

### Design Settings

|                                      |        |                                    |               |
|--------------------------------------|--------|------------------------------------|---------------|
| Rainfall Methodology                 | FEH-22 | Minimum Velocity (m/s)             | 1.00          |
| Return Period (years)                | 100    | Connection Type                    | Level Soffits |
| Additional Flow (%)                  | 40     | Minimum Backdrop Height (m)        | 0.200         |
| CV                                   | 0.950  | Preferred Cover Depth (m)          | 1.200         |
| Time of Entry (mins)                 | 5.00   | Include Intermediate Ground        | ✓             |
| Maximum Time of Concentration (mins) | 30.00  | Enforce best practice design rules | ✓             |
| Maximum Rainfall (mm/hr)             | 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) |
|-------------|--------------|------------------|-----------------------|------------------|----------------|-----------------|--------------|
| SW1         |              |                  | 23.600                | 450              | 370009.632     | 309744.840      | 0.600        |
| SW2         |              |                  | 23.600                | 450              | 369951.465     | 309744.188      | 1.232        |
| SW3         |              |                  | 23.600                | 1050             | 369946.554     | 309736.263      | 3.600        |
| SW4         |              |                  | 23.600                | 450              | 370009.446     | 309723.474      | 0.600        |
| SW5         |              |                  | 23.600                | 450              | 369950.904     | 309723.474      | 1.235        |
| SW6         |              |                  | 23.600                | 1050             | 369946.525     | 309726.380      | 3.600        |
| 1           |              |                  | 23.000                | 1200             | 369947.200     | 309748.930      | 3.127        |
| Greenroof 1 | 0.034        | 5.00             | 40.000                |                  | 369956.953     | 309739.857      | 1.350        |
| Greenroof 2 | 0.034        | 5.00             | 40.000                |                  | 370003.467     | 309740.717      | 1.350        |
| Greenroof 3 | 0.034        | 5.00             | 40.000                |                  | 369957.125     | 309727.734      | 1.350        |
| Greenroof 4 | 0.034        | 5.00             | 40.000                |                  | 370003.295     | 309727.820      | 1.350        |

### 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) |
|-------|-------------|------------|---------------|----------------|--------------|--------------|-------------|----------------|-------------|------------------|-----------------|
| 1.001 | SW1         | SW2        | 58.171        | 0.600          | 23.000       | 22.418       | 0.582       | 100.0          | 150         | 5.98             | 50.0            |
| 3.001 | SW4         | SW5        | 58.542        | 0.600          | 23.000       | 22.415       | 0.585       | 100.0          | 150         | 5.98             | 50.0            |
| 1.002 | SW2         | SW3        | 9.323         | 0.600          | 22.368       | 22.275       | 0.093       | 100.3          | 150         | 6.13             | 50.0            |
| 3.002 | SW5         | SW6        | 5.256         | 0.600          | 22.365       | 22.275       | 0.090       | 58.4           | 150         | 6.05             | 50.0            |
| 1.003 | SW3         | 1          | 12.683        | 0.600          | 20.000       | 19.873       | 0.127       | 100.0          | 150         | 6.34             | 50.0            |
| 2.000 | Greenroof 1 | SW2        | 6.991         | 0.600          | 38.650       | 22.418       | 16.232      | 0.4            | 100         | 5.01             | 50.0            |
| 1.000 | Greenroof 2 | SW1        | 7.417         | 0.600          | 38.650       | 23.000       | 15.650      | 0.5            | 100         | 5.01             | 50.0            |
| 3.000 | Greenroof 4 | SW4        | 7.531         | 0.600          | 38.650       | 23.000       | 15.650      | 0.5            | 100         | 5.01             | 50.0            |
| 4.000 | Greenroof 3 | SW5        | 7.540         | 0.600          | 38.650       | 22.415       | 16.235      | 0.5            | 100         | 5.01             | 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) |
|-------|--------------|--------------|---------------|--------------------|--------------------|----------------|--------------------------|----------------------|--------------------------|
| 1.001 | 1.005        | 17.8         | 8.2           | 0.450              | 1.032              | 0.034          | 0.0                      | 71                   | 0.983                    |
| 3.001 | 1.005        | 17.8         | 8.2           | 0.450              | 1.035              | 0.034          | 0.0                      | 71                   | 0.983                    |
| 1.002 | 1.003        | 17.7         | 16.3          | 1.082              | 1.175              | 0.068          | 0.0                      | 114                  | 1.136                    |
| 3.002 | 1.318        | 23.3         | 16.3          | 1.085              | 1.175              | 0.068          | 0.0                      | 93                   | 1.426                    |
| 1.003 | 1.005        | 17.8         | 16.3          | 3.450              | 2.977              | 0.068          | 0.0                      | 114                  | 1.137                    |
| 2.000 | 11.894       | 93.4         | 8.2           | 1.250              | 1.082              | 0.034          | 0.0                      | 20                   | 7.301                    |
| 1.000 | 11.339       | 89.1         | 8.2           | 1.250              | 0.500              | 0.034          | 0.0                      | 21                   | 7.123                    |
| 3.000 | 11.252       | 88.4         | 8.2           | 1.250              | 0.500              | 0.034          | 0.0                      | 21                   | 7.068                    |
| 4.000 | 11.454       | 90.0         | 8.2           | 1.250              | 1.085              | 0.034          | 0.0                      | 21                   | 7.195                    |

### 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) |
|-------|---------------|----------------|-------------|--------------|--------------|--------------|-----------------|--------------|--------------|-----------------|
| 1.001 | 58.171        | 100.0          | 150         | Circular     | 23.600       | 23.000       | 0.450           | 23.600       | 22.418       | 1.032           |
| 3.001 | 58.542        | 100.0          | 150         | Circular     | 23.600       | 23.000       | 0.450           | 23.600       | 22.415       | 1.035           |
| 1.002 | 9.323         | 100.3          | 150         | Circular     | 23.600       | 22.368       | 1.082           | 23.600       | 22.275       | 1.175           |
| 3.002 | 5.256         | 58.4           | 150         | Circular     | 23.600       | 22.365       | 1.085           | 23.600       | 22.275       | 1.175           |
| 1.003 | 12.683        | 100.0          | 150         | Circular     | 23.600       | 20.000       | 3.450           | 23.000       | 19.873       | 2.977           |
| 2.000 | 6.991         | 0.4            | 100         | Circular     | 40.000       | 38.650       | 1.250           | 23.600       | 22.418       | 1.082           |
| 1.000 | 7.417         | 0.5            | 100         | Circular     | 40.000       | 38.650       | 1.250           | 23.600       | 23.000       | 0.500           |
| 3.000 | 7.531         | 0.5            | 100         | Circular     | 40.000       | 38.650       | 1.250           | 23.600       | 23.000       | 0.500           |
| 4.000 | 7.540         | 0.5            | 100         | Circular     | 40.000       | 38.650       | 1.250           | 23.600       | 22.415       | 1.085           |

| 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 |
|-------|-------------|-------------|--------------|------------|------------|-------------|--------------|------------|
| 1.001 | SW1         | 450         | Manhole      | Adoptable  | SW2        | 450         | Manhole      | Adoptable  |
| 3.001 | SW4         | 450         | Manhole      | Adoptable  | SW5        | 450         | Manhole      | Adoptable  |
| 1.002 | SW2         | 450         | Manhole      | Adoptable  | SW3        | 1050        | Manhole      | Adoptable  |
| 3.002 | SW5         | 450         | Manhole      | Adoptable  | SW6        | 1050        | Manhole      | Adoptable  |
| 1.003 | SW3         | 1050        | Manhole      | Adoptable  | 1          | 1200        | Manhole      | Adoptable  |
| 2.000 | Greenroof 1 |             | Junction     |            | SW2        | 450         | Manhole      | Adoptable  |
| 1.000 | Greenroof 2 |             | Junction     |            | SW1        | 450         | Manhole      | Adoptable  |
| 3.000 | Greenroof 4 |             | Junction     |            | SW4        | 450         | Manhole      | Adoptable  |
| 4.000 | Greenroof 3 |             | Junction     |            | SW5        | 450         | 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) |     |
|------|----------------|-----------------|-----------|--------------|-------------|-------------------------------------------------------------------------------------------------|------|-----------|-------------|-----|
| SW1  | 370009.632     | 309744.840      | 23.600    | 0.600        | 450         | <div></div> | 1    | 1.000     | 23.000      | 100 |
|      |                |                 |           |              |             | <div></div> | 0    | 1.001     | 23.000      | 150 |
| SW2  | 369951.465     | 309744.188      | 23.600    | 1.232        | 450         | <div></div> | 1    | 2.000     | 22.418      | 100 |
|      |                |                 |           |              |             | <div></div> | 2    | 1.001     | 22.418      | 150 |
|      |                |                 |           |              |             | <div></div> | 0    | 1.002     | 22.368      | 150 |
| SW3  | 369946.554     | 309736.263      | 23.600    | 3.600        | 1050        | <div></div> | 1    | 1.002     | 22.275      | 150 |
|      |                |                 |           |              |             | <div></div> | 0    | 1.003     | 20.000      | 150 |
| SW4  | 370009.446     | 309723.474      | 23.600    | 0.600        | 450         | <div></div> | 1    | 3.000     | 23.000      | 100 |
|      |                |                 |           |              |             | <div></div> | 0    | 3.001     | 23.000      | 150 |
| SW5  | 369950.904     | 309723.474      | 23.600    | 1.235        | 450         | <div></div> | 1    | 4.000     | 22.415      | 100 |
|      |                |                 |           |              |             | <div></div> | 2    | 3.001     | 22.415      | 150 |
|      |                |                 |           |              |             | <div></div> | 0    | 3.002     | 22.365      | 150 |
| SW6  | 369946.525     | 309726.380      | 23.600    | 3.600        | 1050        | <div></div> | 1    | 3.002     | 22.275      | 150 |

### Manhole Schedule

| Node        | Easting (m) | Northing (m) | CL (m) | Depth (m) | Dia (mm) | Connections                                                                         | Link | IL (m) | Dia (mm) |     |
|-------------|-------------|--------------|--------|-----------|----------|-------------------------------------------------------------------------------------|------|--------|----------|-----|
| 1           | 369947.200  | 309748.930   | 23.000 | 3.127     | 1200     |   | 1    | 1.003  | 19.873   | 150 |
| Greenroof 1 | 369956.953  | 309739.857   | 40.000 | 1.350     |          |   | 0    | 2.000  | 38.650   | 100 |
| Greenroof 2 | 370003.467  | 309740.717   | 40.000 | 1.350     |          |  | 0    | 1.000  | 38.650   | 100 |
| Greenroof 3 | 369957.125  | 309727.734   | 40.000 | 1.350     |          |   | 0    | 4.000  | 38.650   | 100 |
| Greenroof 4 | 370003.295  | 309727.820   | 40.000 | 1.350     |          |  | 0    | 3.000  | 38.650   | 100 |

### Simulation Settings

|                      |          |                            |        |                         |   |
|----------------------|----------|----------------------------|--------|-------------------------|---|
| Rainfall Methodology | FEH-22   | Analysis Speed             | Normal | Starting Level (m)      |   |
| Rainfall Events      | Singular | Skip Steady State          | x      | Check Discharge Rate(s) | x |
| Summer CV            | 0.950    | Drain Down Time (mins)     | 240    | Check Discharge Volume  | x |
| Winter CV            | 0.950    | Additional Storage (m³/ha) | 20.0   |                         |   |

### Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360

| Return Period (years) | Climate Change (CC %) | Additional Area (A %) | Additional Flow (Q %) |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 1                     | 0                     | 0                     | 0                     |
| 10                    | 0                     | 0                     | 0                     |
| 30                    | 0                     | 0                     | 0                     |
| 100                   | 0                     | 0                     | 0                     |
| 100                   | 40                    | 0                     | 0                     |

### Node SW3 Online Orifice Control

|                 |       |                          |        |                       |       |
|-----------------|-------|--------------------------|--------|-----------------------|-------|
| Flap Valve      | x     | Replaces Downstream Link | x      | Diameter (m)          | 0.001 |
| Downstream Link | 1.003 | Invert Level (m)         | 20.000 | Discharge Coefficient | 0.600 |

### Node Greenroof 2 Online Orifice Control

|                 |       |                          |        |                       |       |
|-----------------|-------|--------------------------|--------|-----------------------|-------|
| Flap Valve      | x     | Replaces Downstream Link | x      | Diameter (m)          | 0.035 |
| Downstream Link | 1.000 | Invert Level (m)         | 38.650 | Discharge Coefficient | 0.600 |

### Node Greenroof 4 Online Orifice Control

|                 |       |                          |        |                       |       |
|-----------------|-------|--------------------------|--------|-----------------------|-------|
| Flap Valve      | x     | Replaces Downstream Link | x      | Diameter (m)          | 0.035 |
| Downstream Link | 3.000 | Invert Level (m)         | 38.650 | Discharge Coefficient | 0.600 |

### Node Greenroof 3 Online Orifice Control

|                 |       |                          |        |                       |       |
|-----------------|-------|--------------------------|--------|-----------------------|-------|
| Flap Valve      | x     | Replaces Downstream Link | x      | Diameter (m)          | 0.035 |
| Downstream Link | 4.000 | Invert Level (m)         | 38.650 | Discharge Coefficient | 0.600 |

### Node Greenroof 1 Online Orifice Control

|                 |       |                          |        |                       |       |
|-----------------|-------|--------------------------|--------|-----------------------|-------|
| Flap Valve      | x     | Replaces Downstream Link | x      | Diameter (m)          | 0.035 |
| Downstream Link | 2.000 | Invert Level (m)         | 38.650 | Discharge Coefficient | 0.600 |

### Node SW3 Tank Storage Structure

|                  |        |                           |                                |   |
|------------------|--------|---------------------------|--------------------------------|---|
| Invert Level (m) | 20.000 | Time to half empty (mins) | Analyse flow through structure | x |
|------------------|--------|---------------------------|--------------------------------|---|

#### Inlets SW6

| Depth (m) | Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) |
|-----------|------------------------|-----------|------------------------|-----------|------------------------|
| 0.000     | 40.0                   | 2.000     | 40.0                   | 2.001     | 0.0                    |

### Node Greenroof 1 Carpark Storage Structure

|                             |         |                           |        |               |        |
|-----------------------------|---------|---------------------------|--------|---------------|--------|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m)          | 38.650 | Slope (1:X)   | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 248    | Depth (m)     | 0.150  |
| Safety Factor               | 2.0     | Width (m)                 | 8.000  | Inf Depth (m) |        |
| Porosity                    | 1.00    | Length (m)                | 30.000 |               |        |

### Node Greenroof 2 Carpark Storage Structure

|                             |         |                           |        |               |        |
|-----------------------------|---------|---------------------------|--------|---------------|--------|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m)          | 38.650 | Slope (1:X)   | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 248    | Depth (m)     | 0.150  |
| Safety Factor               | 2.0     | Width (m)                 | 8.000  | Inf Depth (m) |        |
| Porosity                    | 1.00    | Length (m)                | 30.000 |               |        |

### Node Greenroof 3 Carpark Storage Structure

|                             |         |                           |        |               |        |
|-----------------------------|---------|---------------------------|--------|---------------|--------|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m)          | 38.650 | Slope (1:X)   | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 248    | Depth (m)     | 0.150  |
| Safety Factor               | 2.0     | Width (m)                 | 8.000  | Inf Depth (m) |        |
| Porosity                    | 1.00    | Length (m)                | 30.000 |               |        |

### Node Greenroof 4 Carpark Storage Structure

|                             |         |                           |        |               |        |
|-----------------------------|---------|---------------------------|--------|---------------|--------|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m)          | 38.650 | Slope (1:X)   | 9999.9 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 248    | Depth (m)     | 0.150  |
| Safety Factor               | 2.0     | Width (m)                 | 8.000  | Inf Depth (m) |        |
| Porosity                    | 1.00    | Length (m)                | 30.000 |               |        |

### Other (defaults)

|                      |       |                       |       |                          |       |
|----------------------|-------|-----------------------|-------|--------------------------|-------|
| Entry Loss (manhole) | 0.250 | Entry Loss (junction) | 0.000 | Apply Recommended Losses | x     |
| Exit Loss (manhole)  | 0.250 | Exit Loss (junction)  | 0.000 | Flood Risk (m)           | 0.300 |

**Results for 1 year Critical Storm Duration. Lowest mass balance: 97.43%**

| Node Event        | US<br>Node  | Peak<br>(mins) | Level<br>(m) | Depth<br>(m) | Inflow<br>(l/s) | Node<br>Vol (m³) | Flood<br>(m³) | Status     |
|-------------------|-------------|----------------|--------------|--------------|-----------------|------------------|---------------|------------|
| 360 minute winter | SW1         | 288            | 23.010       | 0.010        | 0.2             | 0.0016           | 0.0000        | OK         |
| 240 minute winter | SW2         | 228            | 22.383       | 0.015        | 0.8             | 0.0023           | 0.0000        | OK         |
| 360 minute winter | SW3         | 600            | 20.318       | 0.318        | 0.3             | 12.9750          | 0.0000        | SURCHARGED |
| 360 minute winter | SW4         | 288            | 23.010       | 0.010        | 0.2             | 0.0016           | 0.0000        | OK         |
| 240 minute winter | SW5         | 228            | 22.378       | 0.013        | 0.7             | 0.0021           | 0.0000        | OK         |
| 360 minute winter | SW6         | 600            | 20.318       | 0.318        | 0.3             | 0.0000           | 0.0000        | OK         |
| 240 minute summer | 1           | 160            | 19.873       | 0.000        | 0.0             | 0.0000           | 0.0000        | OK         |
| 360 minute winter | Greenroof 1 | 280            | 38.671       | 0.021        | 0.7             | 4.6540           | 0.0000        | OK         |
| 360 minute winter | Greenroof 2 | 280            | 38.671       | 0.021        | 0.7             | 4.6708           | 0.0000        | OK         |
| 360 minute winter | Greenroof 3 | 280            | 38.671       | 0.021        | 0.7             | 4.6542           | 0.0000        | OK         |
| 360 minute winter | Greenroof 4 | 280            | 38.671       | 0.021        | 0.7             | 4.6709           | 0.0000        | OK         |

| Link Event<br>(Upstream Depth) | US<br>Node  | Link  | DS<br>Node | Outflow<br>(l/s) | Velocity<br>(m/s) | Flow/Cap | Link<br>Vol (m³) | Discharge<br>Vol (m³) |
|--------------------------------|-------------|-------|------------|------------------|-------------------|----------|------------------|-----------------------|
| 360 minute winter              | SW1         | 1.001 | SW2        | 0.2              | 0.308             | 0.009    | 0.0288           | 0.0                   |
| 240 minute winter              | SW2         | 1.002 | SW3        | 0.3              | 0.376             | 0.017    | 0.0077           |                       |
| 360 minute winter              | SW3         | 1.003 | 1          | 0.0              | 0.000             | 0.000    | 0.0002           |                       |
| 360 minute winter              | SW4         | 3.001 | SW5        | 0.2              | 0.308             | 0.009    | 0.0290           |                       |
| 240 minute winter              | SW5         | 3.002 | SW6        | 0.3              | 0.453             | 0.013    | 0.0035           |                       |
| 360 minute winter              | Greenroof 1 | 2.000 | SW2        | 0.6              | 0.000             | 0.007    | 0.0001           |                       |
| 360 minute winter              | Greenroof 2 | 1.000 | SW1        | 0.2              | 0.705             | 0.002    | 0.0018           |                       |
| 360 minute winter              | Greenroof 3 | 4.000 | SW5        | 0.5              | 0.000             | 0.006    | 0.0001           |                       |
| 360 minute winter              | Greenroof 4 | 3.000 | SW4        | 0.2              | 0.704             | 0.002    | 0.0018           |                       |

**Results for 10 year Critical Storm Duration. Lowest mass balance: 99.68%**

| Node Event        | US Node     | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|-------------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 360 minute summer | SW1         | 264         | 23.016    | 0.016     | 0.4          | 0.0026        | 0.0000     | OK         |
| 360 minute summer | SW2         | 264         | 22.391    | 0.023     | 0.9          | 0.0037        | 0.0000     | OK         |
| 360 minute winter | SW3         | 600         | 20.924    | 0.924     | 0.9          | 37.7398       | 0.0000     | SURCHARGED |
| 360 minute summer | SW4         | 264         | 23.016    | 0.016     | 0.4          | 0.0026        | 0.0000     | OK         |
| 360 minute summer | SW5         | 264         | 22.385    | 0.020     | 0.9          | 0.0033        | 0.0000     | OK         |
| 360 minute winter | SW6         | 600         | 20.924    | 0.924     | 0.9          | 0.0000        | 0.0000     | OK         |
| 360 minute winter | 1           | 600         | 19.873    | 0.000     | 0.0          | 0.0000        | 0.0000     | OK         |
| 360 minute summer | Greenroof 1 | 264         | 38.697    | 0.047     | 2.7          | 10.8472       | 0.0000     | OK         |
| 360 minute summer | Greenroof 2 | 264         | 38.697    | 0.047     | 2.7          | 10.8568       | 0.0000     | OK         |
| 360 minute summer | Greenroof 3 | 264         | 38.697    | 0.047     | 2.7          | 10.8474       | 0.0000     | OK         |
| 360 minute summer | Greenroof 4 | 264         | 38.697    | 0.047     | 2.7          | 10.8569       | 0.0000     | OK         |

| Link Event (Upstream Depth) | US Node     | Link  | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|-----------------------------|-------------|-------|---------|---------------|----------------|----------|---------------|--------------------|
| 360 minute summer           | SW1         | 1.001 | SW2     | 0.4           | 0.425          | 0.025    | 0.0598        | 0.0                |
| 360 minute summer           | SW2         | 1.002 | SW3     | 0.9           | 0.517          | 0.049    | 0.0157        |                    |
| 360 minute winter           | SW3         | 1.003 | 1       | 0.0           | 0.000          | 0.000    | 0.0002        |                    |
| 360 minute summer           | SW4         | 3.001 | SW5     | 0.4           | 0.425          | 0.025    | 0.0602        |                    |
| 360 minute summer           | SW5         | 3.002 | SW6     | 0.9           | 0.620          | 0.037    | 0.0074        |                    |
|                             |             |       |         |               |                |          |               |                    |
| 360 minute summer           | Greenroof 1 | 2.000 | SW2     | 0.5           | 2.990          | 0.006    | 0.0010        |                    |
| 360 minute summer           | Greenroof 2 | 1.000 | SW1     | 0.4           | 0.973          | 0.005    | 0.0036        |                    |
| 360 minute summer           | Greenroof 3 | 4.000 | SW5     | 0.5           | 2.912          | 0.005    | 0.0011        |                    |
| 360 minute summer           | Greenroof 4 | 3.000 | SW4     | 0.4           | 0.972          | 0.005    | 0.0037        |                    |

**Results for 30 year Critical Storm Duration. Lowest mass balance: 99.85%**

| Node Event        | US Node     | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|-------------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 360 minute summer | SW1         | 264         | 23.018    | 0.018     | 0.5          | 0.0028        | 0.0000     | OK         |
| 360 minute summer | SW2         | 264         | 22.393    | 0.025     | 1.0          | 0.0040        | 0.0000     | OK         |
| 360 minute winter | SW3         | 600         | 21.169    | 1.169     | 1.0          | 47.7532       | 0.0000     | SURCHARGED |
| 360 minute summer | SW4         | 264         | 23.018    | 0.018     | 0.5          | 0.0028        | 0.0000     | OK         |
| 360 minute summer | SW5         | 264         | 22.387    | 0.022     | 1.0          | 0.0036        | 0.0000     | OK         |
| 360 minute winter | SW6         | 600         | 21.169    | 1.169     | 1.0          | 0.0000        | 0.0000     | OK         |
| 360 minute winter | 1           | 600         | 19.873    | 0.000     | 0.0          | 0.0000        | 0.0000     | OK         |
| 360 minute summer | Greenroof 1 | 264         | 38.709    | 0.059     | 3.5          | 13.8787       | 0.0000     | OK         |
| 360 minute summer | Greenroof 2 | 264         | 38.709    | 0.059     | 3.5          | 13.8886       | 0.0000     | OK         |
| 360 minute summer | Greenroof 3 | 264         | 38.709    | 0.059     | 3.5          | 13.8789       | 0.0000     | OK         |
| 360 minute summer | Greenroof 4 | 264         | 38.709    | 0.059     | 3.5          | 13.8887       | 0.0000     | OK         |

  

| Link Event (Upstream Depth) | US Node     | Link  | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|-----------------------------|-------------|-------|---------|---------------|----------------|----------|---------------|--------------------|
| 360 minute summer           | SW1         | 1.001 | SW2     | 0.5           | 0.449          | 0.029    | 0.0678        | 0.0                |
| 360 minute summer           | SW2         | 1.002 | SW3     | 1.0           | 0.544          | 0.059    | 0.0179        |                    |
| 360 minute winter           | SW3         | 1.003 | 1       | 0.0           | 0.000          | 0.000    | 0.0002        |                    |
| 360 minute summer           | SW4         | 3.001 | SW5     | 0.5           | 0.448          | 0.029    | 0.0682        |                    |
| 360 minute summer           | SW5         | 3.002 | SW6     | 1.0           | 0.652          | 0.045    | 0.0084        |                    |
| 360 minute summer           | Greenroof 1 | 2.000 | SW2     | 0.6           | 3.153          | 0.006    | 0.0012        |                    |
| 360 minute summer           | Greenroof 2 | 1.000 | SW1     | 0.5           | 1.028          | 0.006    | 0.0041        |                    |
| 360 minute summer           | Greenroof 3 | 4.000 | SW5     | 0.5           | 3.071          | 0.006    | 0.0013        |                    |
| 360 minute summer           | Greenroof 4 | 3.000 | SW4     | 0.5           | 1.026          | 0.006    | 0.0042        |                    |

**Results for 100 year Critical Storm Duration. Lowest mass balance: 99.73%**

| Node Event        | US Node     | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|-------------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 360 minute summer | SW1         | 272         | 23.019    | 0.019     | 0.6          | 0.0031        | 0.0000     | OK         |
| 360 minute summer | SW2         | 272         | 22.395    | 0.027     | 1.2          | 0.0044        | 0.0000     | OK         |
| 360 minute summer | SW3         | 600         | 21.432    | 1.432     | 1.2          | 58.4715       | 0.0000     | SURCHARGED |
| 360 minute summer | SW4         | 272         | 23.019    | 0.019     | 0.6          | 0.0031        | 0.0000     | OK         |
| 360 minute summer | SW5         | 272         | 22.389    | 0.024     | 1.2          | 0.0039        | 0.0000     | OK         |
| 360 minute summer | SW6         | 600         | 21.432    | 1.432     | 1.2          | 0.0000        | 0.0000     | OK         |
| 360 minute summer | 1           | 600         | 19.873    | 0.000     | 0.0          | 0.0000        | 0.0000     | OK         |
| 360 minute summer | Greenroof 1 | 272         | 38.726    | 0.076     | 4.4          | 17.8548       | 0.0000     | OK         |
| 360 minute summer | Greenroof 2 | 272         | 38.726    | 0.076     | 4.4          | 17.8650       | 0.0000     | OK         |
| 360 minute summer | Greenroof 3 | 272         | 38.726    | 0.076     | 4.4          | 17.8550       | 0.0000     | OK         |
| 360 minute summer | Greenroof 4 | 272         | 38.726    | 0.076     | 4.4          | 17.8651       | 0.0000     | OK         |

  

| Link Event (Upstream Depth) | US Node     | Link  | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|-----------------------------|-------------|-------|---------|---------------|----------------|----------|---------------|--------------------|
| 360 minute summer           | SW1         | 1.001 | SW2     | 0.6           | 0.472          | 0.035    | 0.0761        | 0.0                |
| 360 minute summer           | SW2         | 1.002 | SW3     | 1.2           | 0.571          | 0.070    | 0.0202        |                    |
| 360 minute summer           | SW3         | 1.003 | 1       | 0.0           | 0.000          | 0.000    | 0.0003        |                    |
| 360 minute summer           | SW4         | 3.001 | SW5     | 0.6           | 0.472          | 0.035    | 0.0766        |                    |
| 360 minute summer           | SW5         | 3.002 | SW6     | 1.2           | 0.684          | 0.053    | 0.0095        |                    |
| 360 minute summer           | Greenroof 1 | 2.000 | SW2     | 0.6           | 3.317          | 0.007    | 0.0013        |                    |
| 360 minute summer           | Greenroof 2 | 1.000 | SW1     | 0.6           | 1.081          | 0.007    | 0.0046        |                    |
| 360 minute summer           | Greenroof 3 | 4.000 | SW5     | 0.6           | 3.232          | 0.007    | 0.0014        |                    |
| 360 minute summer           | Greenroof 4 | 3.000 | SW4     | 0.6           | 1.079          | 0.007    | 0.0047        |                    |

**Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.57%**

| Node Event        | US Node     | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|-------------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 360 minute summer | SW1         | 288         | 23.021    | 0.021     | 0.8          | 0.0034        | 0.0000     | OK         |
| 360 minute summer | SW2         | 288         | 22.399    | 0.031     | 1.5          | 0.0049        | 0.0000     | OK         |
| 360 minute summer | SW3         | 600         | 21.856    | 1.856     | 1.5          | 75.8001       | 0.0000     | SURCHARGED |
| 360 minute summer | SW4         | 288         | 23.021    | 0.021     | 0.8          | 0.0034        | 0.0000     | OK         |
| 360 minute summer | SW5         | 288         | 22.392    | 0.027     | 1.5          | 0.0043        | 0.0000     | OK         |
| 360 minute summer | SW6         | 600         | 21.856    | 1.856     | 1.5          | 0.0000        | 0.0000     | OK         |
| 360 minute summer | 1           | 600         | 19.873    | 0.000     | 0.0          | 0.0000        | 0.0000     | OK         |
| 360 minute summer | Greenroof 1 | 288         | 38.758    | 0.108     | 6.2          | 25.5802       | 0.0000     | SURCHARGED |
| 360 minute summer | Greenroof 2 | 288         | 38.758    | 0.108     | 6.2          | 25.5907       | 0.0000     | SURCHARGED |
| 360 minute summer | Greenroof 3 | 288         | 38.758    | 0.108     | 6.2          | 25.5804       | 0.0000     | SURCHARGED |
| 360 minute summer | Greenroof 4 | 288         | 38.758    | 0.108     | 6.2          | 25.5908       | 0.0000     | SURCHARGED |

  

| Link Event (Upstream Depth) | US Node     | Link  | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|-----------------------------|-------------|-------|---------|---------------|----------------|----------|---------------|--------------------|
| 360 minute summer           | SW1         | 1.001 | SW2     | 0.8           | 0.504          | 0.043    | 0.0887        | 0.1                |
| 360 minute summer           | SW2         | 1.002 | SW3     | 1.5           | 0.608          | 0.087    | 0.0236        |                    |
| 360 minute summer           | SW3         | 1.003 | 1       | 0.0           | 0.000          | 0.000    | 0.0003        |                    |
| 360 minute summer           | SW4         | 3.001 | SW5     | 0.8           | 0.504          | 0.043    | 0.0893        |                    |
| 360 minute summer           | SW5         | 3.002 | SW6     | 1.5           | 0.727          | 0.066    | 0.0111        |                    |
| 360 minute summer           | Greenroof 1 | 2.000 | SW2     | 0.9           | 3.553          | 0.009    | 0.0015        |                    |
| 360 minute summer           | Greenroof 2 | 1.000 | SW1     | 0.8           | 1.154          | 0.009    | 0.0054        |                    |
| 360 minute summer           | Greenroof 3 | 4.000 | SW5     | 0.9           | 3.460          | 0.010    | 0.0017        |                    |
| 360 minute summer           | Greenroof 4 | 3.000 | SW4     | 0.8           | 1.153          | 0.009    | 0.0054        |                    |