

### Design Settings

|                       |                   |                                      |               |
|-----------------------|-------------------|--------------------------------------|---------------|
| Rainfall Methodology  | FSR               | Maximum Time of Concentration (mins) | 30.00         |
| Return Period (years) | 2                 | Maximum Rainfall (mm/hr)             | 50.0          |
| Additional Flow (%)   | 0                 | Minimum Velocity (m/s)               | 1.00          |
| FSR Region            | England and Wales | Connection Type                      | Level Soffits |
| M5-60 (mm)            | 20.000            | Minimum Backdrop Height (m)          | 9.900         |
| Ratio-R               | 0.400             | Preferred Cover Depth (m)            | 1.500         |
| CV                    | 0.750             | Include Intermediate Ground          | ✓             |
| Time of Entry (mins)  | 5.00              | Enforce best practice design rules   | ✓             |

### 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    | 0.018        | 5.00             | 117.950               | 1200             | 442544.663     | 292066.062      | 1.450        |
| 1A   | 0.018        | 5.00             | 118.250               | 1200             | 442549.684     | 292043.113      | 2.157        |
| 18   | 0.118        | 5.00             | 118.867               | 1200             | 442583.701     | 292024.196      | 2.280        |
| 2    | 0.194        | 5.00             | 118.096               | 1200             | 442555.265     | 292017.603      | 2.455        |
| 2A   | 0.122        | 5.00             | 117.750               | 1200             | 442561.689     | 291983.520      | 2.754        |
| 19   | 0.068        | 5.00             | 118.039               | 1200             | 442609.459     | 291969.648      | 1.919        |
| 20   | 0.082        | 5.00             | 117.711               | 1200             | 442586.971     | 291963.090      | 2.199        |
| 3    | 0.027        | 5.00             | 117.423               | 1200             | 442567.670     | 291961.582      | 2.923        |
| 4    | 0.043        | 5.00             | 116.747               | 1200             | 442565.426     | 291941.482      | 2.747        |
| 5A   | 0.075        | 5.00             | 115.452               | 1200             | 442531.014     | 291925.132      | 2.271        |
| 5    | 0.012        | 5.00             | 115.271               | 1200             | 442555.936     | 291929.955      | 1.471        |
| 6    | 0.071        | 5.00             | 114.569               | 1500             | 442507.184     | 291920.531      | 1.969        |
| 6A   | 0.102        | 5.00             | 112.950               | 1500             | 442473.167     | 291916.331      | 2.300        |
| 7    | 0.065        | 5.00             | 112.051               | 1500             | 442443.660     | 291912.688      | 2.051        |
| 8    | 0.150        | 5.00             | 110.061               | 1500             | 442447.199     | 291867.277      | 2.111        |
| 9    | 0.109        | 5.00             | 108.890               | 1500             | 442443.659     | 291836.262      | 2.390        |
| 21   | 0.093        | 5.00             | 115.157               | 1200             | 442572.711     | 291903.705      | 2.357        |
| 21A  | 0.121        | 5.00             | 113.750               | 1200             | 442589.762     | 291877.894      | 2.285        |
| 22   | 0.029        | 5.00             | 113.125               | 1200             | 442605.739     | 291849.721      | 2.325        |
| 23   | 0.092        | 5.00             | 112.000               | 1500             | 442579.827     | 291843.947      | 1.900        |
| 24   | 0.040        | 5.00             | 110.650               | 1500             | 442526.697     | 291831.449      | 2.250        |
| 26   | 0.103        | 5.00             | 113.301               | 1200             | 442507.019     | 291887.368      | 2.801        |
| 26A  | 0.072        | 5.00             | 112.298               | 1200             | 442508.059     | 291864.575      | 2.508        |
| 27   | 0.027        | 5.00             | 111.519               | 1500             | 442509.409     | 291839.277      | 3.719        |
| 25   | 0.046        | 5.00             | 109.800               | 1500             | 442495.963     | 291826.381      | 2.217        |
| 25A  | 0.037        | 5.00             | 108.500               | 1500             | 442462.556     | 291818.656      | 2.174        |
| 10   | 0.014        | 5.00             | 108.318               | 1500             | 442437.280     | 291813.247      | 2.885        |
| 11   | 0.000        |                  | 108.243               | 1500             | 442389.304     | 291806.111      | 3.318        |
| 28A  | 0.065        | 5.00             | 111.588               | 1200             | 442404.275     | 291914.001      | 1.813        |
| 28   | 0.114        | 5.00             | 111.400               | 1200             | 442385.631     | 291913.591      | 1.900        |
| 29   | 0.037        | 5.00             | 111.050               | 1200             | 442368.989     | 291908.199      | 2.050        |
| 30   | 0.056        | 5.00             | 110.600               | 1200             | 442371.589     | 291878.590      | 2.200        |
| 12   | 0.000        |                  | 107.997               | 1500             | 442335.519     | 291829.025      | 3.497        |
| 13   | 0.000        |                  | 105.500               | 1500             | 442317.961     | 291800.790      | 1.400        |
| 14   | 0.000        |                  | 105.500               | 1500             | 442326.815     | 291777.109      | 1.500        |
| 15   | 0.000        |                  | 105.500               | 1500             | 442324.487     | 291766.573      | 1.700        |
| 16   | 0.000        |                  | 103.800               | 1500             | 442331.838     | 291751.075      | 0.700        |
| 17   |              |                  | 103.800               | 1500             | 442337.517     | 291747.588      | 0.800        |
| 31   | 0.233        | 5.00             | 113.000               | 1200             | 442661.783     | 291880.328      | 1.200        |
| 32   | 0.064        | 5.00             | 112.600               | 1200             | 442627.885     | 291859.867      | 1.400        |

### 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) |
|--------|---------|---------|------------|-------------|-----------|-----------|----------|-------------|----------|---------------|--------------|
| 1.000  | 1       | 1A      | 23.492     | 0.600       | 116.500   | 116.093   | 0.407    | 57.7        | 225      | 5.23          | 50.0         |
| 1.000A | 1A      | 2       | 26.113     | 0.600       | 116.093   | 115.641   | 0.452    | 57.8        | 225      | 5.48          | 50.0         |
| 2.000  | 18      | 2       | 29.190     | 0.600       | 116.587   | 115.642   | 0.945    | 30.9        | 225      | 5.21          | 50.0         |
| 1.001  | 2       | 2A      | 34.683     | 0.600       | 115.641   | 114.996   | 0.645    | 53.8        | 225      | 5.80          | 50.0         |
| 1.002  | 2A      | 3       | 22.739     | 0.600       | 114.996   | 114.574   | 0.422    | 53.9        | 225      | 6.02          | 50.0         |
| 3.000  | 19      | 20      | 23.425     | 0.600       | 116.120   | 115.512   | 0.608    | 38.5        | 225      | 5.18          | 50.0         |
| 3.001  | 20      | 3       | 19.360     | 0.600       | 115.512   | 114.500   | 1.012    | 19.1        | 225      | 5.29          | 50.0         |
| 1.003  | 3       | 4       | 20.225     | 0.600       | 114.500   | 114.000   | 0.500    | 40.4        | 300      | 6.15          | 50.0         |
| 1.004  | 4       | 5       | 14.931     | 0.600       | 114.000   | 113.800   | 0.200    | 74.7        | 300      | 6.29          | 50.0         |
| 1.005  | 5       | 5A      | 25.384     | 0.600       | 113.800   | 113.181   | 0.619    | 41.0        | 300      | 6.46          | 50.0         |
| 1.006  | 5A      | 6       | 24.270     | 0.600       | 113.181   | 112.750   | 0.431    | 56.3        | 300      | 6.65          | 50.0         |
| 1.007  | 6       | 6A      | 34.275     | 0.600       | 112.600   | 110.650   | 1.950    | 17.6        | 450      | 6.77          | 50.0         |
| 1.007A | 6A      | 7       | 29.731     | 0.600       | 110.650   | 110.000   | 0.650    | 45.7        | 450      | 6.93          | 50.0         |
| 1.008  | 7       | 8       | 45.549     | 0.600       | 110.000   | 107.950   | 2.050    | 22.2        | 450      | 7.11          | 50.0         |
| 1.009  | 8       | 9       | 31.216     | 0.600       | 107.950   | 106.500   | 1.450    | 21.5        | 450      | 7.23          | 50.0         |
| 1.010  | 9       | 10      | 23.883     | 0.600       | 106.500   | 105.433   | 1.067    | 22.4        | 450      | 7.32          | 50.0         |
| 4.000  | 21      | 21A     | 30.935     | 0.600       | 112.800   | 111.465   | 1.335    | 23.2        | 225      | 5.19          | 50.0         |
| 4.001  | 21A     | 22      | 32.388     | 0.600       | 111.465   | 110.875   | 0.590    | 54.9        | 225      | 5.49          | 50.0         |
| 4.002  | 22      | 23      | 26.548     | 0.600       | 110.800   | 110.100   | 0.700    | 37.9        | 300      | 5.71          | 50.0         |
| 4.003  | 23      | 24      | 54.580     | 0.600       | 110.100   | 108.400   | 1.700    | 32.1        | 375      | 6.00          | 50.0         |
| 4.004  | 24      | 27      | 18.978     | 0.600       | 108.400   | 107.800   | 0.600    | 31.6        | 375      | 6.10          | 50.0         |
| 5.000  | 26      | 26A     | 22.817     | 0.600       | 110.500   | 109.790   | 0.710    | 32.1        | 225      | 5.16          | 50.0         |
| 5.000A | 26A     | 27      | 25.334     | 0.600       | 109.790   | 107.800   | 1.990    | 12.7        | 225      | 5.28          | 50.0         |
| 5.001  | 27      | 25      | 18.631     | 0.600       | 107.800   | 107.658   | 0.142    | 131.2       | 375      | 6.29          | 50.0         |

| 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) |
|--------|-----------|-----------|------------|--------------|--------------|-------------|--------------------|----------------|--------------------|
| 1.000  | 1.725     | 68.6      | 2.4        | 1.225        | 1.932        | 0.018       | 0.0                | 29             | 0.812              |
| 1.000A | 1.724     | 68.5      | 4.9        | 1.932        | 2.230        | 0.036       | 0.0                | 40             | 0.999              |
| 2.000  | 2.362     | 93.9      | 16.0       | 2.055        | 2.229        | 0.118       | 0.0                | 63             | 1.778              |
| 1.001  | 1.787     | 71.1      | 47.2       | 2.230        | 2.529        | 0.348       | 0.0                | 134            | 1.907              |
| 1.002  | 1.785     | 71.0      | 63.7       | 2.529        | 2.624        | 0.470       | 0.0                | 167            | 2.012              |
| 3.000  | 2.114     | 84.0      | 9.2        | 1.694        | 1.974        | 0.068       | 0.0                | 50             | 1.393              |
| 3.001  | 3.005     | 119.5     | 20.3       | 1.974        | 2.698        | 0.150       | 0.0                | 63             | 2.262              |
| 1.003  | 2.479     | 175.2     | 87.7       | 2.623        | 2.447        | 0.647       | 0.0                | 150            | 2.481              |
| 1.004  | 1.821     | 128.7     | 93.5       | 2.447        | 1.171        | 0.690       | 0.0                | 190            | 1.980              |
| 1.005  | 2.462     | 174.0     | 95.1       | 1.171        | 1.971        | 0.702       | 0.0                | 158            | 2.516              |
| 1.006  | 2.099     | 148.4     | 105.3      | 1.971        | 1.519        | 0.777       | 0.0                | 187            | 2.271              |
| 1.007  | 4.867     | 774.0     | 114.9      | 1.519        | 1.850        | 0.848       | 0.0                | 116            | 3.538              |
| 1.007A | 3.012     | 479.0     | 128.7      | 1.850        | 1.601        | 0.950       | 0.0                | 159            | 2.571              |
| 1.008  | 4.327     | 688.2     | 137.6      | 1.601        | 1.661        | 1.015       | 0.0                | 136            | 3.414              |
| 1.009  | 4.396     | 699.2     | 157.9      | 1.661        | 1.940        | 1.165       | 0.0                | 145            | 3.583              |
| 1.010  | 4.311     | 685.6     | 172.7      | 1.940        | 2.435        | 1.274       | 0.0                | 153            | 3.620              |
| 4.000  | 2.729     | 108.5     | 12.6       | 2.132        | 2.060        | 0.093       | 0.0                | 51             | 1.836              |
| 4.001  | 1.769     | 70.3      | 29.0       | 2.060        | 2.025        | 0.214       | 0.0                | 101            | 1.686              |
| 4.002  | 2.561     | 181.0     | 73.2       | 2.025        | 1.600        | 0.540       | 0.0                | 133            | 2.430              |
| 4.003  | 3.207     | 354.2     | 85.7       | 1.525        | 1.875        | 0.632       | 0.0                | 125            | 2.659              |
| 4.004  | 3.231     | 356.9     | 91.1       | 1.875        | 3.344        | 0.672       | 0.0                | 129            | 2.718              |
| 5.000  | 2.316     | 92.1      | 14.0       | 2.576        | 2.283        | 0.103       | 0.0                | 59             | 1.688              |
| 5.000A | 3.687     | 146.6     | 23.7       | 2.283        | 3.494        | 0.175       | 0.0                | 61             | 2.734              |
| 5.001  | 1.580     | 174.5     | 118.4      | 3.344        | 1.767        | 0.874       | 0.0                | 227            | 1.694              |

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) |
|--------|---------|---------|------------|-------------|-----------|-----------|----------|-------------|----------|---------------|--------------|
| 4.005  | 25      | 25A     | 34.289     | 0.600       | 107.583   | 106.401   | 1.182    | 29.0        | 375      | 6.46          | 50.0         |
| 4.005A | 25A     | 10      | 25.848     | 0.600       | 106.326   | 105.433   | 0.893    | 28.9        | 450      | 6.58          | 50.0         |
| 1.011  | 10      | 11      | 48.504     | 0.600       | 105.433   | 105.000   | 0.433    | 112.0       | 450      | 7.74          | 50.0         |
| 1.012  | 11      | 12      | 58.463     | 0.600       | 104.925   | 104.500   | 0.425    | 137.6       | 525      | 8.25          | 50.0         |
| 6.000A | 28A     | 28      | 18.649     | 0.600       | 109.775   | 109.500   | 0.275    | 67.8        | 225      | 5.20          | 50.0         |
| 6.000  | 28      | 29      | 17.494     | 0.600       | 109.500   | 109.000   | 0.500    | 35.0        | 225      | 5.33          | 50.0         |
| 6.001  | 29      | 30      | 29.723     | 0.600       | 109.000   | 108.400   | 0.600    | 49.5        | 225      | 5.59          | 50.0         |
| 6.002  | 30      | 12      | 61.300     | 0.600       | 108.400   | 104.800   | 3.600    | 17.0        | 225      | 5.91          | 50.0         |
| 1.013  | 12      | 13      | 33.249     | 0.600       | 104.500   | 104.100   | 0.400    | 83.1        | 525      | 8.48          | 50.0         |
| 1.014  | 13      | 14      | 25.282     | 0.600       | 104.100   | 104.000   | 0.100    | 252.8       | 600      | 8.75          | 50.0         |
| 1.015  | 14      | 15      | 10.790     | 0.600       | 104.000   | 103.800   | 0.200    | 54.0        | 600      | 8.81          | 50.0         |
| 1.016  | 15      | 16      | 17.153     | 0.600       | 103.800   | 103.100   | 0.700    | 24.5        | 600      | 8.87          | 50.0         |
| 1.017  | 16      | 17      | 6.664      | 0.600       | 103.100   | 103.000   | 0.100    | 66.6        | 600      | 8.90          | 50.0         |
| 7.000  | 31      | 32      | 39.595     | 0.600       | 111.800   | 111.200   | 0.600    | 66.0        | 300      | 5.34          | 50.0         |
| 7.001  | 32      | 22      | 24.360     | 0.600       | 111.200   | 110.800   | 0.400    | 60.9        | 300      | 5.54          | 50.0         |

| 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) |
|--------|-----------|-----------|------------|--------------|--------------|-------------|--------------------|----------------|--------------------|
| 4.005  | 3.375     | 372.7     | 124.7      | 1.842        | 1.724        | 0.920       | 0.0                | 149            | 3.051              |
| 4.005A | 3.789     | 602.7     | 129.7      | 1.724        | 2.435        | 0.957       | 0.0                | 141            | 3.049              |
| 1.011  | 1.920     | 305.3     | 304.3      | 2.435        | 2.793        | 2.245       | 0.0                | 370            | 2.172              |
| 1.012  | 1.908     | 413.0     | 304.3      | 2.793        | 2.972        | 2.245       | 0.0                | 337            | 2.078              |
| 6.000A | 1.590     | 63.2      | 8.8        | 1.588        | 1.675        | 0.065       | 0.0                | 57             | 1.129              |
| 6.000  | 2.219     | 88.2      | 24.3       | 1.675        | 1.825        | 0.179       | 0.0                | 80             | 1.901              |
| 6.001  | 1.863     | 74.1      | 29.3       | 1.825        | 1.975        | 0.216       | 0.0                | 98             | 1.754              |
| 6.002  | 3.186     | 126.7     | 36.9       | 1.975        | 2.972        | 0.272       | 0.0                | 83             | 2.775              |
| 1.013  | 2.458     | 532.0     | 341.1      | 2.972        | 0.875        | 2.517       | 0.0                | 306            | 2.601              |
| 1.014  | 1.527     | 431.6     | 341.1      | 0.800        | 0.900        | 2.517       | 0.0                | 404            | 1.683              |
| 1.015  | 3.320     | 938.6     | 341.1      | 0.900        | 1.100        | 2.517       | 0.0                | 249            | 3.067              |
| 1.016  | 4.932     | 1394.5    | 341.1      | 1.100        | 0.100        | 2.517       | 0.0                | 201            | 4.108              |
| 1.017  | 2.986     | 844.2     | 341.1      | 0.100        | 0.200        | 2.517       | 0.0                | 265            | 2.835              |
| 7.000  | 1.938     | 137.0     | 31.6       | 0.900        | 1.100        | 0.233       | 0.0                | 98             | 1.584              |
| 7.001  | 2.018     | 142.6     | 40.3       | 1.100        | 2.025        | 0.297       | 0.0                | 109            | 1.743              |

Simulation Settings

|                      |                   |                            |        |
|----------------------|-------------------|----------------------------|--------|
| Rainfall Methodology | FSR               | Analysis Speed             | Normal |
| FSR Region           | England and Wales | Skip Steady State          | x      |
| M5-60 (mm)           | 19.600            | Drain Down Time (mins)     | 240    |
| Ratio-R              | 0.400             | Additional Storage (m³/ha) | 20.0   |
| Summer CV            | 0.750             | Check Discharge Rate(s)    | x      |
| Winter CV            | 0.840             | Check Discharge Volume     | x      |

Storm Durations

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

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



Travis Baker Ltd  
Ground Floor, 39 Stoney St  
Nottingham  
NG1 1LX

File: 23053 S104 Update.PFD  
Network: Storm Network 1  
Ted Wake  
26/03/2025

**Node 15 Online Hydro-Brake® Control**

|                          |         |                         |                                |
|--------------------------|---------|-------------------------|--------------------------------|
| Flap Valve               | x       | Objective               | (HE) Minimise upstream storage |
| Replaces Downstream Link | ✓       | Sump Available          | ✓                              |
| Invert Level (m)         | 103.800 | Product Number          | CTL-SHE-0156-1350-1700-1350    |
| Design Depth (m)         | 1.700   | Min Outlet Diameter (m) | 0.225                          |
| Design Flow (l/s)        | 13.5    | Min Node Diameter (mm)  | 1500                           |

**Node 15 Depth/Area Storage Structure**

|                             |         |               |      |                           |         |
|-----------------------------|---------|---------------|------|---------------------------|---------|
| Base Inf Coefficient (m/hr) | 0.00000 | Safety Factor | 2.0  | Invert Level (m)          | 104.000 |
| Side Inf Coefficient (m/hr) | 0.00000 | Porosity      | 1.00 | Time to half empty (mins) |         |

| Depth<br>(m) | Area<br>(m²) | Inf Area<br>(m²) | Depth<br>(m) | Area<br>(m²) | Inf Area<br>(m²) |
|--------------|--------------|------------------|--------------|--------------|------------------|
| 0.000        | 1508.0       | 0.0              | 1.500        | 2443.0       | 0.0              |

**Results for 2 year Critical Storm Duration. Lowest mass balance: 95.27%**

| Node Event       | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute winter | 1       | 12          | 116.529   | 0.029     | 3.2          | 0.5688        | 0.0000     | OK         |
| 15 minute winter | 1A      | 11          | 116.135   | 0.042     | 5.4          | 0.0546        | 0.0000     | OK         |
| 15 minute winter | 18      | 10          | 116.659   | 0.072     | 21.1         | 0.1556        | 0.0000     | OK         |
| 15 minute winter | 2       | 11          | 115.809   | 0.168     | 60.2         | 0.4561        | 0.0000     | OK         |
| 15 minute winter | 2A      | 11          | 115.372   | 0.376     | 80.0         | 0.7581        | 0.0000     | SURCHARGED |
| 15 minute winter | 19      | 10          | 116.177   | 0.057     | 12.1         | 0.1053        | 0.0000     | OK         |
| 15 minute winter | 20      | 10          | 115.584   | 0.072     | 26.6         | 0.1343        | 0.0000     | OK         |
| 15 minute winter | 3       | 11          | 114.683   | 0.183     | 106.2        | 0.2405        | 0.0000     | OK         |
| 15 minute winter | 4       | 11          | 114.251   | 0.251     | 113.4        | 0.3618        | 0.0000     | OK         |
| 15 minute winter | 5A      | 11          | 113.419   | 0.238     | 127.5        | 0.4266        | 0.0000     | OK         |
| 15 minute winter | 5       | 11          | 113.990   | 0.190     | 115.2        | 0.2456        | 0.0000     | OK         |
| 15 minute winter | 6       | 11          | 112.726   | 0.126     | 137.2        | 0.3141        | 0.0000     | OK         |
| 15 minute winter | 6A      | 11          | 110.841   | 0.191     | 153.9        | 0.5067        | 0.0000     | OK         |
| 15 minute winter | 7       | 11          | 110.151   | 0.151     | 164.0        | 0.3619        | 0.0000     | OK         |
| 15 minute winter | 8       | 11          | 108.118   | 0.168     | 189.2        | 0.5370        | 0.0000     | OK         |
| 15 minute winter | 9       | 11          | 106.667   | 0.167     | 208.1        | 0.4484        | 0.0000     | OK         |
| 15 minute winter | 21      | 10          | 112.859   | 0.059     | 16.6         | 0.1133        | 0.0000     | OK         |
| 15 minute winter | 21A     | 10          | 111.586   | 0.121     | 38.0         | 0.2652        | 0.0000     | OK         |
| 15 minute winter | 22      | 11          | 110.966   | 0.166     | 93.6         | 0.2288        | 0.0000     | OK         |
| 15 minute winter | 23      | 11          | 110.246   | 0.145     | 109.8        | 0.3980        | 0.0000     | OK         |
| 15 minute winter | 24      | 11          | 108.553   | 0.153     | 117.4        | 0.3247        | 0.0000     | OK         |
| 15 minute winter | 26      | 10          | 110.570   | 0.070     | 18.4         | 0.1302        | 0.0000     | OK         |
| 15 minute winter | 26A     | 10          | 109.860   | 0.070     | 31.1         | 0.1192        | 0.0000     | OK         |
| 15 minute winter | 27      | 11          | 108.103   | 0.303     | 152.1        | 0.5797        | 0.0000     | OK         |
| 15 minute winter | 25      | 11          | 107.765   | 0.182     | 159.6        | 0.3976        | 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 winter               | 1       | 1.000  | 1A      | 2.5           | 0.636          | 0.037    | 0.0946        |                    |
| 15 minute winter               | 1A      | 1.000A | 2       | 5.3           | 0.385          | 0.077    | 0.4825        |                    |
| 15 minute winter               | 18      | 2.000  | 2       | 20.9          | 1.038          | 0.222    | 0.6158        |                    |
| 15 minute winter               | 2       | 1.001  | 2A      | 58.2          | 1.602          | 0.820    | 1.2419        |                    |
| 15 minute winter               | 2A      | 1.002  | 3       | 76.2          | 1.916          | 1.073    | 0.8942        |                    |
| 15 minute winter               | 19      | 3.000  | 20      | 12.0          | 1.281          | 0.143    | 0.2198        |                    |
| 15 minute winter               | 20      | 3.001  | 3       | 26.4          | 1.185          | 0.221    | 0.4369        |                    |
| 15 minute winter               | 3       | 1.003  | 4       | 106.2         | 1.949          | 0.606    | 1.0902        |                    |
| 15 minute winter               | 4       | 1.004  | 5       | 113.2         | 2.045          | 0.879    | 0.8200        |                    |
| 15 minute winter               | 5A      | 1.006  | 6       | 125.6         | 2.241          | 0.847    | 1.3622        |                    |
| 15 minute winter               | 5       | 1.005  | 5A      | 114.9         | 2.137          | 0.660    | 1.3575        |                    |
| 15 minute winter               | 6       | 1.007  | 6A      | 136.8         | 2.751          | 0.177    | 1.7201        |                    |
| 15 minute winter               | 6A      | 1.007A | 7       | 153.1         | 2.783          | 0.320    | 1.6427        |                    |
| 15 minute winter               | 7       | 1.008  | 8       | 164.1         | 3.278          | 0.238    | 2.2917        |                    |
| 15 minute winter               | 8       | 1.009  | 9       | 189.8         | 3.522          | 0.271    | 1.6820        |                    |
| 15 minute winter               | 9       | 1.010  | 10      | 208.1         | 1.839          | 0.304    | 2.5327        |                    |
| 15 minute winter               | 21      | 4.000  | 21A     | 16.4          | 1.110          | 0.152    | 0.4648        |                    |
| 15 minute winter               | 21A     | 4.001  | 22      | 36.9          | 1.761          | 0.525    | 0.6826        |                    |
| 15 minute winter               | 22      | 4.002  | 23      | 94.3          | 2.556          | 0.521    | 0.9795        |                    |
| 15 minute winter               | 23      | 4.003  | 24      | 110.7         | 2.711          | 0.312    | 2.2293        |                    |
| 15 minute winter               | 24      | 4.004  | 27      | 117.8         | 1.679          | 0.330    | 1.3065        |                    |
| 15 minute winter               | 26      | 5.000  | 26A     | 18.2          | 1.741          | 0.198    | 0.2391        |                    |
| 15 minute winter               | 26A     | 5.000A | 27      | 30.9          | 1.334          | 0.211    | 0.6366        |                    |
| 15 minute winter               | 27      | 5.001  | 25      | 151.9         | 1.698          | 0.870    | 1.6628        |                    |
| 15 minute winter               | 25      | 4.005  | 25A     | 159.1         | 3.147          | 0.427    | 1.7341        |                    |

**Results for 2 year Critical Storm Duration. Lowest mass balance: 95.27%**

| Node Event        | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute winter  | 25A     | 11          | 106.485   | 0.158     | 165.3        | 0.3340        | 0.0000     | OK         |
| 15 minute winter  | 10      | 12          | 106.155   | 0.722     | 375.6        | 1.3451        | 0.0000     | SURCHARGED |
| 15 minute winter  | 11      | 12          | 105.346   | 0.421     | 368.8        | 0.7432        | 0.0000     | OK         |
| 15 minute winter  | 28A     | 10          | 109.840   | 0.065     | 11.6         | 0.1194        | 0.0000     | OK         |
| 15 minute winter  | 28      | 10          | 109.595   | 0.095     | 31.8         | 0.2206        | 0.0000     | OK         |
| 15 minute winter  | 29      | 10          | 109.122   | 0.122     | 38.0         | 0.1820        | 0.0000     | OK         |
| 15 minute winter  | 30      | 11          | 108.497   | 0.097     | 47.6         | 0.1587        | 0.0000     | OK         |
| 15 minute winter  | 12      | 12          | 104.910   | 0.410     | 412.3        | 0.7237        | 0.0000     | OK         |
| 15 minute winter  | 13      | 12          | 104.552   | 0.452     | 407.7        | 0.7982        | 0.0000     | OK         |
| 15 minute winter  | 14      | 13          | 104.345   | 0.345     | 407.0        | 0.6100        | 0.0000     | OK         |
| 180 minute winter | 15      | 180         | 104.205   | 0.404     | 122.6        | 322.8051      | 0.0000     | OK         |
| 180 minute winter | 16      | 180         | 103.156   | 0.056     | 13.4         | 0.0992        | 0.0000     | OK         |
| 180 minute winter | 17      | 180         | 103.052   | 0.052     | 13.4         | 0.0000        | 0.0000     | OK         |
| 15 minute winter  | 31      | 10          | 111.914   | 0.114     | 41.6         | 0.5693        | 0.0000     | OK         |
| 15 minute winter  | 32      | 10          | 111.329   | 0.129     | 52.3         | 0.2634        | 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 winter               | 25A     | 4.005A       | 10      | 165.1         | 1.457          | 0.274    | 2.6915        |                    |
| 15 minute winter               | 10      | 1.011        | 11      | 368.8         | 2.329          | 1.208    | 7.5201        |                    |
| 15 minute winter               | 11      | 1.012        | 12      | 369.8         | 2.023          | 0.896    | 10.7051       |                    |
| 15 minute winter               | 28A     | 6.000A       | 28      | 11.5          | 0.914          | 0.181    | 0.2353        |                    |
| 15 minute winter               | 28      | 6.000        | 29      | 31.4          | 1.664          | 0.356    | 0.3307        |                    |
| 15 minute winter               | 29      | 6.001        | 30      | 37.6          | 1.976          | 0.508    | 0.5658        |                    |
| 15 minute winter               | 30      | 6.002        | 12      | 47.4          | 2.943          | 0.374    | 1.0361        |                    |
| 15 minute winter               | 12      | 1.013        | 13      | 407.7         | 2.153          | 0.766    | 6.2913        |                    |
| 15 minute winter               | 13      | 1.014        | 14      | 407.0         | 2.054          | 0.943    | 4.9849        |                    |
| 15 minute winter               | 14      | 1.015        | 15      | 408.5         | 2.927          | 0.435    | 1.5342        |                    |
| 180 minute winter              | 15      | Hydro-Brake® | 16      | 13.4          |                |          |               |                    |
| 180 minute winter              | 16      | 1.017        | 17      | 13.4          | 1.075          | 0.016    | 0.0832        | 315.0              |
| 15 minute winter               | 31      | 7.000        | 32      | 41.0          | 1.537          | 0.299    | 1.0555        |                    |
| 15 minute winter               | 32      | 7.001        | 22      | 51.6          | 1.507          | 0.362    | 0.8351        |                    |

**Results for 30 year Critical Storm Duration. Lowest mass balance: 95.27%**

| Node Event       | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute winter | 1       | 14          | 116.798   | 0.298     | 35.5         | 5.7738        | 0.0000     | SURCHARGED |
| 15 minute winter | 1A      | 13          | 116.790   | 0.697     | 36.3         | 0.9051        | 0.0000     | SURCHARGED |
| 15 minute winter | 18      | 12          | 117.005   | 0.418     | 40.0         | 0.9064        | 0.0000     | SURCHARGED |
| 15 minute winter | 2       | 12          | 116.863   | 1.222     | 99.0         | 3.3130        | 0.0000     | SURCHARGED |
| 15 minute winter | 2A      | 12          | 116.329   | 1.333     | 104.0        | 2.6886        | 0.0000     | SURCHARGED |
| 15 minute winter | 19      | 10          | 116.200   | 0.080     | 23.0         | 0.1467        | 0.0000     | OK         |
| 15 minute winter | 20      | 11          | 115.641   | 0.129     | 50.6         | 0.2421        | 0.0000     | OK         |
| 15 minute winter | 3       | 12          | 115.417   | 0.917     | 149.0        | 1.2066        | 0.0000     | SURCHARGED |
| 15 minute winter | 4       | 12          | 114.954   | 0.954     | 157.5        | 1.3777        | 0.0000     | SURCHARGED |
| 15 minute winter | 5A      | 12          | 113.840   | 0.659     | 179.7        | 1.1809        | 0.0000     | SURCHARGED |
| 15 minute winter | 5       | 12          | 114.520   | 0.720     | 159.5        | 0.9322        | 0.0000     | SURCHARGED |
| 15 minute winter | 6       | 11          | 112.754   | 0.154     | 200.6        | 0.3827        | 0.0000     | OK         |
| 15 minute winter | 6A      | 11          | 110.897   | 0.247     | 232.7        | 0.6546        | 0.0000     | OK         |
| 15 minute winter | 7       | 10          | 110.190   | 0.190     | 252.1        | 0.4572        | 0.0000     | OK         |
| 15 minute winter | 8       | 13          | 108.352   | 0.402     | 300.0        | 1.2809        | 0.0000     | OK         |
| 15 minute winter | 9       | 13          | 108.126   | 1.626     | 317.2        | 4.3552        | 0.0000     | SURCHARGED |
| 15 minute winter | 21      | 10          | 112.882   | 0.082     | 31.5         | 0.1581        | 0.0000     | OK         |
| 15 minute winter | 21A     | 11          | 111.738   | 0.273     | 72.3         | 0.5970        | 0.0000     | SURCHARGED |
| 15 minute winter | 22      | 11          | 111.165   | 0.365     | 177.3        | 0.5043        | 0.0000     | SURCHARGED |
| 15 minute winter | 23      | 10          | 110.299   | 0.199     | 202.5        | 0.5455        | 0.0000     | OK         |
| 15 minute winter | 24      | 13          | 109.274   | 0.873     | 214.7        | 1.8544        | 0.0000     | SURCHARGED |
| 15 minute winter | 26      | 10          | 110.600   | 0.100     | 34.9         | 0.1865        | 0.0000     | OK         |
| 15 minute winter | 26A     | 10          | 109.889   | 0.099     | 59.0         | 0.1680        | 0.0000     | OK         |
| 15 minute winter | 27      | 13          | 109.035   | 1.235     | 265.4        | 2.3622        | 0.0000     | SURCHARGED |
| 15 minute winter | 25      | 13          | 108.682   | 1.099     | 274.7        | 2.3978        | 0.0000     | SURCHARGED |

| 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 winter               | 1       | 1.000  | 1A      | 35.2          | 0.969          | 0.513    | 0.9343        |                    |
| 15 minute winter               | 1A      | 1.000A | 2       | 40.3          | 1.013          | 0.588    | 1.0385        |                    |
| 15 minute winter               | 18      | 2.000  | 2       | 36.8          | 1.125          | 0.392    | 1.1609        |                    |
| 15 minute winter               | 2       | 1.001  | 2A      | 76.5          | 1.925          | 1.077    | 1.3794        |                    |
| 15 minute winter               | 2A      | 1.002  | 3       | 96.1          | 2.416          | 1.354    | 0.9044        |                    |
| 15 minute winter               | 19      | 3.000  | 20      | 22.8          | 1.497          | 0.272    | 0.4182        |                    |
| 15 minute winter               | 20      | 3.001  | 3       | 47.6          | 1.417          | 0.399    | 0.6127        |                    |
| 15 minute winter               | 3       | 1.003  | 4       | 144.4         | 2.051          | 0.824    | 1.4242        |                    |
| 15 minute winter               | 4       | 1.004  | 5       | 156.3         | 2.220          | 1.214    | 1.0514        |                    |
| 15 minute winter               | 5A      | 1.006  | 6       | 180.2         | 2.559          | 1.214    | 1.6918        |                    |
| 15 minute winter               | 5       | 1.005  | 5A      | 159.8         | 2.270          | 0.919    | 1.7875        |                    |
| 15 minute winter               | 6       | 1.007  | 6A      | 200.3         | 2.961          | 0.259    | 2.3436        |                    |
| 15 minute winter               | 6A      | 1.007A | 7       | 231.4         | 3.084          | 0.483    | 2.2371        |                    |
| 15 minute winter               | 7       | 1.008  | 8       | 252.2         | 3.665          | 0.367    | 4.7061        |                    |
| 15 minute winter               | 8       | 1.009  | 9       | 280.3         | 3.515          | 0.401    | 4.8046        |                    |
| 15 minute winter               | 9       | 1.010  | 10      | 283.8         | 1.900          | 0.414    | 3.7841        |                    |
| 15 minute winter               | 21      | 4.000  | 21A     | 31.3          | 1.229          | 0.288    | 0.8113        |                    |
| 15 minute winter               | 21A     | 4.001  | 22      | 69.8          | 1.916          | 0.992    | 1.2881        |                    |
| 15 minute winter               | 22      | 4.002  | 23      | 171.3         | 2.814          | 0.947    | 1.5886        |                    |
| 15 minute winter               | 23      | 4.003  | 24      | 201.2         | 2.846          | 0.568    | 4.6177        |                    |
| 15 minute winter               | 24      | 4.004  | 27      | 197.7         | 1.828          | 0.554    | 2.0932        |                    |
| 15 minute winter               | 26      | 5.000  | 26A     | 34.6          | 2.054          | 0.376    | 0.3848        |                    |
| 15 minute winter               | 26A     | 5.000A | 27      | 58.7          | 1.788          | 0.400    | 0.7154        |                    |
| 15 minute winter               | 27      | 5.001  | 25      | 259.1         | 2.350          | 1.485    | 2.0549        |                    |
| 15 minute winter               | 25      | 4.005  | 25A     | 260.1         | 3.363          | 0.698    | 3.7820        |                    |

**Results for 30 year Critical Storm Duration. Lowest mass balance: 95.27%**

| Node Event        | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute winter  | 25A     | 13          | 108.080   | 1.754     | 272.6        | 3.6967        | 0.0000     | SURCHARGED |
| 15 minute winter  | 10      | 13          | 107.870   | 2.437     | 522.3        | 4.5434        | 0.0000     | SURCHARGED |
| 15 minute winter  | 11      | 13          | 106.302   | 1.377     | 523.1        | 2.4332        | 0.0000     | SURCHARGED |
| 15 minute winter  | 28A     | 10          | 109.868   | 0.093     | 22.0         | 0.1719        | 0.0000     | OK         |
| 15 minute winter  | 28      | 10          | 109.645   | 0.145     | 60.4         | 0.3372        | 0.0000     | OK         |
| 15 minute winter  | 29      | 11          | 109.202   | 0.202     | 72.2         | 0.3019        | 0.0000     | OK         |
| 15 minute winter  | 30      | 11          | 108.539   | 0.139     | 89.7         | 0.2277        | 0.0000     | OK         |
| 15 minute winter  | 12      | 12          | 105.480   | 0.980     | 593.7        | 1.7324        | 0.0000     | SURCHARGED |
| 15 minute winter  | 13      | 12          | 104.791   | 0.691     | 592.1        | 1.2204        | 0.0000     | SURCHARGED |
| 15 minute winter  | 14      | 13          | 104.444   | 0.444     | 591.5        | 0.7843        | 0.0000     | OK         |
| 360 minute winter | 15      | 352         | 104.437   | 0.637     | 216.7        | 720.0245      | 0.0000     | SURCHARGED |
| 180 minute winter | 16      | 108         | 103.156   | 0.056     | 13.5         | 0.0996        | 0.0000     | OK         |
| 180 minute winter | 17      | 108         | 103.052   | 0.052     | 13.5         | 0.0000        | 0.0000     | OK         |
| 15 minute winter  | 31      | 10          | 111.966   | 0.166     | 78.9         | 0.8327        | 0.0000     | OK         |
| 15 minute winter  | 32      | 10          | 111.403   | 0.203     | 99.5         | 0.4147        | 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 winter               | 25A     | 4.005A       | 10      | 242.3         | 1.529          | 0.402    | 4.0954        |                    |
| 15 minute winter               | 10      | 1.011        | 11      | 523.1         | 3.302          | 1.713    | 7.6851        |                    |
| 15 minute winter               | 11      | 1.012        | 12      | 525.5         | 2.433          | 1.272    | 12.6299       |                    |
| 15 minute winter               | 28A     | 6.000A       | 28      | 21.8          | 1.026          | 0.344    | 0.3958        |                    |
| 15 minute winter               | 28      | 6.000        | 29      | 59.7          | 1.830          | 0.677    | 0.5647        |                    |
| 15 minute winter               | 29      | 6.001        | 30      | 71.3          | 2.219          | 0.963    | 0.9414        |                    |
| 15 minute winter               | 30      | 6.002        | 12      | 89.7          | 3.136          | 0.708    | 2.0067        |                    |
| 15 minute winter               | 12      | 1.013        | 13      | 592.1         | 2.741          | 1.113    | 7.1829        |                    |
| 15 minute winter               | 13      | 1.014        | 14      | 591.5         | 2.184          | 1.370    | 6.3862        |                    |
| 15 minute winter               | 14      | 1.015        | 15      | 591.3         | 3.274          | 0.630    | 2.1875        |                    |
| 360 minute winter              | 15      | Hydro-Brake® | 16      | 13.5          |                |          |               |                    |
| 180 minute winter              | 16      | 1.017        | 17      | 13.5          | 1.077          | 0.016    | 0.0836        | 322.4              |
| 15 minute winter               | 31      | 7.000        | 32      | 77.9          | 1.714          | 0.568    | 1.7954        |                    |
| 15 minute winter               | 32      | 7.001        | 22      | 97.7          | 1.624          | 0.685    | 1.4645        |                    |

**Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 95.27%**

| Node Event       | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 30 minute winter | 1       | 23          | 117.950   | 1.450     | 73.0         | 28.0996       | 1.4900     | FLOOD      |
| 30 minute winter | 1A      | 22          | 117.985   | 1.892     | 70.5         | 2.4562        | 0.0000     | FLOOD RISK |
| 15 minute winter | 18      | 11          | 118.692   | 2.105     | 72.5         | 4.5586        | 0.0000     | FLOOD RISK |
| 15 minute winter | 2       | 10          | 118.096   | 2.455     | 180.0        | 6.6555        | 11.5163    | FLOOD      |
| 15 minute winter | 2A      | 11          | 117.750   | 2.754     | 129.1        | 5.5548        | 1.7482     | FLOOD      |
| 15 minute winter | 19      | 12          | 117.393   | 1.273     | 41.8         | 2.3420        | 0.0000     | SURCHARGED |
| 15 minute winter | 20      | 12          | 117.271   | 1.759     | 80.8         | 3.3020        | 0.0000     | SURCHARGED |
| 15 minute winter | 3       | 12          | 116.773   | 2.273     | 183.7        | 2.9910        | 0.0000     | SURCHARGED |
| 15 minute winter | 4       | 12          | 116.019   | 2.018     | 204.8        | 2.9147        | 0.0000     | SURCHARGED |
| 15 minute winter | 5A      | 11          | 114.349   | 1.167     | 229.6        | 2.0909        | 0.0000     | SURCHARGED |
| 15 minute winter | 5       | 11          | 115.271   | 1.471     | 211.1        | 1.9035        | 3.1878     | FLOOD      |
| 15 minute winter | 6       | 11          | 112.781   | 0.181     | 271.1        | 0.4501        | 0.0000     | OK         |
| 15 minute winter | 6A      | 11          | 110.958   | 0.308     | 330.3        | 0.8169        | 0.0000     | OK         |
| 15 minute winter | 7       | 11          | 110.355   | 0.355     | 369.6        | 0.8527        | 0.0000     | OK         |
| 15 minute winter | 8       | 11          | 109.713   | 1.763     | 452.9        | 5.6210        | 0.0000     | SURCHARGED |
| 15 minute winter | 9       | 10          | 108.890   | 2.390     | 512.1        | 6.4028        | 13.3001    | FLOOD      |
| 15 minute winter | 21      | 12          | 114.051   | 1.251     | 57.2         | 2.4023        | 0.0000     | SURCHARGED |
| 15 minute winter | 21A     | 12          | 113.750   | 2.285     | 118.4        | 5.0042        | 0.6175     | FLOOD      |
| 15 minute winter | 22      | 11          | 112.471   | 1.671     | 214.0        | 2.3054        | 0.0000     | SURCHARGED |
| 15 minute winter | 23      | 11          | 111.549   | 1.449     | 260.6        | 3.9642        | 0.0000     | SURCHARGED |
| 15 minute winter | 24      | 11          | 110.650   | 2.250     | 258.6        | 4.7768        | 6.4574     | FLOOD      |
| 15 minute winter | 26      | 12          | 111.472   | 0.972     | 63.3         | 1.8131        | 0.0000     | SURCHARGED |
| 15 minute winter | 26A     | 12          | 111.201   | 1.411     | 100.7        | 2.4057        | 0.0000     | SURCHARGED |
| 15 minute winter | 27      | 12          | 110.346   | 2.546     | 308.4        | 4.8679        | 0.0000     | SURCHARGED |
| 15 minute winter | 25      | 11          | 109.700   | 2.117     | 332.4        | 4.6197        | 0.0000     | FLOOD RISK |

| Link Event<br>(Upstream Depth) | US Node | Link   | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|--------------------------------|---------|--------|---------|---------------|----------------|----------|---------------|--------------------|
| 30 minute winter               | 1       | 1.000  | 1A      | -64.5         | -1.621         | -0.940   | 0.9343        |                    |
| 30 minute winter               | 1A      | 1.000A | 2       | -61.9         | -1.556         | -0.903   | 1.0385        |                    |
| 15 minute winter               | 18      | 2.000  | 2       | 67.7          | 1.703          | 0.721    | 1.1609        |                    |
| 15 minute winter               | 2       | 1.001  | 2A      | 87.2          | 2.194          | 1.228    | 1.3794        |                    |
| 15 minute winter               | 2A      | 1.002  | 3       | 110.3         | 2.775          | 1.554    | 0.9044        |                    |
| 15 minute winter               | 19      | 3.000  | 20      | 33.6          | 1.525          | 0.399    | 0.9316        |                    |
| 15 minute winter               | 20      | 3.001  | 3       | 73.9          | 1.859          | 0.619    | 0.7700        |                    |
| 15 minute winter               | 3       | 1.003  | 4       | 184.2         | 2.616          | 1.051    | 1.4242        |                    |
| 15 minute winter               | 4       | 1.004  | 5       | 205.3         | 2.916          | 1.595    | 1.0514        |                    |
| 15 minute winter               | 5A      | 1.006  | 6       | 230.0         | 3.266          | 1.550    | 1.6918        |                    |
| 15 minute winter               | 5       | 1.005  | 5A      | 194.8         | 2.767          | 1.119    | 1.7875        |                    |
| 15 minute winter               | 6       | 1.007  | 6A      | 271.3         | 3.157          | 0.351    | 3.0013        |                    |
| 15 minute winter               | 6A      | 1.007A | 7       | 332.0         | 3.199          | 0.693    | 3.7126        |                    |
| 15 minute winter               | 7       | 1.008  | 8       | 366.1         | 3.657          | 0.532    | 6.6647        |                    |
| 15 minute winter               | 8       | 1.009  | 9       | 449.0         | 3.383          | 0.642    | 4.9460        |                    |
| 15 minute winter               | 9       | 1.010  | 10      | 414.0         | 2.613          | 0.604    | 3.7841        |                    |
| 15 minute winter               | 21      | 4.000  | 21A     | 48.4          | 1.344          | 0.446    | 1.2303        |                    |
| 15 minute winter               | 21A     | 4.001  | 22      | 95.7          | 2.406          | 1.361    | 1.2881        |                    |
| 15 minute winter               | 22      | 4.002  | 23      | 207.4         | 2.949          | 1.146    | 1.8695        |                    |
| 15 minute winter               | 23      | 4.003  | 24      | 235.5         | 2.884          | 0.665    | 6.0200        |                    |
| 15 minute winter               | 24      | 4.004  | 27      | 230.3         | 2.088          | 0.645    | 2.0932        |                    |
| 15 minute winter               | 26      | 5.000  | 26A     | 59.0          | 2.170          | 0.641    | 0.9075        |                    |
| 15 minute winter               | 26A     | 5.000A | 27      | 88.8          | 2.261          | 0.606    | 1.0076        |                    |
| 15 minute winter               | 27      | 5.001  | 25      | 309.4         | 2.806          | 1.773    | 2.0549        |                    |
| 15 minute winter               | 25      | 4.005  | 25A     | 332.2         | 3.279          | 0.891    | 3.7820        |                    |

**Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 95.27%**

| Node Event        | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 30 minute winter  | 25A     | 17          | 108.500   | 2.174     | 340.6        | 4.5828        | 45.5229    | FLOOD      |
| 30 minute winter  | 10      | 17          | 108.318   | 2.885     | 647.4        | 5.3776        | 34.1784    | FLOOD      |
| 15 minute winter  | 11      | 13          | 106.634   | 1.709     | 544.3        | 3.0201        | 0.0000     | SURCHARGED |
| 15 minute winter  | 28A     | 12          | 111.141   | 1.366     | 40.0         | 2.5249        | 0.0000     | SURCHARGED |
| 15 minute winter  | 28      | 12          | 111.071   | 1.570     | 97.7         | 3.6608        | 0.0000     | SURCHARGED |
| 15 minute winter  | 29      | 12          | 110.546   | 1.546     | 103.5        | 2.3060        | 0.0000     | SURCHARGED |
| 15 minute winter  | 30      | 12          | 109.373   | 0.973     | 125.6        | 1.5961        | 0.0000     | SURCHARGED |
| 15 minute winter  | 12      | 12          | 105.743   | 1.243     | 661.6        | 2.1961        | 0.0000     | SURCHARGED |
| 60 minute winter  | 13      | 41          | 104.917   | 0.817     | 633.9        | 1.4444        | 0.0000     | SURCHARGED |
| 600 minute winter | 14      | 600         | 104.881   | 0.881     | 156.4        | 1.5566        | 0.0000     | SURCHARGED |
| 600 minute winter | 15      | 600         | 104.881   | 1.081     | 174.0        | 1572.1970     | 0.0000     | SURCHARGED |
| 15 minute summer  | 16      | 20          | 103.156   | 0.056     | 13.5         | 0.0996        | 0.0000     | OK         |
| 30 minute summer  | 17      | 25          | 103.052   | 0.052     | 13.5         | 0.0000        | 0.0000     | OK         |
| 15 minute winter  | 31      | 11          | 113.000   | 1.200     | 143.2        | 6.0168        | 2.5966     | FLOOD      |
| 15 minute winter  | 32      | 11          | 112.600   | 1.400     | 138.7        | 2.8630        | 9.4812     | FLOOD      |

  

| Link Event<br>(Upstream Depth) | US Node | Link         | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|--------------------------------|---------|--------------|---------|---------------|----------------|----------|---------------|--------------------|
| 30 minute winter               | 25A     | 4.005A       | 10      | 271.5         | 1.713          | 0.450    | 4.0954        |                    |
| 30 minute winter               | 10      | 1.011        | 11      | 554.6         | 3.501          | 1.816    | 7.6851        |                    |
| 15 minute winter               | 11      | 1.012        | 12      | 551.1         | 2.551          | 1.334    | 12.6299       |                    |
| 15 minute winter               | 28A     | 6.000A       | 28      | 30.8          | 1.012          | 0.487    | 0.7417        |                    |
| 15 minute winter               | 28      | 6.000        | 29      | 80.8          | 2.031          | 0.916    | 0.6958        |                    |
| 15 minute winter               | 29      | 6.001        | 30      | 94.9          | 2.387          | 1.282    | 1.1821        |                    |
| 15 minute winter               | 30      | 6.002        | 12      | 119.5         | 3.268          | 0.944    | 2.4380        |                    |
| 15 minute winter               | 12      | 1.013        | 13      | 661.4         | 3.062          | 1.243    | 7.1829        |                    |
| 60 minute winter               | 13      | 1.014        | 14      | 633.7         | 2.253          | 1.468    | 7.1214        |                    |
| 600 minute winter              | 14      | 1.015        | 15      | 174.0         | 0.847          | 0.185    | 3.0393        |                    |
| 600 minute winter              | 15      | Hydro-Brake® | 16      | 13.5          |                |          |               |                    |
| 15 minute summer               | 16      | 1.017        | 17      | 13.5          | 1.077          | 0.016    | 0.0836        | 201.7              |
| 15 minute winter               | 31      | 7.000        | 32      | 104.0         | 1.723          | 0.759    | 2.7883        |                    |
| 15 minute winter               | 32      | 7.001        | 22      | 115.8         | 1.644          | 0.812    | 1.7154        |                    |