



**PERSIMMON HOMES THAMES VALLEY  
LAND NORTH OF TODDINGTON LANE,  
LITTLEHAMPTON**

**DRAINAGE STRATEGY, WEST OF  
WETLANDS  
(DISCHARGE OF CONDITION 10)**

**JANUARY 2019**

*the journey is the reward*

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|                      |                             |
|----------------------|-----------------------------|
| <b>Project Code:</b> | <b>A/PHDRAIN.10</b>         |
| <b>Prepared by:</b>  | <b>SF</b>                   |
| <b>Approved by:</b>  | <b>AB</b>                   |
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**Persimmon Homes Thames Valley  
Land North of Toddington Lane, Littlehampton  
Drainage Strategy, West of Wetlands  
(Discharge of Condition 10)**

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# 1 Introduction

- 1.1 Mayer Brown Ltd has been commissioned by Persimmon Homes Thames Valley (PHTV) to compile this report to assist with the discharge of planning condition 10 for their outlined approved development (**Arun DC reference LU/47/11/**) for up to 1,260 residential dwellings, B1 employment use, Class A facilities, a 100 bed hotel, 60 bed care home, primary school, plus many other facilities and improvements to the local infrastructure.

## *Outline Planning Consent*

- 1.2 Outline Planning Consent was granted in 2011, under Arun District Council planning reference LU/47/11, which includes Condition 10 that relates to surface water drainage.

## *Purpose of this Drainage Report*

- 1.3 This drainage report does not cover the entire area that received outline planning approval. It includes the development area of approximately 19.0 hectares to the west of the wetlands as identified Appendix B, titled "Land Uses and Drainage Areas Covered".
- 1.4 There are a total of 18 land parcels and associated road infrastructure identified within this catchment at varying states of progress. The report describes the design philosophy behind the main surface sewers within the road network that will eventually drain the development parcels within this area. It also specifies the proposed connection points and peak allowable surface water discharge from each of the land parcels.
- 1.5 A parcel specific surface and foul water drainage strategy will still be required to accompany the reserved matters (RM) applications from the individual land parcels.
- 1.6 This report is to be used to accompany the RM planning applications for each of the individual parcels in order to demonstrate that the receiving drainage network has been adequately designed and considered.

## *Previous Consultancy Work*

- 1.7 Greencore obtained outlined planning consent for the scheme in 2011, using White Young Green as their drainage consultants, and subsequently sold the site to PHTV.

- 1.8      Glanville Consulting Engineers were employed by PHTV to develop the surface and foul water strategy further. Glanville are no longer working on the project but produced useful information to depict the pre-development scenario, which is contained in a number of Appendices within this report.
- 1.9      Mayer Brown were employed by PHTV as their drainage consultants for the project in September 2017 and where possible will utilise the information produced by previous Consultants.
- 1.10     There are numerous projects, sub-parcels and associated civils and drainage drawings that inform the works within the west of wetlands catchment. It is not practical to include all the drawings for these projects within this report and, as such, they are listed in Appendix L. These drawings can be supplied on request to Mayer Brown Ltd.

## 2 Condition 10 - Surface Water Drainage

**Condition 10:** *No development shall begin until a fully detailed surface water drainage scheme for that phase of the development, based on sustainable drainage principles and designed in accordance with the SUDS strategy for the whole development, has been submitted to and approved in writing by the Local Planning Authority. It should be demonstrated how each detailed scheme will contribute to delivering, and link into, the surface water drainage strategy for the site as a whole.*

- *The SUDS shall be designed to attenuate the 1 in 100 year storm event (plus climate change allowance of 30% in accordance with DEFRA's National Standards for Sustainable Drainage Systems).*
- *No infiltration of surface water drainage shall occur within ground affected by contamination unless suitable remediation is undertaken.*
- *Each detailed scheme should include a timetable for its implementation; and provide a management and maintenance plan in the form of a site specific Maintenance Manual for the SUDS system for the lifetime of the development. This shall include the arrangements for adoption by any public authority or statutory undertaker or details of the financial management of the scheme throughout its lifetime.*

*Elements of the scheme serving any particular phase shall subsequently be implemented in accordance with the approved details (unless otherwise agreed with the Local Planning Authority) prior to the occupation of any dwellings in that phase and no building in that phase of the development shall be occupied until the surface water drainage scheme has been fully implemented in accordance with the approved details.*

*Reason: To ensure that the proposed development is satisfactorily drained to prevent the increased risk of flooding, and improve and protect water quality, habitat and amenity, and ensure future maintenance of these in accordance with national guidance and policies GEN7, GEN9 of the Arun District Local Plan.*

### Pre-Demolition Site

- 2.1 The pre-demolition site was heavily developed comprising large glasshouses with associated outbuildings and areas of hardstanding. Refer to the site location plan in Appendix A that shows the extent of the glasshouses covering the site to the east and west of the wetlands.
- 2.2 A plan illustrating the existing surface water regime, produced by Glanville in 2014, is contained in Appendix H.
- » The former Toddington Nurseries: The western part of the site comprising is understood to have discharged to a combination of soakaways and outfall to the existing ditch system north of the site.
  - » Central West Former Holland Nursery: Discharged to an irrigation pond before discharging to Toddington ditch. It is understood that there was no restriction of flows from the system.

### Infiltration

- 2.3 Intrusive ground investigations and soakage testing undertaken by Merebrook have confirmed that infiltration methods for the disposal of surface water runoff are unlikely to be practical across the majority of the site as the underlying material is generally found to comprise of Clay.
- 2.4 Review of these investigative reports appears to indicate only two areas where infiltration drainage were feasible (subject to further testing):
- » Towards the western part of the site at depths of around 1.0m into the localised sand deposits; Parcels B3, B5, B1, Care Home, Enterprise Zone
  - » Towards the western part of the site at depths of around 2.0m into localised Sand deposits; notably Parcels A1, A2, Youth Facility, B6, Waste Recycling Centre, and Commercial Areas.
- 2.5 Other than the locations noted above infiltration methods for the disposal of surface water runoff are unlikely to be feasible due to either the presence of Clay material or high groundwater levels.
- 2.6 Modelled Flood Levels in the Black Ditch are within a metre of ground level in many locations which could restrict depths available to effectively locate SuDS features.

### *Sustainable Drainage (SuDS) and Drainage Hierarchy*

- 2.7 Sustainable Urban Drainage Systems (SuDS) are a range of techniques that aim to mimic the way rainfall drains in natural systems and so reduces the hydraulic and hydrological impact on the local area and downstream catchments. There are a number of options available to impose surface water restrictions on proposed development plots such as oversized sewers, below ground storage tanks, attenuation ponds and basins, swales, permeable paving, or infiltration systems.
- 2.8 To determine the most sustainable method of surface water disposal the hierarchy from approved document part H was used, see below:
- » **An adequate soakaway or some other adequate infiltration system** apart from a few locations across the site infiltration methods for the disposal of surface water runoff are not feasible due to either the presence of Clay material or high groundwater.
  - » **A Watercourse** – The Black Ditch is located to the north of the site within the boundary of the consented scheme. There are ordinary watercourse tributaries that run across the wetlands and connect to the Black Ditch
  - » **A Sewer** – There are no public surface water sewers in the immediate vicinity. The only drains available were those that drained the pre-demolition glasshouses and discharged into the black ditch.

### *Proposed Surface Water Strategy*

- 2.9 Based upon the above hierarchy a high level description of the surface water strategy is that the entire 19 hectare catchment as identified in Appendix B will drain at a restricted rate of run-off into the Black Ditch via a single outfall located at the northern boundary of development parcel C2.
- 2.10 As explained in the introduction this report describes the drainage strategy for the development parcels and associated road network for the consented scheme to the west of the wetlands. (The remaining area to the east of the wetlands is currently under development).

### *Proposed and Pre-Demolition Discharge Rates*

#### *Pre-Demolition Discharge*

- 2.11 As described in paragraph 1.9 Glanville Consulting Engineers (GCE) produced useful information to depict the pre-demolition scenario. In order to understand and quantify the existing drainage and associated discharge rates

PHTV commissioned MK Surveys to carry out a drainage survey of the pre-demolition drainage network. The resulting survey is contained in Appendix H of this report (a total of 12 AO drawings covering the whole site).

- 2.12 GCE subsequently reviewed the drainage survey and ascertained there was a total of 10 outfalls, ranging in diameter from 150mm up to 375mm, with run-off eventually ending up in the Black Ditch via the series of smaller upstream ditches.
- 2.13 GCE produced basic micro drainage models in order to quantify the discharge rate from each outfall. They also produced a plan summarising the discharge rates from the individual parcels. Refer to Appendix H of this report.
- 2.14 The resulting total pre-demolition discharge rate from the West of Wetlands is as follows:
- ✦ Outfalls 01, 02, 03 (**Not** including outfalls 04 to 09 or the overland flow)
  - ✦ Combined impermeable area = 8.33 hectares
  - ✦ Peak Pre-demolition 1 in 1 year discharge = **390 Litres / second**
- (The above figure does not account for the run-off from the demolished buildings and unrecorded drainage, as shown on the GCE plan. These areas are hatched on the GCE plan and are referred to as overland flow)
- 2.15 The overall development area of the west of wetlands catchment is 19.0 hectares, which equates to a pre-demolition peak **1 in 1 year** discharge rate of **20 litres / second / hectare**.
- 2.16 It is worth noting that the calculated pre-demolition discharge rate of 20 litres / second / hectare is for the 1 in 1 year return period and, although not calculated, would be significantly larger for the higher 1 in 30 year and 1 in 100 year return periods.

#### Proposed Discharge Rate

- 2.17 The Arun DC SFRA identifies the site as brownfield and states that development is unlikely to significantly increase run-off but should seek to reduce rates where possible. Therefore, the proposal is to specify a reduced rate of run-off when compared to the pre-demolition run-off described above.
- 2.18 A proposed peak discharge rate has been calculated using Greenfield runoff methods provided in IoH124 using a Soil Type of 5 to make allowance for the possible effect of the previous extensive impermeable area. The resulting 1 in 1 year brownfield rate has been calculated at approximately 15 litres

/second / hectare. A copy of the relevant calculation is contained in Appendix H.

- 2.19 The peak rate of surface water discharge for up to the **1 in 100 year return period + 30% climate change** will be restricted to **15 litres / second / hectare**. This proposed peak rate of surface water discharge will provide significant betterment when compared to the pre-demolition undeveloped scenario.

#### Calculations and Results

- 2.20 A Micro Drainage model has been created of the drainage network covering the overall catchment area of 19.0 hectares. The pipes have been sized to convey the surface water run-off from each area, and the proposed peak allowable discharge has been specified from each future development plot. The overall network schematic and details are contained in Appendix E.
- 2.21 Outfall B, the final outfall from the overall catchment, will discharge through a headwall into the existing ditch that is also located in a flood plain. There will be a flap valve on the final headwall to ensure floodwater within the floodplain will not back up into the drainage network. However, in this scenario the drainage network can't push open the flap valve until the water level within the site goes above the flood level in the wetlands.
- 2.22 There is a risk that a fully surcharged outfall could coincide with the on-site critical 1in100yr+CC storm so the Micro Drainage model has been simulated with a fully surcharged outfall.
- 2.23 The EA supplied 1in100yr+20%CC modelled flood level within the floodplain ranges from 1.72m AOD to 1.83m AOD. A flood level in the wetlands of 1.8m AOD by the outfall will result in the outfall (@ 1.0m AOD) being surcharged by approximately 0.8m.
- 2.24 There is also permeable sub-base designed beneath some of the Phase 2 roads, which has been incorporated into the Micro Drainage model.
- 2.25 The final peak allowable discharge of **285 litres / second** (19 hectares x 15 litres / second / hectares) has been modelled for the worst case 1 in 100 year storm event + 30% climate change. The simulation results are contained in Appendix F & G.

- 2.26 The discharge rates will be considerably lower for lower intensity storm events as shown below (discharge rates below are for a surcharged outfall. When the outfall is unsurcharged the full 285 litres / sec discharge is achieved):
- ✧ Critical 1 in 100 year storm (+30% CC): 265 litres / second
  - ✧ Critical 1 in 30 year Storm: 207 litres / second
  - ✧ Critical 1 in 1 year Storm: 167 litres / second
- 2.27 The proposed discharge rates represent a significant reduction when compared to the pre-demolition 1 in 1 year discharge rate of 390 litres / second, as follows:
- ✧ Critical 1 in 100 year storm (+30% CC): 32% Reduction
  - ✧ Critical 1 in 30 year Storm: 47% Reduction
  - ✧ Critical 1 in 1 year Storm: 58% Reduction
- 2.28 Most of the surface water attenuation will be located within the future car park area in a 1500 cubic metre proprietary storage tank and permeable paving sub-base. There will also be attenuation in the 900mm diameter pipe running from the car park to the outfall.
- 2.29 A maximum allowable discharge will be imposed on the majority of development parcels and, as such, each parcel will need to contain surface water storage within its respective reserved matters (RM) application boundary. These have been modelled indicatively within the micro drainage network but their design will need to be undertaken to accompany each RM Application.

#### Existing & Future Development Parcels

- 2.30 The discharge from each parcel into the main drainage network will be restricted to the following peak rate of run-off:
- ✧ Non-Resi Land (0.91Ha) 5 litres / second
  - ✧ Non-Resi Land (0.81Ha) 5 litres / second
  - ✧ Non-Resi Land (0.32Ha) 5 litres / second
  - ✧ Non-Resi Land (Hotel) 5 litres / second
  - ✧ Care Home: 5 litres / second
  - ✧ Parking Square: 5 litres / second
  - ✧ A1 Parcel (Existing): 34.5 litres / Second
  - ✧ A2 Parcel: 5 litres / second
  - ✧ B1 Parcel: 5 litres / second

- ✦ B2 Parcel: Free Discharge – See Appendix I & K
- ✦ B3 & B5 Parcel (Existing): 120 litres / second
- ✦ B6 Parcel: 5 litres / second
- ✦ Block B Parcel: 5 litres / second
- ✦ Block A Parcel: 5 litres / second

**Free discharge areas below – See paragraph 2.27 to 2.29**

- ✦ B4 Parcel (Phase2): Free Discharge – See Appendix I & K
- ✦ C1 Parcel: Free Discharge – See Appendix I & K
- ✦ C2 Parcel: Free Discharge – See Appendix I & K
- ✦ C4 Parcel: Free Discharge – See Appendix I & K
- ✦ Roads Serving Above Free Discharge into Network

Total Peak Discharge: **285 litres / Second**  
 (1in100yr return period, including climate change)

**Free Discharge from Parcels**

- 2.31 The surface water network serving the above parcels (C1, C2, C4, B4 Partial, Roads) are interconnected and overlap with each other, and the roads passing through these parcels also drain the upstream and surrounding parcels
- 2.32 There are also no flow controls (ie hydro-brakes) on the surface water sewers within Phase 2 parcels or roads. A total of 23 individual locations / sub-catchments have been identified within Phase 2. The free discharge varies for different return periods and their associated storm durations varying for short durations high intensity storms to longer durations low intensity rainfall events. The critical discharge rates have been identified in
- 2.33 Although there is a free discharge from these sub-catchments the downstream network has been designed to cater for this and the final outfall / discharge rate will not exceed 285 litres / second for the peak 1in100yr return period, including climate change. (The peak discharge rate will be considerably less for lower returns periods as set out above in paragraph 2.27.)
- 2.34 The type of attenuation tanks in the future development plots are to be determined at the time of the RM application. The volumes of tanks identified in Appendix I is approximate only and will need to be designed accurately by the Consultants undertaking the detailed design. Catch pit chambers are to

be specified immediately upstream to the tanks in order to limit the volume of debris / silt entering the tanks.

#### Modelled Overflow into Future Parcel B4

- 2.35 There is a requirement to add an overflow in the drainage network at the south west corner of the catchment (by SW01). The drainage is exceptionally shallow in this location so there is no scope to add surface water attenuation under the road or adjacent parking areas.
- 2.36 Approximately 226m<sup>3</sup> of surface water run-off will overflow into the proposed surface water drainage network that will eventually serve the future development parcel B4. This will only occur for the critical duration storm (120mins) for the 1in100yr return period + climate change.
- 2.37 Therefore, the plan is to increase the size of the future attenuation tank in the adjacent B4 parcel so it will store the 226m<sup>3</sup> and release it into the wetlands via a future outfall at the agreed rate of 15 liters / second / hectare.

#### Surface Water Treatment

- 2.38 Table 26.2 of the SuDS Manual identifies the pollution hazard level associated with the land uses within the Proposed Development as being 'Low'. On a scale from 0-1 a 'Low' pollution hazard level relates to the following pollution hazard indices (See table 26.2 of the SuDS Manual) This is applicable to runoff from residential roofs, driveways, paths, residential parking areas and low traffic roads:
- ✦ Total Suspended Solids = 0.5
  - ✦ Metals = 0.4
  - ✦ Hydrocarbons = 0.4
- 2.39 Table 26.3 of the SuDS Manual sets out the indicative mitigation indices provided by different SuDS features for discharges to surface water.

#### Permeable Paving

- 2.40 Communal parking and private driveways will be constructed using permeable paving allowing the rainwater falling onto permeable paved areas to be treated by the microorganisms as it passes through drainage medium, see Figure 4.1 below.

- 2.41 Permeable paving provides sufficient pollution mitigation for runoff from low hazard land uses and provides mitigation indices of 0.7, 0.6 and 0.7, which are in excess of the requirement set out in paragraph 2.25.

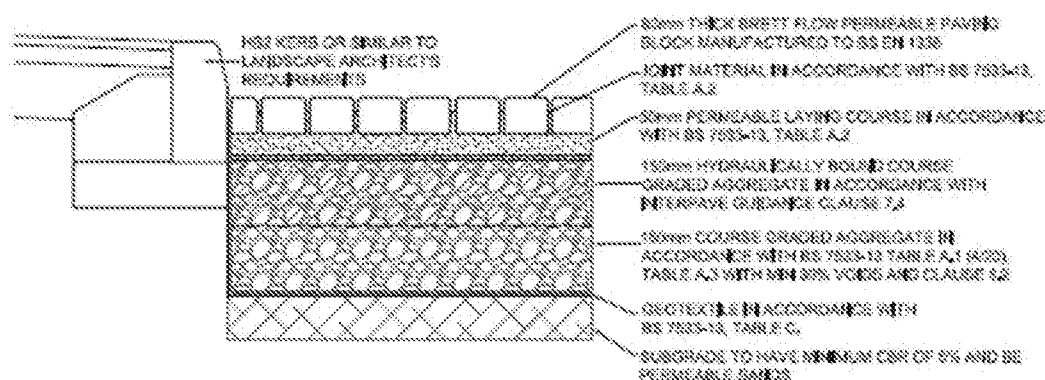


Figure 2.1: Typical Permeable Block Paving Construction

### Permeable Sub-base Road

- 2.42 A number of the private roads within C2 Parcel, B2 Parcel and B4 Parcel draining into the drainage network will drain via permeable sub-base located under the road surface. The specific construction is contained in Appendix J.
- 2.43 It is considered that the permeable sub-base provides sufficient pollution mitigation for runoff from low hazard land uses and provides mitigation indices of 0.7, 0.6 and 0.7, which are in excess of the requirement set out in paragraph 2.25

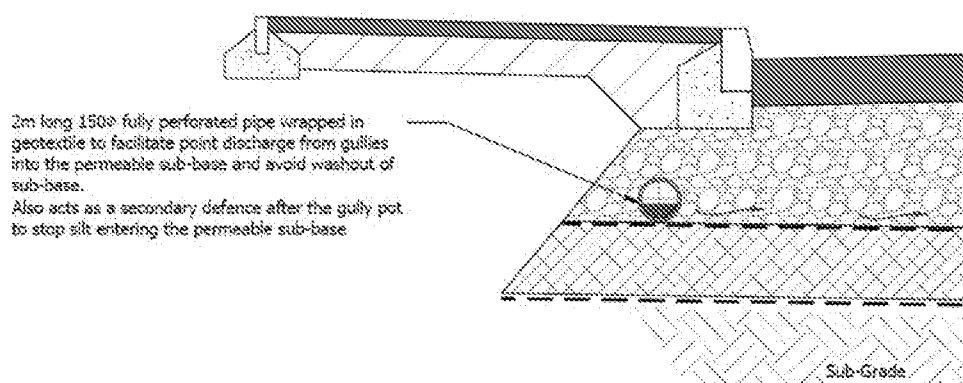


Figure 2.2: Permeable Sub-base Road (refer to Appendix J)

- 2.44 The private roads within C1 Parcel will drain via a filter trench running adjacent the carriageways. The specific construction is contained in Appendix J.
- 2.45 It is considered that the granular material sub-base will provides sufficient pollution mitigation for runoff from low hazard land uses and provides

mitigation indices of 0.7, 0.6 and 0.7, which are in excess of the requirement set out in paragraph 2.25

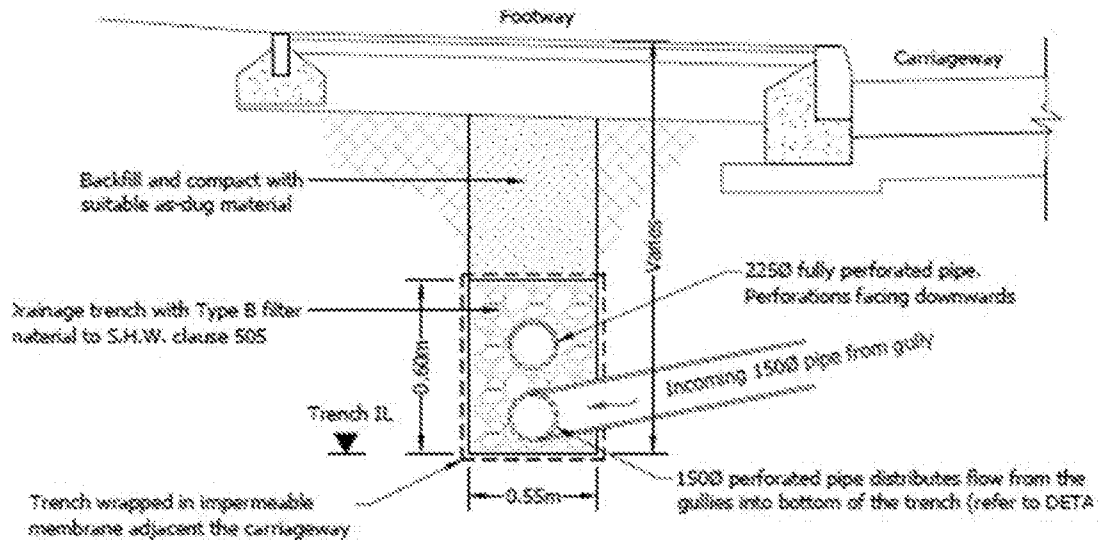


Figure 2.3: Permeable Sub-base Road (refer to Appendix J)

#### Traditional Gullies

- 2.46 Full size precast concrete gully pots draining the asphalt roads that will act as the first line of defence to trap silt and sediments in the drainage network.

#### Exceedance Flows & Surcharged Outfall

- 2.47 The drainage network is designed to cope with flooding up to the **1in100yr+30%CC** flood event and this water will be contained on site within the developed areas (not the wetlands)
- 2.48 Appendix D contains drawings that show the route of overland flow in the event of system failure, blockage or overload. This demonstrates that dwellings will be suitably protected in the event of a drainage system failure and resulting overland flow can find its way safely through the road network and into the wetlands.
- 2.49 Discussions have been had with Arun DC to ascertain what would happen if the wetland are flooded and the outfall becomes surcharged. The EA supplied 1in100yr+20%CC modelled flood level within the floodplain ranges from 1.72m AOD to 1.83m AOD. A flood level in the wetlands of 1.8m AOD by the outfall will result in the outfall (@ 1.0m AOD) being surcharged by approximately 0.8m.

- 2.50 The chances of the critical 1in100yr+CC flood level in the wetlands (which is tidal) coinciding with the peak 1in100yr+CC storm event on the site are very small. However, a fully surcharged outfall was simulated and results in a small flood volume escaping from the drainage network that can be safely be contained within the road network (refer to the simulated results for the critical 240 minute storm in Appendix F).

#### *Adoption and Maintenance*

- 2.51 The proposed surface water drainage system will be constructed in accordance with Sewers for Adoption 7<sup>th</sup> edition (SFA7); however it will remain in private ownership and will be maintained by a Management Company organised by the Developer.
- 2.52 Some of the main roads, footpaths and shared areas will be adopted by Mid Sussex District Council under a Section 38 agreement. The remaining private roads and communal parking areas will be maintained by a Management Company, organised by the Developer.
- 2.53 Taking this approach will ensure shared drainage and infrastructure items are properly maintained. This should enable tight control over the operation and maintenance of the drainage / SuDS systems on site.

#### *Attenuation Tank Maintenance*

- 2.54 The primary purpose of the attenuation tanks is to attenuate surface water run-off during extreme rainfall events.
- 2.55 Regular inspection and maintenance is required to ensure the effective long-term operation of the below ground storage tanks, see table 2.1 below for details:

| Maintenance Schedule | Required Action                                                                                                             | Recommended Frequency               |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Regular Maintenance  | Inspect and identify any areas that are not operating correctly. If required, take remedial action.                         | Monthly for 3 months, then annually |
|                      | Debris removal from catchment surface (where may cause risk to performance).                                                | Monthly.                            |
|                      | Remove sediment from pre-treatment structures.                                                                              | Annually, or as required.           |
| Remedial Actions     | Repair/rehabilitation of inlets, outlets, overflows and vents.                                                              | As required.                        |
| Monitoring           | Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed. | Annually and after large storms.    |

|  |                                                                      |                                                                        |
|--|----------------------------------------------------------------------|------------------------------------------------------------------------|
|  | Survey inside of tank for sediment build-up and remove if necessary. | Annually until evidence this is too regular, every 5 years thereafter. |
|--|----------------------------------------------------------------------|------------------------------------------------------------------------|

**Table 2.1: Attenuation Tank Maintenance Requirements**

Pervious Pavement Maintenance

2.56 Pervious pavements are pavements that allow for pedestrian and/or vehicular traffic while allowing rainwater to infiltrate through the surface and into underlying structural foundation layers.

2.57 Regular inspection and maintenance is important for the effective operation of pervious pavements as designed, these are described below in table 2.2:

| Maintenance Schedule   | Required Action                                                                                                                                                                      | Recommended Frequency                                                                                                                                                                                                                                                                                                         |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Regular Maintenance    | Brushing and vacuuming (standard cosmetic sweep over whole surface).                                                                                                                 | Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment. |
| Occasional Maintenance | Stabilise and mow contributing and adjacent areas.                                                                                                                                   | As required.                                                                                                                                                                                                                                                                                                                  |
|                        | Removal of weeds or management using glyphosphate applied directly into weeds by an applicator rather than spraying.                                                                 | As required – once per year on less frequently used pavements.                                                                                                                                                                                                                                                                |
| Remedial Actions       | Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of the paving.                                             | As required.                                                                                                                                                                                                                                                                                                                  |
|                        | Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost joining material. | As required.                                                                                                                                                                                                                                                                                                                  |
|                        | Rehabilitation of surface and upper substructure by remedial sweeping.                                                                                                               | Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging).                                                                                                                                                                                                                     |
| Monitoring             | Initial inspection.                                                                                                                                                                  | Monthly for three months after installation.                                                                                                                                                                                                                                                                                  |
|                        | Inspect for evidence of poor operation and/or weed growth – if required, take remedial action.                                                                                       | Three-monthly, 48h after large storms in first six months.                                                                                                                                                                                                                                                                    |
|                        | Inspect silt accumulation rates and establish appropriate brushing frequencies.                                                                                                      | Annually.                                                                                                                                                                                                                                                                                                                     |
|                        | Monitor inspections chambers.                                                                                                                                                        | Annually.                                                                                                                                                                                                                                                                                                                     |

**Table 2.2: Pervious Pavement Maintenance Requirements**

**Drainage Network Design Criteria**

- 2.58 The positive drainage will be designed in accordance with Sewers for Adoption, and BS EN 752 – Drain and sewer systems outside buildings and the Building Regulations - part H (2002).
- 2.59 The surface water network design and rate of surface water runoff would be based on the Modified Rational method and designed in accordance with the Wallingford Procedure. In order to carry out the design of the networks, a number of Global Variables are used. These Global Variables / parameters are related to the location of the site in the UK and have been obtained from the Flood Estimation Handbook (FEH).
- 2.60 The positive surface water system would be designed such that:
- ✧ The pipes remain unsurcharged during the 1 in 2 year design storm;
  - ✧ The system should not flood during the worst case 1 in 30 year storm with a free outfall;
  - ✧ The surface water run-off from the proposed development would be safely contained on site for up to and including the worst case 1 in 100 year storm event, plus an additional 30% for climate change;
  - ✧ The pipe velocities are such that self-cleansing is achieved at lesser more moderate storm intensities :
    - Pipe roughness (ks) = 0.6
    - Minimum pipe velocity at full flow = 1.0 m/s
    - Cv Value of 0.84 (as agreed with WCSS)
    - Percentage Impermeable areas
      - Buildings = 100%
      - Carriageways and footpaths = 100%
      - Private and Communal Parking = 100%

Micro Drainage Software

- 2.61 The proposed and existing networks have been designed and analysed using the Micro drainage software package that is recognised as one of the industry standard design suites. There are two separate programmes used within the package to firstly generate and then analyse the completed model. These are 'System 1' and 'Simulation'.

- ✧ System 1: The surface water computer model has been generated in “System 1” in using proposed data, such as the cover levels, invert levels and catchment areas. This is used to size the pipes in the proposed network based on the global variable outlined above
- ✧ Simulation: Once the proposed drainage system has been generated it was analysed using ‘Simulation’. This is a full hydrograph method for the determination of flood risk and system failure under extreme conditions. It can be used to analyse system overloads, storage, reverse flow characteristics, surcharging and backwater effects. It can also analyse against a wide variety of critical variables.

#### Return Periods & Critical Duration Storms

- 2.62 To determine the hydraulic requirements for an element of a drainage system, one must first consider the consequences of that capacity being exceeded and then identify an acceptable frequency for this to occur. This acceptable frequency is termed the return period, the period of time during which the stated rainfall can be expected to be exceeded on average only once, that particular element is then designed to accommodate a storm / flood with this return period.
- 2.63 Once the design return period is established the most critical storm duration for each of the elements is determined. These range in duration from 15 to 1440 minutes. For example;
- ✧ A 1 in 30 year, 30 minute duration storm for the northern catchment has an average intensity of 56.762mm/hr. This intensity of storm would be used to size the pipes and other drainage elements for conveyance purposes.
  - ✧ A 480 minute duration storm has an average intensity of only 8mm/hr (figures obtained from simulated results). However, the 480 minute storm lasts 16 times longer, therefore generating a much greater volume of water and would be used to size the attenuation tanks.

#### Condition 10 Conclusion

- 2.64 This surface water drainage strategy demonstrates that the west of wetlands catchment site can be drained satisfactorily without increasing flood risk elsewhere.

- 2.65 Intrusive ground investigations and ground water monitoring have determined that infiltration drainage is unlikely to be practical across **much** of the site. Discharge of surface water runoff directly into the chalk, which is designated a principal aquifer, has been discounted due to high recorded groundwater levels within this material and the inability to provide a minimum standoff distance from the saturated zone.
- 2.66 There are, however parcels to the **west** of the site, (as described in paragraph 2.4) that are yet to be developed and where bespoke infiltration drainage might be feasible. Parcel specific infiltration tests will be undertaken to determine the feasibility for each future land parcel where the standing ground water level is found to be in excess of 2.0m below the surface.
- 2.67 Surface water runoff will be discharged to the Black Ditch at a peak allowable discharge of 15 litres / second / hectares for up to the 1 in 100 year return period, plus 30% allowance.
- 2.68 This proposed rate of discharge will provide considerable betterment when compared to the pre-demolition brownfield arrangement. The provision of SuDS and attenuation features will store the balance of surface water runoff.
- 2.69 The proposed discharge rates represent a significant reduction when compared to the pre-demolition 1 in 1 year discharge rate of 390 litres / second, as follows:
- ✧ Critical 1 in 100 year storm (+30% CC): 32% Reduction
  - ✧ Critical 1 in 30 year Storm: 47% Reduction
  - ✧ Critical 1 in 1 year Storm: 58% Reduction
- 2.70 The information contained within this report demonstrates that adequate surface water infrastructure will be provided to enable the consented scheme to be satisfactorily drained, and will enable the future Parcels within the west of the wetlands catchment to make a positive connection into the proposed surface water network.
- 2.71 The reserved matters planning applications for the future parcels will need to be accompanied by an individual surface water drainage strategy and technical note. Each technical note will also include this overall strategy that demonstrates the downstream receiving network has been satisfactory designed in accordance with the relevant standards.

- 2.72 Parcel specific soakaway tests will be undertaken to confirm the feasibility of using infiltration drainage on the future RM planning applications for the remaining land parcels. If feasible the infiltration drainage will be used in conjunction with the positive discharge rates described within this report.
- 2.73 Therefore, it is considered that this evidence base, when read in conjunction with the RM application for the individual parcels, will provide sufficient information to discharge the outline planning Condition 10.

## **APPENDIX A: Site Location & Pre-Demolition Layout**



#### NOTES

1. This drawing is to be read in conjunction with all relevant documents and specifications.
2. Dimensions not to be scaled.

#### LOCATION

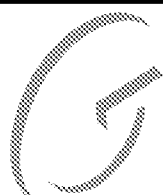
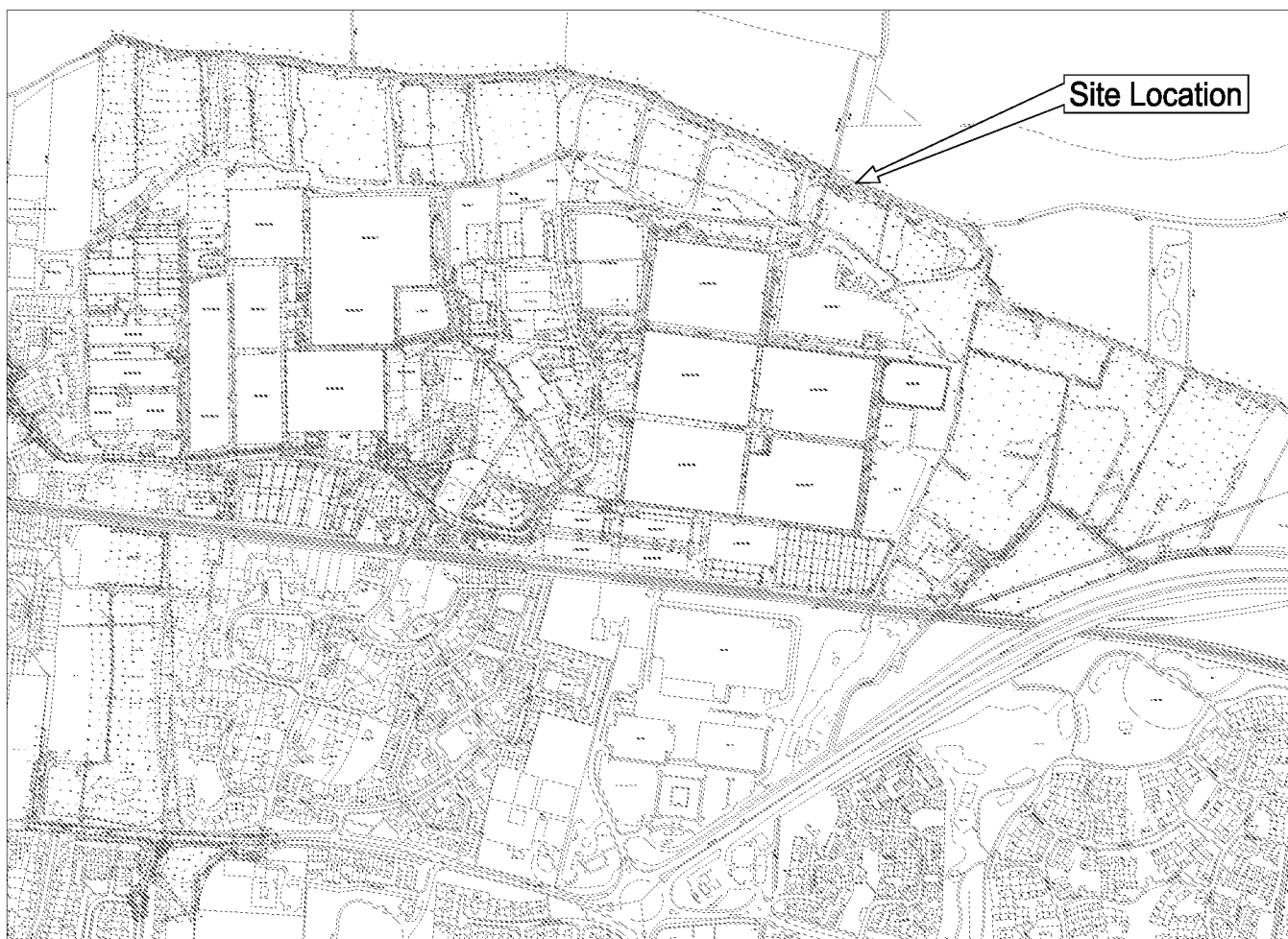
Address: Toddington Lane  
Wick  
Littlehampton  
West Sussex  
BN17 7PP

National Grid reference: TQ 03414 03979



Plan NTS

Plan 1:10000



**Glanville**

Cornerstone House  
62 Fotherhall Road, Diddcot  
Oxford, OX11 7AD

Tel: (01235) 515550 Fax: (01235) 517799  
postbox@glanvillegroup.com www.glanvillegroup.com

Project :

Land North of Toddington Lane, Littlehampton

Title :

Site Location Plan

Project Engineer : J O'Kelly

Scale : As Shown@A4

Project Director : k Rayner

Date : December 14

Drawing No.

N/A

Rev

-

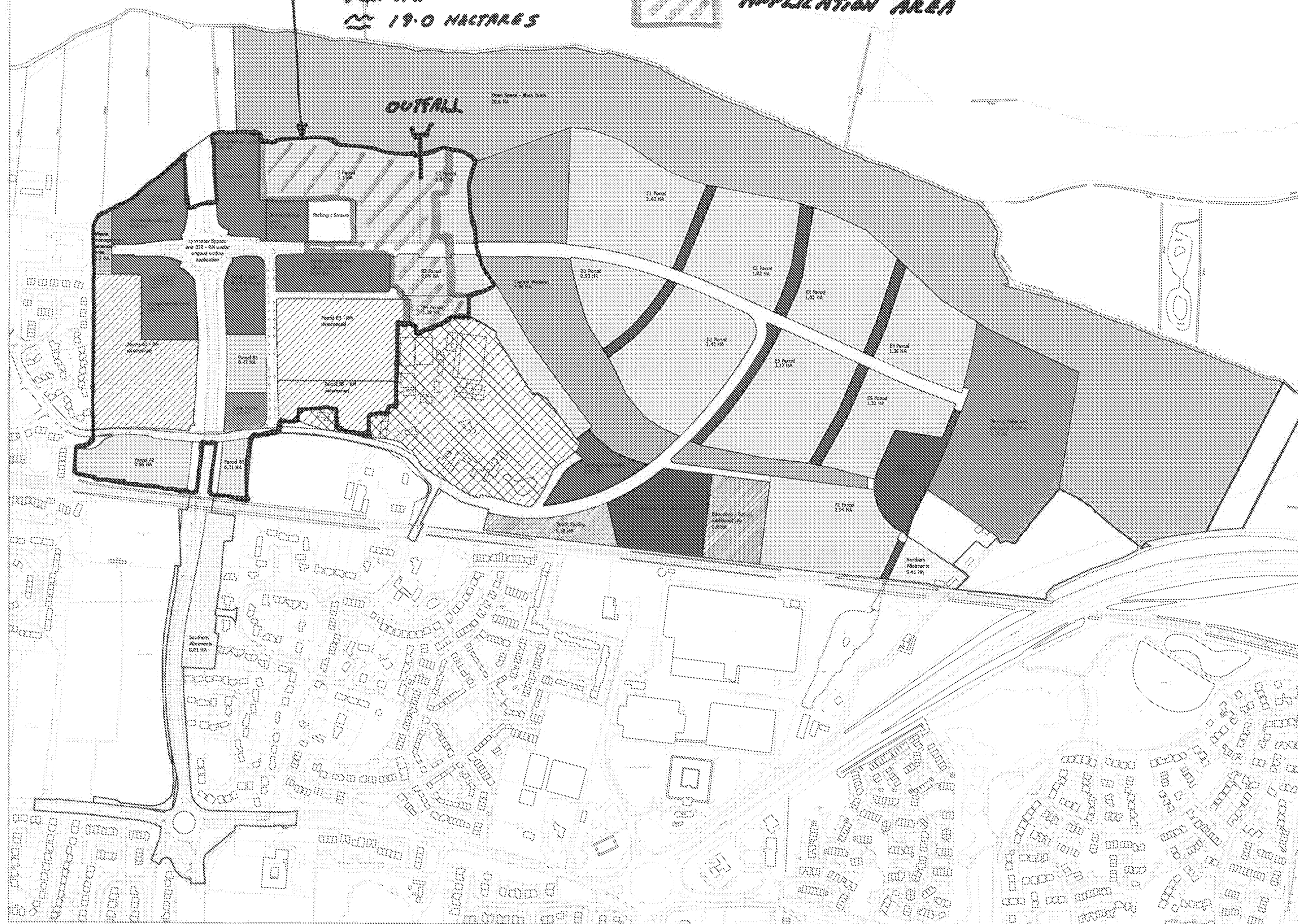
## **APPENDIX B: Land Uses & Drainage Areas Covered**



RESERVED MATTERS  
APPLICATION AREA



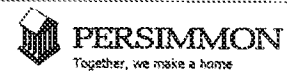
**OUTFALL**



Key:

- Public Green Space - Street Deck
- Public Green Space - General Wetland
- Playing Field and Surrounding Footpath (S106 - 1.79N/A)
- Alleviation (S106 - 2.41N/A & 2.81N/A)
- SUDS
- Residential
- Education - School Site (S106 - 2.21N/A)
- Community Center and Town Hall (S106 - 1.62N/A & 2.02N/A)
- Nonresidential Land (S106 - 2.82N/A, Community - 2.84N/A)
- Recreation Center (S106 - 2.01N/A)
- Waste / Industrial Site to 3000SQM of Street Use
- Infrastructure
- SUDS Alleviation - Proposed Alleviation under previous RPI
- Curb Stone

|   |                                  |          |
|---|----------------------------------|----------|
| B | Verkauf der Vermögensgegenstände | 13.04.17 |
| A | Erwerb der Vermögensgegenstände  | 12.09.16 |



Pensioners Home & Home Valley  
Pensioners Home, Kneil Road,  
Cambridge, Surrey GU10 3PQ  
Tel: 01276 200000

Toddington Lane  
Littlehampton

27 06 16

1:2500 @ A1

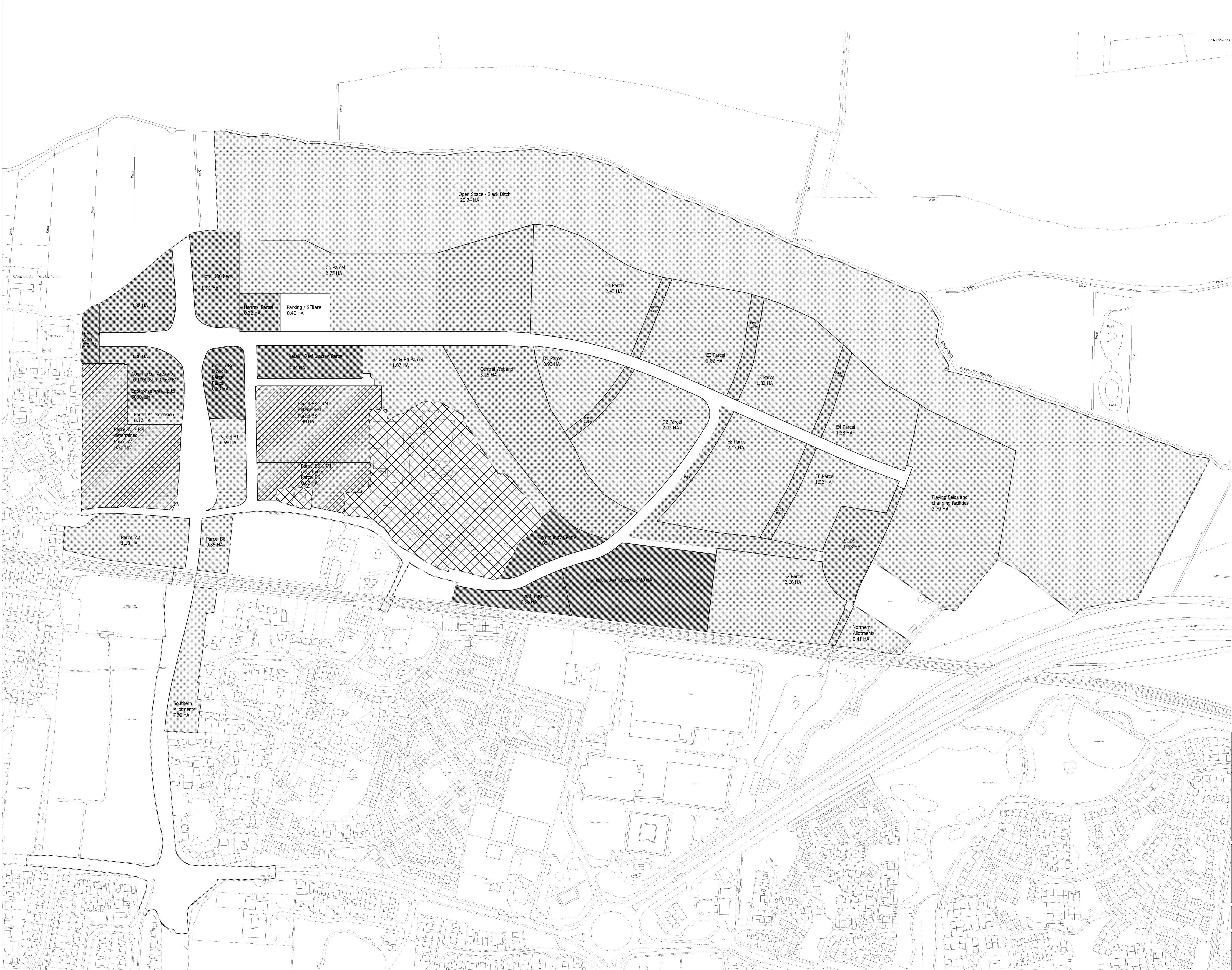
\$19-GB-L 006

### Parameter Plan - Land use

Drawing Status: **SUBMITTED**

1000

8



- Key:
- Public Open Space - Black Ditch
  - Public Open Space - Central Wetland
  - Playing fields and Changing Facilities (S106 - 3.79HA)
  - Allotments (S106 - 0.41HA & 0.81HA)
  - SUDS
  - Residential
  - Education - School Site (S106 - 2.2HA)
  - Community Center and Youth Facility (S106 - 0.62HA & 0.58HA)
  - Non-residential Land (S106 - 2.62HA, Contract - 2.94HA)
  - Recycling Center (S106 - 0.2HA)
  - Retail / residential (up to 3500sqm of Class A)
  - Infrastructure
  - S73 exclusion - Parcels approved under previous RM

|     |                                                 |          |
|-----|-------------------------------------------------|----------|
| -   | -                                               | -        |
| -   | -                                               | -        |
| A   | Non-Residential land area (blue hatch) amended. | 12.09.16 |
| Rev |                                                 | Date     |

**PERSIMMON**  
Together, we make a home

**Persimmon Home**  
Persimmon House, Knoll Road,  
Camberley, Surrey GU15 3TQ  
Tel: 01276 808080

**Site:**  
Toddington Lane  
Littlehampton

**Date:**  
27.06.16

**Scale:**  
1:2500 @ A1

**Orig No:**  
519-GR.L\_006

**Drawing Title:**  
Parameter Plan - Land use

**Drawing Status:**  
SUBMITTED

**Drawn:**  
KJ

**Rev:**  
A

**APPENDIX C: Arun DC Surface Drainage Correspondence**

## Sean Foley

---

**From:** Laura Gibbons [REDACTED]  
**Sent:** 16 January 2019 11:05  
**To:** Sean Foley  
**Cc:** Clark, Robert; Michael Eastham; Edgley, Martin; Adrian Barnley; Steven Lecocq; Fatima Evernden; Tracey Headley-Smith; Alex Wray; Adam Winstone  
**Subject:** RE: Planning Consultation on LU/345/18/DOC

Hi Sean,

### Condition 10

I am now happy for you to submit the details formally to planning to discharge condition 10.

### Condition 11

I think it would be most practical whilst awaiting consent from the EA to provide us with two potential schemes, i.e. one presuming consent is achievable. And one presuming that consent will not be granted which demonstrates sufficient easement to the watercourse.

Please also speak with Tracey Headley-Smith (copied in) regarding this condition.

### Condition 12

Please provide evidence that application for consent has been applied for by the end of tomorrow.

Kind Regards,

Laura Gibbons, MEng, GMICE  
Engineer (Drainage & Coastal)

Laura Gibbons | Engineer (Drainage & Coastal), Engineering Services, Arun District Council | Location: First Floor, Arun Civic Centre,  
Maltravers Road, Littlehampton, BN17 5LF

---

**From:** Sean Foley [REDACTED]  
**Sent:** 11 January 2019 16:42  
**To:** Laura Gibbons  
**Cc:** Clark, Robert; Michael Eastham; Edgley, Martin; Adrian Barnley; Steven Lecocq; Fatima Evernden; Tracey Headley-Smith; Alex Wray; Adam Winstone  
**Subject:** RE: Planning Consultation on LU/345/18/DOC

Laura,

Please see below in red and attached is a link to the updated DOC report that takes these comments into account:  
The wetransfer link is here: <https://we.tl/LeCQn8oBpT>

With this in mind I believe we are now agreed on surface water condition 10, which will hopefully prevent a temporary stop notice being served.

We will endeavour resolve conditions 11 & 12 asap.

Many thanks

Sean Foley

---

**From:** Laura Gibbons

**Sent:** 11 January 2019 13:19

**To:** Sean Foley

**Cc:** Clark, Robert

Michael Eastham

Edgley, Martin

Adrian Barnley

Lecocq

Fatima Evernder

Tracey Headley-Smith

Alex Wray

Adam Winstone

**Subject:** RE: Planning Consultation on LU/345/18/DOC

Hi Sean,

Thanks for the prompt response.

Comments Regarding Condition 10

- The area at point 11 (PN 31.000) in the model and plan are inconsistent. Within the model you have 0.215 ha impermeable area at PN31.000 and 0.043 ha at PN31.001. This is less than the 0.358 ha on plan. The other areas are okay as you have clarified that they are totals.

MBL Response: You are correct. The modelled figure at PN31.000 did not match the plan. The model was okay but the plan was not. This is now updated on the plan as a 60/40 split between PN31.000 & PN18.000. Has been updated on appendix H

- The attenuation volume on plan at 3.000 is inconsistent to that in the model, 80m<sup>3</sup> and 92m<sup>3</sup> respectively.

MBL Response: Noted. This has been changed. And is on the drainage plan in Appendix L.

- Please can you confirm if all manholes/ gullies upstream of connections into attenuation tanks and permeable sub bases are catchpits/sumps.

MBL Response:

- We will specify the chambers immediately upstream of the main 1,500m<sup>3</sup> attenuation tank under the car park as catch pits, which is good practice
- We expect the attenuation tanks in the future plots will also specify catch pits. We have added a section to the updated DOC report. refer to paragraph 2.34
- Run-off enters the permeable sub-base via large precast concrete catch pit gullies. In order to ensure the sub-base does not become blocked / blinded we have also specified a geotextile wrapped around the perforated pipe feeding into the sub-base. See attached detail that was also in the DOC report.

Comments Regarding Conditions 11 and 12

I still do not believe evidence has been submitted regarding consents from the EA to infill the reservoir and its associated IDB ditch.. Please provide this so that condition 1.1 and 1.2 can be discharged? N.B. This needs to be submitted now as it is within the phase 2 development area.

MBL Response: Noted. We will resolve this asap.

Kind Regards,

Laura Gibbons, MEng, GMICE  
Engineer (Drainage & Coastal)

**From:** Sean Foley [REDACTED]  
**Sent:** 11 January 2019 07:56  
**To:** Laura Gibbons  
**Cc:** Clark, Robert; Michael Eastham; Edgley, Martin; Adrian Barnley; Steven Lecocq; Fatima Evernden; Tracey Headley-Smith; Alex Wray; Adam Winstone  
**Subject:** RE: Planning Consultation on LU/345/18/DOC

Laura,

Excellent news. Please see below.

Attached is an wetransfer link to the updated drainage report which is circa 70MB with appendices. Therefore I have also attached the text only part of the report.

<https://we.tl/t-4uDxtCmiug>

Regards,

Sean Foley  
01483 750 508

**From:** Laura Gibbons [REDACTED]  
**Sent:** 10 January 2019 16:29  
**To:** Sean Foley <[REDACTED]>  
**Cc:** Clark, Robert <[REDACTED]>; Michael Eastham <[REDACTED]>; Edgley, Martin <[REDACTED]>; Adrian Barnley <[REDACTED]>; Steven Lecocq <[REDACTED]>; Fatima Evernden <[REDACTED]>; Tracey Headley-Smith <[REDACTED]>; Alex Wray <[REDACTED]>; Adam Winstone <[REDACTED]>  
**Subject:** RE: Planning Consultation on LU/345/18/DOC

Hi Sean,

I have reviewed the information you have provided. To summarise what needs to be resolved:

1. There are numerous inconsistencies between plans and calculations regarding cover levels and invert levels of MHs. Please complete a full review and ensure all inconsistencies are removed.

MBL Response: Noted. We have reviewed the model and removed the inconsistencies in Phase 1. We have re-run the simulations and it make negligible difference to the modelled output. The output network details and simulation results take these changes into account

2. There are inconsistencies between impermeable areas on plan and those modelled at points 11, 18 and 22. Please increase the areas in calculations so that they are consistent with those on plan.

MBL Response: Noted.

- Point 11 coincides with PN 31.000: The modelled at this location is 0.358 hectares, which matches the plan. Therefore no discrepancy. No amendment necessary to model
- Point 18 coincides with PN 40.001: The modelled total area at this location is 0.11 hectares, which matches the plan. Therefore no discrepancy. No amendment necessary to model
- Point 22 coincides with PN 37.002: The modelled total at this location is 0.213 hectares, which matches the plan. Therefore no discrepancy. No amendment necessary to model

3. Your summary of the pipe network doesn't show the very top extent of Phase 2. The A0 drawings do not detail pipe diameters in this area

MBL Response: Noted and amended accordingly in Appendices of the updated DOC report. (Appendix H)

4. Updated drainage strategy report to include flows from unrestricted discharge points.

MBL Response: Noted and amended accordingly in Appendices of the updated DOC report. (Appendices L & S)

5. Updated plans with revised storage volumes.

MBL Response: Noted and amended accordingly in Appendices of the updated DOC report. (Appendix L)

Once you have supplied these details and I have reviewed they are correct we will be at a point where all relevant details can be submitted through planning to discharge the condition.

Kind Regards,

Laura Gibbons, MEng, GMICE  
Engineer (Drainage & Coastal)

Laura Gibbons | Engineer (Drainage & Coastal), Engineering Services, Arun District Council | Location: First Floor, Arun Civic Centre,  
Maltravers Road, Littlehampton, BN17 5LF



Save the environment - think before you print.

**From:** Sean Foley

**Sent:** 10 January 2019 12:26

**To:** Laura Gibbons

**Cc:** Clark, Robert; Michael Eastham; Edgley, Martin; Adrian Barnley; Steven Lecocq; Fatima Evernden; Tracey Headley-Smith; Alex Wray; Adam Winstone

**Subject:** RE: Planning Consultation on LU/345/18/DOC

**Importance:** High

Laura,

I call earlier but went to voicemail.

The area currently being developed is Phase 2 and the extent of this RM application within the west of wetlands drainage catchment is on the attached PDF, titled "Phase 2 -- Proposed Layout"

- Phase 2 (Parcel C1, Partial C2, Partial B2, Partial B4) -- Full Drainage details have been supplied in Appendix N (MBL Estate Road layout and details) and Appendix O (MJA Plots or sub-catchment layout and details). MJA have not undertaken detailed drainage modelling (microdrainage) of their sub-catchments because it is unnecessary to do this. MJA have however undertaken the detailed design of the plot drainage within these sub-catchments in accordance with Building Regulations Part H & BS EN 752.
- Bovis site (Parcels B3 & B5) -- RM determined. Constructed. I believe the last correspondence on this is attached and I have extracted the condition 10 information below. The Glanville Appendix I is also attached. The Bovis site is within the purple "Sub-Catchment Outfall B", which has a proposed discharge of 221.7 litres / second. By our estimation Parcels B3/B5 takes up approximately 50% of this sub-catchment areas, which explains the peak allowable discharge of 120 litres / second for the Bovis Site. However, the Glanville drainage strategy has now been superseded by MBL's drainage strategy, which is subject to our ongoing discussions

Condition 10: ADC Engineers have asked for confirmation that the total flow from the site is consistent with the proposed flows calculated in the Glanville Site-wide Surface Water Drainage Outfall Strategy of 19 May 2015, specifically appendix 1. They have suggested an overlay of each phase to be shown on the proposed discharge rate catchment layout, showing it as a proportion of the catchment. The same comment was made in relation to application LU/79/16/DOC and additional information was provided. **Please could the same information be submitted in relation to this DOC application.**

- Parcel A1 – RM determined. Constructed. The RM application was accompanied by the attached surface water drainage strategy report and associated calculations produced by Glanville. The final outfall location has now been superseded by MBL's drainage strategy, which is subject to our ongoing discussions

Hopefully this help is what you are looking for in relation to the catchments. If this is correct I believe you now have all the information you require. Please advise if otherwise.

We will now update the DOC Report to take account of what we've discussed / agreed.

Regards,

Sean Foley

---

**From:** Sean Foley

**Sent:** 09 January 2019 18:20

**To:** 'Laura Gibbons' <[REDACTED]>

**Cc:** Clark, Robert <[REDACTED]>; Michael Eastham <[REDACTED]>;  
Edgley, Martin <[REDACTED]>; Adrian Barnley <[REDACTED]>; Steven  
Lecocq <[REDACTED]>; Fatima Evernden <[REDACTED]>; Tracey Headley-Smith  
<[REDACTED]>; Alex Wray <[REDACTED]>; 'Adam Winstone'

**Subject:** RE: Planning Consultation on LU/345/18/DOC

Laura,

We have already supplied the details for the areas that are currently being developed. Refer to Appendices N to R of the DOC report dated 07/11/2018.

I have also addressed your comments in green below. If possible I'd like to discuss point b below about the "catchment plan". Before we embark on providing this I'd like to understand exactly what you require

Regards,

Sean

---

**From:** Laura Gibbons <[REDACTED]>

**Sent:** 09 January 2019 16:14

**To:** Sean Foley <[REDACTED]>

**Cc:** Clark, Robert <[REDACTED]>; Michael Eastham <[REDACTED]>;  
Edgley, Martin <[REDACTED]>; Adrian Barnley <[REDACTED]>; Steven  
Lecocq <[REDACTED]>; Fatima Evernden <[REDACTED]>; Tracey Headley-Smith  
<[REDACTED]>; Alex Wray <[REDACTED]>

**Subject:** RE: Planning Consultation on LU/345/18/DOC

Sean,

I think there is some confusion regarding the level of detail I require. I require full drainage details of the areas which are currently being developed without pre-commencement conditions having been discharged. Without this there is

a continued breach of the planning permission and a Temporary Stop Notice will be served. I will require this level of detail for each future parcel and their respective DOC application prior to commencement.

I have provided some comments below in blue. I would like to complete my next review when all details are provided, rather than taking a piecemeal approach which is not time effective.

Look forward to receiving the necessary details.

Kind Regards,

Laura Gibbons, MEng, GMICE  
Engineer (Drainage & Coastal)

Laura Gibbons | Engineer (Drainage & Coastal), Engineering Services, Arun District Council | Location: First Floor, Arun Civic Centre, Maltravers Road, Littlehampton, BN17 5LF

---

**From:** Sean Foley [REDACTED]  
**Sent:** 09 January 2019 15:01  
**To:** Laura Gibbons  
**Cc:** Clark, Robert; Michael Eastham; Edgley, Martin; Adrian Barnley; Steven Lecocq; Fatima Evernden; Tracey Headley-Smith; Alex Wray  
**Subject:** RE: Planning Consultation on LU/345/18/DOC  
**Importance:** High

Laura,

Thanks. Please see below in red.

With the recent correspondence and attached in mind we have absolute confidence that the proposed surface water network is fit for purpose:

- Peak rate of discharge is a significant improvement when compared to the pre-demolition figure
- There is sufficient storage volume on site to cater for the critical 1in00yr+CC storm event, even with a fully surcharged outfall
- There is no flooding for the 1in30yr event with a fully surcharge outfall
- In the unlikely event the surface water is overwhelmed by a storm event in excess 1in100yr, or the outfall/pipe experience a blockage the resulting floodwater can flow safely within the road network into the wetlands leaving the new properties unaffected

Regards,

Sean Foley  
Principal Engineer  
Mayer Brown Ltd  
[REDACTED]

---

**From:** Laura Gibbons [REDACTED]  
**Sent:** 09 January 2019 11:23  
**To:** Sean Foley [REDACTED]  
**Cc:** Clark, Robert [REDACTED]; Michael Eastham [REDACTED];  
Edgley, Martin <[REDACTED]>; Adrian Barnley [REDACTED]; Steven  
Lecocq [REDACTED]; Fatima Evernden [REDACTED]; Tracey Headley-Smith

Hi Sean,

I have now managed to complete a more detailed review of the proposals. As we are now a few comments and responses in, I have just started a new comments list (alphabetically referenced), any points which cross over to old points are cross referenced.

- a) (3+6) The storage structures (which are not porous paving) are inconsistent between calculations and plans. With the storage volumes provided in calculations all being greater than those on plan. Please update calculations or drawings so that they match up. Compliance with this on site will need to be checked.

MBL Response:

- The only storage structure that needs to be accurate is the large one underneath the car park because this is subject to the RM application for Phase 2 and provides most of the storage for the drainage network. This has been modelled accurately. This has not been modelled accurately, volumes are incorrect as are invert levels. MBL: The large tank you are referring to is located at PN 24.010. The invert level of the tank in the drawing is 1.70m, and is 1.71m in the model. Apart from this 10mm difference the large tank has been modelled correctly. The tank dimensions of 50m x 21m x 1.5m are the same in the drawing and in the model. We will not change the model and will change the number on the drawing. I'd be grateful
- The other modelled storage structures in the future development plots are indicative and have not been subject to a detailed design. The layout of these sites are not even agreed yet, never mind a detailed drainage design and associated tank dimensions and, as such, the volumes of the tanks are indicative only. The most important piece of information is the peak allowable discharge rate from each of the plots. The follow on RM applications for each of the plots will then provide accurate drainage designs and you will have an opportunity to scrutinise these as they accompany the future applications. I need to see that the modelled details match up with those on plan. When detailed design of the future stages occurs logically they would start by looking at the storage volumes outlined on the plans you are creating. Please update the plans. MBL: Noted and we will do this so the modelled tank dimensions match the plan.

- b) (5) Please provide a catchment area plan for the detailed persimmons parcels, and the time area details for these in a MicroDrainage printout.

MBL Response:

- We don't have a catchment area plan for the detailed persimmon parcels. We have however added the modelled areas to the plan (see point C below), which also shows how far back the model extends into each sub-catchment. You need to fully detail the catchments for the persimmons land where development has already started. MBL: Can we discuss on the phone please in the morning
- On 20<sup>th</sup> December we explained that we enhanced our micro drainage model so it picks up the individual pots areas / sub catchments identified as Points 1 to 23. We have not extended the model to include the surface water pipes within each sub-catchment. The drainage networks within the 23 sub-catchments are made up with a combination of 100dia, 150dia and 225dia pipes, which are expected for small catchments. Each of these mini catchments have already been designed MJA Consulting and we have 100% confidence that the pipes within these catchments are sized correctly / adequately. I need evidence that the design of the networks is sufficient within the parcels where development is occurring. This level of detail will be required for each subsequent DOC application. MBL: Can we discuss on the phone please in the morning
- We did not feed the areas onto the sub catchment nodes using a time area hydrograph. For example on PN22.000 we added the 710m2 impermeable area as one hit and the time of entry is 2 minutes. I will review this information against the plan provided.

- c) Please provide pipe details on a MicroDrainage printout (list) so that I can review the MicroDrainage model.

MBL Response:

- Please find attached the network details the pipeline schedules for the drainage network. Thank you, I will review this in due course.
- The plan showing pipe numbers is attached again and we have added the hardstanding areas from each of the sub-catchments and the MJA drainage plot networks (as a reminder MJA completed the sub-catchment drainage designs)

- d) (9) Without a flat sub base to permeable areas the water will pool at the lower points, and breach the surface at these points. I would like to either see: slopes modelled in the MicroDrainage inputs (i.e. take account of the 300mm difference in elevation over the relevant distances); or cover levels reduced to the lowest cover elevation within each permeable area. I believe this will result in considerably more flooding,

and therefore evidence the requirement for either a flat sub base to provide greater depths of stone in some areas, or check dams being provided.

MBL Response:

- The permeable sub-base does not need to be laid to be effective. The water will inevitably pool at the low points within the road network and come out of the gullies at these locations. There is 260mm of tarmac above the sub-base stone so when the water comes out of the gullies at the low point almost all the storage volume in the open graded stone will be utilised.
- We have updated the model and added a sloped invert to the sub-base. We have also changed the cover levels at the sub-base nodes ( permeable subbase nodes 04 & 05) because these coincide with the gully locations
- Modelling the slope sub-base has a negligible difference when compared to the previous results. The 240minute duration event is still the critical storm:
  - PN8.001/8.002 decreases from 7.6m<sup>3</sup> to 3.9m<sup>3</sup>
  - PN14.002 increases from 22.4m<sup>3</sup> to 23.50m<sup>3</sup>
  - PN1.014/PN1.015 increases from 4.7m<sup>3</sup> to 9.5m<sup>3</sup> I will review this in due course.

e) (12) I am happy for all free discharge rates to be provided on plan and within the report for the 1 in 1 year event, 1 in 30 year and 1 in 100 year plus cc.

MBL Response:

- Thanks, we will add these figures to the report and the drawing.

Kind Regards,

Laura Gibbons, MEng, GMICE  
Engineer (Drainage & Coastal)

Laura Gibbons | Engineer (Drainage & Coastal), Engineering Services, [Arun District Council](#) | Location: First Floor, Arun Civic Centre, Maltravers Road, Littlehampton, BN17 5LF



Save the environment - think before you print

---

**From:** Sean Foley [<mailto:sfoley@mayerbrown.co.uk>]

**Sent:** 08 January 2019 13:13

**To:** Laura Gibbons

**Cc:** Clark, Robert; Michael Eastham; Edgley, Martin; Adrian Barnley; Steven Lecocq; Fatima Evernden; Tracey Headley-Smith; Alex Wray

**Subject:** RE: Planning Consultation on LU/345/18/DOC

**Importance:** High

Laura,

Regarding point 3 below:

Please find attached the phase 2 drainage composite plan. I've sent you the phase 2 information because this is the area that has been designed to a construction standard level of detail.

(The layouts are still being developed for extension of parcels C2 and B2, denotes as unrestricted discharge points 6, 7, 12 & 13)

These A0 plans at 1:250 scale include:

- Finished Road Levels
- House finished floor level
- Proposed levels in parking courts and driveways
- Location of permeable sub-base
- Surface Water sewer and associated invert and cover levels
- Windes Pipe numbers that can be read in conjunction with the supplied Windes simulation results

The only information missing is the formation level of the permeable sub-base. See point 9 below

Regarding point 9 below:

The finished road surface down around this low area of the site ranges generally from 3.8m to 4.1m (apart from in front of plots 64 & 65 where it drops to 3.6m). This is because these properties 61 to 100 are on a relatively flat earthworks platform. The roads cannot be laid flat so we designed crests and sags in order to introduce falls to gullies. The low points are generally 3.8m and the high points are generally 4.1m.

The formation level of the sub base is not constant flat level, and it mirrors the finished surface. The formation level is approximately 720mm below the surface (260mm tarmac over 460mm open graded stone). We have modelled the formation level of the sub-base at 3.08m AOD and allowed for 460mm depth of storage. For your peace of mind we have also just run some figures with the formation level modelled 170mm higher at 3.25 (conservative approach), so in theory the storage becomes effective later in the storm. The volume of flooding increase slightly but not by a significant amount (Attached are the results)

- PN14.002 increases from 22.4m<sup>3</sup> to 27.50
- PN1.014 increases from 4.7m<sup>3</sup> to 9.9m<sup>3</sup>

I hope this is acceptable

Regards,

Sean Foley  
Principal Engineer  
Mayer Brown Ltd

---

**From:** Sean Foley

**Sent:** 07 January 2019 17:30

**To:** 'Laura Gibbons' <Laura.Gibbons@arun.gov.uk>

**Cc:** Clark, Robert <[REDACTED]>; Michael Eastham <[REDACTED]>; Steven Edgley, Martin <[REDACTED]>; Fatima Evernden <[REDACTED]>; Tracey Headley-Smith <[REDACTED]>; Lecocq <[REDACTED]>; Alex Wray <[REDACTED]>

**Subject:** RE: Planning Consultation on LU/345/18/DOC

Laura,

Thanks,

Regarding point 10 below, please find attached the free discharge rates from the plots areas. Apologies for not attaching this to my previous e-mail.

Regarding point 12, are we supposed to add the critical 1in1, 1in30 & 1in100yr discharges rate at each of the 23 nodes. Both on the drawing and within the report?

I'll get back to you asap on point 3. We did not have the latest dwg files from MJA previously that contained plot levels and FFLs. We have these now so will be able to produce a composite plan

Regards,

Sean

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**From:** Laura Gibbons <[REDACTED]>

**Sent:** 07 January 2019 16:31

**To:** Sean Foley [REDACTED]  
**Cc:** Clark, Robert [REDACTED]; Michael Eastham <Michael.Eastham@arundistrictcouncil.gov.uk>; Edgley, Martin [REDACTED]; Adrian Barnley [REDACTED]; Steven Lecocq [REDACTED]; Fatima Evernden [REDACTED]; Tracey Headley-Smith [REDACTED]; Alex Wray [REDACTED]  
**Subject:** RE: Planning Consultation on LU/345/18/DOC

Hi Sean,

Thanks for your email. Just to clarify after we have agreed the drainage details between us they will need to be submitted formally to the planners.

I have provided comments below in purple. Please give me a call if you have any queries.

Kind Regards,

Laura Gibbons, MEng, GMICE  
Engineer (Drainage & Coastal)

Laura Gibbons | Engineer (Drainage & Coastal), Engineering Services, Arun District Council | Location: First Floor, Arun Civic Centre, Maltravers Road, Littlehampton, BN17 5LF

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**From:** Sean Foley [REDACTED]  
**Sent:** 04 January 2019 15:38  
**To:** Laura Gibbons  
**Cc:** Clark, Robert; Michael Eastham; Edgley, Martin; Adrian Barnley; Steven Lecocq; Fatima Evernden; Tracey Headley-Smith; Alex Wray  
**Subject:** RE: Planning Consultation on LU/345/18/DOC  
**Importance:** High

Hi Laura,

Happy new year and I hope you had a good break,

I also hope you agree we're in a pretty good position in relation to the surface water drainage design and the responses below in red, with associated attachments, will enable Condition 10 to be discharged.

Whilst reading the response below please note we have updated our Windes model so it now includes the permeable sub-base. See image below where we've added new nodes and modelled is as a "porous car park" (function within the programme) where the storage within 30% voids of the granular sub-base is recognised. We have distributed it as evenly as possible across the areas where the granular sub-base is located. The addition improves the results significantly and the total flooding volume for the fully surcharged critical 1in100yr+CC storm is now only 35m<sup>3</sup> (spread across 4 different locations) that can safely be contained within the site.

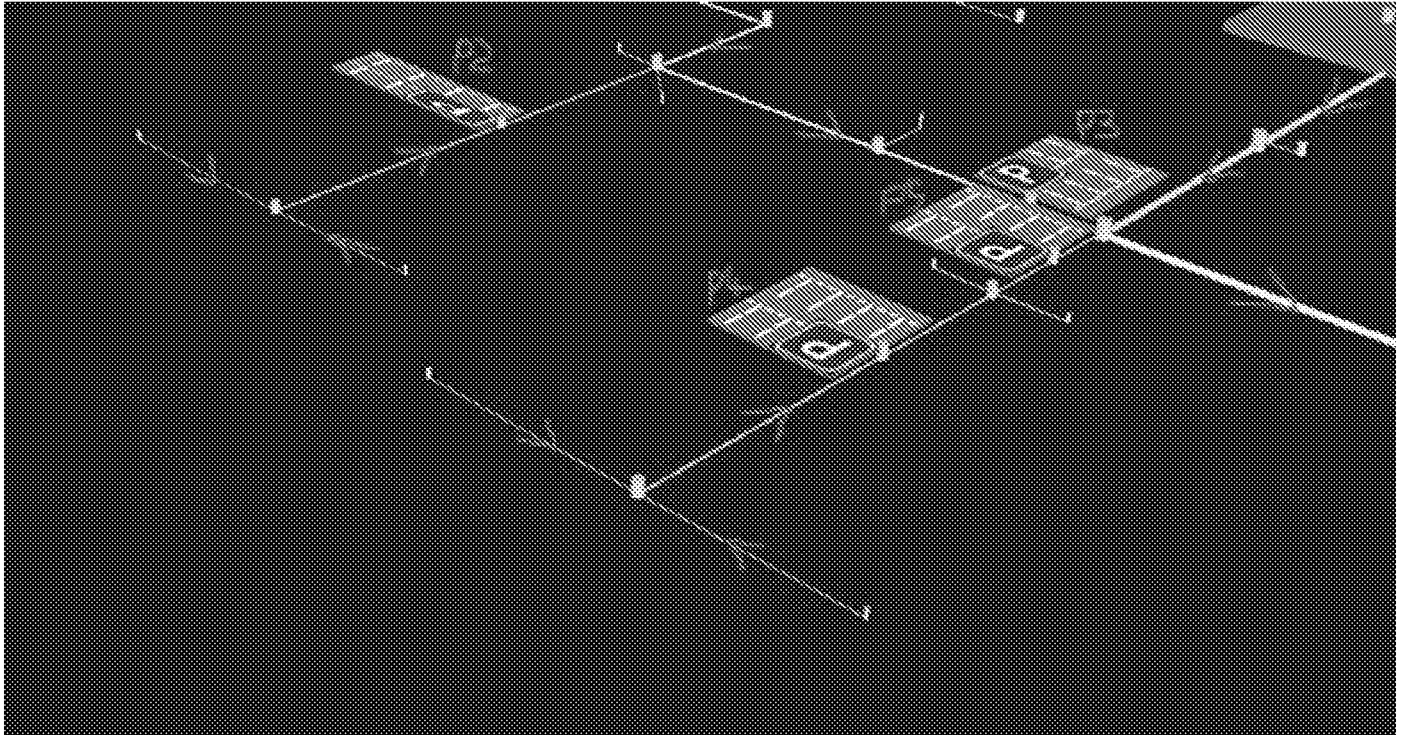
We're confident this will answer your questions, but if not we would be happy to meet you early next week if you feel this would be beneficial. Or alternatively, we're happy to discuss over the phone

I look forward to your response.

Regards,

Sean Foley

Image below: Shows the locations of the permeable sub-base within the Windes model..



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**From:** Laura Gibbons [REDACTED]  
**Sent:** 21 December 2018 15:21  
**To:** Sean Foley [REDACTED]  
**Cc:** Clark, Robert [REDACTED]; Michael Eastham [REDACTED]  
Edgley, Martin [REDACTED]; Adrian Barnley [REDACTED]; Steven  
Lecocq [REDACTED]; Fatima Evernden [REDACTED]; Tracey Headley-Smith  
[REDACTED]; Alex Wray <[REDACTED]>  
**Subject:** RE: Planning Consultation on LU/345/18/DOC

Hi Sean,

Thanks for sending me that information. I have the following comments/ queries:

Surcharged outfall simulations

1. Can you please send me the FRA/ modelling report from PBA? I can access an FRA from PBA but it does not detail revised flood levels. Asking for this information from the EA will take quite some time (21 days even for us).

MBL Response:

- We have obtained the EA Product 4 form PBA. It is quite large to the following is a wetransfer link to the zip file: <https://we.tl/t-LIBEpKEWou> okay.
2. If you could also send me the critical storm summary for the 1 in 100year plus climate change allowance surcharged outfall event.

MBL Response:

- Attached is the critical storm summary for the 1in100yr+CC event. The critical storm down at the low end of the catchment where the surface flooding occurs is the 240 minute storm. I will review this once point 3 is resolved.
3. Can I please see a plan showing FFLs (including garages) and the drainage layout on the same drawings, with references to MicroDrainage PN included. Please also indicate kerb levels in the areas of flooding on this drawing.

MBL Response:

- Please find attached the MJA drawings that show the proposed road contours and the building floor levels. We have also identified where the critical 1 in 100yr flooding occurs on the levels plan. I need to see FFLs, finish, and formation levels of permeable paving, kerb levels, drainage network details including PN on the same plan. I do not believe this to be too onerous an ask. Without this my review is very slow and errors can easily be missed. Drawings need to be of a standard that can easily be interpreted, i.e. construction issue quality.
4. Can you please explain the water levels shown on the road cross section, is this just the MicroDrainage level from a specific location (not taking account of the sub base)?

MBL Response:

- Please ignore this. We added this to the drawing last year in order to get an approximation of flood levels within the system, which did not take into account the storage volume of the sub-base. I have removed the information from the drawing and re-issued. See point 7 below. Okay.
5. There is currently a small volume of flooding in the 30 year event simulation, please provide storage/ change pipe sizes to remove this.

MBL Response:

- The simulated flood volume was 0.2m<sup>3</sup> for the high intensity 15 minute storm. The addition of the permeable sub-base and adjustment of the hardstanding area has removed this flooding and attached are the revised 1 in 30yr simulation results please can you provide me with an updated catchment area plan.
6. 250mm depth of water is not insubstantial and vehicular movements could result in bow waves and flooding to properties. Therefore, we want to see evidence the vast majority of water is actually stored within the sub base.

MBL Response:

- The addition of the permeable sub-base to the micro drainage model has decreased the flood volume significantly. The simulated volume in front of plots 83/84 & 90/91 has now been reduced from 58m<sup>3</sup> to 22.4m<sup>3</sup>. This is a large open area if approximately 1200m<sup>2</sup> and 22.4m<sup>3</sup> could easily be accommodated within this space (20mm depth of water over a space of 1,200m<sup>2</sup> works out at approximately to 24m<sup>3</sup>). I will review this upon completion of point 3.
  - The 250mm depth of water would only occur if a complete blockage / failure of the drainage network occurred in this specific area in front of plots 83/84 & 90/91. Okay.
7. Please can you provide detail on finish and formation level of roads on the same plans as requested in point 3 above.

MBL Response:

- The type of road make-up and finishes are on the attached drawings, which also show the location of the permeable sub-base.
  - The formation level of the roads is based upon the attached drawing that show the road make-up. The depth of the open graded stone is generally 460mm and is located just below the tarmac layers. See point 3.
8. Please also clearly indicate on a plan which roads will have a permeable subbase.

MBL Response:

- The location of the permeable sub-base is also on the road build-up and finishes drawing. (See point 7 above) See point 3
9. Please can you model the permeable sub base roads to demonstrate if the flooded volume can be stored. Check dams etc. may need to be provided.

MBL Response:

- We have added the permeable sub-base to the micro drainage model so the storage within the open graded sub-base is now included. There is no need to include check dams because the volume of the sub-base is utilised / required for the long duration. The site does slope, is subbase of all permeable subbases to be laid flat? Clarification and details of this under point 3 will be required. I will complete a full review of the calculations once point 3 is provided.

## Free Discharge Rates

10. For information can you please supply the critical flow rates (critical storm may vary per catchment).

MBL Response:

- Critical Flow rates for the sub-catchment are now attached I cannot see these, can you resend and tell me the file name.

11. On the summary of discharges for plot areas you have got different (greater in some locations) flooded volumes to those provided in the surcharged outfall simulations. Please can you explain this discrepancy.

MBL Response:

- This is because we provided the summary for discharges for plot areas before we added a surcharged outfall. The latest attached figures now include for a surcharged outfall.
- All results provided are now based upon a surcharged outfall, apart from one which is the 1in100+CC 240min and is titled accordingly as "unsurcharged".

12. Please confirm parcel ownerships for the areas with free discharges.

MBL Response:

- Persimmon Homes Thames Valley own all of the parcels where free discharges into the main network are proposed. Okay, I would like to see the surface water drainage strategy updated to reference (maybe in an appendix) the critical flows from each of the free discharge parcels. The main document itself must also reference the criticality of the network design within these regions.

Please note I am on leave from 4pm this afternoon until 2<sup>nd</sup> January.

Kind Regards,

Laura Gibbons, MEng, GMICE  
Engineer (Drainage & Coastal)

Laura Gibbons | Engineer (Drainage & Coastal), Engineering Services, Arun District Council | Location: First Floor, Arun Civic Centre, Maltravers Road, Littlehampton, BN17 5LF

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**From:** Sean Foley [REDACTED]

**Sent:** 21 December 2018 11:37

**To:** Laura Gibbons

**Cc:** Clark, Robert; Michael Eastham; Edgley, Martin; Adrian Barnley; Steven Lecocq; Fatima Evernden; Tracey Headley-Smith; Alex Wray

**Subject:** RE: Planning Consultation on LU/345/18/DOC

Laura,

Good news. I had a very useful conversation with PBA yesterday afternoon, the flood risk consultants on the project, who have undertaken the flood compensation analysis for the new residential platforms that extend into the wetland. It turns out the flood level in the wetlands is much lower than we thought so the simulated flood volume resulting from a surcharged outfall reduces significantly.

#### **Revised Flood Level in Wetlands**

PBA confirmed we were using an out of date flood levels in the wetland, which accompanied the outline application. The EA have updated their flood model (post outline submission) and the modelled flood levels in the wetlands are as follows:

- 1in1000yr Flood Level: 2.38m AOD
- 1in100yr+20%CC Flood level: Ranges 1.72m to 1.83m AOD
- 1in75yr Flood Level: Ranges 1.56m to 1.72m AOD
- 1in20yr flood level: Ranges 1.49m to 1.59m AOD

This represents a significant reduction when compared old flood levels:

- Superseded 1in100yr flood level: 3.23m AOD
- Current 1in100yr flood level: 1.80m AOD
- **1.43m lower**

### **Revised Surcharged Outfall Simulation**

With the above in mind we have applied a surcharged outfall to our micro-drainage model. A 1in100yr flood level in the wetlands of 1.8m AOD by the outfall will result in the outfall (@ 1.0m AOD) being surcharged by approximately 0.8m. There will be a flap valve on the final headwall to ensure this floodwater will not back up into the drainage network but in this scenario the drainage network can't push open the flap valve until the water level within the site goes above the flood level in the wetlands. Below is an image we have taken from our micro-drainage model where a constant surcharge of 0.8m has been applied.

### **Critical Storm**

Windes allows us to simulate a range of storm events from short duration very intensity events (15min or 30min storms) and much longer low intensity rainfall events (24hrs). A 30 minute duration storm for this site has an average intensity of 57mm/hr. This intensity of storm would be used to size the pipes and other drainage elements for conveyance purposes. A longer 480 minute duration storm has an average intensity of only 8mm/hr (figures obtained from simulated results). However, the 480 minute storm lasts 16 times longer, therefore generating a much greater volume of water and would be used to size the attenuation. The critical storm for this scenario of a surcharge outfall is the 240 minute storm (4 hour storm).

It is worth noting that flooding in the wetlands is effected by the tide so it is unlikely this flood depth of 1.8m AOD will remain constant, and is the peak flood level. It takes approximately 6 hours for the high tide level to go to low tide level so in theory the flood level is likely to subside when this is read in conjunction with the 4 hour critical storm. However, we have taken a conservative approach and simulated a constant surcharged depth of 0.8m for the entire duration of the 4 hour critical storm

### **Flood Mechanism for surcharged outfall**

The 1in100yr+cc 240min storm will generate a low intensity but large volume of water that will drain to the bottom of the network by the outfall. It cannot escape immediately because the flap valve on the outfall would be kept shut by the 1in100yr flood water in the wetlands. The drainage network will start to fill up and on-site water will eventually push open the flap valve. However, on-site storage has been used within this filling up period and, as such, flooding is simulated on site for this critical 4 hour storm. The drainage network at the low end of the site will eventually fill up entirely and flood water would start to escape out of the gullies located at the low points of the roads.

The low points where the flood water will escape from the network, for the 240minute storm, has been highlighted on the attached. The total combined volume across these points for the surcharged outfall is 182m<sup>3</sup>. This floodwater would follow the exceedance flow route in the channels of the road as shown on the attached appendix N. It would flow in the channel of the roads and would not affect the properties.

The flood depth and velocity in the channel will be low and it is expected that most of the footpaths would still be usable. The maximum depth of flood would occur in front of plots 83/84 & 90/91. The flood water would rise to a maximum level depth of 250mm (low point gullies @ 3.8, spill level of adjacent road table 4.05m) before it flow north along the road and into the wetlands. The flood water in this areas would also be stationary (zero velocity)

### **Permeable Sub-base Road**

There are also permeable sub-base roads located in these low / gully areas. Also identified on the attached pan. This open graded sub-base in the roads has the ability to store water within the voids

The total area of carriageway with permeable sub-base is 1,300m<sup>2</sup>. Based upon the design depth of 460mm open graded sub-base with a void ratio of 30% the volume of storage within these carriageways is approximately 180m<sup>3</sup>. (Note: it is a coincidence that it matches the surcharged flood volume above)

The permeable sub-base has not been modelled in the drainage network because we've designed it primarily for treatment purposes, but in reality it will have the ability to store water. So in theory it removes the surcharged 1in100yrCC flooding

### **1in30yr Storm with Surcharged Outfall**

The reduced flood level in the wetlands also has the added benefit of removing the flooding for the 1in30yr storm event. Attached are the results.

### **Flood Compensation – Wetlands**

While speaking with PBA yesterday afternoon they informed us that their flood compensation analysis for the wetlands is currently resulting in 500m<sup>3</sup> surplus volume for the 1in1000yr analysis. Therefore, spilling floodwater into the wetlands for the extremely rare event of a fully surcharged outfall coinciding with the critical 1in100yr storm event will not have negative impact on downstream or surrounding properties.

### **Conclusion**

With the above and attached in mind we have absolute confidence that the proposed surface water network is fit for purpose:

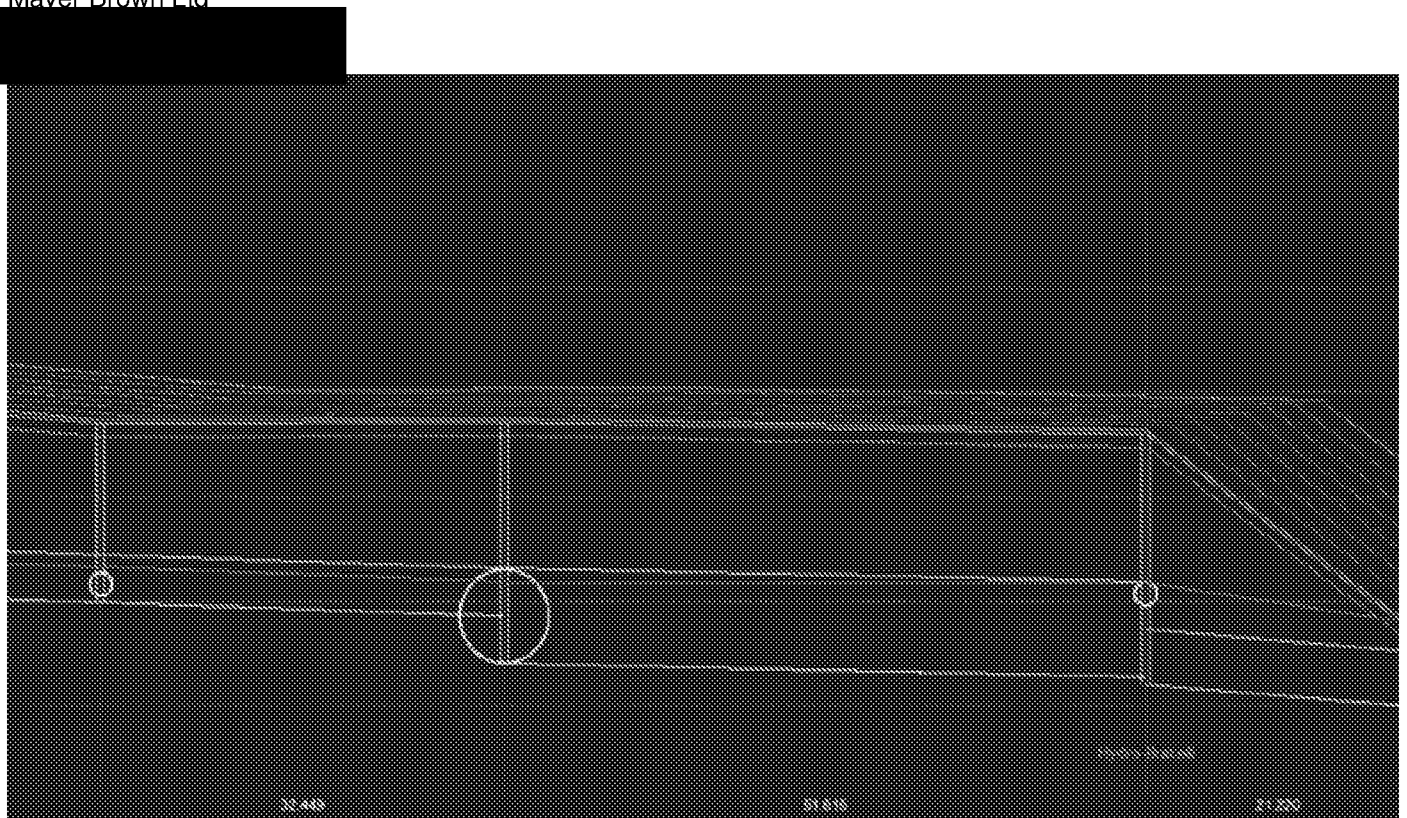
- Peak rate of discharge is a significant improvement when compared to the pre-demolition figure
- There is sufficient storage volume on site to cater for the 1in00yr+CC storm event, even with a fully surcharged outfall
- There is no flooding for the 1in30yr event with a fully surcharge outfall
- In the unlikely event the surface water is overwhelmed by a storm event in excess 1in100yr, or the outfall/pipe experience a blockage the resulting floodwater can flow safely within the road network into the wetlands leaving the new properties unaffected

I hope the above and attached provide sufficient information to facilitate the discharge Condition 10. We would be happy to meet you in the first week to January if you feel this would be beneficial. Or alternatively, we're happy to discuss over the phone

I look forward to your response

Regards,

Sean Foley  
Principal Engineer  
Mayer Brown Ltd



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**From:** Sean Foley

**Sent:** 20 December 2018 16:18

**To:** 'Laura Gibbons'; [REDACTED]

**Cc:** Clark, Robert; [REDACTED]; Michael Eastham; [REDACTED];  
Edgley, Martin <[REDACTED]>; Adrian Barnley; [REDACTED]; Steven  
Lecocq <[REDACTED]>; Fatima Evernden; [REDACTED]; Tracey Headley-Smith  
[REDACTED]

**Subject:** RE: Planning Consultation on LU/345/18/DOC

Laura,

As requested, we have enhanced / increased the microdrainage model so it picks up the individual pots areas / sub catchments. The most notable changes are new branches at points 2, 6, 7, 12, 13, 20 & 21. We have then re-distributed the impermeable areas.

With the above in mind, attached is the following:

- Plans showing 23 different locations / sub-catchments within Parcels B2, Partial B4, C1, C2 & S4. The sub catchment are all feeding into the main carrier sewer as it passes through the site
- Flow rates for the 23 location for the 1in1, 1in30 & 1in100yr return period. We chose the relatively high intensity storm duration of 30 minutes.

Hopefully this information is what you are expecting to receive.

We wish to avoid installing hydro-brakes within each of these sub-catchments because the downstream receiving sewers have already been designed to receive the run-off from each of the sub-catchments. The downstream attenuation volume and final restricted flow into the black ditch have been designed with a free discharge from the sub-catchments. Therefore, free discharges from the sub-catchments into the downstream sewer will not increase the flood risk downstream

Apologies for my piecemeal response, but we're feed the modelling information through to you as I complete it.

Regards,

Sean Foley  
Principal Engineer  
Mayer Brown Ltd  
[REDACTED]

---

**From:** Laura Gibbons [REDACTED]  
**Sent:** 19 December 2018 12:30  
**To:** Sean Foley [REDACTED]  
**Cc:** Clark, Robert [REDACTED]; Michael Eastham [REDACTED];  
Edgley, Martin [REDACTED]; Adrian Barnley [REDACTED]; Steven  
Lecocq [REDACTED]; Fatima Evernden [REDACTED]; Tracey Headley-Smith  
[REDACTED]  
**Subject:** RE: Planning Consultation on LU/345/18/DOC

Hi Sean,

Thanks for the prompt response.

I am very concerned by the fact that the surcharged outfall scenario results indicate that significant flooding would occur and furthermore I do not believe the joint probability of a rainfall event and tidal event occurring are infinitesimally small. DEFRA research indicates that typically the south coast has a modest correlation between the two. Obviously catchment factors vary this, with some catchments on the south coast having a far greater correlation. I could go into more detail on this, but it really is opening a big can of worms and having done some joint probability analysis in the past I know it isn't a small task. I also believe that flooding will occur for lower probability events.

The important thing is that WSCC policy states that the 1 in 100 year plus climate change event must be contained on site/ not increase flood risk elsewhere. You need to demonstrate that allowing 1750m3 to overflow through the development wouldn't increase flood risk elsewhere. You will also need to demonstrate to me that flood depths and velocities on site are safe.

Furthermore, WSCC policy requires no flooding for the 1 in 30 year plus climate change event, please model this event with a surcharged outfall and ensure that surface water drainage design is modified to provide the required storage to ensure no flooding.

Regarding condition 11, until I have seen consent for the infilling I am not willing to recommend the discharge of this condition.

Kind Regards,

Laura Gibbons, MEng, GMICE  
Engineer (Drainage & Coastal)

Laura Gibbons | Engineer (Drainage & Coastal), Engineering Services, Arun District Council | Location: First Floor, Arun Civic Centre,  
Maltravers Road, Littlehampton, BN17 5LF

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**From:** Sean Foley [REDACTED]  
**Sent:** 18 December 2018 16:09  
**To:** Laura Gibbons  
**Cc:** Clark, Robert; Michael Eastham; Edgley, Martin; Adrian Barnley; Steven Lecocq  
**Subject:** RE: Planning Consultation on LU/345/18/DOC

Laura,

Thanks for your response. I'll come back to you asap on the hydro-brake / modelling issue.

I can however provide a response on the surcharged outfall scenario, which is covered in paragraphs 2.42 to 2.46 of the submitted DOC report (text attached), under the section titled "*Exceedence Flows and Surcharged Outfall*"

We had lengthy discussions earlier this year with Mark Akmenkalns (MA), the Drainage Engineer at West Sussex County Council. The correspondence is contained in Appendix F of the DOC drainage report (attached). A number of issues were addressed including a situation whereby the outfall could potentially be surcharged by the flood water in the Black Ditch. We simulated the surcharged scenario and it ended up with a large volume of flood water escaping from the drainage network. Therefore, It was agreed with WSCC that it is not reasonable keep this flood water on site and the resulting flood water will flow safely through the road network and eventually into the wetlands, as shown in Appendix H.

#### **Condition 11 & 12**

We have analysed the wording of these conditions again and perhaps there is some misunderstanding about the specific requirements contained therein.

- Condition 11 – Refers to arrangements for future access to and maintenance of any watercourse or culvert. Section 3 of the DOC report provides clarification that there will no longer be any existing watercourses or ditches within this section of the development, West of Wetlands, that will require future access for maintenance. Therefore, arrangements for future access are not required for the areas to the West of the Wetlands. The final headwall at Outfall location B that discharges into existing ditch will be maintained by a Management Company organised by Persimmon Homes. The headwall is located adjacent an estate road turning head so will be easily accessible.
- Condition 12 – Refers to consents for any works effecting watercourses.
  - Outfall B: A nominal length of existing ditch is to be filled in to facilitate the construction of the new 525mm diameter outfall pipe and the new headwall. The 525mm diameter outfall pipe and associated headwall are described / included in the Flood Defence Consent for Outfall B. Therefore, we believe existing flood defence consent for Outfall B should be sufficient for works affecting this particular ditch
  - Lagoon and Overflow ditch: Regarding the irrigation lagoon and overflow ditch, we will find out if a specific application has been submitted to fill this ditch in. If not we will organise for one to be submitted asap.

We will get back to you asap about the hydro-brake / modelling issue

Regards,

Sean Foley  
[REDACTED]

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**From:** Laura Gibbons [REDACTED]

**Sent:** 18 December 2018 13:29

**To:** Sean Foley [REDACTED]

**Cc:** Clark, Robert [REDACTED]; Michael Eastham [REDACTED]  
Edgley, Martin [REDACTED] Adrian Barnley <[REDACTED]>; Steven  
Lecocq [REDACTED]

**Subject:** RE: Planning Consultation on LU/345/18/DOC

Sean,

Thanks for the email.

Condition 10

I have attached a plan, with alterations to the required hydrobrake locations crossed out. This reduces the number to 17 by utilising hydrobrakes within slightly more main sewers, this is just an option. However, I do feel that if we were looking at this from scratch we could have reduced this number down further. In my opinion there is insufficient argument to not reduce the number of hydrobrakes/ construct them.

Within the model you have what are the flow rates you have coming from each of the 26 locations?

I am unwilling to accept the surface water drainage proposals without further information regarding detailed network modelling or installing the required hydrobrakes.

Furthermore, you need to be submitting MicroDrainage results from models with the outfall to the black ditch surcharged to the 1 in 100 year plus climate change flood levels. Ensuring that the surface water drainage network can cope with this event. N.B. This was one of the reasons for refusal given on the decision notice.

Condition 11

I look forward to receiving further information on this.

Condition 12

As you stated in your response below regarding condition 11 you are infilling a ditch. I therefore, I await confirmation from you as to whether consent has been obtained for this.

Kind Regards,

Laura Gibbons, MEng, GMICE  
Engineer (Drainage & Coastal)

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Laura Gibbons | Engineer (Drainage & Coastal), Engineering Services, Arun District Council | Location: First Floor, Arun Civic Centre,  
Maltravers Road, Littlehampton, BN17 5LF

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**From:** Sean Foley [REDACTED]

**Sent:** 13 December 2018 13:06

**To:** Laura Gibbons  
**Cc:** Clark, Robert; Michael Eastham; Edgley, Martin; Adrian Barnley; Steven Lecocq  
**Subject:** RE: Planning Consultation on LU/345/18/DOC

Dear Laura,

Thank you for your comments below. Following your initial response our subsequent / updated report (dated 7<sup>th</sup> November) we did take your comments into account where we believed they were appropriate. (We certainly do not wish to give the impression we've ignored these and apologies if this is how it seems)

The paragraphs where amendments were made are highlighted in yellow on the attached DOC report\_07.11.2018\_Text only

#### Condition 10 – Surface Water Drainage Discharge Rates (pre-demolition & proposed)

In the surface water Condition 10 Section:

- We have amended paragraphs 2.14 to 2.16 and 2.23 that cover the pre-development and post development discharge rates.
- We have 2.62 & 2.68 that deals with infiltration within the individual parcels

#### Restricted Discharges from Parcels

When we met a few months ago you requested that individual parcels are assigned a specific discharge rates. However there are a number of parcels where it is not practicable to achieve this.

Following our meeting we endeavoured to figure out a solution by analysing the micro drainage model but it is almost impossible to assign a specific rate unless individual controls are applied. We have highlighted on the attached pdf where these individual controls would be required before it discharges into the main carrier sewers. A total of 26 controls would be needed, and where controls are applied we then need to potentially add some upstream attenuation.

I believe you accept it is not practicable to apply 26 individual controls, but you requested us to justify the approach by creating individual micro drainage models for each location. We believe creating 26 individual micro drainage models would prove to be a superfluous exercise. The drainage networks within the 26 mini catchments are made up with a combination of 100dia, 150dia and 225dia pipes, which are expected for small catchments of no more than 1,000m2. Each of these mini catchments have already been designed MJA Consulting (contained in Appendix O) and we 100% confidence that the pipes within these catchments are sized correctly / adequately and creating an individual model for each one is not a task we would normally undertake.

Modelling the main drainage runs and laterals is absolutely required and we have already created a large and pretty comprehensive microdrainage model of the drainage network that takes into account the drainage areas from each of these 26 locations.

With the above in mind we hope you agree that we do not need to assign specific discharge rates to the parcels in phase 2, which are listed in paragraph 2.26 of the updated report (including B2). Plus, there is no need to undertake additional modelling for the 26 individual catchments.

#### Condition 11 – Existing Watercourses & Culverts

The only watercourse and ditch affected by the proposed development will be the irrigation lagoon and its overflow, which are no longer required to serve the consented scheme. We understand that the ditch is not yet filled in and the works will form part of the future planning submission for the remaining section of phase 2 that extends into the wetlands.

We will liaise with our Client to find out if a specific application has been submitted to fill this ditch in. If not we will organise for one to be submitted asap.

#### Condition 12 – Consents

We surprised by this response because we believe the Flood Defence Consent for the new outfall (granted by the Environment Agency) into the ditch would be adequate because it includes a description of the works and information on the new headwall.

Below is an extract from the flood defence consent describing what is allowed and we are at a loss as to why this is not considered adequate?

We'd be very grateful for some advice on how we can overcome this please.

**Watercourse:** Ordinary Watercourse within the River Arun Internal Drainage District

**Location:** Land south of Black Ditch, North Littlehampton, West Sussex

**NGR:** 503413, 104302

**Description of works:** Construction of 1 no. precast concrete surface water outfall (with railings and flapvalve) to take discharge from new development through 525mm diameter pipe.

**For the following activities:**

Construction of 1 no. surface water outfall

**(1) Construction of 1 no. permanent precast concrete surface water outfall (with railings and flapvalve) to take discharge from new development through 525mm diameter pipe**

**As detailed on Drawings: 8140927/SK12, CV8140927/SK09 and SFA 10C**

**Headwall Plan**

I trust the above is acceptable and will hopefully be sufficient to contribute towards the discharge to these planning conditions, specifically Condition 10 & 12

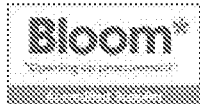
Please contact me if you wish to discuss this further or require additional information.

Regards,

Sean Foley  
Principal Engineer  
Mayer Brown Ltd

Sean Foley,  
Principal Engineer  
Mayer Brown Limited  
Lion House  
Oriental Road  
Woking  
Surrey  
GU22 8AR

[www.mayerbrown.co.uk](http://www.mayerbrown.co.uk)



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**From:** Clark, Robert [REDACTED]  
**Sent:** 12 December 2018 15:55  
**To:** Sean Foley [REDACTED]  
**Subject:** FW: Planning Consultation on LU/345/18/DOC

Hi Sean

Please see email below. This is getting urgent as the Council have now threatened a Stop Notice. Can you review ASAP and get in touch with Laura Gibbon today. Thanks

Kind Regards

Rob

Robert Clark  
Head of Planning  
Persimmon Homes Thames Valley  
Persimmon House  
Knoll Road  
Camberley  
GU15 3TQ  
[REDACTED]

---

**From:** Michael Eastham [<mailto:Michael.Eastham@arun.gov.uk>]  
**Sent:** 06 December 2018 15:33  
**To:** Clark, Robert  
**Subject:** FW: Planning Consultation on LU/345/18/DOC

Hi Rob,

Please see the email below from ADC Drainage Engineers to LU/345/18/DOC.

I look forward to receiving the requisite information.

Kind regards,

Michael

---

**From:** Laura Gibbons  
**Sent:** 06 December 2018 14:58  
**To:** Planning.Responses  
**Cc:** Michael Eastham  
**Subject:** Planning Consultation on LU/345/18/DOC

Engineers Comments Regarding Condition 10

I cannot see that anything has changed from the Surface Water Drainage Strategy that Mayer Brown provided on the 9<sup>th</sup> October, in fact the version number is the same. I had the following comments in October:

“Thank you for sending through that information. I have the following comments regarding the pre-demolition rates:

1. No connection between Outfall 5, 6 and 7 the lakes and reservoirs to the Norway ditch was proven in the drainage survey. I would therefore like to see these removed from the 1 in 1 year calculations for the site (we don't know what the capacity of the lakes would have been but I would imagine they'd take a decent volume of water). This equates to 163.5 l/s
2. The pond between catchment 3 and the Toddington ditch was not included in the calculations, therefore the rate of 301.4 l/s is far too great in my opinion.

If we discount the runoff in points 1 and 2 above we get a 1 in 1 year discharge of 340.47l/s. This is greater than what you are proposing. And some discharge from catchment 3 would have occurred, so the figure would be something greater than 340.47l/s.

To summarise, as the pre-development rates are greater than the rates you propose I am happy.

Regarding the discharge rates from individual parcels:

I note that you state that there are no controls in the interlinked parcels B4, C1, C2, C4 and roads and you are using this as justification for allowing an uncontrolled discharge from these parcels. I am not happy with this, it is possible that you are causing a greater flood risk downstream as a result. As discussed in the meeting I am keen to see you stating maximum values from each. If physical controls aren't currently used then I am keen to push for them to be constructed. The only other way I will accept no physical control devices being installed is by you demonstrating that the maximum flow from the networks doesn't exceed the maximum value for that parcel as a result of pipe diameters constricting flow. This will require you modelling the networks in microdrainage and running various return periods and storm durations.

What about parcel B2 where discharge is proposed to be free? What is the justification for this?

Please feel free to give me a call should you have any questions.”

These comments have not been resolved. There are still un restricted flows from B4, C1, C2, C4 and B2 despite my previous comments that this was inappropriate. I will re-iterate that either controls should now be installed or models run to show what the maximum flow from each parcel is based upon pipe diameters that have been constructed. And evidence submitted based on this that the total flow from the complete development does not exceed 285l/s.

Until such a time as this evidence is clearly supplied and the drainage strategy updated to follow this I am unwilling to recommend the discharge of this condition.

#### Engineers Comments Regarding Condition 11

No evidence has been submitted of formal written acceptance of the proposals to infill the watercourses shown in Figure 3.1 of the drainage strategy. Therefore, I do not recommend the discharge of this condition.

#### Engineers Comments Regarding Condition 12

A FRAP has been obtained from the Environment Agency to construct a headwall in the Black ditch. However, no evidence of the acceptance of infilling has been provided, nor for any over proposed structures. Therefore, I do not recommend the discharge of this condition.

Regards,

Laura Gibbons, MEng, GMICE  
Engineer (Drainage & Coastal)

Laura Gibbons | Engineer (Drainage & Coastal), Engineering Services, Arun District Council | Location: First Floor, Arun Civic Centre, Maltravers Road, Littlehampton, BN17 5LF



From:

**Sent:** 30 November 2018 11:04  
**To:** Land Drainage  
**Subject:** Planning Consultation on LU/345/18/DOC

To: **Engineers (Drainage)**

**NOTIFICATION FROM ARUN DISTRICT COUNCIL**

**TOWN AND COUNTRY PLANNING ACT 1990**

**APPLICATION** LU/345/18/DOC  
**NO:**

**Registered:** 28-NOV-18

**Site Address:** Land North of Toddington Lane Littlehampton BN17 7PP

**Description of Works:** Approval of details reserved by condition imposed under ref LU/47/11/ relating to Condition Nos 10 surface water drainage scheme, 11 future access to & maintenance of any watercourse or culvert, 12 discharge of any flows to watercourse, 13 foul water drainage system.

---

The Council have received the above application to discharge conditions. I shall be pleased to receive any observations you may wish to make in respect of those conditons relating to your field of expertise.

[Click here to view the Discharge of Condition application](#)

[Click here to view conditions on original application - click on decision tab](#)

**Should you have any comments to make, these should be sent by replying to this email by 14th December 2018.**

[www.arun.gov.uk/planning](http://www.arun.gov.uk/planning)

**Please be aware that any comments you may make will be available on our website so please do not insert personal details or signatures on your reply.**

In the absence of a reply within the period stated, I shall assume that you have no observations to make.

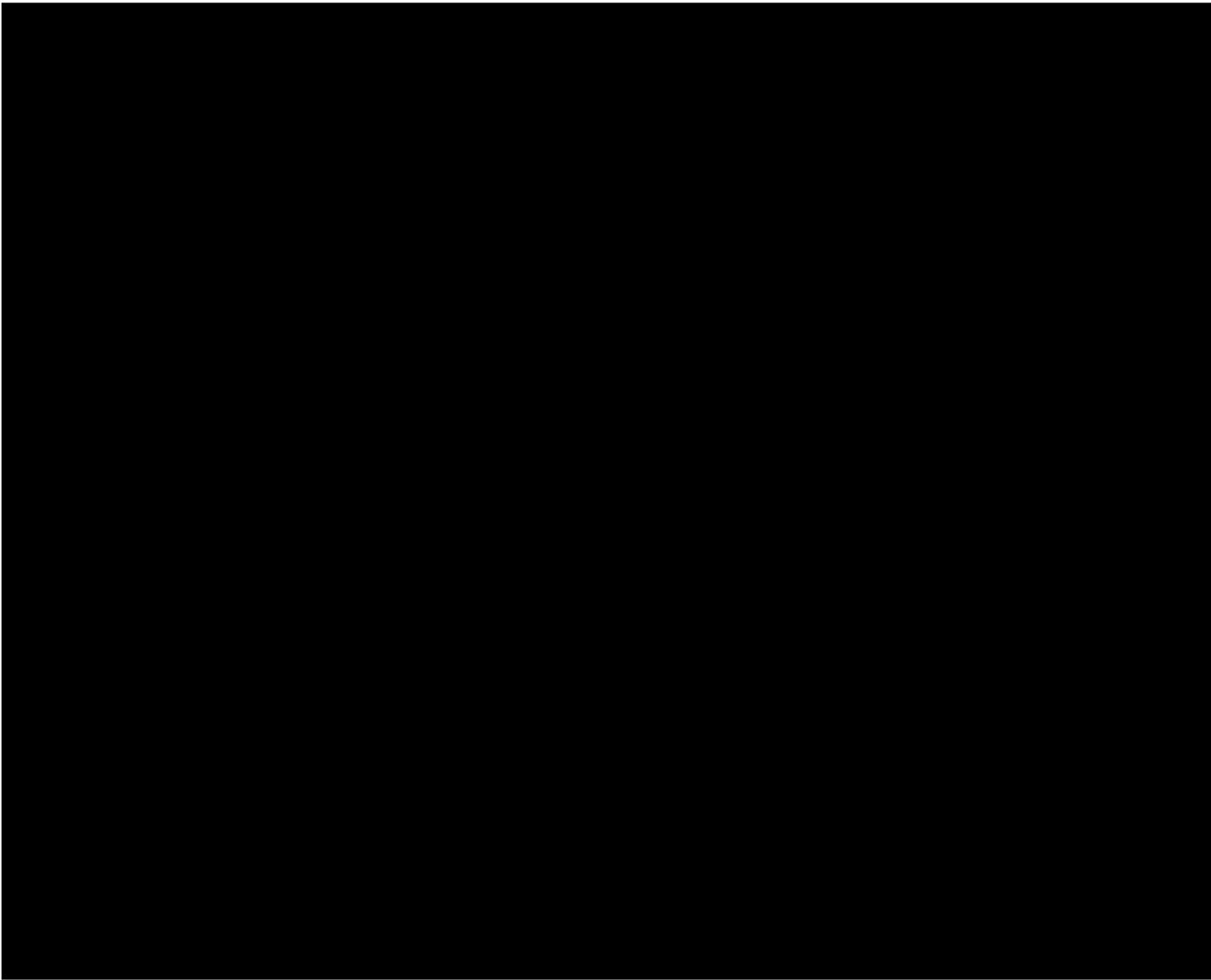
The officer dealing with this application is Michael Eastham who can be contacted on telephone number 01903 737772.

Thanking you in anticipation

Planning Case Officer  
Arun District Council







## **APPENDIX D: Exceedance Flows**

OVERALL 19 1/2 TARE

SYSTEM FAILURE  
-03

SYSTEM FAILURE  
- 02

AD ORIGINAL

PHASE 2:  
Application

SYSTEM  
FAILURE  
01

**Lymneter Bypass**

FOR INFORMATION



okey brown

[illegible]

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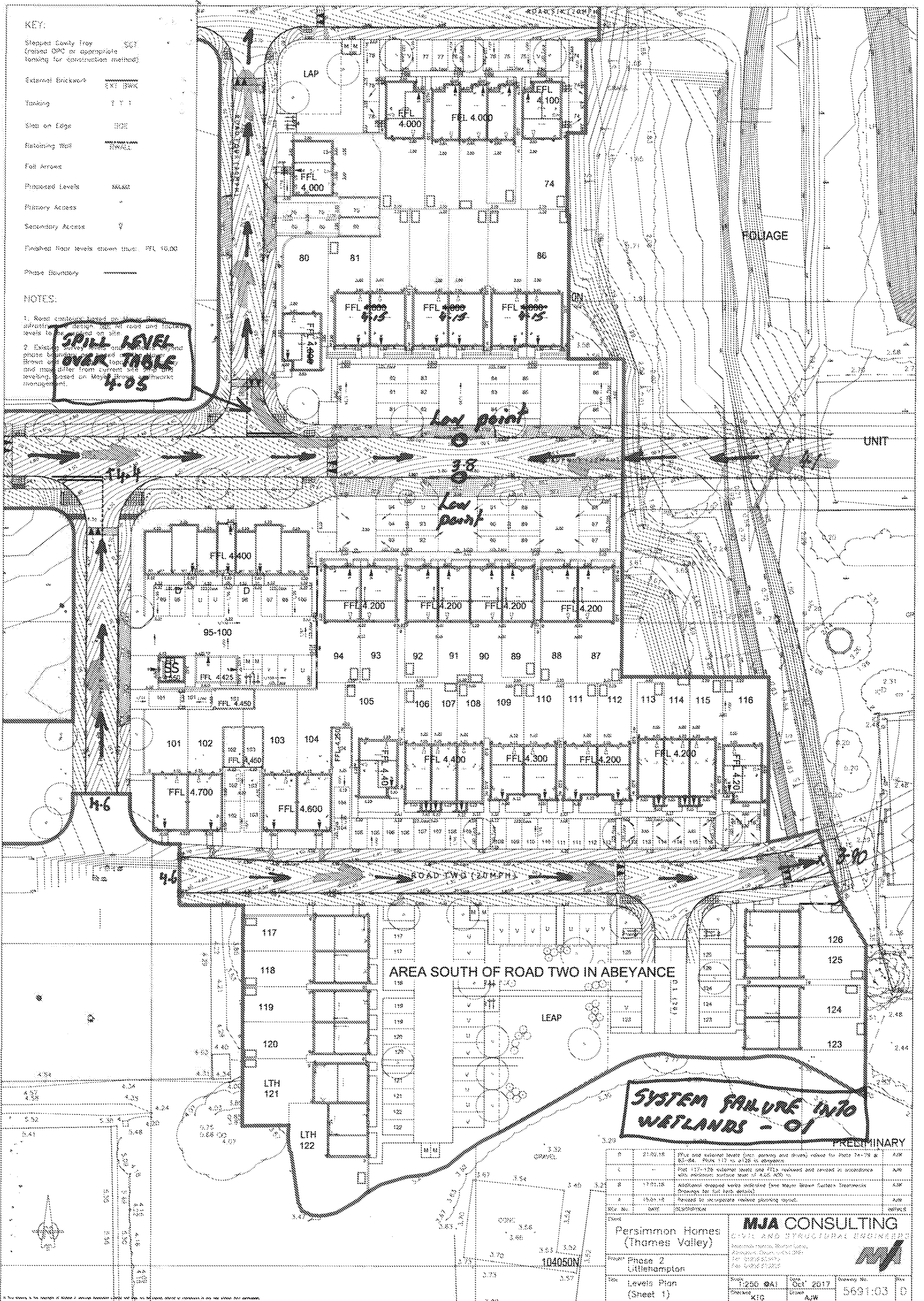
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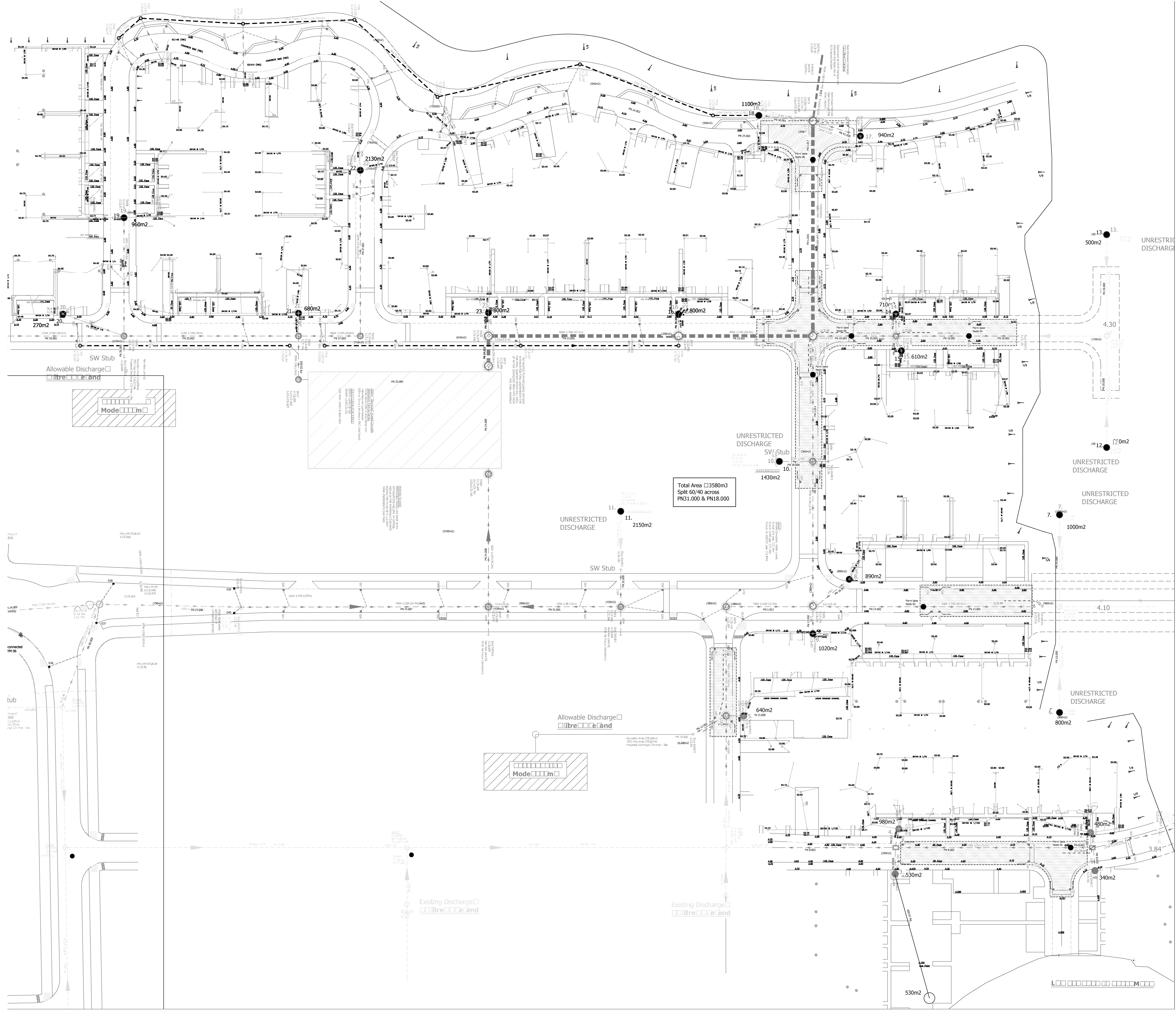
ARUN DISTRICT COUNCIL LU/184/21/DOC





→ Direction of fall of road → overland flow route in case of system failure

## **APPENDIX E: Windes – Network Details**





|                                    |                         |                                                                                     |                      |                |                |                    |           |             |             |
|------------------------------------|-------------------------|-------------------------------------------------------------------------------------|----------------------|----------------|----------------|--------------------|-----------|-------------|-------------|
| Mayer Brown Ltd                    |                         | Page 1                                                                              |                      |                |                |                    |           |             |             |
| Lion House                         | Littlehampton           |  |                      |                |                |                    |           |             |             |
| Oriental Road                      | Overall Surface Network |                                                                                     |                      |                |                |                    |           |             |             |
| Woking GU22 8AR                    | West of Wetlands        |                                                                                     |                      |                |                |                    |           |             |             |
| Date January 2018                  | Designed by S Foley     |                                                                                     |                      |                |                |                    |           |             |             |
| File WEST CATCHMENT MODEL_...      | Checked by              |                                                                                     |                      |                |                |                    |           |             |             |
| XP Solutions                       | Network 2013.1          |                                                                                     |                      |                |                |                    |           |             |             |
| Existing Network Details for Storm |                         |                                                                                     |                      |                |                |                    |           |             |             |
| PN                                 | Length<br>(m)           | Fall<br>(m)                                                                         | Slope<br>(1:X)       | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s) | k<br>(mm) | HYD<br>SECT | DIA<br>(mm) |
| 1.000                              | 59.000                  | 0.251                                                                               | 235.1                | 0.066          | 2.00           | 0.0                | 0.600     | o           | 300         |
| 1.001                              | 38.000                  | 0.163                                                                               | 233.1                | 0.040          | 0.00           | 0.0                | 0.600     | o           | 300         |
| 2.000                              | 12.808                  | 0.200                                                                               | 64.0                 | 0.534          | 5.00           | 0.0                | 0.600     | o           | 300         |
| 2.001                              | 12.001                  | 0.080                                                                               | 150.0                | 0.000          | 2.00           | 0.0                | 0.600     | o           | 150         |
| 1.002                              | 27.675                  | 0.121                                                                               | 228.7                | 0.045          | 0.00           | 0.0                | 0.600     | o           | 300         |
| 3.000                              | 19.930                  | 0.200                                                                               | 99.7                 | 0.198          | 5.00           | 0.0                | 0.600     | o           | 300         |
| 3.001                              | 10.000                  | 0.067                                                                               | 149.3                | 0.000          | 2.00           | 0.0                | 0.600     | o           | 150         |
| 1.003                              | 70.062                  | 0.300                                                                               | 233.5                | 0.047          | 0.00           | 0.0                | 0.600     | o           | 300         |
| 1.004                              | 94.210                  | 0.425                                                                               | 221.7                | 0.153          | 0.00           | 0.0                | 0.600     | o           | 300         |
| 4.000                              | 20.000                  | 0.065                                                                               | 307.7                | 0.438          | 5.00           | 0.0                | 0.600     | o           | 300         |
| 4.001                              | 14.532                  | 0.097                                                                               | 149.8                | 0.000          | 2.00           | 0.0                | 0.600     | o           | 150         |
| 1.005                              | 30.500                  | 0.140                                                                               | 217.9                | 0.046          | 0.00           | 0.0                | 0.600     | o           | 300         |
| 1.006                              | 59.368                  | 0.270                                                                               | 219.9                | 0.088          | 0.00           | 0.0                | 0.600     | o           | 300         |
| 5.000                              | 19.999                  | 0.595                                                                               | 33.6                 | 0.392          | 5.00           | 0.0                | 0.600     | o           | 300         |
| 5.001                              | 14.532                  | 0.105                                                                               | 138.4                | 0.000          | 2.00           | 0.0                | 0.600     | o           | 150         |
| 5.002                              | 36.500                  | 0.150                                                                               | 243.3                | 0.070          | 0.00           | 0.0                | 0.600     | o           | 300         |
| 1.007                              | 88.421                  | 0.300                                                                               | 294.7                | 0.077          | 0.00           | 0.0                | 0.600     | o           | 300         |
| 6.000                              | 20.006                  | 0.100                                                                               | 200.1                | 0.700          | 5.00           | 0.0                | 0.600     | o           | 375         |
| 6.001                              | 14.650                  | 0.875                                                                               | 16.7                 | 0.000          | 5.00           | 0.0                | 0.600     | o           | 375         |
| Network Results Table              |                         |                                                                                     |                      |                |                |                    |           |             |             |
| PN                                 | US/IL<br>(m)            | Σ I.Area<br>(ha)                                                                    | Σ Base<br>Flow (l/s) | Vel<br>(m/s)   | Cap<br>(l/s)   |                    |           |             |             |
| 1.000                              | 5.176                   | 0.066                                                                               | 0.0                  | 1.02           | 72.2           |                    |           |             |             |
| 1.001                              | 4.919                   | 0.106                                                                               | 0.0                  | 1.03           | 72.5           |                    |           |             |             |
| 2.000                              | 5.200                   | 1.067                                                                               | 0.0                  | 1.97           | 139.1          |                    |           |             |             |
| 2.001                              | 5.600                   | 1.067                                                                               | 0.0                  | 0.82           | 14.5           |                    |           |             |             |
| 1.002                              | 4.756                   | 1.218                                                                               | 0.0                  | 1.04           | 73.2           |                    |           |             |             |
| 3.000                              | 5.000                   | 0.395                                                                               | 0.0                  | 1.58           | 111.3          |                    |           |             |             |
| 3.001                              | 4.800                   | 0.395                                                                               | 0.0                  | 0.82           | 14.5           |                    |           |             |             |
| 1.003                              | 4.635                   | 1.660                                                                               | 0.0                  | 1.02           | 72.4           |                    |           |             |             |
| 1.004                              | 4.335                   | 1.813                                                                               | 0.0                  | 1.05           | 74.4           |                    |           |             |             |
| 4.000                              | 4.200                   | 0.730                                                                               | 0.0                  | 0.89           | 63.0           |                    |           |             |             |
| 4.001                              | 4.135                   | 0.730                                                                               | 0.0                  | 0.82           | 14.5           |                    |           |             |             |
| 1.005                              | 3.910                   | 2.589                                                                               | 0.0                  | 1.06           | 75.0           |                    |           |             |             |
| 1.006                              | 3.770                   | 2.677                                                                               | 0.0                  | 1.06           | 74.7           |                    |           |             |             |
| 5.000                              | 4.500                   | 0.560                                                                               | 0.0                  | 2.72           | 192.4          |                    |           |             |             |
| 5.001                              | 3.900                   | 0.560                                                                               | 0.0                  | 0.85           | 15.1           |                    |           |             |             |
| 5.002                              | 3.650                   | 0.630                                                                               | 0.0                  | 1.00           | 70.9           |                    |           |             |             |
| 1.007                              | 3.500                   | 3.384                                                                               | 0.0                  | 0.91           | 64.4           |                    |           |             |             |
| 6.000                              | 4.100                   | 1.400                                                                               | 0.0                  | 1.28           | 141.1          |                    |           |             |             |
| 6.001                              | 4.000                   | 1.400                                                                               | 0.0                  | 4.45           | 491.1          |                    |           |             |             |
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|                                                |               |                  |                                                              |                |                |                                                                                     |           |             |             |
|------------------------------------------------|---------------|------------------|--------------------------------------------------------------|----------------|----------------|-------------------------------------------------------------------------------------|-----------|-------------|-------------|
| Mayer Brown Ltd                                |               |                  |                                                              |                |                | Page 2                                                                              |           |             |             |
| Lion House<br>Oriental Road<br>Woking GU22 8AR |               |                  | Littlehampton<br>Overall Surface Network<br>West of Wetlands |                |                |  |           |             |             |
| Date January 2018                              |               |                  | Designed by S Foley                                          |                |                |                                                                                     |           |             |             |
| File WEST CATCHMENT MODEL_...                  |               |                  | Checked by                                                   |                |                |                                                                                     |           |             |             |
| XP Solutions                                   |               |                  | Network 2013.1                                               |                |                |                                                                                     |           |             |             |
| Existing Network Details for Storm             |               |                  |                                                              |                |                |                                                                                     |           |             |             |
| PN                                             | Length<br>(m) | Fall<br>(m)      | Slope<br>(1:X)                                               | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s)                                                                  | k<br>(mm) | HYD<br>SECT | DIA<br>(mm) |
| 1.008                                          | 77.584        | 0.400            | 194.0                                                        | 0.077          | 0.00           | 0.0                                                                                 | 0.600     | o           | 375         |
| 7.000                                          | 20.000        | 0.175            | 114.3                                                        | 0.700          | 5.00           | 0.0                                                                                 | 0.600     | o           | 375         |
| 7.001                                          | 13.401        | 0.425            | 31.5                                                         | 0.000          | 5.00           | 0.0                                                                                 | 0.600     | o           | 375         |
| 1.009                                          | 4.916         | 0.025            | 196.6                                                        | 0.000          | 0.00           | 0.0                                                                                 | 0.600     | o           | 450         |
| 8.000                                          | 23.339        | 0.065            | 359.1                                                        | 0.034          | 5.00           | 0.0                                                                                 | 0.600     | o           | 150         |
| 9.000                                          | 3.876         | 0.046            | 84.3                                                         | 0.048          | 5.00           | 0.0                                                                                 | 0.600     | o           | 150         |
| 8.001                                          | 5.600         | 0.020            | 280.0                                                        | 0.060          | 2.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 8.002                                          | 45.386        | 0.190            | 238.9                                                        | 0.000          | 0.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 10.000                                         | 33.343        | 0.297            | 112.3                                                        | 0.053          | 5.00           | 0.0                                                                                 | 0.600     | o           | 150         |
| 10.001                                         | 6.800         | 0.038            | 178.9                                                        | 0.053          | 2.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 11.000                                         | 6.800         | 0.062            | 109.7                                                        | 0.098          | 2.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 8.003                                          | 43.824        | 0.130            | 337.1                                                        | 0.029          | 0.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 1.010                                          | 34.073        | 0.155            | 219.8                                                        | 0.000          | 0.00           | 0.0                                                                                 | 0.600     | o           | 450         |
| 12.000                                         | 40.643        | 0.100            | 406.4                                                        | 0.567          | 5.00           | 0.0                                                                                 | 0.600     | o           | 300         |
| 12.001                                         | 9.903         | 0.130            | 76.2                                                         | 0.000          | 2.00           | 0.0                                                                                 | 0.600     | o           | 150         |
| 13.000                                         | 6.000         | 0.103            | 58.3                                                         | 0.064          | 2.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 1.011                                          | 28.223        | 0.180            | 156.8                                                        | 0.042          | 0.00           | 0.0                                                                                 | 0.600     | o           | 450         |
| Network Results Table                          |               |                  |                                                              |                |                |                                                                                     |           |             |             |
| PN                                             | US/IL<br>(m)  | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s)                                         | Vel<br>(m/s)   | Cap<br>(l/s)   |                                                                                     |           |             |             |
| 1.008                                          | 3.125         | 4.861            | 0.0                                                          | 1.30           | 143.3          |                                                                                     |           |             |             |
| 7.000                                          | 3.400         | 1.400            | 0.0                                                          | 1.69           | 187.1          |                                                                                     |           |             |             |
| 7.001                                          | 3.225         | 1.400            | 0.0                                                          | 3.24           | 357.5          |                                                                                     |           |             |             |
| 1.009                                          | 2.725         | 6.261            | 0.0                                                          | 1.45           | 230.0          |                                                                                     |           |             |             |
| 8.000                                          | 3.155         | 0.034            | 0.0                                                          | 0.52           | 9.3            |                                                                                     |           |             |             |
| 9.000                                          | 3.136         | 0.048            | 0.0                                                          | 1.10           | 19.4           |                                                                                     |           |             |             |
| 8.001                                          | 3.040         | 0.142            | 0.0                                                          | 0.78           | 30.9           |                                                                                     |           |             |             |
| 8.002                                          | 3.020         | 0.142            | 0.0                                                          | 0.84           | 33.5           |                                                                                     |           |             |             |
| 10.000                                         | 3.165         | 0.053            | 0.0                                                          | 0.35           | 16.7           |                                                                                     |           |             |             |
| 10.001                                         | 2.868         | 0.106            | 0.0                                                          | 0.97           | 38.7           |                                                                                     |           |             |             |
| 11.000                                         | 3.000         | 0.098            | 0.0                                                          | 1.25           | 49.6           |                                                                                     |           |             |             |
| 8.003                                          | 3.830         | 0.375            | 0.0                                                          | 0.71           | 28.1           |                                                                                     |           |             |             |
| 1.010                                          | 2.625         | 6.636            | 0.0                                                          | 1.37           | 217.4          |                                                                                     |           |             |             |
| 12.000                                         | 3.000         | 0.810            | 0.0                                                          | 0.77           | 54.7           |                                                                                     |           |             |             |
| 12.001                                         | 2.900         | 0.810            | 0.0                                                          | 1.15           | 20.4           |                                                                                     |           |             |             |
| 13.000                                         | 3.000         | 0.064            | 0.0                                                          | 1.72           | 68.3           |                                                                                     |           |             |             |
| 1.011                                          | 2.470         | 7.552            | 0.0                                                          | 1.62           | 257.8          |                                                                                     |           |             |             |
| ©1982-2012 Micro Drainage Ltd                  |               |                  |                                                              |                |                |                                                                                     |           |             |             |

|                                                |               |                  |                                                              |                |                |                                                                                     |           |             |             |
|------------------------------------------------|---------------|------------------|--------------------------------------------------------------|----------------|----------------|-------------------------------------------------------------------------------------|-----------|-------------|-------------|
| Mayer Brown Ltd                                |               |                  |                                                              |                |                | Page 3                                                                              |           |             |             |
| Lion House<br>Oriental Road<br>Woking GU22 8AR |               |                  | Littlehampton<br>Overall Surface Network<br>West of Wetlands |                |                |  |           |             |             |
| Date January 2018                              |               |                  | Designed by S Foley                                          |                |                |                                                                                     |           |             |             |
| File WEST CATCHMENT MODEL_...                  |               |                  | Checked by                                                   |                |                |                                                                                     |           |             |             |
| XP Solutions                                   |               |                  | Network 2013.1                                               |                |                |                                                                                     |           |             |             |
| Existing Network Details for Storm             |               |                  |                                                              |                |                |                                                                                     |           |             |             |
| PN                                             | Length<br>(m) | Fall<br>(m)      | Slope<br>(1:X)                                               | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s)                                                                  | k<br>(mm) | HYD<br>SECT | DIA<br>(mm) |
| 1.012                                          | 22.432        | 0.140            | 160.2                                                        | 0.038          | 0.00           | 0.0                                                                                 | 0.600     | o           | 450         |
| 14.000                                         | 22.905        | 0.150            | 152.7                                                        | 0.100          | 5.00           | 0.0                                                                                 | 0.600     | o           | 150         |
| 15.000                                         | 28.097        | 0.150            | 187.3                                                        | 0.080          | 5.00           | 0.0                                                                                 | 0.600     | o           | 150         |
| 14.001                                         | 35.213        | 0.140            | 251.5                                                        | 0.100          | 2.00           | 0.0                                                                                 | 0.600     | o           | 300         |
| 14.002                                         | 28.603        | 0.120            | 238.4                                                        | 0.000          | 0.00           | 0.0                                                                                 | 0.600     | o           | 300         |
| 16.000                                         | 12.624        | 0.250            | 50.5                                                         | 0.089          | 2.00           | 0.0                                                                                 | 0.600     | o           | 150         |
| 17.000                                         | 7.200         | 0.302            | 23.8                                                         | 0.102          | 2.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 1.013                                          | 37.575        | 0.160            | 234.8                                                        | 0.038          | 0.00           | 0.0                                                                                 | 0.600     | o           | 450         |
| 18.000                                         | 8.659         | 0.266            | 32.6                                                         | 0.143          | 2.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 1.014                                          | 22.449        | 0.090            | 249.4                                                        | 0.036          | 0.00           | 0.0                                                                                 | 0.600     | o           | 450         |
| 1.015                                          | 10.000        | 0.040            | 250.0                                                        | 0.000          | 0.00           | 0.0                                                                                 | 0.600     | o           | 450         |
| 19.000                                         | 26.210        | 0.130            | 201.6                                                        | 0.050          | 5.00           | 0.0                                                                                 | 0.600     | o           | 150         |
| 20.000                                         | 28.840        | 0.130            | 221.8                                                        | 0.059          | 5.00           | 0.0                                                                                 | 0.600     | o           | 150         |
| 19.001                                         | 35.611        | 0.145            | 245.6                                                        | 0.072          | 2.00           | 0.0                                                                                 | 0.600     | o           | 300         |
| 19.002                                         | 18.889        | 0.075            | 251.9                                                        | 0.000          | 0.00           | 0.0                                                                                 | 0.600     | o           | 300         |
| 21.000                                         | 7.800         | 0.040            | 195.0                                                        | 0.061          | 2.00           | 0.0                                                                                 | 0.600     | o           | 150         |
| Network Results Table                          |               |                  |                                                              |                |                |                                                                                     |           |             |             |
| PN                                             | US/IL<br>(m)  | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s)                                         | Vel<br>(m/s)   | Cap<br>(l/s)   |                                                                                     |           |             |             |
| 1.012                                          | 2.390         | 7.590            | 0.0                                                          | 1.60           | 255.0          |                                                                                     |           |             |             |
| 14.000                                         | 2.300         | 0.100            | 0.0                                                          | 0.81           | 14.3           |                                                                                     |           |             |             |
| 15.000                                         | 2.800         | 0.080            | 0.0                                                          | 0.73           | 12.9           |                                                                                     |           |             |             |
| 14.001                                         | 2.560         | 0.280            | 0.0                                                          | 0.99           | 69.8           |                                                                                     |           |             |             |
| 14.002                                         | 2.420         | 0.280            | 0.0                                                          | 1.01           | 71.7           |                                                                                     |           |             |             |
| 16.000                                         | 2.550         | 0.089            | 0.0                                                          | 1.42           | 25.1           |                                                                                     |           |             |             |
| 17.000                                         | 2.600         | 0.102            | 0.0                                                          | 2.69           | 107.0          |                                                                                     |           |             |             |
| 1.013                                          | 2.150         | 8.099            | 0.0                                                          | 1.32           | 210.3          |                                                                                     |           |             |             |
| 18.000                                         | 2.320         | 0.358            | 0.0                                                          | 2.30           | 91.5           |                                                                                     |           |             |             |
| 1.014                                          | 1.990         | 8.493            | 0.0                                                          | 1.28           | 204.0          |                                                                                     |           |             |             |
| 1.015                                          | 1.900         | 8.493            | 0.0                                                          | 1.28           | 203.8          |                                                                                     |           |             |             |
| 19.000                                         | 2.600         | 0.050            | 0.0                                                          | 0.70           | 12.4           |                                                                                     |           |             |             |
| 20.000                                         | 2.600         | 0.059            | 0.0                                                          | 0.67           | 11.9           |                                                                                     |           |             |             |
| 19.001                                         | 2.320         | 0.181            | 0.0                                                          | 1.00           | 70.6           |                                                                                     |           |             |             |
| 19.002                                         | 2.175         | 0.181            | 0.0                                                          | 0.99           | 69.7           |                                                                                     |           |             |             |
| 21.000                                         | 2.600         | 0.061            | 0.0                                                          | 0.72           | 12.7           |                                                                                     |           |             |             |
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|                                                |               |                  |                                                              |                |                |                                                                                     |           |             |             |
|------------------------------------------------|---------------|------------------|--------------------------------------------------------------|----------------|----------------|-------------------------------------------------------------------------------------|-----------|-------------|-------------|
| Mayer Brown Ltd                                |               |                  |                                                              |                |                | Page 4                                                                              |           |             |             |
| Lion House<br>Oriental Road<br>Woking GU22 8AR |               |                  | Littlehampton<br>Overall Surface Network<br>West of Wetlands |                |                |  |           |             |             |
| Date January 2018                              |               |                  | Designed by S Foley                                          |                |                |                                                                                     |           |             |             |
| File WEST CATCHMENT MODEL_...                  |               |                  | Checked by                                                   |                |                |                                                                                     |           |             |             |
| XP Solutions                                   |               |                  | Network 2013.1                                               |                |                |                                                                                     |           |             |             |
| Existing Network Details for Storm             |               |                  |                                                              |                |                |                                                                                     |           |             |             |
| PN                                             | Length<br>(m) | Fall<br>(m)      | Slope<br>(1:X)                                               | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s)                                                                  | k<br>(mm) | HYD<br>SECT | DIA<br>(mm) |
| 22.000                                         | 9.600         | 0.100            | 96.0                                                         | 0.071          | 2.00           | 0.0                                                                                 | 0.600     | o           | 150         |
| 19.003                                         | 11.498        | 0.045            | 255.5                                                        | 0.011          | 0.00           | 0.0                                                                                 | 0.600     | o           | 300         |
| 19.004                                         | 10.000        | 0.045            | 222.2                                                        | 0.000          | 0.00           | 0.0                                                                                 | 0.600     | o           | 300         |
| 23.000                                         | 6.005         | 0.935            | 6.4                                                          | 0.080          | 5.00           | 0.0                                                                                 | 0.600     | o           | 150         |
| 24.000                                         | 24.867        | 0.100            | 248.7                                                        | 0.056          | 2.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 25.000                                         | 39.317        | 0.280            | 140.4                                                        | 0.567          | 5.00           | 0.0                                                                                 | 0.600     | o           | 450         |
| 25.001                                         | 13.808        | 0.080            | 172.6                                                        | 0.000          | 5.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 24.001                                         | 44.896        | 0.215            | 208.8                                                        | 0.045          | 0.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 26.000                                         | 39.613        | 0.237            | 167.1                                                        | 0.600          | 5.00           | 0.0                                                                                 | 0.600     | o           | 450         |
| 26.001                                         | 28.513        | 0.193            | 147.7                                                        | 0.000          | 5.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 27.000                                         | 34.498        | 0.360            | 95.8                                                         | 0.637          | 5.00           | 0.0                                                                                 | 0.600     | o           | 450         |
| 27.001                                         | 5.111         | 0.070            | 73.0                                                         | 0.000          | 5.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 26.002                                         | 16.877        | 0.145            | 116.4                                                        | 0.000          | 5.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 24.002                                         | 25.768        | 0.125            | 206.1                                                        | 0.045          | 0.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 24.003                                         | 43.680        | 0.160            | 273.0                                                        | 0.033          | 0.00           | 0.0                                                                                 | 0.600     | o           | 300         |
| 28.000                                         | 25.335        | 0.200            | 126.7                                                        | 0.057          | 2.00           | 0.0                                                                                 | 0.600     | o           | 300         |
| 28.001                                         | 34.164        | 0.530            | 64.5                                                         | 0.102          | 0.00           | 0.0                                                                                 | 0.600     | o           | 225         |
| 29.000                                         | 64.700        | 1.130            | 57.3                                                         | 0.314          | 5.00           | 0.0                                                                                 | 0.600     | o           | 300         |
| Network Results Table                          |               |                  |                                                              |                |                |                                                                                     |           |             |             |
| PN                                             | US/IL<br>(m)  | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s)                                         | Vel<br>(m/s)   | Cap<br>(l/s)   |                                                                                     |           |             |             |
| 22.000                                         | 2.600         | 0.071            | 0.0                                                          | 1.03           | 18.1           |                                                                                     |           |             |             |
| 19.003                                         | 2.100         | 0.324            | 0.0                                                          | 0.98           | 69.2           |                                                                                     |           |             |             |
| 19.004                                         | 2.055         | 0.324            | 0.0                                                          | 1.05           | 74.3           |                                                                                     |           |             |             |
| 23.000                                         | 3.240         | 0.080            | 0.0                                                          | 4.00           | 70.7           |                                                                                     |           |             |             |
| 24.000                                         | 3.740         | 0.056            | 0.0                                                          | 0.82           | 32.8           |                                                                                     |           |             |             |
| 25.000                                         | 4.000         | 0.810            | 0.0                                                          | 1.71           | 272.6          |                                                                                     |           |             |             |
| 25.001                                         | 3.720         | 0.810            | 0.0                                                          | 0.89           | 39.5           |                                                                                     |           |             |             |
| 24.001                                         | 3.640         | 0.911            | 0.0                                                          | 0.90           | 35.8           |                                                                                     |           |             |             |
| 26.000                                         | 4.000         | 1.000            | 0.0                                                          | 1.57           | 249.7          |                                                                                     |           |             |             |
| 26.001                                         | 3.783         | 1.000            | 0.0                                                          | 1.07           | 42.7           |                                                                                     |           |             |             |
| 27.000                                         | 4.000         | 0.910            | 0.0                                                          | 2.08           | 330.4          |                                                                                     |           |             |             |
| 27.001                                         | 3.640         | 0.910            | 0.0                                                          | 1.53           | 60.9           |                                                                                     |           |             |             |
| 26.002                                         | 3.670         | 1.910            | 0.0                                                          | 1.21           | 48.1           |                                                                                     |           |             |             |
| 24.002                                         | 3.350         | 2.866            | 0.0                                                          | 0.91           | 36.1           |                                                                                     |           |             |             |
| 24.003                                         | 3.225         | 2.899            | 0.0                                                          | 0.95           | 66.9           |                                                                                     |           |             |             |
| 28.000                                         | 3.870         | 0.057            | 0.0                                                          | 1.16           | 46.1           |                                                                                     |           |             |             |
| 28.001                                         | 3.670         | 0.159            | 0.0                                                          | 1.63           | 64.9           |                                                                                     |           |             |             |
| 29.000                                         | 7.200         | 0.314            | 0.0                                                          | 2.08           | 147.2          |                                                                                     |           |             |             |
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|                                                |                                                              |                                                                                     |
|------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Mayer Brown Ltd                                |                                                              | Page 5                                                                              |
| Lion House<br>Oriental Road<br>Woking GU22 8AR | Littlehampton<br>Overall Surface Network<br>West of Wetlands |  |
| Date January 2018                              | Designed by S Foley                                          |                                                                                     |
| File WEST CATCHMENT MODEL_...                  | Checked by                                                   |                                                                                     |
| XP Solutions                                   | Network 2013.1                                               |                                                                                     |

Existing Network Details for Storm

| PN     | Length<br>(m) | Fall<br>(m) | Slope<br>(1:X) | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s) | k<br>(mm) | HYD<br>SECT | DIA<br>(mm) |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------------|-------------|
| 29.001 | 30.927        | 0.000       | 0.0            | 0.070          | 0.00           | 0.0                | 0.600     | o           | 300         |
| 24.004 | 45.590        | 0.230       | 198.2          | 0.038          | 0.00           | 0.0                | 0.600     | o           | 375         |
| 24.005 | 38.840        | 0.160       | 242.7          | 0.231          | 0.00           | 0.0                | 0.600     | o           | 450         |
| 30.000 | 26.634        | 0.540       | 49.3           | 0.000          | 5.00           | 0.0                | 0.600     | o           | 225         |
| 24.006 | 37.201        | 0.280       | 132.9          | 0.040          | 0.00           | 0.0                | 0.600     | o           | 450         |
| 24.007 | 63.944        | 0.270       | 236.8          | 0.040          | 0.00           | 0.0                | 0.600     | o           | 450         |
| 31.000 | 24.684        | 0.120       | 205.7          | 0.215          | 5.00           | 0.0                | 0.600     | o           | 225         |
| 31.001 | 35.227        | 0.180       | 195.7          | 0.043          | 5.00           | 0.0                | 0.600     | o           | 225         |
| 24.008 | 19.302        | 0.170       | 113.5          | 0.043          | 0.00           | 0.0                | 0.600     | o           | 450         |
| 24.009 | 42.970        | 0.100       | 429.7          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 525         |
| 32.000 | 7.262         | 0.100       | 72.6           | 0.343          | 5.00           | 0.0                | 0.600     | o           | 450         |
| 32.001 | 27.748        | 1.690       | 16.4           | 0.000          | 5.00           | 0.0                | 0.600     | o           | 150         |
| 33.000 | 20.005        | 0.100       | 200.1          | 0.630          | 5.00           | 0.0                | 0.600     | o           | 450         |
| 33.001 | 30.526        | 0.200       | 152.6          | 0.000          | 0.00           | 0.0                | 0.600     | o           | 225         |
| 34.000 | 30.576        | 1.150       | 26.6           | 0.096          | 5.00           | 0.0                | 0.600     | o           | 325         |
| 35.000 | 22.482        | 0.200       | 112.4          | 0.224          | 5.00           | 0.0                | 0.600     | o           | 450         |
| 35.001 | 5.638         | 0.100       | 56.4           | 0.000          | 5.00           | 0.0                | 0.600     | o           | 225         |
| 36.000 | 16.786        | 1.710       | 9.8            | 0.027          | 5.00           | 0.0                | 0.600     | o           | 150         |

Network Results Table

| PN     | US/IL<br>(m) | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s) | Vel<br>(m/s) | Cap<br>(l/s) |
|--------|--------------|------------------|----------------------|--------------|--------------|
| 29.001 | 5.540        | 0.384            | 0.0                  | 0.00         | 0.0          |
| 24.004 | 2.990        | 3.480            | 0.0                  | 1.28         | 141.7        |
| 24.005 | 2.660        | 3.711            | 0.0                  | 1.30         | 206.8        |
| 30.000 | 3.700        | 0.000            | 0.0                  | 1.87         | 74.2         |
| 24.006 | 2.520        | 3.751            | 0.0                  | 1.76         | 280.3        |
| 24.007 | 2.240        | 3.791            | 0.0                  | 1.32         | 209.4        |
| 31.000 | 2.500        | 0.358            | 0.0                  | 0.91         | 36.1         |
| 31.001 | 2.380        | 0.401            | 0.0                  | 0.93         | 37.0         |
| 24.008 | 1.970        | 4.235            | 0.0                  | 1.91         | 303.3        |
| 24.009 | 1.760        | 4.235            | 0.0                  | 1.07         | 232.5        |
| 32.000 | 3.500        | 0.343            | 0.0                  | 2.39         | 379.8        |
| 32.001 | 3.400        | 0.343            | 0.0                  | 2.50         | 44.1         |
| 33.000 | 2.700        | 0.900            | 0.0                  | 1.43         | 228.0        |
| 33.001 | 2.600        | 0.900            | 0.0                  | 1.06         | 42.0         |
| 34.000 | 2.550        | 0.096            | 0.0                  | 2.55         | 101.3        |
| 35.000 | 2.700        | 0.320            | 0.0                  | 1.92         | 304.9        |
| 35.001 | 2.500        | 0.320            | 0.0                  | 1.75         | 69.4         |
| 36.000 | 4.310        | 0.027            | 0.0                  | 3.23         | 57.2         |

| Mayer Brown Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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     |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
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-|--------|-------|-------|-------|------|-----|-------|---|-----|--------|--------|-------|-------|-------|------|-----|-------|---|-----|--------|--------|-------|-------|-------|------|-----|-------|---|-----|--------|--------|-------|-------|-------|------|-----|-------|---|-----|--------|--------|-------|-------|-------|------|-----|-------|---|-----|--------|-------|-------|-----|-------|------|-----|-------|---|-----|--------|-------|-------|------|-------|------|-----|-------|---|-----|--------|--------|-------|-------|-------|------|-----|-------|---|-----|--------|-------|-------|-------|-------|------|-----|-------|---|-----|--------|--------|-------|-------|-------|------|-----|-------|---|-----|--------|-------|-------|-----|-------|------|-----|-------|---|-----|--------|--------|-------|-------|-------|------|-----|-------|---|-----|-------|--------|-------|-------|-------|------|-----|-------|---|-----|-------|-------|-------|-------|-------|------|-----|-------|---|-----|--------|--------|-------|-------|-------|------|-----|-------|---|-----|--------|--------|-------|-------|-------|------|-----|-------|---|-----|--------|--------|-------|-------|-------|------|-----|-------|---|-----|-------|--------|-------|-------|-------|------|-----|-------|---|-----|----|--------------|------------------|----------------------|--------------|--------------|--------|-------|-------|-----|------|------|--------|-------|-------|-----|------|------|--------|-------|-------|-----|------|------|--------|-------|-------|-----|------|------|--------|-------|-------|-----|------|------|--------|-------|-------|-----|------|------|--------|-------|-------|-----|------|-------|--------|-------|-------|-----|------|-------|--------|-------|-------|-----|------|--------|--------|-------|-------|-----|------|--------|--------|-------|-------|-----|------|-----|--------|-------|-------|-----|------|-------|-------|-------|--------|-----|------|-------|-------|-------|--------|-----|------|--------|--------|-------|-------|-----|------|------|--------|-------|-------|-----|------|------|--------|-------|-------|-----|------|------|-------|-------|--------|-----|------|-------|
| Lion House<br>Oriental Road<br>Woking GU22 8AR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Littlehampton<br>Overall Surface Network<br>West of Wetlands |  |                      |                |                |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |    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    |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| Date January 2018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Designed by S Foley                                          |                                                                                     |                      |                |                |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| File WEST CATCHMENT MODEL_...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| XP Solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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     |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |    |              |                  |                      |              |              |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |       |        |       |       |     |      |       |        |       |       |     |      |        |        |       |       |     |      |        |        |       |       |     |      |     |        |       |       |     |      |       |       |       |        |     |      |       |       |       |        |     |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| <div>Existing Network Details for Storm</div> <table><tr><th>PN</th><th>Length<br/>(m)</th><th>Fall<br/>(m)</th><th>Slope<br/>(1:X)</th><th>I.Area<br/>(ha)</th><th>T.E.<br/>(mins)</th><th>Base<br/>Flow (l/s)</th><th>k<br/>(mm)</th><th>HYD<br/>SECT</th><th>DIA<br/>(mm)</th></tr><tr><td>33.002</td><td>45.139</td><td>0.300</td><td>150.5</td><td>0.057</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td></tr><tr><td>37.000</td><td>21.924</td><td>0.110</td><td>199.3</td><td>0.071</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td></tr><tr><td>37.001</td><td>23.225</td><td>0.160</td><td>145.2</td><td>0.071</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td></tr><tr><td>37.002</td><td>42.860</td><td>0.370</td><td>115.8</td><td>0.071</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td></tr><tr><td>37.003</td><td>16.004</td><td>0.070</td><td>228.6</td><td>0.071</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>300</td></tr><tr><td>38.000</td><td>5.880</td><td>1.040</td><td>5.7</td><td>0.068</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>150</td></tr><tr><td>33.003</td><td>7.752</td><td>0.280</td><td>27.7</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>300</td></tr><tr><td>33.004</td><td>49.146</td><td>0.160</td><td>307.2</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>450</td></tr><tr><td>24.010</td><td>7.734</td><td>0.030</td><td>257.8</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>300</td></tr><tr><td>23.001</td><td>49.171</td><td>0.135</td><td>364.2</td><td>0.064</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>300</td></tr><tr><td>39.000</td><td>5.695</td><td>0.000</td><td>0.0</td><td>0.080</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td></tr><tr><td>23.002</td><td>34.760</td><td>0.085</td><td>408.9</td><td>0.020</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>300</td></tr><tr><td>1.016</td><td>45.616</td><td>0.110</td><td>414.7</td><td>0.064</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>300</td></tr><tr><td>1.017</td><td>6.000</td><td>0.020</td><td>300.0</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>900</td></tr><tr><td>40.000</td><td>34.385</td><td>0.230</td><td>149.5</td><td>0.055</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td></tr><tr><td>40.001</td><td>26.630</td><td>0.030</td><td>887.7</td><td>0.055</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td></tr><tr><td>41.000</td><td>30.249</td><td>0.080</td><td>378.1</td><td>0.094</td><td>2.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td></tr><tr><td>1.018</td><td>21.220</td><td>0.200</td><td>106.1</td><td>0.030</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>525</td></tr></table> <div>Network Results Table</div> <table><tr><th>PN</th><th>US/IL<br/>(m)</th><th>Σ I.Area<br/>(ha)</th><th>Σ Base<br/>Flow (l/s)</th><th>Vel<br/>(m/s)</th><th>Cap<br/>(l/s)</th></tr><tr><td>33.002</td><td>2.400</td><td>1.400</td><td>0.0</td><td>1.06</td><td>42.3</td></tr><tr><td>37.000</td><td>2.730</td><td>0.071</td><td>0.0</td><td>0.82</td><td>36.7</td></tr><tr><td>37.001</td><td>2.680</td><td>0.142</td><td>0.0</td><td>1.08</td><td>43.1</td></tr><tr><td>37.002</td><td>2.600</td><td>0.213</td><td>0.0</td><td>1.21</td><td>48.3</td></tr><tr><td>37.003</td><td>2.170</td><td>0.284</td><td>0.0</td><td>1.04</td><td>73.2</td></tr><tr><td>38.000</td><td>3.440</td><td>0.068</td><td>0.0</td><td>4.27</td><td>75.4</td></tr><tr><td>33.003</td><td>2.300</td><td>1.752</td><td>0.0</td><td>3.00</td><td>212.0</td></tr><tr><td>33.004</td><td>1.820</td><td>1.752</td><td>0.0</td><td>1.15</td><td>183.6</td></tr><tr><td>24.010</td><td>1.660</td><td>6.330</td><td>0.0</td><td>1.95</td><td>1238.5</td></tr><tr><td>23.001</td><td>1.620</td><td>6.474</td><td>0.0</td><td>1.64</td><td>1040.7</td></tr><tr><td>39.000</td><td>2.890</td><td>0.080</td><td>0.0</td><td>0.00</td><td>0.0</td></tr><tr><td>23.002</td><td>1.495</td><td>6.574</td><td>0.0</td><td>1.54</td><td>981.7</td></tr><tr><td>1.016</td><td>1.410</td><td>15.455</td><td>0.0</td><td>1.53</td><td>974.8</td></tr><tr><td>1.017</td><td>1.300</td><td>15.455</td><td>0.0</td><td>1.80</td><td>1147.5</td></tr><tr><td>40.000</td><td>2.070</td><td>0.055</td><td>0.0</td><td>1.07</td><td>42.4</td></tr><tr><td>40.001</td><td>1.990</td><td>0.110</td><td>0.0</td><td>0.43</td><td>17.1</td></tr><tr><td>41.000</td><td>2.040</td><td>0.094</td><td>0.0</td><td>0.67</td><td>26.5</td></tr><tr><td>1.018</td><td>1.200</td><td>15.689</td><td>0.0</td><td>2.17</td><td>470.7</td></tr></table> |                                                              |                                                                                     |                      | PN             | Length<br>(m)  | Fall<br>(m)        | Slope<br>(1:X) | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s) | k<br>(mm) | HYD<br>SECT | DIA<br>(mm) | 33.002 | 45.139 | 0.300 | 150.5 | 0.057 | 0.00 | 0.0 | 0.600 | o | 225 | 37.000 | 21.924 | 0.110 | 199.3 | 0.071 | 5.00 | 0.0 | 0.600 | o | 225 | 37.001 | 23.225 | 0.160 | 145.2 | 0.071 | 5.00 | 0.0 | 0.600 | o | 225 | 37.002 | 42.860 | 0.370 | 115.8 | 0.071 | 5.00 | 0.0 | 0.600 | o | 225 | 37.003 | 16.004 | 0.070 | 228.6 | 0.071 | 5.00 | 0.0 | 0.600 | o | 300 | 38.000 | 5.880 | 1.040 | 5.7 | 0.068 | 5.00 | 0.0 | 0.600 | o | 150 | 33.003 | 7.752 | 0.280 | 27.7 | 0.000 | 0.00 | 0.0 | 0.600 | o | 300 | 33.004 | 49.146 | 0.160 | 307.2 | 0.000 | 0.00 | 0.0 | 0.600 | o | 450 | 24.010 | 7.734 | 0.030 | 257.8 | 0.000 | 0.00 | 0.0 | 0.600 | o | 300 | 23.001 | 49.171 | 0.135 | 364.2 | 0.064 | 0.00 | 0.0 | 0.600 | o | 300 | 39.000 | 5.695 | 0.000 | 0.0 | 0.080 | 5.00 | 0.0 | 0.600 | o | 225 | 23.002 | 34.760 | 0.085 | 408.9 | 0.020 | 0.00 | 0.0 | 0.600 | o | 300 | 1.016 | 45.616 | 0.110 | 414.7 | 0.064 | 0.00 | 0.0 | 0.600 | o | 300 | 1.017 | 6.000 | 0.020 | 300.0 | 0.000 | 0.00 | 0.0 | 0.600 | o | 900 | 40.000 | 34.385 | 0.230 | 149.5 | 0.055 | 5.00 | 0.0 | 0.600 | o | 225 | 40.001 | 26.630 | 0.030 | 887.7 | 0.055 | 0.00 | 0.0 | 0.600 | o | 225 | 41.000 | 30.249 | 0.080 | 378.1 | 0.094 | 2.00 | 0.0 | 0.600 | o | 225 | 1.018 | 21.220 | 0.200 | 106.1 | 0.030 | 0.00 | 0.0 | 0.600 | o | 525 | PN | US/IL<br>(m) | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s) | Vel<br>(m/s) | Cap<br>(l/s) | 33.002 | 2.400 | 1.400 | 0.0 | 1.06 | 42.3 | 37.000 | 2.730 | 0.071 | 0.0 | 0.82 | 36.7 | 37.001 | 2.680 | 0.142 | 0.0 | 1.08 | 43.1 | 37.002 | 2.600 | 0.213 | 0.0 | 1.21 | 48.3 | 37.003 | 2.170 | 0.284 | 0.0 | 1.04 | 73.2 | 38.000 | 3.440 | 0.068 | 0.0 | 4.27 | 75.4 | 33.003 | 2.300 | 1.752 | 0.0 | 3.00 | 212.0 | 33.004 | 1.820 | 1.752 | 0.0 | 1.15 | 183.6 | 24.010 | 1.660 | 6.330 | 0.0 | 1.95 | 1238.5 | 23.001 | 1.620 | 6.474 | 0.0 | 1.64 | 1040.7 | 39.000 | 2.890 | 0.080 | 0.0 | 0.00 | 0.0 | 23.002 | 1.495 | 6.574 | 0.0 | 1.54 | 981.7 | 1.016 | 1.410 | 15.455 | 0.0 | 1.53 | 974.8 | 1.017 | 1.300 | 15.455 | 0.0 | 1.80 | 1147.5 | 40.000 | 2.070 | 0.055 | 0.0 | 1.07 | 42.4 | 40.001 | 1.990 | 0.110 | 0.0 | 0.43 | 17.1 | 41.000 | 2.040 | 0.094 | 0.0 | 0.67 | 26.5 | 1.018 | 1.200 | 15.689 | 0.0 | 2.17 | 470.7 |
| PN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Length<br>(m)                                                | Fall<br>(m)                                                                         | Slope<br>(1:X)       | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s) | k<br>(mm)      | HYD<br>SECT    | DIA<br>(mm)    |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |    |              |                  |                      |              |              |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |       |        |       |       |     |      |       |        |       |       |     |      |        |        |       |       |     |      |        |        |       |       |     |      |     |        |       |       |     |      |       |       |       |        |     |      |       |       |       |        |     |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 33.002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 45.139                                                       | 0.300                                                                               | 150.5                | 0.057          | 0.00           | 0.0                | 0.600          | o              | 225            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |    |              |                  |                      |              |              |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |       |        |       |       |     |      |       |        |       |       |     |      |        |        |       |       |     |      |        |        |       |       |     |      |     |        |       |       |     |      |       |       |       |        |     |      |       |       |       |        |     |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 37.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 21.924                                                       | 0.110                                                                               | 199.3                | 0.071          | 5.00           | 0.0                | 0.600          | o              | 225            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 37.001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 23.225                                                       | 0.160                                                                               | 145.2                | 0.071          | 5.00           | 0.0                | 0.600          | o              | 225            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 37.002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 42.860                                                       | 0.370                                                                               | 115.8                | 0.071          | 5.00           | 0.0                | 0.600          | o              | 225            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 37.003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 16.004                                                       | 0.070                                                                               | 228.6                | 0.071          | 5.00           | 0.0                | 0.600          | o              | 300            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 38.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 5.880                                                        | 1.040                                                                               | 5.7                  | 0.068          | 5.00           | 0.0                | 0.600          | o              | 150            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 33.003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 7.752                                                        | 0.280                                                                               | 27.7                 | 0.000          | 0.00           | 0.0                | 0.600          | o              | 300            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 33.004                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 49.146                                                       | 0.160                                                                               | 307.2                | 0.000          | 0.00           | 0.0                | 0.600          | o              | 450            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 24.010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 7.734                                                        | 0.030                                                                               | 257.8                | 0.000          | 0.00           | 0.0                | 0.600          | o              | 300            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 23.001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 49.171                                                       | 0.135                                                                               | 364.2                | 0.064          | 0.00           | 0.0                | 0.600          | o              | 300            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 39.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 5.695                                                        | 0.000                                                                               | 0.0                  | 0.080          | 5.00           | 0.0                | 0.600          | o              | 225            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 23.002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 34.760                                                       | 0.085                                                                               | 408.9                | 0.020          | 0.00           | 0.0                | 0.600          | o              | 300            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 1.016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 45.616                                                       | 0.110                                                                               | 414.7                | 0.064          | 0.00           | 0.0                | 0.600          | o              | 300            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 1.017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 6.000                                                        | 0.020                                                                               | 300.0                | 0.000          | 0.00           | 0.0                | 0.600          | o              | 900            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 40.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 34.385                                                       | 0.230                                                                               | 149.5                | 0.055          | 5.00           | 0.0                | 0.600          | o              | 225            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 40.001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 26.630                                                       | 0.030                                                                               | 887.7                | 0.055          | 0.00           | 0.0                | 0.600          | o              | 225            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 41.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 30.249                                                       | 0.080                                                                               | 378.1                | 0.094          | 2.00           | 0.0                | 0.600          | o              | 225            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 1.018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 21.220                                                       | 0.200                                                                               | 106.1                | 0.030          | 0.00           | 0.0                | 0.600          | o              | 525            |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| PN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | US/IL<br>(m)                                                 | Σ I.Area<br>(ha)                                                                    | Σ Base<br>Flow (l/s) | Vel<br>(m/s)   | Cap<br>(l/s)   |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 33.002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2.400                                                        | 1.400                                                                               | 0.0                  | 1.06           | 42.3           |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 37.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2.730                                                        | 0.071                                                                               | 0.0                  | 0.82           | 36.7           |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 37.001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2.680                                                        | 0.142                                                                               | 0.0                  | 1.08           | 43.1           |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 37.002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2.600                                                        | 0.213                                                                               | 0.0                  | 1.21           | 48.3           |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 37.003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2.170                                                        | 0.284                                                                               | 0.0                  | 1.04           | 73.2           |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 38.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3.440                                                        | 0.068                                                                               | 0.0                  | 4.27           | 75.4           |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 33.003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2.300                                                        | 1.752                                                                               | 0.0                  | 3.00           | 212.0          |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 33.004                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.820                                                        | 1.752                                                                               | 0.0                  | 1.15           | 183.6          |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 24.010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.660                                                        | 6.330                                                                               | 0.0                  | 1.95           | 1238.5         |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 23.001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.620                                                        | 6.474                                                                               | 0.0                  | 1.64           | 1040.7         |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 39.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2.890                                                        | 0.080                                                                               | 0.0                  | 0.00           | 0.0            |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 23.002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.495                                                        | 6.574                                                                               | 0.0                  | 1.54           | 981.7          |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 1.016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.410                                                        | 15.455                                                                              | 0.0                  | 1.53           | 974.8          |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 1.017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.300                                                        | 15.455                                                                              | 0.0                  | 1.80           | 1147.5         |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 40.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2.070                                                        | 0.055                                                                               | 0.0                  | 1.07           | 42.4           |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 40.001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.990                                                        | 0.110                                                                               | 0.0                  | 0.43           | 17.1           |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 41.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2.040                                                        | 0.094                                                                               | 0.0                  | 0.67           | 26.5           |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
| 1.018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.200                                                        | 15.689                                                                              | 0.0                  | 2.17           | 470.7          |                    |                |                |                |                    |           |             |             |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |       |       |      |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |       |       |     |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |       |       |       |       |       |      |     |       |   |     |   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 |      |        |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |       |       |        |     |      |       |
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     |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |        |        |       |       |       |      |     |       |   |     |       |        |       |       |       |      |     |       |   |     |    |              |                  |                      |              |              |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |      |        |       |       |     |      |       |        |       |       |     |      |       |        |       |       |     |      |        |        |       |       |     |      |        |        |       |       |     |      |     |        |       |       |     |      |       |       |       |        |     |      |       |       |       |        |    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| Mayer Brown Ltd                                |           |              |                                                              |                    |        | Page 7                                                                              |               |        |                           |               |               |
|------------------------------------------------|-----------|--------------|--------------------------------------------------------------|--------------------|--------|-------------------------------------------------------------------------------------|---------------|--------|---------------------------|---------------|---------------|
| Lion House<br>Oriental Road<br>Woking GU22 8AR |           |              | Littlehampton<br>Overall Surface Network<br>West of Wetlands |                    |        |  |               |        |                           |               |               |
| Date January 2018                              |           |              | Designed by S Foley                                          |                    |        |                                                                                     |               |        |                           |               |               |
| File WEST CATCHMENT MODEL_...                  |           |              | Checked by                                                   |                    |        |                                                                                     |               |        |                           |               |               |
| XP Solutions                                   |           |              | Network 2013.1                                               |                    |        |                                                                                     |               |        |                           |               |               |
| Manhole Schedules for Storm                    |           |              |                                                              |                    |        |                                                                                     |               |        |                           |               |               |
| MH Name                                        | MH CL (m) | MH Depth (m) | MH Connection                                                | MH Diam., L*W (mm) | PN     | Pipe Out Invert Level (m)                                                           | Diameter (mm) | PN     | Pipes In Invert Level (m) | Diameter (mm) | Backdrop (mm) |
| TL_SW01                                        | 6.380     | 1.210        | Open Manhole                                                 | 1050               | 1.000  | 5.176                                                                               | 300           |        |                           |               |               |
| TL_SW02                                        | 6.790     | 1.871        | Open Manhole                                                 | 1200               | 1.001  | 4.919                                                                               | 300           | 1.000  | 4.919                     | 300           |               |
| Parcel A2_1                                    | 6.300     | 1.600        | Open Manhole                                                 | 1200               | 2.000  | 5.200                                                                               | 300           |        |                           |               |               |
| Parcel A2_2                                    | 6.900     | 1.900        | Open Manhole                                                 | 1200               | 2.001  | 5.000                                                                               | 300           | 2.000  | 5.000                     | 300           |               |
| TL_SW03                                        | 6.800     | 2.044        | Open Manhole                                                 | 1200               | 1.002  | 4.756                                                                               | 300           | 1.001  | 4.756                     | 300           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 2.001  | 4.920                     | 150           | 14            |
| Parcel B6_1                                    | 6.900     | 1.900        | Open Manhole                                                 | 1200               | 3.000  | 5.000                                                                               | 300           |        |                           |               |               |
| Parcel B6_2                                    | 6.900     | 2.100        | Open Manhole                                                 | 1200               | 3.001  | 4.800                                                                               | 300           | 3.000  | 4.800                     | 300           |               |
| TL_SW04                                        | 6.780     | 2.145        | Open Manhole                                                 | 1200               | 1.003  | 4.635                                                                               | 300           | 1.002  | 4.635                     | 300           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 3.001  | 4.733                     | 150           |               |
| TL_SW05                                        | 6.380     | 2.045        | Open Manhole                                                 | 1200               | 1.004  | 4.335                                                                               | 300           | 1.003  | 4.335                     | 300           |               |
| Parcel B1&CH_1                                 | 7.220     | 3.020        | Open Manhole                                                 | 1200               | 4.000  | 4.200                                                                               | 300           |        |                           |               |               |
| Parcel B1&CH_2                                 | 7.220     | 3.085        | Open Manhole                                                 | 1200               | 4.001  | 4.135                                                                               | 300           | 4.000  | 4.135                     | 300           |               |
| Ex. SB10                                       | 7.055     | 3.145        | Open Manhole                                                 | 1200               | 1.005  | 3.910                                                                               | 300           | 1.004  | 3.910                     | 300           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 4.001  | 4.038                     | 150           |               |
| Ex. SB9                                        | 6.900     | 3.130        | Open Manhole                                                 | 1200               | 1.006  | 3.770                                                                               | 300           | 1.005  | 3.770                     | 300           |               |
| Block B_1                                      | 6.380     | 1.880        | Open Manhole                                                 | 1200               | 5.000  | 4.500                                                                               | 300           |        |                           |               |               |
| Block B_2                                      | 6.380     | 2.475        | Open Manhole                                                 | 1200               | 5.001  | 3.905                                                                               | 300           | 5.000  | 3.905                     | 300           |               |
| Ex. SB17                                       | 6.380     | 2.710        | Open Manhole                                                 | 1200               | 5.002  | 3.650                                                                               | 300           | 5.001  | 3.800                     | 150           |               |
| Ex. SB8                                        | 6.570     | 3.070        | Open Manhole                                                 | 1350               | 1.007  | 3.500                                                                               | 300           | 1.006  | 3.500                     | 300           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 5.002  | 3.500                     | 300           |               |
| BovisA_1                                       | 5.600     | 1.500        | Open Manhole                                                 | 1200               | 6.000  | 4.100                                                                               | 375           |        |                           |               |               |
| BovisA_2                                       | 5.600     | 1.600        | Open Manhole                                                 | 1200               | 6.001  | 4.000                                                                               | 375           | 6.000  | 4.000                     | 375           |               |
| Ex SB7                                         | 5.810     | 2.685        | Open Manhole                                                 | 1350               | 1.008  | 3.125                                                                               | 375           | 1.007  | 3.200                     | 300           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 6.001  | 3.125                     | 375           |               |
| BovisB_1                                       | 4.650     | 1.250        | Open Manhole                                                 | 1200               | 7.000  | 3.400                                                                               | 375           |        |                           |               |               |
| BovisB_2                                       | 4.650     | 1.425        | Open Manhole                                                 | 1200               | 7.001  | 3.225                                                                               | 375           | 7.000  | 3.225                     | 375           |               |
| Dummy Node                                     | 4.700     | 1.975        | Open Manhole                                                 | 1200               | 1.009  | 2.725                                                                               | 450           | 1.008  | 2.725                     | 375           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 7.001  | 2.800                     | 375           |               |
| Plots 123 - 126                                | 4.050     | 0.895        | Open Manhole                                                 | 450                | 8.000  | 3.100                                                                               | 150           |        |                           |               |               |
| Plots 111 - 116                                | 4.050     | 0.914        | Open Manhole                                                 | 450                | 9.000  | 3.136                                                                               | 150           |        |                           |               |               |
| SW01, G01&G02                                  | 3.850     | 0.810        | Open Manhole                                                 | 1200               | 8.001  | 2.040                                                                               | 225           | 8.000  | 3.090                     | 150           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 9.000  | 3.090                     | 150           |               |
| Permbase 01                                    | 3.850     | 0.830        | Open Manhole                                                 | 1200               | 8.002  | 3.020                                                                               | 225           | 8.001  | 3.020                     | 225           |               |
| Plots 117 - 122                                | 4.050     | 0.885        | Open Manhole                                                 | 450                | 10.000 | 3.165                                                                               | 150           |        |                           |               |               |
| Stub SW02/2                                    | 4.500     | 1.632        | Open Manhole                                                 | 450                | 10.001 | 2.868                                                                               | 225           | 10.000 | 2.868                     | 150           |               |
| Plots 101-110                                  | 4.400     | 1.400        | Open Manhole                                                 | 450                | 11.000 | 2.600                                                                               | 225           |        |                           |               |               |
| SW02                                           | 4.380     | 1.530        | Open Manhole                                                 | 1200               | 8.003  | 2.830                                                                               | 225           | 8.002  | 2.830                     | 225           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 10.001 | 2.830                     | 225           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 11.000 | 2.938                     | 225           | 108           |
| Ex SB6                                         | 4.700     | 2.075        | Open Manhole                                                 | 1500               | 1.010  | 2.625                                                                               | 450           | 1.009  | 2.700                     | 450           | 75            |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 8.003  | 2.700                     | 225           |               |
| Ret Block A                                    | 4.700     | 1.700        | Open Manhole                                                 | 1200               | 12.000 | 3.000                                                                               | 300           |        |                           |               |               |
| Ret Block A                                    | 4.600     | 1.700        | Open Manhole                                                 | 1050               | 12.001 | 2.900                                                                               | 150           | 12.000 | 2.900                     | 300           |               |
| Plots 95-100                                   | 4.600     | 1.600        | Open Manhole                                                 | 450                | 13.000 | 3.000                                                                               | 225           |        |                           |               |               |
| SW03                                           | 4.370     | 1.900        | Open Manhole                                                 | 1500               | 1.011  | 2.470                                                                               | 450           | 1.010  | 2.470                     | 450           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 12.001 | 2.770                     | 150           |               |
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|                                                |              |                    |                                                              |                         |        |                                                                                     |                  |        |                                 |                  |                  |
|------------------------------------------------|--------------|--------------------|--------------------------------------------------------------|-------------------------|--------|-------------------------------------------------------------------------------------|------------------|--------|---------------------------------|------------------|------------------|
| Mayer Brown Ltd                                |              |                    |                                                              |                         |        | Page 8                                                                              |                  |        |                                 |                  |                  |
| Lion House<br>Oriental Road<br>Woking GU22 8AR |              |                    | Littlehampton<br>Overall Surface Network<br>West of Wetlands |                         |        |  |                  |        |                                 |                  |                  |
| Date January 2018                              |              |                    | Designed by S Foley                                          |                         |        |                                                                                     |                  |        |                                 |                  |                  |
| File WEST CATCHMENT MODEL_...                  |              |                    | Checked by                                                   |                         |        |                                                                                     |                  |        |                                 |                  |                  |
| XP Solutions                                   |              |                    | Network 2013.1                                               |                         |        |                                                                                     |                  |        |                                 |                  |                  |
| Manhole Schedules for Storm                    |              |                    |                                                              |                         |        |                                                                                     |                  |        |                                 |                  |                  |
| MH<br>Name                                     | MH<br>CL (m) | MH<br>Depth<br>(m) | MH<br>Connection                                             | MH<br>Diam.,L*W<br>(mm) | PN     | Pipe Out<br>Invert<br>Level (m)                                                     | Diameter<br>(mm) | PN     | Pipes In<br>Invert<br>Level (m) | Diameter<br>(mm) | Backdrop<br>(mm) |
| SW04                                           | 4.440        | 2.150              | Open Manhole                                                 | 1500                    | 1.012  | 2.299                                                                               | 450              | 13.000 | 2.897                           | 225              | 202              |
| SW-FUT-01-PlotsN                               | 4.000        | 1.200              | Open Manhole                                                 | 450                     | 14.000 | 2.800                                                                               | 150              | 1.011  | 2.290                           | 450              |                  |
| SW-FUT-01-PlotsS                               | 4.000        | 1.200              | Open Manhole                                                 | 450                     | 15.000 | 2.800                                                                               | 150              |        |                                 |                  |                  |
| SW-FUT-01                                      | 4.000        | 1.440              | Open Manhole                                                 | 1200                    | 14.001 | 2.580                                                                               | 300              | 14.000 | 2.650                           | 150              |                  |
|                                                |              |                    |                                                              |                         |        |                                                                                     |                  | 15.000 | 2.650                           | 150              |                  |
| Permbase 02                                    | 3.800        | 1.380              | Open Manhole                                                 | 1200                    | 14.002 | 2.420                                                                               | 300              | 14.001 | 2.420                           | 300              |                  |
| Plots 80-86                                    | 4.100        | 1.550              | Open Manhole                                                 | 450                     | 16.000 | 2.550                                                                               | 150              |        |                                 |                  |                  |
| Plots 87-94                                    | 4.300        | 1.698              | Open Manhole                                                 | 450                     | 17.000 | 2.600                                                                               | 225              |        |                                 |                  |                  |
| SW05                                           | 4.170        | 2.020              | Open Manhole                                                 | 1500                    | 1.013  | 2.150                                                                               | 450              | 1.012  | 2.150                           | 450              |                  |
|                                                |              |                    |                                                              |                         |        |                                                                                     |                  | 14.002 | 2.300                           | 300              |                  |
|                                                |              |                    |                                                              |                         |        |                                                                                     |                  | 16.000 | 2.300                           | 150              |                  |
|                                                |              |                    |                                                              |                         |        |                                                                                     |                  | 17.000 | 2.300                           | 225              |                  |
| C2 Resiblock A                                 | 4.200        | 1.980              | Open Manhole                                                 | 450                     | 18.000 | 2.300                                                                               | 225              |        |                                 |                  |                  |
| SW06                                           | 3.700        | 1.710              | Open Manhole                                                 | 1500                    | 1.014  | 1.990                                                                               | 450              | 1.013  | 1.990                           | 450              |                  |
|                                                |              |                    |                                                              |                         |        |                                                                                     |                  | 18.000 | 2.054                           | 225              |                  |
| Permbase 03                                    | 3.600        | 1.700              | Open Manhole                                                 | 1800                    | 1.015  | 1.800                                                                               | 450              | 1.014  | 1.900                           | 450              |                  |
| SW-FUT-02-PlotN                                | 3.700        | 1.100              | Open Manhole                                                 | 450                     | 19.000 | 2.600                                                                               | 150              |        |                                 |                  |                  |
| SW-FUT-02-Plots                                | 3.700        | 1.100              | Open Manhole                                                 | 450                     | 20.000 | 2.600                                                                               | 150              |        |                                 |                  |                  |
| SW-FUT-02                                      | 4.200        | 1.960              | Open Manhole                                                 | 1200                    | 19.001 | 2.320                                                                               | 300              | 19.000 | 2.470                           | 150              |                  |
|                                                |              |                    |                                                              |                         |        |                                                                                     |                  | 20.000 | 2.470                           | 150              |                  |
| Permbase 04                                    | 4.000        | 1.825              | Open Manhole                                                 | 1200                    | 19.002 | 2.175                                                                               | 300              | 19.001 | 2.175                           | 300              |                  |
| Plots 60-73                                    | 3.900        | 1.300              | Open Manhole                                                 | 450                     | 21.000 | 2.600                                                                               | 150              |        |                                 |                  |                  |
| Plots 74-78                                    | 3.900        | 1.300              | Open Manhole                                                 | 450                     | 22.000 | 2.600                                                                               | 150              |        |                                 |                  |                  |
| SW07                                           | 3.870        | 1.770              | Open Manhole                                                 | 1200                    | 19.003 | 2.100                                                                               | 300              | 19.002 | 2.100                           | 300              |                  |
|                                                |              |                    |                                                              |                         |        |                                                                                     |                  | 21.000 | 2.560                           | 150              | 310              |
|                                                |              |                    |                                                              |                         |        |                                                                                     |                  | 22.000 | 2.500                           | 150              | 250              |
| Permbase 05                                    | 3.700        | 1.705              | Open Manhole                                                 | 1200                    | 19.004 | 2.055                                                                               | 300              | 19.003 | 2.055                           | 300              |                  |
| Plots 39-46                                    | 4.200        | 1.060              | Open Manhole                                                 | 1200                    | 23.000 | 3.240                                                                               | 150              |        |                                 |                  |                  |
| SW-LYM 01                                      | 5.040        | 1.300              | Open Manhole                                                 | 1200                    | 24.000 | 3.740                                                                               | 225              |        |                                 |                  |                  |
| Non resi                                       | 5.200        | 1.200              | Open Manhole                                                 | 1200                    | 25.000 | 4.000                                                                               | 450              |        |                                 |                  |                  |
| Non resi                                       | 5.200        | 1.480              | Open Manhole                                                 | 1200                    | 25.001 | 3.720                                                                               | 225              | 25.000 | 3.720                           | 450              |                  |
| SW-LYM 02                                      | 5.500        | 1.860              | Open Manhole                                                 | 1200                    | 24.001 | 3.640                                                                               | 225              | 24.000 | 3.640                           | 225              |                  |
|                                                |              |                    |                                                              |                         |        |                                                                                     |                  | 25.001 | 3.640                           | 225              |                  |
| Parcel A1                                      | 7.000        | 3.000              | Open Manhole                                                 | 1200                    | 26.000 | 4.000                                                                               | 450              |        |                                 |                  |                  |
| As-built SA8                                   | 6.000        | 2.237              | Open Manhole                                                 | 1200                    | 26.001 | 3.763                                                                               | 225              | 26.000 | 3.763                           | 450              |                  |
| Non Resi                                       | 6.000        | 2.000              | Open Manhole                                                 | 1200                    | 27.000 | 4.000                                                                               | 450              |        |                                 |                  |                  |
| SW Stub 02                                     | 6.000        | 2.360              | Open Manhole                                                 | 1200                    | 27.001 | 3.640                                                                               | 225              | 27.000 | 3.640                           | 450              |                  |
| SW-LYM 03/1                                    | 5.920        | 2.350              | Open Manhole                                                 | 1200                    | 26.002 | 3.570                                                                               | 225              | 26.001 | 3.570                           | 225              |                  |
|                                                |              |                    |                                                              |                         |        |                                                                                     |                  | 27.001 | 3.570                           | 225              |                  |
| SW-LYM 03                                      | 6.300        | 2.950              | Open Manhole                                                 | 1200                    | 24.002 | 3.350                                                                               | 225              | 24.001 | 3.425                           | 225              | 75               |
|                                                |              |                    |                                                              |                         |        |                                                                                     |                  | 26.002 | 3.425                           | 225              | 75               |
| SW-LYM 04                                      | 6.840        | 3.415              | Open Manhole                                                 | 1200                    | 24.003 | 3.225                                                                               | 300              | 24.002 | 3.225                           | 225              |                  |
| SW-LYM 07                                      | 5.370        | 1.500              | Open Manhole                                                 | 1200                    | 28.000 | 3.670                                                                               | 225              |        |                                 |                  |                  |
| SW-LYM 08                                      | 6.140        | 2.470              | Open Manhole                                                 | 1200                    | 28.001 | 3.670                                                                               | 225              | 28.000 | 3.670                           | 225              |                  |
| SW-LYM 05A                                     | 7.570        | 0.370              | Open Manhole                                                 | 1200                    | 29.000 | 7.200                                                                               | 300              |        |                                 |                  |                  |
| SW-LYM 05                                      | 7.250        | 1.710              | Open Manhole                                                 | 1200                    | 29.001 | 6.540                                                                               | 300              | 29.000 | 6.070                           | 300              | 530              |
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|                                                |           |              |                                                              |                    |        |                                                                                     |               |        |                           |               |               |
|------------------------------------------------|-----------|--------------|--------------------------------------------------------------|--------------------|--------|-------------------------------------------------------------------------------------|---------------|--------|---------------------------|---------------|---------------|
| Mayer Brown Ltd                                |           |              |                                                              |                    |        | Page 9                                                                              |               |        |                           |               |               |
| Lion House<br>Oriental Road<br>Woking GU22 8AR |           |              | Littlehampton<br>Overall Surface Network<br>West of Wetlands |                    |        |  |               |        |                           |               |               |
| Date January 2018                              |           |              | Designed by S Foley                                          |                    |        |                                                                                     |               |        |                           |               |               |
| File WEST CATCHMENT MODEL_...                  |           |              | Checked by                                                   |                    |        |                                                                                     |               |        |                           |               |               |
| XP Solutions                                   |           |              | Network 2013.1                                               |                    |        |                                                                                     |               |        |                           |               |               |
| Manhole Schedules for Storm                    |           |              |                                                              |                    |        |                                                                                     |               |        |                           |               |               |
| MH Name                                        | MH CL (m) | MH Depth (m) | MH Connection                                                | MH Diam., L*W (mm) | PN     | Pipe Out Invert Level (m)                                                           | Diameter (mm) | PN     | Pipes In Invert Level (m) | Diameter (mm) | Backdrop (mm) |
| SW-LYM 10                                      | 6.680     | 3.650        | Open Manhole                                                 | 1500               | 24.004 | 2.990                                                                               | 375           | 24.003 | 3.065                     | 300           | 2475          |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 28.001 | 3.140                     | 225           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 29.001 | 5.540                     | 300           |               |
| SW-LYM11                                       | 5.900     | 3.220        | Open Manhole                                                 | 1350               | 24.005 | 2.680                                                                               | 450           | 24.004 | 2.760                     | 375           | 5             |
| ExSB17_Dum Node                                | 6.360     | 2.660        | Open Manhole                                                 | 1200               | 30.000 | 3.700                                                                               | 225           |        |                           |               | 415           |
| SW-LYM 12                                      | 6.380     | 3.860        | Open Manhole                                                 | 1350               | 24.006 | 2.520                                                                               | 450           | 24.005 | 2.520                     | 450           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 30.000 | 3.160                     | 225           |               |
| SW-FUT-03                                      | 6.260     | 4.020        | Open Manhole                                                 | 1350               | 24.007 | 2.240                                                                               | 450           | 24.006 | 2.240                     | 450           | 5             |
| Stub SW18/1                                    | 4.300     | 1.800        | Open Manhole                                                 | 1200               | 31.000 | 2.500                                                                               | 225           |        |                           |               |               |
| SW18                                           | 4.680     | 2.300        | Open Manhole                                                 | 1200               | 31.001 | 2.380                                                                               | 225           | 31.000 | 2.380                     | 225           |               |
| SW19                                           | 5.100     | 3.130        | Open Manhole                                                 | 1350               | 24.008 | 1.970                                                                               | 450           | 24.007 | 1.970                     | 450           | 125           |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 31.001 | 2.200                     | 225           |               |
| SW20                                           | 5.000     | 3.240        | Open Manhole                                                 | 1500               | 24.009 | 1.760                                                                               | 525           | 24.008 | 1.800                     | 450           |               |
| Car Park                                       | 5.000     | 1.500        | Open Manhole                                                 | 1200               | 32.000 | 3.500                                                                               | 450           |        |                           |               | 150           |
| Car Park                                       | 5.000     | 1.600        | Open Manhole                                                 | 1200               | 32.001 | 3.400                                                                               | 150           | 32.000 | 3.400                     | 450           |               |
| Non Resi                                       | 5.300     | 2.600        | Open Manhole                                                 | 1200               | 33.000 | 2.700                                                                               | 450           |        |                           |               |               |
| Stub SW9/1                                     | 5.300     | 2.700        | Open Manhole                                                 | 1200               | 33.001 | 2.600                                                                               | 225           | 33.000 | 2.600                     | 450           | 330           |
| SW08                                           | 4.900     | 1.350        | Open Manhole                                                 | 1200               | 34.000 | 2.550                                                                               | 225           |        |                           |               |               |
| Non Resi                                       | 5.100     | 2.400        | Open Manhole                                                 | 1200               | 35.000 | 2.700                                                                               | 450           |        |                           |               |               |
| Stub SW9/2                                     | 5.100     | 2.600        | Open Manhole                                                 | 1200               | 35.001 | 2.500                                                                               | 225           | 35.000 | 2.500                     | 450           | 330           |
| Plots 1 - 4                                    | 5.200     | 0.890        | Open Manhole                                                 | 450                | 36.000 | 4.010                                                                               | 150           |        |                           |               |               |
| SW09                                           | 5.070     | 2.670        | Open Manhole                                                 | 1200               | 33.002 | 2.400                                                                               | 225           | 33.001 | 2.400                     | 225           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 34.000 | 2.400                     | 225           | 150           |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 35.001 | 2.400                     | 225           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 36.000 | 2.600                     | 150           |               |
| SW12                                           | 4.320     | 1.530        | Open Manhole                                                 | 1200               | 37.000 | 2.790                                                                               | 225           |        |                           |               | 150           |
| SW13                                           | 4.020     | 1.340        | Open Manhole                                                 | 1200               | 37.001 | 2.680                                                                               | 225           | 37.000 | 2.680                     | 225           |               |
| SW14                                           | 4.020     | 1.500        | Open Manhole                                                 | 1200               | 37.002 | 2.600                                                                               | 225           | 37.001 | 2.520                     | 225           |               |
| SW15                                           | 4.600     | 2.430        | Open Manhole                                                 | 1200               | 37.003 | 2.170                                                                               | 300           | 37.002 | 2.230                     | 225           | 150           |
| Plots 16-22                                    | 4.700     | 1.260        | Open Manhole                                                 | 450                | 38.000 | 3.440                                                                               | 150           |        |                           |               |               |
| SW16                                           | 4.650     | 2.550        | Open Manhole                                                 | 1200               | 33.003 | 2.100                                                                               | 300           | 33.002 | 2.100                     | 225           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 37.003 | 2.100                     | 300           | 150           |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 38.000 | 2.400                     | 150           |               |
| SW17                                           | 5.000     | 3.180        | Open Manhole                                                 | 1200               | 33.004 | 1.820                                                                               | 450           | 33.003 | 1.820                     | 300           |               |
| SW21                                           | 5.000     | 3.340        | Open Manhole                                                 | 1500               | 24.010 | 1.660                                                                               | 500           | 24.009 | 1.660                     | 525           | 150           |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 32.001 | 1.710                     | 150           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 33.004 | 1.660                     | 450           |               |
| SW22                                           | 4.370     | 2.640        | Open Manhole                                                 | 1300               | 23.001 | 1.630                                                                               | 300           | 23.000 | 2.305                     | 150           | 150           |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 24.010 | 1.630                     | 500           |               |
| Plots 47-55                                    | 4.100     | 1.600        | Open Manhole                                                 | 1200               | 39.000 | 2.500                                                                               | 225           |        |                           |               |               |
| SW23                                           | 3.900     | 2.405        | Open Manhole                                                 | 1500               | 23.002 | 1.495                                                                               | 500           | 23.001 | 1.495                     | 300           | 330           |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 39.000 | 2.500                     | 225           |               |
| SW24                                           | 3.810     | 2.400        | Open Manhole                                                 | 1300               | 1.016  | 1.410                                                                               | 300           | 1.015  | 1.860                     | 450           |               |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 19.004 | 2.010                     | 300           | 330           |
|                                                |           |              |                                                              |                    |        |                                                                                     |               | 23.002 | 1.410                     | 500           |               |
| Permbase 06                                    | 3.300     | 2.500        | Open Manhole                                                 | 1500               | 1.017  | 1.300                                                                               | 900           | 1.016  | 1.300                     | 300           |               |
| Plots                                          | 3.700     | 1.330        | Open Manhole                                                 | 1200               | 40.000 | 2.370                                                                               | 225           |        |                           |               |               |
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|                               |                         |                                                                                     |
|-------------------------------|-------------------------|-------------------------------------------------------------------------------------|
| Mayer Brown Ltd               |                         | Page 10                                                                             |
| Lion House                    | Littlehampton           |  |
| Oriental Road                 | Overall Surface Network |                                                                                     |
| Woking GU22 8AR               | West of Wetlands        |                                                                                     |
| Date January 2018             | Designed by S Foley     |                                                                                     |
| File WEST CATCHMENT MODEL_... | Checked by              |                                                                                     |
| XP Solutions                  | Network 2013.1          |                                                                                     |

Manhole Schedules for Storm

| MH Name     | MH CL (m) | MH Depth (m) | MH Connection | MH Diam., L*W (mm) | PN     | Pipe Out Invert Level (m) | Diameter (mm) | PN     | Pipes In Invert Level (m) | Diameter (mm) | Backdrop (mm) |
|-------------|-----------|--------------|---------------|--------------------|--------|---------------------------|---------------|--------|---------------------------|---------------|---------------|
| Stub SW25/1 | 3.723     | 1.730        | Open Manhole  | 1800               | 40.001 | 1.990                     | 225           | 40.000 | 2.140                     | 225           | 150           |
| Stub SW25/2 | 3.683     | 1.640        | Open Manhole  | 1800               | 41.000 | 2.040                     | 225           |        |                           |               |               |
| SW25        | 3.600     | 2.400        | Open Manhole  | 1800               | 1.018  | 1.200                     | 900           | 1.017  | 1.280                     | 900           | 455           |
|             |           |              |               |                    |        |                           |               | 40.001 | 1.960                     | 225           | 460           |
|             |           |              |               |                    |        |                           |               | 41.000 | 1.960                     | 225           | 460           |
| Outfall B   | 1.753     | 0.750        | Open Manhole  | 0                  |        | OUTFALL                   |               | 1.018  | 1.000                     | 525           |               |

|                                                |                                                              |                                                                                     |
|------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Mayer Brown Ltd                                |                                                              | Page 11                                                                             |
| Lion House<br>Oriental Road<br>Woking GU22 8AR | Littlehampton<br>Overall Surface Network<br>West of Wetlands |  |
| Date January 2018                              | Designed by S Foley                                          |                                                                                     |
| File WEST CATCHMENT MODEL_...                  | Checked by                                                   |                                                                                     |
| XP Solutions                                   | Network 2013.1                                               |                                                                                     |

PIPELINE SCHEDULES for Storm

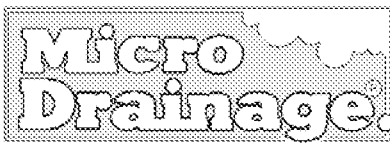
Upstream Manhole

| PN    | Hyd<br>Sect | Diam<br>(mm) | MH<br>Name     | C.Level<br>(m) | I.Level<br>(m) | D.Depth<br>(m) | MH<br>Connection | MH DIAM., L*W<br>(mm) |
|-------|-------------|--------------|----------------|----------------|----------------|----------------|------------------|-----------------------|
| 1.000 | o           | 300          | TL_SW01        | 8.388          | 5.170          | 3.218          | Open Manhole     | 1050                  |
| 1.001 | o           | 300          | TL_SW02        | 8.790          | 4.919          | 1.571          | Open Manhole     | 1200                  |
| 2.000 | o           | 300          | Parcel A2_1    | 8.800          | 5.000          | 1.300          | Open Manhole     | 1200                  |
| 2.001 | o           | 150          | Parcel A2_2    | 8.800          | 5.800          | 1.750          | Open Manhole     | 1200                  |
| 1.002 | o           | 300          | TL_SW03        | 8.800          | 4.756          | 1.744          | Open Manhole     | 1200                  |
| 3.000 | o           | 300          | Parcel B6_1    | 8.900          | 5.800          | 1.600          | Open Manhole     | 1200                  |
| 3.001 | o           | 150          | Parcel B6_2    | 8.900          | 4.800          | 1.950          | Open Manhole     | 1200                  |
| 1.003 | o           | 300          | TL_SW04        | 8.780          | 4.635          | 1.845          | Open Manhole     | 1200                  |
| 1.004 | o           | 300          | TL_SW05        | 8.388          | 4.335          | 1.745          | Open Manhole     | 1200                  |
| 4.000 | o           | 300          | Parcel B1&CH_1 | 7.220          | 4.200          | 2.720          | Open Manhole     | 1200                  |
| 4.001 | o           | 150          | Parcel B1&CH 2 | 7.220          | 4.135          | 2.935          | Open Manhole     | 1200                  |
| 1.005 | o           | 300          | Ex. SB10       | 7.055          | 3.910          | 2.845          | Open Manhole     | 1200                  |
| 1.006 | o           | 300          | Ex. SB9        | 8.900          | 3.770          | 2.830          | Open Manhole     | 1200                  |
| 5.000 | o           | 300          | Block B_1      | 8.388          | 4.800          | 1.580          | Open Manhole     | 1200                  |
| 5.001 | o           | 150          | Block B_2      | 8.388          | 3.905          | 2.325          | Open Manhole     | 1200                  |
| 5.002 | o           | 200          | Ex. SB17       | 8.388          | 3.650          | 2.810          | Open Manhole     | 1200                  |
| 1.007 | o           | 300          | Ex. SB8        | 8.570          | 3.500          | 2.770          | Open Manhole     | 1350                  |
| 6.000 | o           | 375          | BovisA_1       | 5.600          | 4.100          | 1.125          | Open Manhole     | 1200                  |
| 6.001 | o           | 375          | BovisA_2       | 5.600          | 4.000          | 1.225          | Open Manhole     | 1200                  |

Downstream Manhole

| PN    | Length<br>(m) | Slope<br>(1:X) | MH<br>Name     | C.Level<br>(m) | I.Level<br>(m) | D.Depth<br>(m) | MH<br>Connection | MH DIAM., L*W<br>(mm) |
|-------|---------------|----------------|----------------|----------------|----------------|----------------|------------------|-----------------------|
| 1.000 | 59.000        | 235.1          | TL_SW02        | 8.790          | 4.919          | 1.571          | Open Manhole     | 1200                  |
| 1.001 | 38.000        | 233.1          | TL_SW03        | 8.800          | 4.756          | 1.744          | Open Manhole     | 1200                  |
| 2.000 | 12.808        | 64.0           | Parcel A2_2    | 8.800          | 5.000          | 1.600          | Open Manhole     | 1200                  |
| 2.001 | 12.001        | 150.0          | TL_SW03        | 8.800          | 4.920          | 1.730          | Open Manhole     | 1200                  |
| 1.002 | 27.675        | 228.7          | TL_SW04        | 8.780          | 4.635          | 1.845          | Open Manhole     | 1200                  |
| 3.000 | 19.930        | 99.7           | Parcel B6_2    | 8.900          | 4.800          | 1.800          | Open Manhole     | 1200                  |
| 3.001 | 10.000        | 149.3          | TL_SW04        | 8.780          | 4.733          | 1.897          | Open Manhole     | 1200                  |
| 1.003 | 70.062        | 233.5          | TL_SW05        | 8.388          | 4.335          | 1.745          | Open Manhole     | 1200                  |
| 1.004 | 94.210        | 221.7          | Ex. SB10       | 7.055          | 3.910          | 2.845          | Open Manhole     | 1200                  |
| 4.000 | 20.000        | 307.7          | Parcel B1&CH 2 | 7.220          | 4.135          | 2.785          | Open Manhole     | 1200                  |
| 4.001 | 14.532        | 149.8          | Ex. SB10       | 7.055          | 4.038          | 2.867          | Open Manhole     | 1200                  |
| 1.005 | 30.500        | 217.9          | Ex. SB9        | 8.900          | 3.770          | 2.830          | Open Manhole     | 1200                  |
| 1.006 | 59.368        | 219.9          | Ex. SB8        | 8.570          | 3.500          | 2.770          | Open Manhole     | 1350                  |
| 5.000 | 19.999        | 33.6           | Block B_2      | 8.388          | 3.905          | 2.175          | Open Manhole     | 1200                  |
| 5.001 | 14.532        | 138.4          | Ex. SB17       | 8.388          | 3.800          | 2.810          | Open Manhole     | 1200                  |
| 5.002 | 36.500        | 243.3          | Ex. SB8        | 8.570          | 3.500          | 2.770          | Open Manhole     | 1350                  |
| 1.007 | 88.421        | 294.7          | Ex SB7         | 5.810          | 3.200          | 2.310          | Open Manhole     | 1350                  |
| 6.000 | 20.006        | 200.1          | BovisA_2       | 5.600          | 4.000          | 1.225          | Open Manhole     | 1200                  |
| 6.001 | 14.650        | 16.7           | Ex SB7         | 5.810          | 3.125          | 2.310          | Open Manhole     | 1350                  |

|                                                |            |             |                                                              |             |             |                                                                                     |               |                    |
|------------------------------------------------|------------|-------------|--------------------------------------------------------------|-------------|-------------|-------------------------------------------------------------------------------------|---------------|--------------------|
| Mayer Brown Ltd                                |            |             |                                                              | Page 12     |             |                                                                                     |               |                    |
| Lion House<br>Oriental Road<br>Woking GU22 8AR |            |             | Littlehampton<br>Overall Surface Network<br>West of Wetlands |             |             |  |               |                    |
| Date January 2018                              |            |             | Designed by S Foley                                          |             |             |                                                                                     |               |                    |
| File WEST CATCHMENT MODEL_...                  |            |             | Checked by                                                   |             |             |                                                                                     |               |                    |
| XP Solutions                                   |            |             | Network 2013.1                                               |             |             |                                                                                     |               |                    |
| PIPELINE SCHEDULES for Storm                   |            |             |                                                              |             |             |                                                                                     |               |                    |
| Upstream Manhole                               |            |             |                                                              |             |             |                                                                                     |               |                    |
| PN                                             | Hyd Sect   | Diam (mm)   | MH Name                                                      | C.Level (m) | I.Level (m) | D.Depth (m)                                                                         | MH Connection | MH DIAM., L*W (mm) |
| 1.008                                          | o          | 375         | Ex SB7                                                       | 5.810       | 3.135       | 2.310                                                                               | Open Manhole  | 1350               |
| 7.000                                          | o          | 375         | BovisB_1                                                     | 4.650       | 3.400       | 0.875                                                                               | Open Manhole  | 1200               |
| 7.001                                          | o          | 375         | BovisB_2                                                     | 4.650       | 3.225       | 1.050                                                                               | Open Manhole  | 1200               |
| 1.009                                          | o          | 450         | Dummy Node                                                   | 4.700       | 2.725       | 1.525                                                                               | Open Manhole  | 1200               |
| 8.000                                          | o          | 150         | Plots 123 - 126                                              | 4.850       | 3.155       | 0.745                                                                               | Open Manhole  | 450                |
| 9.000                                          | o          | 150         | Plots 111 - 116                                              | 4.950       | 3.135       | 0.764                                                                               | Open Manhole  | 450                |
| 8.001                                          | o          | 225         | SW01, G01&G02                                                | 3.850       | 3.040       | 0.565                                                                               | Open Manhole  | 1200               |
| 8.002                                          | o          | 225         | Permbase 01                                                  | 3.850       | 3.020       | 0.605                                                                               | Open Manhole  | 1200               |
| 10.000                                         | o          | 150         | Plots 117 - 122                                              | 4.050       | 3.165       | 0.735                                                                               | Open Manhole  | 450                |
| 10.001                                         | o          | 225         | Stub SW02/2                                                  | 4.500       | 2.868       | 1.407                                                                               | Open Manhole  | 450                |
| 11.000                                         | o          | 225         | Plots 101-110                                                | 4.400       | 3.000       | 1.175                                                                               | Open Manhole  | 450                |
| 8.003                                          | o          | 225         | SW02                                                         | 4.360       | 2.830       | 1.305                                                                               | Open Manhole  | 1200               |
| 1.010                                          | o          | 450         | Ex SB6                                                       | 4.700       | 2.625       | 1.625                                                                               | Open Manhole  | 1500               |
| 12.000                                         | o          | 300         | Ret Block A                                                  | 4.700       | 3.000       | 1.400                                                                               | Open Manhole  | 1200               |
| 12.001                                         | o          | 150         | Ret Block A                                                  | 4.600       | 2.900       | 1.550                                                                               | Open Manhole  | 1050               |
| 13.000                                         | o          | 225         | Plots 95-100                                                 | 4.600       | 3.000       | 1.375                                                                               | Open Manhole  | 450                |
| Downstream Manhole                             |            |             |                                                              |             |             |                                                                                     |               |                    |
| PN                                             | Length (m) | Slope (1:X) | MH Name                                                      | C.Level (m) | I.Level (m) | D.Depth (m)                                                                         | MH Connection | MH DIAM., L*W (mm) |
| 1.008                                          | 77.584     | 194.0       | Dummy Node                                                   | 4.700       | 2.725       | 1.600                                                                               | Open Manhole  | 1200               |
| 7.000                                          | 20.000     | 114.3       | BovisB_2                                                     | 4.650       | 3.225       | 1.050                                                                               | Open Manhole  | 1200               |
| 7.001                                          | 13.401     | 31.5        | Dummy Node                                                   | 4.700       | 2.800       | 1.525                                                                               | Open Manhole  | 1200               |
| 1.009                                          | 4.916      | 196.6       | Ex SB6                                                       | 4.700       | 2.700       | 1.550                                                                               | Open Manhole  | 1500               |
| 8.000                                          | 23.339     | 359.1       | SW01, G01&G02                                                | 3.850       | 3.090       | 0.610                                                                               | Open Manhole  | 1200               |
| 9.000                                          | 3.876      | 84.3        | SW01, G01&G02                                                | 3.850       | 3.090       | 0.610                                                                               | Open Manhole  | 1200               |
| 8.001                                          | 5.600      | 280.0       | Permbase 01                                                  | 3.850       | 3.020       | 0.605                                                                               | Open Manhole  | 1200               |
| 8.002                                          | 45.386     | 238.9       | SW02                                                         | 4.360       | 2.830       | 1.305                                                                               | Open Manhole  | 1200               |
| 10.000                                         | 33.343     | 112.3       | Stub SW02/2                                                  | 4.500       | 2.868       | 1.482                                                                               | Open Manhole  | 450                |
| 10.001                                         | 6.800      | 178.9       | SW02                                                         | 4.360       | 2.830       | 1.305                                                                               | Open Manhole  | 1200               |
| 11.000                                         | 6.800      | 109.7       | SW02                                                         | 4.360       | 2.938       | 1.197                                                                               | Open Manhole  | 1200               |
| 8.003                                          | 43.824     | 337.1       | Ex SB6                                                       | 4.700       | 2.700       | 1.775                                                                               | Open Manhole  | 1500               |
| 1.010                                          | 34.073     | 219.8       | SW03                                                         | 4.370       | 2.470       | 1.450                                                                               | Open Manhole  | 1500               |
| 12.000                                         | 40.643     | 406.4       | Ret Block A                                                  | 4.600       | 2.900       | 1.400                                                                               | Open Manhole  | 1050               |
| 12.001                                         | 9.903      | 76.2        | SW03                                                         | 4.370       | 2.770       | 1.450                                                                               | Open Manhole  | 1500               |
| 13.000                                         | 6.000      | 58.3        | SW03                                                         | 4.370       | 2.897       | 1.248                                                                               | Open Manhole  | 1500               |
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|                                                |            |             |                                                              |             |             |                                                                                     |               |                    |  |
|------------------------------------------------|------------|-------------|--------------------------------------------------------------|-------------|-------------|-------------------------------------------------------------------------------------|---------------|--------------------|--|
| Mayer Brown Ltd                                |            |             |                                                              | Page 13     |             |                                                                                     |               |                    |  |
| Lion House<br>Oriental Road<br>Woking GU22 8AR |            |             | Littlehampton<br>Overall Surface Network<br>West of Wetlands |             |             |  |               |                    |  |
| Date January 2018                              |            |             | Designed by S Foley                                          |             |             |                                                                                     |               |                    |  |
| File WEST CATCHMENT MODEL_...                  |            |             | Checked by                                                   |             |             |                                                                                     |               |                    |  |
| XP Solutions                                   |            |             | Network 2013.1                                               |             |             |                                                                                     |               |                    |  |
| PIPELINE SCHEDULES for Storm                   |            |             |                                                              |             |             |                                                                                     |               |                    |  |
| Upstream Manhole                               |            |             |                                                              |             |             |                                                                                     |               |                    |  |
| PN                                             | Hyd Sect   | Diam (mm)   | MH Name                                                      | C.Level (m) | I.Level (m) | D.Depth (m)                                                                         | MH Connection | MH DIAM., L*W (mm) |  |
| 1.011                                          | o          | 450         | SW03                                                         | 4.170       | 2.470       | 1.450                                                                               | Open Manhole  | 1500               |  |
| 1.012                                          | o          | 450         | SW04                                                         | 4.440       | 2.290       | 1.700                                                                               | Open Manhole  | 1500               |  |
| 14.000                                         | o          | 150         | SW-FUT-01-PlotsN                                             | 4.000       | 2.800       | 1.050                                                                               | Open Manhole  | 450                |  |
| 15.000                                         | o          | 150         | SW-FUT-01-PlotsS                                             | 4.000       | 2.800       | 1.050                                                                               | Open Manhole  | 450                |  |
| 14.001                                         | o          | 300         | SW-FUT-01                                                    | 4.000       | 2.900       | 1.140                                                                               | Open Manhole  | 1200               |  |
| 14.002                                         | o          | 300         | Permbase 02                                                  | 3.300       | 2.420       | 1.080                                                                               | Open Manhole  | 1200               |  |
| 16.000                                         | o          | 150         | Plots 80-86                                                  | 4.100       | 2.950       | 1.400                                                                               | Open Manhole  | 450                |  |
| 17.000                                         | o          | 225         | Plots 87-94                                                  | 4.300       | 2.602       | 1.473                                                                               | Open Manhole  | 450                |  |
| 1.013                                          | o          | 450         | SW05                                                         | 4.170       | 2.150       | 1.570                                                                               | Open Manhole  | 1500               |  |
| 18.000                                         | o          | 225         | C2 Resiblock A                                               | 4.100       | 2.300       | 1.755                                                                               | Open Manhole  | 450                |  |
| 1.014                                          | o          | 450         | SW06                                                         | 3.700       | 1.900       | 1.260                                                                               | Open Manhole  | 1500               |  |
| 1.015                                          | o          | 450         | Permbase 03                                                  | 2.600       | 1.900       | 1.250                                                                               | Open Manhole  | 1500               |  |
| 19.000                                         | o          | 150         | SW-FUT-02-PlotN                                              | 3.700       | 2.600       | 0.850                                                                               | Open Manhole  | 450                |  |
| 20.000                                         | o          | 150         | SW-FUT-02-PlotS                                              | 3.700       | 2.600       | 0.950                                                                               | Open Manhole  | 450                |  |
| 19.001                                         | o          | 300         | SW-FUT-02                                                    | 4.280       | 2.320       | 1.660                                                                               | Open Manhole  | 1200               |  |
| 19.002                                         | o          | 300         | Permbase 04                                                  | 4.000       | 2.175       | 1.525                                                                               | Open Manhole  | 1200               |  |
| Downstream Manhole                             |            |             |                                                              |             |             |                                                                                     |               |                    |  |
| PN                                             | Length (m) | Slope (1:X) | MH Name                                                      | C.Level (m) | I.Level (m) | D.Depth (m)                                                                         | MH Connection | MH DIAM., L*W (mm) |  |
| 1.011                                          | 28.223     | 156.8       | SW04                                                         | 4.440       | 2.290       | 1.700                                                                               | Open Manhole  | 1500               |  |
| 1.012                                          | 22.432     | 160.2       | SW05                                                         | 4.170       | 2.150       | 1.570                                                                               | Open Manhole  | 1500               |  |
| 14.000                                         | 22.905     | 152.7       | SW-FUT-01                                                    | 4.000       | 2.650       | 1.200                                                                               | Open Manhole  | 1200               |  |
| 15.000                                         | 28.097     | 187.3       | SW-FUT-01                                                    | 4.000       | 2.650       | 1.200                                                                               | Open Manhole  | 1200               |  |
| 14.001                                         | 35.213     | 251.5       | Permbase 02                                                  | 3.800       | 2.420       | 1.080                                                                               | Open Manhole  | 1200               |  |
| 14.002                                         | 28.603     | 238.4       | SW05                                                         | 4.170       | 2.300       | 1.570                                                                               | Open Manhole  | 1500               |  |
| 16.000                                         | 12.624     | 50.5        | SW05                                                         | 4.170       | 2.300       | 1.720                                                                               | Open Manhole  | 1500               |  |
| 17.000                                         | 7.200      | 23.8        | SW05                                                         | 4.170       | 2.300       | 1.645                                                                               | Open Manhole  | 1500               |  |
| 1.013                                          | 37.575     | 234.8       | SW06                                                         | 3.700       | 1.990       | 1.260                                                                               | Open Manhole  | 1500               |  |
| 18.000                                         | 8.659      | 32.6        | SW06                                                         | 3.700       | 2.054       | 1.421                                                                               | Open Manhole  | 1500               |  |
| 1.014                                          | 22.449     | 249.4       | Permbase 03                                                  | 3.600       | 1.900       | 1.250                                                                               | Open Manhole  | 1500               |  |
| 1.015                                          | 10.000     | 250.0       | SW24                                                         | 3.810       | 1.860       | 1.500                                                                               | Open Manhole  | 1800               |  |
| 19.000                                         | 26.210     | 201.6       | SW-FUT-02                                                    | 4.280       | 2.470       | 1.660                                                                               | Open Manhole  | 1200               |  |
| 20.000                                         | 28.840     | 221.8       | SW-FUT-02                                                    | 4.280       | 2.470       | 1.660                                                                               | Open Manhole  | 1200               |  |
| 19.001                                         | 35.611     | 245.6       | Permbase 04                                                  | 4.000       | 2.175       | 1.525                                                                               | Open Manhole  | 1200               |  |
| 19.002                                         | 18.889     | 251.9       | SW07                                                         | 3.870       | 2.100       | 1.470                                                                               | Open Manhole  | 1200               |  |
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|                                                |            |             |                                                              |             |             |                                                                                     |               |                    |  |
|------------------------------------------------|------------|-------------|--------------------------------------------------------------|-------------|-------------|-------------------------------------------------------------------------------------|---------------|--------------------|--|
| Mayer Brown Ltd                                |            |             |                                                              | Page 14     |             |                                                                                     |               |                    |  |
| Lion House<br>Oriental Road<br>Woking GU22 8AR |            |             | Littlehampton<br>Overall Surface Network<br>West of Wetlands |             |             |  |               |                    |  |
| Date January 2018                              |            |             | Designed by S Foley                                          |             |             |                                                                                     |               |                    |  |
| File WEST CATCHMENT MODEL_...                  |            |             | Checked by                                                   |             |             |                                                                                     |               |                    |  |
| XP Solutions                                   |            |             | Network 2013.1                                               |             |             |                                                                                     |               |                    |  |
| PIPELINE SCHEDULES for Storm                   |            |             |                                                              |             |             |                                                                                     |               |                    |  |
| Upstream Manhole                               |            |             |                                                              |             |             |                                                                                     |               |                    |  |
| PN                                             | Hyd Sect   | Diam (mm)   | MH Name                                                      | C.Level (m) | I.Level (m) | D.Depth (m)                                                                         | MH Connection | MH DIAM., L*W (mm) |  |
| 21.000                                         | o          | 150         | Plots 60-73                                                  | 3.900       | 2.600       | 1.150                                                                               | Open Manhole  | 450                |  |
| 22.000                                         | o          | 150         | Plots 74-78                                                  | 3.800       | 2.600       | 1.150                                                                               | Open Manhole  | 450                |  |
| 19.003                                         | o          | 300         | SW07                                                         | 3.870       | 2.100       | 1.470                                                                               | Open Manhole  | 1200               |  |
| 19.004                                         | o          | 300         | Permbase 05                                                  | 3.760       | 2.055       | 1.405                                                                               | Open Manhole  | 1200               |  |
| 23.000                                         | o          | 150         | Plots 39-46                                                  | 4.300       | 3.240       | 0.910                                                                               | Open Manhole  | 1200               |  |
| 24.000                                         | o          | 225         | SW-LYM 01                                                    | 5.640       | 3.740       | 1.075                                                                               | Open Manhole  | 1200               |  |
| 25.000                                         | o          | 450         | Non resi                                                     | 5.200       | 3.600       | 0.750                                                                               | Open Manhole  | 1200               |  |
| 25.001                                         | o          | 225         | Non resi                                                     | 5.200       | 3.720       | 1.255                                                                               | Open Manhole  | 1200               |  |
| 24.001                                         | o          | 225         | SW-LYM 02                                                    | 5.500       | 3.640       | 1.635                                                                               | Open Manhole  | 1200               |  |
| 26.000                                         | o          | 450         | Parcel A1                                                    | 7.000       | 4.000       | 2.550                                                                               | Open Manhole  | 1200               |  |
| 26.001                                         | o          | 225         | As-built SA8                                                 | 6.000       | 3.763       | 2.012                                                                               | Open Manhole  | 1200               |  |
| 27.000                                         | o          | 450         | Non Resi                                                     | 6.000       | 4.000       | 1.550                                                                               | Open Manhole  | 1200               |  |
| 27.001                                         | o          | 225         | SW Stub 02                                                   | 6.000       | 3.640       | 2.135                                                                               | Open Manhole  | 1200               |  |
| 26.002                                         | o          | 225         | SW-LYM 03/1                                                  | 5.920       | 3.570       | 2.125                                                                               | Open Manhole  | 1200               |  |
| 24.002                                         | o          | 225         | SW-LYM 03                                                    | 6.300       | 3.350       | 2.725                                                                               | Open Manhole  | 1200               |  |
| 24.003                                         | o          | 300         | SW-LYM 04                                                    | 6.640       | 3.225       | 3.115                                                                               | Open Manhole  | 1200               |  |
| Downstream Manhole                             |            |             |                                                              |             |             |                                                                                     |               |                    |  |
| PN                                             | Length (m) | Slope (1:X) | MH Name                                                      | C.Level (m) | I.Level (m) | D.Depth (m)                                                                         | MH Connection | MH DIAM., L*W (mm) |  |
| 21.000                                         | 7.800      | 195.0       | SW07                                                         | 3.870       | 2.560       | 1.150                                                                               | Open Manhole  | 1200               |  |
| 22.000                                         | 9.600      | 96.0        | SW07                                                         | 3.870       | 2.500       | 1.220                                                                               | Open Manhole  | 1200               |  |
| 19.003                                         | 11.498     | 255.5       | Permbase 05                                                  | 3.760       | 2.055       | 1.405                                                                               | Open Manhole  | 1200               |  |
| 19.004                                         | 10.000     | 222.2       | SW24                                                         | 3.810       | 2.010       | 1.500                                                                               | Open Manhole  | 1800               |  |
| 23.000                                         | 6.005      | 6.4         | SW22                                                         | 4.270       | 2.305       | 1.815                                                                               | Open Manhole  | 1800               |  |
| 24.000                                         | 24.867     | 248.7       | SW-LYM 02                                                    | 5.500       | 3.640       | 1.635                                                                               | Open Manhole  | 1200               |  |
| 25.000                                         | 39.317     | 140.4       | Non resi                                                     | 5.200       | 3.720       | 1.000                                                                               | Open Manhole  | 1200               |  |
| 25.001                                         | 13.808     | 172.6       | SW-LYM 02                                                    | 5.500       | 3.640       | 1.635                                                                               | Open Manhole  | 1200               |  |
| 24.001                                         | 44.896     | 208.8       | SW-LYM 03                                                    | 6.300       | 3.425       | 2.650                                                                               | Open Manhole  | 1200               |  |
| 26.000                                         | 39.613     | 167.1       | As-built SA8                                                 | 6.000       | 3.763       | 1.787                                                                               | Open Manhole  | 1200               |  |
| 26.001                                         | 28.513     | 147.7       | SW-LYM 03/1                                                  | 5.920       | 3.570       | 2.125                                                                               | Open Manhole  | 1200               |  |
| 27.000                                         | 34.498     | 95.8        | SW Stub 02                                                   | 6.000       | 3.640       | 1.910                                                                               | Open Manhole  | 1200               |  |
| 27.001                                         | 5.111      | 73.0        | SW-LYM 03/1                                                  | 6.000       | 3.570       | 2.125                                                                               | Open Manhole  | 1200               |  |
| 26.002                                         | 16.877     | 116.4       | SW-LYM 03                                                    | 6.300       | 3.425       | 2.650                                                                               | Open Manhole  | 1200               |  |
| 24.002                                         | 25.768     | 206.1       | SW-LYM 04                                                    | 6.640       | 3.225       | 3.190                                                                               | Open Manhole  | 1200               |  |
| 24.003                                         | 43.680     | 273.0       | SW-LYM 10                                                    | 6.640       | 3.065       | 3.275                                                                               | Open Manhole  | 1500               |  |
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|                               |        |       |                         |         |         |         |                                                                                     |               |
|-------------------------------|--------|-------|-------------------------|---------|---------|---------|-------------------------------------------------------------------------------------|---------------|
| Mayer Brown Ltd               |        |       |                         |         |         |         | Page 15                                                                             |               |
| Lion House                    |        |       | Littlehampton           |         |         |         |  |               |
| Oriental Road                 |        |       | Overall Surface Network |         |         |         |                                                                                     |               |
| Woking GU22 8AR               |        |       | West of Wetlands        |         |         |         |                                                                                     |               |
| Date January 2018             |        |       | Designed by S Foley     |         |         |         |                                                                                     |               |
| File WEST CATCHMENT MODEL_... |        |       | Checked by              |         |         |         |                                                                                     |               |
| XP Solutions                  |        |       | Network 2013.1          |         |         |         |                                                                                     |               |
| PIPELINE SCHEDULES for Storm  |        |       |                         |         |         |         |                                                                                     |               |
| Upstream Manhole              |        |       |                         |         |         |         |                                                                                     |               |
| PN                            | Hyd    | Diam  | MH                      | C.Level | I.Level | D.Depth | MH                                                                                  | MH DIAM., L*W |
|                               | Sect   | (mm)  | Name                    | (m)     | (m)     | (m)     | Connection                                                                          | (mm)          |
| 28.000                        | o      | 225   | SW-LYM 07               | 6.370   | 3.670   | 1.275   | Open Manhole                                                                        | 1200          |
| 28.001                        | o      | 225   | SW-LYM 08               | 6.140   | 3.670   | 2.245   | Open Manhole                                                                        | 1200          |
| 29.000                        | o      | 300   | SW-LYM 05A              | 7.570   | 7.200   | 0.070   | Open Manhole                                                                        | 1200          |
| 29.001                        | o      | 300   | SW-LYM 05               | 7.350   | 5.540   | 1.410   | Open Manhole                                                                        | 1200          |
| 24.004                        | o      | 275   | SW-LYM 10               | 6.640   | 2.390   | 3.275   | Open Manhole                                                                        | 1500          |
| 24.005                        | o      | 450   | SW-LYM11                | 6.990   | 2.660   | 2.770   | Open Manhole                                                                        | 1350          |
| 30.000                        | o      | 225   | ExSB17_Dum Node         | 6.360   | 3.700   | 2.435   | Open Manhole                                                                        | 1200          |
| 24.006                        | o      | 450   | SW-LYM 12               | 6.380   | 2.520   | 3.410   | Open Manhole                                                                        | 1350          |
| 24.007                        | o      | 450   | SW-FUT-03               | 6.260   | 2.240   | 3.570   | Open Manhole                                                                        | 1350          |
| 31.000                        | o      | 225   | Stub SW18/1             | 4.600   | 2.500   | 1.575   | Open Manhole                                                                        | 1200          |
| 31.001                        | o      | 225   | SW18                    | 4.680   | 2.380   | 2.075   | Open Manhole                                                                        | 1200          |
| 24.008                        | o      | 450   | SW19                    | 5.100   | 1.970   | 2.680   | Open Manhole                                                                        | 1350          |
| 24.009                        | o      | 525   | SW20                    | 5.000   | 1.760   | 2.715   | Open Manhole                                                                        | 1800          |
| 32.000                        | o      | 450   | Car Park                | 5.000   | 3.500   | 1.050   | Open Manhole                                                                        | 1200          |
| 32.001                        | o      | 150   | Car Park                | 5.000   | 3.400   | 1.450   | Open Manhole                                                                        | 1200          |
| 33.000                        | o      | 450   | Non Resi                | 5.300   | 2.700   | 2.150   | Open Manhole                                                                        | 1200          |
| 33.001                        | o      | 225   | Stub SW9/1              | 5.300   | 2.600   | 2.475   | Open Manhole                                                                        | 1200          |
| 34.000                        | o      | 225   | SW08                    | 4.900   | 3.550   | 1.125   | Open Manhole                                                                        | 1200          |
| Downstream Manhole            |        |       |                         |         |         |         |                                                                                     |               |
| PN                            | Length | Slope | MH                      | C.Level | I.Level | D.Depth | MH                                                                                  | MH DIAM., L*W |
|                               | (m)    | (1:X) | Name                    | (m)     | (m)     | (m)     | Connection                                                                          | (mm)          |
| 28.000                        | 25.335 | 126.7 | SW-LYM 08               | 6.140   | 3.670   | 2.245   | Open Manhole                                                                        | 1200          |
| 28.001                        | 34.164 | 64.5  | SW-LYM 10               | 6.640   | 3.140   | 3.275   | Open Manhole                                                                        | 1500          |
| 29.000                        | 64.700 | 57.3  | SW-LYM 05               | 7.350   | 6.070   | 0.880   | Open Manhole                                                                        | 1200          |
| 29.001                        | 30.927 | 0.0   | SW-LYM 10               | 6.640   | 5.540   | 0.800   | Open Manhole                                                                        | 1500          |
| 24.004                        | 45.590 | 198.2 | SW-LYM11                | 6.990   | 2.760   | 2.765   | Open Manhole                                                                        | 1350          |
| 24.005                        | 38.840 | 242.7 | SW-LYM 12               | 6.380   | 2.520   | 3.410   | Open Manhole                                                                        | 1350          |
| 30.000                        | 26.634 | 49.3  | SW-LYM 12               | 6.380   | 3.160   | 2.995   | Open Manhole                                                                        | 1350          |
| 24.006                        | 37.201 | 132.9 | SW-FUT-03               | 6.260   | 2.240   | 3.570   | Open Manhole                                                                        | 1350          |
| 24.007                        | 63.944 | 236.8 | SW19                    | 5.100   | 1.970   | 2.680   | Open Manhole                                                                        | 1350          |
| 31.000                        | 24.684 | 205.7 | SW18                    | 4.680   | 2.380   | 2.075   | Open Manhole                                                                        | 1200          |
| 31.001                        | 35.227 | 195.7 | SW19                    | 5.100   | 2.200   | 2.675   | Open Manhole                                                                        | 1350          |
| 24.008                        | 19.302 | 113.5 | SW20                    | 5.000   | 1.800   | 2.750   | Open Manhole                                                                        | 1800          |
| 24.009                        | 42.970 | 429.7 | SW21                    | 5.000   | 1.660   | 2.815   | Open Manhole                                                                        | 1800          |
| 32.000                        | 7.262  | 72.6  | Car Park                | 5.000   | 3.400   | 1.150   | Open Manhole                                                                        | 1200          |
| 32.001                        | 27.748 | 16.4  | SW21                    | 5.000   | 1.710   | 3.140   | Open Manhole                                                                        | 1800          |
| 33.000                        | 20.005 | 200.1 | Stub SW9/1              | 5.300   | 2.600   | 2.250   | Open Manhole                                                                        | 1200          |
| 33.001                        | 30.526 | 152.6 | SW09                    | 5.070   | 2.400   | 2.445   | Open Manhole                                                                        | 1200          |
| 34.000                        | 30.576 | 26.6  | SW09                    | 5.070   | 2.400   | 2.445   | Open Manhole                                                                        | 1200          |
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|                                                |            |             |                                                              |             |             |                                                                                     |               |                    |  |
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| Mayer Brown Ltd                                |            |             |                                                              | Page 16     |             |                                                                                     |               |                    |  |
| Lion House<br>Oriental Road<br>Woking GU22 8AR |            |             | Littlehampton<br>Overall Surface Network<br>West of Wetlands |             |             |  |               |                    |  |
| Date January 2018                              |            |             | Designed by S Foley                                          |             |             |                                                                                     |               |                    |  |
| File WEST CATCHMENT MODEL_...                  |            |             | Checked by                                                   |             |             |                                                                                     |               |                    |  |
| XP Solutions                                   |            |             | Network 2013.1                                               |             |             |                                                                                     |               |                    |  |
| PIPELINE SCHEDULES for Storm                   |            |             |                                                              |             |             |                                                                                     |               |                    |  |
| Upstream Manhole                               |            |             |                                                              |             |             |                                                                                     |               |                    |  |
| PN                                             | Hyd Sect   | Diam (mm)   | MH Name                                                      | C.Level (m) | I.Level (m) | D.Depth (m)                                                                         | MH Connection | MH DIAM., L*W (mm) |  |
| 35.000                                         | o          | 450         | Non Resi                                                     | 5.100       | 2.700       | 1.950                                                                               | Open Manhole  | 1200               |  |
| 35.001                                         | o          | 225         | Stub SW9/2                                                   | 5.100       | 2.500       | 2.375                                                                               | Open Manhole  | 1200               |  |
| 36.000                                         | o          | 150         | Plots 1 - 4                                                  | 5.200       | 4.310       | 0.740                                                                               | Open Manhole  | 450                |  |
| 33.002                                         | o          | 225         | SW09                                                         | 5.070       | 2.400       | 2.445                                                                               | Open Manhole  | 1200               |  |
| 37.000                                         | o          | 225         | SW12                                                         | 4.920       | 2.790       | 1.305                                                                               | Open Manhole  | 1200               |  |
| 37.001                                         | o          | 225         | SW13                                                         | 4.920       | 2.680       | 1.115                                                                               | Open Manhole  | 1200               |  |
| 37.002                                         | o          | 225         | SW14                                                         | 4.920       | 2.600       | 1.195                                                                               | Open Manhole  | 1200               |  |
| 37.003                                         | o          | 300         | SW15                                                         | 4.600       | 2.170       | 2.130                                                                               | Open Manhole  | 1200               |  |
| 38.000                                         | o          | 150         | Plots 16-22                                                  | 4.700       | 3.440       | 1.110                                                                               | Open Manhole  | 450                |  |
| 33.003                                         | o          | 300         | SW16                                                         | 4.650       | 2.100       | 2.250                                                                               | Open Manhole  | 1200               |  |
| 33.004                                         | o          | 450         | SW17                                                         | 5.000       | 1.820       | 2.730                                                                               | Open Manhole  | 1200               |  |
| 24.010                                         | o          | 900         | SW21                                                         | 5.000       | 1.660       | 2.440                                                                               | Open Manhole  | 1800               |  |
| 23.001                                         | o          | 900         | SW22                                                         | 4.270       | 1.630       | 1.740                                                                               | Open Manhole  | 1800               |  |
| 39.000                                         | o          | 225         | Plots 47-55                                                  | 4.100       | 2.500       | 1.375                                                                               | Open Manhole  | 1200               |  |
| 23.002                                         | o          | 900         | SW23                                                         | 3.900       | 1.495       | 1.505                                                                               | Open Manhole  | 1800               |  |
| 1.016                                          | o          | 900         | SW24                                                         | 3.810       | 1.410       | 1.500                                                                               | Open Manhole  | 1800               |  |
| 1.017                                          | o          | 900         | Permbase 06                                                  | 3.800       | 1.300       | 1.600                                                                               | Open Manhole  | 1800               |  |
| Downstream Manhole                             |            |             |                                                              |             |             |                                                                                     |               |                    |  |
| PN                                             | Length (m) | Slope (1:X) | MH Name                                                      | C.Level (m) | I.Level (m) | D.Depth (m)                                                                         | MH Connection | MH DIAM., L*W (mm) |  |
| 35.000                                         | 22.482     | 112.4       | Stub SW9/2                                                   | 5.100       | 2.500       | 2.150                                                                               | Open Manhole  | 1200               |  |
| 35.001                                         | 5.638      | 56.4        | SW09                                                         | 5.070       | 2.400       | 2.445                                                                               | Open Manhole  | 1200               |  |
| 36.000                                         | 16.786     | 9.8         | SW09                                                         | 5.070       | 2.600       | 2.320                                                                               | Open Manhole  | 1200               |  |
| 33.002                                         | 45.139     | 150.5       | SW16                                                         | 4.650       | 2.100       | 2.325                                                                               | Open Manhole  | 1200               |  |
| 37.000                                         | 21.924     | 199.3       | SW13                                                         | 4.920       | 2.680       | 1.115                                                                               | Open Manhole  | 1200               |  |
| 37.001                                         | 23.225     | 145.2       | SW14                                                         | 4.920       | 2.520       | 1.275                                                                               | Open Manhole  | 1200               |  |
| 37.002                                         | 42.860     | 115.8       | SW15                                                         | 4.600       | 2.230       | 2.145                                                                               | Open Manhole  | 1200               |  |
| 37.003                                         | 16.004     | 228.6       | SW16                                                         | 4.650       | 2.100       | 2.250                                                                               | Open Manhole  | 1200               |  |
| 38.000                                         | 5.880      | 5.7         | SW16                                                         | 4.650       | 2.400       | 2.100                                                                               | Open Manhole  | 1200               |  |
| 33.003                                         | 7.752      | 27.7        | SW17                                                         | 5.000       | 1.820       | 2.380                                                                               | Open Manhole  | 1200               |  |
| 33.004                                         | 49.146     | 307.2       | SW21                                                         | 5.000       | 1.660       | 2.890                                                                               | Open Manhole  | 1800               |  |
| 24.010                                         | 7.734      | 257.8       | SW22                                                         | 4.270       | 1.630       | 1.740                                                                               | Open Manhole  | 1800               |  |
| 23.001                                         | 49.171     | 364.2       | SW23                                                         | 3.900       | 1.495       | 1.505                                                                               | Open Manhole  | 1800               |  |
| 39.000                                         | 5.695      | 0.0         | SW23                                                         | 3.900       | 2.500       | 1.175                                                                               | Open Manhole  | 1800               |  |
| 23.002                                         | 34.760     | 408.9       | SW24                                                         | 3.810       | 1.410       | 1.500                                                                               | Open Manhole  | 1800               |  |
| 1.016                                          | 45.616     | 414.7       | Permbase 06                                                  | 3.800       | 1.300       | 1.600                                                                               | Open Manhole  | 1800               |  |
| 1.017                                          | 6.000      | 300.0       | SW25                                                         | 3.800       | 1.280       | 1.420                                                                               | Open Manhole  | 1800               |  |
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|                                                |            |              |              |                                                              |                  |             |               |                                                                                     |           |             |           |             |           |
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| Mayer Brown Ltd                                |            |              |              | Page 17                                                      |                  |             |               |                                                                                     |           |             |           |             |           |
| Lion House<br>Oriental Road<br>Woking GU22 8AR |            |              |              | Littlehampton<br>Overall Surface Network<br>West of Wetlands |                  |             |               |  |           |             |           |             |           |
| Date January 2018                              |            |              |              | Designed by S Foley                                          |                  |             |               |                                                                                     |           |             |           |             |           |
| File WEST CATCHMENT MODEL_...                  |            |              |              | Checked by                                                   |                  |             |               |                                                                                     |           |             |           |             |           |
| XP Solutions                                   |            |              |              | Network 2013.1                                               |                  |             |               |                                                                                     |           |             |           |             |           |
| PIPELINE SCHEDULES for Storm                   |            |              |              |                                                              |                  |             |               |                                                                                     |           |             |           |             |           |
| Upstream Manhole                               |            |              |              |                                                              |                  |             |               |                                                                                     |           |             |           |             |           |
| PN                                             | Hyd Sect   | Diam (mm)    | MH Name      | C.Level (m)                                                  | I.Level (m)      | D.Depth (m) | MH Connection | MH DIAM., L*W (mm)                                                                  |           |             |           |             |           |
| 40.000                                         | o          | 225          | Plots        | 3.700                                                        | 3.370            | 1.330       | Open Manhole  | 1200                                                                                |           |             |           |             |           |
| 40.001                                         | o          | 225          | Stub SW25/1  | 3.920                                                        | 3.390            | 1.505       | Open Manhole  | 1200                                                                                |           |             |           |             |           |
| 41.000                                         | o          | 225          | Stub SW25/2  | 3.680                                                        | 3.040            | 1.415       | Open Manhole  | 1200                                                                                |           |             |           |             |           |
| 1.018                                          | o          | 525          | SW25         | 3.600                                                        | 3.200            | 1.875       | Open Manhole  | 1800                                                                                |           |             |           |             |           |
| Downstream Manhole                             |            |              |              |                                                              |                  |             |               |                                                                                     |           |             |           |             |           |
| PN                                             | Length (m) | Slope (1:X)  | MH Name      | C.Level (m)                                                  | I.Level (m)      | D.Depth (m) | MH Connection | MH DIAM., L*W (mm)                                                                  |           |             |           |             |           |
| 40.000                                         | 34.385     | 149.5        | Stub SW25/1  | 3.700                                                        | 2.140            | 1.355       | Open Manhole  | 1200                                                                                |           |             |           |             |           |
| 40.001                                         | 26.630     | 887.7        | SW25         | 3.600                                                        | 1.960            | 1.415       | Open Manhole  | 1800                                                                                |           |             |           |             |           |
| 41.000                                         | 30.249     | 378.1        | SW25         | 3.600                                                        | 1.960            | 1.415       | Open Manhole  | 1800                                                                                |           |             |           |             |           |
| 1.018                                          | 21.220     | 106.1        | Outfall B    | 3.750                                                        | 1.000            | 0.225       | Open Manhole  | 0                                                                                   |           |             |           |             |           |
| Surcharged Outfall Details for Storm           |            |              |              |                                                              |                  |             |               |                                                                                     |           |             |           |             |           |
| Outfall Pipe Number                            |            | Outfall Name | C. Level (m) | I. Level (m)                                                 | Min I. Level (m) | D,L (mm)    | W (mm)        |                                                                                     |           |             |           |             |           |
| 1.018                                          |            | Outfall B    | 1.750        | 1.000                                                        | 1.000            | 0           | 0             |                                                                                     |           |             |           |             |           |
| Datum (m) 1.000 Offset (mins) 0                |            |              |              |                                                              |                  |             |               |                                                                                     |           |             |           |             |           |
| Time (mins)                                    | Depth (m)  | Time (mins)  | Depth (m)    | Time (mins)                                                  | Depth (m)        | Time (mins) | Depth (m)     | Time (mins)                                                                         | Depth (m) | Time (mins) | Depth (m) | Time (mins) | Depth (m) |
| 1                                              | 0.800      | 28           | 0.800        | 55                                                           | 0.800            | 82          | 0.800         | 109                                                                                 | 0.800     | 136         | 0.800     | 163         | 0.800     |
| 2                                              | 0.800      | 29           | 0.800        | 56                                                           | 0.800            | 83          | 0.800         | 110                                                                                 | 0.800     | 137         | 0.800     | 164         | 0.800     |
| 3                                              | 0.800      | 30           | 0.800        | 57                                                           | 0.800            | 84          | 0.800         | 111                                                                                 | 0.800     | 138         | 0.800     | 165         | 0.800     |
| 4                                              | 0.800      | 31           | 0.800        | 58                                                           | 0.800            | 85          | 0.800         | 112                                                                                 | 0.800     | 139         | 0.800     | 166         | 0.800     |
| 5                                              | 0.800      | 32           | 0.800        | 59                                                           | 0.800            | 86          | 0.800         | 113                                                                                 | 0.800     | 140         | 0.800     | 167         | 0.800     |
| 6                                              | 0.800      | 33           | 0.800        | 60                                                           | 0.800            | 87          | 0.800         | 114                                                                                 | 0.800     | 141         | 0.800     | 168         | 0.800     |
| 7                                              | 0.800      | 34           | 0.800        | 61                                                           | 0.800            | 88          | 0.800         | 115                                                                                 | 0.800     | 142         | 0.800     | 169         | 0.800     |
| 8                                              | 0.800      | 35           | 0.800        | 62                                                           | 0.800            | 89          | 0.800         | 116                                                                                 | 0.800     | 143         | 0.800     | 170         | 0.800     |
| 9                                              | 0.800      | 36           | 0.800        | 63                                                           | 0.800            | 90          | 0.800         | 117                                                                                 | 0.800     | 144         | 0.800     | 171         | 0.800     |
| 10                                             | 0.800      | 37           | 0.800        | 64                                                           | 0.800            | 91          | 0.800         | 118                                                                                 | 0.800     | 145         | 0.800     | 172         | 0.800     |
| 11                                             | 0.800      | 38           | 0.800        | 65                                                           | 0.800            | 92          | 0.800         | 119                                                                                 | 0.800     | 146         | 0.800     | 173         | 0.800     |
| 12                                             | 0.800      | 39           | 0.800        | 66                                                           | 0.800            | 93          | 0.800         | 120                                                                                 | 0.800     | 147         | 0.800     | 174         | 0.800     |
| 13                                             | 0.800      | 40           | 0.800        | 67                                                           | 0.800            | 94          | 0.800         | 121                                                                                 | 0.800     | 148         | 0.800     | 175         | 0.800     |
| 14                                             | 0.800      | 41           | 0.800        | 68                                                           | 0.800            | 95          | 0.800         | 122                                                                                 | 0.800     | 149         | 0.800     | 176         | 0.800     |
| 15                                             | 0.800      | 42           | 0.800        | 69                                                           | 0.800            | 96          | 0.800         | 123                                                                                 | 0.800     | 150         | 0.800     | 177         | 0.800     |
| 16                                             | 0.800      | 43           | 0.800        | 70                                                           | 0.800            | 97          | 0.800         | 124                                                                                 | 0.800     | 151         | 0.800     | 178         | 0.800     |
| 17                                             | 0.800      | 44           | 0.800        | 71                                                           | 0.800            | 98          | 0.800         | 125                                                                                 | 0.800     | 152         | 0.800     | 179         | 0.800     |
| 18                                             | 0.800      | 45           | 0.800        | 72                                                           | 0.800            | 99          | 0.800         | 126                                                                                 | 0.800     | 153         | 0.800     | 180         | 0.800     |
| 19                                             | 0.800      | 46           | 0.800        | 73                                                           | 0.800            | 100         | 0.800         | 127                                                                                 | 0.800     | 154         | 0.800     | 181         | 0.800     |
| 20                                             | 0.800      | 47           | 0.800        | 74                                                           | 0.800            | 101         | 0.800         | 128                                                                                 | 0.800     | 155         | 0.800     | 182         | 0.800     |
| 21                                             | 0.800      | 48           | 0.800        | 75                                                           | 0.800            | 102         | 0.800         | 129                                                                                 | 0.800     | 156         | 0.800     | 183         | 0.800     |
| 22                                             | 0.800      | 49           | 0.800        | 76                                                           | 0.800            | 103         | 0.800         | 130                                                                                 | 0.800     | 157         | 0.800     | 184         | 0.800     |
| 23                                             | 0.800      | 50           | 0.800        | 77                                                           | 0.800            | 104         | 0.800         | 131                                                                                 | 0.800     | 158         | 0.800     | 185         | 0.800     |
| 24                                             | 0.800      | 51           | 0.800        | 78                                                           | 0.800            | 105         | 0.800         | 132                                                                                 | 0.800     | 159         | 0.800     | 186         | 0.800     |
| 25                                             | 0.800      | 52           | 0.800        | 79                                                           | 0.800            | 106         | 0.800         | 133                                                                                 | 0.800     | 160         | 0.800     | 187         | 0.800     |
| 26                                             | 0.800      | 53           | 0.800        | 80                                                           | 0.800            | 107         | 0.800         | 134                                                                                 | 0.800     | 161         | 0.800     | 188         | 0.800     |
| 27                                             | 0.800      | 54           | 0.800        | 81                                                           | 0.800            | 108         | 0.800         | 135                                                                                 | 0.800     | 162         | 0.800     | 189         | 0.800     |
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|                               |  |                         |  |                                                                                     |  |  |  |
|-------------------------------|--|-------------------------|--|-------------------------------------------------------------------------------------|--|--|--|
| Mayer Brown Ltd               |  |                         |  | Page 18                                                                             |  |  |  |
| Lion House                    |  | Littlehampton           |  |  |  |  |  |
| Oriental Road                 |  | Overall Surface Network |  |                                                                                     |  |  |  |
| Woking GU22 8AR               |  | West of Wetlands        |  |                                                                                     |  |  |  |
| Date January 2018             |  | Designed by S Foley     |  |                                                                                     |  |  |  |
| File WEST CATCHMENT MODEL_... |  | Checked by              |  |                                                                                     |  |  |  |
| XP Solutions                  |  | Network 2013.1          |  |                                                                                     |  |  |  |

Surcharged Outfall Details for Storm

| Time<br>(mins) | Depth<br>(m) | Time<br>(mins) | Depth<br>(m) | Time<br>(mins) | Depth<br>(m) | Time<br>(mins) | Depth<br>(m) | Time<br>(mins) | Depth<br>(m) | Time<br>(mins) | Depth<br>(m) | Time<br>(mins) | Depth<br>(m) | Time<br>(mins) | Depth<br>(m) |
|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|
| 217            | 0.800        | 240            | 0.800        | 263            | 0.800        | 286            | 0.800        | 309            | 0.800        | 332            | 0.800        | 355            | 0.800        | 378            | 0.800        |
| 218            | 0.800        | 241            | 0.800        | 264            | 0.800        | 287            | 0.800        | 310            | 0.800        | 333            | 0.800        | 356            | 0.800        | 379            | 0.800        |
| 219            | 0.800        | 242            | 0.800        | 265            | 0.800        | 288            | 0.800        | 311            | 0.800        | 334            | 0.800        | 357            | 0.800        | 380            | 0.800        |
| 220            | 0.800        | 243            | 0.800        | 266            | 0.800        | 289            | 0.800        | 312            | 0.800        | 335            | 0.800        | 358            | 0.800        | 381            | 0.800        |
| 221            | 0.800        | 244            | 0.800        | 267            | 0.800        | 290            | 0.800        | 313            | 0.800        | 336            | 0.800        | 359            | 0.800        | 382            | 0.800        |
| 222            | 0.800        | 245            | 0.800        | 268            | 0.800        | 291            | 0.800        | 314            | 0.800        | 337            | 0.800        | 360            | 0.800        | 383            | 0.800        |
| 223            | 0.800        | 246            | 0.800        | 269            | 0.800        | 292            | 0.800        | 315            | 0.800        | 338            | 0.800        | 361            | 0.800        | 384            | 0.800        |
| 224            | 0.800        | 247            | 0.800        | 270            | 0.800        | 293            | 0.800        | 316            | 0.800        | 339            | 0.800        | 362            | 0.800        | 385            | 0.800        |
| 225            | 0.800        | 248            | 0.800        | 271            | 0.800        | 294            | 0.800        | 317            | 0.800        | 340            | 0.800        | 363            | 0.800        | 386            | 0.800        |
| 226            | 0.800        | 249            | 0.800        | 272            | 0.800        | 295            | 0.800        | 318            | 0.800        | 341            | 0.800        | 364            | 0.800        | 387            | 0.800        |
| 227            | 0.800        | 250            | 0.800        | 273            | 0.800        | 296            | 0.800        | 319            | 0.800        | 342            | 0.800        | 365            | 0.800        | 388            | 0.800        |
| 228            | 0.800        | 251            | 0.800        | 274            | 0.800        | 297            | 0.800        | 320            | 0.800        | 343            | 0.800        | 366            | 0.800        | 389            | 0.800        |
| 229            | 0.800        | 252            | 0.800        | 275            | 0.800        | 298            | 0.800        | 321            | 0.800        | 344            | 0.800        | 367            | 0.800        | 390            | 0.800        |
| 230            | 0.800        | 253            | 0.800        | 276            | 0.800        | 299            | 0.800        | 322            | 0.800        | 345            | 0.800        | 368            | 0.800        | 391            | 0.800        |
| 231            | 0.800        | 254            | 0.800        | 277            | 0.800        | 300            | 0.800        | 323            | 0.800        | 346            | 0.800        | 369            | 0.800        | 392            | 0.800        |
| 232            | 0.800        | 255            | 0.800        | 278            | 0.800        | 301            | 0.800        | 324            | 0.800        | 347            | 0.800        | 370            | 0.800        | 393            | 0.800        |
| 233            | 0.800        | 256            | 0.800        | 279            | 0.800        | 302            | 0.800        | 325            | 0.800        | 348            | 0.800        | 371            | 0.800        | 394            | 0.800        |
| 234            | 0.800        | 257            | 0.800        | 280            | 0.800        | 303            | 0.800        | 326            | 0.800        | 349            | 0.800        | 372            | 0.800        | 395            | 0.800        |
| 235            | 0.800        | 258            | 0.800        | 281            | 0.800        | 304            | 0.800        | 327            | 0.800        | 350            | 0.800        | 373            | 0.800        | 396            | 0.800        |
| 236            | 0.800        | 259            | 0.800        | 282            | 0.800        | 305            | 0.800        | 328            | 0.800        | 351            | 0.800        | 374            | 0.800        | 397            | 0.800        |
| 237            | 0.800        | 260            | 0.800        | 283            | 0.800        | 306            | 0.800        | 329            | 0.800        | 352            | 0.800        | 375            | 0.800        | 398            | 0.800        |
| 238            | 0.800        | 261            | 0.800        | 284            | 0.800        | 307            | 0.800        | 330            | 0.800        | 353            | 0.800        | 376            | 0.800        | 399            | 0.800        |
| 239            | 0.800        | 262            | 0.800        | 285            | 0.800        | 308            | 0.800        | 331            | 0.800        | 354            | 0.800        | 377            | 0.800        | 400            | 0.800        |

Simulation Criteria for Storm

Volumetric Runoff Coeff 0.750      Additional Flow - % of Total Flow 0.000  
 Areal Reduction Factor 1.000      MADD Factor \* 10m³/ha Storage 2.000  
 Hot Start (mins) 0      Inlet Coefficient 0.800  
 Hot Start Level (mm) 0      Flow per Person per Day (l/per/day) 0.000  
 Manhole Headloss Coeff (Global) 0.500      Run Time (mins) 60  
 Foul Sewage per hectare (l/s) 0.000      Output Interval (mins) 1

Number of Input Hydrographs 0      Number of Offline Controls 2      Number of Time/Area Diagrams 0  
 Number of Online Controls 14      Number of Storage Structures 20      Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH      E (1km) 0.314  
 Return Period (years) 2      F (1km) 2.329  
 Site Location GB 502850 104400 TQ 02850 04400      Summer Storms Yes  
 C (1km) -0.027      Winter Storms No  
 D1 (1km) 0.393      Cv (Summer) 0.750  
 D2 (1km) 0.274      Cv (Winter) 0.840  
 D3 (1km) 0.407      Storm Duration (mins) 30

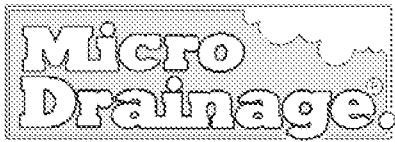
  

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|                                                                                     |            |                         |            |                                                                                     |            |           |            |           |            |
|-------------------------------------------------------------------------------------|------------|-------------------------|------------|-------------------------------------------------------------------------------------|------------|-----------|------------|-----------|------------|
| Mayer Brown Ltd                                                                     |            |                         | Page 19    |                                                                                     |            |           |            |           |            |
| Lion House                                                                          |            | Littlehampton           |            |  |            |           |            |           |            |
| Oriental Road                                                                       |            | Overall Surface Network |            |                                                                                     |            |           |            |           |            |
| Woking GU22 8AR                                                                     |            | West of Wetlands        |            |                                                                                     |            |           |            |           |            |
| Date January 2018                                                                   |            | Designed by S Foley     |            |                                                                                     |            |           |            |           |            |
| File WEST CATCHMENT MODEL_...                                                       |            | Checked by              |            |                                                                                     |            |           |            |           |            |
| XP Solutions                                                                        |            | Network 2013.1          |            |                                                                                     |            |           |            |           |            |
| <div>Online Controls for Storm</div>                                                |            |                         |            |                                                                                     |            |           |            |           |            |
| <div>Hydro-Brake® Manhole: Parcel A2_2, DS/PN: 2.001, Volume (m³): 3.0</div>        |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Head (m) 1.200 Hydro-Brake® Type Md4 Invert Level (m) 5.000                  |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Flow (l/s) 5.0 Diameter (mm) 76                                              |            |                         |            |                                                                                     |            |           |            |           |            |
| Depth (m)                                                                           | Flow (l/s) | Depth (m)               | Flow (l/s) | Depth (m)                                                                           | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
| 0.100                                                                               | 2.3        | 0.800                   | 4.0        | 2.000                                                                               | 6.4        | 4.000     | 9.0        | 7.000     | 11.9       |
| 0.200                                                                               | 3.0        | 1.000                   | 4.5        | 2.200                                                                               | 6.7        | 4.500     | 9.5        | 7.500     | 12.3       |
| 0.300                                                                               | 2.6        | 1.200                   | 4.9        | 2.400                                                                               | 7.0        | 5.000     | 10.1       | 8.000     | 12.7       |
| 0.400                                                                               | 2.9        | 1.400                   | 5.3        | 2.600                                                                               | 7.3        | 5.500     | 10.6       | 8.500     | 13.1       |
| 0.500                                                                               | 3.2        | 1.600                   | 5.7        | 3.000                                                                               | 7.8        | 6.000     | 11.0       | 9.000     | 13.5       |
| 0.600                                                                               | 3.5        | 1.800                   | 6.0        | 3.500                                                                               | 8.4        | 6.500     | 11.5       | 9.500     | 13.9       |
| <div>Hydro-Brake® Manhole: Parcel B6_2, DS/PN: 3.001, Volume (m³): 3.7</div>        |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Head (m) 0.800 Hydro-Brake® Type Md4 Invert Level (m) 4.800                  |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Flow (l/s) 5.0 Diameter (mm) 84                                              |            |                         |            |                                                                                     |            |           |            |           |            |
| Depth (m)                                                                           | Flow (l/s) | Depth (m)               | Flow (l/s) | Depth (m)                                                                           | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
| 0.100                                                                               | 2.6        | 0.800                   | 4.9        | 2.000                                                                               | 7.8        | 4.000     | 11.0       | 7.000     | 14.5       |
| 0.200                                                                               | 4.0        | 1.000                   | 5.5        | 2.200                                                                               | 8.2        | 4.500     | 11.7       | 7.500     | 15.1       |
| 0.300                                                                               | 3.4        | 1.200                   | 6.0        | 2.400                                                                               | 8.5        | 5.000     | 12.3       | 8.000     | 15.6       |
| 0.400                                                                               | 3.5        | 1.400                   | 6.5        | 2.600                                                                               | 8.9        | 5.500     | 12.9       | 8.500     | 16.0       |
| 0.500                                                                               | 3.9        | 1.600                   | 7.0        | 3.000                                                                               | 9.5        | 6.000     | 13.5       | 9.000     | 16.5       |
| 0.600                                                                               | 4.3        | 1.800                   | 7.4        | 3.500                                                                               | 10.3       | 6.500     | 14.0       | 9.500     | 16.9       |
| <div>Hydro-Brake® Manhole: Parcel B1&amp;CH 2, DS/PN: 4.001, Volume (m³): 4.8</div> |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Head (m) 1.000 Hydro-Brake® Type Md4 Invert Level (m) 4.135                  |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Flow (l/s) 10.0 Diameter (mm) 113                                            |            |                         |            |                                                                                     |            |           |            |           |            |
| Depth (m)                                                                           | Flow (l/s) | Depth (m)               | Flow (l/s) | Depth (m)                                                                           | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
| 0.100                                                                               | 3.3        | 0.800                   | 8.9        | 2.000                                                                               | 14.1       | 4.000     | 19.9       | 7.000     | 26.3       |
| 0.200                                                                               | 8.2        | 1.000                   | 10.0       | 2.200                                                                               | 14.8       | 4.500     | 21.1       | 7.500     | 27.3       |
| 0.300                                                                               | 8.0        | 1.200                   | 10.9       | 2.400                                                                               | 15.4       | 5.000     | 22.2       | 8.000     | 28.1       |
| 0.400                                                                               | 7.1        | 1.400                   | 11.8       | 2.600                                                                               | 16.0       | 5.500     | 23.3       | 8.500     | 29.0       |
| 0.500                                                                               | 7.2        | 1.600                   | 12.6       | 3.000                                                                               | 17.2       | 6.000     | 24.4       | 9.000     | 29.9       |
| 0.600                                                                               | 7.8        | 1.800                   | 13.3       | 3.500                                                                               | 18.6       | 6.500     | 25.4       | 9.500     | 30.7       |
| <div>Hydro-Brake® Manhole: Block B_2, DS/PN: 5.001, Volume (m³): 4.1</div>          |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Head (m) 1.000 Hydro-Brake® Type Md4 Invert Level (m) 3.905                  |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Flow (l/s) 5.0 Diameter (mm) 80                                              |            |                         |            |                                                                                     |            |           |            |           |            |
| Depth (m)                                                                           | Flow (l/s) | Depth (m)               | Flow (l/s) | Depth (m)                                                                           | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
| 0.100                                                                               | 2.4        | 0.800                   | 4.5        | 2.000                                                                               | 7.1        | 4.000     | 10.0       | 7.000     | 13.2       |
| 0.200                                                                               | 3.5        | 1.000                   | 5.0        | 2.200                                                                               | 7.4        | 4.500     | 10.6       | 7.500     | 13.7       |
| 0.300                                                                               | 3.0        | 1.200                   | 5.5        | 2.400                                                                               | 7.7        | 5.000     | 11.2       | 8.000     | 14.1       |
| 0.400                                                                               | 3.2        | 1.400                   | 5.9        | 2.600                                                                               | 8.0        | 5.500     | 11.7       | 8.500     | 14.5       |
| 0.500                                                                               | 3.5        | 1.600                   | 6.3        | 3.000                                                                               | 8.6        | 6.000     | 12.2       | 9.000     | 15.0       |
| 0.600                                                                               | 3.9        | 1.800                   | 6.7        | 3.500                                                                               | 9.3        | 6.500     | 12.7       | 9.500     | 15.4       |
| <div>Hydro-Brake® Manhole: BovisA_2, DS/PN: 6.001, Volume (m³): 3.9</div>           |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Head (m) 1.200 Hydro-Brake® Type Md5 SW Only Invert Level (m) 4.000          |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Flow (l/s) 60.0 Diameter (mm) 293                                            |            |                         |            |                                                                                     |            |           |            |           |            |
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|                                                                            |            |                         |                   |                                                                                     |             |                  |            |           |            |
|----------------------------------------------------------------------------|------------|-------------------------|-------------------|-------------------------------------------------------------------------------------|-------------|------------------|------------|-----------|------------|
| Mayer Brown Ltd                                                            |            |                         |                   | Page 20                                                                             |             |                  |            |           |            |
| Lion House                                                                 |            | Littlehampton           |                   |  |             |                  |            |           |            |
| Oriental Road                                                              |            | Overall Surface Network |                   |                                                                                     |             |                  |            |           |            |
| Woking GU22 8AR                                                            |            | West of Wetlands        |                   |                                                                                     |             |                  |            |           |            |
| Date January 2018                                                          |            | Designed by S Foley     |                   |                                                                                     |             |                  |            |           |            |
| File WEST CATCHMENT MODEL_...                                              |            | Checked by              |                   |                                                                                     |             |                  |            |           |            |
| XP Solutions                                                               |            | Network 2013.1          |                   |                                                                                     |             |                  |            |           |            |
| <u>Hydro-Brake® Manhole: BovisA_2, DS/PN: 6.001, Volume (m³): 3.9</u>      |            |                         |                   |                                                                                     |             |                  |            |           |            |
| Depth (m)                                                                  | Flow (l/s) | Depth (m)               | Flow (l/s)        | Depth (m)                                                                           | Flow (l/s)  | Depth (m)        | Flow (l/s) | Depth (m) | Flow (l/s) |
| 0.100                                                                      | 10.6       | 0.800                   | 57.7              | 2.000                                                                               | 73.3        | 4.000            | 103.3      | 7.000     | 136.7      |
| 0.200                                                                      | 27.7       | 1.000                   | 57.8              | 2.200                                                                               | 76.7        | 4.500            | 109.6      | 7.500     | 141.5      |
| 0.300                                                                      | 43.3       | 1.200                   | 59.7              | 2.400                                                                               | 80.1        | 5.000            | 115.5      | 8.000     | 146.1      |
| 0.400                                                                      | 52.6       | 1.400                   | 62.7              | 2.600                                                                               | 83.3        | 5.500            | 121.2      | 8.500     | 150.6      |
| 0.500                                                                      | 56.9       | 1.600                   | 66.1              | 3.000                                                                               | 89.5        | 6.000            | 126.6      | 9.000     | 155.0      |
| 0.600                                                                      | 58.3       | 1.800                   | 69.7              | 3.500                                                                               | 96.7        | 6.500            | 131.7      | 9.500     | 159.3      |
| <u>Hydro-Brake® Manhole: BovisB_2, DS/PN: 7.001, Volume (m³): 3.7</u>      |            |                         |                   |                                                                                     |             |                  |            |           |            |
| Design Head (m)                                                            |            | 1.200                   | Hydro-Brake® Type |                                                                                     | Md5 SW Only | Invert Level (m) |            | 3.225     |            |
| Design Flow (l/s)                                                          |            | 60.0                    | Diameter (mm)     |                                                                                     | 293         |                  |            |           |            |
| Depth (m)                                                                  | Flow (l/s) | Depth (m)               | Flow (l/s)        | Depth (m)                                                                           | Flow (l/s)  | Depth (m)        | Flow (l/s) | Depth (m) | Flow (l/s) |
| 0.100                                                                      | 10.6       | 0.800                   | 57.7              | 2.000                                                                               | 73.3        | 4.000            | 103.3      | 7.000     | 136.7      |
| 0.200                                                                      | 27.7       | 1.000                   | 57.8              | 2.200                                                                               | 76.7        | 4.500            | 109.6      | 7.500     | 141.5      |
| 0.300                                                                      | 43.3       | 1.200                   | 59.7              | 2.400                                                                               | 80.1        | 5.000            | 115.5      | 8.000     | 146.1      |
| 0.400                                                                      | 52.6       | 1.400                   | 62.7              | 2.600                                                                               | 83.3        | 5.500            | 121.2      | 8.500     | 150.6      |
| 0.500                                                                      | 56.9       | 1.600                   | 66.1              | 3.000                                                                               | 89.5        | 6.000            | 126.6      | 9.000     | 155.0      |
| 0.600                                                                      | 58.3       | 1.800                   | 69.7              | 3.500                                                                               | 96.7        | 6.500            | 131.7      | 9.500     | 159.3      |
| <u>Hydro-Brake® Manhole: Ret Block A, DS/PN: 12.001, Volume (m³): 4.3</u>  |            |                         |                   |                                                                                     |             |                  |            |           |            |
| Design Head (m)                                                            |            | 1.000                   | Hydro-Brake® Type |                                                                                     | Md4         | Invert Level (m) |            | 2.900     |            |
| Design Flow (l/s)                                                          |            | 5.0                     | Diameter (mm)     |                                                                                     | 80          |                  |            |           |            |
| Depth (m)                                                                  | Flow (l/s) | Depth (m)               | Flow (l/s)        | Depth (m)                                                                           | Flow (l/s)  | Depth (m)        | Flow (l/s) | Depth (m) | Flow (l/s) |
| 0.100                                                                      | 2.4        | 0.800                   | 4.5               | 2.000                                                                               | 7.1         | 4.000            | 10.0       | 7.000     | 13.2       |
| 0.200                                                                      | 3.5        | 1.000                   | 5.0               | 2.200                                                                               | 7.4         | 4.500            | 10.6       | 7.500     | 13.7       |
| 0.300                                                                      | 3.0        | 1.200                   | 5.5               | 2.400                                                                               | 7.7         | 5.000            | 11.2       | 8.000     | 14.1       |
| 0.400                                                                      | 3.2        | 1.400                   | 5.9               | 2.600                                                                               | 8.0         | 5.500            | 11.7       | 8.500     | 14.5       |
| 0.500                                                                      | 3.5        | 1.600                   | 6.3               | 3.000                                                                               | 8.6         | 6.000            | 12.2       | 9.000     | 15.0       |
| 0.600                                                                      | 3.9        | 1.800                   | 6.7               | 3.500                                                                               | 9.3         | 6.500            | 12.7       | 9.500     | 15.4       |
| <u>Hydro-Brake® Manhole: Non resi, DS/PN: 25.001, Volume (m³): 7.7</u>     |            |                         |                   |                                                                                     |             |                  |            |           |            |
| Design Head (m)                                                            |            | 1.000                   | Hydro-Brake® Type |                                                                                     | Md4         | Invert Level (m) |            | 3.720     |            |
| Design Flow (l/s)                                                          |            | 5.0                     | Diameter (mm)     |                                                                                     | 80          |                  |            |           |            |
| Depth (m)                                                                  | Flow (l/s) | Depth (m)               | Flow (l/s)        | Depth (m)                                                                           | Flow (l/s)  | Depth (m)        | Flow (l/s) | Depth (m) | Flow (l/s) |
| 0.100                                                                      | 2.4        | 0.800                   | 4.5               | 2.000                                                                               | 7.1         | 4.000            | 10.0       | 7.000     | 13.2       |
| 0.200                                                                      | 3.5        | 1.000                   | 5.0               | 2.200                                                                               | 7.4         | 4.500            | 10.6       | 7.500     | 13.7       |
| 0.300                                                                      | 3.0        | 1.200                   | 5.5               | 2.400                                                                               | 7.7         | 5.000            | 11.2       | 8.000     | 14.1       |
| 0.400                                                                      | 3.2        | 1.400                   | 5.9               | 2.600                                                                               | 8.0         | 5.500            | 11.7       | 8.500     | 14.5       |
| 0.500                                                                      | 3.5        | 1.600                   | 6.3               | 3.000                                                                               | 8.6         | 6.000            | 12.2       | 9.000     | 15.0       |
| 0.600                                                                      | 3.9        | 1.800                   | 6.7               | 3.500                                                                               | 9.3         | 6.500            | 12.7       | 9.500     | 15.4       |
| <u>Hydro-Brake® Manhole: As-built SA8, DS/PN: 26.001, Volume (m³): 8.6</u> |            |                         |                   |                                                                                     |             |                  |            |           |            |
| Design Head (m)                                                            |            | 2.000                   | Hydro-Brake® Type |                                                                                     | Md4         | Invert Level (m) |            | 3.763     |            |
| Design Flow (l/s)                                                          |            | 34.5                    | Diameter (mm)     |                                                                                     | 176         |                  |            |           |            |
| Depth (m)                                                                  | Flow (l/s) | Depth (m)               | Flow (l/s)        | Depth (m)                                                                           | Flow (l/s)  | Depth (m)        | Flow (l/s) | Depth (m) | Flow (l/s) |
| 0.100                                                                      | 4.2        | 0.800                   | 22.1              | 2.000                                                                               | 34.1        | 4.000            | 48.3       | 7.000     | 63.9       |
| 0.200                                                                      | 15.1       | 1.000                   | 24.2              | 2.200                                                                               | 35.8        | 4.500            | 51.2       | 7.500     | 66.1       |
| 0.300                                                                      | 24.2       | 1.200                   | 26.5              | 2.400                                                                               | 37.4        | 5.000            | 54.0       | 8.000     | 68.3       |
| 0.400                                                                      | 25.7       | 1.400                   | 28.6              | 2.600                                                                               | 38.9        | 5.500            | 56.6       | 8.500     | 70.4       |
| 0.500                                                                      | 23.3       | 1.600                   | 30.5              | 3.000                                                                               | 41.8        | 6.000            | 59.1       | 9.000     | 72.4       |
| 0.600                                                                      | 21.6       | 1.800                   | 32.4              | 3.500                                                                               | 45.2        | 6.500            | 61.5       | 9.500     | 74.4       |
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| Mayer Brown Ltd                                                     |            |                         | Page 21    |                                                                                     |            |           |            |           |            |
| Lion House                                                          |            | Littlehampton           |            |  |            |           |            |           |            |
| Oriental Road                                                       |            | Overall Surface Network |            |                                                                                     |            |           |            |           |            |
| Woking GU22 8AR                                                     |            | West of Wetlands        |            |                                                                                     |            |           |            |           |            |
| Date January 2018                                                   |            | Designed by S Foley     |            |                                                                                     |            |           |            |           |            |
| File WEST CATCHMENT MODEL_...                                       |            | Checked by              |            |                                                                                     |            |           |            |           |            |
| XP Solutions                                                        |            | Network 2013.1          |            |                                                                                     |            |           |            |           |            |
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| Hydro-Brake® Manhole: SW Stub 02, DS/PN: 27.001, Volume (m³): 8.0   |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Head (m) 1.000 Hydro-Brake® Type Md4 Invert Level (m) 3.640  |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Flow (l/s) 5.0 Diameter (mm) 80                              |            |                         |            |                                                                                     |            |           |            |           |            |
| Depth (m)                                                           | Flow (l/s) | Depth (m)               | Flow (l/s) | Depth (m)                                                                           | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
| 0.100                                                               | 2.4        | 0.800                   | 4.5        | 2.000                                                                               | 7.1        | 4.000     | 10.0       | 7.000     | 13.2       |
| 0.200                                                               | 3.5        | 1.000                   | 5.0        | 2.200                                                                               | 7.4        | 4.500     | 10.6       | 7.500     | 13.7       |
| 0.300                                                               | 3.0        | 1.200                   | 5.5        | 2.400                                                                               | 7.7        | 5.000     | 11.2       | 8.000     | 14.1       |
| 0.400                                                               | 3.2        | 1.400                   | 5.9        | 2.600                                                                               | 8.0        | 5.500     | 11.7       | 8.500     | 14.5       |
| 0.500                                                               | 3.5        | 1.600                   | 6.3        | 3.000                                                                               | 8.6        | 6.000     | 12.2       | 9.000     | 15.0       |
| 0.600                                                               | 3.9        | 1.800                   | 6.7        | 3.500                                                                               | 9.3        | 6.500     | 12.7       | 9.500     | 15.4       |
| <hr/>                                                               |            |                         |            |                                                                                     |            |           |            |           |            |
| Hydro-Brake® Manhole: Car Park, DS/PN: 32.001, Volume (m³): 2.8     |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Head (m) 1.500 Hydro-Brake® Type Md4 Invert Level (m) 3.400  |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Flow (l/s) 5.0 Diameter (mm) 72                              |            |                         |            |                                                                                     |            |           |            |           |            |
| Depth (m)                                                           | Flow (l/s) | Depth (m)               | Flow (l/s) | Depth (m)                                                                           | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
| 0.100                                                               | 2.1        | 0.800                   | 3.6        | 2.000                                                                               | 5.7        | 4.000     | 8.1        | 7.000     | 10.7       |
| 0.200                                                               | 2.5        | 1.000                   | 4.0        | 2.200                                                                               | 6.0        | 4.500     | 8.6        | 7.500     | 11.1       |
| 0.300                                                               | 2.3        | 1.200                   | 4.4        | 2.400                                                                               | 6.3        | 5.000     | 9.0        | 8.000     | 11.4       |
| 0.400                                                               | 2.6        | 1.400                   | 4.8        | 2.600                                                                               | 6.5        | 5.500     | 9.5        | 8.500     | 11.8       |
| 0.500                                                               | 2.9        | 1.600                   | 5.1        | 3.000                                                                               | 7.0        | 6.000     | 9.9        | 9.000     | 12.1       |
| 0.600                                                               | 3.1        | 1.800                   | 5.4        | 3.500                                                                               | 7.6        | 6.500     | 10.3       | 9.500     | 12.5       |
| <hr/>                                                               |            |                         |            |                                                                                     |            |           |            |           |            |
| Hydro-Brake® Manhole: Stub SW9/1, DS/PN: 33.001, Volume (m³): 6.0   |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Head (m) 1.000 Hydro-Brake® Type Md4 Invert Level (m) 2.600  |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Flow (l/s) 5.0 Diameter (mm) 80                              |            |                         |            |                                                                                     |            |           |            |           |            |
| Depth (m)                                                           | Flow (l/s) | Depth (m)               | Flow (l/s) | Depth (m)                                                                           | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
| 0.100                                                               | 2.4        | 0.800                   | 4.5        | 2.000                                                                               | 7.1        | 4.000     | 10.0       | 7.000     | 13.2       |
| 0.200                                                               | 3.5        | 1.000                   | 5.0        | 2.200                                                                               | 7.4        | 4.500     | 10.6       | 7.500     | 13.7       |
| 0.300                                                               | 3.0        | 1.200                   | 5.5        | 2.400                                                                               | 7.7        | 5.000     | 11.2       | 8.000     | 14.1       |
| 0.400                                                               | 3.2        | 1.400                   | 5.9        | 2.600                                                                               | 8.0        | 5.500     | 11.7       | 8.500     | 14.5       |
| 0.500                                                               | 3.5        | 1.600                   | 6.3        | 3.000                                                                               | 8.6        | 6.000     | 12.2       | 9.000     | 15.0       |
| 0.600                                                               | 3.9        | 1.800                   | 6.7        | 3.500                                                                               | 9.3        | 6.500     | 12.7       | 9.500     | 15.4       |
| <hr/>                                                               |            |                         |            |                                                                                     |            |           |            |           |            |
| Hydro-Brake® Manhole: Stub SW9/2, DS/PN: 35.001, Volume (m³): 6.3   |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Head (m) 1.000 Hydro-Brake® Type Md4 Invert Level (m) 2.500  |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Flow (l/s) 5.0 Diameter (mm) 80                              |            |                         |            |                                                                                     |            |           |            |           |            |
| Depth (m)                                                           | Flow (l/s) | Depth (m)               | Flow (l/s) | Depth (m)                                                                           | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
| 0.100                                                               | 2.4        | 0.800                   | 4.5        | 2.000                                                                               | 7.1        | 4.000     | 10.0       | 7.000     | 13.2       |
| 0.200                                                               | 3.5        | 1.000                   | 5.0        | 2.200                                                                               | 7.4        | 4.500     | 10.6       | 7.500     | 13.7       |
| 0.300                                                               | 3.0        | 1.200                   | 5.5        | 2.400                                                                               | 7.7        | 5.000     | 11.2       | 8.000     | 14.1       |
| 0.400                                                               | 3.2        | 1.400                   | 5.9        | 2.600                                                                               | 8.0        | 5.500     | 11.7       | 8.500     | 14.5       |
| 0.500                                                               | 3.5        | 1.600                   | 6.3        | 3.000                                                                               | 8.6        | 6.000     | 12.2       | 9.000     | 15.0       |
| 0.600                                                               | 3.9        | 1.800                   | 6.7        | 3.500                                                                               | 9.3        | 6.500     | 12.7       | 9.500     | 15.4       |
| <hr/>                                                               |            |                         |            |                                                                                     |            |           |            |           |            |
| Hydro-Brake® Manhole: SW25, DS/PN: 1.018, Volume (m³): 10.9         |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Head (m) 1.870 Hydro-Brake® Type Md10 Invert Level (m) 1.200 |            |                         |            |                                                                                     |            |           |            |           |            |
| Design Flow (l/s) 285.0 Diameter (mm) 386                           |            |                         |            |                                                                                     |            |           |            |           |            |
| Depth (m)                                                           | Flow (l/s) | Depth (m)               | Flow (l/s) | Depth (m)                                                                           | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
| 0.100                                                               | 14.1       | 0.500                   | 111.9      | 1.200                                                                               | 227.7      | 2.000     | 293.9      | 3.000     | 360.0      |
| 0.200                                                               | 36.0       | 0.600                   | 136.1      | 1.400                                                                               | 245.9      | 2.200     | 308.3      | 3.500     | 388.9      |
| 0.300                                                               | 60.7       | 0.800                   | 178.2      | 1.600                                                                               | 262.9      | 2.400     | 322.0      | 4.000     | 415.7      |
| 0.400                                                               | 86.4       | 1.000                   | 207.8      | 1.800                                                                               | 278.9      | 2.600     | 335.2      | 4.500     | 440.9      |
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| Mayer Brown Ltd                                                    |            |                         | Page 22    |                                                                                     |            |           |            |           |            |
| Lion House                                                         |            | Littlehampton           |            |  |            |           |            |           |            |
| Oriental Road                                                      |            | Overall Surface Network |            |                                                                                     |            |           |            |           |            |
| Woking GU22 8AR                                                    |            | West of Wetlands        |            |                                                                                     |            |           |            |           |            |
| Date January 2018                                                  |            | Designed by S Foley     |            |                                                                                     |            |           |            |           |            |
| File WEST CATCHMENT MODEL_...                                      |            | Checked by              |            |                                                                                     |            |           |            |           |            |
| XP Solutions                                                       |            | Network 2013.1          |            |                                                                                     |            |           |            |           |            |
| <u>Hydro-Brake® Manhole: SW25, DS/PN: 1.018, Volume (m³): 10.9</u> |            |                         |            |                                                                                     |            |           |            |           |            |
| Depth (m)                                                          | Flow (l/s) | Depth (m)               | Flow (l/s) | Depth (m)                                                                           | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
| 5.000                                                              | 464.8      | 6.000                   | 509.1      | 7.000                                                                               | 549.9      | 8.000     | 587.9      | 9.000     | 623.6      |
| 5.500                                                              | 487.5      | 6.500                   | 529.9      | 7.500                                                                               | 569.2      | 8.500     | 606.0      | 9.500     | 640.6      |
|                                                                    |            |                         |            |                                                                                     |            |           |            |           |            |
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| Mayer Brown Ltd                                                                                                                                        |                                                              | Page 24                                                                             |           |           |                |           |           |                |
| Lion House<br>Oriental Road<br>Woking GU22 8AR                                                                                                         | Littlehampton<br>Overall Surface Network<br>West of Wetlands |  |           |           |                |           |           |                |
| Date January 2018                                                                                                                                      | Designed by S Foley                                          |                                                                                     |           |           |                |           |           |                |
| File WEST CATCHMENT MODEL_...                                                                                                                          | Checked by                                                   |                                                                                     |           |           |                |           |           |                |
| XP Solutions                                                                                                                                           | Network 2013.1                                               |                                                                                     |           |           |                |           |           |                |
| <u>Storage Structures for Storm</u>                                                                                                                    |                                                              |                                                                                     |           |           |                |           |           |                |
| <u>Cellular Storage Manhole: Parcel A2_1, DS/PN: 2.000</u>                                                                                             |                                                              |                                                                                     |           |           |                |           |           |                |
| Invert Level (m) 5.200 Safety Factor 2.0<br>Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95<br>Infiltration Coefficient Side (m/hr) 0.00000 |                                                              |                                                                                     |           |           |                |           |           |                |
| Depth (m)                                                                                                                                              | Area (m²)                                                    | Inf. Area (m²)                                                                      | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) |
| 0.000                                                                                                                                                  | 402.1                                                        | 349.7                                                                               | 1.000     | 402.2     | 424.5          | 1.100     | 0.0       | 424.5          |
| <u>Cellular Storage Manhole: Parcel B6_1, DS/PN: 3.000</u>                                                                                             |                                                              |                                                                                     |           |           |                |           |           |                |
| Invert Level (m) 5.000 Safety Factor 2.0<br>Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95<br>Infiltration Coefficient Side (m/hr) 0.00000 |                                                              |                                                                                     |           |           |                |           |           |                |
| Depth (m)                                                                                                                                              | Area (m²)                                                    | Inf. Area (m²)                                                                      | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) |
| 0.000                                                                                                                                                  | 92.0                                                         | 80.0                                                                                | 1.000     | 92.0      | 128.0          | 1.100     | 0.0       | 128.0          |
| <u>Cellular Storage Manhole: Parcel B1&amp;CH_1, DS/PN: 4.000</u>                                                                                      |                                                              |                                                                                     |           |           |                |           |           |                |
| Invert Level (m) 4.200 Safety Factor 2.0<br>Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95<br>Infiltration Coefficient Side (m/hr) 0.00000 |                                                              |                                                                                     |           |           |                |           |           |                |
| Depth (m)                                                                                                                                              | Area (m²)                                                    | Inf. Area (m²)                                                                      | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) |
| 0.000                                                                                                                                                  | 345.0                                                        | 300.0                                                                               | 1.000     | 345.0     | 380.0          | 1.100     | 0.0       | 380.0          |
| <u>Cellular Storage Manhole: Block B_1, DS/PN: 5.000</u>                                                                                               |                                                              |                                                                                     |           |           |                |           |           |                |
| Invert Level (m) 4.500 Safety Factor 2.0<br>Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95<br>Infiltration Coefficient Side (m/hr) 0.00000 |                                                              |                                                                                     |           |           |                |           |           |                |
| Depth (m)                                                                                                                                              | Area (m²)                                                    | Inf. Area (m²)                                                                      | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) |
| 0.000                                                                                                                                                  | 310.5                                                        | 270.0                                                                               | 1.000     | 310.5     | 344.0          | 1.100     | 0.0       | 344.0          |
| <u>Cellular Storage Manhole: BovisA_1, DS/PN: 6.000</u>                                                                                                |                                                              |                                                                                     |           |           |                |           |           |                |
| Invert Level (m) 4.100 Safety Factor 2.0<br>Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95<br>Infiltration Coefficient Side (m/hr) 0.00000 |                                                              |                                                                                     |           |           |                |           |           |                |
| Depth (m)                                                                                                                                              | Area (m²)                                                    | Inf. Area (m²)                                                                      | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) |
| 0.000                                                                                                                                                  | 258.8                                                        | 225.0                                                                               | 1.200     | 258.8     | 297.0          | 1.300     | 0.0       | 297.0          |
| <u>Cellular Storage Manhole: BovisB_1, DS/PN: 7.000</u>                                                                                                |                                                              |                                                                                     |           |           |                |           |           |                |
| Invert Level (m) 3.400 Safety Factor 2.0<br>Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95<br>Infiltration Coefficient Side (m/hr) 0.00000 |                                                              |                                                                                     |           |           |                |           |           |                |
| Depth (m)                                                                                                                                              | Area (m²)                                                    | Inf. Area (m²)                                                                      | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) |
| 0.000                                                                                                                                                  | 258.8                                                        | 225.0                                                                               | 1.200     | 258.8     | 297.0          | 1.300     | 0.0       | 297.0          |
| ©1982-2012 Micro Drainage Ltd                                                                                                                          |                                                              |                                                                                     |           |           |                |           |           |                |

| Mayer Brown Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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| Lion House                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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 |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |      |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Oriental Road                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Woking GU22 8AR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Date January 2018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| File WEST CATCHMENT MODEL_...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| XP Solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           | Network 2013.1          |           |                                                                                     |                |                                      |           |                |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| <p style="text-align: center;"><u>Porous Car Park Manhole: Permbase 01, DS/PN: 8.002</u></p> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.00000</td><td>Width (m)</td><td>6.0</td></tr><tr><td>Membrane Percolation (mm/hr)</td><td>1000</td><td>Length (m)</td><td>48.0</td></tr><tr><td>Max Percolation (l/s)</td><td>80.0</td><td>Slope (1:X)</td><td>240.0</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Depression Storage (mm)</td><td>5</td></tr><tr><td>Porosity</td><td>0.30</td><td>Evaporation (mm/day)</td><td>3</td></tr><tr><td>Invert Level (m)</td><td>3.300</td><td>Cap Volume Depth (m)</td><td>0.460</td></tr></table> <p style="text-align: center;"><u>Cellular Storage Manhole: Ret Block A, DS/PN: 12.000</u></p> <table><tr><td>Invert Level (m)</td><td>3.000</td><td>Safety Factor</td><td>2.0</td></tr><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.00000</td><td>Porosity</td><td>0.95</td></tr><tr><td>Infiltration Coefficient Side (m/hr)</td><td>0.00000</td><td></td><td></td></tr></table> <table><tr><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th></tr><tr><td>0.000</td><td>517.5</td><td>450.0</td><td>1.000</td><td>517.5</td><td>560.0</td><td>1.100</td><td>0.0</td><td>560.0</td></tr></table> <p style="text-align: center;"><u>Porous Car Park Manhole: Permbase 02, DS/PN: 14.002</u></p> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.00000</td><td>Width (m)</td><td>8.0</td></tr><tr><td>Membrane Percolation (mm/hr)</td><td>1000</td><td>Length (m)</td><td>29.0</td></tr><tr><td>Max Percolation (l/s)</td><td>64.4</td><td>Slope (1:X)</td><td>145.0</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Depression Storage (mm)</td><td>5</td></tr><tr><td>Porosity</td><td>0.30</td><td>Evaporation (mm/day)</td><td>3</td></tr><tr><td>Invert Level (m)</td><td>3.080</td><td>Cap Volume Depth (m)</td><td>0.460</td></tr></table> <p style="text-align: center;"><u>Porous Car Park Manhole: Permbase 03, DS/PN: 1.015</u></p> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.00000</td><td>Width (m)</td><td>6.8</td></tr><tr><td>Membrane Percolation (mm/hr)</td><td>1000</td><td>Length (m)</td><td>30.0</td></tr><tr><td>Max Percolation (l/s)</td><td>56.7</td><td>Slope (1:X)</td><td>150.0</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Depression Storage (mm)</td><td>5</td></tr><tr><td>Porosity</td><td>0.30</td><td>Evaporation (mm/day)</td><td>3</td></tr><tr><td>Invert Level (m)</td><td>2.880</td><td>Cap Volume Depth (m)</td><td>0.460</td></tr></table> <p style="text-align: center;"><u>Porous Car Park Manhole: Permbase 04, DS/PN: 19.002</u></p> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.00000</td><td>Width (m)</td><td>6.8</td></tr><tr><td>Membrane Percolation (mm/hr)</td><td>1000</td><td>Length (m)</td><td>42.0</td></tr><tr><td>Max Percolation (l/s)</td><td>79.3</td><td>Slope (1:X)</td><td>140.0</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Depression Storage (mm)</td><td>5</td></tr><tr><td>Porosity</td><td>0.30</td><td>Evaporation (mm/day)</td><td>3</td></tr><tr><td>Invert Level (m)</td><td>3.080</td><td>Cap Volume Depth (m)</td><td>0.460</td></tr></table> <p style="text-align: center;"><u>Porous Car Park Manhole: Permbase 05, DS/PN: 19.004</u></p> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.00000</td><td>Width (m)</td><td>18.0</td></tr><tr><td>Membrane Percolation (mm/hr)</td><td>1000</td><td>Length (m)</td><td>18.0</td></tr><tr><td>Max Percolation (l/s)</td><td>90.0</td><td>Slope (1:X)</td><td>140.0</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Depression Storage (mm)</td><td>5</td></tr><tr><td>Porosity</td><td>0.30</td><td>Evaporation (mm/day)</td><td>3</td></tr><tr><td>Invert Level (m)</td><td>3.000</td><td>Cap Volume Depth (m)</td><td>0.460</td></tr></table> <p style="text-align: center;"><u>Cellular Storage Manhole: Non resi, DS/PN: 25.000</u></p> <table><tr><td>Invert Level (m)</td><td>4.000</td><td>Safety Factor</td><td>2.0</td></tr><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.00000</td><td>Porosity</td><td>0.95</td></tr><tr><td>Infiltration Coefficient Side (m/hr)</td><td>0.00000</td><td></td><td></td></tr></table> <table><tr><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th></tr><tr><td>0.000</td><td>414.0</td><td>360.0</td><td>1.000</td><td>414.0</td><td>452.0</td><td>1.100</td><td>0.0</td><td>452.0</td></tr></table> |           |                         |           |                                                                                     |                | Infiltration Coefficient Base (m/hr) | 0.00000   | Width (m)      | 6.0 | Membrane Percolation (mm/hr) | 1000 | Length (m) | 48.0 | Max Percolation (l/s) | 80.0 | Slope (1:X) | 240.0 | Safety Factor | 2.0 | Depression Storage (mm) | 5 | Porosity | 0.30 | Evaporation (mm/day) | 3 | Invert Level (m) | 3.300 | Cap Volume Depth (m) | 0.460 | Invert Level (m) | 3.000 | Safety Factor | 2.0 | Infiltration Coefficient Base (m/hr) | 0.00000 | Porosity | 0.95 | Infiltration Coefficient Side (m/hr) | 0.00000 |  |  | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) | 0.000 | 517.5 | 450.0 | 1.000 | 517.5 | 560.0 | 1.100 | 0.0 | 560.0 | Infiltration Coefficient Base (m/hr) | 0.00000 | Width (m) | 8.0 | Membrane Percolation (mm/hr) | 1000 | Length (m) | 29.0 | Max Percolation (l/s) | 64.4 | Slope (1:X) | 145.0 | Safety Factor | 2.0 | Depression Storage (mm) | 5 | Porosity | 0.30 | Evaporation (mm/day) | 3 | Invert Level (m) | 3.080 | Cap Volume Depth (m) | 0.460 | Infiltration Coefficient Base (m/hr) | 0.00000 | Width (m) | 6.8 | Membrane Percolation (mm/hr) | 1000 | Length (m) | 30.0 | Max Percolation (l/s) | 56.7 | Slope (1:X) | 150.0 | Safety Factor | 2.0 | Depression Storage (mm) | 5 | Porosity | 0.30 | Evaporation (mm/day) | 3 | Invert Level (m) | 2.880 | Cap Volume Depth (m) | 0.460 | Infiltration Coefficient Base (m/hr) | 0.00000 | Width (m) | 6.8 | Membrane Percolation (mm/hr) | 1000 | Length (m) | 42.0 | Max Percolation (l/s) | 79.3 | Slope (1:X) | 140.0 | Safety Factor | 2.0 | Depression Storage (mm) | 5 | Porosity | 0.30 | Evaporation (mm/day) | 3 | Invert Level (m) | 3.080 | Cap Volume Depth (m) | 0.460 | Infiltration Coefficient Base (m/hr) | 0.00000 | Width (m) | 18.0 | Membrane Percolation (mm/hr) | 1000 | Length (m) | 18.0 | Max Percolation (l/s) | 90.0 | Slope (1:X) | 140.0 | Safety Factor | 2.0 | Depression Storage (mm) | 5 | Porosity | 0.30 | Evaporation (mm/day) | 3 | Invert Level (m) | 3.000 | Cap Volume Depth (m) | 0.460 | Invert Level (m) | 4.000 | Safety Factor | 2.0 | Infiltration Coefficient Base (m/hr) | 0.00000 | Porosity | 0.95 | Infiltration Coefficient Side (m/hr) | 0.00000 |  |  | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) | 0.000 | 414.0 | 360.0 | 1.000 | 414.0 | 452.0 | 1.100 | 0.0 | 452.0 |
| Infiltration Coefficient Base (m/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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| Membrane Percolation (mm/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Max Percolation (l/s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |      |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Safety Factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Porosity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Invert Level (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3.300     | Cap Volume Depth (m)    | 0.460     |                                                                                     |                |                                      |           |                |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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| Invert Level (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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| Infiltration Coefficient Base (m/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Infiltration Coefficient Side (m/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Depth (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Area (m²) | Inf. Area (m²)          | Depth (m) | Area (m²)                                                                           | Inf. Area (m²) | Depth (m)                            | Area (m²) | Inf. Area (m²) |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |      |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| 0.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 517.5     | 450.0                   | 1.000     | 517.5                                                                               | 560.0          | 1.100                                | 0.0       | 560.0          |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Infiltration Coefficient Base (m/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.00000   | Width (m)               | 8.0       |                                                                                     |                |                                      |           |                |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Membrane Percolation (mm/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Max Percolation (l/s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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| Safety Factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| Porosity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| Invert Level (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3.080     | Cap Volume Depth (m)    | 0.460     |                                                                                     |                |                                      |           |                |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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| Infiltration Coefficient Base (m/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Membrane Percolation (mm/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Max Percolation (l/s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 56.7      | Slope (1:X)             | 150.0     |                                                                                     |                |                                      |           |                |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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| Safety Factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| Porosity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Invert Level (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2.880     | Cap Volume Depth (m)    | 0.460     |                                                                                     |                |                                      |           |                |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Infiltration Coefficient Base (m/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.00000   | Width (m)               | 6.8       |                                                                                     |                |                                      |           |                |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Membrane Percolation (mm/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| Max Percolation (l/s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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| Safety Factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| Porosity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| Invert Level (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3.080     | Cap Volume Depth (m)    | 0.460     |                                                                                     |                |                                      |           |                |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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| Infiltration Coefficient Base (m/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.00000   | Width (m)               | 18.0      |                                                                                     |                |                                      |           |                |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Membrane Percolation (mm/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Max Percolation (l/s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 90.0      | Slope (1:X)             | 140.0     |                                                                                     |                |                                      |           |                |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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| Safety Factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| Porosity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Invert Level (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3.000     | Cap Volume Depth (m)    | 0.460     |                                                                                     |                |                                      |           |                |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |      |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Invert Level (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 4.000     | Safety Factor           | 2.0       |                                                                                     |                |                                      |           |                |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |      |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Infiltration Coefficient Base (m/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.00000   | Porosity                | 0.95      |                                                                                     |                |                                      |           |                |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Infiltration Coefficient Side (m/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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                |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| Depth (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Area (m²) | Inf. Area (m²)          | Depth (m) | Area (m²)                                                                           | Inf. Area (m²) | Depth (m)                            | Area (m²) | Inf. Area (m²) |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |      |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| 0.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 414.0     | 360.0                   | 1.000     | 414.0                                                                               | 452.0          | 1.100                                | 0.0       | 452.0          |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                  |       |               |     |                                      |         |          |      |                                      |         |  |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |               |     |                         |   |          |      |                      |   |                  |       |                      |       |                                      |         |           |     |                              |      |            |      |                       |      |             |       |  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 |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |
| ©1982-2012 Micro Drainage Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| Mayer Brown Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                              | Page 26                                                                             |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |        |        |       |        |        |       |     |        |
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| Lion House<br>Oriental Road<br>Woking GU22 8AR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Littlehampton<br>Overall Surface Network<br>West of Wetlands |  |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |        |        |       |        |        |       |     |        |
| Date January 2018<br>File WEST CATCHMENT MODEL_...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Designed by S Foley<br>Checked by                            |                                                                                     |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |        |        |       |        |        |       |     |        |
| XP Solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Network 2013.1                                               |                                                                                     |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |        |        |       |        |        |       |     |        |
| <p><u>Cellular Storage Manhole: Parcel A1, DS/PN: 26.000</u></p> <p>Invert Level (m) 4.000 Safety Factor 2.0<br/>Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95<br/>Infiltration Coefficient Side (m/hr) 0.00000</p> <table><tr><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th></tr><tr><td>0.000</td><td>575.0</td><td>500.0</td><td>1.000</td><td>575.0</td><td>590.0</td><td>1.100</td><td>0.0</td><td>590.0</td></tr></table> <p><u>Cellular Storage Manhole: Non Resi, DS/PN: 27.000</u></p> <p>Invert Level (m) 4.000 Safety Factor 2.0<br/>Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95<br/>Infiltration Coefficient Side (m/hr) 0.00000</p> <table><tr><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th></tr><tr><td>0.000</td><td>506.0</td><td>400.0</td><td>1.000</td><td>506.0</td><td>500.0</td><td>1.100</td><td>0.0</td><td>500.0</td></tr></table> <p><u>Porous Car Park Manhole: Car Park, DS/PN: 32.000</u></p> <p>Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 50.0<br/>Membrane Percolation (mm/hr) 1000 Length (m) 50.0<br/>Max Percolation (l/s) 694.4 Slope (1:X) 0.0<br/>Safety Factor 2.0 Depression Storage (mm) 5<br/>Porosity 0.30 Evaporation (mm/day) 3<br/>Invert Level (m) 4.500 Cap Volume Depth (m) 0.450</p> <p><u>Cellular Storage Manhole: Non Resi, DS/PN: 33.000</u></p> <p>Invert Level (m) 2.700 Safety Factor 2.0<br/>Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95<br/>Infiltration Coefficient Side (m/hr) 0.00000</p> <table><tr><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th></tr><tr><td>0.000</td><td>506.0</td><td>400.0</td><td>1.000</td><td>506.0</td><td>500.0</td><td>1.100</td><td>0.0</td><td>500.0</td></tr></table> <p><u>Cellular Storage Manhole: Non Resi, DS/PN: 35.000</u></p> <p>Invert Level (m) 2.700 Safety Factor 2.0<br/>Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95<br/>Infiltration Coefficient Side (m/hr) 0.00000</p> <table><tr><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th></tr><tr><td>0.000</td><td>126.5</td><td>110.0</td><td>1.000</td><td>126.5</td><td>152.0</td><td>1.100</td><td>0.0</td><td>152.0</td></tr></table> <p><u>Cellular Storage Manhole: SW21, DS/PN: 24.010</u></p> <p>Invert Level (m) 1.710 Safety Factor 2.0<br/>Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95<br/>Infiltration Coefficient Side (m/hr) 0.00000</p> <table><tr><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th></tr><tr><td>0.000</td><td>1050.0</td><td>1050.0</td><td>1.500</td><td>1050.0</td><td>1263.0</td><td>1.600</td><td>0.0</td><td>1263.0</td></tr></table> <p><u>Porous Car Park Manhole: Permbase 06, DS/PN: 1.017</u></p> <p>Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.30<br/>Membrane Percolation (mm/hr) 1000 Invert Level (m) 2.880<br/>Max Percolation (l/s) 71.1 Width (m) 16.0<br/>Safety Factor 2.0 Length (m) 16.0</p> |                                                              |                                                                                     | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) | 0.000 | 575.0 | 500.0 | 1.000 | 575.0 | 590.0 | 1.100 | 0.0 | 590.0 | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) | 0.000 | 506.0 | 400.0 | 1.000 | 506.0 | 500.0 | 1.100 | 0.0 | 500.0 | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) | 0.000 | 506.0 | 400.0 | 1.000 | 506.0 | 500.0 | 1.100 | 0.0 | 500.0 | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) | 0.000 | 126.5 | 110.0 | 1.000 | 126.5 | 152.0 | 1.100 | 0.0 | 152.0 | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) | 0.000 | 1050.0 | 1050.0 | 1.500 | 1050.0 | 1263.0 | 1.600 | 0.0 | 1263.0 |
| Depth (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Area (m²)                                                    | Inf. Area (m²)                                                                      | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |        |        |       |        |        |       |     |        |
| 0.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 575.0                                                        | 500.0                                                                               | 1.000     | 575.0     | 590.0          | 1.100     | 0.0       | 590.0          |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |        |        |       |        |        |       |     |        |
| Depth (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Area (m²)                                                    | Inf. Area (m²)                                                                      | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |        |        |       |        |        |       |     |        |
| 0.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 506.0                                                        | 400.0                                                                               | 1.000     | 506.0     | 500.0          | 1.100     | 0.0       | 500.0          |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |        |        |       |        |        |       |     |        |
| Depth (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Area (m²)                                                    | Inf. Area (m²)                                                                      | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |        |        |       |        |        |       |     |        |
| 0.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 506.0                                                        | 400.0                                                                               | 1.000     | 506.0     | 500.0          | 1.100     | 0.0       | 500.0          |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |        |        |       |        |        |       |     |        |
| Depth (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Area (m²)                                                    | Inf. Area (m²)                                                                      | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |        |        |       |        |        |       |     |        |
| 0.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 126.5                                                        | 110.0                                                                               | 1.000     | 126.5     | 152.0          | 1.100     | 0.0       | 152.0          |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |        |        |       |        |        |       |     |        |
| Depth (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Area (m²)                                                    | Inf. Area (m²)                                                                      | Depth (m) | Area (m²) | Inf. Area (m²) | Depth (m) | Area (m²) | Inf. Area (m²) |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |        |        |       |        |        |       |     |        |
| 0.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1050.0                                                       | 1050.0                                                                              | 1.500     | 1050.0    | 1263.0         | 1.600     | 0.0       | 1263.0         |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |       |       |       |       |       |       |     |       |           |           |                |           |           |                |           |           |                |       |        |        |       |        |        |       |     |        |
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|                                                                                                                                                                          |                                                              |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Mayer Brown Ltd                                                                                                                                                          |                                                              | Page 27                                                                             |
| Lion House<br>Oriental Road<br>Woking GU22 8AR                                                                                                                           | Littlehampton<br>Overall Surface Network<br>West of Wetlands |  |
| Date January 2018<br>File WEST CATCHMENT MODEL_...                                                                                                                       | Designed by S Foley<br>Checked by                            |                                                                                     |
| XP Solutions                                                                                                                                                             | Network 2013.1                                               |                                                                                     |
| <p><u>Porous Car Park Manhole: Permbase 06, DS/PN: 1.017</u></p> <p>Slope (1:X) 53.0 Evaporation (mm/day) 3<br/>Depression Storage (mm) 5 Cap Volume Depth (m) 0.460</p> |                                                              |                                                                                     |
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## APPENDIX F: Windes -- 1in100yr Simulation Results

|                                                                                              |                         |                                                                                     |                                           |                  |               |                  |          |          |
|----------------------------------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------|------------------|---------------|------------------|----------|----------|
| Mayer Brown Ltd                                                                              |                         | Page 1                                                                              |                                           |                  |               |                  |          |          |
| Lion House                                                                                   | Littlehampton           |  |                                           |                  |               |                  |          |          |
| Oriental Road                                                                                | Overall Surface Network |                                                                                     |                                           |                  |               |                  |          |          |
| Woking GU22 8AR                                                                              | West of Wetlands        |                                                                                     |                                           |                  |               |                  |          |          |
| Date January 2018                                                                            | Designed by S Foley     |                                                                                     |                                           |                  |               |                  |          |          |
| File WEST CATCHMENT MODEL_...                                                                | Checked by              |                                                                                     |                                           |                  |               |                  |          |          |
| XP Solutions                                                                                 | Network 2013.1          |                                                                                     |                                           |                  |               |                  |          |          |
| <p align="center"><u>Summary of Critical Results by Maximum Level (Rank 1) for Storm</u></p> |                         |                                                                                     |                                           |                  |               |                  |          |          |
| <p align="center"><u>Simulation Criteria</u></p>                                             |                         |                                                                                     |                                           |                  |               |                  |          |          |
| Areal Reduction Factor                                                                       |                         | 1.000                                                                               | Additional Flow - % of Total Flow 0.000   |                  |               |                  |          |          |
| Hot Start (mins)                                                                             |                         | 0                                                                                   | MADD Factor * 10m³/ha Storage 2.000       |                  |               |                  |          |          |
| Hot Start Level (mm)                                                                         |                         | 0                                                                                   | Inlet Coefficient 0.800                   |                  |               |                  |          |          |
| Manhole Headloss Coeff (Global)                                                              |                         | 0.500                                                                               | Flow per Person per Day (l/per/day) 0.000 |                  |               |                  |          |          |
| Foul Sewage per hectare (l/s)                                                                |                         | 0.000                                                                               |                                           |                  |               |                  |          |          |
| Number of Input Hydrographs 0                                                                |                         | Number of Offline Controls 2                                                        | Number of Time/Area Diagrams 0            |                  |               |                  |          |          |
| Number of Online Controls 14                                                                 |                         | Number of Storage Structures 20                                                     | Number of Real Time Controls 0            |                  |               |                  |          |          |
| <p align="center"><u>Synthetic Rainfall Details</u></p>                                      |                         |                                                                                     |                                           |                  |               |                  |          |          |
| Rainfall Model                                                                               |                         | FEH                                                                                 | D3 (1km) 0.407                            |                  |               |                  |          |          |
| Site Location GB 502850 104400 TQ 02850 04400                                                |                         |                                                                                     | E (1km) 0.314                             |                  |               |                  |          |          |
| C (1km)                                                                                      |                         | -0.027                                                                              | F (1km) 2.329                             |                  |               |                  |          |          |
| D1 (1km)                                                                                     |                         | 0.393                                                                               | Cv (Summer) 0.750                         |                  |               |                  |          |          |
| D2 (1km)                                                                                     |                         | 0.274                                                                               | Cv (Winter) 0.840                         |                  |               |                  |          |          |
| Margin for Flood Risk Warning (mm)                                                           |                         | 300.0                                                                               |                                           |                  |               |                  |          |          |
| Analysis Timestep                                                                            |                         | 2.5 Second Increment (Extended)                                                     |                                           |                  |               |                  |          |          |
| DTS Status                                                                                   |                         | ON                                                                                  |                                           |                  |               |                  |          |          |
| DVD Status                                                                                   |                         | ON                                                                                  |                                           |                  |               |                  |          |          |
| Inertia Status                                                                               |                         | ON                                                                                  |                                           |                  |               |                  |          |          |
| Profile(s)                                                                                   |                         | Winter                                                                              |                                           |                  |               |                  |          |          |
| Duration(s) (mins)                                                                           |                         | 15, 30, 60, 120, 240, 360, 480, 960, 1440                                           |                                           |                  |               |                  |          |          |
| Return Period(s) (years)                                                                     |                         | 100                                                                                 |                                           |                  |               |                  |          |          |
| Climate Change (%)                                                                           |                         | 30                                                                                  |                                           |                  |               |                  |          |          |
| PN                                                                                           | Storm                   | Return Period                                                                       | Climate Change                            | First X Surchage | First Y Flood | First Z Overflow | O/F Act. | Lvl Exc. |
| 1.000                                                                                        | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    | 100/15 Winter |                  |          | 3        |
| 1.001                                                                                        | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 2.000                                                                                        | 480 Winter              | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 2.001                                                                                        | 480 Winter              | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 1.002                                                                                        | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 3.000                                                                                        | 60 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 3.001                                                                                        | 60 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 1.003                                                                                        | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 1.004                                                                                        | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    | 100/15 Winter |                  |          | 2        |
| 4.000                                                                                        | 120 Winter              | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 4.001                                                                                        | 120 Winter              | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 1.005                                                                                        | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 1.006                                                                                        | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 5.000                                                                                        | 360 Winter              | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 5.001                                                                                        | 240 Winter              | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 5.002                                                                                        | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               | 100/15 Winter    | 8        |          |
| 1.007                                                                                        | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 6.000                                                                                        | 30 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 6.001                                                                                        | 60 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 1.008                                                                                        | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 7.000                                                                                        | 240 Winter              | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 7.001                                                                                        | 240 Winter              | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 1.009                                                                                        | 240 Winter              | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 8.000                                                                                        | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 9.000                                                                                        | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 8.001                                                                                        | 30 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               | 100/15 Winter    | 8        |          |
| 8.002                                                                                        | 30 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    | 100/15 Winter |                  |          | 5        |
| 10.000                                                                                       | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    | 100/15 Winter |                  |          | 4        |
| 10.001                                                                                       | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 11.000                                                                                       | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    | 100/15 Winter |                  |          | 1        |
| 8.003                                                                                        | 15 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 1.010                                                                                        | 240 Winter              | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 12.000                                                                                       | 480 Winter              | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 12.001                                                                                       | 480 Winter              | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 13.000                                                                                       | 30 Winter               | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
| 1.011                                                                                        | 240 Winter              | 100                                                                                 | +30%                                      | 100/15 Winter    |               |                  |          |          |
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|                                                                        |                         |                                                                                     |                |                  |                |                  |          |          |
|------------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------|----------------|------------------|----------------|------------------|----------|----------|
| Mayer Brown Ltd                                                        |                         | Page 2                                                                              |                |                  |                |                  |          |          |
| Lion House                                                             | Littlehampton           |  |                |                  |                |                  |          |          |
| Oriental Road                                                          | Overall Surface Network |                                                                                     |                |                  |                |                  |          |          |
| Woking GU22 8AR                                                        | West of Wetlands        |                                                                                     |                |                  |                |                  |          |          |
| Date January 2018                                                      | Designed by S Foley     |                                                                                     |                |                  |                |                  |          |          |
| File WEST CATCHMENT MODEL_...                                          | Checked by              |                                                                                     |                |                  |                |                  |          |          |
| XP Solutions                                                           | Network 2013.1          |                                                                                     |                |                  |                |                  |          |          |
| <u>Summary of Critical Results by Maximum Level (Rank 1) for Storm</u> |                         |                                                                                     |                |                  |                |                  |          |          |
| PN                                                                     | Storm                   | Return Period                                                                       | Climate Change | First X Surchage | First Y Flood  | First Z Overflow | O/F Act. | Lvl Exc. |
| 1.012                                                                  | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 14.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 3        |
| 15.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 3        |
| 14.001                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 14.002                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 5        |
| 16.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 2        |
| 17.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 1.013                                                                  | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 18.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 1.014                                                                  | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    | 100/240 Winter |                  |          | 1        |
| 1.015                                                                  | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    | 100/240 Winter |                  |          | 1        |
| 19.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 2        |
| 20.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 2        |
| 19.001                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 19.002                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 21.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 1        |
| 22.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 1        |
| 19.003                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 19.004                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 23.000                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 24.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 3        |
| 25.000                                                                 | 480 Winter              | 100                                                                                 | +30%           | 100/30 Winter    |                |                  |          |          |
| 25.001                                                                 | 480 Winter              | 100                                                                                 | +30%           | 100/15 Winter    | 100/60 Winter  |                  |          | 1        |
| 24.001                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 1        |
| 26.000                                                                 | 120 Winter              | 100                                                                                 | +30%           | 100/60 Winter    |                |                  |          |          |
| 26.001                                                                 | 120 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 27.000                                                                 | 480 Winter              | 100                                                                                 | +30%           | 100/30 Winter    |                |                  |          |          |
| 27.001                                                                 | 960 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 26.002                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          |          |
| 24.002                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 24.003                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 28.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 3        |
| 28.001                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          |          |
| 29.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 2        |
| 29.001                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 24.004                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 24.005                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 30.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 24.006                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 24.007                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 31.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 3        |
| 31.001                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 24.008                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 24.009                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 32.000                                                                 | 360 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 32.001                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 2        |
| 33.000                                                                 | 480 Winter              | 100                                                                                 | +30%           | 100/30 Winter    |                |                  |          |          |
| 33.001                                                                 | 480 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 34.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 1        |
| 35.000                                                                 | 360 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 35.001                                                                 | 360 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 36.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 33.002                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 37.000                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 37.001                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 3        |
| 37.002                                                                 | 15 Winter               | 100                                                                                 | +30%           | 100/15 Winter    | 100/15 Winter  |                  |          | 1        |
| 37.003                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 38.000                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 33.003                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 33.004                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 24.010                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 23.001                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 39.000                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 23.002                                                                 | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 1.016                                                                  | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
| 1.017                                                                  | 240 Winter              | 100                                                                                 | +30%           | 100/15 Winter    |                |                  |          |          |
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|                                                                 |                  |                 |                         |                     |                |                                                                                     |                 |            |
|-----------------------------------------------------------------|------------------|-----------------|-------------------------|---------------------|----------------|-------------------------------------------------------------------------------------|-----------------|------------|
| Mayer Brown Ltd                                                 |                  |                 |                         | Page 3              |                |                                                                                     |                 |            |
| Lion House                                                      |                  |                 | Littlehampton           |                     |                |  |                 |            |
| Oriental Road                                                   |                  |                 | Overall Surface Network |                     |                |                                                                                     |                 |            |
| Woking GU22 8AR                                                 |                  |                 | West of Wetlands        |                     |                |                                                                                     |                 |            |
| Date January 2018                                               |                  |                 | Designed by S Foley     |                     |                |                                                                                     |                 |            |
| File WEST CATCHMENT MODEL_...                                   |                  |                 | Checked by              |                     |                |                                                                                     |                 |            |
| XP Solutions                                                    |                  |                 | Network 2013.1          |                     |                |                                                                                     |                 |            |
| Summary of Critical Results by Maximum Level (Rank 1) for Storm |                  |                 |                         |                     |                |                                                                                     |                 |            |
| PN                                                              | Storm            | Return Period   | Climate Change          | First X Surcharge   | First Y Flood  | First Z Overflow                                                                    | O/F Act.        | Lvl Exc.   |
| 40.000                                                          | 15 Winter        | 100             | +30%                    | 100/15 Winter       |                |                                                                                     |                 |            |
| 40.001                                                          | 240 Winter       | 100             | +30%                    | 100/15 Winter       |                |                                                                                     |                 |            |
| 41.000                                                          | 240 Winter       | 100             | +30%                    | 100/15 Winter       |                |                                                                                     |                 |            |
| 1.018                                                           | 240 Winter       | 100             | +30%                    | 100/15 Winter       | 100/240 Winter |                                                                                     |                 |            |
| PN                                                              | US/MH Name       | Water Level (m) | Surch'd Depth (m)       | Flooded Volume (m³) | Flow / Cap.    | O'flow (l/s)                                                                        | Pipe Flow (l/s) | Status     |
| 1.000                                                           | TL SW01          | 6.398           | 0.328                   | 18.461              | 1.15           | 0.0                                                                                 | 73.6            | FLOOD      |
| 1.001                                                           | TL SW03          | 6.707           | 1.438                   | 0.000               | 1.09           | 0.0                                                                                 | 73.1            | FLOOD RISK |
| 2.000                                                           | Parcel A2_1      | 6.080           | 0.580                   | 0.000               | 0.05           | 0.0                                                                                 | 5.1             | SURCHARGED |
| 2.001                                                           | Parcel A2_2      | 6.088           | 0.938                   | 0.000               | 0.36           | 0.0                                                                                 | 4.7             | SURCHARGED |
| 1.003                                                           | TL SW03          | 6.743           | 1.637                   | 0.000               | 1.11           | 0.0                                                                                 | 73.5            | FLOOD RISK |
| 3.000                                                           | Parcel B6_1      | 5.921           | 0.621                   | 0.000               | 0.07           | 0.0                                                                                 | 6.7             | SURCHARGED |
| 3.001                                                           | Parcel B6_2      | 5.915           | 0.965                   | 0.000               | 0.45           | 0.0                                                                                 | 5.8             | SURCHARGED |
| 1.003                                                           | TL SW04          | 6.669           | 1.734                   | 0.000               | 1.05           | 0.0                                                                                 | 72.8            | FLOOD RISK |
| 1.004                                                           | TL SW05          | 6.406           | 1.771                   | 25.728              | 1.31           | 0.0                                                                                 | 94.5            | FLOOD      |
| 4.000                                                           | Parcel B1&CH_1   | 4.887           | 0.387                   | 0.000               | 0.19           | 0.0                                                                                 | 10.4            | SURCHARGED |
| 4.001                                                           | Parcel B1&CH_2   | 5.094           | 0.809                   | 0.000               | 0.62           | 0.0                                                                                 | 8.3             | SURCHARGED |
| 1.005                                                           | Ex. SB10         | 6.543           | 2.378                   | 0.000               | 1.50           | 0.0                                                                                 | 88.5            | SURCHARGED |
| 1.006                                                           | Ex. SB9          | 6.504           | 2.454                   | 0.000               | 1.58           | 0.0                                                                                 | 111.8           | SURCHARGED |
| 5.000                                                           | Block B_1        | 5.196           | 0.396                   | 0.000               | 0.03           | 0.0                                                                                 | 5.7             | SURCHARGED |
| 5.001                                                           | Block B_2        | 5.201           | 1.146                   | 0.000               | 0.40           | 0.0                                                                                 | 5.6             | SURCHARGED |
| 5.002                                                           | Ex. SB17         | 5.880           | 1.930                   | 0.000               | 0.38           | 79.7                                                                                | 24.8            | SURCHARGED |
| 1.007                                                           | Ex. SB8          | 5.945           | 2.145                   | 0.000               | 1.80           | 0.0                                                                                 | 111.9           | SURCHARGED |
| 6.000                                                           | BovisA_1         | 4.992           | 0.517                   | 0.000               | 0.49           | 0.0                                                                                 | 57.8            | SURCHARGED |
| 6.001                                                           | BovisA_2         | 5.513           | 1.138                   | 0.000               | 0.16           | 0.0                                                                                 | 58.2            | FLOOD RISK |
| 1.008                                                           | Ex SB7           | 4.691           | 1.191                   | 0.000               | 1.09           | 0.0                                                                                 | 148.3           | SURCHARGED |
| 7.000                                                           | BovisB_1         | 4.370           | 0.595                   | 0.000               | 0.28           | 0.0                                                                                 | 44.1            | FLOOD RISK |
| 7.001                                                           | BovisB_2         | 4.357           | 0.757                   | 0.000               | 0.17           | 0.0                                                                                 | 44.4            | FLOOD RISK |
| 1.009                                                           | Bunny Node       | 4.700           | 1.008                   | 0.000               | 1.03           | 0.0                                                                                 | 132.9           | SURCHARGED |
| 8.000                                                           | Plots 123 - 126  | 4.047           | 0.742                   | 0.000               | 2.13           | 0.0                                                                                 | 18.7            | FLOOD RISK |
| 9.000                                                           | Plots 111 - 116  | 4.046           | 0.760                   | 0.000               | 2.45           | 0.0                                                                                 | 32.9            | FLOOD RISK |
| 8.001                                                           | SW01, G01&G02    | 3.809           | 0.584                   | 0.000               | 1.74           | 57.7                                                                                | 40.1            | FLOOD RISK |
| 8.002                                                           | Permbase 01      | 3.854           | 0.609                   | 3.836               | 0.43           | 0.0                                                                                 | 13.8            | FLOOD      |
| 10.000                                                          | Plots 117 - 122  | 4.067           | 0.752                   | 17.542              | 1.19           | 0.0                                                                                 | 19.2            | FLOOD      |
| 10.001                                                          | Plot SW02/2      | 4.264           | 1.271                   | 0.000               | 1.33           | 0.0                                                                                 | 39.8            | FLOOD RISK |
| 11.000                                                          | Plots 101-110    | 4.404           | 1.179                   | 1.328               | 1.69           | 0.0                                                                                 | 53.2            | FLOOD      |
| 8.003                                                           | SW02             | 4.294           | 1.239                   | 0.000               | 2.40           | 0.0                                                                                 | 64.2            | FLOOD RISK |
| 1.010                                                           | Ex SB6           | 4.192           | 1.117                   | 0.000               | 0.78           | 0.0                                                                                 | 148.6           | SURCHARGED |
| 12.000                                                          | Ret Block A      | 3.871           | 0.571                   | 0.000               | 0.27           | 0.0                                                                                 | 13.8            | SURCHARGED |
| 12.001                                                          | Ret Block A      | 4.138           | 1.088                   | 0.000               | 0.27           | 0.0                                                                                 | 4.9             | SURCHARGED |
| 13.000                                                          | Plots 95-100     | 4.149           | 0.924                   | 0.000               | 0.72           | 0.0                                                                                 | 32.5            | SURCHARGED |
| 1.011                                                           | SW03             | 4.077           | 1.157                   | 0.000               | 0.71           | 0.0                                                                                 | 155.0           | FLOOD RISK |
| 1.012                                                           | SW04             | 3.944           | 1.204                   | 0.000               | 0.75           | 0.0                                                                                 | 157.0           | SURCHARGED |
| 14.000                                                          | SW-FUT-01-PlotsN | 4.016           | 1.066                   | 18.424              | 1.87           | 0.0                                                                                 | 25.4            | FLOOD      |
| 15.000                                                          | SW-FUT-01-PlotsS | 4.012           | 1.062                   | 12.296              | 1.80           | 0.0                                                                                 | 22.2            | FLOOD      |
| 14.001                                                          | SW-FUT-01        | 3.944           | 1.084                   | 0.000               | 1.72           | 0.0                                                                                 | 119.5           | FLOOD RISK |
| 14.002                                                          | Permbase 02      | 3.824           | 1.104                   | 23.596              | 0.50           | 0.0                                                                                 | 32.3            | FLOOD      |
| 15.000                                                          | Plots 80-88      | 4.106           | 1.406                   | 6.112               | 1.74           | 0.0                                                                                 | 44.3            | FLOOD      |
| 17.000                                                          | Plots 87-94      | 3.951           | 1.124                   | 0.000               | 0.98           | 0.0                                                                                 | 76.2            | SURCHARGED |
| 1.013                                                           | SW05             | 3.816           | 1.216                   | 0.000               | 1.12           | 0.0                                                                                 | 208.6           | SURCHARGED |
| 18.000                                                          | CG Basiblock A   | 4.095           | 1.050                   | 0.000               | 1.45           | 0.0                                                                                 | 105.5           | FLOOD RISK |
| 1.014                                                           | SW06             | 3.704           | 1.264                   | 1.343               | 1.34           | 0.0                                                                                 | 224.7           | FLOOD      |
| 1.015                                                           | Permbase 03      | 3.607           | 1.257                   | 7.040               | 1.80           | 0.0                                                                                 | 254.7           | FLOOD      |
| 19.000                                                          | SW-FUT-02-PlotN  | 3.704           | 0.954                   | 4.082               | 2.23           | 0.0                                                                                 | 26.4            | FLOOD      |
| 20.000                                                          | SW-FUT-02-Plots  | 3.706           | 0.956                   | 6.079               | 2.50           | 0.0                                                                                 | 28.4            | FLOOD      |
| 19.001                                                          | SW-FUT-02        | 3.621           | 1.001                   | 0.000               | 0.36           | 0.0                                                                                 | 23.3            | SURCHARGED |
| 19.002                                                          | Permbase 04      | 3.609           | 1.134                   | 0.000               | 0.39           | 0.0                                                                                 | 23.7            | SURCHARGED |
| 21.000                                                          | Plots 60-73      | 3.900           | 1.150                   | 0.166               | 4.03           | 0.0                                                                                 | 44.2            | FLOOD      |
| 22.000                                                          | Plots 74-78      | 3.901           | 1.151                   | 1.462               | 2.73           | 0.0                                                                                 | 43.9            | FLOOD      |
| 19.003                                                          | SW07             | 3.604           | 1.204                   | 0.000               | 0.96           | 0.0                                                                                 | 53.2            | FLOOD RISK |
| 19.004                                                          | Permbase 05      | 3.596           | 1.241                   | 0.000               | 0.93           | 0.0                                                                                 | 53.7            | FLOOD RISK |
| 23.000                                                          | Plots 39-46      | 3.634           | 0.244                   | 0.000               | 0.16           | 0.0                                                                                 | 9.7             | SURCHARGED |
| 24.000                                                          | SW-LIN 01        | 5.063           | 1.093                   | 22.944              | 1.74           | 0.0                                                                                 | 52.6            | FLOOD      |
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| Mayer Brown Ltd                                                 |                 |                       |                                                              |                           |                | Page 4                                                                              |                       |            |
|-----------------------------------------------------------------|-----------------|-----------------------|--------------------------------------------------------------|---------------------------|----------------|-------------------------------------------------------------------------------------|-----------------------|------------|
| Lion House<br>Oriental Road<br>Woking GU22 8AR                  |                 |                       | Littlehampton<br>Overall Surface Network<br>West of Wetlands |                           |                |  |                       |            |
| Date January 2018                                               |                 |                       | Designed by S Foley                                          |                           |                |                                                                                     |                       |            |
| File WEST CATCHMENT MODEL_...                                   |                 |                       | Checked by                                                   |                           |                |                                                                                     |                       |            |
| XP Solutions                                                    |                 |                       | Network 2013.1                                               |                           |                |                                                                                     |                       |            |
| Summary of Critical Results by Maximum Level (Rank 1) for Storm |                 |                       |                                                              |                           |                |                                                                                     |                       |            |
| PN                                                              | US/MH<br>Name   | Water<br>Level<br>(m) | Surch'd<br>Depth (m)                                         | Flooded<br>Volume<br>(m³) | Flow /<br>Cap. | O'flow<br>(l/s)                                                                     | Pipe<br>Flow<br>(l/s) | Status     |
| 25.000                                                          | Non resi        | 4.915                 | 0.465                                                        | 0.000                     | 0.07           | 0.0                                                                                 | 16.5                  | FLOOD RISK |
| 25.001                                                          | Non resi        | 5.200                 | 1.255                                                        | 0.018                     | 0.14           | 0.0                                                                                 | 4.9                   | FLOOD      |
| 24.001                                                          | SW-LYM 02       | 5.502                 | 1.637                                                        | 1.654                     | 1.44           | 0.0                                                                                 | 49.3                  | FLOOD      |
| 26.000                                                          | Parcel A1       | 4.498                 | 0.048                                                        | 0.000                     | 0.12           | 0.0                                                                                 | 26.9                  | SURCHARGED |
| 26.001                                                          | As-built SA8    | 4.522                 | 0.534                                                        | 0.000                     | 0.59           | 0.0                                                                                 | 23.3                  | SURCHARGED |
| 27.000                                                          | Non Resi        | 4.822                 | 0.372                                                        | 0.000                     | 0.04           | 0.0                                                                                 | 12.7                  | SURCHARGED |
| 27.001                                                          | SW Stub 02      | 5.138                 | 1.273                                                        | 0.000                     | 0.13           | 0.0                                                                                 | 4.9                   | SURCHARGED |
| 26.002                                                          | SW-LYM 03/1     | 5.824                 | 2.029                                                        | 0.007                     | 0.78           | 0.0                                                                                 | 33.6                  | FLOOD      |
| 24.002                                                          | SW-LYM 03       | 5.973                 | 2.493                                                        | 0.000                     | 1.94           | 0.0                                                                                 | 64.6                  | SURCHARGED |
| 24.003                                                          | SW-LYM 04       | 6.151                 | 2.666                                                        | 0.000                     | 1.05           | 0.0                                                                                 | 65.9                  | SURCHARGED |
| 28.000                                                          | SW-LYM 07       | 5.394                 | 1.299                                                        | 24.635                    | 1.72           | 0.0                                                                                 | 73.2                  | FLOOD      |
| 23.001                                                          | SW-LYM 08       | 6.116                 | 2.221                                                        | 0.103                     | 1.22           | 0.0                                                                                 | 74.7                  | FLOOD      |
| 29.000                                                          | SW-LYM 05A      | 7.590                 | 0.090                                                        | 20.019                    | 0.98           | 0.0                                                                                 | 138.1                 | FLOOD      |
| 29.001                                                          | SW-LYM 05       | 6.919                 | 1.079                                                        | 0.000                     | 6.79           | 0.0                                                                                 | 168.4                 | SURCHARGED |
| 24.004                                                          | SW-LYM 10       | 6.214                 | 2.849                                                        | 0.000                     | 1.63           | 0.0                                                                                 | 212.0                 | SURCHARGED |
| 24.005                                                          | SW-LYM11        | 5.862                 | 2.732                                                        | 0.000                     | 1.78           | 0.0                                                                                 | 325.9                 | FLOOD RISK |
| 30.000                                                          | ExSB17_Dum Node | 5.720                 | 1.795                                                        | 0.000                     | 1.00           | 0.0                                                                                 | 68.7                  | SURCHARGED |
| 24.006                                                          | SW-LYM 12       | 5.393                 | 2.423                                                        | 0.000                     | 1.56           | 0.0                                                                                 | 266.5                 | SURCHARGED |
| 24.007                                                          | SW-FUT-03       | 4.692                 | 2.002                                                        | 0.000                     | 2.06           | 0.0                                                                                 | 398.8                 | SURCHARGED |
| 31.000                                                          | Stub SW18/1     | 4.324                 | 1.599                                                        | 23.582                    | 2.23           | 0.0                                                                                 | 74.1                  | FLOOD      |
| 31.001                                                          | SW18            | 4.173                 | 1.568                                                        | 0.000                     | 2.45           | 0.0                                                                                 | 85.6                  | SURCHARGED |
| 24.008                                                          | SW19            | 3.823                 | 1.403                                                        | 0.000                     | 0.95           | 0.0                                                                                 | 220.2                 | SURCHARGED |
| 24.009                                                          | SW20            | 3.650                 | 1.408                                                        | 0.000                     | 1.07           | 0.0                                                                                 | 218.8                 | SURCHARGED |
| 32.000                                                          | Car Park        | 4.720                 | 0.770                                                        | 0.000                     | 0.03           | 0.0                                                                                 | 5.7                   | FLOOD RISK |
| 32.001                                                          | Car Park        | 5.000                 | 1.450                                                        | 0.301                     | 0.10           | 0.0                                                                                 | 4.4                   | FLOOD      |
| 33.000                                                          | Non Resi        | 3.681                 | 0.531                                                        | 0.000                     | 0.05           | 0.0                                                                                 | 9.7                   | SURCHARGED |
| 33.001                                                          | Stub SW9/1      | 3.893                 | 1.068                                                        | 0.000                     | 0.12           | 0.0                                                                                 | 4.6                   | SURCHARGED |
| 34.000                                                          | SW08            | 4.901                 | 1.126                                                        | 0.650                     | 0.61           | 0.0                                                                                 | 57.5                  | FLOOD      |
| 35.000                                                          | Non Resi        | 3.870                 | 0.720                                                        | 0.000                     | 0.02           | 0.0                                                                                 | 4.9                   | SURCHARGED |
| 35.001                                                          | Stub SW9/2      | 3.869                 | 1.144                                                        | 0.000                     | 0.10           | 0.0                                                                                 | 4.4                   | SURCHARGED |
| 36.000                                                          | Plots 1 - 4     | 4.784                 | 0.324                                                        | 0.000                     | 0.33           | 0.0                                                                                 | 17.5                  | SURCHARGED |
| 33.002                                                          | SW09            | 4.627                 | 2.002                                                        | 0.000                     | 2.09           | 0.0                                                                                 | 84.4                  | SURCHARGED |
| 37.000                                                          | SW12            | 4.271                 | 1.256                                                        | 0.000                     | 1.44           | 0.0                                                                                 | 48.3                  | FLOOD RISK |
| 37.001                                                          | SW13            | 4.037                 | 1.132                                                        | 17.216                    | 1.61           | 0.0                                                                                 | 63.3                  | FLOOD      |
| 37.002                                                          | SW14            | 4.029                 | 1.195                                                        | 0.246                     | 1.45           | 0.0                                                                                 | 68.6                  | FLOOD      |
| 37.003                                                          | SW15            | 3.802                 | 1.332                                                        | 0.000                     | 0.50           | 0.0                                                                                 | 31.2                  | SURCHARGED |
| 38.000                                                          | Plots 16-22     | 3.794                 | 0.204                                                        | 0.000                     | 0.13           | 0.0                                                                                 | 8.2                   | SURCHARGED |
| 33.003                                                          | SW16            | 3.783                 | 1.383                                                        | 0.000                     | 0.43           | 0.0                                                                                 | 57.1                  | SURCHARGED |
| 33.004                                                          | SW17            | 3.727                 | 1.457                                                        | 0.000                     | 0.34           | 0.0                                                                                 | 56.6                  | SURCHARGED |
| 24.010                                                          | SW21            | 3.640                 | 1.080                                                        | 0.000                     | 0.36           | 0.0                                                                                 | 218.3                 | SURCHARGED |
| 23.001                                                          | SW22            | 3.631                 | 1.101                                                        | 0.000                     | 0.26           | 0.0                                                                                 | 219.8                 | SURCHARGED |
| 39.000                                                          | Plots 47-55     | 3.608                 | 0.883                                                        | 0.000                     | 0.78           | 0.0                                                                                 | 18.0                  | SURCHARGED |
| 23.002                                                          | SW23            | 3.615                 | 1.220                                                        | 0.000                     | 0.29           | 0.0                                                                                 | 219.6                 | FLOOD RISK |
| 1.016                                                           | SW24            | 3.596                 | 1.286                                                        | 0.000                     | 0.41           | 0.0                                                                                 | 323.7                 | FLOOD RISK |
| 1.017                                                           | Permbase 06     | 3.567                 | 1.367                                                        | 0.000                     | 0.52           | 0.0                                                                                 | 258.6                 | FLOOD RISK |
| 40.000                                                          | Plots           | 3.561                 | 0.966                                                        | 0.000                     | 0.92           | 0.0                                                                                 | 36.7                  | FLOOD RISK |
| 40.001                                                          | Stub SW25/1     | 3.541                 | 1.326                                                        | 0.000                     | 1.58           | 0.0                                                                                 | 19.3                  | FLOOD RISK |
| 41.000                                                          | Stub SW25/2     | 3.528                 | 1.263                                                        | 0.000                     | 0.79           | 0.0                                                                                 | 19.6                  | FLOOD RISK |
| 1.018                                                           | SW25            | 3.585                 | 1.860                                                        | 0.059                     | 0.77           | 0.0                                                                                 | 265.5                 | FLOOD      |
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|                                                                            |                         |                                                                                     |                                     |                  |                |                  |          |          |
|----------------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------|------------------|----------------|------------------|----------|----------|
| Mayer Brown Ltd                                                            |                         | Page 1                                                                              |                                     |                  |                |                  |          |          |
| Lion House                                                                 | Littlehampton           |  |                                     |                  |                |                  |          |          |
| Oriental Road                                                              | Overall Surface Network |                                                                                     |                                     |                  |                |                  |          |          |
| Woking GU22 8AR                                                            | West of Wetlands        |                                                                                     |                                     |                  |                |                  |          |          |
| Date January 2018                                                          | Designed by S Foley     |                                                                                     |                                     |                  |                |                  |          |          |
| File WEST CATCHMENT MODEL_...                                              | Checked by              |                                                                                     |                                     |                  |                |                  |          |          |
| XP Solutions                                                               | Network 2013.1          |                                                                                     |                                     |                  |                |                  |          |          |
| <div>Summary of Critical Results by Maximum Level (Rank 1) for Storm</div> |                         |                                                                                     |                                     |                  |                |                  |          |          |
| <div>Simulation Criteria</div>                                             |                         |                                                                                     |                                     |                  |                |                  |          |          |
| Areal Reduction Factor                                                     |                         | 1.000                                                                               | Additional Flow - % of Total Flow   | 0.000            |                |                  |          |          |
| Hot Start (mins)                                                           |                         | 0                                                                                   | MADD Factor * 10m³/ha Storage       | 2.000            |                |                  |          |          |
| Hot Start Level (mm)                                                       |                         | 0                                                                                   | Inlet Coeffiecient                  | 0.800            |                |                  |          |          |
| Manhole Headloss Coeff (Global)                                            |                         | 0.500                                                                               | Flow per Person per Day (l/per/day) | 0.000            |                |                  |          |          |
| Foul Sewage per hectare (l/s)                                              |                         | 0.000                                                                               |                                     |                  |                |                  |          |          |
| Number of Input Hydrographs                                                |                         | 0                                                                                   | Number of Offline Controls          | 2                |                |                  |          |          |
| Number of Online Controls                                                  |                         | 14                                                                                  | Number of Storage Structures        | 20               |                |                  |          |          |
|                                                                            |                         |                                                                                     | Number of Time/Area Diagrams        | 0                |                |                  |          |          |
|                                                                            |                         |                                                                                     | Number of Real Time Controls        | 0                |                |                  |          |          |
| <div>Synthetic Rainfall Details</div>                                      |                         |                                                                                     |                                     |                  |                |                  |          |          |
| Rainfall Model                                                             |                         | FEH                                                                                 | D3 (1km)                            | 0.407            |                |                  |          |          |
| Site Location                                                              |                         | GB 502850 104400 TQ 02850 04400                                                     | E (1km)                             | 0.314            |                |                  |          |          |
| C (1km)                                                                    |                         | -0.027                                                                              | F (1km)                             | 2.329            |                |                  |          |          |
| D1 (1km)                                                                   |                         | 0.393                                                                               | Cv (Summer)                         | 0.750            |                |                  |          |          |
| D2 (1km)                                                                   |                         | 0.274                                                                               | Cv (Winter)                         | 0.840            |                |                  |          |          |
| Margin for Flood Risk Warning (mm)                                         |                         |                                                                                     |                                     | 300.0            |                |                  |          |          |
| Analysis Timestep                                                          |                         | 2.5 Second                                                                          | Increment (Extended)                |                  |                |                  |          |          |
| DTS Status                                                                 |                         |                                                                                     |                                     | ON               |                |                  |          |          |
| DVD Status                                                                 |                         |                                                                                     |                                     | ON               |                |                  |          |          |
| Inertia Status                                                             |                         |                                                                                     |                                     | ON               |                |                  |          |          |
| Profile(s)                                                                 |                         | Winter                                                                              |                                     |                  |                |                  |          |          |
| Duration(s) (mins)                                                         |                         | 240                                                                                 |                                     |                  |                |                  |          |          |
| Return Period(s) (years)                                                   |                         | 100                                                                                 |                                     |                  |                |                  |          |          |
| Climate Change (%)                                                         |                         | 30                                                                                  |                                     |                  |                |                  |          |          |
| PN                                                                         | Storm                   | Return Period                                                                       | Climate Change                      | First X Surchage | First Y Flood  | First Z Overflow | O/F Act. | Lvl Exc. |
| 1.000                                                                      | 240 Winter              | 100                                                                                 | +30%                                |                  |                |                  |          |          |
| 1.001                                                                      | 240 Winter              | 100                                                                                 | +30%                                |                  |                |                  |          |          |
| 2.000                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 2.001                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 1.002                                                                      | 240 Winter              | 100                                                                                 | +30%                                |                  |                |                  |          |          |
| 3.000                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 3.001                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 1.003                                                                      | 240 Winter              | 100                                                                                 | +30%                                |                  |                |                  |          |          |
| 1.004                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 4.000                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 4.001                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 1.005                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 1.006                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 5.000                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 5.001                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 5.002                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                | 100/240 Winter   | 1        |          |
| 1.007                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 6.000                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 6.001                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 1.008                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 7.000                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 7.001                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 1.009                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 8.000                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 9.000                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 8.001                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                | 100/240 Winter   | 1        |          |
| 8.002                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   | 100/240 Winter |                  |          | 1        |
| 10.000                                                                     | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   | 100/240 Winter |                  |          | 1        |
| 10.001                                                                     | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 11.000                                                                     | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 8.003                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 1.010                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 12.000                                                                     | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 12.001                                                                     | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 13.000                                                                     | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
| 1.011                                                                      | 240 Winter              | 100                                                                                 | +30%                                | 100/240 Winter   |                |                  |          |          |
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|                                                                 |            |               |                         |                  |                |                                                                                     |          |          |   |
|-----------------------------------------------------------------|------------|---------------|-------------------------|------------------|----------------|-------------------------------------------------------------------------------------|----------|----------|---|
| Mayer Brown Ltd                                                 |            |               |                         | Page 2           |                |                                                                                     |          |          |   |
| Lion House                                                      |            |               | Littlehampton           |                  |                |  |          |          |   |
| Oriental Road                                                   |            |               | Overall Surface Network |                  |                |                                                                                     |          |          |   |
| Woking GU22 8AR                                                 |            |               | West of Wetlands        |                  |                |                                                                                     |          |          |   |
| Date January 2018                                               |            |               | Designed by S Foley     |                  |                |                                                                                     |          |          |   |
| File WEST CATCHMENT MODEL_...                                   |            |               | Checked by              |                  |                |                                                                                     |          |          |   |
| XP Solutions                                                    |            |               | Network 2013.1          |                  |                |                                                                                     |          |          |   |
| Summary of Critical Results by Maximum Level (Rank 1) for Storm |            |               |                         |                  |                |                                                                                     |          |          |   |
| PN                                                              | Storm      | Return Period | Climate Change          | First X Surchage | First Y Flood  | First Z Overflow                                                                    | O/F Act. | Lvl Exc. |   |
| 1.012                                                           | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 14.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 15.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 14.001                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 14.002                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   | 100/240 Winter |                                                                                     |          |          | 1 |
| 16.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 17.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 1.013                                                           | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 18.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 1.014                                                           | 240 Winter | 100           | +30%                    | 100/240 Winter   | 100/240 Winter |                                                                                     |          |          | 1 |
| 1.015                                                           | 240 Winter | 100           | +30%                    | 100/240 Winter   | 100/240 Winter |                                                                                     |          |          | 1 |
| 19.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 20.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 19.001                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 19.002                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 21.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 22.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 19.003                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 19.004                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 23.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 24.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 25.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 25.001                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 24.001                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 26.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 26.001                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 27.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 27.001                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 26.002                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 24.002                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 24.003                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 28.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 28.001                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 29.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 23.001                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 24.004                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 24.005                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 30.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 24.006                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 24.007                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 31.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 31.001                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 24.008                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 24.009                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 32.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 32.001                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 33.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 33.001                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 34.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 35.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 35.001                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 36.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 33.002                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 37.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 37.001                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 37.002                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 37.003                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 38.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 33.003                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 33.004                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 24.010                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 23.001                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 39.000                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 23.002                                                          | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 1.016                                                           | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
| 1.017                                                           | 240 Winter | 100           | +30%                    | 100/240 Winter   |                |                                                                                     |          |          |   |
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|                                                                 |                  |                         |                   |                                                                                     |                |                  |                 |            |  |
|-----------------------------------------------------------------|------------------|-------------------------|-------------------|-------------------------------------------------------------------------------------|----------------|------------------|-----------------|------------|--|
| Mayer Brown Ltd                                                 |                  |                         |                   | Page 3                                                                              |                |                  |                 |            |  |
| Lion House                                                      |                  | Littlehampton           |                   |  |                |                  |                 |            |  |
| Oriental Road                                                   |                  | Overall Surface Network |                   |                                                                                     |                |                  |                 |            |  |
| Woking GU22 8AR                                                 |                  | West of Wetlands        |                   |                                                                                     |                |                  |                 |            |  |
| Date January 2018                                               |                  | Designed by S Foley     |                   |                                                                                     |                |                  |                 |            |  |
| File WEST CATCHMENT MODEL_...                                   |                  | Checked by              |                   |                                                                                     |                |                  |                 |            |  |
| XP Solutions                                                    |                  | Network 2013.1          |                   |                                                                                     |                |                  |                 |            |  |
| Summary of Critical Results by Maximum Level (Rank 1) for Storm |                  |                         |                   |                                                                                     |                |                  |                 |            |  |
| PN                                                              | Storm            | Return Period           | Climate Change    | First X Surchage                                                                    | First Y Flood  | First Z Overflow | O/F Act.        | Lvl Exc.   |  |
| 40.000                                                          | 240 Winter       | 100                     | +30%              | 100/240 Winter                                                                      |                |                  |                 |            |  |
| 40.001                                                          | 240 Winter       | 100                     | +30%              | 100/240 Winter                                                                      |                |                  |                 |            |  |
| 41.000                                                          | 240 Winter       | 100                     | +30%              | 100/240 Winter                                                                      |                |                  |                 |            |  |
| 1.018                                                           | 240 Winter       | 100                     | +30%              | 100/240 Winter                                                                      | 100/240 Winter |                  |                 |            |  |
| PN                                                              | US/MH Name       | Water Level (m)         | Surch'd Depth (m) | Flooded Volume (m³)                                                                 | Flow / Cap.    | O'flow (l/s)     | Pipe Flow (l/s) | Status     |  |
| 1.000                                                           | TL_SW01          | 5.238                   | -0.232            | 0.000                                                                               | 0.12           | 0.0              | 8.0             | OK         |  |
| 1.001                                                           | TL_SW02          | 5.007                   | -0.212            | 0.000                                                                               | 0.19           | 0.0              | 12.8            | OK         |  |
| 2.000                                                           | Parcel A2_1      | 6.014                   | 0.514             | 0.000                                                                               | 0.04           | 0.0              | 4.9             | SURCHARGED |  |
| 2.001                                                           | Parcel A2_2      | 6.023                   | 0.873             | 0.000                                                                               | 0.35           | 0.0              | 4.5             | SURCHARGED |  |
| 1.002                                                           | TL_SW03          | 4.874                   | -0.182            | 0.000                                                                               | 0.33           | 0.0              | 21.8            | OK         |  |
| 3.000                                                           | Parcel B6_1      | 5.865                   | 0.565             | 0.000                                                                               | 0.06           | 0.0              | 6.0             | SURCHARGED |  |
| 3.001                                                           | Parcel B6_2      | 5.867                   | 0.917             | 0.000                                                                               | 0.44           | 0.0              | 5.7             | SURCHARGED |  |
| 1.003                                                           | TL_SW04          | 4.778                   | -0.157            | 0.000                                                                               | 0.46           | 0.0              | 32.0            | OK         |  |
| 1.004                                                           | TL_SW05          | 4.709                   | 0.074             | 0.000                                                                               | 0.67           | 0.0              | 48.4            | SURCHARGED |  |
| 4.000                                                           | Parcel B1&CH_1   | 4.883                   | 0.383             | 0.000                                                                               | 0.19           | 0.0              | 10.6            | SURCHARGED |  |
| 4.001                                                           | Parcel B1&CH 2   | 5.000                   | 0.715             | 0.000                                                                               | 0.62           | 0.0              | 8.3             | SURCHARGED |  |
| 1.005                                                           | Ex. SB10         | 4.611                   | 0.401             | 0.000                                                                               | 0.82           | 0.0              | 56.3            | SURCHARGED |  |
| 1.006                                                           | Ex. SB9          | 4.521                   | 0.451             | 0.000                                                                               | 0.93           | 0.0              | 66.1            | SURCHARGED |  |
| 5.000                                                           | Block B_1        | 5.195                   | 0.395             | 0.000                                                                               | 0.04           | 0.0              | 6.3             | SURCHARGED |  |
| 5.001                                                           | Block B_2        | 5.201                   | 1.146             | 0.000                                                                               | 0.40           | 0.0              | 5.6             | SURCHARGED |  |
| 5.002                                                           | Ex. SB17         | 4.321                   | 0.371             | 0.000                                                                               | 0.15           | 49.3             | 9.9             | SURCHARGED |  |
| 1.007                                                           | Ex. SB8          | 4.396                   | 0.596             | 0.000                                                                               | 0.99           | 0.0              | 61.7            | SURCHARGED |  |
| 6.000                                                           | BovisA_1         | 4.644                   | 0.169             | 0.000                                                                               | 0.46           | 0.0              | 54.7            | SURCHARGED |  |
| 6.001                                                           | BovisA_2         | 4.609                   | 0.234             | 0.000                                                                               | 0.15           | 0.0              | 53.5            | SURCHARGED |  |
| 1.008                                                           | Ex SB7           | 4.322                   | 0.822             | 0.000                                                                               | 0.81           | 0.0              | 110.6           | SURCHARGED |  |
| 7.000                                                           | BovisB_1         | 4.370                   | 0.595             | 0.000                                                                               | 0.28           | 0.0              | 44.1            | FLOOD RISK |  |
| 7.001                                                           | BovisB_2         | 4.357                   | 0.757             | 0.000                                                                               | 0.17           | 0.0              | 44.4            | FLOOD RISK |  |
| 8.000                                                           | Plots 123 - 126  | 3.766                   | 0.461             | 0.000                                                                               | 0.46           | 0.0              | 4.0             | FLOOD RISK |  |
| 9.000                                                           | Plots 111 - 116  | 3.759                   | 0.473             | 0.000                                                                               | 0.43           | 0.0              | 5.7             | FLOOD RISK |  |
| 8.001                                                           | SW01, G01&G02    | 3.754                   | 0.489             | 0.000                                                                               | 0.58           | 48.9             | 13.5            | FLOOD RISK |  |
| 8.002                                                           | Permbase 01      | 3.850                   | 0.605             | 0.367                                                                               | 0.47           | 0.0              | 14.9            | FLOOD      |  |
| 10.000                                                          | Plots 117 - 122  | 4.053                   | 0.738             | 3.381                                                                               | 0.49           | 0.0              | 8.0             | FLOOD      |  |
| 10.001                                                          | Stub SW02/2      | 4.060                   | 0.967             | 0.000                                                                               | 0.47           | 0.0              | 14.1            | SURCHARGED |  |
| 11.000                                                          | Plots 101-110    | 4.063                   | 0.838             | 0.000                                                                               | 0.41           | 0.0              | 14.5            | SURCHARGED |  |
| 8.003                                                           | SW02             | 4.058                   | 1.003             | 0.000                                                                               | 0.84           | 0.0              | 22.6            | SURCHARGED |  |
| 1.010                                                           | Ex SB6           | 4.192                   | 1.117             | 0.000                                                                               | 0.78           | 0.0              | 148.6           | SURCHARGED |  |
| 12.000                                                          | Ret Block A      | 3.786                   | 0.486             | 0.000                                                                               | 0.26           | 0.0              | 13.5            | SURCHARGED |  |
| 12.001                                                          | Ret Block A      | 4.131                   | 1.081             | 0.000                                                                               | 0.25           | 0.0              | 4.6             | SURCHARGED |  |
| 13.000                                                          | Plots 95-100     | 4.080                   | 0.855             | 0.000                                                                               | 0.23           | 0.0              | 10.4            | SURCHARGED |  |
| 1.011                                                           | SW03             | 4.077                   | 1.157             | 0.000                                                                               | 0.71           | 0.0              | 155.0           | FLOOD RISK |  |
| 1.012                                                           | SW04             | 3.944                   | 1.204             | 0.000                                                                               | 0.75           | 0.0              | 157.0           | SURCHARGED |  |
| 14.000                                                          | SW-FUT-01-PlotsN | 3.887                   | 0.937             | 0.000                                                                               | 0.86           | 0.0              | 11.6            | FLOOD RISK |  |
| 15.000                                                          | SW-FUT-01-PlotsS | 3.877                   | 0.927             | 0.000                                                                               | 0.75           | 0.0              | 9.3             | FLOOD RISK |  |
| 14.001                                                          | SW-FUT-01        | 3.843                   | 0.983             | 0.000                                                                               | 0.50           | 0.0              | 32.4            | FLOOD RISK |  |
| 14.002                                                          | Permbase 02      | 3.824                   | 1.104             | 23.596                                                                              | 0.50           | 0.0              | 32.3            | FLOOD      |  |
| 16.000                                                          | Plots 80-86      | 3.836                   | 1.136             | 0.000                                                                               | 0.60           | 0.0              | 13.7            | FLOOD RISK |  |
| 17.000                                                          | Plots 87-94      | 3.821                   | 0.994             | 0.000                                                                               | 0.20           | 0.0              | 15.2            | SURCHARGED |  |
| 1.013                                                           | SW05             | 3.816                   | 1.216             | 0.000                                                                               | 1.12           | 0.0              | 208.6           | SURCHARGED |  |
| 18.000                                                          | C2 Resiblock A   | 3.712                   | 1.167             | 0.000                                                                               | 0.31           | 0.0              | 22.3            | SURCHARGED |  |
| 1.014                                                           | SW06             | 3.704                   | 1.264             | 0.000                                                                               | 1.34           | 0.0              | 224.7           | FLOOD      |  |
| 1.015                                                           | Permbase 03      | 3.607                   | 1.257             | 7.040                                                                               | 1.80           | 0.0              | 254.7           | FLOOD      |  |
| 19.000                                                          | SW-FUT-02-PlotN  | 3.634                   | 0.884             | 0.000                                                                               | 0.61           | 0.0              | 7.2             | FLOOD RISK |  |
| 20.000                                                          | SW-FUT-02-Plots  | 3.638                   | 0.888             | 0.000                                                                               | 0.70           | 0.0              | 8.0             | FLOOD RISK |  |
| 19.001                                                          | SW-FUT-02        | 3.621                   | 1.001             | 0.000                                                                               | 0.36           | 0.0              | 23.3            | SURCHARGED |  |
| 19.002                                                          | Permbase 04      | 3.609                   | 1.134             | 0.000                                                                               | 0.39           | 0.0              | 23.7            | SURCHARGED |  |
| 21.000                                                          | Plots 73-78      | 3.611                   | 0.861             | 0.000                                                                               | 1.07           | 0.0              | 11.8            | FLOOD RISK |  |
| 22.000                                                          | Plots 74-78      | 3.613                   | 0.863             | 0.000                                                                               | 0.87           | 0.0              | 13.9            | FLOOD RISK |  |
| 19.003                                                          | SW07             | 3.604                   | 1.204             | 0.000                                                                               | 0.96           | 0.0              | 53.2            | FLOOD RISK |  |
| 19.004                                                          | Permbase 05      | 3.596                   | 1.241             | 0.000                                                                               | 0.93           | 0.0              | 53.7            | FLOOD RISK |  |
| 23.000                                                          | Plots 39-46      | 3.634                   | 0.244             | 0.000                                                                               | 0.16           | 0.0              | 9.7             | SURCHARGED |  |
| 24.000                                                          | SW-LYM 01        | 4.405                   | 0.440             | 0.000                                                                               | 0.21           | 0.0              | 6.3             | SURCHARGED |  |
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| Mayer Brown Ltd                                                 |                 |                       |                                                              |                           |                | Page 4                                                                              |                       |            |
|-----------------------------------------------------------------|-----------------|-----------------------|--------------------------------------------------------------|---------------------------|----------------|-------------------------------------------------------------------------------------|-----------------------|------------|
| Lion House<br>Oriental Road<br>Woking GU22 8AR                  |                 |                       | Littlehampton<br>Overall Surface Network<br>West of Wetlands |                           |                |  |                       |            |
| Date January 2018                                               |                 |                       | Designed by S Foley                                          |                           |                |                                                                                     |                       |            |
| File WEST CATCHMENT MODEL_...                                   |                 |                       | Checked by                                                   |                           |                |                                                                                     |                       |            |
| XP Solutions                                                    |                 |                       | Network 2013.1                                               |                           |                |                                                                                     |                       |            |
| Summary of Critical Results by Maximum Level (Rank 1) for Storm |                 |                       |                                                              |                           |                |                                                                                     |                       |            |
| PN                                                              | US/MH<br>Name   | Water<br>Level<br>(m) | Surch'd<br>Depth (m)                                         | Flooded<br>Volume<br>(m³) | Flow /<br>Cap. | O'flow<br>(l/s)                                                                     | Pipe<br>Flow<br>(l/s) | Status     |
| 25.000                                                          | Non resi        | 4.849                 | 0.399                                                        | 0.000                     | 0.10           | 0.0                                                                                 | 23.9                  | SURCHARGED |
| 25.001                                                          | Non resi        | 5.100                 | 1.155                                                        | 0.000                     | 0.14           | 0.0                                                                                 | 4.7                   | FLOOD RISK |
| 24.001                                                          | SW-LYM 02       | 4.398                 | 0.533                                                        | 0.000                     | 0.42           | 0.0                                                                                 | 14.5                  | SURCHARGED |
| 26.000                                                          | Parcel A1       | 4.486                 | 0.036                                                        | 0.000                     | 0.12           | 0.0                                                                                 | 26.4                  | SURCHARGED |
| 26.001                                                          | As-built SA8    | 4.518                 | 0.530                                                        | 0.000                     | 0.62           | 0.0                                                                                 | 24.6                  | SURCHARGED |
| 27.000                                                          | Non Resi        | 4.782                 | 0.332                                                        | 0.000                     | 0.05           | 0.0                                                                                 | 14.2                  | SURCHARGED |
| 27.001                                                          | SW Stub 02      | 5.029                 | 1.164                                                        | 0.000                     | 0.12           | 0.0                                                                                 | 4.6                   | SURCHARGED |
| 26.002                                                          | SW-LYM 03/1     | 4.387                 | 0.592                                                        | 0.000                     | 0.68           | 0.0                                                                                 | 29.4                  | SURCHARGED |
| 24.002                                                          | SW-LYM 03       | 4.372                 | 0.737                                                        | 0.000                     | 1.39           | 0.0                                                                                 | 48.2                  | SURCHARGED |
| 24.003                                                          | SW-LYM 04       | 4.339                 | 0.814                                                        | 0.000                     | 0.79           | 0.0                                                                                 | 49.2                  | SURCHARGED |
| 28.000                                                          | SW-LYM 07       | 4.352                 | 0.257                                                        | 0.000                     | 0.16           | 0.0                                                                                 | 6.9                   | SURCHARGED |
| 28.001                                                          | SW-LYM 08       | 4.344                 | 0.449                                                        | 0.000                     | 0.31           | 0.0                                                                                 | 19.0                  | SURCHARGED |
| 29.000                                                          | SW-LYM 05A      | 7.306                 | -0.194                                                       | 0.000                     | 0.27           | 0.0                                                                                 | 38.0                  | FLOOD RISK |
| 29.001                                                          | SW-LYM 05       | 5.890                 | 0.050                                                        | 0.000                     | 2.37           | 0.0                                                                                 | 48.4                  | SURCHARGED |
| 24.004                                                          | SW-LYM 10       | 4.316                 | 0.951                                                        | 0.000                     | 0.82           | 0.0                                                                                 | 107.2                 | SURCHARGED |
| 24.005                                                          | SW-LYM11        | 4.201                 | 1.071                                                        | 0.000                     | 0.73           | 0.0                                                                                 | 133.3                 | SURCHARGED |
| 30.000                                                          | ExSB17_Dum Node | 4.250                 | 0.325                                                        | 0.000                     | 0.72           | 0.0                                                                                 | 49.6                  | SURCHARGED |
| 24.006                                                          | SW-LYM 12       | 4.088                 | 1.118                                                        | 0.000                     | 0.74           | 0.0                                                                                 | 183.4                 | SURCHARGED |
| 24.007                                                          | SW-FUT-03       | 3.939                 | 1.249                                                        | 0.000                     | 0.96           | 0.0                                                                                 | 186.8                 | SURCHARGED |
| 31.000                                                          | Stub SW18/1     | 3.906                 | 1.181                                                        | 0.000                     | 0.73           | 0.0                                                                                 | 24.3                  | SURCHARGED |
| 31.001                                                          | SW18            | 3.871                 | 1.266                                                        | 0.000                     | 0.83           | 0.0                                                                                 | 28.9                  | SURCHARGED |
| 24.008                                                          | SW19            | 3.823                 | 1.403                                                        | 0.000                     | 0.95           | 0.0                                                                                 | 220.2                 | SURCHARGED |
| 24.009                                                          | SW20            | 3.850                 | 1.408                                                        | 0.000                     | 1.07           | 0.0                                                                                 | 218.8                 | SURCHARGED |
| 32.000                                                          | Car Park        | 4.718                 | 0.768                                                        | 0.000                     | 0.03           | 0.0                                                                                 | 5.7                   | FLOOD RISK |
| 32.001                                                          | Car Park        | 4.755                 | 1.205                                                        | 0.000                     | 0.11           | 0.0                                                                                 | 4.6                   | FLOOD RISK |
| 33.000                                                          | Non Resi        | 3.572                 | 0.422                                                        | 0.000                     | 0.05           | 0.0                                                                                 | 8.4                   | SURCHARGED |
| 33.001                                                          | Stub SW9/1      | 3.762                 | 0.937                                                        | 0.000                     | 0.11           | 0.0                                                                                 | 4.2                   | SURCHARGED |
| 34.000                                                          | SW08            | 3.816                 | 0.041                                                        | 0.000                     | 0.12           | 0.0                                                                                 | 11.6                  | SURCHARGED |
| 35.000                                                          | Non Resi        | 3.758                 | 0.608                                                        | 0.000                     | 0.02           | 0.0                                                                                 | 4.6                   | SURCHARGED |
| 35.001                                                          | Stub SW9/2      | 3.773                 | 1.048                                                        | 0.000                     | 0.09           | 0.0                                                                                 | 4.0                   | SURCHARGED |
| 36.000                                                          | Plots 1 - 4     | 4.334                 | -0.126                                                       | 0.000                     | 0.06           | 0.0                                                                                 | 3.3                   | OK         |
| 33.002                                                          | SW09            | 3.798                 | 1.173                                                        | 0.000                     | 0.53           | 0.0                                                                                 | 21.4                  | SURCHARGED |
| 37.000                                                          | SW12            | 3.877                 | 0.862                                                        | 0.000                     | 0.23           | 0.0                                                                                 | 7.8                   | SURCHARGED |
| 37.001                                                          | SW13            | 3.867                 | 0.962                                                        | 0.000                     | 0.40           | 0.0                                                                                 | 15.6                  | FLOOD RISK |
| 37.002                                                          | SW14            | 3.846                 | 1.021                                                        | 0.000                     | 0.51           | 0.0                                                                                 | 23.4                  | FLOOD RISK |
| 37.003                                                          | SW15            | 3.802                 | 1.332                                                        | 0.000                     | 0.50           | 0.0                                                                                 | 31.2                  | SURCHARGED |
| 38.000                                                          | Plots 16-22     | 3.794                 | 0.204                                                        | 0.000                     | 0.13           | 0.0                                                                                 | 8.2                   | SURCHARGED |
| 33.003                                                          | SW16            | 3.783                 | 1.383                                                        | 0.000                     | 0.43           | 0.0                                                                                 | 57.1                  | SURCHARGED |
| 33.004                                                          | SW17            | 3.727                 | 1.457                                                        | 0.000                     | 0.34           | 0.0                                                                                 | 56.6                  | SURCHARGED |
| 24.010                                                          | SW21            | 3.640                 | 1.080                                                        | 0.000                     | 0.36           | 0.0                                                                                 | 218.3                 | SURCHARGED |
| 23.001                                                          | SW22            | 3.631                 | 1.101                                                        | 0.000                     | 0.26           | 0.0                                                                                 | 219.8                 | SURCHARGED |
| 39.000                                                          | Plots 47-55     | 3.608                 | 0.883                                                        | 0.000                     | 0.78           | 0.0                                                                                 | 18.0                  | SURCHARGED |
| 23.002                                                          | SW23            | 3.615                 | 1.220                                                        | 0.000                     | 0.29           | 0.0                                                                                 | 219.6                 | FLOOD RISK |
| 1.016                                                           | SW24            | 3.596                 | 1.286                                                        | 0.000                     | 0.41           | 0.0                                                                                 | 323.7                 | FLOOD RISK |
| 1.017                                                           | Permbase 06     | 3.567                 | 1.367                                                        | 0.000                     | 0.52           | 0.0                                                                                 | 258.6                 | FLOOD RISK |
| 40.000                                                          | Plots           | 3.537                 | 0.942                                                        | 0.000                     | 0.31           | 0.0                                                                                 | 12.3                  | FLOOD RISK |
| 40.001                                                          | Stub SW25/1     | 3.541                 | 1.326                                                        | 0.000                     | 1.58           | 0.0                                                                                 | 19.8                  | FLOOD RISK |
| 41.000                                                          | Stub SW25/2     | 3.528                 | 1.263                                                        | 0.000                     | 0.79           | 0.0                                                                                 | 19.6                  | FLOOD RISK |
| 1.018                                                           | SW25            | 3.585                 | 1.860                                                        | 0.059                     | 0.77           | 0.0                                                                                 | 265.5                 | FLOOD      |
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## **APPENDIX G: Windes -- 1in30yr & 1in1yr Simulation Results**

|                                                                        |                         |                                                                                     |                                           |                   |               |                  |          |          |
|------------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------|-------------------|---------------|------------------|----------|----------|
| Mayer Brown Ltd                                                        |                         | Page 1                                                                              |                                           |                   |               |                  |          |          |
| Lion House                                                             | Littlehampton           |  |                                           |                   |               |                  |          |          |
| Oriental Road                                                          | Overall Surface Network |                                                                                     |                                           |                   |               |                  |          |          |
| Woking GU22 8AR                                                        | West of Wetlands        |                                                                                     |                                           |                   |               |                  |          |          |
| Date January 2018                                                      | Designed by S Foley     |                                                                                     |                                           |                   |               |                  |          |          |
| File WEST CATCHMENT MODEL_...                                          | Checked by              |                                                                                     |                                           |                   |               |                  |          |          |
| XP Solutions                                                           | Network 2013.1          |                                                                                     |                                           |                   |               |                  |          |          |
| <p>Summary of Critical Results by Maximum Level (Rank 1) for Storm</p> |                         |                                                                                     |                                           |                   |               |                  |          |          |
| <p>Simulation Criteria</p>                                             |                         |                                                                                     |                                           |                   |               |                  |          |          |
| Areal Reduction Factor                                                 |                         | 1.000                                                                               | Additional Flow - % of Total Flow 0.000   |                   |               |                  |          |          |
| Hot Start (mins)                                                       |                         | 0                                                                                   | MADD Factor * 10m³/ha Storage 2.000       |                   |               |                  |          |          |
| Hot Start Level (mm)                                                   |                         | 0                                                                                   | Inlet Coefficient 0.800                   |                   |               |                  |          |          |
| Manhole Headloss Coeff (Global)                                        |                         | 0.500                                                                               | Flow per Person per Day (l/per/day) 0.000 |                   |               |                  |          |          |
| Foul Sewage per hectare (l/s)                                          |                         | 0.000                                                                               |                                           |                   |               |                  |          |          |
| Number of Input Hydrographs 0                                          |                         | Number of Offline Controls 2                                                        | Number of Time/Area Diagrams 0            |                   |               |                  |          |          |
| Number of Online Controls 14                                           |                         | Number of Storage Structures 20                                                     | Number of Real Time Controls 0            |                   |               |                  |          |          |
| <p>Synthetic Rainfall Details</p>                                      |                         |                                                                                     |                                           |                   |               |                  |          |          |
| Rainfall Model                                                         |                         | FEH                                                                                 | D3 (1km) 0.407                            |                   |               |                  |          |          |
| Site Location GB 502850 104400 TQ 02850 04400                          |                         |                                                                                     | E (1km) 0.314                             |                   |               |                  |          |          |
| C (1km)                                                                |                         | -0.027                                                                              | F (1km) 2.329                             |                   |               |                  |          |          |
| D1 (1km)                                                               |                         | 0.393                                                                               | Cv (Summer) 0.750                         |                   |               |                  |          |          |
| D2 (1km)                                                               |                         | 0.274                                                                               | Cv (Winter) 0.840                         |                   |               |                  |          |          |
| Margin for Flood Risk Warning (mm)                                     |                         | 300.0                                                                               |                                           |                   |               |                  |          |          |
| Analysis Timestep                                                      |                         | 2.5 Second Increment (Extended)                                                     |                                           |                   |               |                  |          |          |
| DTS Status                                                             |                         | ON                                                                                  |                                           |                   |               |                  |          |          |
| DVD Status                                                             |                         | ON                                                                                  |                                           |                   |               |                  |          |          |
| Inertia Status                                                         |                         | ON                                                                                  |                                           |                   |               |                  |          |          |
| Profile(s)                                                             |                         | Winter                                                                              |                                           |                   |               |                  |          |          |
| Duration(s) (mins)                                                     |                         | 15, 30, 60, 120, 240, 360, 480, 960, 1440                                           |                                           |                   |               |                  |          |          |
| Return Period(s) (years)                                               |                         | 30                                                                                  |                                           |                   |               |                  |          |          |
| Climate Change (%)                                                     |                         | 0                                                                                   |                                           |                   |               |                  |          |          |
| PN                                                                     | Storm                   | Return Period                                                                       | Climate Change                            | First X Surcharge | First Y Flood | First Z Overflow | O/F Act. | Lvl Exc. |
| 1.000                                                                  | 15 Winter               | 30                                                                                  | 0%                                        |                   |               |                  |          |          |
| 1.001                                                                  | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 2.000                                                                  | 480 Winter              | 30                                                                                  | 0%                                        | 30/60 Winter      |               |                  |          |          |
| 2.001                                                                  | 480 Winter              | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 1.002                                                                  | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 3.000                                                                  | 120 Winter              | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 3.001                                                                  | 120 Winter              | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 1.003                                                                  | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 1.004                                                                  | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 4.000                                                                  | 120 Winter              | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 4.001                                                                  | 120 Winter              | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 1.005                                                                  | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 1.006                                                                  | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 5.000                                                                  | 240 Winter              | 30                                                                                  | 0%                                        | 30/120 Winter     |               |                  |          |          |
| 5.001                                                                  | 240 Winter              | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 5.002                                                                  | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               | 30/15 Winter     | 5        |          |
| 1.007                                                                  | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 6.000                                                                  | 30 Winter               | 30                                                                                  | 0%                                        |                   |               |                  |          |          |
| 6.001                                                                  | 30 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 1.008                                                                  | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 7.000                                                                  | 30 Winter               | 30                                                                                  | 0%                                        | 30/30 Winter      |               |                  |          |          |
| 7.001                                                                  | 30 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 1.009                                                                  | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 8.000                                                                  | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 9.000                                                                  | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 8.001                                                                  | 30 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               | 30/15 Winter     | 4        |          |
| 8.002                                                                  | 30 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 10.000                                                                 | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 10.001                                                                 | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 11.000                                                                 | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 8.003                                                                  | 15 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 1.010                                                                  | 30 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 12.000                                                                 | 480 Winter              | 30                                                                                  | 0%                                        | 30/120 Winter     |               |                  |          |          |
| 12.001                                                                 | 480 Winter              | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 13.000                                                                 | 30 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
| 1.011                                                                  | 30 Winter               | 30                                                                                  | 0%                                        | 30/15 Winter      |               |                  |          |          |
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| Mayer Brown Ltd                                                               |            |                         |                | Page 2                                                                              |               |                  |                   |
|-------------------------------------------------------------------------------|------------|-------------------------|----------------|-------------------------------------------------------------------------------------|---------------|------------------|-------------------|
| Lion House                                                                    |            | Littlehampton           |                |  |               |                  |                   |
| Oriental Road                                                                 |            | Overall Surface Network |                |                                                                                     |               |                  |                   |
| Woking GU22 8AR                                                               |            | West of Wetlands        |                |                                                                                     |               |                  |                   |
| Date January 2018                                                             |            | Designed by S Foley     |                |                                                                                     |               |                  |                   |
| File WEST CATCHMENT MODEL_...                                                 |            | Checked by              |                |                                                                                     |               |                  |                   |
| XP Solutions                                                                  |            | Network 2013.1          |                |                                                                                     |               |                  |                   |
| <p><u>Summary of Critical Results by Maximum Level (Rank 1) for Storm</u></p> |            |                         |                |                                                                                     |               |                  |                   |
| PN                                                                            | Storm      | Return Period           | Climate Change | First X Surcharge                                                                   | First Y Flood | First Z Overflow | O/F Act. Lvl Exc. |
| 1.012                                                                         | 30 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 14.000                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 15.000                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 14.001                                                                        | 30 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 14.002                                                                        | 30 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 16.000                                                                        | 30 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 17.000                                                                        | 30 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 1.013                                                                         | 30 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 18.000                                                                        | 240 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 1.014                                                                         | 240 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 1.015                                                                         | 240 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 19.000                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 20.000                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 19.001                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 19.002                                                                        | 240 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 21.000                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 22.000                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 19.003                                                                        | 240 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 19.004                                                                        | 240 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 23.000                                                                        | 15 Winter  | 30                      | 0%             |                                                                                     |               |                  |                   |
| 24.000                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 25.000                                                                        | 480 Winter | 30                      | 0%             |                                                                                     |               |                  |                   |
| 25.001                                                                        | 480 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 24.001                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 26.000                                                                        | 30 Winter  | 30                      | 0%             |                                                                                     |               |                  |                   |
| 26.001                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 27.000                                                                        | 480 Winter | 30                      | 0%             |                                                                                     |               |                  |                   |
| 27.001                                                                        | 480 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 26.002                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 24.002                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 24.003                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 28.000                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 28.001                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 29.000                                                                        | 15 Winter  | 30                      | 0%             |                                                                                     |               |                  |                   |
| 29.001                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 24.004                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 24.005                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 30.000                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 24.006                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 24.007                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 31.000                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 31.001                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 24.008                                                                        | 360 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 24.009                                                                        | 360 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 32.000                                                                        | 240 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 32.001                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 33.000                                                                        | 480 Winter | 30                      | 0%             |                                                                                     |               |                  |                   |
| 33.001                                                                        | 480 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 34.000                                                                        | 15 Winter  | 30                      | 0%             |                                                                                     |               |                  |                   |
| 35.000                                                                        | 240 Winter | 30                      | 0%             |                                                                                     |               |                  |                   |
| 35.001                                                                        | 240 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 36.000                                                                        | 15 Winter  | 30                      | 0%             |                                                                                     |               |                  |                   |
| 33.002                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 37.000                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 37.001                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 37.002                                                                        | 15 Winter  | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 37.003                                                                        | 240 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 38.000                                                                        | 15 Winter  | 30                      | 0%             |                                                                                     |               |                  |                   |
| 33.003                                                                        | 360 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 33.004                                                                        | 360 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 24.010                                                                        | 360 Winter | 30                      | 0%             | 30/60 Winter                                                                        |               |                  |                   |
| 23.001                                                                        | 240 Winter | 30                      | 0%             | 30/60 Winter                                                                        |               |                  |                   |
| 39.000                                                                        | 240 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 23.002                                                                        | 240 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 1.016                                                                         | 240 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
| 1.017                                                                         | 240 Winter | 30                      | 0%             | 30/15 Winter                                                                        |               |                  |                   |
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|                                                                 |                  |                         |                   |                                                                                     |               |                  |                 |            |
|-----------------------------------------------------------------|------------------|-------------------------|-------------------|-------------------------------------------------------------------------------------|---------------|------------------|-----------------|------------|
| Mayer Brown Ltd                                                 |                  |                         |                   | Page 3                                                                              |               |                  |                 |            |
| Lion House                                                      |                  | Littlehampton           |                   |  |               |                  |                 |            |
| Oriental Road                                                   |                  | Overall Surface Network |                   |                                                                                     |               |                  |                 |            |
| Woking GU22 8AR                                                 |                  | West of Wetlands        |                   |                                                                                     |               |                  |                 |            |
| Date January 2018                                               |                  | Designed by S Foley     |                   |                                                                                     |               |                  |                 |            |
| File WEST CATCHMENT MODEL_...                                   |                  | Checked by              |                   |                                                                                     |               |                  |                 |            |
| XP Solutions                                                    |                  | Network 2013.1          |                   |                                                                                     |               |                  |                 |            |
| Summary of Critical Results by Maximum Level (Rank 1) for Storm |                  |                         |                   |                                                                                     |               |                  |                 |            |
| PN                                                              | Storm            | Return Period           | Climate Change    | First X Surchage                                                                    | First Y Flood | First Z Overflow | O/F Act.        | Lvl Exc.   |
| 40.000                                                          | 240 Winter       | 30                      | 0%                | 30/15 Winter                                                                        |               |                  |                 |            |
| 40.001                                                          | 240 Winter       | 30                      | 0%                | 30/15 Winter                                                                        |               |                  |                 |            |
| 41.000                                                          | 240 Winter       | 30                      | 0%                | 30/15 Winter                                                                        |               |                  |                 |            |
| 1.018                                                           | 240 Winter       | 30                      | 0%                | 30/15 Winter                                                                        |               |                  |                 |            |
| PN                                                              | US/MH Name       | Water Level (m)         | Surch'd Depth (m) | Flooded Volume (m³)                                                                 | Flow / Cap.   | O'flow (l/s)     | Pipe Flow (l/s) | Status     |
| 1.000                                                           | TL_SW01          | 5.302                   | -0.168            | 0.000                                                                               | 0.37          | 0.0              | 25.5            | OK         |
| 1.001                                                           | TL_SW02          | 5.283                   | 0.064             | 0.000                                                                               | 0.58          | 0.0              | 38.7            | SURCHARGED |
| 2.000                                                           | Parcel A2_1      | 5.636                   | 0.136             | 0.000                                                                               | 0.03          | 0.0              | 3.9             | SURCHARGED |
| 2.001                                                           | Parcel A2_2      | 5.642                   | 0.492             | 0.000                                                                               | 0.27          | 0.0              | 3.6             | SURCHARGED |
| 1.002                                                           | TL_SW03          | 5.275                   | 0.219             | 0.000                                                                               | 0.73          | 0.0              | 47.9            | SURCHARGED |
| 3.000                                                           | Parcel B6_1      | 5.402                   | 0.102             | 0.000                                                                               | 0.05          | 0.0              | 5.2             | SURCHARGED |
| 3.001                                                           | Parcel B6_2      | 5.405                   | 0.455             | 0.000                                                                               | 0.33          | 0.0              | 4.2             | SURCHARGED |
| 1.003                                                           | TL_SW04          | 5.252                   | 0.317             | 0.000                                                                               | 0.73          | 0.0              | 50.4            | SURCHARGED |
| 1.004                                                           | TL_SW05          | 5.179                   | 0.535             | 0.000                                                                               | 1.05          | 0.0              | 74.3            | SURCHARGED |
| 4.000                                                           | Parcel B1&CH_1   | 4.496                   | -0.004            | 0.000                                                                               | 0.15          | 0.0              | 8.3             | OK         |
| 4.001                                                           | Parcel B1&CH_2   | 4.476                   | 0.191             | 0.000                                                                               | 0.61          | 0.0              | 8.2             | SURCHARGED |
| 1.005                                                           | Ex. SB16         | 4.791                   | 0.581             | 0.000                                                                               | 1.85          | 0.0              | 71.5            | SURCHARGED |
| 1.006                                                           | Ex. SB7          | 4.604                   | 0.564             | 0.000                                                                               | 1.17          | 0.0              | 33.0            | SURCHARGED |
| 5.000                                                           | Block B_1        | 4.815                   | 0.015             | 0.000                                                                               | 0.04          | 0.0              | 6.3             | SURCHARGED |
| 5.001                                                           | Block B_2        | 4.811                   | 0.756             | 0.000                                                                               | 0.34          | 0.0              | 4.7             | SURCHARGED |
| 5.002                                                           | Ex. SB17         | 4.137                   | 0.187             | 0.000                                                                               | 0.32          | 58.6             | 21.1            | SURCHARGED |
| 1.007                                                           | Ex. SB8          | 4.238                   | 0.438             | 0.000                                                                               | 1.16          | 0.0              | 71.2            | SURCHARGED |
| 6.000                                                           | BovisA_1         | 4.452                   | -0.023            | 0.000                                                                               | 0.45          | 0.0              | 53.6            | OK         |
| 6.001                                                           | BovisA_2         | 4.411                   | 0.036             | 0.000                                                                               | 0.14          | 0.0              | 52.6            | SURCHARGED |
| 1.008                                                           | Ex SB7           | 3.999                   | 0.499             | 0.000                                                                               | 0.91          | 0.0              | 123.8           | SURCHARGED |
| 7.000                                                           | BovisB_1         | 3.805                   | 0.030             | 0.000                                                                               | 0.31          | 0.0              | 48.7            | SURCHARGED |
| 7.001                                                           | BovisB_2         | 3.773                   | 0.173             | 0.000                                                                               | 0.19          | 0.0              | 47.4            | SURCHARGED |
| 1.009                                                           | dummy node       | 3.622                   | 0.447             | 0.000                                                                               | 1.26          | 0.0              | 162.2           | SURCHARGED |
| 8.000                                                           | Plots 123 - 126  | 3.701                   | 0.896             | 0.000                                                                               | 1.31          | 0.0              | 11.5            | SURCHARGED |
| 9.000                                                           | Plots 111 - 116  | 3.657                   | 0.371             | 0.000                                                                               | 1.22          | 0.0              | 16.4            | SURCHARGED |
| 8.001                                                           | SW01, G01&G02    | 3.611                   | 0.346             | 0.000                                                                               | 1.41          | 16.9             | 32.0            | FLOOD RISK |
| 8.002                                                           | Permbase 01      | 3.613                   | 0.368             | 0.000                                                                               | 0.75          | 0.0              | 23.8            | FLOOD RISK |
| 10.000                                                          | Plots 117 - 122  | 4.045                   | 0.730             | 0.000                                                                               | 1.01          | 0.0              | 16.3            | FLOOD RISK |
| 10.001                                                          | Plot SW02/2      | 3.776                   | 0.883             | 0.000                                                                               | 1.04          | 0.0              | 31.0            | SURCHARGED |
| 11.000                                                          | Plots 101-110    | 3.765                   | 0.560             | 0.000                                                                               | 1.14          | 0.0              | 33.8            | SURCHARGED |
| 8.003                                                           | SW02             | 3.707                   | 0.652             | 0.000                                                                               | 2.08          | 0.0              | 55.8            | SURCHARGED |
| 1.010                                                           | Ex SB6           | 3.593                   | 0.518             | 0.000                                                                               | 0.97          | 0.0              | 184.0           | SURCHARGED |
| 12.000                                                          | Ret Block A      | 3.402                   | 0.102             | 0.000                                                                               | 0.23          | 0.0              | 11.6            | SURCHARGED |
| 12.001                                                          | Ret Block A      | 3.594                   | 0.544             | 0.000                                                                               | 0.20          | 0.0              | 3.6             | SURCHARGED |
| 13.000                                                          | Plots 95-100     | 3.487                   | 0.262             | 0.000                                                                               | 0.39          | 0.0              | 17.7            | SURCHARGED |
| 1.011                                                           | SW03             | 3.480                   | 0.560             | 0.000                                                                               | 0.85          | 0.0              | 187.3           | SURCHARGED |
| 1.012                                                           | SW04             | 3.347                   | 0.607             | 0.000                                                                               | 0.89          | 0.0              | 187.8           | SURCHARGED |
| 14.000                                                          | SW-FUT-01-PlotsN | 3.986                   | 1.036             | 0.000                                                                               | 2.05          | 0.0              | 27.9            | FLOOD RISK |
| 15.000                                                          | SW-FUT-01-PlotsS | 3.860                   | 0.910             | 0.000                                                                               | 1.93          | 0.0              | 22.6            | FLOOD RISK |
| 14.001                                                          | SW-FUT-01        | 3.358                   | 0.498             | 0.000                                                                               | 0.86          | 0.0              | 55.5            | SURCHARGED |
| 14.002                                                          | Permbase 02      | 3.272                   | 0.552             | 0.000                                                                               | 0.67          | 0.0              | 43.3            | SURCHARGED |
| 16.000                                                          | Plots 80-86      | 3.338                   | 0.638             | 0.000                                                                               | 0.91          | 0.0              | 20.8            | SURCHARGED |
| 17.000                                                          | Plots 87-94      | 3.233                   | 0.406             | 0.000                                                                               | 0.34          | 0.0              | 26.4            | SURCHARGED |
| 1.013                                                           | SW05             | 3.226                   | 0.520             | 0.000                                                                               | 1.28          | 0.0              | 158.3           | SURCHARGED |
| 18.000                                                          | C2 Resiblock A   | 3.053                   | 0.508             | 0.000                                                                               | 0.22          | 0.0              | 15.8            | SURCHARGED |
| 1.014                                                           | SW06             | 3.040                   | 0.600             | 0.000                                                                               | 1.17          | 0.0              | 197.3           | SURCHARGED |
| 1.015                                                           | Permbase 03      | 2.937                   | 0.587             | 0.000                                                                               | 1.39          | 0.0              | 197.1           | SURCHARGED |
| 19.000                                                          | SW-FUT-02-PlotsN | 3.152                   | 0.402             | 0.000                                                                               | 1.28          | 0.0              | 15.2            | SURCHARGED |
| 20.000                                                          | SW-FUT-02-PlotsS | 3.256                   | 0.506             | 0.000                                                                               | 1.55          | 0.0              | 17.6            | SURCHARGED |
| 19.001                                                          | SW-FUT-02        | 2.938                   | 0.318             | 0.000                                                                               | 0.75          | 0.0              | 48.9            | SURCHARGED |
| 19.002                                                          | Permbase 04      | 2.897                   | 0.422             | 0.000                                                                               | 0.21          | 0.0              | 12.9            | SURCHARGED |
| 21.000                                                          | Plots 60-73      | 2.930                   | 0.180             | 0.000                                                                               | 2.36          | 0.0              | 25.8            | SURCHARGED |
| 22.000                                                          | Plots 74-78      | 2.891                   | 0.241             | 0.000                                                                               | 1.84          | 0.0              | 39.6            | SURCHARGED |
| 19.003                                                          | SW07             | 2.894                   | 0.494             | 0.000                                                                               | 0.47          | 0.0              | 26.3            | SURCHARGED |
| 19.004                                                          | Permbase 05      | 2.892                   | 0.537             | 0.000                                                                               | 0.46          | 0.0              | 26.7            | SURCHARGED |
| 23.000                                                          | Plots 39-46      | 3.313                   | -0.077            | 0.000                                                                               | 0.48          | 0.0              | 28.1            | OK         |
| 24.000                                                          | SW-LYM 01        | 4.407                   | 0.442             | 0.000                                                                               | 0.75          | 0.0              | 22.6            | SURCHARGED |
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| Mayer Brown Ltd                                                 |                 |                         |                      |                           | Page 4                                                                              |                 |                       |            |
|-----------------------------------------------------------------|-----------------|-------------------------|----------------------|---------------------------|-------------------------------------------------------------------------------------|-----------------|-----------------------|------------|
| Lion House                                                      |                 | Littlehampton           |                      |                           |  |                 |                       |            |
| Oriental Road                                                   |                 | Overall Surface Network |                      |                           |                                                                                     |                 |                       |            |
| Woking GU22 8AR                                                 |                 | West of Wetlands        |                      |                           |                                                                                     |                 |                       |            |
| Date January 2018                                               |                 | Designed by S Foley     |                      |                           |                                                                                     |                 |                       |            |
| File WEST CATCHMENT MODEL_...                                   |                 | Checked by              |                      |                           |                                                                                     |                 |                       |            |
| XP Solutions                                                    |                 | Network 2013.1          |                      |                           |                                                                                     |                 |                       |            |
| Summary of Critical Results by Maximum Level (Rank 1) for Storm |                 |                         |                      |                           |                                                                                     |                 |                       |            |
| PN                                                              | US/MH<br>Name   | Water<br>Level<br>(m)   | Surch'd<br>Depth (m) | Flooded<br>Volume<br>(m³) | Flow /<br>Cap.                                                                      | O'flow<br>(l/s) | Pipe<br>Flow<br>(l/s) | Status     |
| 25.000                                                          | Non resi        | 4.414                   | -0.036               | 0.000                     | 0.02                                                                                | 0.0             | 5.2                   | OK         |
| 25.001                                                          | Non resi        | 4.410                   | 0.465                | 0.000                     | 0.12                                                                                | 0.0             | 4.1                   | SURCHARGED |
| 24.001                                                          | SW-LYM 02       | 4.401                   | 0.536                | 0.000                     | 0.88                                                                                | 0.0             | 30.2                  | SURCHARGED |
| 26.000                                                          | Parcel A1       | 4.182                   | -0.268               | 0.000                     | 0.13                                                                                | 0.0             | 28.9                  | OK         |
| 26.001                                                          | As-built SA8    | 4.178                   | 0.190                | 0.000                     | 0.62                                                                                | 0.0             | 24.8                  | SURCHARGED |
| 27.000                                                          | Non Resi        | 4.403                   | -0.047               | 0.000                     | 0.02                                                                                | 0.0             | 5.3                   | OK         |
| 27.001                                                          | SW Stub 02      | 4.417                   | 0.552                | 0.000                     | 0.12                                                                                | 0.0             | 4.3                   | SURCHARGED |
| 26.002                                                          | SW-LYM 03/1     | 4.325                   | 0.530                | 0.000                     | 0.75                                                                                | 0.0             | 32.1                  | SURCHARGED |
| 24.002                                                          | SW-LYM 03       | 4.377                   | 0.892                | 0.000                     | 1.49                                                                                | 0.0             | 49.7                  | SURCHARGED |
| 24.003                                                          | SW-LYM 04       | 4.360                   | 0.835                | 0.000                     | 0.82                                                                                | 0.0             | 51.0                  | SURCHARGED |
| 28.000                                                          | SW-LYM 07       | 4.417                   | 0.322                | 0.000                     | 0.56                                                                                | 0.0             | 23.9                  | SURCHARGED |
| 28.001                                                          | SW-LYM 08       | 4.396                   | 0.501                | 0.000                     | 0.88                                                                                | 0.0             | 54.0                  | SURCHARGED |
| 29.000                                                          | SW-LYM 05A      | 7.402                   | -0.098               | 0.000                     | 0.77                                                                                | 0.0             | 107.9                 | FLOOD RISK |
| 29.001                                                          | SW-LYM 05       | 6.347                   | 0.507                | 0.000                     | 5.20                                                                                | 0.0             | 129.0                 | SURCHARGED |
| 24.004                                                          | SW-LYM 10       | 4.336                   | 0.971                | 0.000                     | 1.49                                                                                | 0.0             | 194.4                 | SURCHARGED |
| 24.005                                                          | SW-LYM11        | 3.959                   | 0.820                | 0.000                     | 1.33                                                                                | 0.0             | 243.3                 | SURCHARGED |
| 30.000                                                          | ExSB17_Dum Node | 4.010                   | 0.085                | 0.000                     | 0.81                                                                                | 0.0             | 55.5                  | SURCHARGED |
| 24.006                                                          | SW-LYM 12       | 3.742                   | 0.772                | 0.000                     | 1.13                                                                                | 0.0             | 269.5                 | SURCHARGED |
| 24.007                                                          | SW-FUT-03       | 3.492                   | 0.712                | 0.000                     | 1.43                                                                                | 0.0             | 278.1                 | SURCHARGED |
| 31.000                                                          | Stub SW18/1     | 3.709                   | 0.984                | 0.000                     | 1.35                                                                                | 0.0             | 61.8                  | SURCHARGED |
| 31.001                                                          | SW18            | 3.410                   | 0.805                | 0.000                     | 2.05                                                                                | 0.0             | 71.5                  | SURCHARGED |
| 24.008                                                          | SW19            | 3.013                   | 0.593                | 0.000                     | 0.38                                                                                | 0.0             | 89.0                  | SURCHARGED |
| 24.009                                                          | SW20            | 2.873                   | 0.588                | 0.000                     | 0.43                                                                                | 0.0             | 88.3                  | SURCHARGED |
| 32.000                                                          | Car Park        | 4.588                   | 0.638                | 0.000                     | 0.03                                                                                | 0.0             | 5.5                   | SURCHARGED |
| 32.001                                                          | Car Park        | 4.709                   | 1.159                | 0.000                     | 0.10                                                                                | 0.0             | 4.3                   | FLOOD RISK |
| 33.000                                                          | Non Resi        | 3.138                   | -0.012               | 0.000                     | 0.02                                                                                | 0.0             | 4.2                   | OK         |
| 33.001                                                          | Stub SW9/1      | 3.143                   | 0.318                | 0.000                     | 0.09                                                                                | 0.0             | 3.6                   | SURCHARGED |
| 34.000                                                          | SW08            | 3.643                   | -0.132               | 0.000                     | 0.36                                                                                | 0.0             | 33.7                  | OK         |
| 35.000                                                          | Non Resi        | 3.067                   | -0.083               | 0.000                     | 0.02                                                                                | 0.0             | 4.5                   | OK         |
| 35.001                                                          | Stub SW9/2      | 3.066                   | 0.341                | 0.000                     | 0.08                                                                                | 0.0             | 3.5                   | SURCHARGED |
| 36.000                                                          | Plots 1 - 4     | 4.353                   | -0.107               | 0.000                     | 0.18                                                                                | 0.0             | 9.5                   | OK         |
| 33.002                                                          | SW09            | 3.095                   | 0.380                | 0.000                     | 1.34                                                                                | 0.0             | 54.0                  | SURCHARGED |
| 37.000                                                          | SW12            | 3.389                   | 0.374                | 0.000                     | 0.57                                                                                | 0.0             | 19.2                  | SURCHARGED |
| 37.001                                                          | SW13            | 3.338                   | 0.433                | 0.000                     | 0.97                                                                                | 0.0             | 38.3                  | SURCHARGED |
| 37.002                                                          | SW14            | 3.185                   | 0.360                | 0.000                     | 1.24                                                                                | 0.0             | 57.2                  | SURCHARGED |
| 37.003                                                          | SW15            | 2.877                   | 0.407                | 0.000                     | 0.28                                                                                | 0.0             | 17.3                  | SURCHARGED |
| 38.000                                                          | Plots 16-22     | 3.504                   | -0.086               | 0.000                     | 0.38                                                                                | 0.0             | 23.9                  | OK         |
| 33.003                                                          | SW16            | 2.871                   | 0.471                | 0.000                     | 0.23                                                                                | 0.0             | 30.0                  | SURCHARGED |
| 33.004                                                          | SW17            | 2.862                   | 0.592                | 0.000                     | 0.18                                                                                | 0.0             | 29.8                  | SURCHARGED |
| 24.010                                                          | SW21            | 2.853                   | 0.293                | 0.000                     | 0.25                                                                                | 0.0             | 147.1                 | SURCHARGED |
| 23.001                                                          | SW22            | 2.859                   | 0.329                | 0.000                     | 0.14                                                                                | 0.0             | 116.4                 | SURCHARGED |
| 39.000                                                          | Plots 47-55     | 2.896                   | 0.171                | 0.000                     | 0.56                                                                                | 0.0             | 12.9                  | SURCHARGED |
| 23.002                                                          | SW23            | 2.888                   | 0.493                | 0.000                     | 0.14                                                                                | 0.0             | 102.3                 | SURCHARGED |
| 1.016                                                           | SW24            | 2.901                   | 0.591                | 0.000                     | 0.29                                                                                | 0.0             | 226.0                 | SURCHARGED |
| 1.017                                                           | Permbase 06     | 2.888                   | 0.688                | 0.000                     | 0.43                                                                                | 0.0             | 215.8                 | SURCHARGED |
| 40.000                                                          | Plots           | 2.864                   | 0.269                | 0.000                     | 0.27                                                                                | 0.0             | 10.7                  | SURCHARGED |
| 40.001                                                          | Stub SW25/1     | 2.865                   | 0.650                | 0.000                     | 1.68                                                                                | 0.0             | 20.6                  | SURCHARGED |
| 41.000                                                          | Stub SW25/2     | 2.887                   | 0.622                | 0.000                     | 0.61                                                                                | 0.0             | 15.2                  | SURCHARGED |
| 1.018                                                           | SW25            | 2.880                   | 1.155                | 0.000                     | 0.60                                                                                | 0.0             | 207.4                 | SURCHARGED |

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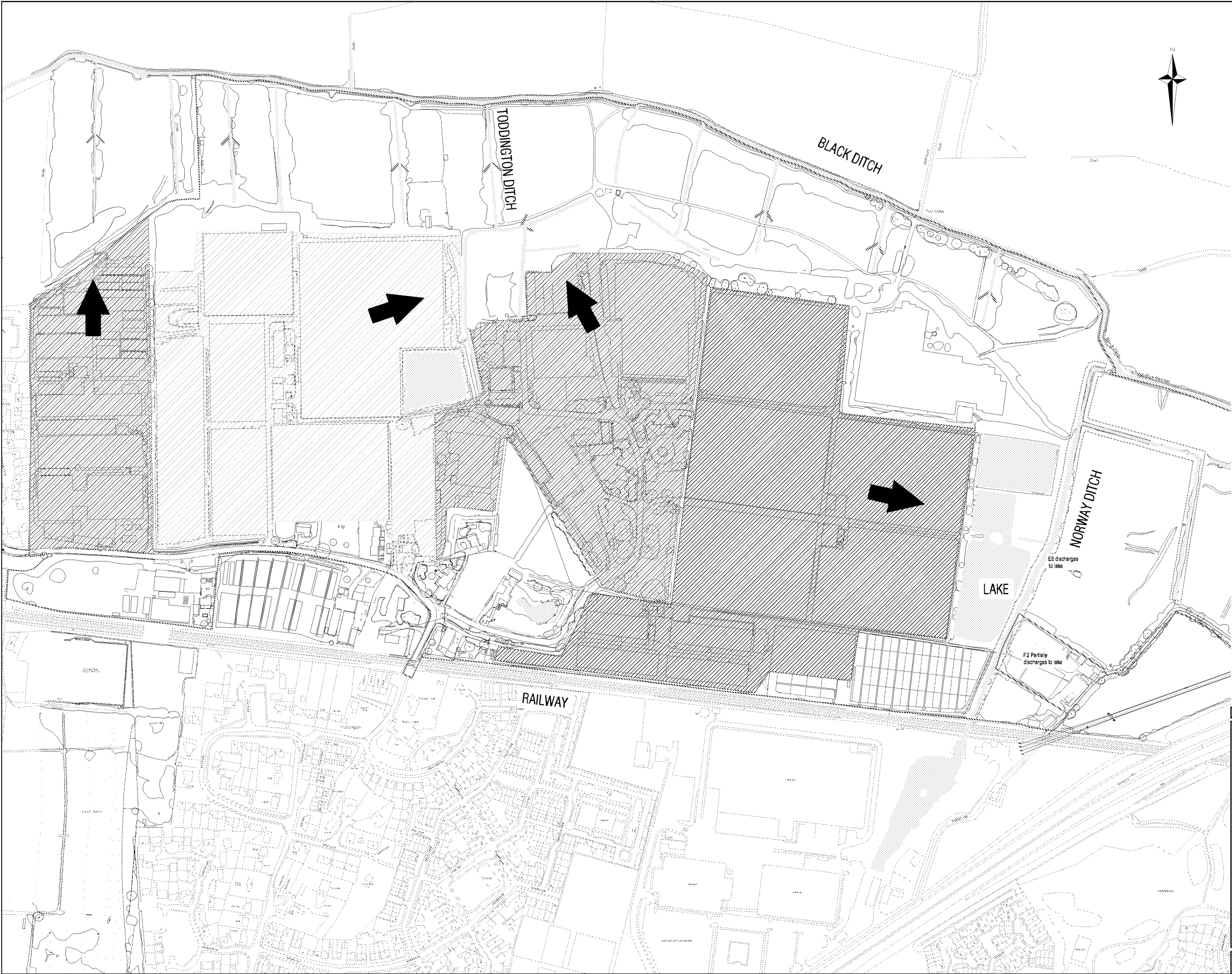
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|----------------------------------------------------------------------------|------------|-------------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------|---------------|------------------|----------|----------|
| Mayer Brown Ltd                                                            |            |                                           | Page 1                              |                                                                                     |               |                  |          |          |
| Lion House                                                                 |            | Littlehampton                             |                                     |  |               |                  |          |          |
| Oriental Road                                                              |            | Overall Surface Network                   |                                     |                                                                                     |               |                  |          |          |
| Woking GU22 8AR                                                            |            | West of Wetlands                          |                                     |                                                                                     |               |                  |          |          |
| Date January 2018                                                          |            | Designed by S Foley                       |                                     |                                                                                     |               |                  |          |          |
| File WEST CATCHMENT MODEL_...                                              |            | Checked by                                |                                     |                                                                                     |               |                  |          |          |
| XP Solutions                                                               |            | Network 2013.1                            |                                     |                                                                                     |               |                  |          |          |
| <div>Summary of Critical Results by Maximum Level (Rank 1) for Storm</div> |            |                                           |                                     |                                                                                     |               |                  |          |          |
| <div>Simulation Criteria</div>                                             |            |                                           |                                     |                                                                                     |               |                  |          |          |
| Areal Reduction Factor                                                     |            | 1.000                                     | Additional Flow - % of Total Flow   |                                                                                     | 0.000         |                  |          |          |
| Hot Start (mins)                                                           |            | 0                                         | MADD Factor * 10m³/ha Storage       |                                                                                     | 2.000         |                  |          |          |
| Hot Start Level (mm)                                                       |            | 0                                         | Inlet Coefficient                   |                                                                                     | 0.800         |                  |          |          |
| Manhole Headloss Coeff (Global)                                            |            | 0.500                                     | Flow per Person per Day (l/per/day) |                                                                                     | 0.000         |                  |          |          |
| Foul Sewage per hectare (l/s)                                              |            | 0.000                                     |                                     |                                                                                     |               |                  |          |          |
| Number of Input Hydrographs                                                |            | 0                                         | Number of Offline Controls          |                                                                                     | 2             |                  |          |          |
| Number of Online Controls                                                  |            | 14                                        | Number of Storage Structures        |                                                                                     | 20            |                  |          |          |
| Number of Time/Area Diagrams                                               |            | 0                                         | Number of Real Time Controls        |                                                                                     | 0             |                  |          |          |
| <div>Synthetic Rainfall Details</div>                                      |            |                                           |                                     |                                                                                     |               |                  |          |          |
| Rainfall Model                                                             |            | FEH                                       |                                     | D3 (1km)                                                                            | 0.407         |                  |          |          |
| Site Location                                                              |            | GB 502850 104400 TQ 02850 04400           |                                     | E (1km)                                                                             | 0.314         |                  |          |          |
| C (1km)                                                                    |            | -0.027                                    |                                     | F (1km)                                                                             | 2.329         |                  |          |          |
| D1 (1km)                                                                   |            | 0.393                                     |                                     | Cv (Summer)                                                                         | 0.750         |                  |          |          |
| D2 (1km)                                                                   |            | 0.274                                     |                                     | Cv (Winter)                                                                         | 0.840         |                  |          |          |
| Margin for Flood Risk Warning (mm)                                         |            | 300.0                                     |                                     |                                                                                     |               |                  |          |          |
| Analysis Timestep                                                          |            | 2.5 Second Increment (Extended)           |                                     |                                                                                     |               |                  |          |          |
| DTS Status                                                                 |            | ON                                        |                                     |                                                                                     |               |                  |          |          |
| DVD Status                                                                 |            | ON                                        |                                     |                                                                                     |               |                  |          |          |
| Inertia Status                                                             |            | ON                                        |                                     |                                                                                     |               |                  |          |          |
| Profile(s)                                                                 |            | Winter                                    |                                     |                                                                                     |               |                  |          |          |
| Duration(s) (mins)                                                         |            | 15, 30, 60, 120, 240, 360, 480, 960, 1440 |                                     |                                                                                     |               |                  |          |          |
| Return Period(s) (years)                                                   |            | 1                                         |                                     |                                                                                     |               |                  |          |          |
| Climate Change (%)                                                         |            | 0                                         |                                     |                                                                                     |               |                  |          |          |
| PN                                                                         | Storm      | Return Period                             | Climate Change                      | First X Surchage                                                                    | First Y Flood | First Z Overflow | O/F Act. | Lvl Exc. |
| 1.000                                                                      | 15 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 1.001                                                                      | 15 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 2.000                                                                      | 480 Winter | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 2.001                                                                      | 480 Winter | 1                                         | 0%                                  | 1/15 Winter                                                                         |               |                  |          |          |
| 1.002                                                                      | 15 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 3.000                                                                      | 60 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 3.001                                                                      | 60 Winter  | 1                                         | 0%                                  | 1/15 Winter                                                                         |               |                  |          |          |
| 1.003                                                                      | 15 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 1.004                                                                      | 15 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 4.000                                                                      | 240 Winter | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 4.001                                                                      | 240 Winter | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 1.005                                                                      | 15 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 1.006                                                                      | 15 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 5.000                                                                      | 120 Winter | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 5.001                                                                      | 120 Winter | 1                                         | 0%                                  | 1/15 Winter                                                                         |               |                  |          |          |
| 5.002                                                                      | 30 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  | 0        |          |
| 1.007                                                                      | 30 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 6.000                                                                      | 60 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 6.001                                                                      | 60 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 1.008                                                                      | 30 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 7.000                                                                      | 30 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 7.001                                                                      | 30 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 1.009                                                                      | 30 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 8.000                                                                      | 15 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 9.000                                                                      | 15 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 8.001                                                                      | 15 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  | 0        |          |
| 8.002                                                                      | 15 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 10.000                                                                     | 15 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 10.001                                                                     | 15 Winter  | 1                                         | 0%                                  | 1/15 Winter                                                                         |               |                  |          |          |
| 11.000                                                                     | 15 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 8.003                                                                      | 15 Winter  | 1                                         | 0%                                  | 1/15 Winter                                                                         |               |                  |          |          |
| 1.010                                                                      | 30 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 12.000                                                                     | 480 Winter | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 12.001                                                                     | 480 Winter | 1                                         | 0%                                  | 1/60 Winter                                                                         |               |                  |          |          |
| 13.000                                                                     | 15 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
| 1.011                                                                      | 30 Winter  | 1                                         | 0%                                  |                                                                                     |               |                  |          |          |
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|----------------------------------------------------------------------------|------------|-------------------------|----------------|-------------------------------------------------------------------------------------|---------------|------------------|-------------------|
| Lion House                                                                 |            | Littlehampton           |                |  |               |                  |                   |
| Oriental Road                                                              |            | Overall Surface Network |                |                                                                                     |               |                  |                   |
| Woking GU22 8AR                                                            |            | West of Wetlands        |                |                                                                                     |               |                  |                   |
| Date January 2018                                                          |            | Designed by S Foley     |                |                                                                                     |               |                  |                   |
| File WEST CATCHMENT MODEL_...                                              |            | Checked by              |                |                                                                                     |               |                  |                   |
| XP Solutions                                                               |            | Network 2013.1          |                |                                                                                     |               |                  |                   |
| <div>Summary of Critical Results by Maximum Level (Rank 1) for Storm</div> |            |                         |                |                                                                                     |               |                  |                   |
| PN                                                                         | Storm      | Return Period           | Climate Change | First X Surcharge                                                                   | First Y Flood | First Z Overflow | O/F Act. Lvl Exc. |
| 1.012                                                                      | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 14.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 15.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 14.001                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 14.002                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 16.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 17.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 1.013                                                                      | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 18.000                                                                     | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 1.014                                                                      | 480 Winter | 1                       | 0%             | 1/240 Winter                                                                        |               |                  |                   |
| 1.015                                                                      | 480 Winter | 1                       | 0%             | 1/480 Winter                                                                        |               |                  |                   |
| 19.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 20.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 19.001                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 19.002                                                                     | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 21.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 22.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 19.003                                                                     | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 19.004                                                                     | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 23.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 24.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 25.000                                                                     | 360 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 25.001                                                                     | 360 Winter | 1                       | 0%             | 1/15 Winter                                                                         |               |                  |                   |
| 24.001                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 26.000                                                                     | 120 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 26.001                                                                     | 120 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 27.000                                                                     | 360 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 27.001                                                                     | 360 Winter | 1                       | 0%             | 1/15 Winter                                                                         |               |                  |                   |
| 26.002                                                                     | 120 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 24.002                                                                     | 120 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 24.003                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 28.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 28.001                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 29.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 29.001                                                                     | 15 Winter  | 1                       | 0%             | 1/15 Winter                                                                         |               |                  |                   |
| 24.004                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 24.005                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 30.000                                                                     | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 24.006                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 24.007                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 31.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 31.001                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 24.008                                                                     | 480 Winter | 1                       | 0%             | 1/480 Winter                                                                        |               |                  |                   |
| 24.009                                                                     | 480 Winter | 1                       | 0%             | 1/240 Winter                                                                        |               |                  |                   |
| 32.000                                                                     | 240 Winter | 1                       | 0%             | 1/30 Winter                                                                         |               |                  |                   |
| 32.001                                                                     | 240 Winter | 1                       | 0%             | 1/15 Winter                                                                         |               |                  |                   |
| 33.000                                                                     | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 33.001                                                                     | 480 Winter | 1                       | 0%             | 1/240 Winter                                                                        |               |                  |                   |
| 34.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 35.000                                                                     | 60 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 35.001                                                                     | 60 Winter  | 1                       | 0%             | 1/15 Winter                                                                         |               |                  |                   |
| 36.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 33.002                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 37.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 37.001                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 37.002                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 37.003                                                                     | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 38.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 33.003                                                                     | 480 Winter | 1                       | 0%             | 1/480 Winter                                                                        |               |                  |                   |
| 33.004                                                                     | 480 Winter | 1                       | 0%             | 1/240 Winter                                                                        |               |                  |                   |
| 24.010                                                                     | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 23.001                                                                     | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 39.000                                                                     | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |                   |
| 23.002                                                                     | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 1.016                                                                      | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
| 1.017                                                                      | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |                   |
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| Mayer Brown Ltd                                                 |            |                         |                | Page 3                                                                              |               |                  |          |          |
| Lion House                                                      |            | Littlehampton           |                |  |               |                  |          |          |
| Oriental Road                                                   |            | Overall Surface Network |                |                                                                                     |               |                  |          |          |
| Woking GU22 8AR                                                 |            | West of Wetlands        |                |                                                                                     |               |                  |          |          |
| Date January 2018                                               |            | Designed by S Foley     |                |                                                                                     |               |                  |          |          |
| File WEST CATCHMENT MODEL_...                                   |            | Checked by              |                |                                                                                     |               |                  |          |          |
| XP Solutions                                                    |            | Network 2013.1          |                |                                                                                     |               |                  |          |          |
| Summary of Critical Results by Maximum Level (Rank 1) for Storm |            |                         |                |                                                                                     |               |                  |          |          |
| PN                                                              | Storm      | Return Period           | Climate Change | First X Surcharge                                                                   | First Y Flood | First Z Overflow | O/F Act. | Lvl Exc. |
| 40.000                                                          | 15 Winter  | 1                       | 0%             |                                                                                     |               |                  |          |          |
| 40.001                                                          | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |          |          |
| 41.000                                                          | 480 Winter | 1                       | 0%             |                                                                                     |               |                  |          |          |
| 1.018                                                           | 480 Winter | 1                       | 0%             | 1/15 Winter                                                                         |               |                  |          |          |
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| Mayer Brown Ltd                                                 |                 |                         |                   | Page 4                                                                              |             |              |                 |            |
|-----------------------------------------------------------------|-----------------|-------------------------|-------------------|-------------------------------------------------------------------------------------|-------------|--------------|-----------------|------------|
| Lion House                                                      |                 | Littlehampton           |                   |  |             |              |                 |            |
| Oriental Road                                                   |                 | Overall Surface Network |                   |                                                                                     |             |              |                 |            |
| Woking GU22 8AR                                                 |                 | West of Wetlands        |                   |                                                                                     |             |              |                 |            |
| Date January 2018                                               |                 | Designed by S Foley     |                   |                                                                                     |             |              |                 |            |
| File WEST CATCHMENT MODEL_...                                   |                 | Checked by              |                   |                                                                                     |             |              |                 |            |
| XP Solutions                                                    |                 | Network 2013.1          |                   |                                                                                     |             |              |                 |            |
| Summary of Critical Results by Maximum Level (Rank 1) for Storm |                 |                         |                   |                                                                                     |             |              |                 |            |
| PN                                                              | US/MH Name      | Water Level (m)         | Surch'd Depth (m) | Flooded Volume (m³)                                                                 | Flow / Cap. | O'flow (l/s) | Pipe Flow (l/s) | Status     |
| 25.000                                                          | Non resi        | 4.121                   | -0.329            | 0.000                                                                               | 0.02        | 0.0          | 4.7             | OK         |
| 25.001                                                          | Non resi        | 4.120                   | 0.175             | 0.000                                                                               | 0.10        | 0.0          | 3.5             | SURCHARGED |
| 24.001                                                          | SW-LYM 02       | 3.734                   | -0.131            | 0.000                                                                               | 0.35        | 0.0          | 12.1            | OK         |
| 26.000                                                          | Parcel A1       | 4.068                   | -0.382            | 0.000                                                                               | 0.06        | 0.0          | 12.3            | OK         |
| 26.001                                                          | As-built SA8    | 3.938                   | -0.050            | 0.000                                                                               | 0.31        | 0.0          | 12.2            | OK         |
| 27.000                                                          | Non Resi        | 4.117                   | -0.333            | 0.000                                                                               | 0.02        | 0.0          | 5.0             | OK         |
| 27.001                                                          | SW Stub 02      | 4.116                   | 0.251             | 0.000                                                                               | 0.09        | 0.0          | 3.5             | SURCHARGED |
| 26.002                                                          | SW-LYM 03/1     | 3.664                   | -0.131            | 0.000                                                                               | 0.36        | 0.0          | 15.6            | OK         |
| 24.002                                                          | SW-LYM 03       | 3.484                   | -0.091            | 0.000                                                                               | 0.66        | 0.0          | 22.0            | OK         |
| 24.003                                                          | SW-LYM 04       | 3.351                   | -0.174            | 0.000                                                                               | 0.36        | 0.0          | 22.7            | OK         |
| 28.000                                                          | SW-LYM 07       | 3.932                   | -0.163            | 0.000                                                                               | 0.17        | 0.0          | 7.3             | OK         |
| 28.001                                                          | SW-LYM 08       | 3.748                   | -0.147            | 0.000                                                                               | 0.26        | 0.0          | 16.2            | OK         |
| 29.000                                                          | SW-LYM 05A      | 7.299                   | -0.201            | 0.000                                                                               | 0.24        | 0.0          | 33.0            | FLOOD RISK |
| 29.001                                                          | SW-LYM 05       | 5.824                   | 0.034             | 0.000                                                                               | 2.57        | 0.0          | 33.0            | SURCHARGED |
| 24.004                                                          | SW-LYM 10       | 3.197                   | -0.168            | 0.000                                                                               | 0.58        | 0.0          | 75.0            | OK         |
| 24.005                                                          | SW-LYM11        | 2.908                   | -0.222            | 0.000                                                                               | 0.50        | 0.0          | 92.1            | OK         |
| 30.000                                                          | ExSB17_Dum Node | 3.700                   | -0.225            | 0.000                                                                               | 0.00        | 0.0          | 0.0             | OK         |
| 24.006                                                          | SW-LYM 12       | 2.713                   | -0.257            | 0.000                                                                               | 0.38        | 0.0          | 94.0            | OK         |
| 24.007                                                          | SW-FUT-03       | 2.464                   | -0.226            | 0.000                                                                               | 0.49        | 0.0          | 94.5            | OK         |
| 31.000                                                          | Stub SW18/1     | 2.639                   | -0.086            | 0.000                                                                               | 0.68        | 0.0          | 22.6            | OK         |
| 31.001                                                          | SW18            | 2.529                   | -0.076            | 0.000                                                                               | 0.77        | 0.0          | 26.8            | OK         |
| 24.008                                                          | SW19            | 2.431                   | 0.011             | 0.000                                                                               | 0.16        | 0.0          | 37.4            | SURCHARGED |
| 24.009                                                          | SW20            | 2.424                   | 0.139             | 0.000                                                                               | 0.18        | 0.0          | 37.4            | SURCHARGED |
| 32.000                                                          | Car Park        | 4.508                   | 0.558             | 0.000                                                                               | 0.03        | 0.0          | 5.4             | SURCHARGED |
| 32.001                                                          | Car Park        | 4.548                   | 0.998             | 0.000                                                                               | 0.10        | 0.0          | 4.2             | SURCHARGED |
| 33.000                                                          | Non Resi        | 2.834                   | -0.316            | 0.000                                                                               | 0.03        | 0.0          | 4.5             | OK         |
| 33.001                                                          | Stub SW9/1      | 2.835                   | 0.010             | 0.000                                                                               | 0.08        | 0.0          | 3.3             | SURCHARGED |
| 34.000                                                          | SW08            | 3.599                   | -0.176            | 0.000                                                                               | 0.11        | 0.0          | 10.3            | OK         |
| 35.000                                                          | Non Resi        | 2.784                   | -0.366            | 0.000                                                                               | 0.02        | 0.0          | 5.8             | OK         |
| 35.001                                                          | Stub SW9/2      | 2.783                   | 0.058             | 0.000                                                                               | 0.08        | 0.0          | 3.4             | SURCHARGED |
| 36.000                                                          | Plots 1 - 4     | 4.333                   | -0.127            | 0.000                                                                               | 0.05        | 0.0          | 2.9             | OK         |
| 33.002                                                          | SW09            | 2.519                   | -0.106            | 0.000                                                                               | 0.54        | 0.0          | 21.6            | OK         |
| 37.000                                                          | SW12            | 2.863                   | -0.152            | 0.000                                                                               | 0.22        | 0.0          | 7.5             | OK         |
| 37.001                                                          | SW13            | 2.777                   | -0.128            | 0.000                                                                               | 0.38        | 0.0          | 14.9            | OK         |
| 37.002                                                          | SW14            | 2.710                   | -0.115            | 0.000                                                                               | 0.47        | 0.0          | 21.5            | OK         |
| 37.003                                                          | SW15            | 2.427                   | -0.043            | 0.000                                                                               | 0.08        | 0.0          | 4.8             | OK         |
| 38.000                                                          | Plots 16-22     | 3.474                   | -0.116            | 0.000                                                                               | 0.12        | 0.0          | 7.3             | OK         |
| 33.003                                                          | SW16            | 2.426                   | 0.026             | 0.000                                                                               | 0.12        | 0.0          | 15.3            | SURCHARGED |
| 33.004                                                          | SW17            | 2.422                   | 0.152             | 0.000                                                                               | 0.09        | 0.0          | 15.1            | SURCHARGED |
| 24.010                                                          | SW21            | 2.419                   | -0.141            | 0.000                                                                               | 0.16        | 0.0          | 97.5            | OK         |
| 23.001                                                          | SW22            | 2.407                   | -0.123            | 0.000                                                                               | 0.12        | 0.0          | 97.5            | OK         |
| 39.000                                                          | Plots 47-55     | 2.596                   | -0.129            | 0.000                                                                               | 0.37        | 0.0          | 8.5             | OK         |
| 23.002                                                          | SW23            | 2.367                   | -0.028            | 0.000                                                                               | 0.15        | 0.0          | 112.4           | OK         |
| 1.016                                                           | SW24            | 2.310                   | 0.000             | 0.000                                                                               | 0.22        | 0.0          | 171.6           | OK         |
| 1.017                                                           | Permbase 06     | 2.200                   | 0.000             | 0.000                                                                               | 0.34        | 0.0          | 169.0           | OK         |
| 40.000                                                          | Plots           | 2.428                   | -0.167            | 0.000                                                                               | 0.15        | 0.0          | 5.9             | OK         |
| 40.001                                                          | Stub SW25/1     | 2.174                   | -0.041            | 0.000                                                                               | 0.16        | 0.0          | 2.0             | OK         |
| 41.000                                                          | Stub SW25/2     | 2.174                   | -0.091            | 0.000                                                                               | 0.06        | 0.0          | 1.6             | OK         |
| 1.018                                                           | SW25            | 2.171                   | 0.446             | 0.000                                                                               | 0.49        | 0.0          | 167.5           | SURCHARGED |
| ©1982-2012 Micro Drainage Ltd                                   |                 |                         |                   |                                                                                     |             |              |                 |            |

## **APPENDIX H: Pre-Demolition Drainage**



NOTES

1. Do not scale.

KEY



Western Area - Former Toddington Nursery. Outfalls to northern floodplain area via pipe connection and overland flow mechanisms.



Central West - former Holland Nursery, discharge to Toddington Ditch.



Central East Area. Outfall to Toddington Ditch.



Eastern Area - Former Züder Zee Nursery. Discharge to existing lake and Norway Ditch.

| Rev.                                                                                                                                                                                                                                                                  | Description | Date                  | Chkd |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------------|------|
|  <b>Glanville</b><br>Cornerstone House<br>82 Foxhall Road, Didcot<br>Oxon, OX11 7AD<br>Tel: (01235) 515550 Fax: (01235) 817799<br>pres@glanvillegroup.com www.glanvillegroup.com |             |                       |      |
| Client : Persimmon Homes                                                                                                                                                                                                                                              |             |                       |      |
| Project : North Littlehampton                                                                                                                                                                                                                                         |             |                       |      |
| Title : Illustrative Existing Surface Water Regime                                                                                                                                                                                                                    |             |                       |      |
| Project Engineer : S. Hudson                                                                                                                                                                                                                                          |             | Scale : 1:2000        |      |
| Project Director : K. Rayner                                                                                                                                                                                                                                          |             | Date : September 2014 |      |
| Status : Preliminary                                                                                                                                                                                                                                                  |             |                       |      |
| Drawing No. 8140927/107                                                                                                                                                                                                                                               |             |                       | Rev  |

**Appendix F**  
**Drainage Survey Record Drawings**



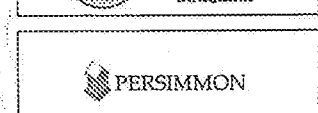
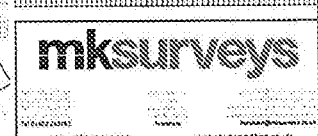
TODDINGTON LANE, LITTLEHAMPTON, WEST SUSSEX  
DRAINAGE SURVEY  
Date: 15th February 2015  
Job No: 20644

Notes:  
1. ON-SITE PHOTOGRAPHIC SURVEY  
2. PROPOSED DRAINAGE SYSTEMS TO BE INSTALLED TO SERVE THE SITE  
3. DRAINAGE INFORMATION HAS BEEN OBTAINED FROM THE LOCAL AUTHORITY  
4. THE DRAINAGE SYSTEMS SHOWN ON THIS DRAWING ARE BASED ON THE INFORMATION PROVIDED  
5. THE DRAINAGE SYSTEMS SHOWN ON THIS DRAWING ARE BASED ON THE INFORMATION PROVIDED  
6. THE DRAINAGE SYSTEMS SHOWN ON THIS DRAWING ARE BASED ON THE INFORMATION PROVIDED  
7. THE DRAINAGE SYSTEMS SHOWN ON THIS DRAWING ARE BASED ON THE INFORMATION PROVIDED  
8. THE DRAINAGE SYSTEMS SHOWN ON THIS DRAWING ARE BASED ON THE INFORMATION PROVIDED  
9. THE DRAINAGE SYSTEMS SHOWN ON THIS DRAWING ARE BASED ON THE INFORMATION PROVIDED  
10. THE DRAINAGE SYSTEMS SHOWN ON THIS DRAWING ARE BASED ON THE INFORMATION PROVIDED

| DRAINAGE KEY |         |
|--------------|---------|
| MANHOLE      | MANHOLE |
| GULLY        | GULLY   |
| PIPE         | PIPE    |
| ...          | ...     |

LEGEND  
SYMBOLS FOR DRAINAGE SYSTEMS  
SYMBOLS FOR DRAINAGE SYSTEMS  
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CAUTIONARY NOTES  
1. THE DRAINAGE SYSTEMS SHOWN ON THIS DRAWING ARE BASED ON THE INFORMATION PROVIDED  
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Toddington Lane  
Littlehampton  
West Sussex

| Drainage Survey |               |             |    |
|-----------------|---------------|-------------|----|
| Scale           | 1:200         | Drawn By    | AG |
| Project No      | 20644         | Checked By  | CP |
| Date            | February 2015 | Approved By | NS |