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|-----------------------------------------------------------------------------------|------------------------------------------|--|----------|------------|--------|--------|
|  | 400 Longwater, Green Park                |  | JOB No:  | 27159/2007 | SHEET: | 1 of 1 |
|                                                                                   | Surface Water Drainage Strategy          |  | DATE:    | April 2016 | BY:    | CMB    |
|                                                                                   | Calculation of Greenfield Discharge Rate |  | CHECKED: |            |        |        |

Calculation based on 'Rainfall runoff management for developments' - Report SC030219, October 2013, Defra / Environmental Agency

|                                     | Site               |                                                                               |
|-------------------------------------|--------------------|-------------------------------------------------------------------------------|
| R                                   | 6                  | Hydrological region                                                           |
| S                                   | 4                  | SOIL type                                                                     |
| Catchment                           | <200 ha            |                                                                               |
| $A_{(site)}$                        | 1.00 ha            | Size of catchment (excluding large open parkland that is to remain)           |
| SAAR or AAR                         | 675 mm             |                                                                               |
| SPR                                 | 0.3                | For SOIL type 2                                                               |
| $A_{(50)}$                          | 50 ha              | Use 50ha for sites less than 50ha                                             |
| $Q_{BAR(50)}$                       | 87.33 l/s          | Catchment mean annual peak flow for $A_{(50)}$ (50ha site)                    |
| $Q_{BAR}$                           | 1.75 l/s           |                                                                               |
| $Q_{BAR(site)}/A_{(site)}$          | 1.75 l/s/ha        | Mean annual peak flow per unit area (If less than 1 use 1 l/s/ha)             |
| $Q_{throttle}$                      | 5.00 l/s           | Based on minimum limit of discharge - refer to Page xvi, para 17              |
| $Q_{throttle}/A_{(site)}$           | 5.00 l/s/ha        |                                                                               |
| $Q_{throttle}/3.5A_{(site)}$        | 1.43 l/s/ha        |                                                                               |
| $Q_{BAR}/A$                         | 1.75 l/s/ha        | Use greater value of $Q_{BAR(site)}/A_{(site)}$ and $Q_{throttle}/A_{(site)}$ |
| $GC_1$                              | 0.85               | Value taken from Line 11.1                                                    |
| $GC_{30}$                           | 2.30               | Value taken from Figure 1.2                                                   |
| $GC_{100}$                          | 3.15               | Value taken from Figure 1.2                                                   |
| $Q_{1yr}$                           | <b>1.48</b> l/s/ha |                                                                               |
| $Q_{30yr}$                          | <b>4.02</b> l/s/ha |                                                                               |
| $Q_{100yr}$                         | <b>5.50</b> l/s/ha |                                                                               |
| <i>Total <math>Q_{1yr}</math></i>   | <i>1.48</i> l/s    |                                                                               |
| <i>Total <math>Q_{30yr}</math></i>  | <i>4.02</i> l/s    |                                                                               |
| <i>Total <math>Q_{100yr}</math></i> | <i>5.50</i> l/s    |                                                                               |