



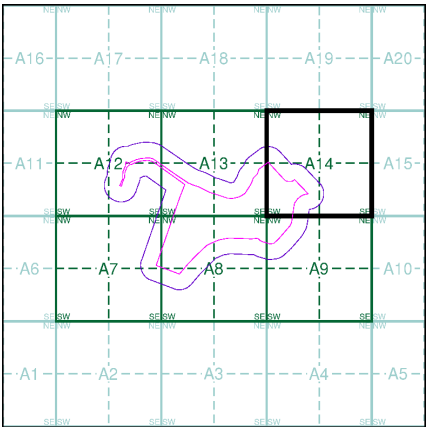


## Historical Aerial Photography

**Published 1999**

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

### Historical Aerial Photography - Segment A14



### Order Details

|                          |                |
|--------------------------|----------------|
| Order Number:            | 366723883_1_1  |
| Customer Ref:            | 4362           |
| National Grid Reference: | 445940, 117680 |
| Slice:                   | A              |
| Site Area (Ha):          | 32.62          |
| Search Buffer (m):       | 100            |

### Site Details

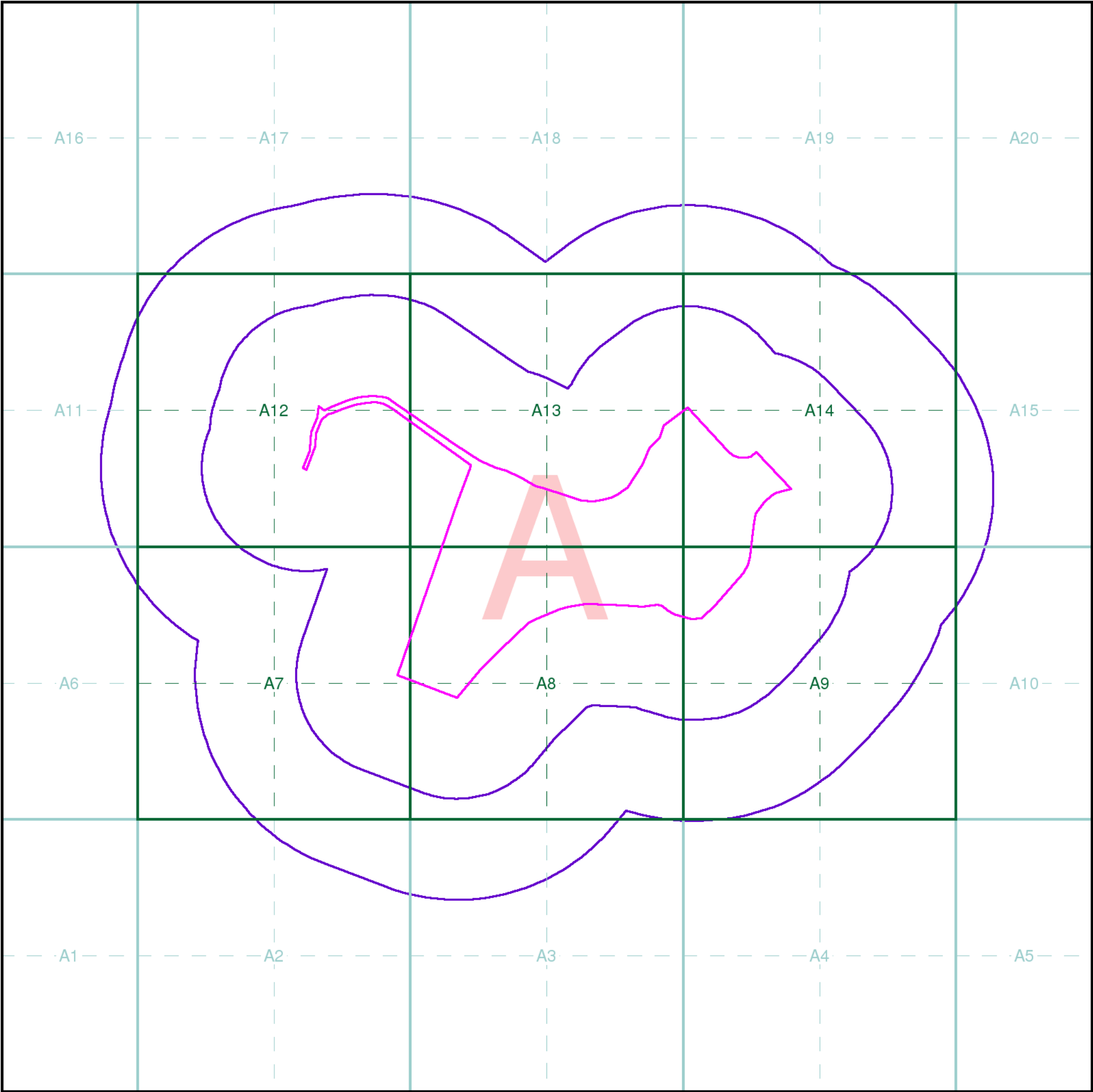
Mitchell Way, Southampton, SO50 5QJ



Landmark<sup>®</sup>  
INFORMATION GROUP

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Web: [www.envirocheck.co.uk](http://www.envirocheck.co.uk)

A Landmark Information Group Service v50.0 08-Jan-2025 Page 16 of 16



Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

**Slice**  
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

**Segment**  
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

**Quadrant**  
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:



Envirocheck reports are compiled from 136 different sources of data.

Client Details

Mr A Wilson, Geo2 Remediation Ltd, Coniston House,  
Louisa Street, Bradford, West Yorkshire, BD10 8NE

Order Details

Order Number: 366723883\_1\_1  
Customer Ref: 4362  
National Grid Reference: 446060, 117630  
Site Area (Ha): 32.62  
Search Buffer (m): 500

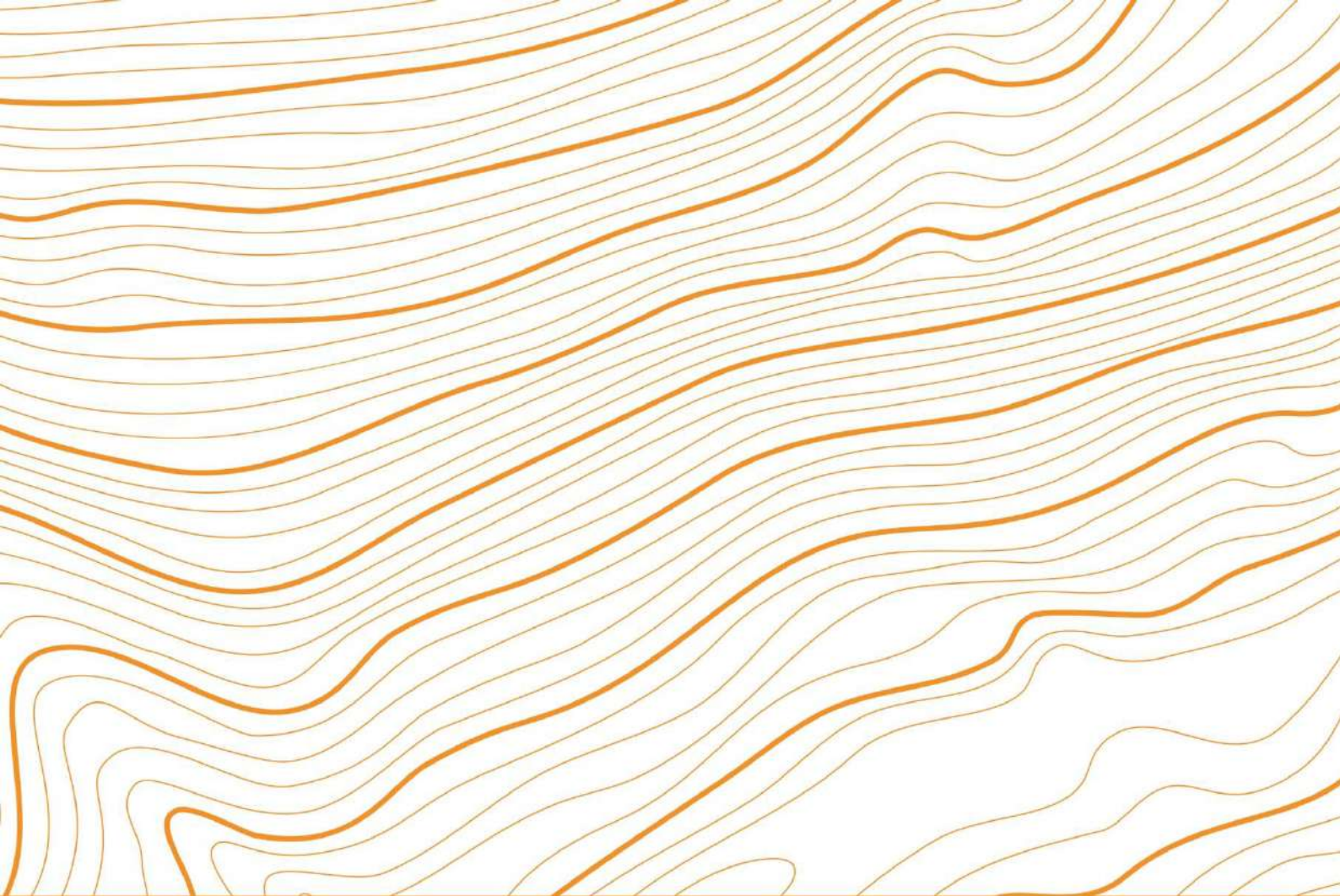
Site Details

Mitchell Way, Southampton, SO50 5QJ

Full Terms and Conditions can be found on the following link:  
<http://www.landmarkinfo.co.uk/Terms/Show/515>



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## **Appendix D – Risk Assessment Terminology**

## Definitions and Classifications of Risk Assessment Terminology.

### Probability

Probability can be defined as the chance of a particular event occurring in a given period of time.

Descriptions of each of the four qualitative terms to be use in this report to describe the perceived probability of any identified pollutant linkage becoming realised are shown below in Table W.

| Term                   | Description                                                                                                                                                                                                                                                        |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>High Likelihood</b> | There is pollutant linkage and an event would appear very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution.                                                                            |
| <b>Likely</b>          | There is pollutant linkage and all the elements are present and in the right place which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term. |
| <b>Low Likelihood</b>  | There is pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place, and is less likely in the shorter term.                                |
| <b>Unlikely</b>        | There is pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long-term.                                                                                                                                  |

**Table W.** Description of Probability Classifications

## Severity

Severity (consequence) can be defined as the adverse effects (or harm) arising from a defined hazard, which impairs the quality of human health or the environment in the short or longer term.

Descriptions of each of the four qualitative terms to be use in this report to describe the perceived potential severity of any identified pollutant linkage becoming realised are shown below in Table X.

| Term          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Severe</b> | <p>Highly elevated concentrations <b>likely</b> to result in “significant harm” to human health as defined by the EPA 1990, Part 2A, if exposure occurs.</p> <p>Equivalent to <b>EA Category 1</b> pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce.</p> <p>Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population.</p> <p>Catastrophic damage to crops, buildings or property.</p> |
| <b>Medium</b> | <p>Elevated concentrations which could result in “significant harm” to human health as defined by the EPA 1990, Part 2A if exposure occurs.</p> <p>Equivalent to <b>EA Category 2</b> pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce.</p> <p>Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population.</p> <p>Significant damage to crops, buildings or property.</p>                                          |
| <b>Mild</b>   | <p>Exposure to human health <b>unlikely</b> to lead to “significant harm”. Equivalent to <b>EA Category 3</b> pollution incident including minimal or short-lived effect on water quality; marginal effect on amenity value, agriculture or commerce.</p> <p>Minor or short-lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population.</p> <p>Minor damage to crops, buildings or property.</p>                                                                                                                                               |
| <b>Minor</b>  | <p>No measurable effect on humans.</p> <p>Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems.</p> <p>Repairable effects of damage to buildings, structures and services.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

**Table X.** Description of Severity Classifications

Once the severity and probability of a pollutant linkage has been determined the risk can be assessed using the risk matrix shown overleaf on Table Y.

### Risk Matrix

By cross referencing the derived severity and probability in Table Y, below the perceived potential risk can be determined.

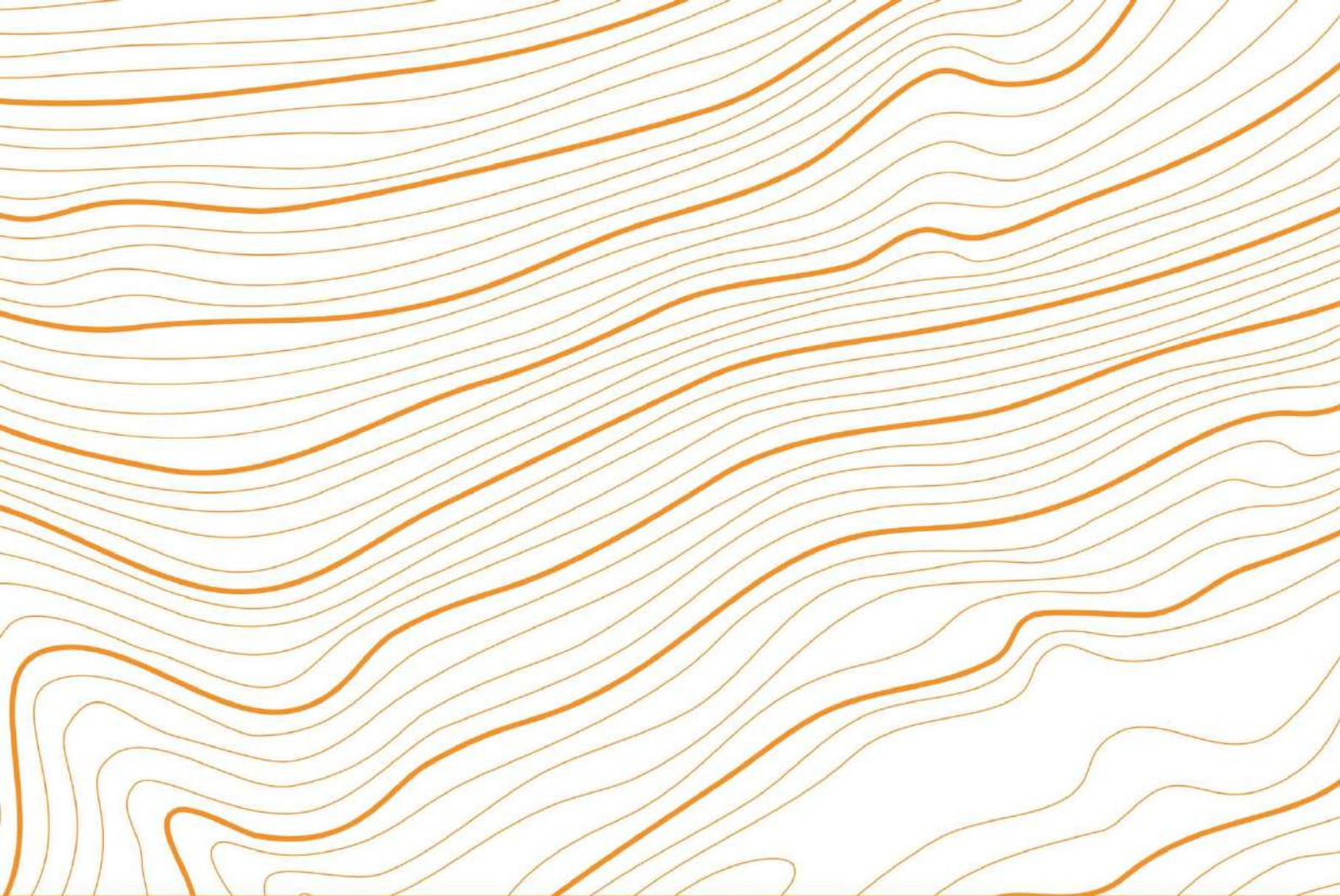
|             |                 | Severity            |                     |                     |                     |
|-------------|-----------------|---------------------|---------------------|---------------------|---------------------|
|             |                 | Severe              | Medium              | Mild                | Minor               |
| Probability | High Likelihood | Very High Risk      | High Risk           | Moderate Risk       | Moderate / Low Risk |
|             | Likely          | High Risk           | Moderate Risk       | Moderate / Low Risk | Low Risk            |
|             | Low Likelihood  | Moderate Risk       | Moderate / Low Risk | Low Risk            | Very Low Risk       |
|             | Unlikely        | Moderate / Low Risk | Low Risk            | Very Low Risk       | Very Low Risk       |

**Table Y.** Risk Assessment Matrix

The risk categories detailed above are defined below in the following Table Z.

| Term                  | Description                                                                                                                                                                                                                                              |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Very High Risk</b> | There is a high probability that significant harm could arise to a designated receptor from an identified hazard at the site without appropriate remedial action.                                                                                        |
| <b>High Risk</b>      | Significant harm is likely to arise to a designated receptor from an identified hazard at the site without appropriate remedial action.                                                                                                                  |
| <b>Moderate Risk</b>  | It is possible that without appropriate remedial action, harm could arise to a designated receptor but it is relatively unlikely that any such harm would be severe and if any harm were to occur, it is likely that such harm would be relatively mild. |
| <b>Low Risk</b>       | It is possible that significant harm could arise to a designated receptor from an identified hazard but it is likely that at worst this harm if realised would normally be mild.                                                                         |
| <b>Very Low Risk</b>  | There is a low possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.                                                                                                                 |

**Table Z.** Definition of Risk



## **Appendix E - Council Enquiry Response**

Thank you for your request, dated 30/01/2025, for the site known as land of Mitchell Way, SO50 5QJ, which is defined by the boundary line shown on plan provided and attached to this response. Our pollution team have reviewed their files, and would like to make the following response:

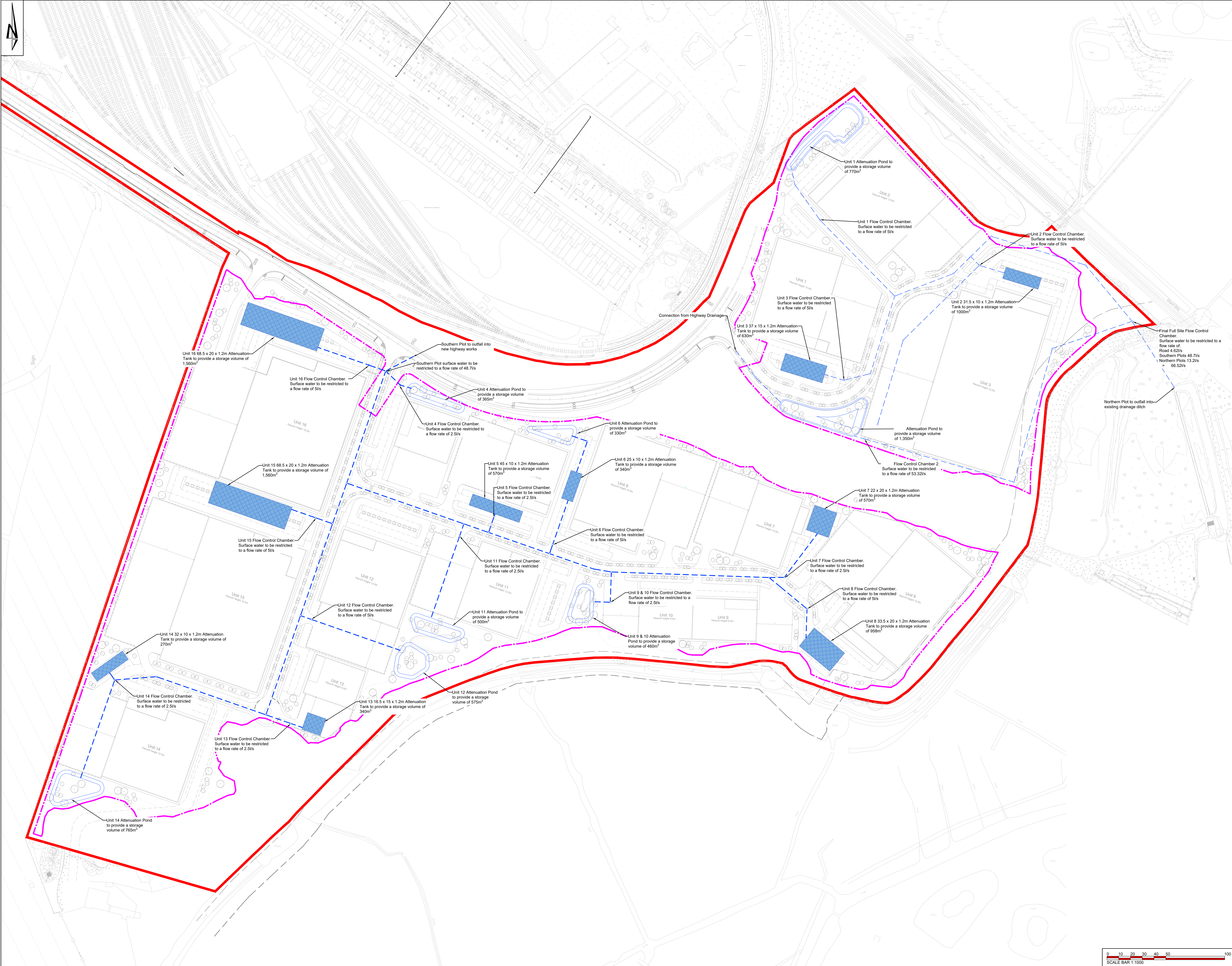
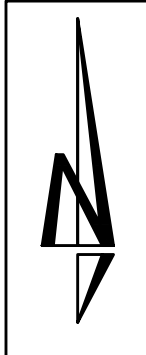
At the time of writing, the above site nor any property / land adjoining the enquiry site have not been determined to meet the statutory definition of 'Contaminated Land' as defined in Part IIA of the Environmental Protection Act 1990.

This Service can confirm that we currently have no plans to investigate this land in connection with the above legislation.

This response is based upon the information available to the Planning and Environment – Pollution Control Service at the time of writing and if new information becomes known, we may review the status of the land.



## **APPENDIX D – DRAINAGE STRATEGY**



THIS DRAWING IS THE COPYRIGHT OF BURROWS GRAHAM LIMITED.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING:

CONSTRUCTION

MAINTENANCE

DEMOLITION

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

- GENERAL NOTES:
1. This drawing shall be read in conjunction with all the relevant architects, engineers' and service engineers drawings & specifications.

2. All units in millimeters U.O.M. on the drawing.

3. Do Not Scale off the drawing.

LEGEND

Surface Water Drainage

Highway Drainage

Plot Boundary

Site Boundary

|     |          |    |                                                                |      |
|-----|----------|----|----------------------------------------------------------------|------|
| P03 | 06.05.25 | MM | Updated to suit planning requirement                           | JW   |
| P02 | 30.04.25 | JB | Southern plot drainage amended to suit latest Architect layout | JW   |
| P01 | 05.02.25 | JB | Issued for information                                         | JW   |
| REV | DATE     | BY | DESCRIPTION                                                    | CHKD |

Burrows Graham

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5 Ambassador Place, Stockport Road,  
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Tel: +44 (0)161 804 8046  
South Office:  
Buckland House, Dover Mews,  
High Street, Bathurst HPA 2BL  
Tel: +44 (0)1422 506 402

CLIENT

BLOC GROUP

PROJECT

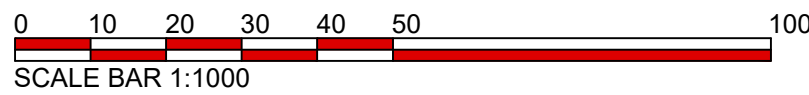
BLOC NAVIGATION QUARTER  
SOUTHAMPTON

DRAWING TITLE

INDICATIVE DRAINAGE LAYOUT

|                    |                |          |            |
|--------------------|----------------|----------|------------|
| BGL PROJECT NUMBER | DRAWING STATUS | OFFICE   | NORTH      |
| 30228              | PRELIMINARY    | JB       | JW         |
| SCALE @ A0         | DATE           | DRAWN BY | CHECKED BY |
| 1:1000             | 05.02.2025     | JB       | JW         |

|                            |     |
|----------------------------|-----|
| DRAWING No                 | REV |
| 30228-BGL-XX-XX-SK-C-00012 | P03 |



## **APPENDIX E – HYDRAULIC CALCULATIONS**

### Design Settings

|                       |                   |                                      |               |
|-----------------------|-------------------|--------------------------------------|---------------|
| Rainfall Methodology  | FSR               | Maximum Time of Concentration (mins) | 30.00         |
| Return Period (years) | 100               | 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)          | 0.200         |
| Ratio-R               | 0.400             | Preferred Cover Depth (m)            | 1.200         |
| CV                    | 0.750             | Include Intermediate Ground          | ✓             |
| Time of Entry (mins)  | 5.00              | Enforce best practice design rules   | x             |

### 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                       |              | 5.00             | 13.246                | 1500             | 445375.421     | 117823.073      | 2.053        |
| 2                       | 0.084        | 5.00             | 12.830                | 1500             | 445391.479     | 117881.060      | 1.757        |
| 3                       |              |                  | 12.890                | 1500             | 445395.002     | 117925.348      | 1.906        |
| 4                       | 0.234        | 5.00             | 13.118                | 1500             | 445408.902     | 117953.928      | 2.198        |
| 5                       |              |                  | 13.462                | 1500             | 445448.416     | 117985.815      | 2.644        |
| 6                       |              |                  | 13.663                | 1500             | 445487.528     | 117995.955      | 2.926        |
| 7                       | 0.175        | 5.00             | 12.683                | 1500             | 445545.231     | 117995.708      | 2.061        |
| 9                       |              |                  | 13.030                | 2100             | 445842.262     | 117807.533      | 4.930        |
| 10                      |              |                  | 13.600                | 2100             | 445767.139     | 117857.098      | 5.700        |
| 11                      | 0.237        | 5.00             | 12.191                | 2100             | 445698.429     | 117902.072      | 4.496        |
| 12                      |              |                  | 9.947                 | 2100             | 445623.955     | 117952.873      | 2.700        |
| Pump                    |              |                  | 10.000                | 2100             | 445628.458     | 117956.484      | 2.764        |
| 14                      | 0.450        | 5.00             | 12.795                | 2100             | 445917.384     | 117757.969      | 4.495        |
| 15                      |              |                  | 11.600                | 1350             | 445993.768     | 117711.796      | 1.800        |
| 16                      |              |                  | 11.327                | 1350             | 446028.978     | 117701.561      | 1.600        |
| 17                      |              |                  | 12.488                | 1350             | 446097.026     | 117699.860      | 2.897        |
| Unit 2 Pond             |              |                  | 11.130                |                  | 446320.821     | 117693.289      | 2.206        |
| 22                      |              |                  | 12.000                | 1350             | 446218.795     | 117750.615      | 2.685        |
| 20                      | 0.239        | 5.00             | 13.425                | 1350             | 446149.440     | 117721.654      | 3.948        |
| 21                      |              |                  | 12.924                | 1350             | 446185.262     | 117752.575      | 3.542        |
| 23                      |              |                  | 12.000                | 1350             | 446235.970     | 117727.432      | 2.743        |
| Outfall                 |              |                  | 7.000                 | 3000             | 446591.641     | 117719.052      | 0.500        |
| North Site              | 4.800        | 5.00             | 12.000                | 1350             | 446534.255     | 117805.998      | 1.650        |
| South Plot FC           | 13.782       | 5.00             | 12.225                | 2100             | 445903.729     | 117708.052      | 2.314        |
| Final Site Flow Control |              |                  | 9.000                 | 3000             | 446555.653     | 117775.297      | 1.800        |
| 24                      |              |                  | 11.500                | 3000             | 446327.913     | 117674.339      | 2.616        |
| 25                      |              |                  | 11.500                | 1500             | 446455.837     | 117639.723      | 2.881        |
| 26                      |              |                  | 10.000                | 1500             | 446487.528     | 117752.042      | 1.614        |

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             | 2                       | 60.169     | 0.600       | 11.193    | 11.073    | 0.120    | 500.0       | 600      | 5.93          | 50.0         |
| 1.001 | 2             | 3                       | 44.428     | 0.600       | 11.073    | 10.984    | 0.089    | 499.2       | 600      | 6.61          | 50.0         |
| 1.002 | 3             | 4                       | 31.781     | 0.600       | 10.984    | 10.920    | 0.064    | 500.0       | 600      | 7.10          | 50.0         |
| 1.003 | 4             | 5                       | 50.775     | 0.600       | 10.920    | 10.818    | 0.102    | 500.0       | 600      | 7.88          | 50.0         |
| 1.004 | 5             | 6                       | 40.405     | 0.600       | 10.818    | 10.737    | 0.081    | 500.0       | 600      | 8.50          | 50.0         |
| 1.005 | 6             | 7                       | 57.704     | 0.600       | 10.737    | 10.622    | 0.115    | 500.0       | 600      | 9.39          | 50.0         |
| 1.006 | 7             | 12                      | 89.623     | 0.600       | 10.622    | 8.147     | 2.475    | 36.2        | 600      | 9.76          | 50.0         |
| 2.000 | 14            | 9                       | 89.999     | 0.600       | 8.300     | 8.100     | 0.200    | 450.0       | 1200     | 5.85          | 50.0         |
| 2.001 | 9             | 10                      | 90.029     | 0.600       | 8.100     | 7.900     | 0.200    | 450.1       | 1200     | 6.71          | 50.0         |
| 2.002 | 10            | 11                      | 82.149     | 0.600       | 7.900     | 7.695     | 0.205    | 400.0       | 1500     | 7.35          | 50.0         |
| 2.003 | 11            | 12                      | 90.151     | 0.600       | 7.695     | 7.247     | 0.448    | 201.2       | 1500     | 7.85          | 50.0         |
| 1.007 | 12            | Pump                    | 5.772      | 0.600       | 7.247     | 7.236     | 0.011    | 524.7       | 1200     | 9.82          | 50.0         |
| 1.008 | Pump          | 15                      | 439.686    | 0.600       | 7.436     | 9.989     | -2.553   | -172.2      | 150      | 17.15         | 50.0         |
| 1.013 | 21            | 22                      | 33.590     | 0.600       | 9.382     | 9.315     | 0.067    | 500.0       | 450      | 21.63         | 50.0         |
| 1.009 | 15            | 16                      | 36.667     | 0.600       | 9.800     | 9.727     | 0.073    | 502.3       | 450      | 17.83         | 50.0         |
| 1.010 | 16            | 17                      | 68.069     | 0.600       | 9.727     | 9.591     | 0.136    | 500.5       | 450      | 19.09         | 50.0         |
| 1.011 | 17            | 20                      | 56.764     | 0.600       | 9.591     | 9.477     | 0.114    | 500.0       | 450      | 20.14         | 50.0         |
| 1.014 | 22            | 23                      | 28.852     | 0.600       | 9.315     | 9.257     | 0.058    | 500.0       | 450      | 22.16         | 50.0         |
| 1.015 | 23            | Unit 2 Pond             | 91.463     | 0.600       | 9.257     | 9.074     | 0.183    | 500.0       | 450      | 23.85         | 50.0         |
| 1.012 | 20            | 21                      | 47.321     | 0.600       | 9.477     | 9.382     | 0.095    | 500.0       | 450      | 21.01         | 50.0         |
| 4.000 | North Site    | Final Site Flow Control | 37.422     | 0.600       | 10.350    | 7.225     | 3.125    | 12.0        | 450      | 5.11          | 50.0         |
| 3.000 | South Plot FC | 15                      | 90.117     | 0.600       | 9.911     | 9.800     | 0.111    | 811.9       | 450      | 7.13          | 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 | 1.082     | 305.9     | 0.0        | 1.453        | 1.157        | 0.000       | 0.0                | 0              | 0.000              |
| 1.001 | 1.083     | 306.2     | 11.3       | 1.157        | 1.306        | 0.084       | 0.0                | 78             | 0.526              |
| 1.002 | 1.082     | 305.9     | 11.3       | 1.306        | 1.598        | 0.084       | 0.0                | 78             | 0.525              |
| 1.003 | 1.082     | 305.9     | 43.0       | 1.598        | 2.044        | 0.318       | 0.0                | 151            | 0.774              |
| 1.004 | 1.082     | 305.9     | 43.0       | 2.044        | 2.326        | 0.318       | 0.0                | 151            | 0.774              |
| 1.005 | 1.082     | 305.9     | 43.0       | 2.326        | 1.461        | 0.318       | 0.0                | 151            | 0.774              |
| 1.006 | 4.055     | 1146.5    | 66.8       | 1.461        | 1.200        | 0.493       | 0.0                | 97             | 2.265              |
| 2.000 | 1.757     | 1986.8    | 61.0       | 3.295        | 3.730        | 0.450       | 0.0                | 141            | 0.818              |
| 2.001 | 1.756     | 1986.5    | 61.0       | 3.730        | 4.500        | 0.450       | 0.0                | 141            | 0.818              |
| 2.002 | 2.138     | 3778.4    | 61.0       | 4.200        | 2.996        | 0.450       | 0.0                | 129            | 0.827              |
| 2.003 | 3.020     | 5336.4    | 93.1       | 2.996        | 1.200        | 0.687       | 0.0                | 134            | 1.200              |
| 1.007 | 1.626     | 1838.9    | 159.9      | 1.500        | 1.564        | 1.180       | 0.0                | 235            | 1.021              |
| 1.008 | 1.000     | 17.7      | 159.9      | 2.414        | 1.461        | 1.180       | 0.0                | 150            | 0.000              |
| 1.013 | 0.902     | 143.5     | 2060.1     | 3.092        | 2.235        | 15.201      | 0.0                | 450            | 0.914              |
| 1.009 | 0.900     | 143.2     | 2027.7     | 1.350        | 1.150        | 14.962      | 0.0                | 450            | 0.912              |
| 1.010 | 0.902     | 143.4     | 2027.7     | 1.150        | 2.447        | 14.962      | 0.0                | 450            | 0.913              |
| 1.011 | 0.902     | 143.5     | 2027.7     | 2.447        | 3.498        | 14.962      | 0.0                | 450            | 0.914              |
| 1.014 | 0.902     | 143.5     | 2060.1     | 2.235        | 2.293        | 15.201      | 0.0                | 450            | 0.914              |
| 1.015 | 0.902     | 143.5     | 2060.1     | 2.293        | 1.606        | 15.201      | 0.0                | 450            | 0.914              |
| 1.012 | 0.902     | 143.5     | 2060.1     | 3.498        | 3.092        | 15.201      | 0.0                | 450            | 0.914              |
| 4.000 | 5.899     | 938.2     | 650.5      | 1.200        | 1.325        | 4.800       | 0.0                | 276            | 6.345              |
| 3.000 | 0.705     | 112.2     | 1867.8     | 1.864        | 1.350        | 13.782      | 0.0                | 450            | 0.715              |

### 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) |
|-------|-------------------------|-------------------------|------------|-------------|-----------|-----------|----------|-------------|----------|---------------|--------------|
| 1.020 | Final Site Flow Control | Outfall                 | 66.773     | 0.600       | 7.225     | 6.500     | 0.725    | 92.1        | 375      | 28.98         | 50.0         |
| 1.016 | Unit 2 Pond             | 24                      | 20.234     | 0.600       | 8.924     | 8.884     | 0.040    | 500.0       | 600      | 24.16         | 50.0         |
| 1.017 | 24                      | 25                      | 132.525    | 0.600       | 8.884     | 8.619     | 0.265    | 500.0       | 600      | 26.21         | 50.0         |
| 1.018 | 25                      | 26                      | 116.704    | 0.600       | 8.619     | 8.386     | 0.233    | 500.0       | 600      | 28.00         | 50.0         |
| 1.019 | 26                      | Final Site Flow Control | 71.985     | 0.600       | 8.386     | 7.200     | 1.186    | 60.7        | 600      | 28.39         | 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) |
|-------|-----------|-----------|------------|--------------|--------------|-------------|--------------------|----------------|--------------------|
| 1.020 | 1.888     | 208.5     | 2710.6     | 1.400        | 0.125        | 20.001      | 0.0                | 375            | 1.912              |
| 1.016 | 1.082     | 305.9     | 2060.1     | 1.606        | 2.016        | 15.201      | 0.0                | 600            | 1.092              |
| 1.017 | 1.082     | 305.9     | 2060.1     | 2.016        | 2.281        | 15.201      | 0.0                | 600            | 1.092              |
| 1.018 | 1.082     | 305.9     | 2060.1     | 2.281        | 1.014        | 15.201      | 0.0                | 600            | 1.092              |
| 1.019 | 3.129     | 884.7     | 2060.1     | 1.014        | 1.200        | 15.201      | 0.0                | 600            | 3.157              |

### Pipeline Schedule

| Link  | Length (m) | Slope (1:X) | Dia (mm) | Link Type | US CL (m) | US IL (m) | US Depth (m) | DS CL (m) | DS IL (m) | DS Depth (m) |
|-------|------------|-------------|----------|-----------|-----------|-----------|--------------|-----------|-----------|--------------|
| 1.000 | 60.169     | 500.0       | 600      | Circular  | 13.246    | 11.193    | 1.453        | 12.830    | 11.073    | 1.157        |
| 1.001 | 44.428     | 499.2       | 600      | Circular  | 12.830    | 11.073    | 1.157        | 12.890    | 10.984    | 1.306        |
| 1.002 | 31.781     | 500.0       | 600      | Circular  | 12.890    | 10.984    | 1.306        | 13.118    | 10.920    | 1.598        |
| 1.003 | 50.775     | 500.0       | 600      | Circular  | 13.118    | 10.920    | 1.598        | 13.462    | 10.818    | 2.044        |
| 1.004 | 40.405     | 500.0       | 600      | Circular  | 13.462    | 10.818    | 2.044        | 13.663    | 10.737    | 2.326        |
| 1.005 | 57.704     | 500.0       | 600      | Circular  | 13.663    | 10.737    | 2.326        | 12.683    | 10.622    | 1.461        |
| 1.006 | 89.623     | 36.2        | 600      | Circular  | 12.683    | 10.622    | 1.461        | 9.947     | 8.147     | 1.200        |
| 2.000 | 89.999     | 450.0       | 1200     | Circular  | 12.795    | 8.300     | 3.295        | 13.030    | 8.100     | 3.730        |
| 2.001 | 90.029     | 450.1       | 1200     | Circular  | 13.030    | 8.100     | 3.730        | 13.600    | 7.900     | 4.500        |
| 2.002 | 82.149     | 400.0       | 1500     | Circular  | 13.600    | 7.900     | 4.200        | 12.191    | 7.695     | 2.996        |
| 2.003 | 90.151     | 201.2       | 1500     | Circular  | 12.191    | 7.695     | 2.996        | 9.947     | 7.247     | 1.200        |
| 1.007 | 5.772      | 524.7       | 1200     | Circular  | 9.947     | 7.247     | 1.500        | 10.000    | 7.236     | 1.564        |
| 1.008 | 439.686    | -172.2      | 150      | Circular  | 10.000    | 7.436     | 2.414        | 11.600    | 9.989     | 1.461        |
| 1.013 | 33.590     | 500.0       | 450      | Circular  | 12.924    | 9.382     | 3.092        | 12.000    | 9.315     | 2.235        |
| 1.009 | 36.667     | 502.3       | 450      | Circular  | 11.600    | 9.800     | 1.350        | 11.327    | 9.727     | 1.150        |

| Link  | US Node | Dia (mm) | Node Type | MH Type   | DS Node | Dia (mm) | Node Type | MH Type   |
|-------|---------|----------|-----------|-----------|---------|----------|-----------|-----------|
| 1.000 | 1       | 1500     | Manhole   | Adoptable | 2       | 1500     | Manhole   | Adoptable |
| 1.001 | 2       | 1500     | Manhole   | Adoptable | 3       | 1500     | Manhole   | Adoptable |
| 1.002 | 3       | 1500     | Manhole   | Adoptable | 4       | 1500     | Manhole   | Adoptable |
| 1.003 | 4       | 1500     | Manhole   | Adoptable | 5       | 1500     | Manhole   | Adoptable |
| 1.004 | 5       | 1500     | Manhole   | Adoptable | 6       | 1500     | Manhole   | Adoptable |
| 1.005 | 6       | 1500     | Manhole   | Adoptable | 7       | 1500     | Manhole   | Adoptable |
| 1.006 | 7       | 1500     | Manhole   | Adoptable | 12      | 2100     | Manhole   | Adoptable |
| 2.000 | 14      | 2100     | Manhole   | Adoptable | 9       | 2100     | Manhole   | Adoptable |
| 2.001 | 9       | 2100     | Manhole   | Adoptable | 10      | 2100     | Manhole   | Adoptable |
| 2.002 | 10      | 2100     | Manhole   | Adoptable | 11      | 2100     | Manhole   | Adoptable |
| 2.003 | 11      | 2100     | Manhole   | Adoptable | 12      | 2100     | Manhole   | Adoptable |
| 1.007 | 12      | 2100     | Manhole   | Adoptable | Pump    | 2100     | Manhole   | Adoptable |
| 1.008 | Pump    | 2100     | Manhole   | Adoptable | 15      | 1350     | Manhole   | Adoptable |
| 1.013 | 21      | 1350     | Manhole   | Adoptable | 22      | 1350     | Manhole   | Adoptable |
| 1.009 | 15      | 1350     | Manhole   | Adoptable | 16      | 1350     | Manhole   | Adoptable |

### Pipeline Schedule

| Link  | Length<br>(m) | Slope<br>(1:X) | Dia<br>(mm) | Link<br>Type | US CL<br>(m) | US IL<br>(m) | US Depth<br>(m) | DS CL<br>(m) | DS IL<br>(m) | DS Depth<br>(m) |
|-------|---------------|----------------|-------------|--------------|--------------|--------------|-----------------|--------------|--------------|-----------------|
| 1.010 | 68.069        | 500.5          | 450         | Circular     | 11.327       | 9.727        | 1.150           | 12.488       | 9.591        | 2.447           |
| 1.011 | 56.764        | 500.0          | 450         | Circular     | 12.488       | 9.591        | 2.447           | 13.425       | 9.477        | 3.498           |
| 1.014 | 28.852        | 500.0          | 450         | Circular     | 12.000       | 9.315        | 2.235           | 12.000       | 9.257        | 2.293           |
| 1.015 | 91.463        | 500.0          | 450         | Circular     | 12.000       | 9.257        | 2.293           | 11.130       | 9.074        | 1.606           |
| 1.012 | 47.321        | 500.0          | 450         | Circular     | 13.425       | 9.477        | 3.498           | 12.924       | 9.382        | 3.092           |
| 4.000 | 37.422        | 12.0           | 450         | Circular     | 12.000       | 10.350       | 1.200           | 9.000        | 7.225        | 1.325           |
| 3.000 | 90.117        | 811.9          | 450         | Circular     | 12.225       | 9.911        | 1.864           | 11.600       | 9.800        | 1.350           |
| 1.020 | 66.773        | 92.1           | 375         | Circular     | 9.000        | 7.225        | 1.400           | 7.000        | 6.500        | 0.125           |
| 1.016 | 20.234        | 500.0          | 600         | Circular     | 11.130       | 8.924        | 1.606           | 11.500       | 8.884        | 2.016           |
| 1.017 | 132.525       | 500.0          | 600         | Circular     | 11.500       | 8.884        | 2.016           | 11.500       | 8.619        | 2.281           |
| 1.018 | 116.704       | 500.0          | 600         | Circular     | 11.500       | 8.619        | 2.281           | 10.000       | 8.386        | 1.014           |
| 1.019 | 71.985        | 60.7           | 600         | Circular     | 10.000       | 8.386        | 1.014           | 9.000        | 7.200        | 1.200           |

| Link  | US<br>Node              | Dia<br>(mm) | Node<br>Type | MH<br>Type | DS<br>Node              | Dia<br>(mm) | Node<br>Type | MH<br>Type |
|-------|-------------------------|-------------|--------------|------------|-------------------------|-------------|--------------|------------|
| 1.010 | 16                      | 1350        | Manhole      | Adoptable  | 17                      | 1350        | Manhole      | Adoptable  |
| 1.011 | 17                      | 1350        | Manhole      | Adoptable  | 20                      | 1350        | Manhole      | Adoptable  |
| 1.014 | 22                      | 1350        | Manhole      | Adoptable  | 23                      | 1350        | Manhole      | Adoptable  |
| 1.015 | 23                      | 1350        | Manhole      | Adoptable  | Unit 2 Pond             |             | Junction     |            |
| 1.012 | 20                      | 1350        | Manhole      | Adoptable  | 21                      | 1350        | Manhole      | Adoptable  |
| 4.000 | North Site              | 1350        | Manhole      | Adoptable  | Final Site Flow Control | 3000        | Manhole      | Adoptable  |
| 3.000 | South Plot FC           | 2100        | Manhole      | Adoptable  | 15                      | 1350        | Manhole      | Adoptable  |
| 1.020 | Final Site Flow Control | 3000        | Manhole      | Adoptable  | Outfall                 | 3000        | Manhole      | Adoptable  |
| 1.016 | Unit 2 Pond             |             | Junction     |            | 24                      | 3000        | Manhole      | Adoptable  |
| 1.017 | 24                      | 3000        | Manhole      | Adoptable  | 25                      | 1500        | Manhole      | Adoptable  |
| 1.018 | 25                      | 1500        | Manhole      | Adoptable  | 26                      | 1500        | Manhole      | Adoptable  |
| 1.019 | 26                      | 1500        | Manhole      | Adoptable  | Final Site Flow Control | 3000        | Manhole      | Adoptable  |

### Manhole Schedule

| Node | Easting<br>(m) | Northing<br>(m) | CL<br>(m) | Depth<br>(m) | Dia<br>(mm) | Connections                                                                          | Link  | IL<br>(m) | Dia<br>(mm) |     |
|------|----------------|-----------------|-----------|--------------|-------------|--------------------------------------------------------------------------------------|-------|-----------|-------------|-----|
| 1    | 445375.421     | 117823.073      | 13.246    | 2.053        | 1500        |  |       |           |             |     |
|      |                |                 |           |              |             | 0                                                                                    | 1.000 | 11.193    | 600         |     |
| 2    | 445391.479     | 117881.060      | 12.830    | 1.757        | 1500        |  | 1     | 1.000     | 11.073      | 600 |
|      |                |                 |           |              |             | 0                                                                                    | 1.001 | 11.073    | 600         |     |
| 3    | 445395.002     | 117925.348      | 12.890    | 1.906        | 1500        |  | 1     | 1.001     | 10.984      | 600 |
|      |                |                 |           |              |             | 0                                                                                    | 1.002 | 10.984    | 600         |     |
| 4    | 445408.902     | 117953.928      | 13.118    | 2.198        | 1500        |  | 1     | 1.002     | 10.920      | 600 |
|      |                |                 |           |              |             | 0                                                                                    | 1.003 | 10.920    | 600         |     |

### 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) |      |
|-------------|----------------|-----------------|-----------|--------------|-------------|--------------------------------------------------------------------------------------------------|------|-----------|-------------|------|
| 5           | 445448.416     | 117985.815      | 13.462    | 2.644        | 1500        | <div>1</div>   | 1    | 1.003     | 10.818      | 600  |
|             |                |                 |           |              |             | <div>0</div>   | 0    | 1.004     | 10.818      | 600  |
| 6           | 445487.528     | 117995.955      | 13.663    | 2.926        | 1500        | <div>1</div>   | 1    | 1.004     | 10.737      | 600  |
|             |                |                 |           |              |             | <div>0</div>   | 0    | 1.005     | 10.737      | 600  |
| 7           | 445545.231     | 117995.708      | 12.683    | 2.061        | 1500        | <div>1</div>   | 1    | 1.005     | 10.622      | 600  |
|             |                |                 |           |              |             | <div>0</div>   | 0    | 1.006     | 10.622      | 600  |
| 9           | 445842.262     | 117807.533      | 13.030    | 4.930        | 2100        | <div>0</div>   | 1    | 2.000     | 8.100       | 1200 |
|             |                |                 |           |              |             | <div>0</div>   | 0    | 2.001     | 8.100       | 1200 |
| 10          | 445767.139     | 117857.098      | 13.600    | 5.700        | 2100        | <div>0</div>  | 1    | 2.001     | 7.900       | 1200 |
|             |                |                 |           |              |             | <div>0</div> | 0    | 2.002     | 7.900       | 1500 |
| 11          | 445698.429     | 117902.072      | 12.191    | 4.496        | 2100        | <div>0</div> | 1    | 2.002     | 7.695       | 1500 |
|             |                |                 |           |              |             | <div>0</div> | 0    | 2.003     | 7.695       | 1500 |
| 12          | 445623.955     | 117952.873      | 9.947     | 2.700        | 2100        | <div>2</div> | 1    | 2.003     | 7.247       | 1500 |
|             |                |                 |           |              |             | <div>2</div> | 2    | 1.006     | 8.147       | 600  |
|             |                |                 |           |              |             | <div>0</div> | 0    | 1.007     | 7.247       | 1200 |
| Pump        | 445628.458     | 117956.484      | 10.000    | 2.764        | 2100        | <div>1</div> | 1    | 1.007     | 7.236       | 1200 |
|             |                |                 |           |              |             | <div>0</div> | 0    | 1.008     | 7.436       | 150  |
| 14          | 445917.384     | 117757.969      | 12.795    | 4.495        | 2100        | <div>0</div> |      |           |             |      |
|             |                |                 |           |              |             | <div>0</div> | 0    | 2.000     | 8.300       | 1200 |
| 15          | 445993.768     | 117711.796      | 11.600    | 1.800        | 1350        | <div>2</div> | 1    | 3.000     | 9.800       | 450  |
|             |                |                 |           |              |             | <div>1</div> | 2    | 1.008     | 9.989       | 150  |
|             |                |                 |           |              |             | <div>0</div> | 0    | 1.009     | 9.800       | 450  |
| 16          | 446028.978     | 117701.561      | 11.327    | 1.600        | 1350        | <div>1</div> | 1    | 1.009     | 9.727       | 450  |
|             |                |                 |           |              |             | <div>0</div> | 0    | 1.010     | 9.727       | 450  |
| 17          | 446097.026     | 117699.860      | 12.488    | 2.897        | 1350        | <div>1</div> | 1    | 1.010     | 9.591       | 450  |
|             |                |                 |           |              |             | <div>0</div> | 0    | 1.011     | 9.591       | 450  |
| Unit 2 Pond | 446320.821     | 117693.289      | 11.130    | 2.206        |             | <div>1</div> | 1    | 1.015     | 9.074       | 450  |
|             |                |                 |           |              |             | <div>0</div> | 0    | 1.016     | 8.924       | 600  |

### Manhole Schedule

| Node                    | Easting (m) | Northing (m) | CL (m) | Depth (m) | Dia (mm) | Connections                                                                           | Link    | IL (m) | Dia (mm) |
|-------------------------|-------------|--------------|--------|-----------|----------|---------------------------------------------------------------------------------------|---------|--------|----------|
| 22                      | 446218.795  | 117750.615   | 12.000 | 2.685     | 1350     |    | 1 1.013 | 9.315  | 450      |
|                         |             |              |        |           |          |                                                                                       | 0 1.014 | 9.315  | 450      |
| 20                      | 446149.440  | 117721.654   | 13.425 | 3.948     | 1350     |    | 1 1.011 | 9.477  | 450      |
|                         |             |              |        |           |          |                                                                                       | 0 1.012 | 9.477  | 450      |
| 21                      | 446185.262  | 117752.575   | 12.924 | 3.542     | 1350     |    | 1 1.012 | 9.382  | 450      |
|                         |             |              |        |           |          |                                                                                       | 0 1.013 | 9.382  | 450      |
| 23                      | 446235.970  | 117727.432   | 12.000 | 2.743     | 1350     |    | 1 1.014 | 9.257  | 450      |
|                         |             |              |        |           |          |                                                                                       | 0 1.015 | 9.257  | 450      |
| Outfall                 | 446591.641  | 117719.052   | 7.000  | 0.500     | 3000     |    | 1 1.020 | 6.500  | 375      |
| North Site              | 446534.255  | 117805.998   | 12.000 | 1.650     | 1350     |  | 0 4.000 | 10.350 | 450      |
| South Plot FC           | 445903.729  | 117708.052   | 12.225 | 2.314     | 2100     |  | 0 3.000 | 9.911  | 450      |
| Final Site Flow Control | 446555.653  | 117775.297   | 9.000  | 1.800     | 3000     |  | 1 4.000 | 7.225  | 450      |
|                         |             |              |        |           |          |                                                                                       | 2 1.019 | 7.200  | 600      |
|                         |             |              |        |           |          |                                                                                       | 0 1.020 | 7.225  | 375      |
| 24                      | 446327.913  | 117674.339   | 11.500 | 2.616     | 3000     |  | 1 1.016 | 8.884  | 600      |
|                         |             |              |        |           |          |                                                                                       | 0 1.017 | 8.884  | 600      |
| 25                      | 446455.837  | 117639.723   | 11.500 | 2.881     | 1500     |  | 1 1.017 | 8.619  | 600      |
|                         |             |              |        |           |          |                                                                                       | 0 1.018 | 8.619  | 600      |
| 26                      | 446487.528  | 117752.042   | 10.000 | 1.614     | 1500     |  | 1 1.018 | 8.386  | 600      |
|                         |             |              |        |           |          |                                                                                       | 0 1.019 | 8.386  | 600      |

### Simulation Settings

Rainfall Methodology FSR  
Rainfall Events Singular  
FSR Region England and Wales  
M5-60 (mm) 20.000  
Ratio-R 0.400  
Summer CV 0.750

Winter CV 0.840  
Analysis Speed Normal  
Skip Steady State x  
Drain Down Time (mins) 240  
Additional Storage (m³/ha) 0.0  
Starting Level (m)

### Simulation Settings

Check Discharge Rate(s)   x   |   Check Discharge Volume   x

#### Storm Durations

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

| Return Period<br>(years) | Climate Change<br>(CC %) | Additional Area<br>(A %) | Additional Flow<br>(Q %) |
|--------------------------|--------------------------|--------------------------|--------------------------|
| 1                        | 0                        | 0                        | 0                        |
| 30                       | 0                        | 0                        | 0                        |
| 100                      | 0                        | 0                        | 0                        |
| 100                      | 25                       | 0                        | 0                        |

### Node Pump Online Pump Control

|                          |       |                     |       |                      |       |
|--------------------------|-------|---------------------|-------|----------------------|-------|
| Flap Valve               | x     | Design Depth (m)    | 5.000 | Switch off depth (m) | 0.050 |
| Replaces Downstream Link | x     | Design Flow (l/s)   | 2.1   |                      |       |
| Invert Level (m)         | 7.436 | Switch on depth (m) | 0.100 |                      |       |

| Depth<br>(m) | Flow<br>(l/s) | Depth<br>(m) | Flow<br>(l/s) |
|--------------|---------------|--------------|---------------|
| 0.100        | 2.100         | 5.000        | 2.100         |

### Node South Plot FC Online Hydro-Brake® Control

|                          |       |                         |                                |
|--------------------------|-------|-------------------------|--------------------------------|
| Flap Valve               | x     | Objective               | (HE) Minimise upstream storage |
| Replaces Downstream Link | ✓     | Sump Available          | ✓                              |
| Invert Level (m)         | 9.911 | Product Number          | CTL-SHE-0285-4870-1500-4870    |
| Design Depth (m)         | 1.500 | Min Outlet Diameter (m) | 0.300                          |
| Design Flow (l/s)        | 48.7  | Min Node Diameter (mm)  | 2100                           |

### Node 24 Online Hydro-Brake® Control

|                          |       |                         |                                |
|--------------------------|-------|-------------------------|--------------------------------|
| Flap Valve               | x     | Objective               | (HE) Minimise upstream storage |
| Replaces Downstream Link | ✓     | Sump Available          | ✓                              |
| Invert Level (m)         | 8.884 | Product Number          | CTL-SHE-0280-5330-2616-5330    |
| Design Depth (m)         | 2.616 | Min Outlet Diameter (m) | 0.300                          |
| Design Flow (l/s)        | 53.3  | Min Node Diameter (mm)  | 3000                           |

### Node Final Site Flow Control Online Hydro-Brake® Control

|                          |       |                         |                                |
|--------------------------|-------|-------------------------|--------------------------------|
| Flap Valve               | x     | Objective               | (HE) Minimise upstream storage |
| Replaces Downstream Link | ✓     | Sump Available          | ✓                              |
| Invert Level (m)         | 7.225 | Product Number          | CTL-SHE-0320-6650-2000-6650    |
| Design Depth (m)         | 2.000 | Min Outlet Diameter (m) | 0.375                          |
| Design Flow (l/s)        | 66.5  | Min Node Diameter (mm)  | 3000                           |

### Node Unit 2 Pond Depth/Area Storage Structure

|                             |         |               |      |                           |       |
|-----------------------------|---------|---------------|------|---------------------------|-------|
| Base Inf Coefficient (m/hr) | 0.00000 | Safety Factor | 2.0  | Invert Level (m)          | 8.924 |
| Side Inf Coefficient (m/hr) | 0.00000 | Porosity      | 1.00 | Time to half empty (mins) | 90    |

| 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        | 210.0        | 0.0              | 2.056        | 1140.0       | 0.0              | 2.057        | 0.0          | 0.0              |

**Results for 1 year Critical Storm Duration. Lowest mass balance: 96.23%**

| Node Event                     | US Node       | Peak (mins)  | Level (m)               | Depth (m)     | Inflow (l/s)   | Node Vol (m³) | Flood (m³)    | Status             |
|--------------------------------|---------------|--------------|-------------------------|---------------|----------------|---------------|---------------|--------------------|
| 15 minute summer               | 1             | 1            | 11.193                  | 0.000         | 0.0            | 0.0000        | 0.0000        | OK                 |
| 15 minute winter               | 2             | 11           | 11.150                  | 0.076         | 11.8           | 0.1352        | 0.0000        | OK                 |
| 15 minute winter               | 3             | 12           | 11.077                  | 0.093         | 11.1           | 0.1652        | 0.0000        | OK                 |
| 15 minute winter               | 4             | 11           | 11.071                  | 0.151         | 41.2           | 0.2661        | 0.0000        | OK                 |
| 15 minute winter               | 5             | 12           | 10.968                  | 0.150         | 40.5           | 0.2649        | 0.0000        | OK                 |
| 15 minute winter               | 6             | 13           | 10.881                  | 0.144         | 39.9           | 0.2547        | 0.0000        | OK                 |
| 15 minute winter               | 7             | 13           | 10.711                  | 0.089         | 55.6           | 0.1566        | 0.0000        | OK                 |
| 360 minute winter              | 9             | 288          | 8.286                   | 0.186         | 9.7            | 0.6449        | 0.0000        | OK                 |
| 240 minute winter              | 10            | 248          | 8.284                   | 0.384         | 19.5           | 1.3311        | 0.0000        | OK                 |
| 360 minute winter              | 11            | 288          | 8.285                   | 0.590         | 18.5           | 2.0440        | 0.0000        | OK                 |
| 360 minute winter              | 12            | 288          | 8.288                   | 1.041         | 18.0           | 3.6059        | 0.0000        | OK                 |
| 360 minute winter              | Pump          | 296          | 8.324                   | 1.088         | 11.9           | 3.7703        | 0.0000        | SURCHARGED         |
| 15 minute winter               | 14            | 10           | 8.445                   | 0.145         | 63.4           | 0.5038        | 0.0000        | OK                 |
| 1440 minute summer             | 15            | 870          | 10.014                  | 0.214         | 60.8           | 0.3065        | 0.0000        | OK                 |
| 1440 minute summer             | 16            | 870          | 9.935                   | 0.208         | 60.8           | 0.2978        | 0.0000        | OK                 |
| 1440 minute winter             | 17            | 960          | 9.834                   | 0.243         | 60.8           | 0.3483        | 0.0000        | OK                 |
| 1440 minute winter             | Unit 2 Pond   | 990          | 9.738                   | 0.814         | 61.9           | 320.8198      | 0.0000        | SURCHARGED         |
| 1440 minute winter             | 22            | 960          | 9.777                   | 0.462         | 62.5           | 0.6606        | 0.0000        | SURCHARGED         |
| 1440 minute winter             | 20            | 960          | 9.805                   | 0.328         | 62.6           | 0.4690        | 0.0000        | OK                 |
| 1440 minute winter             | 21            | 960          | 9.789                   | 0.407         | 62.6           | 0.5821        | 0.0000        | OK                 |
| 1440 minute winter             | 23            | 960          | 9.764                   | 0.507         | 62.3           | 0.7250        | 0.0000        | SURCHARGED         |
| 15 minute summer               | Outfall       | 1            | 6.500                   | 0.000         | 66.4           | 0.0000        | 0.0000        | OK                 |
| 15 minute winter               | North Site    | 11           | 10.899                  | 0.549         | 675.5          | 0.7856        | 0.0000        | SURCHARGED         |
| 180 minute winter              | South Plot FC | 20           | 12.225                  | 2.314         | 479.0          | 8.0157        | 1459.6790     | 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) |
| 15 minute summer               | 1             | 1.000        | 2                       | 0.0           | 0.000          | 0.000         | 0.6078        |                    |
| 15 minute winter               | 2             | 1.001        | 3                       | 11.1          | 0.476          | 0.036         | 1.0806        |                    |
| 15 minute winter               | 3             | 1.002        | 4                       | 12.1          | 0.354          | 0.040         | 1.3206        |                    |
| 15 minute winter               | 4             | 1.003        | 5                       | 40.5          | 0.757          | 0.132         | 2.7474        |                    |
| 15 minute winter               | 5             | 1.004        | 6                       | 39.9          | 0.759          | 0.130         | 2.1239        |                    |
| 15 minute winter               | 6             | 1.005        | 7                       | 39.4          | 1.033          | 0.129         | 2.2437        |                    |
| 15 minute winter               | 7             | 1.006        | 12                      | 54.5          | 2.132          | 0.048         | 2.2925        |                    |
| 360 minute winter              | 9             | 2.001        | 10                      | 9.6           | 0.468          | 0.005         | 18.9757       |                    |
| 240 minute winter              | 10            | 2.002        | 11                      | 12.3          | 0.399          | 0.003         | 40.8401       |                    |
| 360 minute winter              | 11            | 2.003        | 12                      | -9.8          | 0.178          | -0.002        | 87.7681       |                    |
| 360 minute winter              | 12            | 1.007        | Pump                    | 11.1          | 0.149          | 0.006         | 6.0644        |                    |
| 360 minute winter              | Pump          | 1.008        | 15                      | 2.1           | -0.222         | 0.118         | 4.6912        |                    |
| 15 minute winter               | 14            | 2.000        | 9                       | 62.7          | 0.859          | 0.032         | 6.7054        |                    |
| 1440 minute summer             | 15            | 1.009        | 16                      | 60.8          | 0.832          | 0.424         | 2.6772        |                    |
| 1440 minute summer             | 16            | 1.010        | 17                      | 60.8          | 0.845          | 0.424         | 4.8964        |                    |
| 1440 minute winter             | 17            | 1.011        | 20                      | 60.8          | 0.826          | 0.423         | 5.9938        |                    |
| 1440 minute winter             | Unit 2 Pond   | 1.016        | 24                      | 53.3          | 0.400          | 0.174         | 5.6995        |                    |
| 1440 minute winter             | 22            | 1.014        | 23                      | 62.3          | 0.859          | 0.435         | 4.5714        |                    |
| 1440 minute winter             | 20            | 1.012        | 21                      | 62.6          | 0.822          | 0.436         | 6.4936        |                    |
| 1440 minute winter             | 21            | 1.013        | 22                      | 62.5          | 0.816          | 0.436         | 5.1930        |                    |
| 1440 minute winter             | 23            | 1.015        | Unit 2 Pond             | 61.9          | 0.967          | 0.431         | 14.4917       |                    |
| 15 minute winter               | North Site    | 4.000        | Final Site Flow Control | 654.5         | 4.131          | 0.698         | 5.9293        |                    |
| 180 minute winter              | South Plot FC | Hydro-Brake® | 15                      | 58.8          |                |               |               |                    |

**Results for 1 year Critical Storm Duration. Lowest mass balance: 96.23%**

| Node Event         | US Node                 | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|--------------------|-------------------------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 360 minute winter  | Final Site Flow Control | 136         | 9.000     | 1.800     | 152.2        | 12.7242       | 535.1437   | FLOOD      |
| 1440 minute winter | 24                      | 990         | 9.736     | 0.852     | 53.3         | 6.0255        | 0.0000     | SURCHARGED |
| 60 minute summer   | 25                      | 30          | 9.164     | 0.545     | 153.8        | 0.9632        | 0.0000     | OK         |
| 60 minute summer   | 26                      | 30          | 9.147     | 0.761     | 160.2        | 1.3440        | 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 winter           | Final Site Flow Control | Hydro-Brake® | Outfall                 | 66.4          |                |          |               | 1535.6             |
| 1440 minute winter          | 24                      | Hydro-Brake® | 25                      | 53.2          |                |          |               |                    |
| 60 minute summer            | 25                      | 1.018        | 26                      | -135.9        | 0.914          | -0.444   | 32.1180       |                    |
| 60 minute summer            | 26                      | 1.019        | Final Site Flow Control | -151.5        | -0.619         | -0.171   | 20.2765       |                    |

**Results for 30 year Critical Storm Duration. Lowest mass balance: 96.23%**

| Node Event         | US Node       | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|--------------------|---------------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute summer   | 1             | 1           | 11.193    | 0.000     | 0.0          | 0.0000        | 0.0000     | OK         |
| 15 minute winter   | 2             | 11          | 11.192    | 0.119     | 28.9         | 0.2111        | 0.0000     | OK         |
| 15 minute winter   | 3             | 11          | 11.173    | 0.189     | 26.7         | 0.3343        | 0.0000     | OK         |
| 15 minute winter   | 4             | 11          | 11.166    | 0.246     | 101.9        | 0.4352        | 0.0000     | OK         |
| 15 minute winter   | 5             | 12          | 11.062    | 0.244     | 101.2        | 0.4316        | 0.0000     | OK         |
| 15 minute winter   | 6             | 12          | 10.964    | 0.227     | 100.0        | 0.4020        | 0.0000     | OK         |
| 15 minute winter   | 7             | 12          | 10.767    | 0.145     | 146.3        | 0.2568        | 0.0000     | OK         |
| 180 minute winter  | 9             | 164         | 8.695     | 0.595     | 35.9         | 2.0596        | 0.0000     | OK         |
| 180 minute winter  | 10            | 168         | 8.695     | 0.795     | 47.2         | 2.7556        | 0.0000     | OK         |
| 180 minute winter  | 11            | 168         | 8.694     | 0.999     | 55.2         | 3.4608        | 0.0000     | OK         |
| 180 minute winter  | 12            | 160         | 8.702     | 1.455     | 43.6         | 5.0415        | 0.0000     | SURCHARGED |
| 240 minute winter  | Pump          | 256         | 8.761     | 1.525     | 132.4        | 5.2833        | 0.0000     | SURCHARGED |
| 180 minute winter  | 14            | 172         | 8.695     | 0.395     | 35.9         | 1.3673        | 0.0000     | OK         |
| 1440 minute winter | 15            | 1080        | 10.119    | 0.319     | 60.8         | 0.4565        | 0.0000     | OK         |
| 1440 minute winter | 16            | 1080        | 10.104    | 0.377     | 60.8         | 0.5401        | 0.0000     | OK         |
| 1440 minute winter | 17            | 1110        | 10.085    | 0.494     | 60.8         | 0.7074        | 0.0000     | SURCHARGED |
| 1440 minute winter | Unit 2 Pond   | 1140        | 9.995     | 1.071     | 63.4         | 483.9994      | 0.0000     | SURCHARGED |
| 1440 minute winter | 22            | 1110        | 10.035    | 0.720     | 63.7         | 1.0304        | 0.0000     | SURCHARGED |
| 1440 minute winter | 20            | 1110        | 10.066    | 0.589     | 64.4         | 0.8425        | 0.0000     | SURCHARGED |
| 1440 minute winter | 21            | 1110        | 10.048    | 0.666     | 64.1         | 0.9536        | 0.0000     | SURCHARGED |
| 1440 minute winter | 23            | 1110        | 10.023    | 0.766     | 63.5         | 1.0965        | 0.0000     | SURCHARGED |
| 15 minute summer   | Outfall       | 1           | 6.500     | 0.000     | 66.4         | 0.0000        | 0.0000     | OK         |
| 15 minute winter   | North Site    | 7           | 12.000    | 1.650     | 1660.1       | 2.3612        | 217.5861   | FLOOD      |
| 360 minute winter  | South Plot FC | 24          | 12.225    | 2.314     | 652.5        | 8.0157        | 4340.0090  | FLOOD      |

| Link Event (Upstream Depth) | US Node       | Link         | DS Node                 | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|-----------------------------|---------------|--------------|-------------------------|---------------|----------------|----------|---------------|--------------------|
| 15 minute summer            | 1             | 1.000        | 2                       | 0.0           | 0.000          | 0.000    | 1.1466        |                    |
| 15 minute winter            | 2             | 1.001        | 3                       | 26.7          | 0.513          | 0.087    | 2.5730        |                    |
| 15 minute winter            | 3             | 1.002        | 4                       | 30.0          | 0.407          | 0.098    | 2.9395        |                    |
| 15 minute winter            | 4             | 1.003        | 5                       | 101.2         | 0.943          | 0.331    | 5.4515        |                    |
| 15 minute winter            | 5             | 1.004        | 6                       | 100.0         | 0.973          | 0.327    | 4.1535        |                    |
| 15 minute winter            | 6             | 1.005        | 7                       | 98.9          | 1.360          | 0.323    | 4.3405        |                    |
| 15 minute winter            | 7             | 1.006        | 12                      | 145.4         | 2.820          | 0.127    | 4.7189        |                    |
| 180 minute winter           | 9             | 2.001        | 10                      | 30.3          | 0.606          | 0.015    | 60.5954       |                    |
| 180 minute winter           | 10            | 2.002        | 11                      | 30.9          | 0.422          | 0.008    | 90.1393       |                    |
| 180 minute winter           | 11            | 2.003        | 12                      | -24.1         | 0.272          | -0.005   | 134.7374      |                    |
| 180 minute winter           | 12            | 1.007        | Pump                    | 16.5          | 0.117          | 0.009    | 6.5034        |                    |
| 240 minute winter           | Pump          | 1.008        | 15                      | 2.0           | -0.353         | 0.115    | 4.6774        |                    |
| 180 minute winter           | 14            | 2.000        | 9                       | 35.9          | 0.685          | 0.018    | 39.5258       |                    |
| 1440 minute winter          | 15            | 1.009        | 16                      | 60.8          | 0.841          | 0.425    | 4.8061        |                    |
| 1440 minute winter          | 16            | 1.010        | 17                      | 60.8          | 0.845          | 0.424    | 10.2244       |                    |
| 1440 minute winter          | 17            | 1.011        | 20                      | 60.8          | 0.823          | 0.423    | 8.9939        |                    |
| 1440 minute winter          | Unit 2 Pond   | 1.016        | 24                      | 53.3          | 0.401          | 0.174    | 5.6995        |                    |
| 1440 minute winter          | 22            | 1.014        | 23                      | 63.5          | 0.860          | 0.443    | 4.5714        |                    |
| 1440 minute winter          | 20            | 1.012        | 21                      | 64.1          | 0.822          | 0.447    | 7.4977        |                    |
| 1440 minute winter          | 21            | 1.013        | 22                      | 63.7          | 0.817          | 0.444    | 5.3221        |                    |
| 1440 minute winter          | 23            | 1.015        | Unit 2 Pond             | 63.4          | 0.955          | 0.442    | 14.4917       |                    |
| 15 minute winter            | North Site    | 4.000        | Final Site Flow Control |               | 802.9          | 5.068    | 0.856         | 5.9293             |
| 360 minute winter           | South Plot FC | Hydro-Brake® | 15                      | 58.7          |                |          |               |                    |

**Results for 30 year Critical Storm Duration. Lowest mass balance: 96.23%**

| Node Event         | US Node                 | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|--------------------|-------------------------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 720 minute winter  | Final Site Flow Control | 180         | 9.000     | 1.800     | 184.3        | 12.7242       | 1720.6950  | FLOOD      |
| 1440 minute winter | 24                      | 1140        | 9.993     | 1.109     | 53.3         | 7.8389        | 0.0000     | SURCHARGED |
| 30 minute summer   | 25                      | 13          | 9.159     | 0.540     | 133.3        | 0.9544        | 0.0000     | OK         |
| 15 minute summer   | 26                      | 9           | 9.119     | 0.733     | 297.8        | 1.2957        | 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) |
|-----------------------------|-------------------------|--------------|-------------------------|---------------|----------------|----------|---------------|--------------------|
| 720 minute winter           | Final Site Flow Control | Hydro-Brake® | Outfall                 | 66.4          |                |          |               | 3110.9             |
| 1440 minute winter          | 24                      | Hydro-Brake® | 25                      | 53.2          |                |          |               |                    |
| 30 minute summer            | 25                      | 1.018        | 26                      | -133.1        | 0.842          | -0.435   | 32.0142       |                    |
| 15 minute summer            | 26                      | 1.019        | Final Site Flow Control | -297.8        | -1.290         | -0.337   | 20.2765       |                    |

**Results for 100 year Critical Storm Duration. Lowest mass balance: 96.23%**

| Node Event                  | US Node       | Peak (mins)  | Level (m)               | Depth (m)     | Inflow (l/s)   | Node Vol (m³) | Flood (m³)    | Status             |
|-----------------------------|---------------|--------------|-------------------------|---------------|----------------|---------------|---------------|--------------------|
| 15 minute winter            | 1             | 13           | 11.227                  | 0.034         | 2.6            | 0.0598        | 0.0000        | OK                 |
| 15 minute winter            | 2             | 11           | 11.221                  | 0.148         | 37.5           | 0.2609        | 0.0000        | OK                 |
| 15 minute winter            | 3             | 11           | 11.209                  | 0.225         | 30.3           | 0.3972        | 0.0000        | OK                 |
| 15 minute winter            | 4             | 11           | 11.202                  | 0.282         | 128.8          | 0.4977        | 0.0000        | OK                 |
| 15 minute winter            | 5             | 12           | 11.096                  | 0.278         | 127.5          | 0.4915        | 0.0000        | OK                 |
| 15 minute winter            | 6             | 12           | 10.994                  | 0.257         | 125.9          | 0.4537        | 0.0000        | OK                 |
| 15 minute winter            | 7             | 12           | 10.789                  | 0.167         | 190.4          | 0.2946        | 0.0000        | OK                 |
| 120 minute winter           | 9             | 120          | 8.898                   | 0.798         | 70.2           | 2.7630        | 0.0000        | OK                 |
| 120 minute winter           | 10            | 120          | 8.898                   | 0.998         | 89.4           | 3.4571        | 0.0000        | OK                 |
| 120 minute winter           | 11            | 122          | 8.899                   | 1.204         | 78.4           | 4.1690        | 0.0000        | OK                 |
| 120 minute winter           | 12            | 124          | 8.926                   | 1.679         | 69.4           | 5.8170        | 0.0000        | SURCHARGED         |
| 600 minute winter           | Pump          | 435          | 9.142                   | 1.906         | 17.5           | 6.6029        | 0.0000        | SURCHARGED         |
| 120 minute winter           | 14            | 122          | 8.899                   | 0.599         | 64.0           | 2.0747        | 0.0000        | OK                 |
| 1440 minute winter          | 15            | 1170         | 10.239                  | 0.439         | 60.8           | 0.6276        | 0.0000        | OK                 |
| 1440 minute winter          | 16            | 1170         | 10.225                  | 0.498         | 60.8           | 0.7127        | 0.0000        | SURCHARGED         |
| 1440 minute winter          | 17            | 1290         | 10.203                  | 0.612         | 60.8           | 0.8751        | 0.0000        | SURCHARGED         |
| 1440 minute winter          | Unit 2 Pond   | 1320         | 10.122                  | 1.198         | 64.4           | 576.4743      | 0.0000        | SURCHARGED         |
| 1440 minute winter          | 22            | 1290         | 10.158                  | 0.843         | 64.5           | 1.2064        | 0.0000        | SURCHARGED         |
| 1440 minute winter          | 20            | 1290         | 10.185                  | 0.708         | 65.0           | 1.0135        | 0.0000        | SURCHARGED         |
| 1440 minute winter          | 21            | 1290         | 10.170                  | 0.788         | 64.6           | 1.1273        | 0.0000        | SURCHARGED         |
| 1440 minute winter          | 23            | 1290         | 10.148                  | 0.891         | 64.5           | 1.2744        | 0.0000        | SURCHARGED         |
| 15 minute summer            | Outfall       | 1            | 6.500                   | 0.000         | 66.4           | 0.0000        | 0.0000        | OK                 |
| 15 minute winter            | North Site    | 6            | 12.000                  | 1.650         | 2153.8         | 2.3612        | 392.8666      | FLOOD              |
| 480 minute winter           | South Plot FC | 24           | 12.225                  | 2.314         | 671.2          | 8.0157        | 6038.7520     | FLOOD              |
| Link Event (Upstream Depth) | US Node       | Link         | DS Node                 | Outflow (l/s) | Velocity (m/s) | Flow/Cap      | Link Vol (m³) | Discharge Vol (m³) |
| 15 minute winter            | 1             | 1.000        | 2                       | -2.6          | -0.113         | -0.008        | 1.7543        |                    |
| 15 minute winter            | 2             | 1.001        | 3                       | 30.3          | 0.511          | 0.099         | 3.3338        |                    |
| 15 minute winter            | 3             | 1.002        | 4                       | 37.9          | 0.446          | 0.124         | 3.5947        |                    |
| 15 minute winter            | 4             | 1.003        | 5                       | 127.5         | 0.997          | 0.417         | 6.5317        |                    |
| 15 minute winter            | 5             | 1.004        | 6                       | 125.9         | 1.038          | 0.411         | 4.9070        |                    |
| 15 minute winter            | 6             | 1.005        | 7                       | 126.7         | 1.467          | 0.414         | 5.1615        |                    |
| 15 minute winter            | 7             | 1.006        | 12                      | 190.2         | 3.042          | 0.166         | 7.6984        |                    |
| 120 minute winter           | 9             | 2.001        | 10                      | 53.9          | 0.699          | 0.027         | 80.9174       |                    |
| 120 minute winter           | 10            | 2.002        | 11                      | -64.6         | 0.500          | -0.017        | 113.1232      |                    |
| 120 minute winter           | 11            | 2.003        | 12                      | -56.2         | 0.355          | -0.011        | 147.6276      |                    |
| 120 minute winter           | 12            | 1.007        | Pump                    | 27.8          | 0.265          | 0.015         | 6.5034        |                    |
| 600 minute winter           | Pump          | 1.008        | 15                      | 2.1           | -0.269         | 0.119         | 5.0806        |                    |
| 120 minute winter           | 14            | 2.000        | 9                       | 64.0          | 0.808          | 0.032         | 61.0315       |                    |
| 1440 minute winter          | 15            | 1.009        | 16                      | 60.8          | 0.840          | 0.425         | 5.7900        |                    |
| 1440 minute winter          | 16            | 1.010        | 17                      | 60.8          | 0.845          | 0.424         | 10.7851       |                    |
| 1440 minute winter          | 17            | 1.011        | 20                      | 60.7          | 0.821          | 0.423         | 8.9939        |                    |
| 1440 minute winter          | Unit 2 Pond   | 1.016        | 24                      | 53.4          | 0.404          | 0.174         | 5.6995        |                    |
| 1440 minute winter          | 22            | 1.014        | 23                      | 64.5          | 0.851          | 0.449         | 4.5714        |                    |
| 1440 minute winter          | 20            | 1.012        | 21                      | 64.6          | 0.816          | 0.451         | 7.4977        |                    |
| 1440 minute winter          | 21            | 1.013        | 22                      | 64.5          | 0.810          | 0.450         | 5.3221        |                    |
| 1440 minute winter          | 23            | 1.015        | Unit 2 Pond             | 64.4          | 0.926          | 0.449         | 14.4917       |                    |
| 15 minute winter            | North Site    | 4.000        | Final Site Flow Control |               | 802.9          | 5.068         | 0.856         | 5.9293             |
| 480 minute winter           | South Plot FC | Hydro-Brake® | 15                      | 58.8          |                |               |               |                    |

**Results for 100 year Critical Storm Duration. Lowest mass balance: 96.23%**

| Node Event         | US Node                 | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|--------------------|-------------------------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 960 minute winter  | Final Site Flow Control | 195         | 9.000     | 1.800     | 188.0        | 12.7242       | 2385.0110  | FLOOD      |
| 1440 minute winter | 24                      | 1320        | 10.121    | 1.237     | 53.4         | 8.7431        | 0.0000     | SURCHARGED |
| 30 minute summer   | 25                      | 11          | 9.150     | 0.531     | 145.6        | 0.9378        | 0.0000     | OK         |
| 30 minute summer   | 26                      | 11          | 9.111     | 0.725     | 201.5        | 1.2811        | 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) |
|-----------------------------|-------------------------|--------------|-------------------------|---------------|----------------|----------|---------------|--------------------|
| 960 minute winter           | Final Site Flow Control | Hydro-Brake® | Outfall                 | 66.2          |                |          |               | 4109.8             |
| 1440 minute winter          | 24                      | Hydro-Brake® | 25                      | 53.2          |                |          |               |                    |
| 30 minute summer            | 25                      | 1.018        | 26                      | -145.6        | 0.851          | -0.476   | 31.8169       |                    |
| 30 minute summer            | 26                      | 1.019        | Final Site Flow Control | -201.5        | -0.914         | -0.228   | 20.2765       |                    |

**Results for 100 year +25% CC Critical Storm Duration. Lowest mass balance: 96.23%**

| Node Event         | US Node       | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|--------------------|---------------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute winter   | 1             | 12          | 11.266    | 0.073     | 6.9          | 0.1293        | 0.0000     | OK         |
| 15 minute winter   | 2             | 11          | 11.254    | 0.181     | 46.9         | 0.3199        | 0.0000     | OK         |
| 15 minute winter   | 3             | 11          | 11.243    | 0.259     | 37.9         | 0.4584        | 0.0000     | OK         |
| 15 minute winter   | 4             | 11          | 11.238    | 0.318     | 156.3        | 0.5614        | 0.0000     | OK         |
| 15 minute winter   | 5             | 12          | 11.129    | 0.311     | 154.6        | 0.5503        | 0.0000     | OK         |
| 15 minute winter   | 6             | 12          | 11.021    | 0.284     | 153.0        | 0.5023        | 0.0000     | OK         |
| 15 minute winter   | 7             | 11          | 10.807    | 0.185     | 237.6        | 0.3273        | 0.0000     | OK         |
| 120 minute winter  | 9             | 118         | 9.254     | 1.154     | 77.0         | 3.9960        | 0.0000     | OK         |
| 120 minute winter  | 10            | 120         | 9.251     | 1.351     | 97.2         | 4.6807        | 0.0000     | OK         |
| 120 minute winter  | 11            | 124         | 9.253     | 1.558     | 105.3        | 5.3986        | 0.0000     | SURCHARGED |
| 120 minute winter  | 12            | 124         | 9.331     | 2.084     | 86.7         | 7.2202        | 0.0000     | SURCHARGED |
| 120 minute winter  | Pump          | 98          | 9.719     | 2.483     | 915.0        | 8.6003        | 0.0000     | FLOOD RISK |
| 120 minute winter  | 14            | 120         | 9.257     | 0.957     | 80.0         | 3.3162        | 0.0000     | OK         |
| 1440 minute winter | 15            | 1350        | 10.424    | 0.624     | 60.8         | 0.8935        | 0.0000     | SURCHARGED |
| 1440 minute winter | 16            | 1350        | 10.410    | 0.683     | 60.8         | 0.9779        | 0.0000     | SURCHARGED |
| 1440 minute winter | 17            | 1380        | 10.388    | 0.797     | 60.8         | 1.1398        | 0.0000     | SURCHARGED |
| 1440 minute winter | Unit 2 Pond   | 1380        | 10.306    | 1.382     | 65.3         | 721.8228      | 0.0000     | SURCHARGED |
| 1440 minute winter | 22            | 1380        | 10.342    | 1.027     | 65.4         | 1.4701        | 0.0000     | SURCHARGED |
| 1440 minute winter | 20            | 1380        | 10.370    | 0.893     | 65.5         | 1.2777        | 0.0000     | SURCHARGED |
| 1440 minute winter | 21            | 1380        | 10.354    | 0.972     | 65.4         | 1.3913        | 0.0000     | SURCHARGED |
| 1440 minute winter | 23            | 1380        | 10.332    | 1.075     | 65.3         | 1.5379        | 0.0000     | SURCHARGED |
| 15 minute summer   | Outfall       | 1           | 6.500     | 0.000     | 66.3         | 0.0000        | 0.0000     | OK         |
| 15 minute winter   | North Site    | 6           | 12.000    | 1.650     | 2693.7       | 2.3612        | 595.7652   | FLOOD      |
| 600 minute winter  | South Plot FC | 30          | 12.225    | 2.314     | 698.5        | 8.0157        | 8007.4490  | FLOOD      |

| Link Event (Upstream Depth) | US Node       | Link         | DS Node                 | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|-----------------------------|---------------|--------------|-------------------------|---------------|----------------|----------|---------------|--------------------|
| 15 minute winter            | 1             | 1.000        | 2                       | -6.9          | -0.185         | -0.023   | 2.7261        |                    |
| 15 minute winter            | 2             | 1.001        | 3                       | 37.9          | 0.524          | 0.124    | 4.1816        |                    |
| 15 minute winter            | 3             | 1.002        | 4                       | 48.1          | 0.491          | 0.157    | 4.2607        |                    |
| 15 minute winter            | 4             | 1.003        | 5                       | 154.6         | 1.040          | 0.505    | 7.5805        |                    |
| 15 minute winter            | 5             | 1.004        | 6                       | 153.0         | 1.097          | 0.500    | 5.6395        |                    |
| 15 minute winter            | 6             | 1.005        | 7                       | 153.9         | 1.565          | 0.503    | 5.9240        |                    |
| 15 minute winter            | 7             | 1.006        | 12                      | 241.6         | 3.184          | 0.211    | 11.1740       |                    |
| 120 minute winter           | 9             | 2.001        | 10                      | 59.1          | 0.685          | 0.030    | 100.8034      |                    |
| 120 minute winter           | 10            | 2.002        | 11                      | 89.8          | 0.533          | 0.024    | 140.9462      |                    |
| 120 minute winter           | 11            | 2.003        | 12                      | -63.2         | 0.369          | -0.012   | 158.7093      |                    |
| 120 minute winter           | 12            | 1.007        | Pump                    | 915.0         | 0.812          | 0.498    | 6.5034        |                    |
| 120 minute winter           | Pump          | 1.008        | 15                      | 0.5           | -0.346         | 0.029    | 4.1720        |                    |
| 120 minute winter           | 14            | 2.000        | 9                       | 77.0          | 0.825          | 0.039    | 93.3417       |                    |
| 1440 minute winter          | 15            | 1.009        | 16                      | 60.8          | 0.841          | 0.424    | 5.8096        |                    |
| 1440 minute winter          | 16            | 1.010        | 17                      | 60.8          | 0.844          | 0.424    | 10.7851       |                    |
| 1440 minute winter          | 17            | 1.011        | 20                      | 60.6          | 0.821          | 0.423    | 8.9939        |                    |
| 1440 minute winter          | Unit 2 Pond   | 1.016        | 24                      | 53.4          | 0.404          | 0.174    | 5.6995        |                    |
| 1440 minute winter          | 22            | 1.014        | 23                      | 65.3          | 0.850          | 0.455    | 4.5714        |                    |
| 1440 minute winter          | 20            | 1.012        | 21                      | 65.4          | 0.814          | 0.456    | 7.4977        |                    |
| 1440 minute winter          | 21            | 1.013        | 22                      | 65.4          | 0.809          | 0.456    | 5.3221        |                    |
| 1440 minute winter          | 23            | 1.015        | Unit 2 Pond             | 65.3          | 0.967          | 0.455    | 14.4917       |                    |
| 15 minute winter            | North Site    | 4.000        | Final Site Flow Control |               | 802.9          | 5.068    | 0.856         | 5.9293             |
| 600 minute winter           | South Plot FC | Hydro-Brake® | 15                      |               |                | 58.8     |               |                    |

**Results for 100 year +25% CC Critical Storm Duration. Lowest mass balance: 96.23%**

| Node Event         | US Node                 | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|--------------------|-------------------------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 1440 minute winter | Final Site Flow Control | 270         | 9.000     | 1.800     | 174.3        | 12.7242       | 3151.0270  | FLOOD      |
| 1440 minute winter | 24                      | 1380        | 10.304    | 1.420     | 53.4         | 10.0387       | 0.0000     | SURCHARGED |
| 60 minute winter   | 25                      | 13          | 9.161     | 0.542     | 142.2        | 0.9584        | 0.0000     | OK         |
| 15 minute winter   | 26                      | 8           | 9.142     | 0.756     | 324.7        | 1.3360        | 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) |
|-----------------------------|-------------------------|--------------|-------------------------|---------------|----------------|----------|---------------|--------------------|
| 1440 minute winter          | Final Site Flow Control | Hydro-Brake® | Outfall                 | 66.2          |                |          |               | 5938.5             |
| 1440 minute winter          | 24                      | Hydro-Brake® | 25                      | 53.2          |                |          |               |                    |
| 60 minute winter            | 25                      | 1.018        | 26                      | -142.2        | 0.903          | -0.465   | 32.0646       |                    |
| 15 minute winter            | 26                      | 1.019        | Final Site Flow Control | -324.7        | -1.374         | -0.367   | 20.2765       |                    |

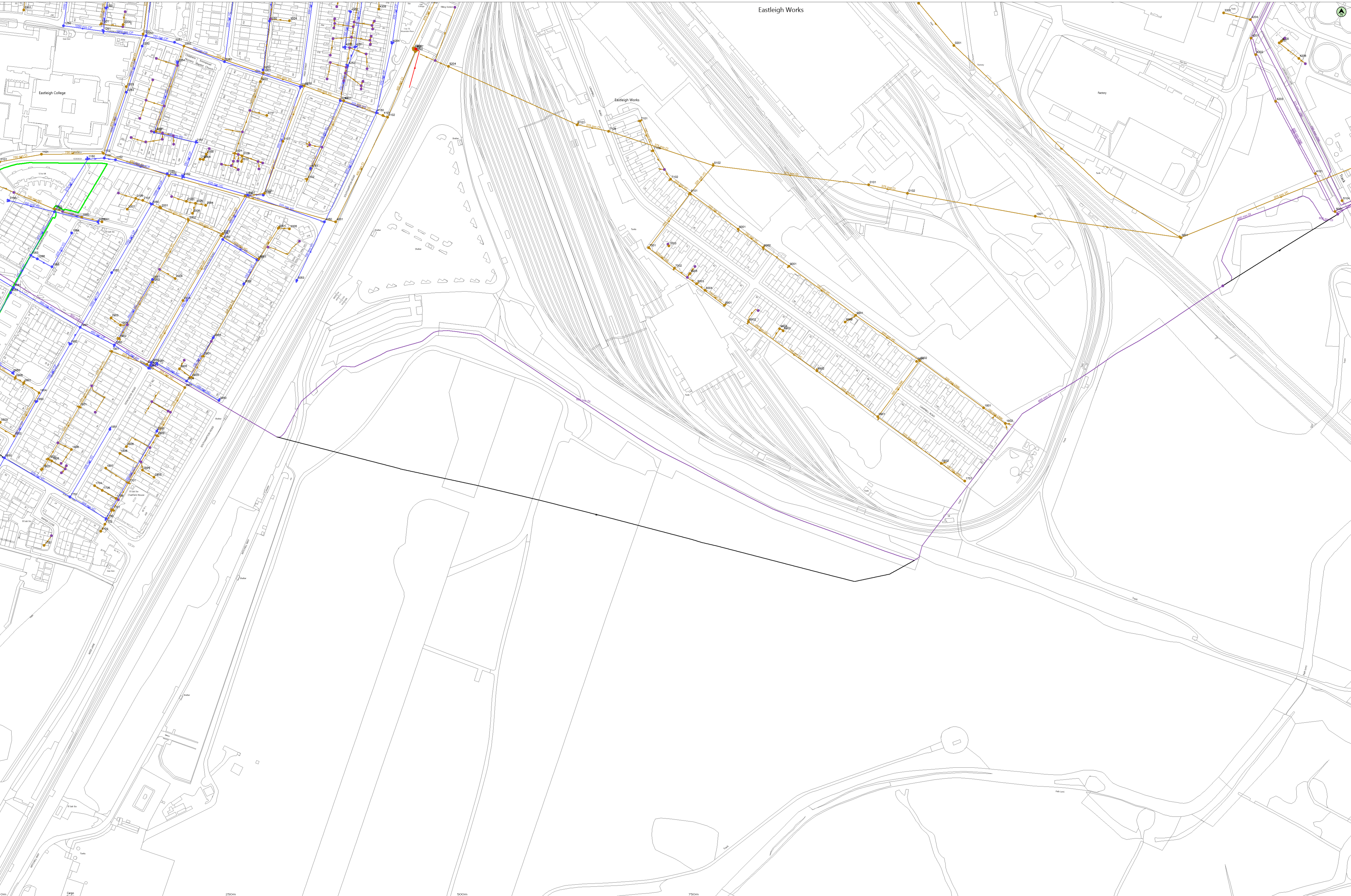
## **APPENDIX F – DRAINAGE INSPECTION & MAINTENANCE SCHEDULE**

| Maintenance Schedule                                                                        | Required Action                                                                                                                                                                                                                                                             | Typical Frequency                                   |
|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| <b>Below Ground Drainage Pipes, Manholes, Outfall headwalls, ditches, trash screens etc</b> |                                                                                                                                                                                                                                                                             |                                                     |
| Regular Maintenance                                                                         | Lift covers and inspect manholes for evidence of debris and silt deposits and evidence of blockages (standing water). Carry out CCTV survey if required.<br>Inspect ditches, trash screens, headwalls etc. and clear debris and silt deposits to avoid restriction to flow. | Quarterly or following significant rainfall events. |
| Remedial Actions                                                                            | High pressure jetting and/or remove minor blockages and silt build up                                                                                                                                                                                                       | As required – 20% loss of pipe cross-section        |
|                                                                                             | Replace broken access covers, remove major blockages, repair structurally defective pipework                                                                                                                                                                                | As required                                         |
| <b>Flow control chamber</b>                                                                 |                                                                                                                                                                                                                                                                             |                                                     |
| Regular Maintenance                                                                         | Lift covers and inspect chamber for evidence of debris and silt deposits and evidence of blockages. Test bypass door operating correctly.                                                                                                                                   | Quarterly or following significant rainfall events. |
| Remedial Actions                                                                            | High pressure jetting and or remove minor blockages and silt build up                                                                                                                                                                                                       | As required                                         |
|                                                                                             | Replace broken access covers, remove major blockages, repair/replace defective flow control devices                                                                                                                                                                         | As required                                         |
| <b>Linear channel drains and gullies</b>                                                    |                                                                                                                                                                                                                                                                             |                                                     |
| Regular Maintenance                                                                         | Lift access covers and inspect for silt/debris accumulation                                                                                                                                                                                                                 | Quarterly or following significant rainfall events. |
| Remedial Actions                                                                            | Replace broken access covers, gratings                                                                                                                                                                                                                                      | Annually                                            |
|                                                                                             | High pressure jetting and/or remove minor blockages and silt build up                                                                                                                                                                                                       | As required                                         |
| <b>Rainwater pipes</b>                                                                      |                                                                                                                                                                                                                                                                             |                                                     |
| Regular Maintenance                                                                         | Inspect rainwater goods for evidence of leaking pipework                                                                                                                                                                                                                    | Monthly (or as required)                            |
| Occasional Maintenance                                                                      | Remove rodding eyes and carry out high pressure jetting to remove any debris                                                                                                                                                                                                | Quarterly                                           |
| Remedial Actions                                                                            | Replace cracked / leaking pipework                                                                                                                                                                                                                                          | As required                                         |
| <b>Ponds</b>                                                                                |                                                                                                                                                                                                                                                                             |                                                     |
| Regular Maintenance                                                                         | Remove litter and debris                                                                                                                                                                                                                                                    | Monthly (or as required)                            |
|                                                                                             | Cut the grass – public areas                                                                                                                                                                                                                                                | Monthly (during growing season)                     |

| Maintenance Schedule   | Required Action                                                                                                                                                                                                                       | Typical Frequency                                                                     |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                        | Cut the meadow grass                                                                                                                                                                                                                  | Half yearly (spring, before nesting season, and autumn)                               |
|                        | Inspect marginal and bankside vegetation and remove nuisance plants (for first 3 years)                                                                                                                                               | Monthly (at the start, then as required)                                              |
|                        | Inspect inlets, outlets, banksides, structures, pipework etc for evidence of blockage and/or physical damage                                                                                                                          | Monthly                                                                               |
|                        | Inspect water body for signs of poor water quality                                                                                                                                                                                    | Monthly (May – October)                                                               |
|                        | Inspect silt accumulation rates in any forebay and in main body of the pond and establish appropriate removal frequencies; undertake contamination testing once some build-up has occurred, to inform management and disposal options | Half yearly                                                                           |
|                        | Check any mechanical devices, e.g. penstocks                                                                                                                                                                                          | Half yearly                                                                           |
|                        | Hand cut submerged and emergent aquatic plants (at minimum of 0.1m above pond base; include max 25% of pond surface)                                                                                                                  | Annually                                                                              |
|                        | Remove 25% of bank vegetation from water's edge to a minimum of 1m above water level                                                                                                                                                  | Annually                                                                              |
|                        | Tidy all dead growth (scrub clearance) before start of growing season (Note: tree maintenance is usually part of overall landscape management contract)                                                                               | Annually                                                                              |
|                        | Remove sediment from any forebay.                                                                                                                                                                                                     | Every 1 to 5 years, or as required                                                    |
|                        | Remove sediment and planting from one quadrant of the main body of ponds without sediment forebays.                                                                                                                                   | Every 5 years, or as required                                                         |
| Occasional Maintenance | Remove sediment from the main body of big ponds when pool volume is reduced by 20%                                                                                                                                                    | With effective pre-treatment, this will only be required rarely, eg every 25–50 years |
| Remedial actions       | Repair erosion or other damage                                                                                                                                                                                                        | As required                                                                           |
|                        | Replant, where necessary                                                                                                                                                                                                              | As required                                                                           |
|                        | Aerate pond when signs of eutrophication are detected                                                                                                                                                                                 | As required                                                                           |

| Maintenance Schedule                                                                                                                 | Required Action                                                                                                   | Typical Frequency                                            |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
|                                                                                                                                      | Realign rip-rap or repair other damage                                                                            | As required                                                  |
|                                                                                                                                      | Repair / rehabilitate inlets, outlets and overflows                                                               | As required                                                  |
| <b>Attenuation Tank</b> (Maintenance activities recommended by the manufacturer should be added to this schedule where not included) |                                                                                                                   |                                                              |
| Regular maintenance                                                                                                                  | Remove litter and debris and inspect for sediment, oil and grease accumulation.                                   | Six monthly                                                  |
|                                                                                                                                      | Change the filter media                                                                                           | As recommended by manufacturer                               |
| Remedial actions                                                                                                                     | Replace malfunctioning parts or structures                                                                        | As required                                                  |
| Monitoring                                                                                                                           | Inspect for evidence of poor performance                                                                          | Six monthly                                                  |
|                                                                                                                                      | Inspect sediment accumulation rates and filter media, and establish appropriate replacement frequencies.          | Monthly during first half of the year, then every six months |
| <b>Pumps</b> (Maintenance activities recommended by the manufacturer should be added to this schedule where not included)            |                                                                                                                   |                                                              |
| Regular Maintenance                                                                                                                  | Ensure sumps and Floats are clean                                                                                 | Quarterly                                                    |
|                                                                                                                                      | Assess the condition of the pipework for wear or damage                                                           | Quarterly                                                    |
|                                                                                                                                      | Lift covers and inspect manholes for evidence of debris and silt deposits and evidence of blockages - quarterly   | Quarterly                                                    |
|                                                                                                                                      | Examine the condition of pump including impeller, seals, valves and pipework (as recommended by the manufacturer) | Quarterly                                                    |
| Remedial Actions                                                                                                                     | Consult pump specialist                                                                                           | As Required                                                  |
|                                                                                                                                      | Service and replace and elements of the system                                                                    | Six Monthly                                                  |

## APPENDIX G – SEWER RECORDS



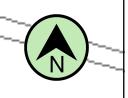
The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2025 Ordnance Survey AC0000808122. This map is to be used for the purposes of viewing the location of Southern Water plan only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement.

|               |          |               |               |               |
|---------------|----------|---------------|---------------|---------------|
| Road Drainage | Sewerage | Surface Water | Surface Water | Surface Water |
| Road Drainage | Sewerage | Surface Water | Surface Water | Surface Water |
| Road Drainage | Sewerage | Surface Water | Surface Water | Surface Water |





The University of Southampton Sports Ground

Southampton Airport

Track

Path (m)

Tank

100m

500m

1000m

1500m

2000m

2500m

3000m

3500m

4000m

4500m

5000m

5500m

6000m

6500m

7000m

7500m

8000m

8500m

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