlets, outlets, forebay and main basin when required | Every 5 years, or as required (likely to be minimal requirements where effective upstream source control is provided) |
| <b>Remedial Actions</b> | Repair erosion or other damage by reseedling or returfing                  | As required                                                                                                           |
|                         | Realignment of rip-rap                                                     | As required                                                                                                           |
|                         | Repair/rehabilitation of inlets, outlets and overflows                     | As required                                                                                                           |
|                         | Relevel uneven levels and reinstate design levels                          | As required                                                                                                           |