

### Design Settings

|                                      |        |                                    |               |
|--------------------------------------|--------|------------------------------------|---------------|
| Rainfall Methodology                 | FEH-22 | Minimum Velocity (m/s)             | 1.00          |
| Return Period (years)                | 2      | Connection Type                    | Level Soffits |
| Additional Flow (%)                  | 0      | Minimum Backdrop Height (m)        | 0.200         |
| CV                                   | 1.000  | Preferred Cover Depth (m)          | 1.200         |
| Time of Entry (mins)                 | 4.00   | Include Intermediate Ground        | ✓             |
| Maximum Time of Concentration (mins) | 30.00  | Enforce best practice design rules | ✓             |
| Maximum Rainfall (mm/hr)             | 75.0   |                                    |               |

### Nodes

| Name            | Area<br>(ha) | Cover<br>Level<br>(m) | Diameter<br>(mm) | Easting<br>(m) | Northing<br>(m) | Depth<br>(m) |
|-----------------|--------------|-----------------------|------------------|----------------|-----------------|--------------|
| Detention Basin | 0.018        | 42.200                | 450              | 528479.103     | 116663.534      | 0.730        |

### 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            | 1.000    | Drain Down Time (mins)     | 240    | Check Discharge Volume  | x |
| Winter CV            | 1.000    | Additional Storage (m³/ha) | 0.0    |                         |   |

### Storm Durations

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

| Return Period<br>(years) | Climate Change<br>(CC %) | Additional Area<br>(A %) | Additional Flow<br>(Q %) |
|--------------------------|--------------------------|--------------------------|--------------------------|
| 1                        | 0                        | 0                        | 0                        |
| 10                       | 0                        | 0                        | 0                        |
| 30                       | 0                        | 0                        | 0                        |
| 30                       | 45                       | 0                        | 0                        |
| 100                      | 0                        | 0                        | 0                        |
| 100                      | 45                       | 10                       | 0                        |

### Node Detention Basin Online Orifice Control

|                          |        |                   |       |                       |       |
|--------------------------|--------|-------------------|-------|-----------------------|-------|
| Flap Valve               | x      | Design Depth (m)  | 0.450 | Discharge Coefficient | 0.600 |
| Replaces Downstream Link | x      | Design Flow (l/s) | 1.5   |                       |       |
| Invert Level (m)         | 41.470 | Diameter (m)      | 0.033 |                       |       |

### Node Detention Basin Depth/Area Storage Structure

|                             |         |               |      |                           |        |
|-----------------------------|---------|---------------|------|---------------------------|--------|
| Base Inf Coefficient (m/hr) | 0.00000 | Safety Factor | 2.0  | Invert Level (m)          | 41.470 |
| Side Inf Coefficient (m/hr) | 0.00000 | Porosity      | 1.00 | Time to half empty (mins) | 84     |

| Depth<br>(m) | Area<br>(m²) | Inf Area<br>(m²) | Depth<br>(m) | Area<br>(m²) | Inf Area<br>(m²) | Depth<br>(m) | Area<br>(m²) | Inf Area<br>(m²) | Depth<br>(m) | Area<br>(m²) | Inf Area<br>(m²) |
|--------------|--------------|------------------|--------------|--------------|------------------|--------------|--------------|------------------|--------------|--------------|------------------|
| 0.000        | 11.0         | 0.0              | 0.200        | 19.2         | 0.0              | 0.400        | 29.6         | 0.0              | 0.600        | 42.3         | 0.0              |
| 0.100        | 14.8         | 0.0              | 0.300        | 24.1         | 0.0              | 0.500        | 35.7         | 0.0              | 0.700        | 49.5         | 0.0              |

**Results for 1 year Critical Storm Duration. Lowest mass balance: 100.00%**

| 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 |
|--------------------------------|-----------------|----------------|------------------|-----------------------|-----------------|------------------|---------------|--------|
| 120 minute summer              | Detention Basin | 74             | 41.551           | 0.081                 | 1.3             | 1.0234           | 0.0000        | OK     |
| Link Event<br>(Upstream Depth) | US<br>Node      | Link           | Outflow<br>(l/s) | Discharge<br>Vol (m³) |                 |                  |               |        |
| 120 minute summer              | Detention Basin | Orifice        | 0.6              | 2.4                   |                 |                  |               |        |

**Results for 10 year Critical Storm Duration. Lowest mass balance: 100.00%**

| 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 |
|------------------|-----------------|----------------|--------------|--------------|-----------------|------------------|---------------|--------|
| 60 minute summer | Detention Basin | 44             | 41.662       | 0.192        | 4.5             | 2.8695           | 0.0000        | OK     |

| Link Event<br>(Upstream Depth) | US<br>Node      | Link    | Outflow<br>(l/s) | Discharge<br>Vol (m³) |
|--------------------------------|-----------------|---------|------------------|-----------------------|
| 60 minute summer               | Detention Basin | Orifice | 1.0              | 4.6                   |

**Results for 30 year Critical Storm Duration. Lowest mass balance: 100.00%**

| 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 |
|------------------|-----------------|----------------|--------------|--------------|-----------------|------------------|---------------|--------|
| 60 minute summer | Detention Basin | 44             | 41.714       | 0.244        | 6.0             | 3.9225           | 0.0000        | OK     |

| Link Event<br>(Upstream Depth) | US<br>Node      | Link    | Outflow<br>(l/s) | Discharge<br>Vol (m³) |
|--------------------------------|-----------------|---------|------------------|-----------------------|
| 60 minute summer               | Detention Basin | Orifice | 1.1              | 6.1                   |

**Results for 30 year +45% CC Critical Storm Duration. Lowest mass balance: 100.00%**

| 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 |
|-------------------|-----------------|----------------|--------------|--------------|-----------------|------------------|---------------|--------|
| 120 minute summer | Detention Basin | 82             | 41.805       | 0.335        | 5.7             | 6.0840           | 0.0000        | OK     |

| Link Event<br>(Upstream Depth) | US<br>Node      | Link    | Outflow<br>(l/s) | Discharge<br>Vol (m³) |
|--------------------------------|-----------------|---------|------------------|-----------------------|
| 120 minute summer              | Detention Basin | Orifice | 1.3              | 10.9                  |

**Results for 100 year Critical Storm Duration. Lowest mass balance: 100.00%**

| 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 |
|--------------------------------|-----------------|----------------|------------------|-----------------------|-----------------|------------------|---------------|--------|
| 60 minute summer               | Detention Basin | 46             | 41.769           | 0.299                 | 7.6             | 5.1863           | 0.0000        | OK     |
| Link Event<br>(Upstream Depth) | US<br>Node      | Link           | Outflow<br>(l/s) | Discharge<br>Vol (m³) |                 |                  |               |        |
| 60 minute summer               | Detention Basin | Orifice        | 1.2              | 7.7                   |                 |                  |               |        |

**Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 100.00%**

| 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 |
|--------------------------------|-----------------|----------------|------------------|-----------------------|-----------------|------------------|---------------|--------|
| 120 minute summer              | Detention Basin | 84             | 41.906           | 0.436                 | 7.9             | 9.0158           | 0.0000        | OK     |
| Link Event<br>(Upstream Depth) | US<br>Node      | Link           | Outflow<br>(l/s) | Discharge<br>Vol (m³) |                 |                  |               |        |
| 120 minute summer              | Detention Basin | Orifice        | 1.5              | 15.0                  |                 |                  |               |        |