



**REUBY & STAGG LTD.**

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**PLANNING CONDITIONS 20 AND 22**

**SURFACE WATER STRATEGY,**

**CONVALESCENT SITE, RUSTINGTON, LITTLEHAMPTON**

**EXISTING LAUNDRY, HOUSE AND DAIRY**

Reuby & Stagg Ltd. has been instructed to provide a surface water drainage strategy for Phase 1 of the development at Rustington Convalescent Home, in line with the requirements of Conditions 20 and 22 of planning permission R/187/16/PL. This Strategy should be read in conjunction with the following documents that are included in the Appendices.

- Flood Risk Assessment and Surface Water Drainage Strategy – 14-185-05 – January 2015 – Odyssey Markides
- GE16334 Rustington Soakage Test Letter JT01 180228 - 28th February 2018 – Geo – Environmental.

**CONDITION**

20. Prior to the commencement of development of each phase full details of the proposed surface water drainage scheme for the relevant phase shall be submitted to and approved in writing by the Local Planning Authority.

The design should follow the hierarchy of preference for different types of surface water drainage disposal systems as set out in Approved Document H of the Building Regulations, the recommendations of the SUDS Manual produced by CIRIA.

Winter groundwater monitoring to establish highest annual ground water levels and Percolation testing to BRE 365, or similar approved, will be required to support the design of any Infiltration drainage.

No unit shall be occupied until the complete surface water drainage system serving the property has been implemented in accordance with the agreed details and the details so agreed shall be maintained in good working order in perpetuity.

Reason: To ensure that the proposed development is satisfactorily drained in accordance with policies GEN7 and GEN9 of the Arun District Council Local Plan.

*Revision E 21<sup>st</sup> May 2018*

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22. Prior to the commencement of each phase of development full details of the maintenance and management of the SUDs system is set out in a site-specific maintenance manual and submitted to, and approved in writing, by the Local Planning Authority. The manual is to include details of financial management and arrangements for the replacement of major components at the end of the manufacturers recommended design life. Upon completed construction of the SuDs System, the owner or management company shall strictly adhere to and implement the recommendations contained within the manual.

Reason: To ensure the efficient maintenance and on going operation of the SuDs system and to ensure the best practice in line with guidance set out in 'The SuDs Manual' CIRIA publication ref: C697 Chapter 22.

## **EXISTING CONDITION**

Phase 1 of the development includes the conversion of three existing two-storey buildings with impermeable roofs and permeable landscaped external areas.

The current impermeable surfaces of the site either discharge to an existing soakaway or are directly connected to the adjacent Boating lake. The existing surface water does not discharge into the local Southern Water surface water system.

## **DESIGN**

As outlined in the Flood Risk Assessment, the site is mainly situated within Flood Zone 1 (based upon Environment Agency Flood mapping). All existing and proposed buildings are situated within Flood Zone 1.

An infiltration test has been undertaken in accordance with BRE365; the results of which are included as an appendix. The testing concluded that the sub-strata's encounter a worst-case soakage rate of  $4.617 \times 10^{-6}$ , which provides a suitable medium for infiltration.

Ground water monitoring was undertaken between 19<sup>th</sup> April 2017 and 1st February 2018, which concluded the highest ground water level to be 2.26m below ground level. Soakaways have therefore been designed to be no deeper than 1.26m below ground level.

The redevelopment of the site will increase the impermeable area. Although the discharge flow and volume of water shall be greater as a result, the proposed soakaways have been designed in line with guidance set out in policy GEN7 and GEN9 of the Arun District Council Local Plan. The soakaways and associated drainage system have been designed and shall be constructed in accordance with Approved Document H of the Building Regulations and the recommendations of the SUDS Manual.

In brief, the proposed external paving construction will be of a porous nature and the new soakaways have been designed to accommodate the 100 Year storm event inclusive of climate change without flooding. All storm durations have been designed for, with the 180, 600 and 960min duration storm being the worst case. The MicroDrainage WinDes calculations and design drawing are included in the appendices.

In the event of sewer exceedance or drainage failure, the soakaways are situated in areas lower than the finished floor levels of the buildings and therefore the properties are not at risk of flooding. Flood water from sewer exceedance or drainage failure will flow south towards the proposed carriageway which will provide above ground storage.

## MAINTENANCE AND MANAGEMENT OF SUDS SYSTEM

The following table sets out the maintenance regime specific to each element of the drainage system. This regime should be followed throughout the lifetime of the development, to ensure proper functioning of the system and to limit the risk of flooding due to poor operation.

The financial management and arrangements for the replacement of major components at the end of the manufacturers recommended design life will be dealt with by the management company with ground rents collected from the owners to cover the replacement costs

| <b>Drainage Element</b>                 | <b>Inspection / Maintenance</b>                                         | <b>Frequency</b>                                                                   | <b>Remedial Action</b>                                                          | <b>Responsible Party</b>                                   |
|-----------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------|
| Roof Drainage                           | Clean gutters and downpipes                                             | Annually                                                                           | Repair as necessary                                                             | Home owners for dwellings,<br>Management Company for flats |
| Below ground drainage runs and chambers | CCTV drain runs and jet wash.<br>Inspect chambers for debris            | Every 5 years<br><br>Annually                                                      | Repair as necessary<br><br>Remove debris and sediment as required               | Home owners for dwellings,<br>Management Company for flats |
| Silt Traps                              | Inspect silt traps                                                      | Monthly for 1 <sup>st</sup> year of operation and then annually thereafter         | Remove sediment and debris as required                                          | Home owners for dwellings,<br>Management Company for flats |
| Permeable Paving                        | Sweep and vacuum paving<br><br>Inspect for evidence of poor performance | End of winter, mid-summer and end of autumn.<br><br>48hrs following heavy rainfall | Take up defective area of block paving and replace bedding layer and geotextile | Management Company                                         |

Produced by  
**Chris Vivian**  
**BSc.(Hons) C.Eng MStructE**  
**Director**  
For And On Behalf Of Reuby & Stagg Ltd.

# APPENDIX

## Carpenters House - Soakaway 1

| Reuby & Stagg Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                         | Page 1                                                                              |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------|-----|---------------|-----|-----------------------|----|-------------|-------|--------|-------------------|-------------|-------|------------|--------|-----------------------|----|---------|-------|----------------------|-------|---------------|-----|------------------|----|-------------|--|------|-------|-----|------|---|---|-------|
| Dewey House<br>55 High Street<br>Ringwood BH24 1AE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Rustington Convalescent Home<br>Carpenters House<br>Reuby & Stagg 10379 |  |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| Date April 2018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Designed by PJ                                                          |                                                                                     |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| File 10379 Carpenters House ...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Checked by RHB                                                          |                                                                                     |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| Elstree Computing Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                         | Source Control 2015.1                                                               |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| <p style="text-align: center;"><u>Rainfall Details</u></p> <table><tr><td>Rainfall Model</td><td>FSR</td><td>Winter Storms</td><td>Yes</td></tr><tr><td>Return Period (years)</td><td>30</td><td>Cv (Summer)</td><td>0.750</td></tr><tr><td>Region</td><td>England and Wales</td><td>Cv (Winter)</td><td>0.840</td></tr><tr><td>M5-60 (mm)</td><td>19.000</td><td>Shortest Storm (mins)</td><td>15</td></tr><tr><td>Ratio R</td><td>0.350</td><td>Longest Storm (mins)</td><td>10080</td></tr><tr><td>Summer Storms</td><td>Yes</td><td>Climate Change %</td><td>+0</td></tr></table> <p style="text-align: center;"><u>Time Area Diagram</u></p> <p>Total Area (ha) 0.011</p> <table><thead><tr><th colspan="2">Time (mins)</th><th>Area</th></tr><tr><th>From:</th><th>To:</th><th>(ha)</th></tr></thead><tbody><tr><td>0</td><td>4</td><td>0.011</td></tr></tbody></table> |                                                                         |                                                                                     | Rainfall Model | FSR | Winter Storms | Yes | Return Period (years) | 30 | Cv (Summer) | 0.750 | Region | England and Wales | Cv (Winter) | 0.840 | M5-60 (mm) | 19.000 | Shortest Storm (mins) | 15 | Ratio R | 0.350 | Longest Storm (mins) | 10080 | Summer Storms | Yes | Climate Change % | +0 | Time (mins) |  | Area | From: | To: | (ha) | 0 | 4 | 0.011 |
| Rainfall Model                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | FSR                                                                     | Winter Storms                                                                       | Yes            |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| Return Period (years)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30                                                                      | Cv (Summer)                                                                         | 0.750          |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| Region                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | England and Wales                                                       | Cv (Winter)                                                                         | 0.840          |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| M5-60 (mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 19.000                                                                  | Shortest Storm (mins)                                                               | 15             |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| Ratio R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.350                                                                   | Longest Storm (mins)                                                                | 10080          |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| Summer Storms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Yes                                                                     | Climate Change %                                                                    | +0             |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| Time (mins)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                         | Area                                                                                |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| From:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | To:                                                                     | (ha)                                                                                |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4                                                                       | 0.011                                                                               |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
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|                                                    |                                                                         |                                                                                     |
|----------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Reuby & Stagg Ltd                                  |                                                                         | Page 2                                                                              |
| Dewey House<br>55 High Street<br>Ringwood BH24 1AE | Rustington Convalescent Home<br>Carpenters House<br>Reuby & Stagg 10379 |  |
| Date April 2018                                    | Designed by PJ                                                          |                                                                                     |
| File 10379 Carpenters House ...                    | Checked by RHB                                                          |                                                                                     |
| Elstree Computing Ltd                              |                                                                         | Source Control 2015.1                                                               |

Model Details

Storage is Online Cover Level (m) 3.850

Cellular Storage Structure

Invert Level (m) 2.600 Safety Factor 2.0  
Infiltration Coefficient Base (m/hr) 0.01662 Porosity 0.95  
Infiltration Coefficient Side (m/hr) 0.01662

| Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000     | 19.0                   | 19.0                        | 1.300     | 0.0                    | 26.8                        |
| 0.100     | 19.0                   | 20.7                        | 1.400     | 0.0                    | 26.8                        |
| 0.200     | 19.0                   | 22.5                        | 1.500     | 0.0                    | 26.8                        |
| 0.300     | 19.0                   | 24.2                        | 1.600     | 0.0                    | 26.8                        |
| 0.400     | 19.0                   | 26.0                        | 1.700     | 0.0                    | 26.8                        |
| 0.500     | 0.0                    | 26.8                        | 1.800     | 0.0                    | 26.8                        |
| 0.600     | 0.0                    | 26.8                        | 1.900     | 0.0                    | 26.8                        |
| 0.700     | 0.0                    | 26.8                        | 2.000     | 0.0                    | 26.8                        |
| 0.800     | 0.0                    | 26.8                        | 2.100     | 0.0                    | 26.8                        |
| 0.900     | 0.0                    | 26.8                        | 2.200     | 0.0                    | 26.8                        |
| 1.000     | 0.0                    | 26.8                        | 2.300     | 0.0                    | 26.8                        |
| 1.100     | 0.0                    | 26.8                        | 2.400     | 0.0                    | 26.8                        |
| 1.200     | 0.0                    | 26.8                        | 2.500     | 0.0                    | 26.8                        |

Cellular storage structure has been shown on the design drawings as 2 No. 10m2 tanks. Providing 4m3 of storage.

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|                                                    |                     |                                                                        |                              |                       |                                                                                     |
|----------------------------------------------------|---------------------|------------------------------------------------------------------------|------------------------------|-----------------------|-------------------------------------------------------------------------------------|
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| Date April 2018<br>File 10379 Carpenters House ... |                     | Designed by PJ<br>Checked by RHB                                       |                              |                       |                                                                                     |
| Elstree Computing Ltd                              |                     | Source Control 2015.1                                                  |                              |                       |                                                                                     |
| Summary of Results for 30 year Return Period       |                     |                                                                        |                              |                       |                                                                                     |
| Half Drain Time : 631 minutes.                     |                     |                                                                        |                              |                       |                                                                                     |
| Storm<br>Event                                     | Max<br>Level<br>(m) | Max<br>Depth<br>(m)                                                    | Max<br>Infiltration<br>(l/s) | Max<br>Volume<br>(m³) | Status                                                                              |
| 15 min Summer                                      | 2.677               | 0.077                                                                  | 0.0                          | 1.4                   | O K                                                                                 |
| 30 min Summer                                      | 2.701               | 0.101                                                                  | 0.0                          | 1.8                   | O K                                                                                 |
| 60 min Summer                                      | 2.727               | 0.127                                                                  | 0.0                          | 2.3                   | O K                                                                                 |
| 120 min Summer                                     | 2.752               | 0.152                                                                  | 0.0                          | 2.7                   | O K                                                                                 |
| 180 min Summer                                     | 2.765               | 0.165                                                                  | 0.1                          | 3.0                   | O K                                                                                 |
| 240 min Summer                                     | 2.772               | 0.172                                                                  | 0.1                          | 3.1                   | O K                                                                                 |
| 360 min Summer                                     | 2.779               | 0.179                                                                  | 0.1                          | 3.2                   | O K                                                                                 |
| 480 min Summer                                     | 2.781               | 0.181                                                                  | 0.1                          | 3.3                   | O K                                                                                 |
| 600 min Summer                                     | 2.782               | 0.182                                                                  | 0.1                          | 3.3                   | O K                                                                                 |
| 720 min Summer                                     | 2.782               | 0.182                                                                  | 0.1                          | 3.3                   | O K                                                                                 |
| 960 min Summer                                     | 2.781               | 0.181                                                                  | 0.1                          | 3.3                   | O K                                                                                 |
| 1440 min Summer                                    | 2.774               | 0.174                                                                  | 0.1                          | 3.1                   | O K                                                                                 |
| 2160 min Summer                                    | 2.761               | 0.161                                                                  | 0.1                          | 2.9                   | O K                                                                                 |
| 2880 min Summer                                    | 2.748               | 0.148                                                                  | 0.0                          | 2.7                   | O K                                                                                 |
| 4320 min Summer                                    | 2.723               | 0.123                                                                  | 0.0                          | 2.2                   | O K                                                                                 |
| 5760 min Summer                                    | 2.701               | 0.101                                                                  | 0.0                          | 1.8                   | O K                                                                                 |
| 7200 min Summer                                    | 2.683               | 0.083                                                                  | 0.0                          | 1.5                   | O K                                                                                 |
| 8640 min Summer                                    | 2.669               | 0.069                                                                  | 0.0                          | 1.2                   | O K                                                                                 |
| 10080 min Summer                                   | 2.659               | 0.059                                                                  | 0.0                          | 1.1                   | O K                                                                                 |
| 15 min Winter                                      | 2.686               | 0.086                                                                  | 0.0                          | 1.6                   | O K                                                                                 |
| Storm<br>Event                                     | Rain<br>(mm/hr)     | Flooded<br>Volume<br>(m³)                                              | Time-Peak<br>(mins)          |                       |                                                                                     |
| 15 min Summer                                      | 68.836              | 0.0                                                                    | 19                           |                       |                                                                                     |
| 30 min Summer                                      | 45.828              | 0.0                                                                    | 33                           |                       |                                                                                     |
| 60 min Summer                                      | 29.238              | 0.0                                                                    | 64                           |                       |                                                                                     |
| 120 min Summer                                     | 18.112              | 0.0                                                                    | 122                          |                       |                                                                                     |
| 180 min Summer                                     | 13.534              | 0.0                                                                    | 182                          |                       |                                                                                     |
| 240 min Summer                                     | 10.952              | 0.0                                                                    | 242                          |                       |                                                                                     |
| 360 min Summer                                     | 8.106               | 0.0                                                                    | 360                          |                       |                                                                                     |
| 480 min Summer                                     | 6.544               | 0.0                                                                    | 460                          |                       |                                                                                     |
| 600 min Summer                                     | 5.539               | 0.0                                                                    | 512                          |                       |                                                                                     |
| 720 min Summer                                     | 4.832               | 0.0                                                                    | 572                          |                       |                                                                                     |
| 960 min Summer                                     | 3.892               | 0.0                                                                    | 702                          |                       |                                                                                     |
| 1440 min Summer                                    | 2.866               | 0.0                                                                    | 978                          |                       |                                                                                     |
| 2160 min Summer                                    | 2.108               | 0.0                                                                    | 1384                         |                       |                                                                                     |
| 2880 min Summer                                    | 1.693               | 0.0                                                                    | 1788                         |                       |                                                                                     |
| 4320 min Summer                                    | 1.242               | 0.0                                                                    | 2556                         |                       |                                                                                     |
| 5760 min Summer                                    | 0.996               | 0.0                                                                    | 3296                         |                       |                                                                                     |
| 7200 min Summer                                    | 0.839               | 0.0                                                                    | 4032                         |                       |                                                                                     |
| 8640 min Summer                                    | 0.730               | 0.0                                                                    | 4672                         |                       |                                                                                     |
| 10080 min Summer                                   | 0.648               | 0.0                                                                    | 5352                         |                       |                                                                                     |
| 15 min Winter                                      | 68.836              | 0.0                                                                    | 19                           |                       |                                                                                     |
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|----------------------------------------------------|---------------------|------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------|--------|
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| Dewey House<br>55 High Street<br>Ringwood BH24 1AE |                     | Rustington Convalesent Home<br>Carpenters House<br>Reuby & Stagg 10379 |                              |  |        |
| Date April 2018                                    |                     | Designed by PJ                                                         |                              |                                                                                     |        |
| File 10379 Carpenters House ...                    |                     | Checked by RHB                                                         |                              |                                                                                     |        |
| Elstree Computing Ltd                              |                     | Source Control 2015.1                                                  |                              |                                                                                     |        |
| Summary of Results for 30 year Return Period       |                     |                                                                        |                              |                                                                                     |        |
| Storm<br>Event                                     | Max<br>Level<br>(m) | Max<br>Depth<br>(m)                                                    | Max<br>Infiltration<br>(l/s) | Max<br>Volume<br>(m³)                                                               | Status |
| 30 min Winter                                      | 2.714               | 0.114                                                                  | 0.0                          | 2.1                                                                                 | O K    |
| 60 min Winter                                      | 2.743               | 0.143                                                                  | 0.0                          | 2.6                                                                                 | O K    |
| 120 min Winter                                     | 2.771               | 0.171                                                                  | 0.1                          | 3.1                                                                                 | O K    |
| 180 min Winter                                     | 2.786               | 0.186                                                                  | 0.1                          | 3.4                                                                                 | O K    |
| 240 min Winter                                     | 2.795               | 0.195                                                                  | 0.1                          | 3.5                                                                                 | O K    |
| 360 min Winter                                     | 2.805               | 0.205                                                                  | 0.1                          | 3.7                                                                                 | O K    |
| 480 min Winter                                     | 2.809               | 0.209                                                                  | 0.1                          | 3.8                                                                                 | O K    |
| 600 min Winter                                     | 2.810               | 0.210                                                                  | 0.1                          | 3.8                                                                                 | O K    |
| 720 min Winter                                     | 2.809               | 0.209                                                                  | 0.1                          | 3.8                                                                                 | O K    |
| 960 min Winter                                     | 2.806               | 0.206                                                                  | 0.1                          | 3.7                                                                                 | O K    |
| 1440 min Winter                                    | 2.796               | 0.196                                                                  | 0.1                          | 3.5                                                                                 | O K    |
| 2160 min Winter                                    | 2.776               | 0.176                                                                  | 0.1                          | 3.2                                                                                 | O K    |
| 2880 min Winter                                    | 2.755               | 0.155                                                                  | 0.1                          | 2.8                                                                                 | O K    |
| 4320 min Winter                                    | 2.717               | 0.117                                                                  | 0.0                          | 2.1                                                                                 | O K    |
| 5760 min Winter                                    | 2.685               | 0.085                                                                  | 0.0                          | 1.5                                                                                 | O K    |
| 7200 min Winter                                    | 2.662               | 0.062                                                                  | 0.0                          | 1.1                                                                                 | O K    |
| 8640 min Winter                                    | 2.649               | 0.049                                                                  | 0.0                          | 0.9                                                                                 | O K    |
| 10080 min Winter                                   | 2.644               | 0.044                                                                  | 0.0                          | 0.8                                                                                 | O K    |
| Storm<br>Event                                     | Rain<br>(mm/hr)     | Flooded<br>Volume<br>(m³)                                              | Time-Peak<br>(mins)          |                                                                                     |        |
| 30 min Winter                                      | 45.828              | 0.0                                                                    | 33                           |                                                                                     |        |
| 60 min Winter                                      | 29.238              | 0.0                                                                    | 62                           |                                                                                     |        |
| 120 min Winter                                     | 18.112              | 0.0                                                                    | 120                          |                                                                                     |        |
| 180 min Winter                                     | 13.534              | 0.0                                                                    | 178                          |                                                                                     |        |
| 240 min Winter                                     | 10.952              | 0.0                                                                    | 236                          |                                                                                     |        |
| 360 min Winter                                     | 8.106               | 0.0                                                                    | 350                          |                                                                                     |        |
| 480 min Winter                                     | 6.544               | 0.0                                                                    | 462                          |                                                                                     |        |
| 600 min Winter                                     | 5.539               | 0.0                                                                    | 568                          |                                                                                     |        |
| 720 min Winter                                     | 4.832               | 0.0                                                                    | 664                          |                                                                                     |        |
| 960 min Winter                                     | 3.892               | 0.0                                                                    | 750                          |                                                                                     |        |
| 1440 min Winter                                    | 2.866               | 0.0                                                                    | 1056                         |                                                                                     |        |
| 2160 min Winter                                    | 2.108               | 0.0                                                                    | 1512                         |                                                                                     |        |
| 2880 min Winter                                    | 1.693               | 0.0                                                                    | 1932                         |                                                                                     |        |
| 4320 min Winter                                    | 1.242               | 0.0                                                                    | 2724                         |                                                                                     |        |
| 5760 min Winter                                    | 0.996               | 0.0                                                                    | 3456                         |                                                                                     |        |
| 7200 min Winter                                    | 0.839               | 0.0                                                                    | 4104                         |                                                                                     |        |
| 8640 min Winter                                    | 0.730               | 0.0                                                                    | 4584                         |                                                                                     |        |
| 10080 min Winter                                   | 0.648               | 0.0                                                                    | 5344                         |                                                                                     |        |
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|                                                      |                     |                                                                        |                              |                       |                                                                                     |
|------------------------------------------------------|---------------------|------------------------------------------------------------------------|------------------------------|-----------------------|-------------------------------------------------------------------------------------|
| Reuby & Stagg Ltd                                    |                     |                                                                        |                              | Page 5                |                                                                                     |
| Dewey House<br>55 High Street<br>Ringwood BH24 1AE   |                     | Rustington Convalesent Home<br>Carpenters House<br>Reuby & Stagg 10379 |                              |                       |  |
| Date April 2018<br>File 10379 Carpenters House ...   |                     | Designed by PJ<br>Checked by RHB                                       |                              |                       |                                                                                     |
| Elstree Computing Ltd                                |                     | Source Control 2015.1                                                  |                              |                       |                                                                                     |
| Summary of Results for 100 year Return Period (+40%) |                     |                                                                        |                              |                       |                                                                                     |
| Half Drain Time : 1145 minutes.                      |                     |                                                                        |                              |                       |                                                                                     |
| Storm<br>Event                                       | Max<br>Level<br>(m) | Max<br>Depth<br>(m)                                                    | Max<br>Infiltration<br>(l/s) | Max<br>Volume<br>(m³) | Status                                                                              |
| 15 min Summer                                        | 2.740               | 0.140                                                                  | 0.0                          | 2.5                   | O K                                                                                 |
| 30 min Summer                                        | 2.788               | 0.188                                                                  | 0.1                          | 3.4                   | O K                                                                                 |
| 60 min Summer                                        | 2.838               | 0.238                                                                  | 0.1                          | 4.3                   | O K                                                                                 |
| 120 min Summer                                       | 2.888               | 0.288                                                                  | 0.1                          | 5.2                   | O K                                                                                 |
| 180 min Summer                                       | 2.915               | 0.315                                                                  | 0.1                          | 5.7                   | O K                                                                                 |
| 240 min Summer                                       | 2.932               | 0.332                                                                  | 0.1                          | 6.0                   | O K                                                                                 |
| 360 min Summer                                       | 2.951               | 0.351                                                                  | 0.1                          | 6.3                   | O K                                                                                 |
| 480 min Summer                                       | 2.962               | 0.362                                                                  | 0.1                          | 6.5                   | O K                                                                                 |
| 600 min Summer                                       | 2.967               | 0.367                                                                  | 0.1                          | 6.6                   | O K                                                                                 |
| 720 min Summer                                       | 2.969               | 0.369                                                                  | 0.1                          | 6.7                   | O K                                                                                 |
| 960 min Summer                                       | 2.967               | 0.367                                                                  | 0.1                          | 6.6                   | O K                                                                                 |
| 1440 min Summer                                      | 2.959               | 0.359                                                                  | 0.1                          | 6.5                   | O K                                                                                 |
| 2160 min Summer                                      | 2.943               | 0.343                                                                  | 0.1                          | 6.2                   | O K                                                                                 |
| 2880 min Summer                                      | 2.926               | 0.326                                                                  | 0.1                          | 5.9                   | O K                                                                                 |
| 4320 min Summer                                      | 2.890               | 0.290                                                                  | 0.1                          | 5.2                   | O K                                                                                 |
| 5760 min Summer                                      | 2.858               | 0.258                                                                  | 0.1                          | 4.6                   | O K                                                                                 |
| 7200 min Summer                                      | 2.828               | 0.228                                                                  | 0.1                          | 4.1                   | O K                                                                                 |
| 8640 min Summer                                      | 2.801               | 0.201                                                                  | 0.1                          | 3.6                   | O K                                                                                 |
| 10080 min Summer                                     | 2.777               | 0.177                                                                  | 0.1                          | 3.2                   | O K                                                                                 |
| 15 min Winter                                        | 2.757               | 0.157                                                                  | 0.1                          | 2.8                   | O K                                                                                 |
| Storm<br>Event                                       | Rain<br>(mm/hr)     | Flooded<br>Volume<br>(m³)                                              | Time-Peak<br>(mins)          |                       |                                                                                     |
| 15 min Summer                                        | 124.633             | 0.0                                                                    | 19                           |                       |                                                                                     |
| 30 min Summer                                        | 83.789              | 0.0                                                                    | 34                           |                       |                                                                                     |
| 60 min Summer                                        | 53.779              | 0.0                                                                    | 64                           |                       |                                                                                     |
| 120 min Summer                                       | 33.337              | 0.0                                                                    | 124                          |                       |                                                                                     |
| 180 min Summer                                       | 24.832              | 0.0                                                                    | 182                          |                       |                                                                                     |
| 240 min Summer                                       | 20.006              | 0.0                                                                    | 242                          |                       |                                                                                     |
| 360 min Summer                                       | 14.706              | 0.0                                                                    | 362                          |                       |                                                                                     |
| 480 min Summer                                       | 11.818              | 0.0                                                                    | 482                          |                       |                                                                                     |
| 600 min Summer                                       | 9.966               | 0.0                                                                    | 600                          |                       |                                                                                     |
| 720 min Summer                                       | 8.665               | 0.0                                                                    | 720                          |                       |                                                                                     |
| 960 min Summer                                       | 6.943               | 0.0                                                                    | 874                          |                       |                                                                                     |
| 1440 min Summer                                      | 5.071               | 0.0                                                                    | 1110                         |                       |                                                                                     |
| 2160 min Summer                                      | 3.696               | 0.0                                                                    | 1496                         |                       |                                                                                     |
| 2880 min Summer                                      | 2.949               | 0.0                                                                    | 1908                         |                       |                                                                                     |
| 4320 min Summer                                      | 2.142               | 0.0                                                                    | 2724                         |                       |                                                                                     |
| 5760 min Summer                                      | 1.705               | 0.0                                                                    | 3520                         |                       |                                                                                     |
| 7200 min Summer                                      | 1.427               | 0.0                                                                    | 4320                         |                       |                                                                                     |
| 8640 min Summer                                      | 1.235               | 0.0                                                                    | 5096                         |                       |                                                                                     |
| 10080 min Summer                                     | 1.093               | 0.0                                                                    | 5848                         |                       |                                                                                     |
| 15 min Winter                                        | 124.633             | 0.0                                                                    | 19                           |                       |                                                                                     |
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|                                                      |                     |                                                                        |                              |                                                                                     |        |
|------------------------------------------------------|---------------------|------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------|--------|
| Reuby & Stagg Ltd                                    |                     |                                                                        |                              | Page 6                                                                              |        |
| Dewey House<br>55 High Street<br>Ringwood BH24 1AE   |                     | Rustington Convalesent Home<br>Carpenters House<br>Reuby & Stagg 10379 |                              |  |        |
| Date April 2018<br>File 10379 Carpenters House ...   |                     | Designed by PJ<br>Checked by RHB                                       |                              |                                                                                     |        |
| Elstree Computing Ltd                                |                     | Source Control 2015.1                                                  |                              |                                                                                     |        |
| Summary of Results for 100 year Return Period (+40%) |                     |                                                                        |                              |                                                                                     |        |
| Storm<br>Event                                       | Max<br>Level<br>(m) | Max<br>Depth<br>(m)                                                    | Max<br>Infiltration<br>(l/s) | Max<br>Volume<br>(m³)                                                               | Status |
| 30 min Winter                                        | 2.810               | 0.210                                                                  | 0.1                          | 3.8                                                                                 | O K    |
| 60 min Winter                                        | 2.867               | 0.267                                                                  | 0.1                          | 4.8                                                                                 | O K    |
| 120 min Winter                                       | 2.924               | 0.324                                                                  | 0.1                          | 5.9                                                                                 | O K    |
| 180 min Winter                                       | 2.956               | 0.356                                                                  | 0.1                          | 6.4                                                                                 | O K    |
| 240 min Winter                                       | 2.975               | 0.375                                                                  | 0.1                          | 6.8                                                                                 | O K    |
| 360 min Winter                                       | 2.999               | 0.399                                                                  | 0.1                          | 7.2                                                                                 | O K    |
| 480 min Winter                                       | 3.015               | 0.415                                                                  | 0.1                          | 7.4                                                                                 | O K    |
| 600 min Winter                                       | 3.027               | 0.427                                                                  | 0.1                          | 7.6                                                                                 | O K    |
| 720 min Winter                                       | 3.036               | 0.436                                                                  | 0.1                          | 7.7                                                                                 | O K    |
| 960 min Winter                                       | 3.038               | 0.438                                                                  | 0.1                          | 7.7                                                                                 | O K    |
| 1440 min Winter                                      | 3.016               | 0.416                                                                  | 0.1                          | 7.5                                                                                 | O K    |
| 2160 min Winter                                      | 2.993               | 0.393                                                                  | 0.1                          | 7.1                                                                                 | O K    |
| 2880 min Winter                                      | 2.968               | 0.368                                                                  | 0.1                          | 6.6                                                                                 | O K    |
| 4320 min Winter                                      | 2.915               | 0.315                                                                  | 0.1                          | 5.7                                                                                 | O K    |
| 5760 min Winter                                      | 2.867               | 0.267                                                                  | 0.1                          | 4.8                                                                                 | O K    |
| 7200 min Winter                                      | 2.822               | 0.222                                                                  | 0.1                          | 4.0                                                                                 | O K    |
| 8640 min Winter                                      | 2.784               | 0.184                                                                  | 0.1                          | 3.3                                                                                 | O K    |
| 10080 min Winter                                     | 2.750               | 0.150                                                                  | 0.0                          | 2.7                                                                                 | O K    |
| Storm<br>Event                                       | Rain<br>(mm/hr)     | Flooded<br>Volume<br>(m³)                                              | Time-Peak<br>(mins)          |                                                                                     |        |
| 30 min Winter                                        | 83.789              | 0.0                                                                    | 33                           |                                                                                     |        |
| 60 min Winter                                        | 53.779              | 0.0                                                                    | 62                           |                                                                                     |        |
| 120 min Winter                                       | 33.337              | 0.0                                                                    | 122                          |                                                                                     |        |
| 180 min Winter                                       | 24.832              | 0.0                                                                    | 180                          |                                                                                     |        |
| 240 min Winter                                       | 20.006              | 0.0                                                                    | 238                          |                                                                                     |        |
| 360 min Winter                                       | 14.706              | 0.0                                                                    | 356                          |                                                                                     |        |
| 480 min Winter                                       | 11.818              | 0.0                                                                    | 470                          |                                                                                     |        |
| 600 min Winter                                       | 9.966               | 0.0                                                                    | 584                          |                                                                                     |        |
| 720 min Winter                                       | 8.665               | 0.0                                                                    | 696                          |                                                                                     |        |
| 960 min Winter                                       | 6.943               | 0.0                                                                    | 914                          |                                                                                     |        |
| 1440 min Winter                                      | 5.071               | 0.0                                                                    | 1170                         |                                                                                     |        |
| 2160 min Winter                                      | 3.696               | 0.0                                                                    | 1620                         |                                                                                     |        |
| 2880 min Winter                                      | 2.949               | 0.0                                                                    | 2076                         |                                                                                     |        |
| 4320 min Winter                                      | 2.142               | 0.0                                                                    | 2980                         |                                                                                     |        |
| 5760 min Winter                                      | 1.705               | 0.0                                                                    | 3808                         |                                                                                     |        |
| 7200 min Winter                                      | 1.427               | 0.0                                                                    | 4608                         |                                                                                     |        |
| 8640 min Winter                                      | 1.235               | 0.0                                                                    | 5360                         |                                                                                     |        |
| 10080 min Winter                                     | 1.093               | 0.0                                                                    | 6144                         |                                                                                     |        |
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## Laundry and Dairy Building with Associated Car Park - Soakaway 2

| Reuby & Stagg Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                        | Page 1                                                                              |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------|-----|---------------|-----|-----------------------|----|-------------|-------|--------|-------------------|-------------|-------|------------|--------|-----------------------|----|---------|-------|----------------------|-------|---------------|-----|------------------|----|-------------|--|------|-------|-----|------|---|---|-------|
| Dewey House<br>55 High Street<br>Ringwood BH24 1AE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Rustington Convalescent Home<br>Laundry & Dairy<br>Reuby & Stagg 10379 |  |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| Date May 2018<br>File 10379 Laundry Dairy & C...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Designed by PJ<br>Checked by RHB                                       |                                                                                     |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| Elstree Computing Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                        |                                                                                     |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| Source Control 2015.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                        |                                                                                     |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| <div style="text-align: center; margin-bottom: 20px;"> <u>Rainfall Details</u> </div> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>Rainfall Model</td> <td>FSR</td> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Return Period (years)</td> <td>30</td> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Region</td> <td>England and Wales</td> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>M5-60 (mm)</td> <td>19.000</td> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Ratio R</td> <td>0.350</td> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> <td>Climate Change %</td> <td>+0</td> </tr> </table> <div style="text-align: center; margin-bottom: 20px;"> <u>Time Area Diagram</u> </div> <p style="text-align: center;">Total Area (ha) 0.059</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2" style="text-align: left;">Time (mins)</th> <th style="text-align: left;">Area</th> </tr> <tr> <th style="text-align: left;">From:</th> <th style="text-align: left;">To:</th> <th style="text-align: left;">(ha)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">4</td> <td style="text-align: center;">0.059</td> </tr> </tbody> </table> |                                                                        |                                                                                     | Rainfall Model | FSR | Winter Storms | Yes | Return Period (years) | 30 | Cv (Summer) | 0.750 | Region | England and Wales | Cv (Winter) | 0.840 | M5-60 (mm) | 19.000 | Shortest Storm (mins) | 15 | Ratio R | 0.350 | Longest Storm (mins) | 10080 | Summer Storms | Yes | Climate Change % | +0 | Time (mins) |  | Area | From: | To: | (ha) | 0 | 4 | 0.059 |
| Rainfall Model                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | FSR                                                                    | Winter Storms                                                                       | Yes            |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| Return Period (years)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30                                                                     | Cv (Summer)                                                                         | 0.750          |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| Region                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | England and Wales                                                      | Cv (Winter)                                                                         | 0.840          |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| M5-60 (mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 19.000                                                                 | Shortest Storm (mins)                                                               | 15             |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| Ratio R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.350                                                                  | Longest Storm (mins)                                                                | 10080          |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| Summer Storms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Yes                                                                    | Climate Change %                                                                    | +0             |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| Time (mins)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                        | Area                                                                                |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| From:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | To:                                                                    | (ha)                                                                                |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
| 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 4                                                                      | 0.059                                                                               |                |     |               |     |                       |    |             |       |        |                   |             |       |            |        |                       |    |         |       |                      |       |               |     |                  |    |             |  |      |       |     |      |   |   |       |
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|                                                    |                                                                        |                                                                                     |
|----------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Reuby & Stagg Ltd                                  |                                                                        | Page 2                                                                              |
| Dewey House<br>55 High Street<br>Ringwood BH24 1AE | Rustington Convalescent Home<br>Laundry & Dairy<br>Reuby & Stagg 10379 |  |
| Date May 2018<br>File 10379 Laundry Dairy & C...   | Designed by PJ<br>Checked by RHB                                       |                                                                                     |
| Elstree Computing Ltd      Source Control 2015.1   |                                                                        |                                                                                     |

Model Details

Storage is Online Cover Level (m) 3.750

Cellular Storage Structure

Invert Level (m) 2.790 Safety Factor 2.0  
Infiltration Coefficient Base (m/hr) 0.01662 Porosity 0.95  
Infiltration Coefficient Side (m/hr) 0.01662

| Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000     | 65.0                   | 65.0                        | 1.300     | 0.0                    | 79.5                        |
| 0.100     | 65.0                   | 68.2                        | 1.400     | 0.0                    | 79.5                        |
| 0.200     | 65.0                   | 71.4                        | 1.500     | 0.0                    | 79.5                        |
| 0.300     | 65.0                   | 74.7                        | 1.600     | 0.0                    | 79.5                        |
| 0.400     | 65.0                   | 77.9                        | 1.700     | 0.0                    | 79.5                        |
| 0.500     | 0.0                    | 79.5                        | 1.800     | 0.0                    | 79.5                        |
| 0.600     | 0.0                    | 79.5                        | 1.900     | 0.0                    | 79.5                        |
| 0.700     | 0.0                    | 79.5                        | 2.000     | 0.0                    | 79.5                        |
| 0.800     | 0.0                    | 79.5                        | 2.100     | 0.0                    | 79.5                        |
| 0.900     | 0.0                    | 79.5                        | 2.200     | 0.0                    | 79.5                        |
| 1.000     | 0.0                    | 79.5                        | 2.300     | 0.0                    | 79.5                        |
| 1.100     | 0.0                    | 79.5                        | 2.400     | 0.0                    | 79.5                        |
| 1.200     | 0.0                    | 79.5                        | 2.500     | 0.0                    | 79.5                        |

Weir Overflow Control

Discharge Coef 0.544 Width (m) 0.300 Invert Level (m) 3.190

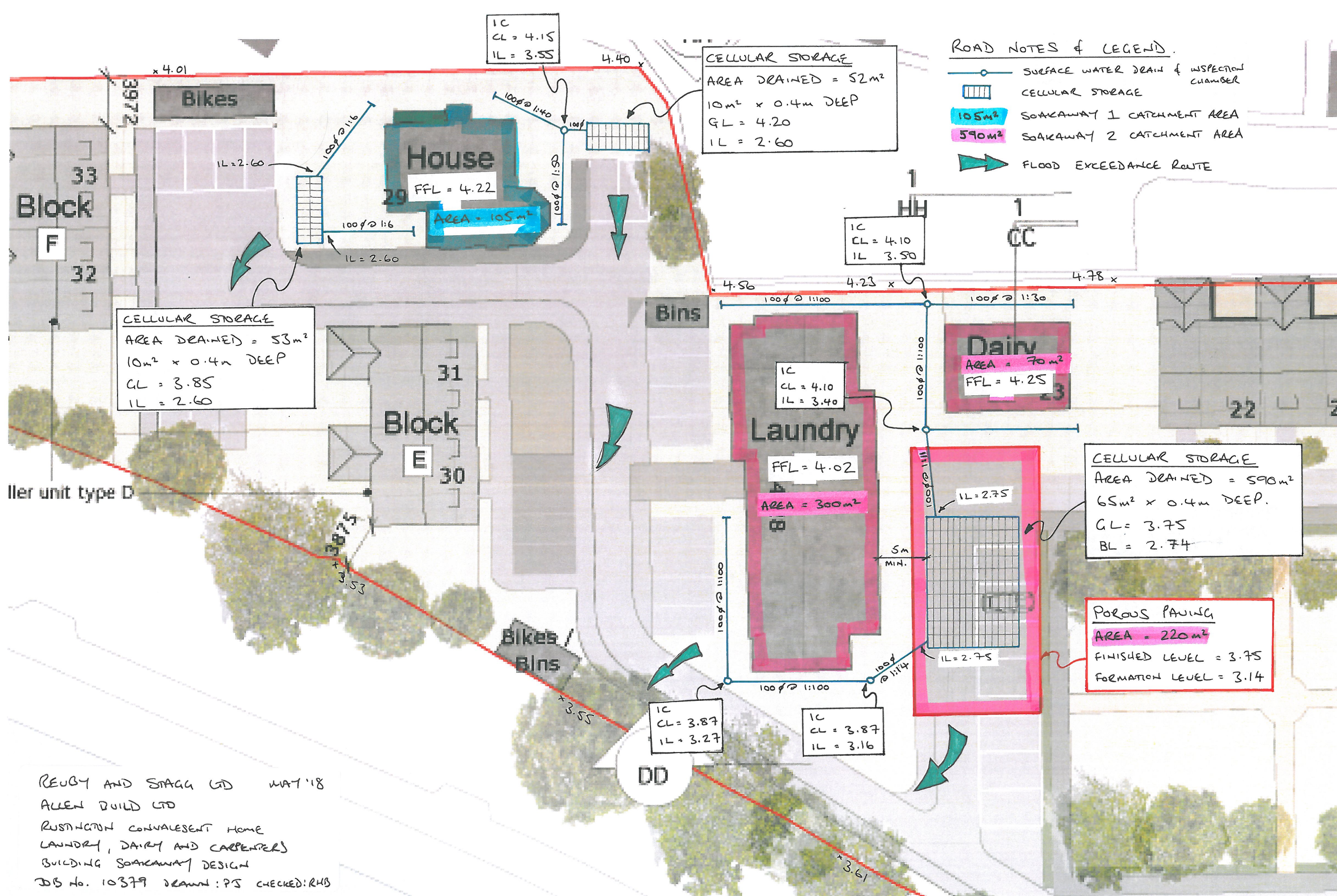
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| Reuby & Staggs Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| Dewey House<br>55 High Street<br>Ringwood BH24 1AE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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             |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |     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| Date May 2018<br>File 10379 Laundry Dairy & C...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| Elstree Computing Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| <p style="text-align: center;"><u>Summary of Results for 30 year Return Period</u></p> <p style="text-align: center;">Half Drain Time : 1132 minutes.</p> <table><thead><tr><th>Storm<br/>Event</th><th>Max<br/>Level<br/>(m)</th><th>Max<br/>Depth<br/>(m)</th><th>Max<br/>Infiltration<br/>(l/s)</th><th>Max<br/>Overflow<br/>(l/s)</th><th>Max<br/>Σ Outflow<br/>(l/s)</th><th>Max<br/>Volume<br/>(m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>2.911</td><td>0.121</td><td>0.2</td><td>0.0</td><td>0.2</td><td>7.5</td><td>O K</td></tr><tr><td>30 min Summer</td><td>2.951</td><td>0.161</td><td>0.2</td><td>0.0</td><td>0.2</td><td>9.9</td><td>O K</td></tr><tr><td>60 min Summer</td><td>2.992</td><td>0.202</td><td>0.2</td><td>0.0</td><td>0.2</td><td>12.5</td><td>O K</td></tr><tr><td>120 min Summer</td><td>3.035</td><td>0.245</td><td>0.2</td><td>0.0</td><td>0.2</td><td>15.1</td><td>O K</td></tr><tr><td>180 min Summer</td><td>3.058</td><td>0.268</td><td>0.2</td><td>0.0</td><td>0.2</td><td>16.6</td><td>O K</td></tr><tr><td>240 min Summer</td><td>3.073</td><td>0.283</td><td>0.2</td><td>0.0</td><td>0.2</td><td>17.5</td><td>O K</td></tr><tr><td>360 min Summer</td><td>3.092</td><td>0.302</td><td>0.2</td><td>0.0</td><td>0.2</td><td>18.7</td><td>O K</td></tr><tr><td>480 min Summer</td><td>3.103</td><td>0.313</td><td>0.2</td><td>0.0</td><td>0.2</td><td>19.3</td><td>O K</td></tr><tr><td>600 min Summer</td><td>3.109</td><td>0.319</td><td>0.2</td><td>0.0</td><td>0.2</td><td>19.7</td><td>O K</td></tr><tr><td>720 min Summer</td><td>3.111</td><td>0.321</td><td>0.2</td><td>0.0</td><td>0.2</td><td>19.8</td><td>O K</td></tr><tr><td>960 min Summer</td><td>3.111</td><td>0.321</td><td>0.2</td><td>0.0</td><td>0.2</td><td>19.8</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>3.107</td><td>0.317</td><td>0.2</td><td>0.0</td><td>0.2</td><td>19.6</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>3.095</td><td>0.305</td><td>0.2</td><td>0.0</td><td>0.2</td><td>18.8</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>3.081</td><td>0.291</td><td>0.2</td><td>0.0</td><td>0.2</td><td>18.0</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>3.052</td><td>0.262</td><td>0.2</td><td>0.0</td><td>0.2</td><td>16.2</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>3.024</td><td>0.234</td><td>0.2</td><td>0.0</td><td>0.2</td><td>14.4</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>2.997</td><td>0.207</td><td>0.2</td><td>0.0</td><td>0.2</td><td>12.8</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>2.973</td><td>0.183</td><td>0.2</td><td>0.0</td><td>0.2</td><td>11.3</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>2.951</td><td>0.161</td><td>0.2</td><td>0.0</td><td>0.2</td><td>9.9</td><td>O K</td></tr><tr><td>15 min Winter</td><td>2.926</td><td>0.136</td><td>0.2</td><td>0.0</td><td>0.2</td><td>8.4</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm<br/>Event</th><th>Rain<br/>(mm/hr)</th><th>Flooded<br/>Volume<br/>(m³)</th><th>Overflow<br/>Volume<br/>(m³)</th><th>Time-Peak<br/>(mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>68.836</td><td>0.0</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>45.828</td><td>0.0</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>29.238</td><td>0.0</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>18.112</td><td>0.0</td><td>0.0</td><td>124</td></tr><tr><td>180 min Summer</td><td>13.534</td><td>0.0</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>10.952</td><td>0.0</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>8.106</td><td>0.0</td><td>0.0</td><td>362</td></tr><tr><td>480 min Summer</td><td>6.544</td><td>0.0</td><td>0.0</td><td>482</td></tr><tr><td>600 min Summer</td><td>5.539</td><td>0.0</td><td>0.0</td><td>600</td></tr><tr><td>720 min Summer</td><td>4.832</td><td>0.0</td><td>0.0</td><td>720</td></tr><tr><td>960 min Summer</td><td>3.892</td><td>0.0</td><td>0.0</td><td>876</td></tr><tr><td>1440 min Summer</td><td>2.866</td><td>0.0</td><td>0.0</td><td>1112</td></tr><tr><td>2160 min Summer</td><td>2.108</td><td>0.0</td><td>0.0</td><td>1512</td></tr><tr><td>2880 min Summer</td><td>1.693</td><td>0.0</td><td>0.0</td><td>1928</td></tr><tr><td>4320 min Summer</td><td>1.242</td><td>0.0</td><td>0.0</td><td>2728</td></tr><tr><td>5760 min Summer</td><td>0.996</td><td>0.0</td><td>0.0</td><td>3528</td></tr><tr><td>7200 min Summer</td><td>0.839</td><td>0.0</td><td>0.0</td><td>4328</td></tr><tr><td>8640 min Summer</td><td>0.730</td><td>0.0</td><td>0.0</td><td>5096</td></tr><tr><td>10080 min Summer</td><td>0.648</td><td>0.0</td><td>0.0</td><td>5848</td></tr><tr><td>15 min Winter</td><td>68.836</td><td>0.0</td><td>0.0</td><td>19</td></tr></tbody></table> |                     |                           |                                                                         |                          |                           |                                                                                     |        | Storm<br>Event | Max<br>Level<br>(m) | Max<br>Depth<br>(m) | Max<br>Infiltration<br>(l/s) | Max<br>Overflow<br>(l/s) | Max<br>Σ Outflow<br>(l/s) | Max<br>Volume<br>(m³) | Status | 15 min Summer | 2.911 | 0.121 | 0.2 | 0.0 | 0.2 | 7.5 | O K | 30 min Summer | 2.951 | 0.161 | 0.2 | 0.0 | 0.2 | 9.9 | O K | 60 min Summer | 2.992 | 0.202 | 0.2 | 0.0 | 0.2 | 12.5 | O K | 120 min Summer | 3.035 | 0.245 | 0.2 | 0.0 | 0.2 | 15.1 | O K | 180 min Summer | 3.058 | 0.268 | 0.2 | 0.0 | 0.2 | 16.6 | O K | 240 min Summer | 3.073 | 0.283 | 0.2 | 0.0 | 0.2 | 17.5 | O K | 360 min Summer | 3.092 | 0.302 | 0.2 | 0.0 | 0.2 | 18.7 | O K | 480 min Summer | 3.103 | 0.313 | 0.2 | 0.0 | 0.2 | 19.3 | O K | 600 min Summer | 3.109 | 0.319 | 0.2 | 0.0 | 0.2 | 19.7 | O K | 720 min Summer | 3.111 | 0.321 | 0.2 | 0.0 | 0.2 | 19.8 | O K | 960 min Summer | 3.111 | 0.321 | 0.2 | 0.0 | 0.2 | 19.8 | O K | 1440 min Summer | 3.107 | 0.317 | 0.2 | 0.0 | 0.2 | 19.6 | O K | 2160 min Summer | 3.095 | 0.305 | 0.2 | 0.0 | 0.2 | 18.8 | O K | 2880 min Summer | 3.081 | 0.291 | 0.2 | 0.0 | 0.2 | 18.0 | O K | 4320 min Summer | 3.052 | 0.262 | 0.2 | 0.0 | 0.2 | 16.2 | O K | 5760 min Summer | 3.024 | 0.234 | 0.2 | 0.0 | 0.2 | 14.4 | O K | 7200 min Summer | 2.997 | 0.207 | 0.2 | 0.0 | 0.2 | 12.8 | O K | 8640 min Summer | 2.973 | 0.183 | 0.2 | 0.0 | 0.2 | 11.3 | O K | 10080 min Summer | 2.951 | 0.161 | 0.2 | 0.0 | 0.2 | 9.9 | O K | 15 min Winter | 2.926 | 0.136 | 0.2 | 0.0 | 0.2 | 8.4 | O K | Storm<br>Event | Rain<br>(mm/hr) | Flooded<br>Volume<br>(m³) | Overflow<br>Volume<br>(m³) | Time-Peak<br>(mins) | 15 min Summer | 68.836 | 0.0 | 0.0 | 19 | 30 min Summer | 45.828 | 0.0 | 0.0 | 34 | 60 min Summer | 29.238 | 0.0 | 0.0 | 64 | 120 min Summer | 18.112 | 0.0 | 0.0 | 124 | 180 min Summer | 13.534 | 0.0 | 0.0 | 182 | 240 min Summer | 10.952 | 0.0 | 0.0 | 242 | 360 min Summer | 8.106 | 0.0 | 0.0 | 362 | 480 min Summer | 6.544 | 0.0 | 0.0 | 482 | 600 min Summer | 5.539 | 0.0 | 0.0 | 600 | 720 min Summer | 4.832 | 0.0 | 0.0 | 720 | 960 min Summer | 3.892 | 0.0 | 0.0 | 876 | 1440 min Summer | 2.866 | 0.0 | 0.0 | 1112 | 2160 min Summer | 2.108 | 0.0 | 0.0 | 1512 | 2880 min Summer | 1.693 | 0.0 | 0.0 | 1928 | 4320 min Summer | 1.242 | 0.0 | 0.0 | 2728 | 5760 min Summer | 0.996 | 0.0 | 0.0 | 3528 | 7200 min Summer | 0.839 | 0.0 | 0.0 | 4328 | 8640 min Summer | 0.730 | 0.0 | 0.0 | 5096 | 10080 min Summer | 0.648 | 0.0 | 0.0 | 5848 | 15 min Winter | 68.836 | 0.0 | 0.0 | 19 |
| Storm<br>Event                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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Status |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 15 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2.911               | 0.121                     | 0.2                                                                     | 0.0                      | 0.2                       | 7.5                                                                                 | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 30 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2.951               | 0.161                     | 0.2                                                                     | 0.0                      | 0.2                       | 9.9                                                                                 | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 60 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2.992               | 0.202                     | 0.2                                                                     | 0.0                      | 0.2                       | 12.5                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 120 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3.035               | 0.245                     | 0.2                                                                     | 0.0                      | 0.2                       | 15.1                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 180 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3.058               | 0.268                     | 0.2                                                                     | 0.0                      | 0.2                       | 16.6                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 240 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3.073               | 0.283                     | 0.2                                                                     | 0.0                      | 0.2                       | 17.5                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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  |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 360 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3.092               | 0.302                     | 0.2                                                                     | 0.0                      | 0.2                       | 18.7                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |   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| 480 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3.103               | 0.313                     | 0.2                                                                     | 0.0                      | 0.2                       | 19.3                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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  |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 600 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3.109               | 0.319                     | 0.2                                                                     | 0.0                      | 0.2                       | 19.7                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 720 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3.111               | 0.321                     | 0.2                                                                     | 0.0                      | 0.2                       | 19.8                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 960 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3.111               | 0.321                     | 0.2                                                                     | 0.0                      | 0.2                       | 19.8                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 1440 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 3.107               | 0.317                     | 0.2                                                                     | 0.0                      | 0.2                       | 19.6                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 2160 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 3.095               | 0.305                     | 0.2                                                                     | 0.0                      | 0.2                       | 18.8                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 2880 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 3.081               | 0.291                     | 0.2                                                                     | 0.0                      | 0.2                       | 18.0                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |   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| 4320 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 3.052               | 0.262                     | 0.2                                                                     | 0.0                      | 0.2                       | 16.2                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |   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| 5760 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 3.024               | 0.234                     | 0.2                                                                     | 0.0                      | 0.2                       | 14.4                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 7200 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2.997               | 0.207                     | 0.2                                                                     | 0.0                      | 0.2                       | 12.8                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 8640 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2.973               | 0.183                     | 0.2                                                                     | 0.0                      | 0.2                       | 11.3                                                                                | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 10080 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2.951               | 0.161                     | 0.2                                                                     | 0.0                      | 0.2                       | 9.9                                                                                 | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 15 min Winter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2.926               | 0.136                     | 0.2                                                                     | 0.0                      | 0.2                       | 8.4                                                                                 | O K    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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| Storm<br>Event                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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| 15 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 68.836              | 0.0                       | 0.0                                                                     | 19                       |                           |                                                                                     |        |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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| 30 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |   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| 60 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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| 120 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |   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| 180 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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| 240 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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| 360 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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| 480 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |   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| 600 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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| 720 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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| 960 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |   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| 1440 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |   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| 2160 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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| 2880 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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|      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |   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| 4320 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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| 5760 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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| 7200 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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| 8640 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     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| 10080 min Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.648               | 0.0                       | 0.0                                                                     | 5848                     |                           |                                                                                     |        |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
| 15 min Winter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 68.836              | 0.0                       | 0.0                                                                     | 19                       |                           |                                                                                     |        |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |
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    |                |                     |                     |                              |                          |                           |                       |        |               |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |               |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                 |       |       |     |     |     |      |     |                  |       |       |     |     |     |     |     |               |       |       |     |     |     |     |     |                |                 |                           |                            |                     |               |        |     |     |    |               |        |     |     |    |               |        |     |     |    |                |        |     |     |     |                |        |     |     |     |                |        |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                |       |     |     |     |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                 |       |     |     |      |                  |       |     |     |      |               |        |     |     |    |

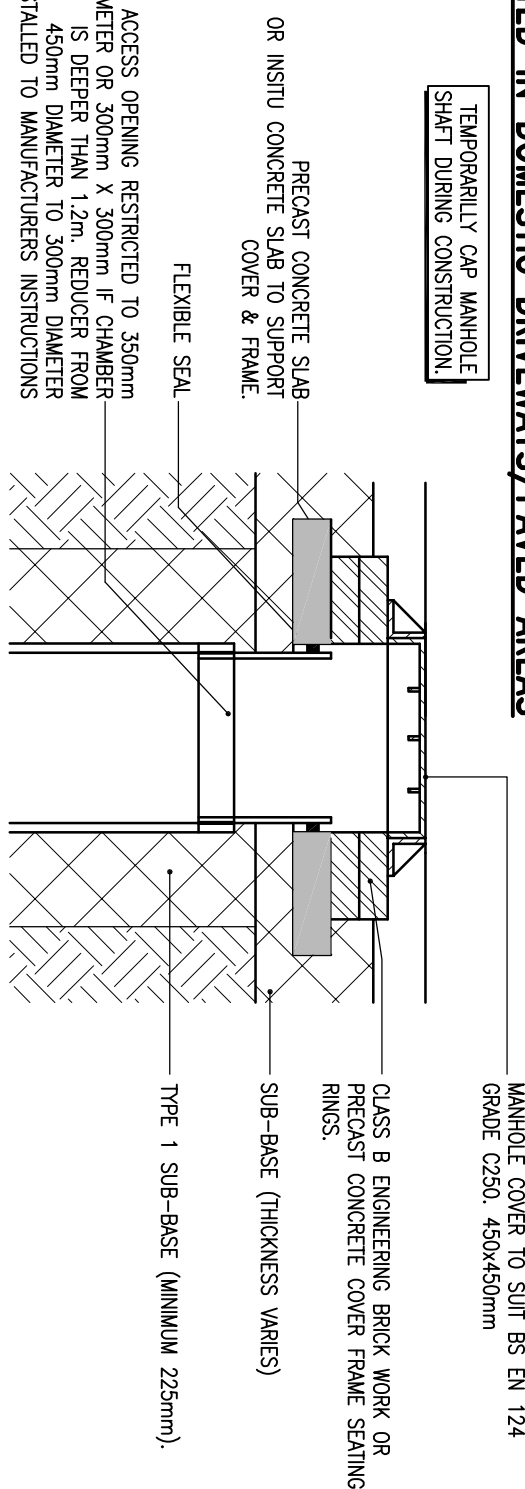
|                                                    |                     |                           |                                                                       |                          |                           |                       |                                                                                     |
|----------------------------------------------------|---------------------|---------------------------|-----------------------------------------------------------------------|--------------------------|---------------------------|-----------------------|-------------------------------------------------------------------------------------|
| Reuby & Stagg Ltd                                  |                     |                           |                                                                       |                          |                           |                       | Page 4                                                                              |
| Dewey House<br>55 High Street<br>Ringwood BH24 1AE |                     |                           | Rustington Convalesent Home<br>Laundry & Dairy<br>Reuby & Stagg 10379 |                          |                           |                       |  |
| Date May 2018<br>File 10379 Laundry Dairy & C...   |                     |                           | Designed by PJ<br>Checked by RHB                                      |                          |                           |                       |                                                                                     |
| Elstree Computing Ltd                              |                     |                           | Source Control 2015.1                                                 |                          |                           |                       |                                                                                     |
| Summary of Results for 30 year Return Period       |                     |                           |                                                                       |                          |                           |                       |                                                                                     |
| Storm<br>Event                                     | Max<br>Level<br>(m) | Max<br>Depth<br>(m)       | Max<br>Infiltration<br>(l/s)                                          | Max<br>Overflow<br>(l/s) | Max<br>Σ Outflow<br>(l/s) | Max<br>Volume<br>(m³) | Status                                                                              |
| 30 min Winter                                      | 2.970               | 0.180                     | 0.2                                                                   | 0.0                      | 0.2                       | 11.1                  | O K                                                                                 |
| 60 min Winter                                      | 3.017               | 0.227                     | 0.2                                                                   | 0.0                      | 0.2                       | 14.0                  | O K                                                                                 |
| 120 min Winter                                     | 3.066               | 0.276                     | 0.2                                                                   | 0.0                      | 0.2                       | 17.0                  | O K                                                                                 |
| 180 min Winter                                     | 3.093               | 0.303                     | 0.2                                                                   | 0.0                      | 0.2                       | 18.7                  | O K                                                                                 |
| 240 min Winter                                     | 3.111               | 0.321                     | 0.2                                                                   | 0.0                      | 0.2                       | 19.8                  | O K                                                                                 |
| 360 min Winter                                     | 3.133               | 0.343                     | 0.2                                                                   | 0.0                      | 0.2                       | 21.2                  | O K                                                                                 |
| 480 min Winter                                     | 3.147               | 0.357                     | 0.2                                                                   | 0.0                      | 0.2                       | 22.0                  | O K                                                                                 |
| 600 min Winter                                     | 3.155               | 0.365                     | 0.2                                                                   | 0.0                      | 0.2                       | 22.6                  | O K                                                                                 |
| 720 min Winter                                     | 3.160               | 0.370                     | 0.2                                                                   | 0.0                      | 0.2                       | 22.9                  | O K                                                                                 |
| 960 min Winter                                     | 3.163               | 0.373                     | 0.2                                                                   | 0.0                      | 0.2                       | 23.0                  | O K                                                                                 |
| 1440 min Winter                                    | 3.155               | 0.365                     | 0.2                                                                   | 0.0                      | 0.2                       | 22.6                  | O K                                                                                 |
| 2160 min Winter                                    | 3.140               | 0.350                     | 0.2                                                                   | 0.0                      | 0.2                       | 21.6                  | O K                                                                                 |
| 2880 min Winter                                    | 3.119               | 0.329                     | 0.2                                                                   | 0.0                      | 0.2                       | 20.3                  | O K                                                                                 |
| 4320 min Winter                                    | 3.075               | 0.285                     | 0.2                                                                   | 0.0                      | 0.2                       | 17.6                  | O K                                                                                 |
| 5760 min Winter                                    | 3.031               | 0.241                     | 0.2                                                                   | 0.0                      | 0.2                       | 14.9                  | O K                                                                                 |
| 7200 min Winter                                    | 2.991               | 0.201                     | 0.2                                                                   | 0.0                      | 0.2                       | 12.4                  | O K                                                                                 |
| 8640 min Winter                                    | 2.954               | 0.164                     | 0.2                                                                   | 0.0                      | 0.2                       | 10.1                  | O K                                                                                 |
| 10080 min Winter                                   | 2.922               | 0.132                     | 0.2                                                                   | 0.0                      | 0.2                       | 8.2                   | O K                                                                                 |
| Storm<br>Event                                     | Rain<br>(mm/hr)     | Flooded<br>Volume<br>(m³) | Overflow<br>Volume<br>(m³)                                            | Time-Peak<br>(mins)      |                           |                       |                                                                                     |
| 30 min Winter                                      | 45.828              | 0.0                       | 0.0                                                                   | 33                       |                           |                       |                                                                                     |
| 60 min Winter                                      | 29.238              | 0.0                       | 0.0                                                                   | 62                       |                           |                       |                                                                                     |
| 120 min Winter                                     | 18.112              | 0.0                       | 0.0                                                                   | 122                      |                           |                       |                                                                                     |
| 180 min Winter                                     | 13.534              | 0.0                       | 0.0                                                                   | 180                      |                           |                       |                                                                                     |
| 240 min Winter                                     | 10.952              | 0.0                       | 0.0                                                                   | 238                      |                           |                       |                                                                                     |
| 360 min Winter                                     | 8.106               | 0.0                       | 0.0                                                                   | 356                      |                           |                       |                                                                                     |
| 480 min Winter                                     | 6.544               | 0.0                       | 0.0                                                                   | 470                      |                           |                       |                                                                                     |
| 600 min Winter                                     | 5.539               | 0.0                       | 0.0                                                                   | 584                      |                           |                       |                                                                                     |
| 720 min Winter                                     | 4.832               | 0.0                       | 0.0                                                                   | 698                      |                           |                       |                                                                                     |
| 960 min Winter                                     | 3.892               | 0.0                       | 0.0                                                                   | 916                      |                           |                       |                                                                                     |
| 1440 min Winter                                    | 2.866               | 0.0                       | 0.0                                                                   | 1198                     |                           |                       |                                                                                     |
| 2160 min Winter                                    | 2.108               | 0.0                       | 0.0                                                                   | 1624                     |                           |                       |                                                                                     |
| 2880 min Winter                                    | 1.693               | 0.0                       | 0.0                                                                   | 2100                     |                           |                       |                                                                                     |
| 4320 min Winter                                    | 1.242               | 0.0                       | 0.0                                                                   | 2980                     |                           |                       |                                                                                     |
| 5760 min Winter                                    | 0.996               | 0.0                       | 0.0                                                                   | 3808                     |                           |                       |                                                                                     |
| 7200 min Winter                                    | 0.839               | 0.0                       | 0.0                                                                   | 4616                     |                           |                       |                                                                                     |
| 8640 min Winter                                    | 0.730               | 0.0                       | 0.0                                                                   | 5360                     |                           |                       |                                                                                     |
| 10080 min Winter                                   | 0.648               | 0.0                       | 0.0                                                                   | 6056                     |                           |                       |                                                                                     |
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| Reuby & Stagg Ltd                                                                                                                                                 |                     |                     |                                                                       |                           |                            | Page 5                                                                              |                                                                                                                                                                 |
| Dewey House<br>55 High Street<br>Ringwood BH24 1AE                                                                                                                |                     |                     | Rustington Convalesent Home<br>Laundry & Dairy<br>Reuby & Stagg 10379 |                           |                            |  |                                                                                                                                                                 |
| Date May 2018<br>File 10379 Laundry Dairy & C...                                                                                                                  |                     |                     | Designed by PJ<br>Checked by RHB                                      |                           |                            |                                                                                     |                                                                                                                                                                 |
| Elstree Computing Ltd                                                                                                                                             |                     |                     | Source Control 2015.1                                                 |                           |                            |                                                                                     |                                                                                                                                                                 |
| <p style="text-align: center;"><u>Summary of Results for 100 year Return Period (+40%)</u></p> <p style="text-align: center;">Half Drain Time : 1292 minutes.</p> |                     |                     |                                                                       |                           |                            |                                                                                     |                                                                                                                                                                 |
| Storm<br>Event                                                                                                                                                    | Max<br>Level<br>(m) | Max<br>Depth<br>(m) | Max<br>Infiltration<br>(1/s)                                          | Max<br>Overflow<br>(1/s)  | Max<br>Σ Outflow<br>(1/s)  | Max<br>Volume<br>(m³)                                                               | Status                                                                                                                                                          |
| 15 min Summer                                                                                                                                                     | 3.011               | 0.221               | 0.2                                                                   | 0.0                       | 0.2                        | 13.7                                                                                | O K                                                                                                                                                             |
| 30 min Summer                                                                                                                                                     | 3.086               | 0.296               | 0.2                                                                   | 0.0                       | 0.2                        | 18.3                                                                                | O K                                                                                                                                                             |
| 60 min Summer                                                                                                                                                     | 3.167               | 0.377               | 0.2                                                                   | 0.0                       | 0.2                        | 23.3                                                                                | O K                                                                                                                                                             |
| 120 min Summer                                                                                                                                                    | 3.211               | 0.421               | 0.2                                                                   | 1.6                       | 1.8                        | 25.8                                                                                | O K                                                                                                                                                             |
| 180 min Summer                                                                                                                                                    | 3.218               | 0.428               | 0.2                                                                   | 2.4                       | 2.5                        | 26.0                                                                                | O K                                                                                                                                                             |
| 240 min Summer                                                                                                                                                    | 3.222               | 0.432               | 0.2                                                                   | 2.9                       | 3.1                        | 26.1                                                                                | O K                                                                                                                                                             |
| 360 min Summer                                                                                                                                                    | 3.224               | 0.434               | 0.2                                                                   | 3.2                       | 3.4                        | 26.2                                                                                | O K                                                                                                                                                             |
| 480 min Summer                                                                                                                                                    | 3.222               | 0.432               | 0.2                                                                   | 3.0                       | 3.1                        | 26.1                                                                                | O K                                                                                                                                                             |
| 600 min Summer                                                                                                                                                    | 3.221               | 0.431               | 0.2                                                                   | 2.8                       | 3.0                        | 26.1                                                                                | O K                                                                                                                                                             |
| 720 min Summer                                                                                                                                                    | 3.220               | 0.430               | 0.2                                                                   | 2.6                       | 2.8                        | 26.0                                                                                | O K                                                                                                                                                             |
| 960 min Summer                                                                                                                                                    | 3.217               | 0.427               | 0.2                                                                   | 2.2                       | 2.4                        | 25.9                                                                                | O K                                                                                                                                                             |
| 1440 min Summer                                                                                                                                                   | 3.212               | 0.422               | 0.2                                                                   | 1.7                       | 1.9                        | 25.8                                                                                | O K                                                                                                                                                             |
| 2160 min Summer                                                                                                                                                   | 3.208               | 0.418               | 0.2                                                                   | 1.3                       | 1.4                        | 25.6                                                                                | O K                                                                                                                                                             |
| 2880 min Summer                                                                                                                                                   | 3.205               | 0.415               | 0.2                                                                   | 1.0                       | 1.1                        | 25.5                                                                                | O K                                                                                                                                                             |
| 4320 min Summer                                                                                                                                                   | 3.201               | 0.411               | 0.2                                                                   | 0.6                       | 0.8                        | 25.3                                                                                | O K                                                                                                                                                             |
| 5760 min Summer                                                                                                                                                   | 3.199               | 0.409               | 0.2                                                                   | 0.4                       | 0.6                        | 25.2                                                                                | O K                                                                                                                                                             |
| 7200 min Summer                                                                                                                                                   | 3.197               | 0.407               | 0.2                                                                   | 0.3                       | 0.5                        | 25.1                                                                                | O K                                                                                                                                                             |
| 8640 min Summer                                                                                                                                                   | 3.195               | 0.405               | 0.2                                                                   | 0.2                       | 0.4                        | 25.0                                                                                | O K                                                                                                                                                             |
| 10080 min Summer                                                                                                                                                  | 3.194               | 0.404               | 0.2                                                                   | 0.1                       | 0.3                        | 24.9                                                                                | O K                                                                                                                                                             |
| 15 min Winter                                                                                                                                                     | 3.038               | 0.248               | 0.2                                                                   | 0.0                       | 0.2                        | 15.3                                                                                | O K                                                                                                                                                             |
| Storm<br>Event                                                                                                                                                    |                     |                     | Rain<br>(mm/hr)                                                       | Flooded<br>Volume<br>(m³) | Overflow<br>Volume<br>(m³) | Time-Peak<br>(mins)                                                                 |                                                                                                                                                                 |
| 15 min Summer                                                                                                                                                     |                     |                     | 124.633                                                               | 0.0                       | 0.0                        | 19                                                                                  | <div>Overflow volumes to be stored in porous paving sub-base. Porous paving sub-base volume = 220m2 x 0.4d = 88m3<br/>88 x 0.3 = 26.4m3 storage available</div> |
| 30 min Summer                                                                                                                                                     |                     |                     | 83.789                                                                | 0.0                       | 0.0                        | 34                                                                                  |                                                                                                                                                                 |
| 60 min Summer                                                                                                                                                     |                     |                     | 53.779                                                                | 0.0                       | 0.0                        | 64                                                                                  |                                                                                                                                                                 |
| 120 min Summer                                                                                                                                                    |                     |                     | 33.337                                                                | 0.0                       | 3.4                        | 100                                                                                 |                                                                                                                                                                 |
| 180 min Summer                                                                                                                                                    |                     |                     | 24.832                                                                | 0.0                       | 6.3                        | 122                                                                                 |                                                                                                                                                                 |
| 240 min Summer                                                                                                                                                    |                     |                     | 20.006                                                                | 0.0                       | 8.2                        | 152                                                                                 |                                                                                                                                                                 |
| 360 min Summer                                                                                                                                                    |                     |                     | 14.706                                                                | 0.0                       | 10.8                       | 214                                                                                 |                                                                                                                                                                 |
| 480 min Summer                                                                                                                                                    |                     |                     | 11.818                                                                | 0.0                       | 12.5                       | 276                                                                                 |                                                                                                                                                                 |
| 600 min Summer                                                                                                                                                    |                     |                     | 9.966                                                                 | 0.0                       | 13.7                       | 338                                                                                 |                                                                                                                                                                 |
| 720 min Summer                                                                                                                                                    |                     |                     | 8.665                                                                 | 0.0                       | 14.5                       | 398                                                                                 |                                                                                                                                                                 |
| 960 min Summer                                                                                                                                                    |                     |                     | 6.943                                                                 | 0.0                       | 15.5                       | 520                                                                                 |                                                                                                                                                                 |
| 1440 min Summer                                                                                                                                                   |                     |                     | 5.071                                                                 | 0.0                       | 15.9                       | 768                                                                                 |                                                                                                                                                                 |
| 2160 min Summer                                                                                                                                                   |                     |                     | 3.696                                                                 | 0.0                       | 14.9                       | 1144                                                                                |                                                                                                                                                                 |
| 2880 min Summer                                                                                                                                                   |                     |                     | 2.949                                                                 | 0.0                       | 13.6                       | 1528                                                                                |                                                                                                                                                                 |
| 4320 min Summer                                                                                                                                                   |                     |                     | 2.142                                                                 | 0.0                       | 11.1                       | 2300                                                                                |                                                                                                                                                                 |
| 5760 min Summer                                                                                                                                                   |                     |                     | 1.705                                                                 | 0.0                       | 8.7                        | 3112                                                                                |                                                                                                                                                                 |
| 7200 min Summer                                                                                                                                                   |                     |                     | 1.427                                                                 | 0.0                       | 6.4                        | 3960                                                                                |                                                                                                                                                                 |
| 8640 min Summer                                                                                                                                                   |                     |                     | 1.235                                                                 | 0.0                       | 4.2                        | 4840                                                                                |                                                                                                                                                                 |
| 10080 min Summer                                                                                                                                                  |                     |                     | 1.093                                                                 | 0.0                       | 2.2                        | 5744                                                                                |                                                                                                                                                                 |
| 15 min Winter                                                                                                                                                     |                     |                     | 124.633                                                               | 0.0                       | 0.0                        | 19                                                                                  |                                                                                                                                                                 |
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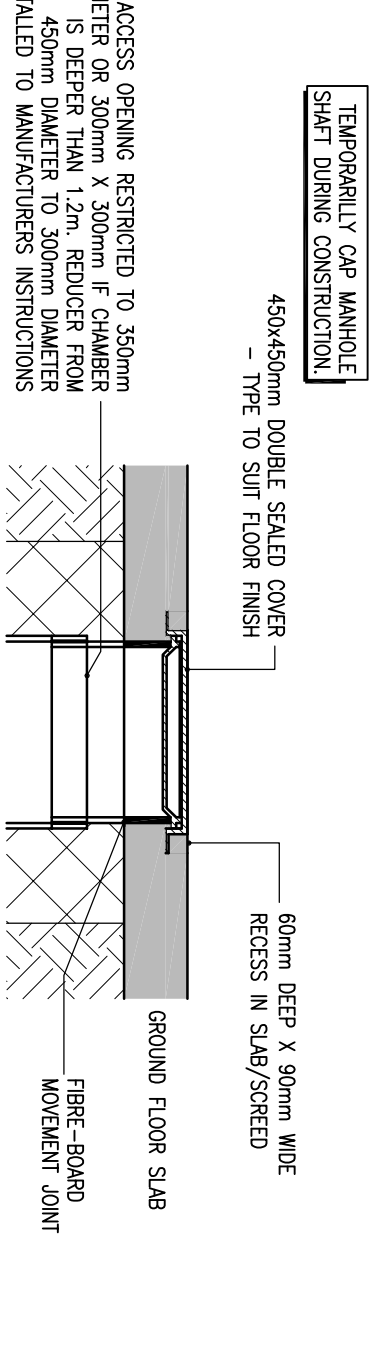
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|------------------------------------------------------|---------------------|---------------------------|-----------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------|
| Reuby & Stagg Ltd                                    |                     |                           |                                                                       |                          |                                                                                                                                                     |                       | Page 6                                                                              |
| Dewey House<br>55 High Street<br>Ringwood BH24 1AE   |                     |                           | Rustington Convalesent Home<br>Laundry & Dairy<br>Reuby & Stagg 10379 |                          |                                                                                                                                                     |                       |  |
| Date May 2018<br>File 10379 Laundry Dairy & C...     |                     |                           | Designed by PJ<br>Checked by RHB                                      |                          |                                                                                                                                                     |                       |                                                                                     |
| Elstree Computing Ltd                                |                     |                           | Source Control 2015.1                                                 |                          |                                                                                                                                                     |                       |                                                                                     |
| Summary of Results for 100 year Return Period (+40%) |                     |                           |                                                                       |                          |                                                                                                                                                     |                       |                                                                                     |
| Storm<br>Event                                       | Max<br>Level<br>(m) | Max<br>Depth<br>(m)       | Max<br>Infiltration<br>(l/s)                                          | Max<br>Overflow<br>(l/s) | Max<br>Σ Outflow<br>(l/s)                                                                                                                           | Max<br>Volume<br>(m³) | Status                                                                              |
| 30 min Winter                                        | 3.122               | 0.332                     | 0.2                                                                   | 0.0                      | 0.2                                                                                                                                                 | 20.5                  | O K                                                                                 |
| 60 min Winter                                        | 3.209               | 0.419                     | 0.2                                                                   | 1.4                      | 1.5                                                                                                                                                 | 25.7                  | O K                                                                                 |
| 120 min Winter                                       | 3.231               | 0.441                     | 0.2                                                                   | 4.3                      | 4.5                                                                                                                                                 | 26.3                  | O K                                                                                 |
| 180 min Winter                                       | 3.235               | 0.445                     | 0.2                                                                   | 4.9                      | 5.1                                                                                                                                                 | 26.4                  | O K                                                                                 |
| 240 min Winter                                       | 3.234               | 0.444                     | 0.2                                                                   | 4.7                      | 4.9                                                                                                                                                 | 26.4                  | O K                                                                                 |
| 360 min Winter                                       | 3.229               | 0.439                     | 0.2                                                                   | 3.9                      | 4.1                                                                                                                                                 | 26.3                  | O K                                                                                 |
| 480 min Winter                                       | 3.225               | 0.435                     | 0.2                                                                   | 3.4                      | 3.6                                                                                                                                                 | 26.2                  | O K                                                                                 |
| 600 min Winter                                       | 3.222               | 0.432                     | 0.2                                                                   | 3.0                      | 3.1                                                                                                                                                 | 26.1                  | O K                                                                                 |
| 720 min Winter                                       | 3.220               | 0.430                     | 0.2                                                                   | 2.6                      | 2.8                                                                                                                                                 | 26.0                  | O K                                                                                 |
| 960 min Winter                                       | 3.216               | 0.426                     | 0.2                                                                   | 2.1                      | 2.3                                                                                                                                                 | 25.9                  | O K                                                                                 |
| 1440 min Winter                                      | 3.211               | 0.421                     | 0.2                                                                   | 1.5                      | 1.7                                                                                                                                                 | 25.7                  | O K                                                                                 |
| 2160 min Winter                                      | 3.207               | 0.417                     | 0.2                                                                   | 1.1                      | 1.3                                                                                                                                                 | 25.6                  | O K                                                                                 |
| 2880 min Winter                                      | 3.204               | 0.414                     | 0.2                                                                   | 0.8                      | 1.0                                                                                                                                                 | 25.4                  | O K                                                                                 |
| 4320 min Winter                                      | 3.200               | 0.410                     | 0.2                                                                   | 0.5                      | 0.7                                                                                                                                                 | 25.3                  | O K                                                                                 |
| 5760 min Winter                                      | 3.198               | 0.408                     | 0.2                                                                   | 0.4                      | 0.6                                                                                                                                                 | 25.2                  | O K                                                                                 |
| 7200 min Winter                                      | 3.197               | 0.407                     | 0.2                                                                   | 0.3                      | 0.5                                                                                                                                                 | 25.1                  | O K                                                                                 |
| 8640 min Winter                                      | 3.195               | 0.405                     | 0.2                                                                   | 0.2                      | 0.4                                                                                                                                                 | 25.0                  | O K                                                                                 |
| 10080 min Winter                                     | 3.194               | 0.404                     | 0.2                                                                   | 0.1                      | 0.3                                                                                                                                                 | 24.9                  | O K                                                                                 |
| Storm<br>Event                                       | Rain<br>(mm/hr)     | Flooded<br>Volume<br>(m³) | Overflow<br>Volume<br>(m³)                                            | Time-Peak<br>(mins)      |                                                                                                                                                     |                       |                                                                                     |
| 30 min Winter                                        | 83.789              | 0.0                       | 0.0                                                                   | 34                       |                                                                                                                                                     |                       |                                                                                     |
| 60 min Winter                                        | 53.779              | 0.0                       | 1.1                                                                   | 60                       |                                                                                                                                                     |                       |                                                                                     |
| 120 min Winter                                       | 33.337              | 0.0                       | 6.9                                                                   | 86                       |                                                                                                                                                     |                       |                                                                                     |
| 180 min Winter                                       | 24.832              | 0.0                       | 10.3                                                                  | 116                      |                                                                                                                                                     |                       |                                                                                     |
| 240 min Winter                                       | 20.006              | 0.0                       | 12.5                                                                  | 148                      |                                                                                                                                                     |                       |                                                                                     |
| 360 min Winter                                       | 14.706              | 0.0                       | 15.5                                                                  | 212                      |                                                                                                                                                     |                       |                                                                                     |
| 480 min Winter                                       | 11.818              | 0.0                       | 17.6                                                                  | 272                      |                                                                                                                                                     |                       |                                                                                     |
| 600 min Winter                                       | 9.966               | 0.0                       | 19.0                                                                  | 332                      |                                                                                                                                                     |                       |                                                                                     |
| 720 min Winter                                       | 8.665               | 0.0                       | 20.1                                                                  | 394                      |                                                                                                                                                     |                       |                                                                                     |
| 960 min Winter                                       | 6.943               | 0.0                       | 21.5                                                                  | 512                      |                                                                                                                                                     |                       |                                                                                     |
| 1440 min Winter                                      | 5.071               | 0.0                       | 22.5                                                                  | 754                      |                                                                                                                                                     |                       |                                                                                     |
| 2160 min Winter                                      | 3.696               | 0.0                       | 21.8                                                                  | 1144                     |                                                                                                                                                     |                       |                                                                                     |
| 2880 min Winter                                      | 2.949               | 0.0                       | 20.1                                                                  | 1500                     |                                                                                                                                                     |                       |                                                                                     |
| 4320 min Winter                                      | 2.142               | 0.0                       | 16.8                                                                  | 2292                     |                                                                                                                                                     |                       |                                                                                     |
| 5760 min Winter                                      | 1.705               | 0.0                       | 13.3                                                                  | 3088                     |                                                                                                                                                     |                       |                                                                                     |
| 7200 min Winter                                      | 1.427               | 0.0                       | 9.8                                                                   | 3960                     |                                                                                                                                                     |                       |                                                                                     |
| 8640 min Winter                                      | 1.235               | 0.0                       | 6.5                                                                   | 4872                     |                                                                                                                                                     |                       |                                                                                     |
| 10080 min Winter                                     | 1.093               | 0.0                       | 3.3                                                                   | 5888                     |                                                                                                                                                     |                       |                                                                                     |
|                                                      |                     |                           |                                                                       |                          | Overflow volumes to be stored in porous paving sub-base. Porous paving sub-base volume = 220m2 x 0.4d = 88m3<br>88 x 0.3 = 26.4m3 storage available |                       |                                                                                     |
| ©1982-2015 XP Solutions                              |                     |                           |                                                                       |                          |                                                                                                                                                     |                       |                                                                                     |



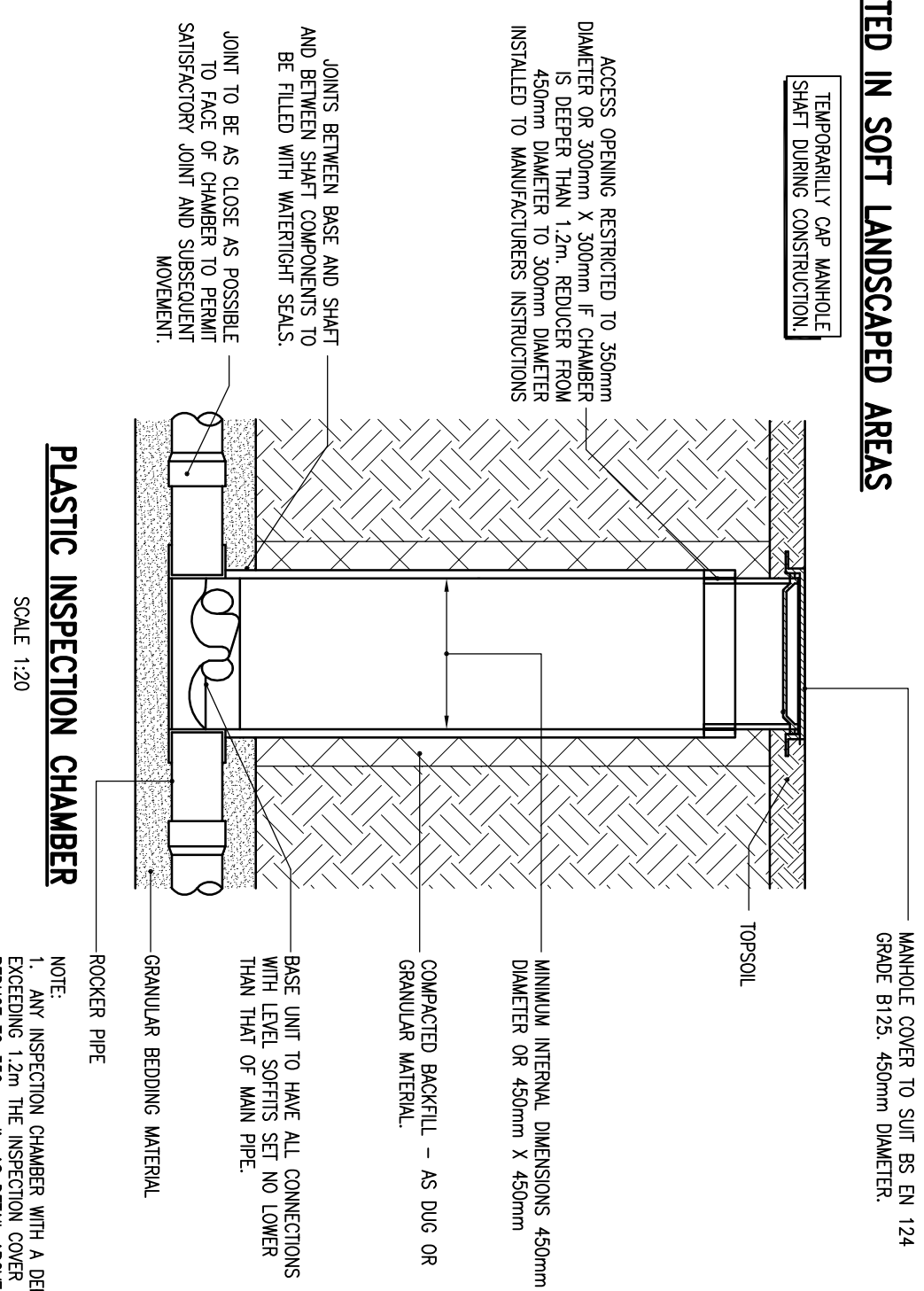
**SITED IN DOMESTIC DRIVEWAYS/PAVED AREAS**



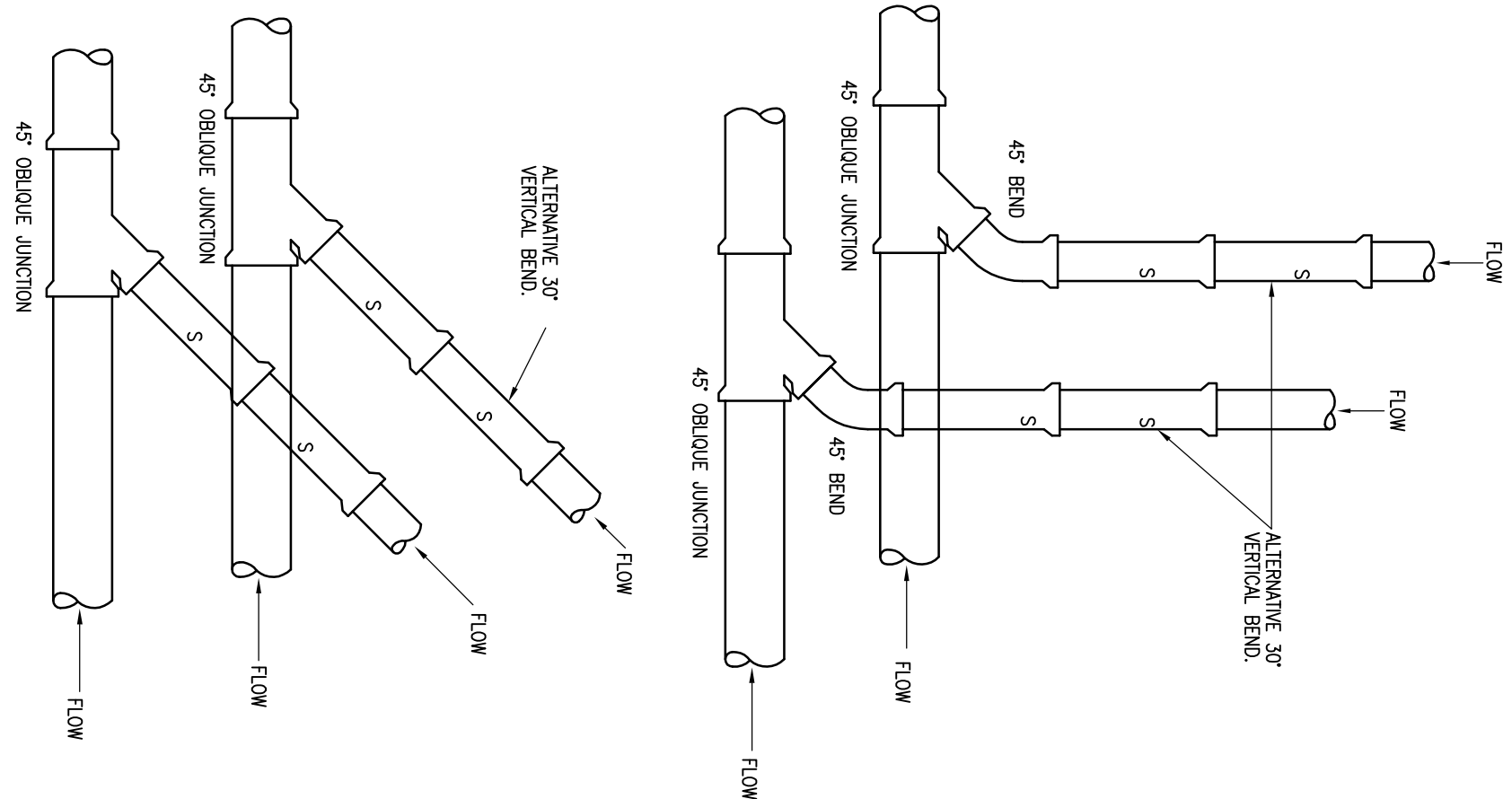
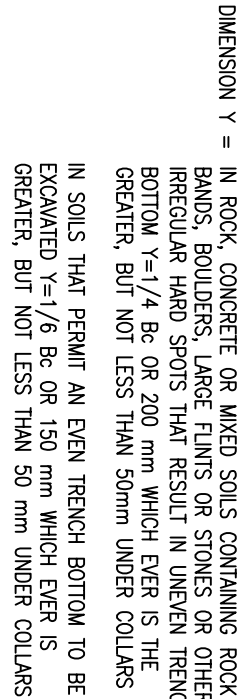
## SITED IN BUILDINGS



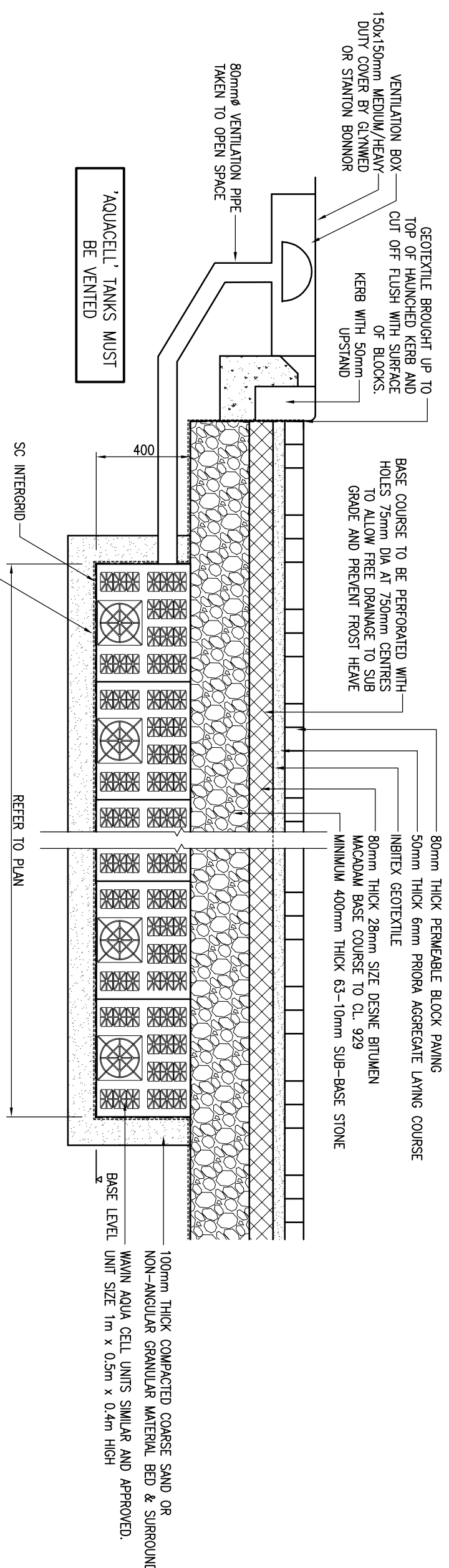
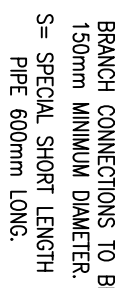
## SITED IN SOFT LANDSCAPED AREAS



### DRAIN BEDDING DETAIL



## BRANCH CONNECTIONS



# POROUS PAYING ROAD CONSTRUCTION OVER AQUACELL STORAGE UNIT

## TYPICAL SECTION

## NOTES

- 1 THIS DRAWING IS COPYRIGHT.
- 2 THE CONTRACTOR AND HIS SUBCONTRACTOR ARE TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO MAKING SHOP DRAWINGS OR COMMENCING MANUFACTURE.
- 3 DO NOT SCALE THIS DRAWING. THE CONTRACTOR IS TO BIND TO THE MEASURED DIMENSIONS. ANY DISCREPANCIES CONTAINED IN THIS DRAWING PRIOR TO WORK COMMENCEMENT.
- 4 ALL 150mm and 225mm DIAMETER PIPES TO BE EXTRA STRENGTH VULNERATED CLAY PIPES (SEE NOTE 15).
- 5 ALL PIPES OF 300mm DIAMETER OR GREATER TO BE CLASS M CONCRETE.
- 6 ALL PIPE MATERIALS TO BE CONSISTENT BETWEEN MANHOLES.
- 7 ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH SEWERS FOR ADOPTION WORKING EDITION, THE ALL SUBORDINATE AMENDMENTS AND LOCAL AUTHORITIES DESIGN GUIDE WHERE THERE IS CONFLICT BETWEEN THESE DOCUMENTS THE MATTER SHALL BE REFERRED TO THE ENGINEER.
- 8 FOR CONSTRUCTION DETAILS OF MANHOLES AND SEWERS REFER TO SEWERS FOR ADOPTION AND UNDERGROUNDS STANDARD DETAILS WHICH CAN BE OBTAINED FROM THE LOCAL OFFICE.
- 9 INVERT LEVELS OF EXISTING SEWERS TO BE CONFIRMED ON SITE BEFORE ANY SEWER WORK UNDERGROUNDS. ANY DISCREPANCIES FOUND SHOULD BE NOTIFIED TO ENGINEERS.
- 10 WHERE SEWERS HAVE LESS THAN 1.2m OF COVER UNDER ROADS AND 0.9m COVER ELSEWHERE PIPES ARE TO HAVE A 150mm CONCRETE BED AND SURROUND.
- 11 PLASTIC CHAMBERS AND RINGS SHALL COMPLY WITH BS IN 13596-1 AND BS IN 13596-2 OR HAVE EQUIVALENT INDEPENDENT APPROVAL, TO TABLE 11 OF APPROVED DOCUMENT 11 OF THE BUILDING REGULATIONS 2010.
- 12 WHERE HOUSE DRAINAGE IS TAKEN THROUGH BLOCK CEMENT IS TO BE TAKEN THAT FOUNDATION LEVELS AND DRAINAGE RISKS DO NOT CLASH.
- 13 ALL ADAPTABLE MANHOLES TO HAVE A MINIMUM CLEAR OPENING OF 675mmx675mm AND GRADE PA40 UNO.
- 14 ALL BELOW GROUND DRAINAGE TO BE 100mm<sup>3</sup> UNLESS OTHERWISE INDICATED WITH A MIN GRADIENT AS FOLLOWS:--
  - SW : 100mm Dia. 1:100
  - SW : 150mm Dia. 1:150
  - SW : 100mm Dia. 1:150
  - FW : 150mm Dia. 1:150
- 15 ALL ADAPTABLE DRAINAGE MATERIALS SHOULD COMPLY WITH THE REQUIREMENTS OF PART 8 OF CIVIL ENGINEERING SPECIFICATION INDICATED WITH SEWERS FOR ADOPTION 7TH EDITION WHICH IS DRAWN FROM REPRODUCTION.

## HEALTH & SAFETY:

ALL WORKS TO BE CARRIED OUT BY A CONTRACTOR COMPETENT TO UNDERTAKE THE CONSTRUCTION OF WORKS AS INDICATED ON THIS DRAWING. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE JOB SPECIFIC RISK ASSESSMENT. THE HAZARDS NOTED ARE IN ADDITION TO THE NORMAL HAZARDS AND RISKS FACED BY A COMPETENT CONTRACTOR WHEN DEALING WITH THE TYPE OF WORKS DETAILED ON THIS DRAWING.

# PLANNING

NOT FOR CONSTRUCTION

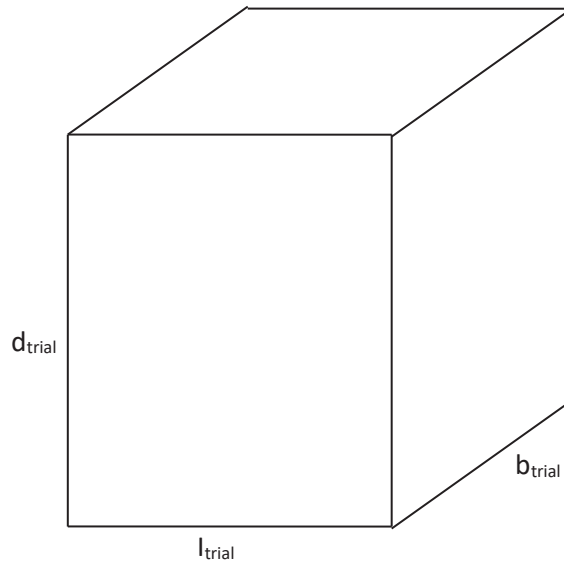
## SUBJECT TO TECHNICAL APPROVAL

|                                       |         |               |          |
|---------------------------------------|---------|---------------|----------|
| T1                                    | 2/05/18 | INITIAL ISSUE | PJ       |
| rev                                   | date    | description   | initials |
| Project Rustington Convalescent Homes |         |               |          |

|                    |                               |
|--------------------|-------------------------------|
| Client / Architect | Title                         |
| Allen Build        | Drainage Construction Details |

**Hamptone Office:**  
Dewey House, 55 High Street,  
Ringwood, Hampshire BH24 1AD  
Telephone: 01425 484400  
Facsimile: 01425 48409  
Email: [admin@crevity-stagg.co.uk](mailto:admin@crevity-stagg.co.uk)

## Soil Infiltration Rate (BRE Digest 365)



### SOAK AWAY TEST NO: 2

Length of Trial Pit  $l_{\text{trial}} = 0.30\text{m}$

Width of Trial Pit  $b_{\text{trial}} = 0.30\text{m}$

Depth of Trial Pit  $d_{\text{trial}} = 1.00\text{m}$

Free Volume (if fill used)  $V_{\text{trial}} = 35\%$

75% depth of pit:  $d_{75}: (d_{\text{trial}} \times 0.75) = 0.75\text{m}$

50% depth of pit:  $d_{50}: (d_{\text{trial}} \times 0.50) = 0.50\text{m}$

25% depth of pit:  $d_{25}: (d_{\text{trial}} \times 0.25) = 0.25\text{m}$

Test 1 – time to fall from 75% depth to 25% depth =  $T_1 = 14,126 \text{ Seconds}$

Longest time to fall from 75% depth to 25% depth =  $T_{\text{lg}} = \text{Max}(T_1, T_2, T_3) = 14,126 \text{ Seconds}$

Storage Volume from 75% depth to 25% depth =  $V_{p75\_25} = (l_{\text{trial}} \times b_{\text{trial}} \times (d_{75} - d_{25})) \times V_{\text{trial}} = 0.045\text{m}^3$

Internal surface area to 50% depth =  $A_{p50} = ((l_{\text{trial}} \times b_{\text{trial}}) + (l_{\text{trial}} + b_{\text{trial}}) \times 2 \times d_{50}) = 0.69\text{m}^2$

Surface area of soakaway to 50% storage depth  $A_{s50} = 2 \times (l_{\text{trial}} + b_{\text{trial}}) \times d_{\text{trial}} / 2 = 0.60\text{m}^2$

Soil infiltration rate =  $F = V_{p75\_25} / (A_{p50} \times T_{\text{lg}}) = 46.17 \times 10^{-7} \text{ m/s}$