

|                                                    |                                                 |                                                                                     |
|----------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------|
| Archibald Shaw Limited                             |                                                 | Page 1                                                                              |
| One Little London<br>Chichester<br>Sussex PO19 1PP | MEADOW VIEW<br>BARNHAM<br>310 SQ M CONTRIBUTING |  |
| Date MAR 2019<br>File 310 SQ M CONTRIBUTING.SRC    | Designed By PF<br>Checked By                    |                                                                                     |
| Micro Drainage                                     | Source Control W.11.2                           |                                                                                     |

### Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 590 minutes

| Storm Duration (mins) | Maximum Filtration (l/s) | Maximum Outflow (l/s) | Maximum Water Level (m OD) | Maximum Depth (m) | Maximum Volume (m³) | Status |
|-----------------------|--------------------------|-----------------------|----------------------------|-------------------|---------------------|--------|
| 15 Summer             | 0.3                      | 0.3                   | 100.1048                   | 0.1048            | 7.5                 | O K    |
| 30 Summer             | 0.3                      | 0.3                   | 100.1393                   | 0.1393            | 9.9                 | O K    |
| 60 Summer             | 0.3                      | 0.3                   | 100.1748                   | 0.1747            | 12.5                | O K    |
| 120 Summer            | 0.3                      | 0.3                   | 100.2077                   | 0.2077            | 14.8                | O K    |
| 180 Summer            | 0.3                      | 0.3                   | 100.2227                   | 0.2227            | 15.9                | O K    |
| 240 Summer            | 0.3                      | 0.3                   | 100.2302                   | 0.2302            | 16.4                | O K    |
| 360 Summer            | 0.3                      | 0.3                   | 100.2367                   | 0.2367            | 16.9                | O K    |
| 480 Summer            | 0.3                      | 0.3                   | 100.2367                   | 0.2367            | 16.9                | O K    |
| 600 Summer            | 0.3                      | 0.3                   | 100.2357                   | 0.2357            | 16.8                | O K    |
| 720 Summer            | 0.3                      | 0.3                   | 100.2337                   | 0.2337            | 16.6                | O K    |
| 960 Summer            | 0.3                      | 0.3                   | 100.2282                   | 0.2282            | 16.2                | O K    |
| 1440 Summer           | 0.3                      | 0.3                   | 100.2142                   | 0.2142            | 15.3                | O K    |
| 2160 Summer           | 0.3                      | 0.3                   | 100.1917                   | 0.1917            | 13.7                | O K    |
| 2880 Summer           | 0.3                      | 0.3                   | 100.1702                   | 0.1702            | 12.1                | O K    |
| 4320 Summer           | 0.3                      | 0.3                   | 100.1318                   | 0.1318            | 9.4                 | O K    |
| 5760 Summer           | 0.3                      | 0.3                   | 100.1012                   | 0.1013            | 7.2                 | O K    |
| 7200 Summer           | 0.3                      | 0.3                   | 100.0782                   | 0.0783            | 5.6                 | O K    |
| 8640 Summer           | 0.3                      | 0.3                   | 100.0618                   | 0.0618            | 4.4                 | O K    |
| 10080 Summer          | 0.3                      | 0.3                   | 100.0512                   | 0.0512            | 3.7                 | O K    |
| 15 Winter             | 0.3                      | 0.3                   | 100.1178                   | 0.1178            | 8.4                 | O K    |
| 30 Winter             | 0.3                      | 0.3                   | 100.1568                   | 0.1567            | 11.2                | O K    |
| 60 Winter             | 0.3                      | 0.3                   | 100.1967                   | 0.1967            | 14.0                | O K    |
| 120 Winter            | 0.3                      | 0.3                   | 100.2347                   | 0.2347            | 16.7                | O K    |
| 180 Winter            | 0.3                      | 0.3                   | 100.2527                   | 0.2527            | 18.0                | O K    |
| 240 Winter            | 0.3                      | 0.3                   | 100.2622                   | 0.2622            | 18.7                | O K    |
| 360 Winter            | 0.3                      | 0.3                   | 100.2717                   | 0.2717            | 19.4                | O K    |
| 480 Winter            | 0.3                      | 0.3                   | 100.2742                   | 0.2742            | 19.5                | O K    |

| Storm Duration (mins) | Rain (mm/hr) | Time-Peak (mins) |
|-----------------------|--------------|------------------|
| 15 Summer             | 131.85       | 23               |
| 30 Summer             | 88.57        | 37               |
| 60 Summer             | 56.71        | 68               |
| 120 Summer            | 35.00        | 126              |
| 180 Summer            | 25.97        | 186              |
| 240 Summer            | 20.88        | 246              |
| 360 Summer            | 15.37        | 364              |
| 480 Summer            | 12.34        | 452              |
| 600 Summer            | 10.40        | 506              |
| 720 Summer            | 9.04         | 568              |
| 960 Summer            | 7.24         | 696              |
| 1440 Summer           | 5.28         | 970              |
| 2160 Summer           | 3.85         | 1368             |
| 2880 Summer           | 3.07         | 1764             |
| 4320 Summer           | 2.23         | 2552             |
| 5760 Summer           | 1.77         | 3232             |
| 7200 Summer           | 1.48         | 3960             |
| 8640 Summer           | 1.28         | 4584             |
| 10080 Summer          | 1.14         | 5240             |
| 15 Winter             | 131.85       | 23               |
| 30 Winter             | 88.57        | 37               |
| 60 Winter             | 56.71        | 66               |
| 120 Winter            | 35.00        | 124              |
| 180 Winter            | 25.97        | 182              |
| 240 Winter            | 20.88        | 240              |
| 360 Winter            | 15.37        | 354              |
| 480 Winter            | 12.34        | 464              |

|                                                    |                                                 |                                                                                     |
|----------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------|
| Archibald Shaw Limited                             |                                                 | Page 2                                                                              |
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| Date MAR 2019<br>File 310 SQ M CONTRIBUTING.SRC    | Designed By PF<br>Checked By                    |                                                                                     |
| Micro Drainage                                     | Source Control W.11.2                           |                                                                                     |

Summary of Results for 100 year Return Period (+40%)

| Storm Duration (mins) | Maximum Filtration (l/s) | Maximum Outflow (l/s) | Maximum Water Level (m OD) | Maximum Depth (m) | Maximum Volume (m <sup>3</sup> ) | Status |
|-----------------------|--------------------------|-----------------------|----------------------------|-------------------|----------------------------------|--------|
| 600 Winter            | 0.3                      | 0.3                   | 100.2722                   | 0.2722            | 19.4                             | O K    |
| 720 Winter            | 0.3                      | 0.3                   | 100.2682                   | 0.2682            | 19.1                             | O K    |
| 960 Winter            | 0.3                      | 0.3                   | 100.2612                   | 0.2612            | 18.6                             | O K    |
| 1440 Winter           | 0.3                      | 0.3                   | 100.2412                   | 0.2412            | 17.2                             | O K    |
| 2160 Winter           | 0.3                      | 0.3                   | 100.2073                   | 0.2072            | 14.8                             | O K    |
| 2880 Winter           | 0.3                      | 0.3                   | 100.1748                   | 0.1747            | 12.4                             | O K    |
| 4320 Winter           | 0.3                      | 0.3                   | 100.1178                   | 0.1178            | 8.4                              | O K    |
| 5760 Winter           | 0.3                      | 0.3                   | 100.0758                   | 0.0758            | 5.4                              | O K    |
| 7200 Winter           | 0.3                      | 0.3                   | 100.0508                   | 0.0508            | 3.6                              | O K    |
| 8640 Winter           | 0.2                      | 0.2                   | 100.0443                   | 0.0442            | 3.2                              | O K    |
| 10080 Winter          | 0.2                      | 0.2                   | 100.0393                   | 0.0392            | 2.8                              | O K    |

| Storm Duration (mins) | Rain (mm/hr) | Time-Peak (mins) |
|-----------------------|--------------|------------------|
| 600 Winter            | 10.40        | 570              |
| 720 Winter            | 9.04         | 656              |
| 960 Winter            | 7.24         | 746              |
| 1440 Winter           | 5.28         | 1056             |
| 2160 Winter           | 3.85         | 1496             |
| 2880 Winter           | 3.07         | 1908             |
| 4320 Winter           | 2.23         | 2684             |
| 5760 Winter           | 1.77         | 3344             |
| 7200 Winter           | 1.48         | 3824             |
| 8640 Winter           | 1.28         | 4504             |
| 10080 Winter          | 1.14         | 5248             |

One Little London  
Chichester  
Sussex PO19 1PP

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File 310 SQ M CONTRIBUTING.SRC

Checked By

Micro Drainage

Source Control W.11.2

### Rainfall Details

|                       |         |                       |       |                  |     |
|-----------------------|---------|-----------------------|-------|------------------|-----|
| Region                | ENG+WAL | Cv (Summer)           | 0.750 | Summer Storms    | Yes |
| Return Period (years) | 100     | Cv (Winter)           | 0.840 | Winter Storms    | Yes |
| M5-60 (mm)            | 20.000  | Shortest Storm (mins) | 15    | Climate Change % | +40 |
| Ratio-R               | 0.350   | Longest Storm (mins)  | 10080 |                  |     |

### Time / Area Diagram

Total Area (ha) = 0.031

| Time<br>from: | (mins)<br>to: | Area<br>(ha) | Time<br>from: | (mins)<br>to: | Area<br>(ha) |
|---------------|---------------|--------------|---------------|---------------|--------------|
| 0             | 4             | 0.000        | 4             | 8             | 0.031        |

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### Trench Soakaway Details

|                           |          |                  |         |
|---------------------------|----------|------------------|---------|
| Infil Coef - Base (m/hr)  | 0.018100 | Length (m)       | 15.0    |
| Infil Coef - Sides (m/hr) | 0.018100 | Invert Level (m) | 100.000 |
| Safety Factor             | 1.5      | Cover Level (m)  | 100.600 |
| Porosity                  | 0.95     | Slope (1:x)      | 0.0     |
| Width (m)                 | 5.0      |                  |         |

$$\text{PLAN AREA} = 5 \times 15\text{m} = 75\text{m}^2$$

AS USING PERMAVOID CRATES

SIZED 0.355m WIDE X 710mm LONG

$$\text{USE WIDTH} = 4.97\text{m}$$

$$\text{LENGTH} = 15.27\text{m}$$

$$4.97 \times 15.27\text{m} = 75.9\text{m}^2$$

|                                                    |                                                 |                                                                                     |
|----------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------|
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| Date MAR 2019                                      | Designed By PF                                  |                                                                                     |
| File 120 SQ M CONTRIBUTING.SRC                     | Checked By                                      |                                                                                     |
| Micro Drainage                                     |                                                 | Source Control W.11.2                                                               |

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 585 minutes

| Storm Duration (mins) | Maximum Filtration (l/s) | Maximum Outflow (l/s) | Maximum Water Level (m OD) | Maximum Depth (m) | Maximum Volume (m³) | Status |
|-----------------------|--------------------------|-----------------------|----------------------------|-------------------|---------------------|--------|
| 15 Summer             | 0.1                      | 0.1                   | 100.1127                   | 0.1128            | 2.9                 | O K    |
| 30 Summer             | 0.1                      | 0.1                   | 100.1503                   | 0.1502            | 3.8                 | O K    |
| 60 Summer             | 0.1                      | 0.1                   | 100.1882                   | 0.1882            | 4.8                 | O K    |
| 120 Summer            | 0.1                      | 0.1                   | 100.2233                   | 0.2232            | 5.7                 | O K    |
| 180 Summer            | 0.1                      | 0.1                   | 100.2397                   | 0.2397            | 6.1                 | O K    |
| 240 Summer            | 0.1                      | 0.1                   | 100.2477                   | 0.2477            | 6.3                 | O K    |
| 360 Summer            | 0.1                      | 0.1                   | 100.2547                   | 0.2547            | 6.5                 | O K    |
| 480 Summer            | 0.1                      | 0.1                   | 100.2547                   | 0.2547            | 6.5                 | O K    |
| 600 Summer            | 0.1                      | 0.1                   | 100.2533                   | 0.2532            | 6.5                 | O K    |
| 720 Summer            | 0.1                      | 0.1                   | 100.2513                   | 0.2512            | 6.4                 | O K    |
| 960 Summer            | 0.1                      | 0.1                   | 100.2458                   | 0.2457            | 6.3                 | O K    |
| 1440 Summer           | 0.1                      | 0.1                   | 100.2312                   | 0.2312            | 5.9                 | O K    |
| 2160 Summer           | 0.1                      | 0.1                   | 100.2077                   | 0.2077            | 5.3                 | O K    |
| 2880 Summer           | 0.1                      | 0.1                   | 100.1852                   | 0.1852            | 4.8                 | O K    |
| 4320 Summer           | 0.1                      | 0.1                   | 100.1458                   | 0.1458            | 3.7                 | O K    |
| 5760 Summer           | 0.1                      | 0.1                   | 100.1133                   | 0.1133            | 2.9                 | O K    |
| 7200 Summer           | 0.1                      | 0.1                   | 100.0882                   | 0.0883            | 2.3                 | O K    |
| 8640 Summer           | 0.1                      | 0.1                   | 100.0697                   | 0.0698            | 1.8                 | O K    |
| 10080 Summer          | 0.1                      | 0.1                   | 100.0567                   | 0.0568            | 1.5                 | O K    |
| 15 Winter             | 0.1                      | 0.1                   | 100.1267                   | 0.1268            | 3.2                 | O K    |
| 30 Winter             | 0.1                      | 0.1                   | 100.1687                   | 0.1687            | 4.3                 | O K    |
| 60 Winter             | 0.1                      | 0.1                   | 100.2117                   | 0.2117            | 5.4                 | O K    |
| 120 Winter            | 0.1                      | 0.1                   | 100.2523                   | 0.2522            | 6.5                 | O K    |
| 180 Winter            | 0.1                      | 0.1                   | 100.2718                   | 0.2717            | 7.0                 | O K    |
| 240 Winter            | 0.1                      | 0.1                   | 100.2817                   | 0.2817            | 7.2                 | O K    |
| 360 Winter            | 0.1                      | 0.1                   | 100.2922                   | 0.2922            | 7.5                 | O K    |
| 480 Winter            | 0.1                      | 0.1                   | 100.2947                   | 0.2947            | 7.6                 | O K    |

| Storm Duration (mins) | Rain (mm/hr) | Time-Peak (mins) |
|-----------------------|--------------|------------------|
| 15 Summer             | 131.85       | 23               |
| 30 Summer             | 88.57        | 37               |
| 60 Summer             | 56.71        | 68               |
| 120 Summer            | 35.00        | 126              |
| 180 Summer            | 25.97        | 186              |
| 240 Summer            | 20.88        | 246              |
| 360 Summer            | 15.37        | 364              |
| 480 Summer            | 12.34        | 450              |
| 600 Summer            | 10.40        | 504              |
| 720 Summer            | 9.04         | 564              |
| 960 Summer            | 7.24         | 694              |
| 1440 Summer           | 5.28         | 970              |
| 2160 Summer           | 3.85         | 1368             |
| 2880 Summer           | 3.07         | 1768             |
| 4320 Summer           | 2.23         | 2552             |
| 5760 Summer           | 1.77         | 3280             |
| 7200 Summer           | 1.48         | 3960             |
| 8640 Summer           | 1.28         | 4664             |
| 10080 Summer          | 1.14         | 5248             |
| 15 Winter             | 131.85       | 23               |
| 30 Winter             | 88.57        | 37               |
| 60 Winter             | 56.71        | 66               |
| 120 Winter            | 35.00        | 124              |
| 180 Winter            | 25.97        | 182              |
| 240 Winter            | 20.88        | 240              |
| 360 Winter            | 15.37        | 354              |
| 480 Winter            | 12.34        | 464              |

|                                                    |                                                 |                                                                                     |
|----------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------|
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| Micro Drainage                                     | Source Control W.11.2                           |                                                                                     |

Summary of Results for 100 year Return Period (+40%)

| Storm<br>Duration<br>(mins) | Maximum<br>Filtration<br>(l/s) | Maximum<br>Outflow<br>(l/s) | Maximum<br>Water Level<br>(m OD) | Maximum<br>Depth<br>(m) | Maximum<br>Volume<br>(m <sup>3</sup> ) | Status |
|-----------------------------|--------------------------------|-----------------------------|----------------------------------|-------------------------|----------------------------------------|--------|
| 600 Winter                  | 0.1                            | 0.1                         | 100.2927                         | 0.2927                  | 7.5                                    | O K    |
| 720 Winter                  | 0.1                            | 0.1                         | 100.2882                         | 0.2882                  | 7.4                                    | O K    |
| 960 Winter                  | 0.1                            | 0.1                         | 100.2813                         | 0.2812                  | 7.2                                    | O K    |
| 1440 Winter                 | 0.1                            | 0.1                         | 100.2602                         | 0.2602                  | 6.7                                    | O K    |
| 2160 Winter                 | 0.1                            | 0.1                         | 100.2253                         | 0.2252                  | 5.8                                    | O K    |
| 2880 Winter                 | 0.1                            | 0.1                         | 100.1917                         | 0.1917                  | 4.9                                    | O K    |
| 4320 Winter                 | 0.1                            | 0.1                         | 100.1332                         | 0.1333                  | 3.4                                    | O K    |
| 5760 Winter                 | 0.1                            | 0.1                         | 100.0878                         | 0.0878                  | 2.3                                    | O K    |
| 7200 Winter                 | 0.1                            | 0.1                         | 100.0577                         | 0.0578                  | 1.5                                    | O K    |
| 8640 Winter                 | 0.1                            | 0.1                         | 100.0468                         | 0.0467                  | 1.2                                    | O K    |
| 10080 Winter                | 0.1                            | 0.1                         | 100.0417                         | 0.0417                  | 1.1                                    | O K    |

| Storm<br>Duration<br>(mins) | Rain<br>(mm/hr) | Time-Peak<br>(mins) |
|-----------------------------|-----------------|---------------------|
| 600 Winter                  | 10.40           | 568                 |
| 720 Winter                  | 9.04            | 604                 |
| 960 Winter                  | 7.24            | 744                 |
| 1440 Winter                 | 5.28            | 1046                |
| 2160 Winter                 | 3.85            | 1496                |
| 2880 Winter                 | 3.07            | 1908                |
| 4320 Winter                 | 2.23            | 2684                |
| 5760 Winter                 | 1.77            | 3392                |
| 7200 Winter                 | 1.48            | 3960                |
| 8640 Winter                 | 1.28            | 4504                |
| 10080 Winter                | 1.14            | 5240                |

|                                                    |                                                 |                                                                                     |
|----------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------|
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| Date MAR 2019<br>File 120 SQ M CONTRIBUTING.SRC    | Designed By PF<br>Checked By                    |                                                                                     |
| Micro Drainage                                     | Source Control W.11.2                           |                                                                                     |

#### Rainfall Details

|                       |         |                       |       |                  |     |
|-----------------------|---------|-----------------------|-------|------------------|-----|
| Region                | ENG+WAL | Cv (Summer)           | 0.750 | Summer Storms    | Yes |
| Return Period (years) | 100     | Cv (Winter)           | 0.840 | Winter Storms    | Yes |
| M5-60 (mm)            | 20.000  | Shortest Storm (mins) | 15    | Climate Change % | +40 |
| Ratio-R               | 0.350   | Longest Storm (mins)  | 10080 |                  |     |

#### Time / Area Diagram

Total Area (ha) = 0.012

| Time<br>from: | (mins)<br>to: | Area<br>(ha) | Time<br>from: | (mins)<br>to: | Area<br>(ha) |
|---------------|---------------|--------------|---------------|---------------|--------------|
| 0             | 4             | 0.000        | 4             | 8             | 0.012        |

|                                                    |                                                 |                                                                                     |
|----------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------|
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| Date MAR 2019<br>File 120 SQ M CONTRIBUTING.SRC    | Designed By PF<br>Checked By                    |                                                                                     |
| Micro Drainage                                     | Source Control W.11.2                           |                                                                                     |

Trench Soakaway Details

|                           |          |                  |         |
|---------------------------|----------|------------------|---------|
| Infil Coef - Base (m/hr)  | 0.018100 | Length (m)       | 9.0     |
| Infil Coef - Sides (m/hr) | 0.018100 | Invert Level (m) | 100.000 |
| Safety Factor             | 1.5      | Cover Level (m)  | 100.600 |
| Porosity                  | 0.95     | Slope (1:x)      | 0.0     |
| Width (m)                 | 3.0      |                  |         |

$$PLAN \ AREA = 3 \times 9m = 27m^2$$

AS USING PERMAVOID CRATES  
SIZED 0.355m WIDE x 710mm LONG

$$USE \ WIDTH = 3.55m$$

$$LENGTH = 7.81m$$

$$3.55 \times 7.81m = 27.7m^2$$