

### Design Settings

|                                      |        |                                    |               |
|--------------------------------------|--------|------------------------------------|---------------|
| Rainfall Methodology                 | FEH-13 | Minimum Velocity (m/s)             | 1.00          |
| Return Period (years)                | 2      | Connection Type                    | Level Soffits |
| Additional Flow (%)                  | 0      | Minimum Backdrop Height (m)        | 0.500         |
| CV                                   | 0.900  | Preferred Cover Depth (m)          | 1.200         |
| Time of Entry (mins)                 | 5.00   | Include Intermediate Ground        | ✓             |
| Maximum Time of Concentration (mins) | 30.00  | Enforce best practice design rules | x             |
| Maximum Rainfall (mm/hr)             | 50.0   |                                    |               |

### Nodes

| Name   | Area<br>(ha) | T of E<br>(mins) | Cover<br>Level<br>(m) | Diameter<br>(mm) | Easting<br>(m) | Northing<br>(m) | Depth<br>(m) |
|--------|--------------|------------------|-----------------------|------------------|----------------|-----------------|--------------|
| 1      | 0.013        | 5.00             | 68.498                | 1200             | 468495.463     | 112684.276      | 1.350        |
| 2      | 0.040        | 5.00             | 67.600                | 1200             | 468508.261     | 112634.860      | 1.350        |
| 3      | 0.013        | 5.00             | 67.806                | 1200             | 468503.362     | 112653.988      | 1.752        |
| 4      | 0.154        | 5.00             | 63.738                | 1200             | 468552.550     | 112668.320      | 1.438        |
| 5      | 0.036        | 5.00             | 61.844                | 1200             | 468570.851     | 112673.653      | 1.350        |
| 6      | 0.021        | 5.00             | 61.200                | 1200             | 468579.182     | 112673.551      | 1.425        |
| 7      | 0.073        | 5.00             | 60.561                | 1200             | 468586.951     | 112666.203      | 2.311        |
| 8      | 0.000        |                  | 60.377                | 1200             | 468603.261     | 112641.024      | 2.127        |
| 9      | 0.008        | 5.00             | 66.617                | 1200             | 468530.122     | 112591.428      | 1.350        |
| 10     | 0.015        | 5.00             | 66.012                | 1200             | 468536.042     | 112607.102      | 1.350        |
| 11     | 0.174        | 5.00             | 62.600                | 1200             | 468582.421     | 112616.717      | 1.350        |
| 12     | 0.061        | 5.00             | 62.229                | 1200             | 468586.820     | 112619.008      | 4.029        |
| 13     | 0.000        |                  | 60.542                | 1200             | 468607.521     | 112633.026      | 2.342        |
| 14     | 0.000        |                  | 60.100                | 1200             | 468614.781     | 112639.486      | 1.997        |
| 15     | 0.056        | 5.00             | 59.874                | 1200             | 468619.251     | 112642.146      | 1.974        |
| 16     | 0.000        |                  | 59.137                | 1200             | 468636.244     | 112652.693      | 1.237        |
| 17     | 0.000        |                  | 58.774                | 1200             | 468653.741     | 112663.455      | 1.011        |
| 18     | 0.000        |                  | 58.822                | 1200             | 468652.567     | 112667.241      | 1.085        |
| 18_OUT | 0.000        |                  | 58.692                | 1200             | 468658.090     | 112670.534      | 1.017        |

### Links

| Name  | US<br>Node | DS<br>Node | Length<br>(m) | ks (mm) /<br>n | US IL<br>(m) | DS IL<br>(m) | Fall<br>(m) | Slope<br>(1:X) | Dia<br>(mm) | T of C<br>(mins) | Rain<br>(mm/hr) |
|-------|------------|------------|---------------|----------------|--------------|--------------|-------------|----------------|-------------|------------------|-----------------|
| 1.000 | 1          | 3          | 31.301        | 0.600          | 67.148       | 66.054       | 1.094       | 28.6           | 150         | 5.28             | 50.0            |
| 2.000 | 2          | 3          | 19.745        | 0.600          | 66.250       | 66.054       | 0.196       | 100.7          | 150         | 5.33             | 50.0            |
| 1.001 | 3          | 4          | 51.233        | 0.600          | 66.054       | 62.300       | 3.754       | 13.6           | 150         | 5.64             | 50.0            |
| 1.002 | 4          | 5          | 19.062        | 0.600          | 62.300       | 60.494       | 1.806       | 10.6           | 150         | 5.74             | 50.0            |
| 1.003 | 5          | 6          | 8.332         | 0.600          | 60.494       | 59.850       | 0.644       | 12.9           | 150         | 5.79             | 50.0            |
| 1.004 | 6          | 7          | 10.693        | 0.600          | 59.775       | 59.136       | 0.639       | 16.7           | 225         | 5.85             | 50.0            |
| 1.005 | 7          | 8          | 30.000        | 0.300          | 58.250       | 58.250       | 0.000       | 0.0            | 2850        | 6.35             | 50.0            |

| Name  | Vel<br>(m/s) | Cap<br>(l/s) | Flow<br>(l/s) | US<br>Depth<br>(m) | DS<br>Depth<br>(m) | Σ Area<br>(ha) | Σ Add<br>Inflow<br>(l/s) | Pro<br>Depth<br>(mm) | Pro<br>Velocity<br>(m/s) |
|-------|--------------|--------------|---------------|--------------------|--------------------|----------------|--------------------------|----------------------|--------------------------|
| 1.000 | 1.889        | 33.4         | 2.1           | 1.200              | 1.602              | 0.013          | 0.0                      | 25                   | 1.057                    |
| 2.000 | 1.001        | 17.7         | 6.5           | 1.200              | 1.602              | 0.040          | 0.0                      | 63                   | 0.926                    |
| 1.001 | 2.741        | 48.4         | 10.7          | 1.602              | 1.288              | 0.066          | 0.0                      | 48                   | 2.207                    |
| 1.002 | 3.119        | 55.1         | 35.8          | 1.288              | 1.200              | 0.220          | 0.0                      | 88                   | 3.315                    |
| 1.003 | 2.816        | 49.8         | 41.6          | 1.200              | 1.200              | 0.256          | 0.0                      | 105                  | 3.144                    |
| 1.004 | 3.214        | 127.8        | 45.0          | 1.200              | 1.200              | 0.277          | 0.0                      | 92                   | 2.938                    |
| 1.005 | 1.000        | 3420.0       | 56.9          | 1.111              | 0.927              | 0.350          | 0.0                      | 0                    | ∞                        |

### Links

| Name  | US Node | DS Node | Length (m) | ks (mm) / n | US IL (m) | DS IL (m) | Fall (m) | Slope (1:X) | Dia (mm) | T of C (mins) | Rain (mm/hr) |
|-------|---------|---------|------------|-------------|-----------|-----------|----------|-------------|----------|---------------|--------------|
| 1.006 | 8       | 14      | 11.622     | 0.300       | 58.250    | 58.103    | 0.147    | 79.1        | 150      | 6.50          | 49.7         |
| 3.000 | 9       | 10      | 16.755     | 0.600       | 65.267    | 64.662    | 0.605    | 27.7        | 150      | 5.15          | 50.0         |
| 3.001 | 10      | 11      | 47.365     | 0.600       | 64.662    | 61.250    | 3.412    | 13.9        | 150      | 5.44          | 50.0         |
| 3.002 | 11      | 12      | 4.960      | 0.600       | 61.250    | 59.500    | 1.750    | 2.8         | 225      | 5.45          | 50.0         |
| 3.003 | 12      | 13      | 25.001     | 0.300       | 58.200    | 58.200    | 0.000    | 0.0         | 5700     | 5.86          | 50.0         |
| 3.004 | 13      | 14      | 9.718      | 0.600       | 58.200    | 58.103    | 0.097    | 100.2       | 150      | 6.02          | 50.0         |
| 1.007 | 14      | 15      | 5.202      | 0.600       | 58.103    | 58.051    | 0.052    | 100.0       | 150      | 6.59          | 49.4         |
| 1.008 | 15      | 16      | 20.000     | 0.300       | 57.900    | 57.900    | 0.000    | 0.0         | 5225     | 6.92          | 48.2         |
| 1.009 | 16      | 17      | 20.542     | 0.600       | 57.900    | 57.763    | 0.137    | 149.9       | 225      | 7.24          | 47.2         |
| 1.010 | 17      | 18      | 3.964      | 0.600       | 57.763    | 57.737    | 0.026    | 152.5       | 225      | 7.31          | 47.0         |
| 1.011 | 18      | 18_OUT  | 6.430      | 0.600       | 57.737    | 57.675    | 0.062    | 103.7       | 225      | 7.39          | 46.7         |

| Name  | Vel (m/s) | Cap (l/s) | Flow (l/s) | US Depth (m) | DS Depth (m) | Σ Area (ha) | Σ Add Inflow (l/s) | Pro Depth (mm) | Pro Velocity (m/s) |
|-------|-----------|-----------|------------|--------------|--------------|-------------|--------------------|----------------|--------------------|
| 1.006 | 1.235     | 21.8      | 56.6       | 1.977        | 1.847        | 0.350       | 0.0                | 150            | 1.258              |
| 3.000 | 1.920     | 33.9      | 1.3        | 1.200        | 1.200        | 0.008       | 0.0                | 20             | 0.930              |
| 3.001 | 2.718     | 48.0      | 3.7        | 1.200        | 1.200        | 0.023       | 0.0                | 28             | 1.627              |
| 3.002 | 7.828     | 311.3     | 32.0       | 1.125        | 2.504        | 0.197       | 0.0                | 49             | 5.118              |
| 3.003 | 1.000     | 6840.0    | 42.0       | 2.829        | 1.142        | 0.258       | 0.0                | 0              | ∞                  |
| 3.004 | 1.004     | 17.7      | 42.0       | 2.192        | 1.847        | 0.258       | 0.0                | 150            | 1.022              |
| 1.007 | 1.004     | 17.7      | 97.7       | 1.847        | 1.673        | 0.608       | 0.0                | 150            | 1.023              |
| 1.008 | 1.000     | 2090.0    | 104.1      | 1.574        | 0.837        | 0.664       | 0.0                | 0              | ∞                  |
| 1.009 | 1.065     | 42.4      | 101.9      | 1.012        | 0.786        | 0.664       | 0.0                | 225            | 1.085              |
| 1.010 | 1.056     | 42.0      | 101.5      | 0.786        | 0.860        | 0.664       | 0.0                | 225            | 1.076              |
| 1.011 | 1.283     | 51.0      | 100.9      | 0.860        | 0.792        | 0.664       | 0.0                | 225            | 1.307              |

### Pipeline Schedule

| Link  | Length (m) | Slope (1:X) | Dia (mm) | Link Type       | US CL (m) | US IL (m) | US Depth (m) | DS CL (m) | DS IL (m) | DS Depth (m) |
|-------|------------|-------------|----------|-----------------|-----------|-----------|--------------|-----------|-----------|--------------|
| 1.000 | 31.301     | 28.6        | 150      | Circular        | 68.498    | 67.148    | 1.200        | 67.806    | 66.054    | 1.602        |
| 2.000 | 19.745     | 100.7       | 150      | Circular        | 67.600    | 66.250    | 1.200        | 67.806    | 66.054    | 1.602        |
| 1.001 | 51.233     | 13.6        | 150      | Circular        | 67.806    | 66.054    | 1.602        | 63.738    | 62.300    | 1.288        |
| 1.002 | 19.062     | 10.6        | 150      | Circular        | 63.738    | 62.300    | 1.288        | 61.844    | 60.494    | 1.200        |
| 1.003 | 8.332      | 12.9        | 150      | Circular        | 61.844    | 60.494    | 1.200        | 61.200    | 59.850    | 1.200        |
| 1.004 | 10.693     | 16.7        | 225      | Circular        | 61.200    | 59.775    | 1.200        | 60.561    | 59.136    | 1.200        |
| 1.005 | 30.000     | 0.0         | 2850     | Storage Crate 5 | 60.561    | 58.250    | 1.111        | 60.377    | 58.250    | 0.927        |
| 1.006 | 11.622     | 79.1        | 150      | Circular        | 60.377    | 58.250    | 1.977        | 60.100    | 58.103    | 1.847        |
| 3.000 | 16.755     | 27.7        | 150      | Circular        | 66.617    | 65.267    | 1.200        | 66.012    | 64.662    | 1.200        |

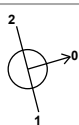
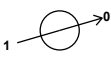
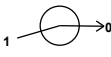
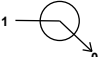
| Link  | US Node | Dia (mm) | Node Type | MH Type   | DS Node | Dia (mm) | Node Type | MH Type   |
|-------|---------|----------|-----------|-----------|---------|----------|-----------|-----------|
| 1.000 | 1       | 1200     | Manhole   | Adoptable | 3       | 1200     | Manhole   | Adoptable |
| 2.000 | 2       | 1200     | Manhole   | Adoptable | 3       | 1200     | Manhole   | Adoptable |
| 1.001 | 3       | 1200     | Manhole   | Adoptable | 4       | 1200     | Manhole   | Adoptable |
| 1.002 | 4       | 1200     | Manhole   | Adoptable | 5       | 1200     | Manhole   | Adoptable |
| 1.003 | 5       | 1200     | Manhole   | Adoptable | 6       | 1200     | Manhole   | Adoptable |
| 1.004 | 6       | 1200     | Manhole   | Adoptable | 7       | 1200     | Manhole   | Adoptable |
| 1.005 | 7       | 1200     | Manhole   | Adoptable | 8       | 1200     | Manhole   | Adoptable |
| 1.006 | 8       | 1200     | Manhole   | Adoptable | 14      | 1200     | Manhole   | Adoptable |
| 3.000 | 9       | 1200     | Manhole   | Adoptable | 10      | 1200     | Manhole   | Adoptable |

### Pipeline Schedule

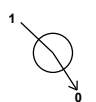
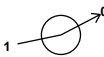
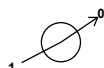
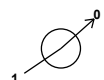
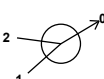
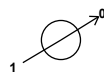
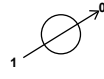
| Link  | Length<br>(m) | Slope<br>(1:X) | Dia<br>(mm) | Link<br>Type    | US CL<br>(m) | US IL<br>(m) | US Depth<br>(m) | DS CL<br>(m) | DS IL<br>(m) | DS Depth<br>(m) |
|-------|---------------|----------------|-------------|-----------------|--------------|--------------|-----------------|--------------|--------------|-----------------|
| 3.001 | 47.365        | 13.9           | 150         | Circular        | 66.012       | 64.662       | 1.200           | 62.600       | 61.250       | 1.200           |
| 3.002 | 4.960         | 2.8            | 225         | Circular        | 62.600       | 61.250       | 1.125           | 62.229       | 59.500       | 2.504           |
| 3.003 | 25.001        | 0.0            | 5700        | Storage Crate 6 | 62.229       | 58.200       | 2.829           | 60.542       | 58.200       | 1.142           |
| 3.004 | 9.718         | 100.2          | 150         | Circular        | 60.542       | 58.200       | 2.192           | 60.100       | 58.103       | 1.847           |
| 1.007 | 5.202         | 100.0          | 150         | Circular        | 60.100       | 58.103       | 1.847           | 59.874       | 58.051       | 1.673           |
| 1.008 | 20.000        | 0.0            | 5225        | Storage Crate 7 | 59.874       | 57.900       | 1.574           | 59.137       | 57.900       | 0.837           |
| 1.009 | 20.542        | 149.9          | 225         | Circular        | 59.137       | 57.900       | 1.012           | 58.774       | 57.763       | 0.786           |
| 1.010 | 3.964         | 152.5          | 225         | Circular        | 58.774       | 57.763       | 0.786           | 58.822       | 57.737       | 0.860           |
| 1.011 | 6.430         | 103.7          | 225         | Circular        | 58.822       | 57.737       | 0.860           | 58.692       | 57.675       | 0.792           |

| 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 |
|-------|------------|-------------|--------------|------------|------------|-------------|--------------|------------|
| 3.001 | 10         | 1200        | Manhole      | Adoptable  | 11         | 1200        | Manhole      | Adoptable  |
| 3.002 | 11         | 1200        | Manhole      | Adoptable  | 12         | 1200        | Manhole      | Adoptable  |
| 3.003 | 12         | 1200        | Manhole      | Adoptable  | 13         | 1200        | Manhole      | Adoptable  |
| 3.004 | 13         | 1200        | Manhole      | Adoptable  | 14         | 1200        | Manhole      | Adoptable  |
| 1.007 | 14         | 1200        | Manhole      | Adoptable  | 15         | 1200        | Manhole      | Adoptable  |
| 1.008 | 15         | 1200        | Manhole      | Adoptable  | 16         | 1200        | Manhole      | Adoptable  |
| 1.009 | 16         | 1200        | Manhole      | Adoptable  | 17         | 1200        | Manhole      | Adoptable  |
| 1.010 | 17         | 1200        | Manhole      | Adoptable  | 18         | 1200        | Manhole      | Adoptable  |
| 1.011 | 18         | 1200        | Manhole      | Adoptable  | 18_OUT     | 1200        | Manhole      | Adoptable  |

### Manhole Schedule

| Node | Easting<br>(m) | Northing<br>(m) | CL<br>(m) | Depth<br>(m) | Dia<br>(mm) | Connections                                                                          | Link | IL<br>(m) | Dia<br>(mm) |     |
|------|----------------|-----------------|-----------|--------------|-------------|--------------------------------------------------------------------------------------|------|-----------|-------------|-----|
| 1    | 468495.463     | 112684.276      | 68.498    | 1.350        | 1200        |  | 0    | 1.000     | 67.148      | 150 |
| 2    | 468508.261     | 112634.860      | 67.600    | 1.350        | 1200        |  | 0    | 2.000     | 66.250      | 150 |
| 3    | 468503.362     | 112653.988      | 67.806    | 1.752        | 1200        |  | 1    | 2.000     | 66.054      | 150 |
|      |                |                 |           |              |             |                                                                                      | 2    | 1.000     | 66.054      | 150 |
|      |                |                 |           |              |             |                                                                                      | 0    | 1.001     | 66.054      | 150 |
| 4    | 468552.550     | 112668.320      | 63.738    | 1.438        | 1200        |  | 1    | 1.001     | 62.300      | 150 |
|      |                |                 |           |              |             |                                                                                      | 0    | 1.002     | 62.300      | 150 |
| 5    | 468570.851     | 112673.653      | 61.844    | 1.350        | 1200        |  | 1    | 1.002     | 60.494      | 150 |
|      |                |                 |           |              |             |                                                                                      | 0    | 1.003     | 60.494      | 150 |
| 6    | 468579.182     | 112673.551      | 61.200    | 1.425        | 1200        |  | 1    | 1.003     | 59.850      | 150 |
|      |                |                 |           |              |             |                                                                                      | 0    | 1.004     | 59.775      | 225 |

### Manhole Schedule

| Node   | Easting (m) | Northing (m) | CL (m) | Depth (m) | Dia (mm) | Connections                                                                          | Link    | IL (m) | Dia (mm) |
|--------|-------------|--------------|--------|-----------|----------|--------------------------------------------------------------------------------------|---------|--------|----------|
| 7      | 468586.951  | 112666.203   | 60.561 | 2.311     | 1200     |    | 1 1.004 | 59.136 | 225      |
|        |             |              |        |           |          |                                                                                      | 0 1.005 | 58.250 | 2850     |
| 8      | 468603.261  | 112641.024   | 60.377 | 2.127     | 1200     |    | 1 1.005 | 58.250 | 2850     |
|        |             |              |        |           |          |                                                                                      | 0 1.006 | 58.250 | 150      |
| 9      | 468530.122  | 112591.428   | 66.617 | 1.350     | 1200     |    | 0 3.000 | 65.267 | 150      |
| 10     | 468536.042  | 112607.102   | 66.012 | 1.350     | 1200     |    | 1 3.000 | 64.662 | 150      |
|        |             |              |        |           |          |                                                                                      | 0 3.001 | 64.662 | 150      |
| 11     | 468582.421  | 112616.717   | 62.600 | 1.350     | 1200     |    | 1 3.001 | 61.250 | 150      |
|        |             |              |        |           |          |                                                                                      | 0 3.002 | 61.250 | 225      |
| 12     | 468586.820  | 112619.008   | 62.229 | 4.029     | 1200     |  | 1 3.002 | 59.500 | 225      |
|        |             |              |        |           |          |                                                                                      | 0 3.003 | 58.200 | 5700     |
| 13     | 468607.521  | 112633.026   | 60.542 | 2.342     | 1200     |  | 1 3.003 | 58.200 | 5700     |
|        |             |              |        |           |          |                                                                                      | 0 3.004 | 58.200 | 150      |
| 14     | 468614.781  | 112639.486   | 60.100 | 1.997     | 1200     |  | 1 3.004 | 58.103 | 150      |
|        |             |              |        |           |          |                                                                                      | 2 1.006 | 58.103 | 150      |
|        |             |              |        |           |          |                                                                                      | 0 1.007 | 58.103 | 150      |
| 15     | 468619.251  | 112642.146   | 59.874 | 1.974     | 1200     |  | 1 1.007 | 58.051 | 150      |
|        |             |              |        |           |          |                                                                                      | 0 1.008 | 57.900 | 5225     |
| 16     | 468636.244  | 112652.693   | 59.137 | 1.237     | 1200     |  | 1 1.008 | 57.900 | 5225     |
|        |             |              |        |           |          |                                                                                      | 0 1.009 | 57.900 | 225      |
| 17     | 468653.741  | 112663.455   | 58.774 | 1.011     | 1200     |  | 1 1.009 | 57.763 | 225      |
|        |             |              |        |           |          |                                                                                      | 0 1.010 | 57.763 | 225      |
| 18     | 468652.567  | 112667.241   | 58.822 | 1.085     | 1200     |  | 1 1.010 | 57.737 | 225      |
|        |             |              |        |           |          |                                                                                      | 0 1.011 | 57.737 | 225      |
| 18_OUT | 468658.090  | 112670.534   | 58.692 | 1.017     | 1200     |  | 1 1.011 | 57.675 | 225      |

### Simulation Settings

|                      |        |                        |          |                            |      |
|----------------------|--------|------------------------|----------|----------------------------|------|
| Rainfall Methodology | FEH-13 | Analysis Speed         | Detailed | Additional Storage (m³/ha) | 20.0 |
| Summer CV            | 0.900  | Skip Steady State      | x        | Check Discharge Rate(s)    | x    |
| Winter CV            | 0.950  | Drain Down Time (mins) | 2000     | Check Discharge Volume     | x    |

### Storm Durations

|    |    |    |     |     |     |     |     |     |     |     |      |
|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440 |
|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|

| Return Period<br>(years) | Climate Change<br>(CC %) | Additional Area<br>(A %) | Additional Flow<br>(Q %) |
|--------------------------|--------------------------|--------------------------|--------------------------|
| 2                        | 0                        | 0                        | 0                        |
| 10                       | 0                        | 0                        | 0                        |
| 30                       | 0                        | 0                        | 0                        |
| 30                       | 40                       | 0                        | 0                        |
| 100                      | 40                       | 0                        | 0                        |

### Node 4 Online Hydro-Brake® Control

|                          |        |                         |                                |
|--------------------------|--------|-------------------------|--------------------------------|
| Flap Valve               | x      | Objective               | (HE) Minimise upstream storage |
| Replaces Downstream Link | ✓      | Sump Available          | ✓                              |
| Invert Level (m)         | 62.300 | Product Number          | CTL-SHE-0064-2000-1200-2000    |
| Design Depth (m)         | 1.200  | Min Outlet Diameter (m) | 0.100                          |
| Design Flow (l/s)        | 2.0    | Min Node Diameter (mm)  | 1200                           |

### Node 8 Online Hydro-Brake® Control

|                          |        |                         |                                |
|--------------------------|--------|-------------------------|--------------------------------|
| Flap Valve               | x      | Objective               | (HE) Minimise upstream storage |
| Replaces Downstream Link | ✓      | Sump Available          | ✓                              |
| Invert Level (m)         | 58.250 | Product Number          | CTL-SHE-0077-2800-1200-2800    |
| Design Depth (m)         | 1.200  | Min Outlet Diameter (m) | 0.100                          |
| Design Flow (l/s)        | 2.8    | Min Node Diameter (mm)  | 1200                           |

### Node 13 Online Hydro-Brake® Control

|                          |        |                         |                                |
|--------------------------|--------|-------------------------|--------------------------------|
| Flap Valve               | x      | Objective               | (HE) Minimise upstream storage |
| Replaces Downstream Link | ✓      | Sump Available          | ✓                              |
| Invert Level (m)         | 58.200 | Product Number          | CTL-SHE-0069-2300-1200-2300    |
| Design Depth (m)         | 1.200  | Min Outlet Diameter (m) | 0.100                          |
| Design Flow (l/s)        | 2.3    | Min Node Diameter (mm)  | 1200                           |

### Node 17 Online Hydro-Brake® Control

|                          |        |                         |                                |
|--------------------------|--------|-------------------------|--------------------------------|
| Flap Valve               | x      | Objective               | (HE) Minimise upstream storage |
| Replaces Downstream Link | ✓      | Sump Available          | ✓                              |
| Invert Level (m)         | 57.763 | Product Number          | CTL-SHE-0113-5000-0400-5000    |
| Design Depth (m)         | 0.400  | Min Outlet Diameter (m) | 0.150                          |
| Design Flow (l/s)        | 5.0    | Min Node Diameter (mm)  | 1200                           |

### Node 4 Soakaway Storage Structure

|                             |         |                           |        |                 |       |
|-----------------------------|---------|---------------------------|--------|-----------------|-------|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m)          | 62.300 | Depth (m)       | 1.200 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 720    | Inf Depth (m)   |       |
| Safety Factor               | 2.0     | Pit Width (m)             | 9.000  | Number Required | 1     |
| Porosity                    | 0.95    | Pit Length (m)            | 14.000 |                 |       |

**Results for 2 year Critical Storm Duration. Lowest mass balance: 99.87%**

| Node Event        | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute summer  | 1       | 10          | 67.174    | 0.026     | 2.2          | 0.0344        | 0.0000     | OK         |
| 15 minute summer  | 2       | 10          | 66.318    | 0.068     | 6.7          | 0.1166        | 0.0000     | OK         |
| 15 minute summer  | 3       | 11          | 66.102    | 0.048     | 11.0         | 0.0618        | 0.0000     | OK         |
| 360 minute winter | 4       | 272         | 62.561    | 0.261     | 6.5          | 32.0425       | 0.0000     | SURCHARGED |
| 15 minute summer  | 5       | 11          | 60.534    | 0.040     | 7.0          | 0.0661        | 0.0000     | OK         |
| 15 minute summer  | 6       | 10          | 59.820    | 0.045     | 10.4         | 0.0641        | 0.0000     | OK         |
| 360 minute winter | 7       | 280         | 58.503    | 0.253     | 5.5          | 0.4454        | 0.0000     | OK         |
| 360 minute winter | 8       | 280         | 58.503    | 0.253     | 3.9          | 0.2857        | 0.0000     | SURCHARGED |
| 15 minute summer  | 9       | 11          | 65.287    | 0.020     | 1.3          | 0.0251        | 0.0000     | OK         |
| 15 minute summer  | 10      | 10          | 64.690    | 0.028     | 3.8          | 0.0384        | 0.0000     | OK         |
| 15 minute summer  | 11      | 10          | 61.305    | 0.055     | 32.7         | 0.2036        | 0.0000     | OK         |
| 360 minute winter | 12      | 272         | 58.463    | 0.263     | 7.5          | 0.3769        | 0.0000     | OK         |
| 360 minute winter | 13      | 272         | 58.463    | 0.263     | 4.7          | 0.2973        | 0.0000     | SURCHARGED |
| 360 minute winter | 14      | 280         | 58.160    | 0.057     | 4.7          | 0.0648        | 0.0000     | OK         |
| 360 minute winter | 15      | 336         | 58.000    | 0.100     | 8.2          | 0.1695        | 0.0000     | OK         |
| 360 minute winter | 16      | 352         | 57.999    | 0.099     | 13.1         | 0.1117        | 0.0000     | OK         |
| 360 minute winter | 17      | 256         | 58.024    | 0.261     | 11.2         | 0.2949        | 0.0000     | SURCHARGED |
| 240 minute summer | 18      | 184         | 57.787    | 0.050     | 5.0          | 0.0571        | 0.0000     | OK         |
| 180 minute winter | 18_OUT  | 156         | 57.722    | 0.047     | 5.0          | 0.0000        | 0.0000     | OK         |

| Link Event<br>(Upstream Depth) | US Node | Link         | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|--------------------------------|---------|--------------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute summer               | 1       | 1.000        | 3       | 2.2           | 0.639          | 0.065    | 0.1083        |                    |
| 15 minute summer               | 2       | 2.000        | 3       | 6.6           | 1.052          | 0.373    | 0.1243        |                    |
| 15 minute summer               | 3       | 1.001        | 4       | 10.8          | 2.217          | 0.224    | 0.4140        |                    |
| 360 minute winter              | 4       | Hydro-Brake® | 5       | 1.8           |                |          |               |                    |
| 15 minute summer               | 5       | 1.003        | 6       | 6.9           | 1.924          | 0.140    | 0.0301        |                    |
| 15 minute summer               | 6       | 1.004        | 7       | 10.3          | 1.886          | 0.080    | 0.0583        |                    |
| 360 minute winter              | 7       | 1.005        | 8       | 3.9           | 0.029          | 0.001    | 21.6005       |                    |
| 360 minute winter              | 8       | Hydro-Brake® | 14      | 2.6           |                |          |               |                    |
| 15 minute summer               | 9       | 3.000        | 10      | 1.3           | 0.707          | 0.038    | 0.0311        |                    |
| 15 minute summer               | 10      | 3.001        | 11      | 3.7           | 0.953          | 0.078    | 0.1929        |                    |
| 15 minute summer               | 11      | 3.002        | 12      | 32.6          | 4.758          | 0.105    | 0.0340        |                    |
| 360 minute winter              | 12      | 3.003        | 13      | 4.7           | 0.030          | 0.001    | 37.4615       |                    |
| 360 minute winter              | 13      | Hydro-Brake® | 14      | 2.1           |                |          |               |                    |
| 360 minute winter              | 14      | 1.007        | 15      | 4.7           | 0.810          | 0.267    | 0.0305        |                    |
| 360 minute winter              | 15      | 1.008        | 16      | 13.1          | 0.031          | 0.006    | 10.3368       |                    |
| 360 minute winter              | 16      | 1.009        | 17      | 11.2          | 0.400          | 0.265    | 0.5807        |                    |
| 360 minute winter              | 17      | Hydro-Brake® | 18      | 5.0           |                |          |               |                    |
| 240 minute summer              | 18      | 1.011        | 18_OUT  | 5.0           | 0.789          | 0.098    | 0.0408        | 136.9              |

**Results for 10 year Critical Storm Duration. Lowest mass balance: 99.87%**

| Node Event        | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute summer  | 1       | 10          | 67.183    | 0.035     | 4.0          | 0.0462        | 0.0000     | OK         |
| 15 minute summer  | 2       | 10          | 66.349    | 0.099     | 12.4         | 0.1701        | 0.0000     | OK         |
| 15 minute summer  | 3       | 11          | 66.121    | 0.067     | 20.2         | 0.0856        | 0.0000     | OK         |
| 240 minute winter | 4       | 232         | 62.761    | 0.461     | 13.3         | 56.6891       | 0.0000     | SURCHARGED |
| 15 minute summer  | 5       | 10          | 60.549    | 0.055     | 12.7         | 0.0920        | 0.0000     | OK         |
| 15 minute summer  | 6       | 10          | 59.837    | 0.062     | 19.1         | 0.0889        | 0.0000     | OK         |
| 360 minute winter | 7       | 336         | 58.665    | 0.415     | 7.6          | 0.7317        | 0.0000     | OK         |
| 360 minute winter | 8       | 336         | 58.665    | 0.415     | 5.1          | 0.4694        | 0.0000     | SURCHARGED |
| 15 minute summer  | 9       | 10          | 65.295    | 0.028     | 2.5          | 0.0344        | 0.0000     | OK         |
| 15 minute summer  | 10      | 10          | 64.701    | 0.039     | 7.1          | 0.0524        | 0.0000     | OK         |
| 15 minute summer  | 11      | 10          | 61.329    | 0.079     | 60.9         | 0.2921        | 0.0000     | OK         |
| 240 minute winter | 12      | 232         | 58.667    | 0.467     | 15.6         | 0.6699        | 0.0000     | OK         |
| 240 minute winter | 13      | 232         | 58.667    | 0.467     | 8.8          | 0.5283        | 0.0000     | SURCHARGED |
| 720 minute winter | 14      | 810         | 58.162    | 0.059     | 4.8          | 0.0671        | 0.0000     | OK         |
| 720 minute winter | 15      | 930         | 58.126    | 0.226     | 9.6          | 0.3837        | 0.0000     | OK         |
| 720 minute winter | 16      | 930         | 58.126    | 0.226     | 8.1          | 0.2556        | 0.0000     | SURCHARGED |
| 720 minute winter | 17      | 930         | 58.124    | 0.361     | 6.9          | 0.4083        | 0.0000     | SURCHARGED |
| 30 minute winter  | 18      | 96          | 57.787    | 0.050     | 5.0          | 0.0571        | 0.0000     | OK         |
| 30 minute summer  | 18_OUT  | 53          | 57.722    | 0.047     | 5.0          | 0.0000        | 0.0000     | OK         |

| Link Event<br>(Upstream Depth) | US Node | Link         | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|--------------------------------|---------|--------------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute summer               | 1       | 1.000        | 3       | 3.9           | 0.750          | 0.118    | 0.1674        |                    |
| 15 minute summer               | 2       | 2.000        | 3       | 12.2          | 1.228          | 0.692    | 0.1963        |                    |
| 15 minute summer               | 3       | 1.001        | 4       | 19.9          | 2.326          | 0.410    | 0.6303        |                    |
| 240 minute winter              | 4       | Hydro-Brake® | 5       | 1.8           |                |          |               |                    |
| 15 minute summer               | 5       | 1.003        | 6       | 12.6          | 2.249          | 0.254    | 0.0469        |                    |
| 15 minute summer               | 6       | 1.004        | 7       | 19.0          | 2.224          | 0.149    | 0.0916        |                    |
| 360 minute winter              | 7       | 1.005        | 8       | 5.1           | 0.037          | 0.001    | 35.4869       |                    |
| 360 minute winter              | 8       | Hydro-Brake® | 14      | 2.7           |                |          |               |                    |
| 15 minute summer               | 9       | 3.000        | 10      | 2.5           | 0.861          | 0.073    | 0.0486        |                    |
| 15 minute summer               | 10      | 3.001        | 11      | 7.0           | 1.103          | 0.145    | 0.3070        |                    |
| 15 minute summer               | 11      | 3.002        | 12      | 60.6          | 5.501          | 0.195    | 0.0547        |                    |
| 240 minute winter              | 12      | 3.003        | 13      | 8.8           | 0.042          | 0.001    | 66.5745       |                    |
| 240 minute winter              | 13      | Hydro-Brake® | 14      | 2.1           |                |          |               |                    |
| 720 minute winter              | 14      | 1.007        | 15      | 4.8           | 0.812          | 0.270    | 0.0392        |                    |
| 720 minute winter              | 15      | 1.008        | 16      | 8.1           | 0.023          | 0.004    | 23.6193       |                    |
| 720 minute winter              | 16      | 1.009        | 17      | 6.9           | 0.305          | 0.163    | 0.8167        |                    |
| 720 minute winter              | 17      | Hydro-Brake® | 18      | 5.0           |                |          |               |                    |
| 30 minute winter               | 18      | 1.011        | 18_OUT  | 5.0           | 0.789          | 0.098    | 0.0408        | 123.3              |

**Results for 30 year Critical Storm Duration. Lowest mass balance: 99.87%**

| Node Event         | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|--------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute summer   | 1       | 10          | 67.188    | 0.040     | 5.2          | 0.0528        | 0.0000     | OK         |
| 15 minute summer   | 2       | 10          | 66.370    | 0.120     | 16.0         | 0.2060        | 0.0000     | OK         |
| 15 minute summer   | 3       | 11          | 66.132    | 0.078     | 26.1         | 0.0997        | 0.0000     | OK         |
| 240 minute winter  | 4       | 236         | 62.912    | 0.612     | 16.5         | 75.3046       | 0.0000     | SURCHARGED |
| 15 minute summer   | 5       | 10          | 60.557    | 0.063     | 16.0         | 0.1053        | 0.0000     | OK         |
| 15 minute summer   | 6       | 10          | 59.846    | 0.071     | 24.4         | 0.1016        | 0.0000     | OK         |
| 240 minute winter  | 7       | 236         | 58.770    | 0.520     | 11.6         | 0.9166        | 0.0000     | OK         |
| 240 minute winter  | 8       | 236         | 58.770    | 0.520     | 7.1          | 0.5880        | 0.0000     | SURCHARGED |
| 15 minute summer   | 9       | 10          | 65.298    | 0.031     | 3.2          | 0.0388        | 0.0000     | OK         |
| 15 minute summer   | 10      | 10          | 64.706    | 0.044     | 9.2          | 0.0599        | 0.0000     | OK         |
| 15 minute summer   | 11      | 10          | 61.343    | 0.093     | 78.9         | 0.3433        | 0.0000     | OK         |
| 360 minute winter  | 12      | 352         | 58.820    | 0.620     | 14.2         | 0.8885        | 0.0000     | OK         |
| 360 minute winter  | 13      | 352         | 58.820    | 0.620     | 8.1          | 0.7008        | 0.0000     | SURCHARGED |
| 1440 minute winter | 14      | 1410        | 58.165    | 0.062     | 4.8          | 0.0699        | 0.0000     | OK         |
| 1440 minute winter | 15      | 1410        | 58.162    | 0.262     | 5.9          | 0.4452        | 0.0000     | OK         |
| 1440 minute winter | 16      | 1410        | 58.162    | 0.262     | 7.8          | 0.2966        | 0.0000     | SURCHARGED |
| 1440 minute winter | 17      | 1410        | 58.160    | 0.397     | 7.1          | 0.4490        | 0.0000     | SURCHARGED |
| 15 minute winter   | 18      | 57          | 57.787    | 0.050     | 5.0          | 0.0571        | 0.0000     | OK         |
| 15 minute winter   | 18_OUT  | 60          | 57.722    | 0.047     | 5.0          | 0.0000        | 0.0000     | OK         |

| Link Event (Upstream Depth) | US Node | Link         | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|-----------------------------|---------|--------------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute summer            | 1       | 1.000        | 3       | 5.2           | 0.806          | 0.154    | 0.2031        |                    |
| 15 minute summer            | 2       | 2.000        | 3       | 15.8          | 1.284          | 0.892    | 0.2397        |                    |
| 15 minute summer            | 3       | 1.001        | 4       | 25.8          | 2.354          | 0.533    | 0.6877        |                    |
| 240 minute winter           | 4       | Hydro-Brake® | 5       | 1.8           |                |          |               |                    |
| 15 minute summer            | 5       | 1.003        | 6       | 16.0          | 2.382          | 0.321    | 0.0558        |                    |
| 15 minute summer            | 6       | 1.004        | 7       | 24.2          | 2.368          | 0.190    | 0.1095        |                    |
| 240 minute winter           | 7       | 1.005        | 8       | 7.1           | 0.046          | 0.002    | 44.4573       |                    |
| 240 minute winter           | 8       | Hydro-Brake® | 14      | 2.7           |                |          |               |                    |
| 15 minute summer            | 9       | 3.000        | 10      | 3.2           | 0.920          | 0.094    | 0.0583        |                    |
| 15 minute summer            | 10      | 3.001        | 11      | 9.1           | 1.168          | 0.189    | 0.3728        |                    |
| 15 minute summer            | 11      | 3.002        | 12      | 78.5          | 5.812          | 0.252    | 0.0671        |                    |
| 360 minute winter           | 12      | 3.003        | 13      | 8.1           | 0.031          | 0.001    | 88.3043       |                    |
| 360 minute winter           | 13      | Hydro-Brake® | 14      | 2.1           |                |          |               |                    |
| 1440 minute winter          | 14      | 1.007        | 15      | 4.8           | 0.812          | 0.270    | 0.0542        |                    |
| 1440 minute winter          | 15      | 1.008        | 16      | 7.8           | 0.021          | 0.004    | 27.4035       |                    |
| 1440 minute winter          | 16      | 1.009        | 17      | 7.1           | 0.304          | 0.168    | 0.8170        |                    |
| 1440 minute winter          | 17      | Hydro-Brake® | 18      | 5.0           |                |          |               |                    |
| 15 minute winter            | 18      | 1.011        | 18_OUT  | 5.0           | 0.789          | 0.098    | 0.0408        | 120.9              |

**Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.87%**

| Node Event        | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute summer  | 1       | 10          | 67.195    | 0.047     | 7.3          | 0.0629        | 0.0000     | OK         |
| 15 minute summer  | 2       | 11          | 66.524    | 0.274     | 22.5         | 0.4721        | 0.0000     | SURCHARGED |
| 15 minute summer  | 3       | 11          | 66.149    | 0.095     | 35.3         | 0.1215        | 0.0000     | OK         |
| 360 minute winter | 4       | 352         | 63.219    | 0.919     | 17.0         | 113.0051      | 0.0000     | SURCHARGED |
| 15 minute summer  | 5       | 10          | 60.571    | 0.077     | 21.9         | 0.1276        | 0.0000     | OK         |
| 15 minute summer  | 6       | 10          | 59.861    | 0.086     | 33.6         | 0.1220        | 0.0000     | OK         |
| 720 minute winter | 7       | 705         | 59.104    | 0.854     | 7.5          | 1.5057        | 0.0000     | OK         |
| 720 minute winter | 8       | 705         | 59.104    | 0.854     | 5.1          | 0.9659        | 0.0000     | SURCHARGED |
| 15 minute summer  | 9       | 10          | 65.304    | 0.037     | 4.5          | 0.0460        | 0.0000     | OK         |
| 15 minute summer  | 10      | 10          | 64.715    | 0.053     | 12.9         | 0.0714        | 0.0000     | OK         |
| 15 minute summer  | 11      | 10          | 61.366    | 0.116     | 110.4        | 0.4295        | 0.0000     | OK         |
| 480 minute winter | 12      | 464         | 59.132    | 0.932     | 15.8         | 1.3361        | 0.0000     | OK         |
| 480 minute winter | 13      | 464         | 59.132    | 0.932     | 8.9          | 1.0538        | 0.0000     | SURCHARGED |
| 360 minute winter | 14      | 344         | 58.181    | 0.078     | 4.8          | 0.0886        | 0.0000     | OK         |
| 360 minute winter | 15      | 344         | 58.180    | 0.280     | 9.0          | 0.4746        | 0.0000     | OK         |
| 360 minute winter | 16      | 344         | 58.180    | 0.280     | 10.7         | 0.3161        | 0.0000     | SURCHARGED |
| 360 minute winter | 17      | 344         | 58.177    | 0.414     | 7.9          | 0.4685        | 0.0000     | SURCHARGED |
| 720 minute winter | 18      | 300         | 57.787    | 0.050     | 5.0          | 0.0571        | 0.0000     | OK         |
| 180 minute summer | 18_OUT  | 1168        | 57.722    | 0.047     | 5.0          | 0.0000        | 0.0000     | OK         |

| Link Event<br>(Upstream Depth) | US Node | Link         | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|--------------------------------|---------|--------------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute summer               | 1       | 1.000        | 3       | 7.2           | 0.896          | 0.217    | 0.2575        |                    |
| 15 minute summer               | 2       | 2.000        | 3       | 21.2          | 1.363          | 1.199    | 0.2899        |                    |
| 15 minute summer               | 3       | 1.001        | 4       | 35.3          | 2.366          | 0.728    | 0.7523        |                    |
| 360 minute winter              | 4       | Hydro-Brake® | 5       | 1.8           |                |          |               |                    |
| 15 minute summer               | 5       | 1.003        | 6       | 21.8          | 2.562          | 0.439    | 0.0710        |                    |
| 15 minute summer               | 6       | 1.004        | 7       | 33.5          | 2.567          | 0.262    | 0.1396        |                    |
| 720 minute winter              | 7       | 1.005        | 8       | 5.1           | 0.029          | 0.001    | 73.0257       |                    |
| 720 minute winter              | 8       | Hydro-Brake® | 14      | 2.7           |                |          |               |                    |
| 15 minute summer               | 9       | 3.000        | 10      | 4.5           | 1.013          | 0.132    | 0.0744        |                    |
| 15 minute summer               | 10      | 3.001        | 11      | 12.7          | 1.255          | 0.265    | 0.4765        |                    |
| 15 minute summer               | 11      | 3.002        | 12      | 109.9         | 6.202          | 0.353    | 0.0880        |                    |
| 480 minute winter              | 12      | 3.003        | 13      | 8.9           | 0.033          | 0.001    | 132.7838      |                    |
| 480 minute winter              | 13      | Hydro-Brake® | 14      | 2.1           |                |          |               |                    |
| 360 minute winter              | 14      | 1.007        | 15      | 4.8           | 0.812          | 0.269    | 0.0660        |                    |
| 360 minute winter              | 15      | 1.008        | 16      | 10.7          | 0.025          | 0.005    | 29.2142       |                    |
| 360 minute winter              | 16      | 1.009        | 17      | 7.9           | 0.313          | 0.186    | 0.8170        |                    |
| 360 minute winter              | 17      | Hydro-Brake® | 18      | 5.0           |                |          |               |                    |
| 720 minute winter              | 18      | 1.011        | 18_OUT  | 5.0           | 0.788          | 0.098    | 0.0408        | 511.7              |

**Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.87%**

| Node Event        | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute summer  | 1       | 10          | 67.201    | 0.053     | 9.1          | 0.0706        | 0.0000     | OK         |
| 15 minute summer  | 2       | 11          | 66.707    | 0.457     | 28.1         | 0.7875        | 0.0000     | SURCHARGED |
| 15 minute summer  | 3       | 11          | 66.165    | 0.111     | 43.6         | 0.1423        | 0.0000     | OK         |
| 480 minute winter | 4       | 464         | 63.463    | 1.163     | 16.5         | 143.0255      | 0.0000     | FLOOD RISK |
| 15 minute summer  | 5       | 10          | 60.582    | 0.088     | 27.1         | 0.1466        | 0.0000     | OK         |
| 15 minute summer  | 6       | 10          | 59.872    | 0.097     | 41.7         | 0.1388        | 0.0000     | OK         |
| 720 minute winter | 7       | 705         | 59.332    | 1.082     | 8.6          | 1.9084        | 0.0000     | OK         |
| 720 minute winter | 8       | 705         | 59.332    | 1.082     | 5.5          | 1.2243        | 0.0000     | SURCHARGED |
| 15 minute summer  | 9       | 10          | 65.308    | 0.041     | 5.6          | 0.0514        | 0.0000     | OK         |
| 15 minute summer  | 10      | 10          | 64.722    | 0.060     | 16.2         | 0.0808        | 0.0000     | OK         |
| 15 minute summer  | 11      | 10          | 61.386    | 0.136     | 138.4        | 0.5061        | 0.0000     | OK         |
| 480 minute winter | 12      | 464         | 59.380    | 1.180     | 19.3         | 1.6917        | 0.0000     | OK         |
| 480 minute winter | 13      | 464         | 59.380    | 1.180     | 10.5         | 1.3342        | 0.0000     | SURCHARGED |
| 480 minute winter | 14      | 464         | 58.260    | 0.157     | 4.9          | 0.1776        | 0.0000     | SURCHARGED |
| 480 minute winter | 15      | 464         | 58.254    | 0.354     | 8.7          | 0.6010        | 0.0000     | OK         |
| 480 minute winter | 16      | 464         | 58.254    | 0.354     | 14.1         | 0.4003        | 0.0000     | SURCHARGED |
| 480 minute winter | 17      | 464         | 58.251    | 0.488     | 9.8          | 0.5522        | 0.0000     | SURCHARGED |
| 480 minute winter | 18      | 464         | 57.789    | 0.052     | 5.3          | 0.0591        | 0.0000     | OK         |
| 480 minute winter | 18_OUT  | 464         | 57.724    | 0.049     | 5.3          | 0.0000        | 0.0000     | OK         |

| Link Event<br>(Upstream Depth) | US Node | Link         | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|--------------------------------|---------|--------------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute summer               | 1       | 1.000        | 3       | 9.0           | 0.962          | 0.270    | 0.3051        |                    |
| 15 minute summer               | 2       | 2.000        | 3       | 26.1          | 1.541          | 1.478    | 0.3121        |                    |
| 15 minute summer               | 3       | 1.001        | 4       | 43.6          | 2.568          | 0.899    | 0.8097        |                    |
| 480 minute winter              | 4       | Hydro-Brake® | 5       | 2.0           |                |          |               |                    |
| 15 minute summer               | 5       | 1.003        | 6       | 26.9          | 2.679          | 0.542    | 0.0838        |                    |
| 15 minute summer               | 6       | 1.004        | 7       | 41.6          | 2.703          | 0.325    | 0.1646        |                    |
| 720 minute winter              | 7       | 1.005        | 8       | 5.5           | 0.032          | 0.002    | 92.5587       |                    |
| 720 minute winter              | 8       | Hydro-Brake® | 14      | 2.7           |                |          |               |                    |
| 15 minute summer               | 9       | 3.000        | 10      | 5.6           | 1.072          | 0.164    | 0.0875        |                    |
| 15 minute summer               | 10      | 3.001        | 11      | 16.0          | 1.319          | 0.334    | 0.5531        |                    |
| 15 minute summer               | 11      | 3.002        | 12      | 137.8         | 6.439          | 0.443    | 0.1061        |                    |
| 480 minute winter              | 12      | 3.003        | 13      | 10.5          | 0.028          | 0.002    | 168.1245      |                    |
| 480 minute winter              | 13      | Hydro-Brake® | 14      | 2.2           |                |          |               |                    |
| 480 minute winter              | 14      | 1.007        | 15      | 4.9           | 0.812          | 0.275    | 0.0916        |                    |
| 480 minute winter              | 15      | 1.008        | 16      | 14.1          | 0.028          | 0.007    | 36.9933       |                    |
| 480 minute winter              | 16      | 1.009        | 17      | 9.8           | 0.318          | 0.232    | 0.8170        |                    |
| 480 minute winter              | 17      | Hydro-Brake® | 18      | 5.3           |                |          |               |                    |
| 480 minute winter              | 18      | 1.011        | 18_OUT  | 5.3           | 0.803          | 0.105    | 0.0428        | 566.7              |