

|                                                             |                        |                                                                          |                                    |                                      |                                                                                     |               |
|-------------------------------------------------------------|------------------------|--------------------------------------------------------------------------|------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------|---------------|
| PRP                                                         |                        |                                                                          |                                    |                                      | Page 1                                                                              |               |
| Catherine House<br>Old Harborough Road<br>Brixworth NN6 9BX |                        | 82326 - Norton Juxta<br>1 in 100 year storm + 40%CC<br>Attenuation Basin |                                    |                                      |  |               |
| Date 29/09/2022<br>File 82326 - Attenuation Pon...          |                        | Designed by AGS<br>Checked by DE                                         |                                    |                                      |                                                                                     |               |
| Micro Drainage                                              |                        | Source Control 2018.1.1                                                  |                                    |                                      |                                                                                     |               |
| <u>Summary of Results for 100 year Return Period (+40%)</u> |                        |                                                                          |                                    |                                      |                                                                                     |               |
|                                                             | <b>Storm<br/>Event</b> | <b>Max<br/>Level<br/>(m)</b>                                             | <b>Max<br/>Depth<br/>(m)</b>       | <b>Max<br/>Control<br/>(l/s)</b>     | <b>Max<br/>Volume<br/>(m³)</b>                                                      | <b>Status</b> |
|                                                             | 15 min Summer          | 98.233                                                                   | 0.233                              | 2.2                                  | 52.0                                                                                | O K           |
|                                                             | 30 min Summer          | 98.296                                                                   | 0.296                              | 2.2                                  | 68.2                                                                                | O K           |
|                                                             | 60 min Summer          | 98.358                                                                   | 0.358                              | 2.2                                  | 85.2                                                                                | O K           |
|                                                             | 120 min Summer         | 98.418                                                                   | 0.418                              | 2.2                                  | 102.5                                                                               | O K           |
|                                                             | 180 min Summer         | 98.451                                                                   | 0.451                              | 2.2                                  | 112.4                                                                               | O K           |
|                                                             | 240 min Summer         | 98.472                                                                   | 0.472                              | 2.2                                  | 119.0                                                                               | O K           |
|                                                             | 360 min Summer         | 98.501                                                                   | 0.501                              | 2.2                                  | 128.1                                                                               | O K           |
|                                                             | 480 min Summer         | 98.520                                                                   | 0.520                              | 2.2                                  | 134.2                                                                               | O K           |
|                                                             | 600 min Summer         | 98.533                                                                   | 0.533                              | 2.2                                  | 138.4                                                                               | O K           |
|                                                             | 720 min Summer         | 98.542                                                                   | 0.542                              | 2.2                                  | 141.4                                                                               | O K           |
|                                                             | 960 min Summer         | 98.552                                                                   | 0.552                              | 2.2                                  | 144.7                                                                               | O K           |
|                                                             | 1440 min Summer        | 98.555                                                                   | 0.555                              | 2.2                                  | 145.6                                                                               | O K           |
|                                                             | 2160 min Summer        | 98.547                                                                   | 0.547                              | 2.2                                  | 143.0                                                                               | O K           |
|                                                             | 2880 min Summer        | 98.534                                                                   | 0.534                              | 2.2                                  | 138.9                                                                               | O K           |
|                                                             | 4320 min Summer        | 98.503                                                                   | 0.503                              | 2.2                                  | 128.9                                                                               | O K           |
|                                                             | 5760 min Summer        | 98.471                                                                   | 0.471                              | 2.2                                  | 118.8                                                                               | O K           |
|                                                             | 7200 min Summer        | 98.440                                                                   | 0.440                              | 2.2                                  | 109.2                                                                               | O K           |
|                                                             | 8640 min Summer        | 98.410                                                                   | 0.410                              | 2.2                                  | 100.2                                                                               | O K           |
|                                                             | 10080 min Summer       | 98.381                                                                   | 0.381                              | 2.2                                  | 91.9                                                                                | O K           |
|                                                             | 15 min Winter          | 98.257                                                                   | 0.257                              | 2.2                                  | 58.1                                                                                | O K           |
|                                                             | 30 min Winter          | 98.325                                                                   | 0.325                              | 2.2                                  | 76.3                                                                                | O K           |
|                                                             | <b>Storm<br/>Event</b> | <b>Rain<br/>(mm/hr)</b>                                                  | <b>Flooded<br/>Volume<br/>(m³)</b> | <b>Discharge<br/>Volume<br/>(m³)</b> | <b>Time-Peak<br/>(mins)</b>                                                         |               |
|                                                             | 15 min Summer          | 138.910                                                                  | 0.0                                | 151.9                                | 19                                                                                  |               |
|                                                             | 30 min Summer          | 91.192                                                                   | 0.0                                | 167.1                                | 34                                                                                  |               |
|                                                             | 60 min Summer          | 57.005                                                                   | 0.0                                | 315.1                                | 64                                                                                  |               |
|                                                             | 120 min Summer         | 34.408                                                                   | 0.0                                | 332.5                                | 124                                                                                 |               |
|                                                             | 180 min Summer         | 25.260                                                                   | 0.0                                | 342.5                                | 184                                                                                 |               |
|                                                             | 240 min Summer         | 20.161                                                                   | 0.0                                | 349.2                                | 242                                                                                 |               |
|                                                             | 360 min Summer         | 14.647                                                                   | 0.0                                | 357.8                                | 362                                                                                 |               |
|                                                             | 480 min Summer         | 11.672                                                                   | 0.0                                | 362.1                                | 482                                                                                 |               |
|                                                             | 600 min Summer         | 9.779                                                                    | 0.0                                | 362.3                                | 602                                                                                 |               |
|                                                             | 720 min Summer         | 8.460                                                                    | 0.0                                | 359.9                                | 722                                                                                 |               |
|                                                             | 960 min Summer         | 6.725                                                                    | 0.0                                | 355.5                                | 960                                                                                 |               |
|                                                             | 1440 min Summer        | 4.859                                                                    | 0.0                                | 348.1                                | 1368                                                                                |               |
|                                                             | 2160 min Summer        | 3.504                                                                    | 0.0                                | 677.4                                | 1688                                                                                |               |
|                                                             | 2880 min Summer        | 2.777                                                                    | 0.0                                | 687.1                                | 2072                                                                                |               |
|                                                             | 4320 min Summer        | 1.997                                                                    | 0.0                                | 691.8                                | 2856                                                                                |               |
|                                                             | 5760 min Summer        | 1.579                                                                    | 0.0                                | 1133.2                               | 3688                                                                                |               |
|                                                             | 7200 min Summer        | 1.316                                                                    | 0.0                                | 1142.5                               | 4472                                                                                |               |
|                                                             | 8640 min Summer        | 1.133                                                                    | 0.0                                | 1150.4                               | 5272                                                                                |               |
|                                                             | 10080 min Summer       | 0.998                                                                    | 0.0                                | 1157.1                               | 6048                                                                                |               |
|                                                             | 15 min Winter          | 138.910                                                                  | 0.0                                | 157.9                                | 19                                                                                  |               |
|                                                             | 30 min Winter          | 91.192                                                                   | 0.0                                | 174.3                                | 34                                                                                  |               |
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|                                                             |                     |                                                                          |                             |                       |                                                                                     |
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| PRP                                                         |                     |                                                                          |                             | Page 2                |                                                                                     |
| Catherine House<br>Old Harborough Road<br>Brixworth NN6 9BX |                     | 82326 - Norton Juxta<br>1 in 100 year storm + 40%CC<br>Attenuation Basin |                             |                       |  |
| Date 29/09/2022<br>File 82326 - Attenuation Pon...          |                     | Designed by AGS<br>Checked by DE                                         |                             |                       |                                                                                     |
| Micro Drainage                                              |                     | Source Control 2018.1.1                                                  |                             |                       |                                                                                     |
| <u>Summary of Results for 100 year Return Period (+40%)</u> |                     |                                                                          |                             |                       |                                                                                     |
| Storm<br>Event                                              | Max<br>Level<br>(m) | Max<br>Depth<br>(m)                                                      | Max<br>Control<br>(l/s)     | Max<br>Volume<br>(m³) | Status                                                                              |
| 60 min Winter                                               | 98.393              | 0.393                                                                    | 2.2                         | 95.2                  | O K                                                                                 |
| 120 min Winter                                              | 98.457              | 0.457                                                                    | 2.2                         | 114.5                 | O K                                                                                 |
| 180 min Winter                                              | 98.493              | 0.493                                                                    | 2.2                         | 125.5                 | O K                                                                                 |
| 240 min Winter                                              | 98.516              | 0.516                                                                    | 2.2                         | 132.8                 | O K                                                                                 |
| 360 min Winter                                              | 98.547              | 0.547                                                                    | 2.2                         | 143.0                 | O K                                                                                 |
| 480 min Winter                                              | 98.567              | 0.567                                                                    | 2.2                         | 149.9                 | O K                                                                                 |
| 600 min Winter                                              | 98.582              | 0.582                                                                    | 2.2                         | 154.8                 | O K                                                                                 |
| 720 min Winter                                              | 98.592              | 0.592                                                                    | 2.2                         | 158.4                 | O K                                                                                 |
| 960 min Winter                                              | 98.605              | 0.605                                                                    | 2.2                         | 162.8                 | O K                                                                                 |
| 1440 min Winter                                             | 98.612              | 0.612                                                                    | 2.2                         | 165.3                 | O K                                                                                 |
| 2160 min Winter                                             | 98.601              | 0.601                                                                    | 2.2                         | 161.4                 | O K                                                                                 |
| 2880 min Winter                                             | 98.585              | 0.585                                                                    | 2.2                         | 155.9                 | O K                                                                                 |
| 4320 min Winter                                             | 98.544              | 0.544                                                                    | 2.2                         | 142.0                 | O K                                                                                 |
| 5760 min Winter                                             | 98.497              | 0.497                                                                    | 2.2                         | 126.9                 | O K                                                                                 |
| 7200 min Winter                                             | 98.451              | 0.451                                                                    | 2.2                         | 112.5                 | O K                                                                                 |
| 8640 min Winter                                             | 98.406              | 0.406                                                                    | 2.2                         | 98.9                  | O K                                                                                 |
| 10080 min Winter                                            | 98.363              | 0.363                                                                    | 2.2                         | 86.6                  | O K                                                                                 |
| Storm<br>Event                                              | Rain<br>(mm/hr)     | Flooded<br>Volume<br>(m³)                                                | Discharge<br>Volume<br>(m³) | Time-Peak<br>(mins)   |                                                                                     |
| 60 min Winter                                               | 57.005              | 0.0                                                                      | 325.3                       | 64                    |                                                                                     |
| 120 min Winter                                              | 34.408              | 0.0                                                                      | 344.5                       | 122                   |                                                                                     |
| 180 min Winter                                              | 25.260              | 0.0                                                                      | 355.1                       | 180                   |                                                                                     |
| 240 min Winter                                              | 20.161              | 0.0                                                                      | 361.6                       | 240                   |                                                                                     |
| 360 min Winter                                              | 14.647              | 0.0                                                                      | 367.6                       | 358                   |                                                                                     |
| 480 min Winter                                              | 11.672              | 0.0                                                                      | 366.2                       | 474                   |                                                                                     |
| 600 min Winter                                              | 9.779               | 0.0                                                                      | 363.7                       | 590                   |                                                                                     |
| 720 min Winter                                              | 8.460               | 0.0                                                                      | 361.4                       | 708                   |                                                                                     |
| 960 min Winter                                              | 6.725               | 0.0                                                                      | 357.3                       | 934                   |                                                                                     |
| 1440 min Winter                                             | 4.859               | 0.0                                                                      | 350.4                       | 1384                  |                                                                                     |
| 2160 min Winter                                             | 3.504               | 0.0                                                                      | 699.1                       | 1972                  |                                                                                     |
| 2880 min Winter                                             | 2.777               | 0.0                                                                      | 707.4                       | 2220                  |                                                                                     |
| 4320 min Winter                                             | 1.997               | 0.0                                                                      | 698.5                       | 3116                  |                                                                                     |
| 5760 min Winter                                             | 1.579               | 0.0                                                                      | 1160.4                      | 3984                  |                                                                                     |
| 7200 min Winter                                             | 1.316               | 0.0                                                                      | 1170.8                      | 4832                  |                                                                                     |
| 8640 min Winter                                             | 1.133               | 0.0                                                                      | 1179.6                      | 5624                  |                                                                                     |
| 10080 min Winter                                            | 0.998               | 0.0                                                                      | 1187.2                      | 6360                  |                                                                                     |
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| PRP                                                         |                                                                          | Page 3                                                                              |
| Catherine House<br>Old Harborough Road<br>Brixworth NN6 9BX | 82326 - Norton Juxta<br>1 in 100 year storm + 40%CC<br>Attenuation Basin |  |
| Date 29/09/2022<br>File 82326 - Attenuation Pon...          | Designed by AGS<br>Checked by DE                                         |                                                                                     |
| Micro Drainage Source Control 2018.1.1                      |                                                                          |                                                                                     |

Rainfall Details

|                       |                   |                       |       |
|-----------------------|-------------------|-----------------------|-------|
| Rainfall Model        | FSR               | Winter Storms         | Yes   |
| Return Period (years) | 100               | Cv (Summer)           | 0.750 |
| Region                | England and Wales | Cv (Winter)           | 0.840 |
| M5-60 (mm)            | 20.100            | Shortest Storm (mins) | 15    |
| Ratio R               | 0.400             | Longest Storm (mins)  | 10080 |
| Summer Storms         | Yes               | Climate Change %      | +40   |

Time Area Diagram

Total Area (ha) 0.199

| Time (mins) | Area     |
|-------------|----------|
| From:       | To: (ha) |
| 0           | 4 0.199  |

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|                                                             |                                                                          |                                                                                     |
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| PRP                                                         |                                                                          | Page 4                                                                              |
| Catherine House<br>Old Harborough Road<br>Brixworth NN6 9BX | 82326 - Norton Juxta<br>1 in 100 year storm + 40%CC<br>Attenuation Basin |  |
| Date 29/09/2022<br>File 82326 - Attenuation Pon...          | Designed by AGS<br>Checked by DE                                         |                                                                                     |
| Micro Drainage Source Control 2018.1.1                      |                                                                          |                                                                                     |

Model Details

Storage is Online Cover Level (m) 98.915

Tank or Pond Structure

Invert Level (m) 98.000

| Depth (m) | Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) |
|-----------|------------------------|-----------|------------------------|
| 0.000     | 197.7                  | 0.915     | 440.3                  |

Pump Outflow Control

Invert Level (m) 98.000

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.200     | 2.2000     | 1.800     | 2.2000     | 3.400     | 2.2000     | 5.000     | 2.2000     |
| 0.400     | 2.2000     | 2.000     | 2.2000     | 3.600     | 2.2000     | 5.200     | 2.2000     |
| 0.600     | 2.2000     | 2.200     | 2.2000     | 3.800     | 2.2000     | 5.400     | 2.2000     |
| 0.800     | 2.2000     | 2.400     | 2.2000     | 4.000     | 2.2000     | 5.600     | 2.2000     |
| 1.000     | 2.2000     | 2.600     | 2.2000     | 4.200     | 2.2000     | 5.800     | 2.2000     |
| 1.200     | 2.2000     | 2.800     | 2.2000     | 4.400     | 2.2000     | 6.000     | 2.2000     |
| 1.400     | 2.2000     | 3.000     | 2.2000     | 4.600     | 2.2000     |           |            |
| 1.600     | 2.2000     | 3.200     | 2.2000     | 4.800     | 2.2000     |           |            |

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