

# Hydrogen Production Facility Proposed Drainage Strategy

Marubeni Bridgend Green

November 2022

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Marubeni Bridgend Green

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# **Executive Summary**

This document outlines the drainage strategy for the green hydrogen production facility and the Solar photovoltaic electricity generating station (solar farm) as part of the Marubeni Bridgend Green Hydrogen project.

This report considers the impact that the Marubeni Bridgend Green Hydrogen project may have on the existing surface water flow paths and the existing foul water network within the area. Existing conditions, such as geology, hydrology, and flood risk, have been assessed to support the development of the drainage strategy.

This document aims to summarise the proposed drainage strategy for the development, outlining the measures taken to reduce the impact of the development on both flow rates and water quality from the site by utilising sustainable drainage systems (SuDS) to support the Planning Application for the Marubeni Bridgend Green Hydrogen project.

This report does not assess the impact of the proposed development on flood risk from surface water, fluvial, coastal or groundwater sources, or any changes to flood risk in the surrounding areas affected by the development; this is considered in a separate Flood Consequence Assessment.

# **1** Introduction:

### 1.1 **Project Overview**

Development of a green hydrogen production facility with electrolysers, hydrogen storage, hydrogen refuelling station, administration building, substation and hydrogen pipeline 'off-take'; with access, circulation, parking, lighting, security fencing, hard and soft landscaping, drainage infrastructure and temporary construction compound, on land at Brynmenyn, Bridgend.

Together with the installation of a solar photovoltaic electricity generating station (solar farm), comprising ground-mounted solar panels, inverters, transformer units, switch gear and a substation; with access, circulation, parking, lighting, security fencing, hard and soft landscaping, drainage infrastructure and temporary construction compound, on land at Bryncethin, Bridgend.

Sites to be connected via an electrical wire (part under and part overground).

### 1.2 **Project scope**

This report considers the impact that development of the Hydrogen production facility and the Solar PV site may have on the existing surface water flow paths within the vicinity of the area and drainage strategy for the two developments.

### 1.2.1 Hydrogen production facility

- **Site Platform** Site platform to be +63.800mAOD. All of the site within the site boundary fence will be impermeable.
- 1no. Permanent Access Road to facilitate access to the Hydrogren production facility, a new access road is to be constructed of bitumen to provide access.
- **1no. Internal Road and car park-** The internal road will circle the plant to allow vehicle access on all sides.
- HV Substation located within the platform.
- Hydrogen Storage Area, Hydrogen Refuelling Station and Hydrogen Production Area delimited by a fire wall.
- Administration Building located within the platform.

### 1.2.2 Solar PV

- **1no. Permanent Road** To facilitate maintenance of the solar farm. The road will be constructed of bitumen and is anticipated to be used for maintenance work only.
- Laydown Area to store materials, equipment and welfare facilities during construction.
- **HV substation –** located within the boundary of the solar PV site.

# 2 Site Overview

### 2.1 Site location

Both new sites are located in Bridgend, Wales, with the hydrogen production facility located just south of Bryncethin industrial estate and the Solar PV site located in the Brynmenyn area.

Figure 2.1 indicates the two proposed developments within Brynmenyn and Bryncethin areas. The Hydrogen site will have an access road leading from Squire Drive and the Solar PV site will have access to Blackmill Rd.



### Figure 2.1: Marubeni Bridgend Green Hydrogen project location.

Source: Google Earth Pro (2022)

### 2.2 Data Sources

The following data sources have been used for this assessment:

File Name	File Ref	Source	Data Received	Revision
Solar PV Site Layout	108939-MMD-BRGR-XX- DR-C-0014	Mott MacDonald	2022	01
Hydrogen Production Facility Site Layout	108939-MMD-BRGR-XX- DR-C-002	Mott MacDonald	2022	01
OS Mapping	N/A	Ordnance Survey	2022	N/A
Aerial maps, Openstreet maps, Magic Map Website	N/A	Google Maps and Earth, Bing, Environment Agency (EA)	2022	N/A
British Geological Survey (BGS) Website	N/A	BGS website	2022	N/A
Bryncethin Solar Farm Phase 1 Desk Study	108939-T-RP-0002	Mott MacDonald	2022	P01
Brynmenyn Hydrogen Plant Phase 1 Desk Study	108939-T-RP-0001/2	Mott MacDonald	2022	P01

File Name	File Ref	Source	Data Received	Revision
LIDAR	N/A		2022	N/A
Topographical Survey, Woodmat Site, Brynmenyn Industrial Estate	21714	Zenith Land Surveys Ltd.	April'22	01
Topographical Survey, Brynmenyn Solar PV Project	21779	Zenith Land Surveys Ltd.	October'22	01
Tawe to Cadoxton Management Catchment Summary		Natural Resources Wales	Nov'22	N/A
		Water Watch Wales website		
Bryncethin Solar PV Project Site Constraints Map	08939-MMD-BRGR-XX- DR-Y-00	Mott MacDonald	Nov'22	

### 2.3 Standards and guidance

The following standards and guidance have been used for this assessment:

Document Name	Document Reference	Publisher
Statutory standards for sustainable drainage systems – designing, constructing, operating and maintaining surface water drainage systems		Welsh Government
Technical Advice Note 15: Development, Flooding and Coastal Erosion (TAN15)		Welsh Assembly Government
Flood Consequences Assessments: Climate change allowances September 2021		Welsh Assembly Government
Sewers for Adoption – 8 <sup>th</sup> edition		Water UK
The SuDS Manual	C753	Construction Industry Research and Information Association
National Planning Policy Framework (NPPF) 2021	NPPF	Ministry of Housing, Communities and Local Government, UK Government
Strategic Flood Consequence Assessment of Bridgend County Borough		Bridgend County Borough

### 2.4 Existing Hydrology

The project sits within the Ogmore River operational catchment. The Ogmore River is a Main River regulated by Natural Resources Wales. The Figure 2.2 shows the catchment areas of the rivers in the project location.

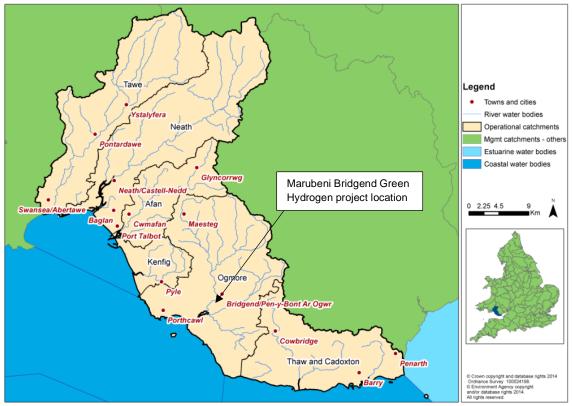


Figure 2.2: Tawe to Cadoxton Management Catchment Summary

Source: Natural Resources Wales(NRW)

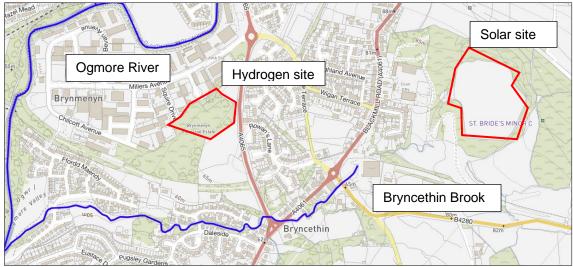
Water features are classified by the Natural Resources Wales as follows:

- Main River are rivers, larger streams and smaller watercourses of strategic drainage importance regulated by the Natural Resources Wales.
- Ordinary Watercourses are rivers, streams, ditches, drains, sluices and so on which do not form part of a main river. There are two types of Ordinary Watercourses: those regulated by Internal Drainage Boards which are usually are named; and those that are regulated by the Lead Local Flood Authorities which are usually unnamed.
- Ditches that are described as a watercourse less than 2m wide and are regulated by the Lead Local Flood Authorities.

### 2.4.1 Main Rivers

There are two Natural Resources Wales Main rivers nearby the proposed sites: The Ogmore River and the Bryncethin Brook, as shown on the Figure 2.3, all main rivers are shown in blue line.

### Figure 2.3: Main Rivers Map



Source: Main Rivers, Natural Resources Wales, 2022.

### 2.4.2 Internal Drainage Boards (IDBs) in Wales

An IDB, as referred to in the Flood and Water Management Act 2010, has the same meaning as in section 1 of the Land Drainage Act 199154. IDBs were set up in areas of special drainage need to sustain both agricultural and developed land use.

In Wales there are three IDB's and there are a further 11 drainage districts in North Wales that are administered by the Environment Agency Wales.

The proposed Marubeni sites are outside an IDB area or drainage district.

### 2.4.3 Ordinary watercourses, and drainage ditches

For ordinary watercourses in Wales, outside an IDB area, the Lead Local Flood Authority (LLFA) of the county council for the area; or the county borough council for the area.

The proposed Marubeni sites are under the LLFA of the Bridgend County Borough Council.

# 3 Hydrogen Production Facility Background Information

### 3.1 Site description

The proposed hydrogenn plant location is to the south east of the Brynmenyn Industrial Estate, Bridgend, Wales. The facility is proposed to be located with grid references SS 91104 84552, SS 91137 84175, and SS 90715 84221, postcode CF32 9TQ. See Figure 3.1.

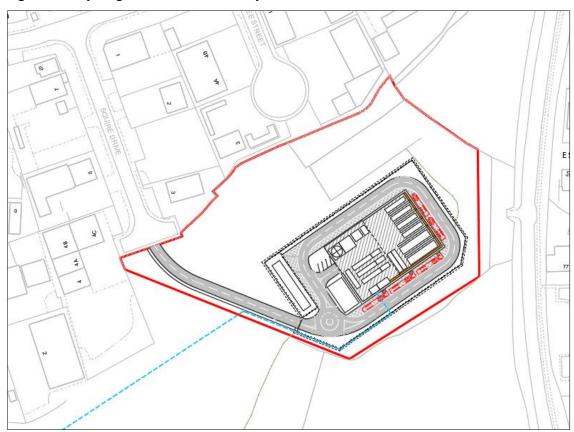


Figure 3.1: Hydrogen Production Facility Site Location

Source: Mott MacDonald, 2022.

To the north-west of the site, there is an industrial estate and the A4065 is located to the east of the site with residential areas beyond and an area of residential properties to the south and west. The site is in a green space comprising of woodland, fields, and shrubbery.

### 3.2 Existing Topography

A 3D topographical survey obtained in April'22 by Zenith Land Surveys Ltd. has been utilised to assess the topography of the site, see Figure 3.2. The site falls from south-east(+67.00mAOD) to north-west (+54.50mAOD), the site elevation increases approximately 13m across the site, rising from West to East.

Figure 3.2: Existing elevations.



Source: Zenith Land Surveys Ltd. (April 2022).

### 3.3 Existing Geology

The British Geological Survey (BGS) 1:50,000 mapping indicates the site is underlain by Till, Devensian – Diamicton superficial deposits; and the South Wales Middle Coal Measures Formation – Mudstone Bedrock geology.

# RTD1 ALV X PH

Figure 3.3: Superficial Geology

Source: BGS Geoindex (2022)

The desktop study Brynmenyn Hydrogen Plant Phase 1 Desk Study with reference 108939-T-RP-0001/2 have been reviewed for this assessment:

### Artificial ground

It is suspected that there may be Made Ground present on site originating from the foundations of the industrial units in the Brynmenyn Industrial Estate. This may explain the change in topography between the estate and the site, but this has not been substantiated.

### Superficial deposits

The site is primarily underlain by superficial deposits comprising Diamicton(as shown on light blue in the Figure 3.3), an unsorted to poorly sorted glacial till with a range in particle sizes from clay to boulders. Immediately to the north of the site the Brynmenyn Industrial Estate is underlain by River Terrace Deposits (as shown on light orange in the Figure 3.3),described by the BGS as 'Sand and gravel, locally with lenses of silt, clay or peat.' and these deposits may extend onto site.

### Bedrock geology

The site is located within the South Wales Middle Coal Measures Formation described as comprising grey coal-bearing mudstones and siltstones with seatearths and minor sandstones.

### 3.3.1 Permeability

Permeability of the ground influences whether the drainage strategy for the site can incorporate infiltration as a method for disposal of flows.

The Geotechnical and Geo-Environmental Ground Desk Study (108939-T-RP-0001/2) has been reviewed to understand the potential permeability of the site. The Diamicton superficial deposits typically give an infiltration rate of  $3x10^{-8}$  m/s. It is proposed to complete infiltration tests as part of the scheme, where it can be confirmed if any site infiltration can be assumed for surface water drainage.

In the absence of ground investigation data, infiltration rates have been assumed based on the CIRIA C753 SuDS Manual Table 25.1 which states that till deposits have a lower end infiltration rate of 10-8m/s, as shown in the Figure 3.4

	Typical infiltration coefficients based on soil	texture (after Bettess, 1996)	
25.1	Soil type/texture	ISO 14688-1 description (after Blake, 2010)	Typical infiltration coefficients (m/s)
	Good infiltration media		
	gravel	Sandy GRAVEL	3 × 10 <sup>-4</sup> – 3 × 10 <sup>-2</sup>
	<ul> <li>sand</li> </ul>	Slightly silty slightly clayey SAND	1 × 10 <sup>-5</sup> – 5 × 10 <sup>-5</sup>
	<ul> <li>loamy sand</li> </ul>	Silty slightly clayey SAND	1 × 10 <sup>-4</sup> – 3 × 10 <sup>-5</sup>
	<ul> <li>sandy loam</li> </ul>	Silty clayey SAND	1 × 10 <sup>-7</sup> – 1 × 10 <sup>-5</sup>
	Poor infiltration media		
	• loam	Very silty clayey SAND	1 × 10 <sup>-7</sup> – 5 × 10 <sup>-6</sup>
	- silt loam	Very sandy clayey SILT	1 × 10 <sup>-7</sup> – 1 × 10 <sup>-5</sup>
	<ul> <li>chalk (structureless)</li> </ul>	N/A	3 × 10 <sup>-8</sup> – 3 × 10 <sup>-6</sup>
	<ul> <li>sandy clay loam</li> </ul>	Very clayey silty SAND	3 × 10 <sup>-10</sup> – 3 × 10 <sup>-7</sup>
	Very poor infiltration media	-	
	<ul> <li>silty clay loam</li> </ul>	-	1 × 10 <sup>-8</sup> – 1 × 10 <sup>-6</sup>
	• clay	Can be any texture of soil	< 3 × 10 <sup>-8</sup>
	• till	described above	3 × 10 <sup>-9</sup> – 3 × 10 <sup>-6</sup>
	Other		
	<ul> <li>rock* (note mass infiltration capacity will</li> </ul>	N/A	3 × 10 <sup>-9</sup> – 3 × 10 <sup>-5</sup>
	depend on the type of rock and the extent and		
	nature of discontinuities and any infill)		

### Figure 3.4: Infiltration Rates

Source: CIRIA C753, 2015

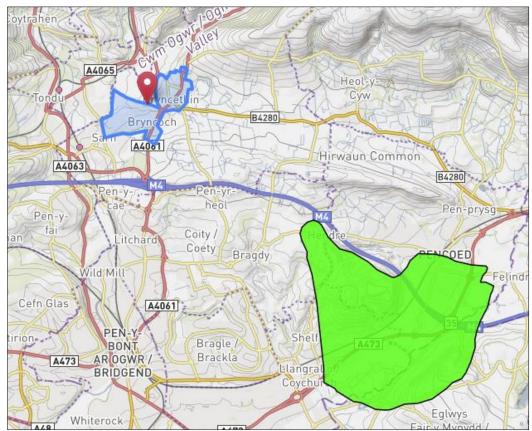
A ground investigation will be required to indicate if there is a possibility of infiltration within the site, based on the methodology in BRE Digest 365.

### 3.4 Groundwater and Source Protection Zones (SPZ)

The Geotechnical and Geo-Environmental Ground Desk Study (108939-T-RP-0001/2) establishes the lack of ground investigation information on site means that the groundwater conditions underneath the site are unknown.

Based on the local historical borehole records groundwater would be expected to be encountered at depth within the mudstone and sandstone bedrock at depths of 7- 8m bgl, There is also the possibility that perched groundwater could be encountered in the shallow subsurface either in areas of Made Ground such as may be present in the area, if groundwater would be encountered the new attenuation pond and filter drains may require lining.

The DataMapWales has been used as a source of information for the Source Protection Zones in Wales. The Figure 3.5 indicated the site is not located within a groundwater Source Protection Zone (SPZ), and there is no SPZ nearby the site. The closest SPZ sits 2.9km from Bryncethin as shown in a green area in the Figure 3.5.



### Figure 3.5: Source Protection Zones (SPZ)

Source: Natural Resources Wales website (2022).

### 3.5 Contamination

There is not sufficient available information to confirm the chemistry of the soil on site. With the information available, it is assumed that there will be Made Ground across the site extents where these historic land use of the Brynmenyn Industrial Estate.

### 3.6 Existing Hydrology

There are no watercourses within the proposed Hydrogen site. The nearest watercourses are the Ogmore Main River located approximately 190m to the north of the site; and the Bryncethin Brook Main River that sits 190m from the site, as per shown on the Figure 3.6; all main rivers are shown in blue line.

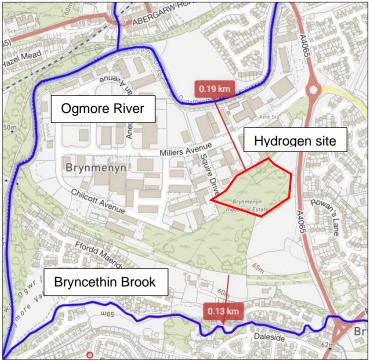


Figure 3.6: Main Rivers Hydrogen Site

Source: Main Rivers, Natural Resources Wales, 2022.

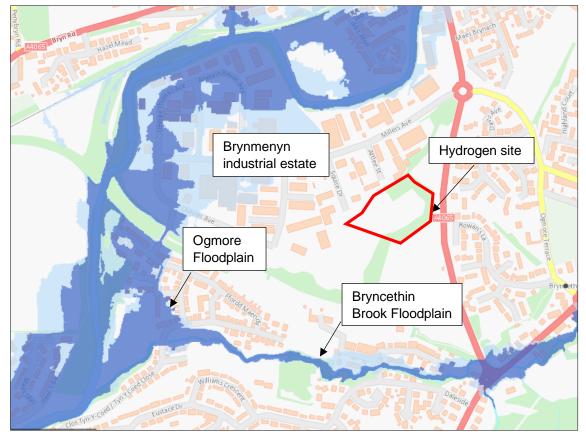
### 3.7 Flood Risk

The site is outside the floodplain of the Ogmore River and the Bryncethin Brook floodplain.

The NRW Flood Risk Map indicated there is no risk associated with flood risk from the rivers, the site sits within Flood Zone 1, are those that have less than a 0.1% Annual Exceedance Probability.

There is a medium to low flood risk from surface water and small watercourses where the site borders Brynmenyn Industrial Estate to the NW and very small areas of low flood risk just south of the site and along the bordering A40654.

Figure 3.7: Flood Zone 2 and 3





Source: Main Rivers, Natural Resources Wales, 2022.

This report does not consider the flood risk from surface water, fluvial, coastal or groundwater sources of the proposed development, or any changes to flood risk in the surrounding areas affected by the development; this should be considered in a Flood Consequence Assessment (FCA) document.

It should be noted that the drainage strategy is not an FCA and should not be treated as one.

### 3.7.1 Sequential and Exception Tests

The aim of the flood risk guidance in the National Planning Policy Framework (NPPF) is to steer new development to Flood Zone 1. If following application of the Sequential Test, it is not possible for a development to be located in zones with a lower probability of flooding, the Exception Test can be applied if deemed appropriate.

The proposed development is in Flood Zone 1 and it is therefore considered that the Sequential Test has been passed.

### 3.8 Existing Drainage

### 3.8.1 Public Sewers

A Welsh Water combined sewer runs southwest to northeast, north of the site; and a Welsh Water main water is located on the east part of the site. There are existing sewers to the east of the site that supply the village of Bryncethin.

See Appendix A for existing utilities.

### 3.8.2 Field Drainage

At this stage of design, no field drainage records/surveys have been provided and a review of natural overland flow paths on steeply sloping ground has not been undertaken. The effect of the works on any potential local field drainage is therefore unknown. Should diversion of existing field drainage systems be required, or where natural overland runoff flow paths are diverted due to the construction swathe header drains, clean water balancing ponds maybe required to mitigate flood risk at receiving watercourses.

Where the field drains are severed by the scheme, they should be diverted, rather than truncated, to avoid water backing up the system and flooding upstream areas. Where the anticipated site works require cutting into local land, a cut off filter drain has been proposed as part of the drainage strategy.

Land drains should be sealed, upslope and downslope, where they cross the site and care taken to ensure that the land upslope will not become waterlogged or flood as a result.

CIRIA 648 notes that the main contractor can be held responsible for the quality of water diverted through the works and discharged from an outfall used during construction. The contractor must therefore be aware of any activities upstream (such as muck-spreading or plough) that may cause polluted water to enter the diverted land drains. It is proposed that attenuation / sediment control ponds are installed on the line of the diversion, upstream of the receiving watercourse, to balance run-off rates and mitigate the risk of pollutants entering the watercourse.

# 4 Solar Farm Site Background Information

### 4.1 Site description

The site is located approximately 100m north of the B4280 road in Bryncethin, a small village in Bridgend, Wales. It is centred roughly at grid reference SS917844. The new green hydrogen power plant is approximately 0.6 km west of this site. See Figure 4.1.

### Figure 4.1: Solar Farm Site Location



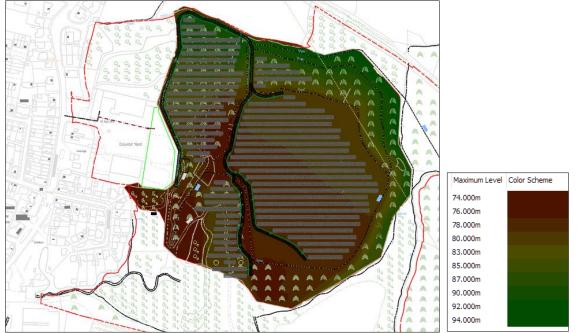
### 4.2 Existing Topography

The site slopes from east to west however there is a substantial depression in the centre of the site with the northern, eastern, and southern boundaries sloping towards the central area. This central area is slightly domed within the centre with an elevation change of approximately 1m between the centre and the edges. The western boundary drops away from the rest of the site towards a surface stream.

A 3D topographical survey obtained in October'22 by Zenith Land Surveys Ltd. has been utilised to assess the topography of the site .

The site falls north(+90mAOD) to south (+71mAOD). The central area averages +77m AOD.

Figure 4.2: Existing elevations.

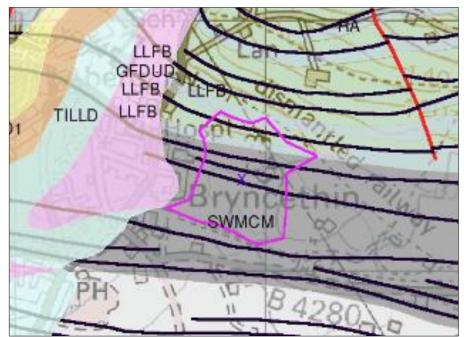


Source: Zenith Land Surveys Ltd. (October 2022).

### 4.3 Existing Geology

The British Geological Survey (BGS) 1:50,000 mapping indicates there is not superficial deposits; and the South Wales Middle Coal Measures Formation – Mudstone Bedrock geology, see Figure 4.3.

### Figure 4.3: Superficial Geology



Source: BGS Geoindex (2022)

The desktop study Bryncethin Solar Farm Phase 1 Desk Study with reference 108939-T-RP-0002 have been reviewed for this assessment:

### Artificial ground

It is likely that there is made ground as the site has a complex history of reworking and infilling. The walkover found evidence of limestone gravel, redundant and relic brick structures, vegetated stockpiles and capped mine shafts at the surface. There is likely more unseen made ground, as the site has a long mining history.

### Superficial deposits

The majority of the site is shown to have no superficial deposits.

### **Bedrock geology**

The site is located within the South Wales Middle Coal Measures Formation described as comprising grey coal-bearing mudstones and siltstones with seat earths and minor sandstones.

### 4.3.1 Permeability

There is no permeability on the solar site, as there is no superficial deposits.

### 4.4 Groundwater and Source Protection Zones (SPZ)

The Geotechnical and Geo-Environmental Ground Desk Study (108939-T-RP-0002) has been taken as a reference for the groundwater of the site. It states that there are no historical borehole records or standpipes installed at the site, so groundwater conditions are currently unknown.

As stated in the Section 3.4 there is no SPZ nearby the site.

### 4.5 Contamination

There is not sufficient available information to confirm the chemistry of the soil on site. With the information available, it is assumed that there will be Made Ground across the site extents where these historic land uses were located and therefore there is the potential for contamination.

### 4.6 Existing Hydrology and Flood Risk

The tributary of Bryncethin Brook, Nant Bryncethin, is approximately 60m south of the site.

There are several inland ditches within the site extents. The drawing Bryncethin Solar PV Project Site Constraints Map-108939-MMD-BRGR-XX-DR-Y-0011 states the existing ditches within the site (shown in light blue), the buildable area (shown on purple colour) where the solar panels are proposed, and the flood risk extent. The drawing is included in the Appendix B.

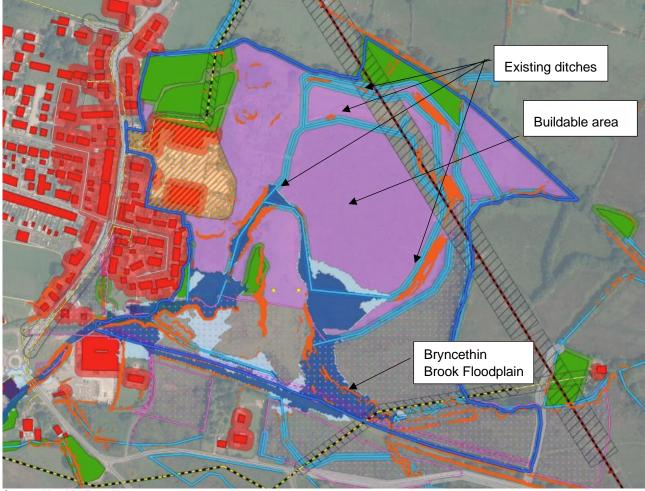
There are several watercourses located within the development site at Bryncethin, an ordinary watercourse consent will be required for works or connections to the ordinary watercourses.

The buildable area is defined as the area outside the floodplain of the Bryncethin Brook floodplain, the Flood Zone 1 area, are those that have less than a 0.1% Annual Exceedance Probability as per the NRW Flood Risk Map indicated there is no risk associated with flood risk from the rivers.

Comparing the ground levels across the site with the with the floodplain extent, the buildable area sits in a no risk of flooding area, after comparing the following:

- 1. As per Section 4.2, site elevations range from +94mAOD to +74mAOD.
- Checking the flood depths of the NRW Flood Risk Map, the river floodplain extent for the 3.3% probability of flooding and for the 1% probability of flooding located at the south of the site sits approximately around +73.00mAO elevation based on the LIDAR existing surface.
- 3. The Site is not currently served by any public surface water or combined sewers; therefore soil permeability and slopes govern existing runoff patterns. Rainfall that does not soak into the ground would flow overland towards the Bryncethin Brook, therefore a substantial freeboard in this extreme event would also remain (minimum 1m).

### Figure 4.4: Site Constraints Map



Source: Mott MacDonald, 2022.

This report does not consider the flood risk from surface water, fluvial, coastal or groundwater sources of the proposed development, or any changes to flood risk in the surrounding areas affected by the development; this should be considered in a Flood Consequence Assessment (FCA) document.

It should be noted that the drainage strategy is not an FCA and should not be treated as one.

### 4.6.1 Sequential and Exception Tests

The aim of the flood risk guidance in the NPPF is to steer new development to Flood Zone 1. If following application of the Sequential Test, it is not possible for a development to be located in zones with a lower probability of flooding, the Exception Test can be applied if deemed appropriate.

The proposed development is in Flood Zone 1 and it is therefore considered that the Sequential Test has been passed.

### 4.7 Existing Drainage

The Appendix A includes the Extract Map of Utilities of the site, public sewers and private drains.

### 4.7.1 Public Sewers

A Welsh Water combined sewer runs North to south along Blackmill Road to the west of the site.

### 4.7.2 Private Drainage

There is a private sewer that is connected to the combined sewer and runs into the industrial estate where the temporary construction compound will be located. Field Drainage

### 4.7.3 Field Drainage

Refer to section 3.8.2

# 5 Foul Water Drainage

The strategy of the drainage design is established via two independent networks:

- Temporary foul water: construction compounds
- Permanent foul water: the drainage of the permanent features will consider the drainage from the buildings and the normal use of these features

### 5.1 Temporary foul water

It is proposed that there will be an independently managed foul drainage system at the construction compounds to contain waste produced from welfare and toilet facilities. It is expected that the foul water will be contained on site and regularly pumped, emptied, and transported off site. Therefore, there is no requirement for any formal piped foul drainage on site or any offsite connection.

### 5.1.1 Hydrogen Site

There are no proposed temporary foul water premises within the solar site for the construction phase cover in this report.

### 5.1.2 Solar Site

A proposed temporary connection for the construction compound facilities in the Solar site is proposed to the private foul water network of the Industrial site where the new construction compound is proposed.

### 5.2 Permanent foul water

### 5.2.1 Hydrogen Site

There will be onsite welfare facilities in the administration building within the Hydrogen production facility, therefore permanent foul sewage is required. The proposed foul water flows from the site will be infrequent and of low volume.

The building regulations H1 state that foul drainage should be connected to a public foul or combined sewer wherever this is reasonably practicable. Therefore, it is proposed that foul flows form the administration building with the Hydrogen production facility into the Welsh Water combined sewer north of the site that runs southwest to northeast. This will be subject to approval from Welsh Water.

### 5.2.2 Solar Site

There are no proposed permanent foul water premises within the solar site.

# 6 Surface Water Drainage Strategy

### 6.1 Overview

This section gives the proposed drainage design strategy for each component of the site. These principles have been followed to produce preliminary drainage drawings below. These should be referred to in conjunction with this drainage strategy.

Drawing Number	Title
108939-MMD-BRGR-XX-DR-C-044	Marubeni Green Hydrogen Production Facility Drainage Layout
108939-MMD-BRGR-XX-DR-C-009	Marubeni Green Hydrogen Solar PV Drainage Layout

### 6.2 Design Guidance and Policy

The drainage strategy for the proposed development has been developed based on the following guidance:

- The SuDS Manual (C753)
- National Planning Policy Framework (NPPF25)
- Technical Advice Note 15: Development and Flood Risk
- Statutory standards for sustainable drainage systems designing, constructing, operating and maintaining surface water drainage systems.

The proposed design seeks to improve the local run-off profile using systems that can either attenuate run-off or reduce peak flow rates on the existing flood profile

The Flood Estimation Handbook (FEH) rainfall data was obtained from the UK Centre for Ecology & Hydrology webservice for development of the drainage strategy.

The Sustainable Drainage Systems Standards for Wales (G2.30, G2.31, G2.34 and G2.37) establishes the minimum criteria for new site drainage:

- All the runoff from the site for the 1:100 year event should be discharged at either a rate of 2 l/s/ha or the average annual peak flow rate (i.e. the mean annual flood, QBAR), whichever is the greater
- 1 in 30-year rainfall event no flooding on site
- 1 in 100-year rainfall event no flooding on operational area of the site (car parks may flood in this scenario)
- In both 1 in 30-year and 1 in 100-year scenarios, the design shall ensure that excess runoff from the drainage system does not impact adjacent third-party land.
- Where discharge consents or downstream capacity restrictions are in place the design shall restrict flows and incorporate attenuation to achieve the requirement.

### 6.2.1 SUDS Approving Body (SAB) Application:

Schedule 3 of the Flood and Water Management Act 2010 establishes SAB (SuDS Approving Body) in local authorities. Since the 7th of January 2019, developments greater than 100m<sup>2</sup> or developments containing more than one building will be required to submit a SAB application. This application requires developers to utilise Sustainable Drainage Systems (SuDS) in their

surface water management for a development. This report forms part of the overall SAB application for this project and should be read in conjunction with the remaining sections of the application. Sections of the application intended to be covered by this report include:

Compliance with Statutory National Standards for SUDS (SAB application item 7)	Section for reference in this report
S1 – surface water runoff destination	6.2.5
S2 – surface water runoff Hydraulic control	6.3
S3 – Water Quality	7
S5– Design of drainage for Construction and Maintenance and Structural Integrity	6.2.3
Surface Water Discharge Hierarchy	6.2.5

### 6.2.2 Permanent Works

The permanent works include the normal features of a hydrogen and solar site: substation, transformers, buildings, internal roads, car parks and external access road. The substation design life is 40 years (20 years first life maintenance).

The surface water system for the permanent works shall be designed and constructed so that flooding does not occur in any part of the site in a 1 in 30-year return period design storm flood frequency, with no flooding of the operational area during a 1 in 100-year period design storm flood frequency. A percentage uplift to allow for the effect of climate change should be included to understand flooding implication for a 40% climate change allowance, as stated in the Section 6.2.4.

### 6.2.3 Temporary Works

Temporary construction works are anticipated to occur for up to 3 years (this may vary depending on project development).

During the time of this assessment, the project has assumed a construction compound adjacent to the solar site and it is anticipated the contractor will procure an existing, off site, construction laydown area for the hydrogen site works

In view of the short design life and nature of the usage, it is considered appropriate that the surface water system for the temporary works is designed for no flooding in a 1 in 5-year storm return period design storm flood frequency.

Design criteria for flows from the proposed temporary works including climate change allowance (1 in 5-year storm with a 10% allowance for climate change proposed).

### 6.2.4 Climate change

The Welsh Assembly guidance requires, in accordance with the Government's PPG-TG document, that there should be no increase in the rate of surface water emanating from a newly developed site above that of any previous development. Furthermore, it is the joint aim of the Natural Resources Waled (NRW) and Local Planning Authorities, to actively encourage a reduction in the discharge of storm water as a condition of Approval for new developments. In addition, all drainage systems should be sized to accommodate the runoff arising from a 1 in 100-year rainfall event and should include a further allowance to account for the further effects of climate change.

Table 2 from the Flood Consequences Assessment Climate Change Note September 2021 shows the anticipated changes in peak rainfall intensity for use in small catchments. The upper estimates has been assessed to understand the range of impact.

Applies across all of Wales	Total potential change anticipated for 2020s (2015-2039)	Total potential change anticipated for 2050s (2040-2069)	Total potential change anticipated for 2080s (2070- 2115)
Upper estimate	10%	20%	40%
Central estimate	5%	10%	20%

Table 2 - Change to extreme rainfall intensity (compared to a 1961-90 baseline)

### 6.2.5 Disposal of flows

It should be acknowledged that the satisfactory collection, control and discharge of storm water is now a principal planning and design consideration. This is reflected in recently implemented guidance and the National SuDS Standards.

The NPPF states that for new developments, the best way of reducing flood risk within the development is to:

- Control the water at source through sustainable system (SUDS).
- Consider exceedance flow route when the capacity of the drainage system is exceeded.

SUDS should mimic natural drainage and reduce the amount and rate of water flow by:

- Infiltration into the ground,
- Holding water in storage areas, and
- Slowing the flow of water.

### 6.3 **Proposed Drainage Strategy**

The strategy of the drainage is established via two independent networks as per the quality of the water to be discharge into them:

### • Permanent surface water drainage network:

Drainage of the permanent features considers surface runoff from the substation plot, including transformers, buildings and internal roads, and the external access road.

### • Temporary surface water drainage network

Drainage of the temporary surfaces associated with the construction stage is considered "dirty water" due to the possibility of contamination. The design will include pollution controls and the contractor will implement suitable mitigation measures to manage contamination risk during construction.

### 6.3.1 Proposed Drainage Strategy: Hydrogen Site

The drainage strategy for the Hydrogen site only includes permanent works associated with the Hydrogen substation. Drainage strategy for the permanent works is to accommodate surface runoff from the proposed impermeable areas for the design storm event plus the allowance for climate change. Runoff will be conveyed to an attenuation pond via a site surface drainage system.

As per stated in the Section 6.2.5 following the hierarchy of the disposal of flows, due to the lack of watercourses nearby the site and the no-permeability of the site, the hydrogen site surface water drainage is proposed to discharge into existing Welsh Water storm drain manhole, located at the southern end of Squire drive.

The pond will discharge into an existing manhole by Welsh Water at limited flow rate of 5l/s. Preliminary attenuation volumes are quoted in the drainage drawings in Appendix C and Appendix D for drainage calculations.

### 6.3.1.1 Catchment Areas

The permanent works include the hydrogen site and the external access road which will provide access to the substation from the existing road network.

- Hydrogen platform, buildings and internal roads: These impermeable areas will runoff to gullies and channel drains which will direct flows to the site drainage system and proposed attenuation pond before discharge to the existing Welsh Water manhole. The proposed attenuation pond will be designed with 1:3 slopes, vegetated, non-permeable geo-textile lined with an inlet forebay. This will provide treatment of the runoff by allowing for settlement of silts, heavy metals and the removal of oxygen demanding material.
- The proposed cut embankments within the platform will drain via infiltration trenches that will be linked to the site drainage system due to the low permeability of the ground.
- External access road: Surface runoff from the external access road will flow to filter drains within infiltration trenches alongside either side of the access road. Due to the uncertainty of the infiltration capacity of the ground, infiltration trenches will provide an overflow that will direct flows to the nearest Welsh Water manhole via a restricted flow.

The MicroDrainage Network Module has been used to provide an initial estimate of attenuation storage volumes required to limit run-off from the site to greenfield rates. See drainage drawings in Appendix C for details of proposed attenuation sizing and Appendix D for drainage calculations.

### 6.3.1.2 Post-Development Discharge Rates

The proposed discharge rate shall be controlled by an Hydrobrake manhole or an orifice control approximately 75mm in diameter equating to a control rate of 4-5l/s. The advisable minimum Hydrobrake control rate is 5l/sec to avoid blockages. If an orifice control is used, it would be installed in a catchpit with an overflow to reduce the risk of blockages.

Engagement with the relevant water authorities will be required to obtain a consent to discharge to the receiving existing Welsh Water drainage.

The existing QBAR calculations are in the Appendix E .

### 6.3.2 Proposed Drainage Strategy: Solar Site

The drainage strategy for the Solar site includes permanent works associated with the Solar PV Site and temporary works for the construction phase. Drainage strategy for the permanent works is to accommodate surface runoff from the proposed impermeable areas(access roads and substation) for the design storm event plus the allowance for climate change. Runoff will be conveyed to an attenuation pond via a site surface drainage system.

The pond will discharge to the nearest watercourse at limited flow rate of 5l/s. See drainage drawings in Appendix C for details of proposed attenuation sizing and Appendix D for drainage calculations.

The hydrology of the site is discussed in Section 4 of this report. Following the hierarchy of the SuDS guidance Section 6.2.5 where it is not possible to infiltrate into the ground, discharging to the closest watercourse at a restricted discharge rate is proposed. The solar site will propose to discharge into an existing watercourse.

Constructing a new outfall to the river would require consent from the LLPA.

### 6.3.2.1 Catchment Areas

The permanent works include the substation and the external access road which will provide access to the solar panels:

- **Substation**: The substation will direct flows to the site drainage system to a proposed attenuation pond before discharge to the nearest watercourse. The proposed attenuation pond will be designed with a minimum of 1:3 slopes, vegetated, non-permeable geo-textile lined with an inlet forebay. This will provide treatment of the runoff by allowing for settlement of silts, heavy metals and the removal of oxygen demanding material.
- External access road: Surface runoff from the external access road will flow to filter drains within infiltration trenches alongside either side of the access road. Due to the uncertainty of the infiltration capacity of the ground, infiltration trenches will provide an overflow that will direct flows to the new attenuation pond.

The temporary works consider the construction compound that will be removed and reinstated to the previous industrial estate use when construction is complete.

Construction compound includes areas of hardstanding, lay down and storage areas for construction materials and equipment, areas for vehicular parking, welfare facilities, wheel washing facilities, workshop facilities, and temporary fencing or other means of enclosure.

Construction compounds have been assumed to be 100% impermeable within their gross site areas to provide a worst-case assessment.

A temporary pond is proposed to attenuate the runoff from the compound prior to discharging into the permanent pond with a flow rate restricted to 5l/s.

The MicroDrainage Network Module has been used to provide an initial estimate of attenuation storage volumes required to limit run-off from the site to greenfield rates for the permanent phase. See drainage drawings in Appendix D for details of proposed attenuation sizing.

Preliminary attenuation volumes for the temporary drainage are quoted in the drainage drawings in Appendix D.

### 6.3.2.1 Post-Development Discharge Rates

The proposed discharge rate shall be controlled by an Hydrobrake manhole or an orifice control approximately 75mm in diameter equating to a control rate of 4-5l/s. The advisable minimum Hydrobrake control rate is 5l/sec to avoid blockages. If an orifice control is used, it would be installed in a catchpit with an overflow to reduce the risk of blockages.

Engagement with the LLFA will be required to obtain a consent to discharge to the receiving existing watercourse.

The existing QBAR calculations are in the Appendix E.

# 7 Water Quality Control

The drainage systems on site will be designed to meet the water quality design criteria and good practice pollution control measures as outlined in the CIRIA SuDS manual. The different areas of the site will be categorised by the appropriate pollution hazard level from Table 26.2 of The SuDS Manual.

When considering the site characteristics, proposed use, and site constraints, SuDS are likely to be incorporated via a combination of the following components, but will need to be investigated further during design development of both Marubeni sites, Hydrogen and Solar Site:

- The access road will be drained via filter drains. The filter drains will clean any possible pollutants from the vehicle traffic when the water passes through them.
- Pond to act as storage during high intensity rainfall events for permanent phase. Oil separator to treat runoff from the Hydrogen platform, prior to discharge to the storage/infiltration tank or pond.

A **Construction Environmental Management Plan (CEMP)** will be set out for the contractor to manage environmental risks associated with the construction phase. This shall include the following items associated with temporary site drainage:

- A Surface Water and Drainage Management Plan should be prepared which describes the approach to surface water and foul water drainage, and water supply during construction phase.
- A Flood Management Plan for the construction phase.
- Construction Method Statements for Protection of Onshore Water
- Watercourse Crossing Method Statement
- Groundwater Protection Method Statement

### 7.1.1 Water quality control during the construction phase

Surface water and groundwater are highly vulnerable to pollution and impact of construction activities.

The activities that are regulated in this section include:

- Uncontrolled sediment erosion and contaminated silty runoff.
- Refuelling facilities and handling areas.
- Polluted drainage from the site.
- Works within water.

During the planning of this drainage strategy is proposed:

- For the Solar Site establish the appropriate land take for temporary treatment works during construction. Land take is required during construction and will be restored to the original land.
- Agreeing working practices with the environmental regulator and securing discharge consents.

The mitigation measures that will be taken to avoid water pollution:

• Use prefabricated concrete products for outfalls and culverts.

- Design shallow slopes in cutting /embankments to reduce the runoff, increase the infiltration and trap sediment.
- Proposing sealed manholes will reduce the risk of water spillage.

### 7.1.2 Water quality in construction compounds

The Solar Site proposed a construction compound within the existing Industrial estate nearby. Early planning for the storage of potentially polluting materials, for supply and disposal of water, and for controlling runoff will reduce the risks of water pollution on site. The following has been considered in the proposed development:

- Locate the compound away from watercourses (including ditches) and aquifers.
- Avoid locations that are designated conservation areas.
- Identify areas with permitted access by public main road (reducing the need for haul roads).
- Identify locations that have services in place (eg hardstanding, water supply, power and connection to foul drainage system).

The construction compound will require:

- Obtain agreement for wastewater disposal with Welsh water and the owner of the industrial estate where the compound is located.
- Select suitable refuelling area(s) on hardstanding with drainage via oil interceptor.
- Provide adequate measures to control runoff from compounds and haul routes.
- Provide a suitable vehicle wash area on hardstanding and draining to foul sewer.

To minimise the pollution in the construction compounds the following mitigations have been considered:

- Attenuation ponds will be provided to reduce the discharge of runoff to the existing watercourses.
- Prevent runoff entering the site from adjacent ground, as this creates additional polluted waste.

Compounds could implement water conservation measures:

- Vehicle washing should only be used in a bunded area where the runoff can be contained and channelled to a treatment area, such as a settlement pond, prior to discharge. Runoff from washes and vehicle wash bays must not be allowed to enter surface water or foul water drainage systems without permission.
- Storage areas should sit away from sensitive receptors, at least 10m from a watercourse or a drain.

### 7.1.3 Discharging water into a river

To avoid existing water to be contaminated by suspended sediment, the exist velocity at the outfall should be reduced using baffles, blocks in the outfall apron or an energy-dissipater. Same consideration should be taken when over pumping water along a watercourse.

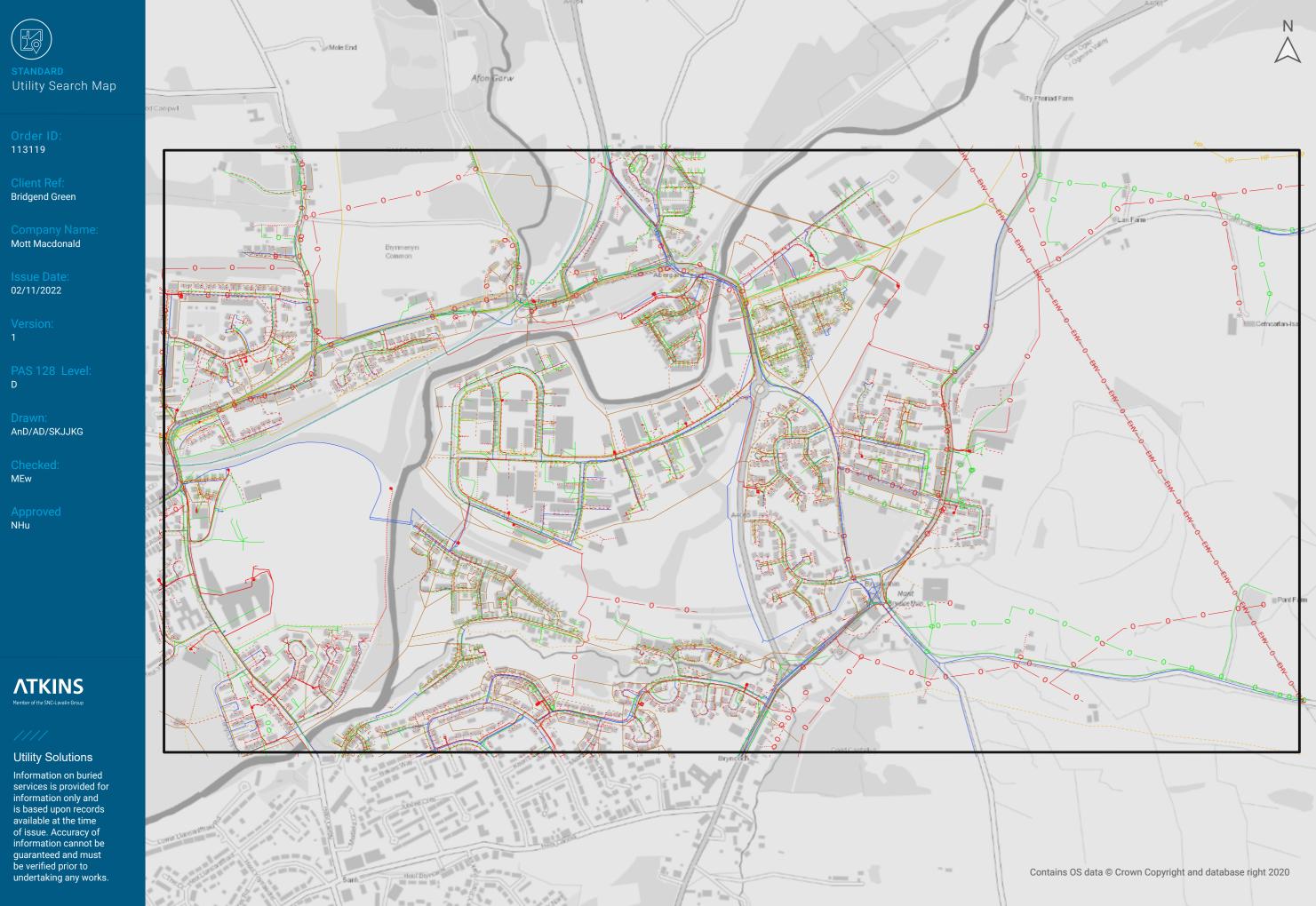
Scour protection should be provided for permanent and temporary outfalls.

Outfalls should be angled at 45° to the water flow; small pipes (less than 300 mm diameter) can be at a maximum of 90° to the flow.

Penstock valves will be installed to close or isolate the outfall in the event of a pollution incident.

# Appendices

# **A.Existing Utilities**



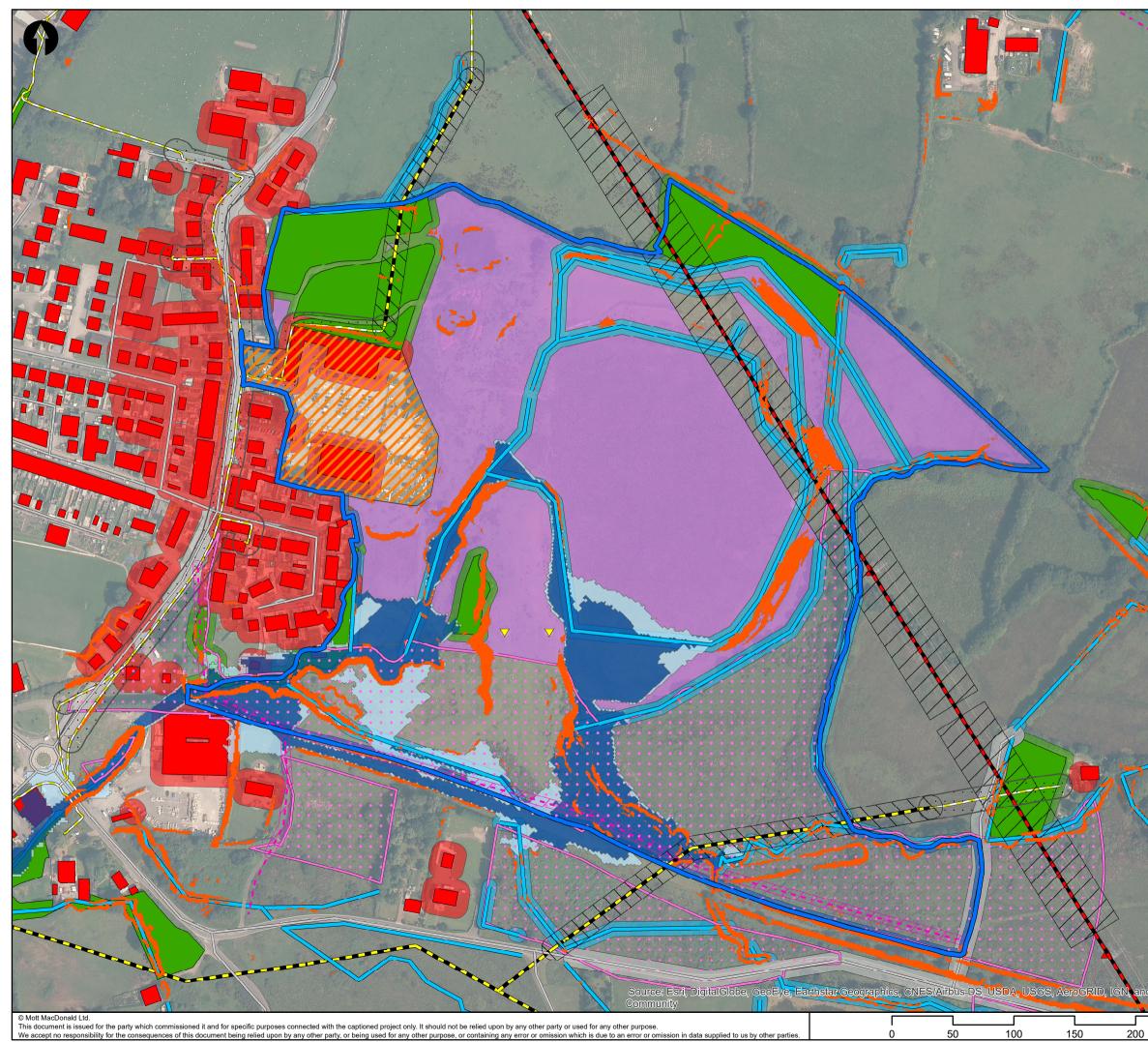
### Legend

	Site Boundary
Electric	
	Scottish and Southern Electricity, Service
	Scottish and Southern Electricity, Low Voltage
	National Grid Electricity Transmission, Extra High
	Voltage, Overhead
	National Grid Electricity Distribution, Service
0	National Grid Electricity Distribution, Service, Overhead
	National Grid Electricity Distribution, Pilot
0	National Grid Electricity Distribution, Pilot, Overhead
	National Grid Electricity Distribution, Low Voltage
0	National Grid Electricity Distribution, Low Voltage, Overhead
	National Grid Electricity Distribution, High Voltage, 11kV
	National Grid Electricity Distribution, High Voltage, 11kV,
0	Overhead
	National Grid Electricity Distribution, Earth
	ESP Utilities Group, Service
	ESP Utilities Group, Low Voltage
	ESP Utilities Group, Earth
//////	Scottish and Southern Electricity, Substation
[[]]]	National Grid Electricity Distribution, Substation
Gas	
	Wales and West Utilities, Medium Pressure
	Wales and West Utilities, Low Pressure
	Wales and West Utilities, Intermediate Pressure
HP	Wales and West Utilities, High Pressure
	SSE Utility Solutions Limited, Low Pressure
	GTC, Service
	GTC, Low Pressure
	ESP Utilities Group, Low Pressure
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Rail	Lor ounies croup, Low reasone
Rail	Network Rail, DC Asset Line
Rail	
Rail	Network Rail, DC Asset Line Network Rail, DB Asset Line
Rail  Sewerage	Network Rail, DC Asset Line Network Rail, DB Asset Line
Rail Sewerage	Network Rail, DC Asset Line Network Rail, DB Asset Line
Rail Sewerage	Network Rail, DC Asset Line Network Rail, DB Asset Line Dwr Cymru Welsh Water, Surface Water Lateral Drain
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Rail Sewerage	Network Rail, DC Asset Line Network Rail, DB Asset Line Dwr Cymru Welsh Water, Surface Water Lateral Drain Dwr Cymru Welsh Water, Surface Sewer Dwr Cymru Welsh Water, Surface Sewer Private Dwr Cymru Welsh Water, Private Surface Water Sewer Transfer Dwr Cymru Welsh Water, Private Foul Sewer Transfer Dwr Cymru Welsh Water, Private Combined Sewer Transfer Dwr Cymru Welsh Water, Not Specified (S) Dwr Cymru Welsh Water, Foul Sewer Dwr Cymru Welsh Water, Foul Sewer Dwr Cymru Welsh Water, Foul Sewer Dwr Cymru Welsh Water, Foul Sewer Drivate Dwr Cymru Welsh Water, Foul Sewer Outfall Dwr Cymru Welsh Water, Foul Sewer Lateral Drain
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Rail           Sewerage	Network Rail, DC Asset Line Network Rail, DB Asset Line Dwr Cymru Welsh Water, Surface Water Lateral Drain Dwr Cymru Welsh Water, Surface Sewer Dwr Cymru Welsh Water, Surface Sewer Private Dwr Cymru Welsh Water, Private Surface Water Sewer Transfer Dwr Cymru Welsh Water, Private Foul Sewer Transfer Dwr Cymru Welsh Water, Private Combined Sewer Transfer Dwr Cymru Welsh Water, Private Combined Sewer Transfer Dwr Cymru Welsh Water, Not Specified (S) Dwr Cymru Welsh Water, Foul Sewer Divate Dwr Cymru Welsh Water, Foul Sewer Dwr Cymru Welsh Water, Foul Sewer Dutfall Dwr Cymru Welsh Water, Combined Sewer Dwr Cymru Welsh Water, Combined Sewer Dwr Cymru Welsh Water, Combined Sewer Private Dwr Cymru Welsh Water, Combined Sewer Dutfall Dwr Cymru Welsh Water,
Rail	Network Rail, DC Asset Line Network Rail, DB Asset Line Dwr Cymru Welsh Water, Surface Water Lateral Drain Dwr Cymru Welsh Water, Surface Sewer Dwr Cymru Welsh Water, Surface Sewer Private Dwr Cymru Welsh Water, Private Surface Water Sewer Transfer Dwr Cymru Welsh Water, Private Foul Sewer Transfer Dwr Cymru Welsh Water, Private Combined Sewer Transfer Dwr Cymru Welsh Water, Private Combined Sewer Transfer Dwr Cymru Welsh Water, Not Specified (S) Dwr Cymru Welsh Water, Foul Sewer Divate Dwr Cymru Welsh Water, Foul Sewer Dwr Cymru Welsh Water, Foul Sewer Dutfall Dwr Cymru Welsh Water, Combined Sewer Dwr Cymru Welsh Water, Combined Sewer Dwr Cymru Welsh Water, Combined Sewer Private Dwr Cymru Welsh Water, Combined Sewer Dutfall Dwr Cymru Welsh Water,

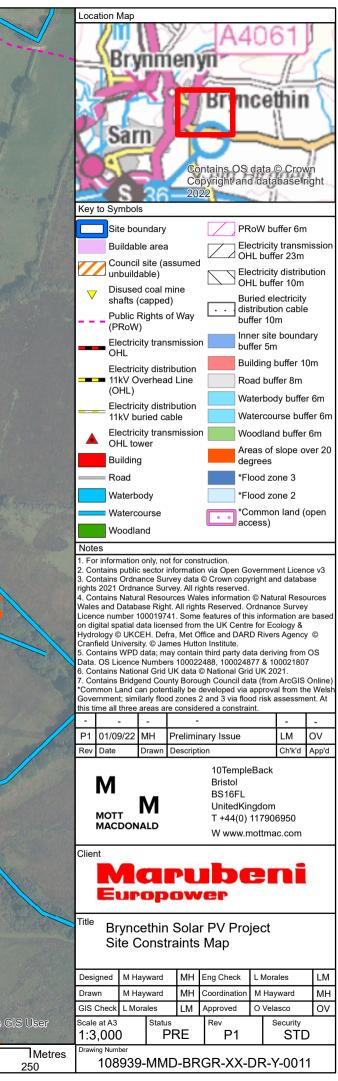
Dwr Cymru Welsh Water, Not Specified (W)

### Centre Coordinates: 291102E 184507N Scale: 1:7,250

# B.Bryncethin Solar PV - Site Constraints Map

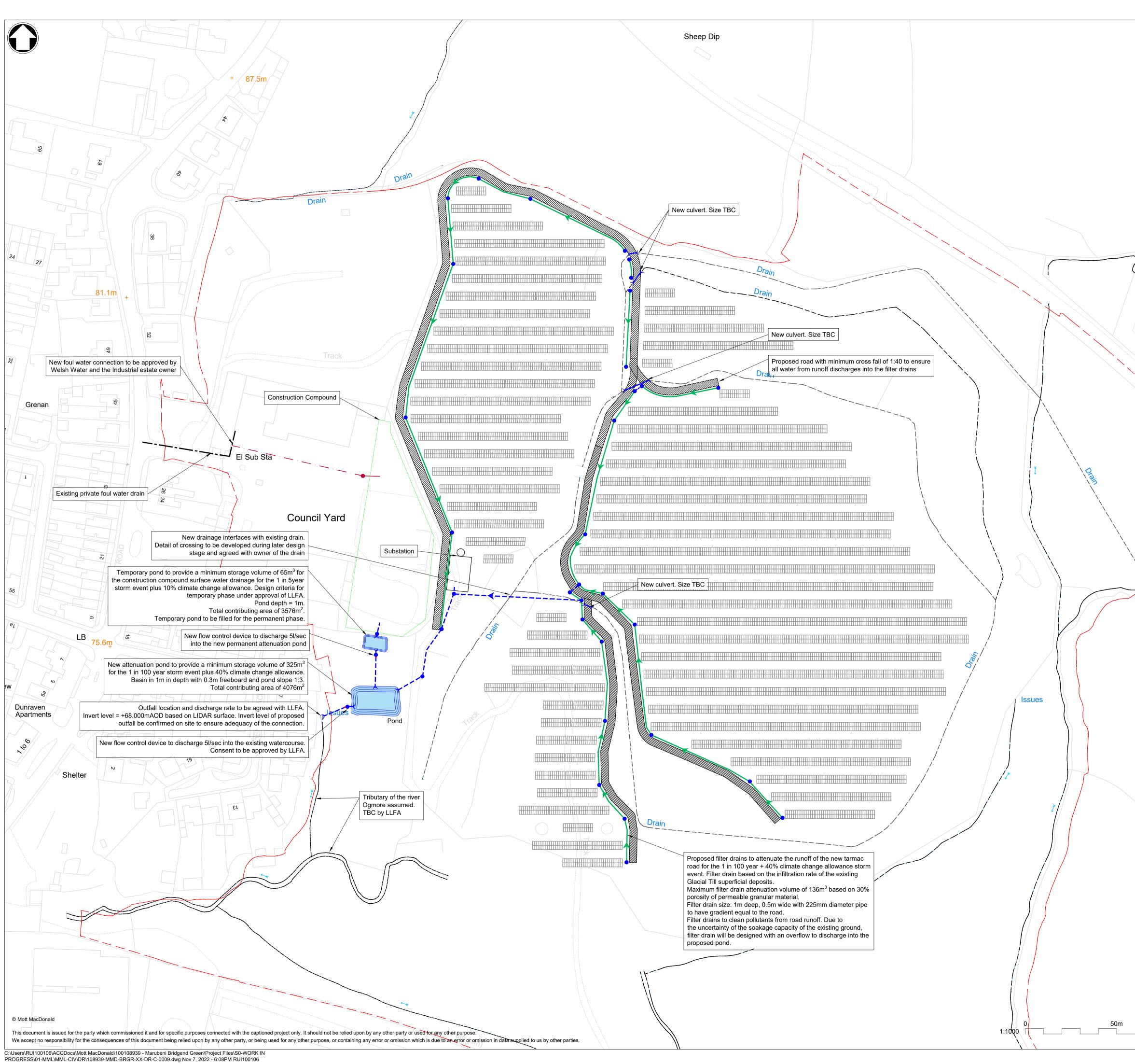


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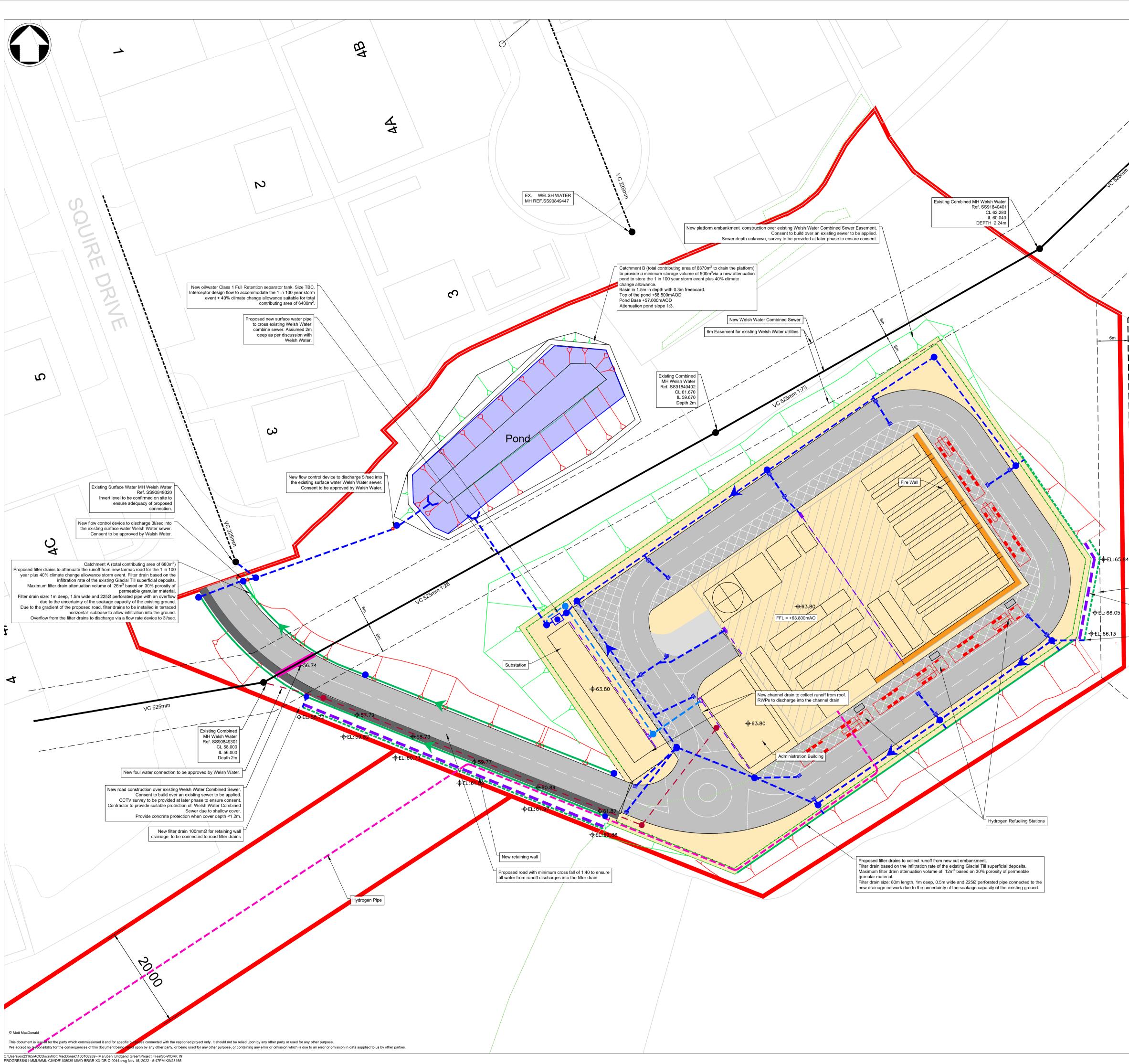


Metres 250

# **C.Proposed Drainage Layouts**



	Note								
	1.	Do not	t scale fror	n this dra	wina.				
	2.		nensions a		•	illimetres u	nless other	wise	
	3.	This d	rawing is t			njunction w	/ith all relev	/ant	
	4.		nents and o authorised	•		rage or co	oying.		
	5.	All spa		nates rel		the Ordnar		, British	
	6.	All lev	els are in r	,	nd rela	te to AOD	(Ordnance	Survey	,
	7.	Newly Existin	,	urses ba	sed or	n LIDAR da	ta and OSI	Map. © (	crown
			ght and da 031673).	tabase ri	ghts 2	022 ordnai	nce survey		
	8.	All suc	ds (drainag	-		uding atten			
Track			s etc.) are JDS Manu		nstruct	ed in accor	dance with		753,
	9.		•			e no signifio ystem has			noff
		mainta	ain reduced	d dischar	ge rate	es via flow	control. ref	er to the	
	10.					)8939-MME th a cambe			
	11.		harge into			<sup>-</sup> drain. the Highwa	avs Constru	uction D	etails
		(HDC)	MCHW V	olume 3	Sectio	n 1, Series drains to f	F Drainag	e.	
	12.	Constr	ruction Def	ails (HD	C) MC	HW Volum			
	13.	•	of Paveme o be encas			when minii	mum cover	< 1200	mm
		under		ads as pe		e Z HCD Ti			
	14.	All filte	er drains to	be Type		D Filter Dr			
		with th	e surface	level refe		d for details ype 1A(flex			irain
	15		ng B1 serie actor requi		sure te	emporary d	rainade arr	andeme	ents
		(includ	ling tempo	rary exca	avatior	ns required g drainage	for drainag	ge, temp	orary
		protec	tion of exis			and utilitie			
	17	the wo							
	Key	to symbo		SURFACE				250	
	-			ORATED		R FILTER D		2010	
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			NEW	SURFACE	WATE	R/FOUL WA	TER MANHO	DLE	
	_		NEW	FOUL WA	TER PI	PE			
			SITE	BOUNDAF	RY				
				RMEABLE	AREA				
			EXIS	FING WAT	ER CO	URSES			
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	_	• • •	- EXIS	ING FOU		ER PRIVATE	DRAIN		
~		rence dr	-	0014 0					
			awings RGR-XX-DR-C-	0014 Genera	l PV Layo	put			
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			RGR-XX-DR-C-	0014 Genera		put		ARD	SA
	10893 10893 P01 Rev	9-MMD-BF 07/11/20 Date	022 OJ Drawn	First Issu	le	put		ARD Ch'k'd	SA App'd
	10893 10893 P01 Rev	9-MMD-BF	AGR-XX-DR-C-	First Issu Descrip	le		JCTIO	Ch'k'd	
	P01 Rev Statu	9-MMD-BF 07/11/20 Date us Stamp	AGR-XX-DR-C-	First Issu Descrip	le	out NSTRU Victory Hou		Ch'k'd	
	10893 10893 P01 Rev	9-MMD-BF 07/11/20 Date us Stamp	AGR-XX-DR-C-	First Issu Descrip	le	<b>NSTRU</b> Victory Hou Trafalgar P	ise lace	Ch'k'd	
	P01 Rev Statu	9-MMD-BF 07/11/20 Date us Stamp	AGR-XX-DR-C-	First Issu Descrip	le	NSTRU Victory Hou	ise lace N1 4FY	Ch'k'd	
	P01 Rev Statu	9-MMD-BF 07/11/20 Date us Stamp	NOT	First Issu Descrip	le	<b>NSTRU</b> Victory Hou Trafalgar P Brighton, B United King	ise lace N1 4FY	Ch'k'd	
	P01 Rev Statu	9-MMD-BF 07/11/20 Date us Stamp	NOT	First Issu Descrip	le	Victory Hou Trafalgar P Brighton, B United King T +44 (0) F +44 (0)	use lace N1 4FY gdom 1273 365000 20 8681 5706	Ch'k'd	
	P01 Rev Statu	9-MMD-BF	NOT	First Issu Descrip	le	Victory Hou Trafalgar P Brighton, B United King T +44 (0)	use lace N1 4FY gdom 1273 365000 20 8681 5706	Ch'k'd	
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	P01 Rev Statu	9-MMD-BF	AGR-XX-DR-C-	FIRST ISSU	ie tion	Victory Hou Trafalgar P Brighton, B United King T +44 (0)' F +44 (0)' W www.me	use lace N1 4FY gdom 1273 365000 20 8681 5706 ottmac.com	Ch'k'd	
	P01 Rev Statu	9-MMD-BF	AGR-XX-DR-C-	First Issu Descrip FOR	ie tion COI	Victory Hou Trafalgar P Brighton, B United King T +44 (0)' F +44 (0)' W www.me	use lace N1 4FY gdom 1273 365000 20 8681 5706 ottmac.com	Ch'k'd	
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	P01 Rev Statu MC MA	9-MMD-BF 07/11/20 Date us Stamp OTT ACDOI of Stamp 05 Gr Londo EC2V +44 (0 WWW.)	AGR-XX-DR-C-	First Issu Descrip FOR FOR	ie tion COI	Victory Hou Trafalgar P Brighton, B United King T +44 (0)' F +44 (0)' W www.ma	Ise lace N1 4FY gdom 1273 365000 20 8681 5706 ottmac.com	Ch'k'd	
	P01 Rev Statu MC MA	9-MMD-BF 07/11/20 Date us Stamp OTT ACDOI of Stamp 05 Gr Londo EC2V +44 (0 WWW.)	AGR-XX-DR-C-	First Issu Descrip FOR FOR	ie tion COI	Victory Hou Trafalgar P Brighton, B United King T +44 (0)' F +44 (0)' W www.ma	Ise lace N1 4FY gdom 1273 365000 20 8681 5706 ottmac.com	Ch'k'd	
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	P01 Rev Statu Clier	9-MMD-BF	A.Ruiz-Diaz	First Issu Descrip FOR	om Gen nage	Victory Hou Trafalgar P Brighton, B United King T +44 (0)' F +44 (0) W www.ma d Gree E Layo	Ise lace N1 4FY gdom 1273 365000 20 8681 5706 ottmac.com	Ch'k'd	App'd
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	Notes           1. Do not scale from this drawing.           2. All dimensions are in metres/millimetres unless otherwise stated.           3. This drawing is to be read in conjunction with all relevant documents and drawings.           4. No unauthorised disclosure, storage or copying.           5. All spatial coordinates relate to ADD (Ordnance Survey, Newlyn).           7. Existing watercourses based on LIDAR data and OSMap. @ crown copyright and database rights 2022 ordnance survey (010031673).           8. All suds (drainage systems including attenuation basins, ponds, swales etc.) are to be constructed in accordance with CIRIA753, the SUDS Manual 2015.           9. It is anticipated that there will be no significant increase in runoff rate through the outfall as the system has been designed to maintain reduced discharge trates via flow control. refer to the drainage strategy for details (10939-MMD-BRGR-XX-TN-C-0045).           10. Access roads to be provided with a camber/crossfall to allow runoff to discharge into proposed filter drains to follow the Highways Construction Details (HOC) MCHW Volume 3 Section 1, Series B Edge of Pavement Details.           11. All proposed dacess road and filter drains to follow the Highways Construction Details (HOC) MCHW Volume 3 Section 1, Series B Edge of Pavement Details.           12. Proposed access road as a per Type 2 HCD Trench and Bedding Details drawing 1 Series B Lefge of Pavement Details.           13. All filter drains to bays of MCD Filter Drains and Trench and Bedding Details drawing 1 Series D Type M HCD Filter Drains and Trench and Bedding Details drawing 1 Series D.           14. All filter drains t
New retaining wall New filter drain 100mmØ for retaining wall drainage to be connected to new MH	
	Image: Mark Note of the state of t
	Rev       Date       Drawn       Description       Ch'k'd       App'd         Status Stamp         Victory House         MANNE       Trafalgar Place         Brighton, BN1 4FY       United Kingdom         MACDONALD       T +44 (0)1273 36500         F +44 (0)20 8681 5706       W www.mottmac.com         Client         Other Construction         Street         London       Street         Street       Street         Unidot       PS Gresham Street         London       EC2V 7AB         +44 (0)20 7826 8811       www.marubeni-europower.com         Title       Marubeni Bridgend Green         Hydrogen Production Facility       Production Facility
	Drainage Layout
	Designed     A. Ruiz-Diaz     ARD     Eng check     A. Ruiz-Diaz     ARD       Drawn     O. Jeffcock     OJ     Coordination     T. King     TK       Dwg check     T. King     TK     Approved     S. Anantharam     SA       MMD Project Number     Scale at A0     Security
	1089391:250STDSuitability DescriptionSuit. CodeSuitable for Review & CommentS3
0 12.5m 25m 1:250 25m	Drawing Number Revision 108939-MMD-BRGR-XX-DR-C-0044 P02

# **D.Proposed Drainage Calculations**

Mott MacDonald	Page 1
Mott MacDonald House	
8-10 Sydenham Road	108939-Marubeni
Croydon CR0 2EE	Proposed 1 in 100y+40%CC
Date 15/11/2022 09:44	
File CONCEPUTAL HYDROGENSITE MOD	Checked by ARD
Innovyze	Network 2020.1.3
STORM SEWER DESIGN	N by the Modified Rational Method
Design	n Criteria for Storm
Pipe Sizes S	TANDARD Manhole Sizes STANDARD
	FEH Rainfall Model
	riod (years) 100 fall Version 2013
Si	ite Location GB 291650 184300 SS 91650 84300
Maximum Rainf	Data Type Catchment fall (mm/hr) 50
Maximum Kaini Maximum Time of Concentra	
	age (l/s/ha) 0.000
Volumetric Ru	
7 Ad 17 / 01 +-	PIMP (%) 100
Add Flow / Climate Minimum Backdrop	-
Maximum Backdrop	
Min Design Depth for Optim	
Min Vel for Auto Design	-
Min Slope for Optimis	sation (1:X) 500
PN Length Fall Slope I.Area T	
(m) (m) (1:X) (ha) (m	nins) Flow (l/s) (mm) SECT (mm) Design
	15.00 0.0 0.600 o 300 Pipe/Conduit 👸
1.001 39.523 0.158 250.0 0.037	0.00 0.0 0.600 o 300 Pipe/Conduit 🔐
1.002 45.294 0.657 69.0 0.157	0.00 0.0 0.600 o 300 Pipe/Conduit 💣
2.000 26.927 0.108 250.0 0.104 1	15.00 0.0 0.600 o 300 Pipe/Conduit 👸
2.001 29.118 0.116 250.0 0.059	0.00 0.0 0.600 o 300 Pipe/Conduit 🔐
	0.00 0.0 0.600 o 300 Pipe/Conduit
2.003 34.734 0.271 128.0 0.083	0.00 0.0 0.600 o 300 Pipe/Conduit 💣
	0.00 0.0 0.600 o 375 Pipe/Conduit 💣 0.00 0.0 0.600 o 375 Pipe/Conduit 💣
Net	work Results Table
PN Rain T.C. US/IL E I.	-
	.Area Σ Base Foul Add Flow Vel Cap Flow ha) Flow (l/s) (l/s) (l/s) (m/s) (l/s) (l/s)
(mm/hr) (mins) (m) (h	-
(mm/hr) (mins) (m) (h 1.000 50.00 15.45 62.611 ( 1.001 50.00 16.11 62.504 (	ha)         Flow (1/s)         (1/s)         (1/s)         (m/s)         (1/s)         (1/s)           0.066         0.0         0.0         0.0         0.99         70.0         8.9           0.103         0.0         0.0         0.0         0.99         70.0         13.9
(mm/hr) (mins) (m) (h 1.000 50.00 15.45 62.611 ( 1.001 50.00 16.11 62.504 (	ha) Flow (1/s) (1/s) (1/s) (m/s) (1/s) (1/s) 0.066 0.0 0.0 0.0 0.99 70.0 8.9
(mm/hr) (mins) (m) (h 1.000 50.00 15.45 62.611 ( 1.001 50.00 16.11 62.504 ( 1.002 50.00 16.51 62.346 (	ha)Flow (1/s)(1/s)(1/s)(m/s)(1/s)(1/s)0.0660.00.00.00.9970.08.90.1030.00.00.00.9970.013.90.2600.00.00.01.90134.035.3
(mm/hr) (mins) (m) (h 1.000 50.00 15.45 62.611 ( 1.001 50.00 16.11 62.504 ( 1.002 50.00 16.51 62.346 ( 2.000 50.00 15.45 62.305 (	ha)         Flow (1/s)         (1/s)         (1/s)         (m/s)         (1/s)         (1/s)           0.066         0.0         0.0         0.0         0.99         70.0         8.9           0.103         0.0         0.0         0.0         9.9         70.0         13.9           0.260         0.0         0.0         0.0         1.90         134.0         35.3           0.104         0.0         0.0         0.0         0.99         70.0         14.1
(mm/hr) (mins) (m) (h 1.000 50.00 15.45 62.611 ( 1.001 50.00 16.11 62.504 ( 1.002 50.00 16.51 62.346 ( 2.000 50.00 15.45 62.305 ( 2.001 50.00 15.94 62.197 (	ha)         Flow (1/s)         (1/s)         (1/s)         (m/s)         (1/s)         (1/s)           0.066         0.0         0.0         0.0         0.99         70.0         8.9           0.103         0.0         0.0         0.0         9.99         70.0         13.9           0.260         0.0         0.0         0.0         1.90         134.0         35.3           0.104         0.0         0.0         0.0         0.99         70.0         14.1           0.163         0.0         0.0         0.0         9.99         70.0         22.1
(mm/hr)         (mins)         (m)         (h           1.000         50.00         15.45         62.611         0           1.001         50.00         16.11         62.504         0           1.002         50.00         16.51         62.346         0           2.000         50.00         15.45         62.305         0           2.001         50.00         15.94         62.197         0           2.002         50.00         16.45         62.081         0	ha)         Flow (1/s)         (1/s)         (1/s)         (m/s)         (1/s)         (1/s)           0.066         0.0         0.0         0.0         0.99         70.0         8.9           0.103         0.0         0.0         0.0         9.9         70.0         13.9           0.260         0.0         0.0         0.0         1.90         134.0         35.3           0.104         0.0         0.0         0.0         0.99         70.0         14.1
(mm/hr)(mins)(m)(h1.00050.0015.4562.61101.00150.0016.1162.50401.00250.0016.5162.34602.00050.0015.4562.30502.00150.0015.9462.19702.00250.0016.4562.08102.00350.0016.8761.9610	ha)         Flow (1/s)         (1/s)         (1/s)         (m/s)         (1/s)         (1/s)           0.066         0.0         0.0         0.0         0.99         70.0         8.9           0.103         0.0         0.0         0.099         70.0         13.9           0.260         0.0         0.0         0.099         70.0         14.1           0.163         0.0         0.0         0.99         70.0         22.1           0.277         0.0         0.0         0.99         70.0         37.5

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Mott MacDonald House		
8-10 Sydenham Road	108939-Marubeni	
Croydon CR0 2EE	Proposed 1 in 100y+40%CC	Micro
Date 15/11/2022 09:44	Designed by A.J	Drainage
File CONCEPUTAL HYDROGENSITE MOD	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	

#### Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s	k s) (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.005	25.197	3.600	7.0	0.000	0.00	0.	0 0.600	0	375	Pipe/Conduit	ீ
1.006	9.242	0.005	1848.4	0.000	0.00	0.	0.600	0	525	Pipe/Conduit	ď
1.007	7.941	0.020	397.1	0.000	0.00	0.	0.600	0	525	Pipe/Conduit	Ū,
1.008	25.539	2.413	10.6	0.000	0.00	0.	.0 0.600	0	525	Pipe/Conduit	ð
3.000	52.470	3.498	15.0	0.024	15.00	0.	.0 1.500	0	225	Pipe/Conduit	6
3.001	30.964	2.064	15.0	0.010	0.00	0.	.0 1.500	0	225	Pipe/Conduit	ð
4.000	58.244	3.236	18.0	0.018	15.00	0.	.0 1.500	0	225	Pipe/Conduit	æ
4.001	33.920	1.696	20.0	0.010	0.00	0.	0 1.500	0	225	Pipe/Conduit	ē
4.002	9.313	0.228	40.8	0.001	0.00	0.	0.600	0	225	Pipe/Conduit	Ū
3.002	6.971	0.069	101.1	0.000	0.00	0.	.0 0.600	0	225	Pipe/Conduit	6
1.009	6.048	0.133	45.6	0.000	0.00	0.	0.600	0	525	Pipe/Conduit	ď

#### Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (1/s)	Flow (l/s)
1.005 1.006	50.00 50.00		61.595 57.005	0.620 0.620	0.0	0.0	0.0	6.88 0.51	760.4 110.8	83.9 83.9
1.007 1.008	50.00 50.00	17.49 17.55	57.000 56.980	0.620 0.620	0.0	0.0	0.0	1.12 6.91	242.0 1496.4	83.9 83.9
3.000 3.001	50.00 50.00	15.29 15.47	60.547 57.000	0.024 0.034	0.0	0.0	0.0	2.97 2.97	118.2 118.2	3.2 4.6
4.000 4.001 4.002	50.00 50.00 50.00	15.58	<mark>60.096</mark> 56.860 55.164	0.018 0.028 0.029	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	2.71 2.57 2.06	107.9 102.3 81.7	2.4 3.8 3.9
3.002	50.00	15.74	54.936	0.063	0.0	0.0	0.0	1.30	51.7	8.5
1.009	50.00	17.58	54.567	0.682	0.0	0.0	0.0	3.32	719.3	92.4

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Mott MacDonald House		
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Croydon CRO 2EE	Proposed 1 in 100y+40%CC	Micro
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File CONCEPUTAL HYDROGENSITE MOD	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	

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)
SWMH01	63.736	1.125	Open Manhole	1200	1.000	62.611	300				
SWMH02	63.773	1.269	Open Manhole	1200	1.001	62.504	300	1.000	62.504	300	
SWMH03	63.718	1.371	Open Manhole	1200	1.002	62.346	300	1.001	62.346	300	
SWMH04	63.730	1.425	Open Manhole	1200	2.000	62.305	300				
SWMH05	63.762	1.565	Open Manhole	1200	2.001	62.197	300	2.000	62.197	300	
SWMH06	63.628	1.548	Open Manhole	1200	2.002	62.081	300	2.001	62.081	300	
SWMH07	63.593	1.632	Open Manhole	1200	2.003	61.961	300	2.002	61.961	300	
SWMH08	63.800	2.185	Open Manhole	1350	1.003	61.615	375	1.002	61.690	300	
								2.003	61.690	300	
SWMH09	63.800	2.192	Open Manhole	1350	1.004	61.608	375	1.003	61.608	375	
SWMH10	63.800	2.205	Open Manhole	1350	1.005	61.595	375	1.004	61.595	375	
SWMH11	58.500	1.495	Open Manhole	. 1	1.006	57.005	525	1.005	57.995	375	840
SWMH12	58.500	1.500	Open Manhole	. 1	1.007	57.000	525	1.006	57.000	525	
SWMH13	58.500	1.520	Open Manhole	1500	1.008	56.980	525	1.007	56.980	525	
SWMH14	61.972	1.425	Open Manhole	1200	3.000	60.547	225				
SWMH15	57.662	0.662	Open Manhole	1200	3.001	57.000	225	3.000	57.049	225	49
SWMH17	61.521	1.425	Open Manhole	1200	4.000	60.096	225				
SWMH18	57.302	0.442	Open Manhole	1200	4.001	56.860	225	4.000	56.860	225	
SWMH19	55.800	0.636	Open Manhole	1200	4.002	55.164	225	4.001	55.164	225	
SWMH20	55.500	0.564	Open Manhole	1200	3.002	54.936	225	3.001	54.936	225	
								4.002	54.936	225	
SWMH21	55.500	0.933	Open Manhole	1500	1.009	54.567	525	1.008	54.567	525	
								3.002	54.867	225	
	55.500	1.066	Open Manhole	0		OUTFALL		1.009	54.434	525	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SWMH01	291071.066	184402.317	291071.066	184402.317	Required	6
SWMH02	291055.036	184423.604	291055.036	184423.604	Required	_
SWMH03	291022.270	184401.503	291022.270	184401.503	Required	Jan .
SWMH04	291078.124	184368.041	291078.124	184368.041	Required	
SWMH05	291056.165	184352.456	291056.165	184352.456	Required	-

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Mott MacDonald House		
8-10 Sydenham Road	108939-Marubeni	
Croydon CR0 2EE	Proposed 1 in 100y+40%CC	Micro
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File CONCEPUTAL HYDROGENSITE MOD	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SWMH06	291032.288	184335.791	291032.288	184335.791	Required	
SWMH07	291004.556	184347.108	291004.556	184347.108	Required	<b>b</b>
SWMH08	290984.977	184375.798	290984.977	184375.798	Required	1
SWMH09	290982.964	184373.488	290982.964	184373.488	Required	
SWMH10	290979.002	184371.076	290979.002	184371.076	Required	1-
SWMH11	290964.955	184391.994	290964.955	184391.994	Required	
SWMH12	290956.203	184394.964	290956.203	184394.964	Required	
SWMH13	290949.614	184390.531	290949.614	184390.531	Required	
SWMH14	290992.249	184341.990	290992.249	184341.990	Required	-
SWMH15	290943.471	184361.324	290943.471	184361.324	Required	·
SWMH17	290990.506	184333.601	290990.506	184333.601	Required	-
SWMH18	290936.400	184355.165	290936.400	184355.165	Required	·
SWMH19	290910.774	184376.514	290910.774	184376.514	Required	~
SWMH20	290919.534	184379.675	290919.534	184379.675	Required	2
SWMH21	290924.888	184384.140	290924.888	184384.140	Required	>
	290920.817	184388.613			No Entry	

Mott MacDonald		Page 5
Mott MacDonald House		
8-10 Sydenham Road	108939-Marubeni	
Croydon CR0 2EE	Proposed 1 in 100y+40%CC	Micro
Date 15/11/2022 09:44	Designed by A.J	Drainage
File CONCEPUTAL HYDROGENSITE MOD	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	

#### Area Summary for Storm

NumberTypeName(*)Ares(ha)Ares(ha)1.000ClassificationPaved1000.0140.0440.044ClassificationLandscape Earthwork210.0310.0060.0100.010ClassificationPaved1000.0270.0270.0371.002ClassificationPaved1000.0360.0360.036ClassificationPaved1000.0570.0570.102ClassificationPaved1000.0570.0570.102ClassificationPaved1000.0360.0360.036ClassificationPaved1000.0570.0570.102ClassificationPaved1000.0570.0570.102ClassificationPaved1000.0420.0420.042ClassificationPaved1000.0570.0570.103ClassificationPaved1000.0420.0420.042ClassificationPaved1000.0420.0420.042ClassificationLandscape Earthwork210.0100.0350.035ClassificationLandscape Earthwork210.0110.0310.037ClassificationPaved1000.0420.0420.042ClassificationPaved1000.0310.0310.035ClassificationPaved1000.0410.0410.041ClassificationPaved<	Pipe	PIMP	PIMP	PIMP	Gross	Imp.	Pipe Total
Classification         Paved         100         0.015         0.015         0.059           Classification         Landscape Earthwork         21         0.031         0.006         0.066           Classification         Paved         100         0.027         0.027         0.037           1.002         Classification         Paved         100         0.009         0.009         0.045           Classification         Paved         100         0.057         0.057         0.102           Classification         Paved         100         0.055         0.157           2.000         Classification         Paved         100         0.056         0.057           Classification         Paved         100         0.057         0.100           Classification         Paved         100         0.057         0.057         0.100           Classification         Paved         100         0.052         0.042         0.042           Classification         Paved         100         0.012         0.012         0.012           Classification         Paved         100         0.035         0.035         0.035           Classification         Paved         100	Number	Туре	Name	(%)	Area (ha)	Area (ha)	(ha)
Classification         Paved         100         0.015         0.015         0.059           Classification         Landscape Earthwork         21         0.031         0.006         0.066           Classification         Paved         100         0.027         0.027         0.037           1.002         Classification         Paved         100         0.009         0.009         0.045           Classification         Paved         100         0.057         0.057         0.102           Classification         Paved         100         0.055         0.157           2.000         Classification         Paved         100         0.056         0.057           Classification         Paved         100         0.057         0.100           Classification         Paved         100         0.057         0.057         0.100           Classification         Paved         100         0.052         0.042         0.042           Classification         Paved         100         0.012         0.012         0.012           Classification         Paved         100         0.035         0.035         0.035           Classification         Paved         100							
Classification         Landscape         Earthwork         21         0.031         0.006         0.066           1.001         Classification         Paved         100         0.010         0.010         0.010           Classification         Paved         100         0.027         0.027         0.037           1.002         Classification         Paved         100         0.036         0.036         0.036           Classification         Paved         100         0.055         0.055         0.157           2.000         Classification         Paved         100         0.036         0.036         0.036           Classification         Paved         100         0.057         0.057         0.102           Classification         Paved         100         0.042         0.042         0.042           Classification         Paved         100         0.012         0.012         0.055           Classification         Ladscape Earthwork         21         0.015         0.003         0.035           Classification         Verge         16         0.007         0.001         0.036           Classification         Paved         100         0.031         0.031	1.000						
1.001         Classification         Paved         100         0.010         0.010         0.010           Classification         Paved         100         0.027         0.037           1.002         Classification         Paved         100         0.036         0.036           Classification         Paved         100         0.057         0.102           Classification         Paved         100         0.055         0.057         0.102           Classification         Paved         100         0.057         0.057         0.102           Classification         Paved         100         0.057         0.057         0.100           Classification         Paved         100         0.057         0.057         0.100           Classification         Paved         100         0.042         0.044         0.044           Classification         Paved         100         0.012         0.012         0.012           Classification         Ladscape Earthwork         21         0.010         0.035         0.035           Classification         Verge         16         0.007         0.001         0.031           Classification         Paved         100							
Classification         Paved         100         0.027         0.027         0.037           1.002         Classification         Paved         100         0.036         0.036         0.037           Classification         Paved         100         0.057         0.057         0.102           Classification         Paved         100         0.057         0.057         0.102           Classification         Paved         100         0.036         0.036         0.036           Classification         Paved         100         0.057         0.057         0.102           Classification         Paved         100         0.042         0.042         0.042           Classification         Paved         100         0.012         0.012         0.042           Classification         Landscape Earthwork         21         0.015         0.003         0.059           2.002         Classification         Paved         100         0.035         0.035         0.035           Classification         Paved         100         0.036         0.037         0.037         0.037           Classification         Paved         100         0.037         0.037         0.037			-				
1.002         Classification         Paved         100         0.036         0.036         0.036           Classification         Paved         100         0.009         0.009         0.045           Classification         Paved         100         0.055         0.055         0.157           2.000         Classification         Paved         100         0.036         0.036         0.036           Classification         Paved         100         0.037         0.057         0.100           Classification         Paved         100         0.036         0.044           Classification         Paved         100         0.042         0.042           Classification         Paved         100         0.012         0.012           Classification         Paved         100         0.012         0.025           Classification         Paved         100         0.035         0.035           Classification         Paved         100         0.035         0.035           Classification         Paved         100         0.044         0.044           Classification         Paved         100         0.007         0.007           Classification         <	1.001						
Classification         Paved         100         0.009         0.009         0.045           Classification         Paved         100         0.057         0.057         0.102           Classification         Paved         100         0.036         0.036         0.036           Classification         Paved         100         0.036         0.036         0.036           Classification         Paved         100         0.057         0.057         0.100           Classification         Paved         100         0.057         0.057         0.100           Classification         Paved         100         0.042         0.042         0.042           Classification         Landscape Earthwork         21         0.015         0.003         0.059           Classification         Landscape Earthwork         21         0.015         0.035         0.035           Classification         Verge         16         0.007         0.001         0.037         0.036           Classification         Paved         100         0.007         0.001         0.037           Classification         Paved         100         0.007         0.001         0.037           Classif	1 000						
Classification         Paved         100         0.057         0.057         0.102           Classification         Paved         100         0.055         0.055         0.157           2.000         Classification         Paved         100         0.036         0.036         0.036           Classification         Paved         100         0.057         0.057         0.102           Classification         Paved         100         0.057         0.057         0.104           2.001         Classification         Paved         100         0.042         0.042         0.042           Classification         Landscape Earthwork         21         0.010         0.002         0.056           Classification         Landscape Earthwork         21         0.015         0.003         0.035           Classification         Verge         16         0.007         0.001         0.037           Classification         Paved         100         0.031         0.031         0.075           classification         Paved         100         0.000         0.000         0.000           1.003         -         -         100         0.000         0.000           1	1.002						
Classification         Paved         100         0.055         0.055         0.157           2.000         Classification         Paved         100         0.036         0.036         0.036           Classification         Paved         100         0.008         0.008         0.044           Classification         Paved         100         0.057         0.057         0.100           Classification         Paved         100         0.042         0.042         0.042           Classification         Landscape Earthwork         21         0.010         0.002         0.056           Classification         Landscape Earthwork         21         0.010         0.002         0.056           Classification         Verge         16         0.003         0.035         0.035           Classification         Verge         16         0.007         0.001         0.037           Classification         Paved         100         0.031         0.031         0.075           Classification         Paved         100         0.007         0.000         0.000           1.003         -         -         100         0.000         0.000           1.004         -<							
2.000       Classification       Paved       100       0.036       0.036       0.036         Classification       Paved       100       0.008       0.008       0.044         Classification       Paved       100       0.057       0.100         Classification       Paved       100       0.042       0.042       0.042         Classification       Paved       100       0.012       0.012       0.057         Classification       Landscape Earthwork       21       0.010       0.002       0.056         Classification       Landscape Earthwork       21       0.015       0.003       0.059         2.002       Classification       Verge       16       0.008       0.001       0.037         Classification       Verge       16       0.008       0.001       0.037         Classification       Paved       100       0.076       0.013       0.031         2.003       Classification       Paved       100       0.007       0.008         1.003       -       -       100       0.000       0.000       0.000         1.004       -       -       100       0.000       0.000       0.000      <							
Classification         Paved         100         0.008         0.008         0.044           Classification         Paved         100         0.057         0.107           Classification         Paved         100         0.042         0.042         0.042           Classification         Paved         100         0.012         0.012         0.057           Classification         Landscape Earthwork         21         0.010         0.002         0.055           Classification         Landscape Earthwork         21         0.015         0.003         0.059           2.002         Classification         Paved         100         0.035         0.035         0.035           Classification         Verge         16         0.007         0.001         0.037           Classification         Paved         100         0.044         0.044           Classification         Paved         100         0.076         0.011         0.037           Classification         Paved         100         0.007         0.000         0.000           Lossification         Paved         100         0.000         0.000         0.000           Lossification         Paved	0 000						
Classification         Paved         100         0.057         0.057         0.100           Classification         Verge         16         0.022         0.004         0.042           Classification         Paved         100         0.012         0.012         0.012           Classification         Landscape         Earthwork         21         0.010         0.002         0.056           Classification         Landscape         Earthwork         21         0.015         0.003         0.059           2.002         Classification         Verge         16         0.007         0.001         0.035           Classification         Verge         16         0.007         0.001         0.037           Classification         Paved         100         0.076         0.013         0.075           Classification         Paved         100         0.007         0.000         0.000           Classification         Paved         100         0.007         0.000         0.000           1.003         -         -         100         0.000         0.000         0.000           1.004         -         -         100         0.000         0.000         0.000	2.000						
Classification         Verge         16         0.022         0.004         0.104           2.001         Classification         Paved         100         0.042         0.042         0.042           Classification         Landscape         Paved         100         0.012         0.012         0.054           Classification         Landscape         Earthwork         21         0.015         0.003         0.059           2.002         Classification         Paved         100         0.035         0.035         0.035           Classification         Verge         16         0.007         0.001         0.037           Classification         Paved         100         0.076         0.076         0.113           2.003         Classification         Paved         100         0.044         0.044         0.044           Classification         Paved         100         0.007         0.003         1.007         0.083           1.003         -         -         100         0.000         0.000         0.000           1.004         -         -         100         0.000         0.000         0.000           1.008         -         - <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>							
2.001       Classification       Paved       100       0.042       0.042       0.042         Classification       Landscape Earthwork       21       0.010       0.002       0.056         Classification       Landscape Earthwork       21       0.015       0.003       0.059         2.002       Classification       Landscape Earthwork       21       0.015       0.003       0.035         Classification       Paved       100       0.035       0.035       0.035         Classification       Verge       16       0.007       0.001       0.036         Classification       Paved       100       0.076       0.013       0.031         Classification       Paved       100       0.031       0.031       0.075         Classification       Paved       100       0.007       0.007       0.083         1.003       -       -       100       0.000       0.000       0.000         1.004       -       -       100       0.000       0.000       0.000         1.005       -       -       100       0.000       0.000       0.000         1.006       -       -       100       0.000       0.00							
Classification         Paved         100         0.012         0.012         0.054           Classification         Landscape         Earthwork         21         0.010         0.002         0.056           Classification         Landscape         Earthwork         21         0.015         0.003         0.059           2.002         Classification         Paved         100         0.035         0.035         0.036           Classification         Verge         16         0.007         0.001         0.037           Classification         Paved         100         0.031         0.031         0.037           Classification         Paved         100         0.031         0.031         0.076           Classification         Paved         100         0.044         0.044           Classification         Paved         100         0.007         0.007         0.083           1.003         -         -         100         0.000         0.000         0.000           1.004         -         -         100         0.000         0.000         0.000           1.005         -         -         100         0.000         0.000         0.000	2 001		5				
Classification         Landscape         Earthwork         21         0.010         0.002         0.056           Classification         Landscape         Earthwork         21         0.015         0.003         0.059           2.002         Classification         Paved         100         0.035         0.035         0.035           Classification         Verge         16         0.007         0.001         0.037           Classification         Paved         100         0.076         0.076         0.113           2.003         Classification         Paved         100         0.007         0.001         0.031           classification         Paved         100         0.007         0.000         0.000           classification         Paved         100         0.007         0.003         0.000           1.003         -         -         100         0.000         0.000         0.000           1.004         -         -         100         0.000         0.000         0.000           1.005         -         -         100         0.000         0.000         0.000           1.006         -         -         100         0.000	2.001						
Classification         Landscape Earthwork         21         0.015         0.003         0.059           2.002         Classification         Paved         100         0.035         0.035         0.035           Classification         Verge         16         0.008         0.001         0.036           Classification         Verge         16         0.007         0.001         0.037           Classification         Paved         100         0.076         0.0131         0.031           2.003         Classification         Paved         100         0.007         0.007         0.083           1.003         -         -         100         0.000         0.000         0.000           1.004         -         -         100         0.000         0.000         0.000           1.005         -         -         100         0.000         0.000         0.000           1.006         -         -         100         0.000         0.000         0.000           1.008         -         -         100         0.000         0.001         0.022           Classification         Landscape Earthwork         21         0.006         0.001							
2.002       Classification       Paved       100       0.035       0.035       0.035         Classification       Verge       16       0.008       0.001       0.036         Classification       Paved       100       0.076       0.071       0.037         Classification       Paved       100       0.044       0.044       0.044         Classification       Paved       100       0.031       0.031       0.075         Classification       Paved       100       0.007       0.007       0.083         1.003       -       -       100       0.000       0.000       0.000         1.004       -       -       100       0.000       0.000       0.000         1.005       -       -       100       0.000       0.000       0.000         1.006       -       -       100       0.000       0.000       0.000         1.008       -       -       100       0.000       0.000       0.000         1.008       -       -       100       0.001       0.002       0.024         1.001       Classification       Landscape Earthwork       21       0.006       0.001       0			-				
Classification         Verge         16         0.008         0.001         0.036           Classification         Paved         100         0.076         0.001         0.037           Classification         Paved         100         0.076         0.076         0.113           2.003         Classification         Paved         100         0.044         0.044         0.044           Classification         Paved         100         0.031         0.031         0.075           Classification         Paved         100         0.007         0.007         0.083           1.003         -         -         100         0.000         0.000         0.000           1.004         -         -         100         0.000         0.000         0.000           1.005         -         -         100         0.000         0.000         0.000           1.006         -         -         100         0.000         0.000         0.000           1.008         -         -         100         0.001         0.002         0.022           Classification         Landscape Earthwork         21         0.021         0.004         0.022	2 002		-				
Classification         Verge         16         0.007         0.001         0.037           Classification         Paved         100         0.076         0.076         0.113           2.003         Classification         Paved         100         0.044         0.044         0.044           Classification         Paved         100         0.031         0.031         0.075           Classification         Paved         100         0.007         0.007         0.083           1.003         -         -         100         0.000         0.000         0.000           1.004         -         -         100         0.000         0.000         0.000           1.005         -         -         100         0.000         0.000         0.000           1.006         -         -         100         0.000         0.000         0.000           1.008         -         -         100         0.000         0.001         0.001           1.001         Classification         Landscape Earthwork         21         0.021         0.024           3.001         Classification         Landscape Earthwork         21         0.006         0.001 <td>2.002</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	2.002						
Classification         Paved         100         0.076         0.076         0.113           2.003         Classification         Paved         100         0.044         0.044         0.044           Classification         Paved         100         0.031         0.031         0.075           Classification         Paved         100         0.007         0.007         0.083           1.003         -         -         100         0.000         0.000         0.000           1.004         -         -         100         0.000         0.000         0.000           1.005         -         -         100         0.000         0.000         0.000           1.006         -         -         100         0.000         0.000         0.000           1.007         -         -         100         0.000         0.000         0.000           1.008         -         -         100         0.000         0.000         0.000           1.008         -         -         100         0.001         0.001         0.022           1.008         -         -         100         0.001         0.001         0.002      <			5				
2.003       Classification       Paved       100       0.044       0.044       0.044         Classification       Paved       100       0.031       0.031       0.075         Classification       Paved       100       0.007       0.007       0.083         1.003       -       -       100       0.000       0.000       0.000         1.004       -       -       100       0.000       0.000       0.000         1.005       -       -       100       0.000       0.000       0.000         1.006       -       -       100       0.000       0.000       0.000         1.007       -       -       100       0.000       0.000       0.000         1.008       -       -       100       0.000       0.000       0.000         3.000       Classification       Landscape Earthwork       21       0.021       0.004       0.022         Classification       Landscape Earthwork       21       0.006       0.001       0.001         Classification       Landscape Earthwork       21       0.006       0.001       0.002         Classification       Paved       100       0.018			2				
Classification         Paved         100         0.031         0.031         0.031           classification         Paved         100         0.007         0.007         0.083           1.003         -         -         100         0.000         0.000         0.000           1.004         -         -         100         0.000         0.000         0.000           1.005         -         -         100         0.000         0.000         0.000           1.006         -         -         100         0.000         0.000         0.000           1.007         -         -         100         0.000         0.000         0.000           1.008         -         -         100         0.000         0.000         0.000           3.000         Classification         Landscape Earthwork         21         0.021         0.004         0.022           classification         Landscape Earthwork         21         0.006         0.001         0.001           classification         Landscape Earthwork         21         0.006         0.001         0.002           classification         Paved         100         0.018         0.018 <td< td=""><td>2 002</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	2 002						
Classification         Paved         100         0.007         0.007         0.0083           1.003         -         -         100         0.000         0.000         0.000           1.004         -         -         100         0.000         0.000         0.000           1.005         -         -         100         0.000         0.000         0.000           1.006         -         -         100         0.000         0.000         0.000           1.007         -         -         100         0.000         0.000         0.000           1.008         -         -         100         0.000         0.000         0.000           3.000         Classification         Landscape Earthwork         21         0.021         0.004         0.022           classification         Landscape Earthwork         21         0.006         0.001         0.001           classification         Landscape Earthwork         21         0.006         0.001         0.002           classification         Landscape Earthwork         21         0.006         0.001         0.001           classification         Paved         100         0.008         0.008 <td>2.003</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	2.003						
1.003       -       -       100       0.000       0.000       0.000         1.004       -       -       100       0.000       0.000       0.000         1.005       -       -       100       0.000       0.000       0.000         1.006       -       -       100       0.000       0.000       0.000         1.007       -       -       100       0.000       0.000       0.000         1.008       -       -       100       0.000       0.000       0.000         3.000       Classification       Paved       100       0.018       0.018       0.018         Classification       Landscape Earthwork       21       0.021       0.004       0.022         Classification       Landscape Earthwork       21       0.006       0.001       0.001         Classification       Paved       100       0.008       0.000       0.002         Classification       Paved       100       0.001       0.001       0.002         Classification       Paved       100       0.008       0.008       0.010         4.001       Classification       Paved       100       0.001       0.002 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
1.004       -       -       100       0.000       0.000       0.000         1.005       -       -       100       0.000       0.000       0.000         1.006       -       -       100       0.000       0.000       0.000         1.007       -       -       100       0.000       0.000       0.000         1.008       -       -       100       0.018       0.018       0.018         0.108       -       -       100       0.021       0.004       0.022         Classification       Landscape Earthwork       21       0.021       0.004       0.022         Classification       Landscape Earthwork       21       0.006       0.001       0.001         Classification       Landscape Earthwork       21       0.006       0.001       0.002         Classification       Paved       100       0.001       0.001       0.002         Classification       Paved       100       0.018       0.018       0.018         4.001       Classification       Paved       100       0.001       0.002         Classification       Paved       100       0.001       0.001       0.002     <	1 003						
1.005       -       -       100       0.000       0.000       0.000         1.006       -       -       100       0.000       0.000       0.000         1.007       -       -       100       0.000       0.000       0.000         1.008       -       -       100       0.000       0.000       0.000         3.000       Classification       Paved       100       0.018       0.018       0.012         classification       Landscape Earthwork       21       0.021       0.004       0.022         classification       Landscape Earthwork       21       0.006       0.001       0.001         classification       Landscape Earthwork       21       0.006       0.001       0.002         classification       Paved       100       0.001       0.001       0.002         classification       Paved       100       0.018       0.018       0.018         4.001       Classification       Paved       100       0.001       0.002         classification       Paved       100       0.001       0.002       0.000         classification       Paved       100       0.001       0.001       0.0							
1.006       -       -       100       0.000       0.000       0.000         1.007       -       -       100       0.000       0.000       0.000         1.008       -       -       100       0.000       0.000       0.000         3.000       Classification       Paved       100       0.018       0.018       0.012         classification       Landscape Earthwork       21       0.021       0.004       0.022         classification       Landscape Earthwork       21       0.006       0.001       0.001         classification       Landscape Earthwork       21       0.006       0.001       0.002         classification       Paved       100       0.001       0.001       0.002         classification       Paved       100       0.018       0.018       0.018         4.000       Classification       Paved       100       0.018       0.018       0.018         4.001       Classification       Paved       100       0.001       0.002       0.000         classification       Paved       100       0.001       0.001       0.001         classification       Paved       100       0.001 </td <td></td> <td>_</td> <td></td> <td></td> <td></td> <td></td> <td></td>		_					
1.007       -       -       100       0.000       0.000       0.000         1.008       -       -       100       0.000       0.000       0.000         3.000       Classification       Paved       100       0.018       0.018       0.018         Classification       Landscape Earthwork       21       0.021       0.004       0.022         Classification       Landscape Earthwork       21       0.006       0.001       0.001         Classification       Landscape Earthwork       21       0.006       0.001       0.001         Classification       Landscape Earthwork       21       0.006       0.001       0.001         Classification       Paved       100       0.001       0.001       0.002         Classification       Paved       100       0.018       0.018       0.018         4.000       Classification       Paved       100       0.018       0.001       0.002         Classification       Paved       100       0.001       0.001       0.002       0.000         Classification       Paved       100       0.001       0.001       0.001         Classification       Paved       100 <t< td=""><td></td><td></td><td></td><td>100</td><td></td><td></td><td></td></t<>				100			
1.008       -       -       100       0.000       0.000         3.000       Classification       Paved       100       0.018       0.018       0.018         Classification       Landscape Earthwork       21       0.021       0.004       0.022         Classification       Landscape Earthwork       21       0.006       0.001       0.001         3.001       Classification       Landscape Earthwork       21       0.006       0.001       0.001         Classification       Landscape Earthwork       21       0.006       0.001       0.001         Classification       Paved       100       0.001       0.001       0.002         Classification       Paved       100       0.018       0.018       0.018         4.000       Classification       Paved       100       0.018       0.018         4.001       Classification       Verge       16       0.002       0.000       0.002         Classification       Paved       100       0.008       0.008       0.010         Classification       Paved       100       0.008       0.000       0.001         4.002       Classification       Paved       100       0.0							
3.000       Classification       Paved       100       0.018       0.018       0.018         Classification       Landscape Earthwork       21       0.021       0.004       0.022         Classification       Landscape Earthwork       21       0.008       0.002       0.024         3.001       Classification       Landscape Earthwork       21       0.006       0.001       0.001         Classification       Landscape Earthwork       21       0.006       0.001       0.001         Classification       Paved       100       0.001       0.001       0.002         Classification       Paved       100       0.001       0.001       0.001         Classification       Paved       100       0.008       0.008       0.018         4.001       Classification       Paved       100       0.018       0.018       0.018         4.001       Classification       Paved       100       0.001       0.001       0.002         Classification       Paved       100       0.001       0.001       0.002         Classification       Paved       100       0.008       0.008       0.010         4.002       Classification       Verg		-					
Classification Landscape Earthwork       21       0.021       0.004       0.022         Classification Landscape Earthwork       21       0.008       0.002       0.024         3.001 Classification Landscape Earthwork       21       0.006       0.001       0.001         Classification Landscape Earthwork       21       0.006       0.001       0.001         Classification Landscape Earthwork       21       0.008       0.001       0.001         Classification Paved       100       0.001       0.001       0.002         Classification Paved       100       0.018       0.018       0.018         4.001 Classification Paved       100       0.001       0.000       0.000         Classification Paved       100       0.001       0.001       0.002         Classification Paved       100       0.001       0.001       0.002         Classification Paved       100       0.001       0.001       0.002         Classification Paved       100       0.008       0.008       0.010         4.002 Classification Paved       100       0.004       0.001       0.001         3.002       -       -       100       0.000       0.000         1.009		Classification					
Classification       Landscape       Earthwork       21       0.008       0.002       0.024         3.001       Classification       Landscape       Earthwork       21       0.006       0.001       0.001         Classification       Paved       100       0.001       0.001       0.002         Classification       Paved       100       0.008       0.001       0.002         Classification       Paved       100       0.018       0.018       0.010         4.000       Classification       Paved       100       0.018       0.018       0.018         4.001       Classification       Verge       16       0.002       0.000       0.000         Classification       Paved       100       0.011       0.001       0.002         Classification       Paved       100       0.001       0.001       0.002         Classification       Paved       100       0.008       0.008       0.010         4.002       Classification       Verge       16       0.004       0.001       0.001         3.002       -       -       100       0.000       0.000       0.000         1.009       -       -	5.000						
3.001 Classification Landscape Earthwork       21       0.006       0.001       0.001         Classification       Paved       100       0.001       0.001       0.002         Classification       Paved       100       0.008       0.008       0.010         4.000 Classification       Paved       100       0.018       0.018       0.018         4.001 Classification       Verge       16       0.002       0.000       0.000         Classification       Paved       100       0.018       0.018       0.018         4.001 Classification       Verge       16       0.002       0.000       0.000         Classification       Paved       100       0.001       0.001       0.002         Classification       Paved       100       0.008       0.008       0.010         4.002 Classification       Verge       16       0.004       0.001       0.001         3.002       -       -       100       0.000       0.000       0.000         1.009       -       -       100       0.000       0.000       0.000         1.009       -       -       100       0.000       0.000       0.000			-				
Classification         Paved         100         0.001         0.001         0.002           Classification         Paved         100         0.008         0.008         0.001           4.000         Classification         Paved         100         0.018         0.018         0.018           4.001         Classification         Paved         100         0.018         0.018         0.018           4.001         Classification         Verge         16         0.002         0.000         0.000           Classification         Paved         100         0.001         0.001         0.002           classification         Paved         100         0.008         0.008         0.000           4.002         Classification         Paved         100         0.008         0.001         0.001           4.002         Classification         Verge         16         0.004         0.001         0.001           3.002         -         -         100         0.000         0.000         0.000           1.009         -         -         100         0.000         0.000         0.000           0.001         -         -         100         0.000	3.001		-				
Classification         Paved         100         0.008         0.008         0.010           4.000         Classification         Paved         100         0.018         0.018         0.018           4.001         Classification         Paved         100         0.018         0.018         0.018           4.001         Classification         Verge         16         0.002         0.000         0.002           Classification         Paved         100         0.001         0.001         0.002           classification         Paved         100         0.008         0.008         0.010           4.002         Classification         Verge         16         0.004         0.001         0.001           3.002         -         -         100         0.000         0.000         0.000           1.009         -         -         100         0.000         0.000         0.000	0.001		-				
4.000 Classification       Paved 100       0.018       0.018       0.018         4.001 Classification       Verge 16       0.002       0.000       0.000         Classification       Paved 100       0.001       0.001       0.002         Classification       Paved 100       0.008       0.008       0.010         4.002 Classification       Verge 16       0.004       0.001       0.001         3.002       -       -       100       0.000       0.000         1.009       -       -       100       0.000       0.000         Total       Total       Total       Total							
4.001 Classification       Verge       16       0.002       0.000       0.000         Classification       Paved       100       0.001       0.001       0.002         Classification       Paved       100       0.008       0.008       0.010         4.002 Classification       Verge       16       0.004       0.001       0.001         3.002       -       -       100       0.000       0.000       0.000         1.009       -       -       100       0.000       0.000       0.000         Total       Total       Total       Total       Total	4.000						
Classification         Paved 100         0.001         0.001         0.002           Classification         Paved 100         0.008         0.008         0.010           4.002 Classification         Verge 16         0.004         0.001         0.001           3.002         -         -         100         0.000         0.000           1.009         -         -         100         0.000         0.000           Total         Total         Total         Total							
Classification         Paved 100         0.008         0.008         0.010           4.002 Classification         Verge 16         0.004         0.001         0.001           3.002         -         -         100         0.000         0.000         0.000           1.009         -         -         100         0.000         0.000         0.000           Total         Total         Total         Total         Total         Total	1.001		-				
4.002 Classification       Verge       16       0.004       0.001       0.001         3.002       -       -       100       0.000       0.000       0.000         1.009       -       -       100       0.000       0.000       0.000         Total       Total       Total       Total							
3.002       -       -       100       0.000       0.000       0.000         1.009       -       -       100       0.000       0.000       0.000         Total       Total       Total       Total       Total	4.002						
1.009 100 0.000 0.000 0.000 Total Total Total		-	-				
Total Total Total		-	-				
	,			200			

Mott MacDonald		Page 6
Mott MacDonald House		
8-10 Sydenham Road	108939-Marubeni	
Croydon CR0 2EE	Proposed 1 in 100y+40%CC	Micro
Date 15/11/2022 09:44	Designed by A.J	Drainage
File CONCEPUTAL HYDROGENSITE MOD	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	

#### Network Classifications for Storm

PN	USMH Name	Dia	Min Cover Depth	Depth	Ріре Туре		MH Width	MH Ring Depth	МН Туре
		(mm)	(m)	(m)		(mm)	(mm)	(m)	
1.000	SWMH01	300	0.825	0.969	Unclassified	1200	0	0.825	Unclassified
1.001	SWMH02	300	0.962	1.101	Unclassified	1200	0	0.969	Unclassified
1.002	SWMH03	300	1.071	1.810	Unclassified	1200	0	1.071	Unclassified
2.000	SWMH04	300	1.125	1.265	Unclassified	1200	0	1.125	Unclassified
2.001	SWMH05	300	1.248	1.295	Unclassified	1200	0	1.265	Unclassified
2.002	SWMH06	300	0.871	1.332	Unclassified	1200	0	1.248	Unclassified
2.003	SWMH07	300	1.332	1.810	Unclassified	1200	0	1.332	Unclassified
1.003	SWMH08	375	1.810	1.817	Unclassified	1350	0	1.810	Unclassified
1.004	SWMH09	375	1.817	1.830	Unclassified	1350	0	1.817	Unclassified
1.005	SWMH10	375	0.130	1.830	Unclassified	1350	0	1.830	Unclassified
1.006	SWMH11	525	0.970	0.975	Unclassified	1	0	0.970	Unclassified
1.007	SWMH12	525	0.975	0.995	Unclassified	1	0	0.975	Unclassified
1.008	SWMH13	525	0.408	0.995	Unclassified	1500	0	0.995	Unclassified
3.000	SWMH14	225	0.388	1.200	Unclassified	1200	0	1.200	Unclassified
3.001	SWMH15	225	0.181	0.437	Unclassified	1200	0	0.437	Unclassified
4.000	SWMH17	225	0.217	1.200	Unclassified	1200	0	1.200	Unclassified
4.001	SWMH18	225	0.217	0.411	Unclassified	1200	0	0.217	Unclassified
4.002	SWMH19	225	0.045	0.411	Unclassified	1200	0	0.411	Unclassified
3.002	SWMH20	225	0.339	0.408	Unclassified	1200	0	0.339	Unclassified
1.009	SWMH21	525	0.408	0.541	Unclassified	1500	0	0.408	Unclassified

#### Free Flowing Outfall Details for Storm

Outfall	Outfall	c.	Level	I.	Level		Min	D,L	W
Pipe Number	Name		(m)		(m)	Ι.	Level (m)	(mm)	(mm)

1.009 55.500 54.434 0.000 0 0

#### 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 Coeffiecient 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 0 Number of Time/Area Diagrams 0 Number of Online Controls 2 Number of Storage Structures 5 Number of Real Time Controls 0

#### Synthetic Rainfall Details

Rainfall Model						FEH
Return Period (years)						2
FEH Rainfall Version						2013
Site Location	GB	291650	184300	SS	91650	84300
Data Type					Cato	chment
Summer Storms						Yes
Winter Storms						Yes
Cv (Summer)						0.750
Cv (Winter)						0.840
Storm Duration (mins)						30

ott MacDonald	House							
-10 Sydenham R	oad		108939-	Marubeni				-
roydon CRO 2E	E		Propose	d 1 in 100y+40%	CC		Mic	ſ
ate 15/11/2022	09:44		Designe	d by A.J				
Tile CONCEPUTAL	HYDROGENSI	ITE MOD.	Checked	by ARD			Did	inac
Innovyze			Network	2020.1.3				
		Onl	ine Control	ls for Storm				
Hydro-	Brake® Opti	lmum Manł	nole: SWMH1	2, DS/PN: 1.007	, Volume (1	m³):	2.0	
			Unit Referen	ce MD-SCL-0076-2800	-1000-2800			
			)esign Head (1		1.000			
			ign Flow (1/:		2.8			
			Flush-Flo		Calculated			
			Objectiv		-			
			Application Sump Availab		Surface Yes			
			Diameter (m		76			
		In	vert Level (1	,	57.000			
		-	Diameter (m		100			
	Suggest	ed Manhole	e Diameter (m	m )	1200			
Control	Points	Head (m)	Flow (l/s)	Control Points	s Head	(m)	Flow (1	L/s)
Design Point	(Calculated) Flush-Flo™		2.8 2.8 M	Kic Mean Flow over Head		.563 -		2.2 2.4
Brake® Optimum a	as specified.	Should a	nother type	he Head/Discharge n of control device o lculations will be	other than a		-	
Brake® Optimum a Optimum® be util	as specified. Lised then the	Should a ese storag	nother type ge routing ca	of control device of	other than a invalidated	Нусы	ro-Brake	
Brake® Optimum a Optimum® be util Depth (m) 0.100	as specified. Lised then th Flow (1/s) 2.3	Should a ese storag Depth (m) 1.200	nother type of the second seco	of control device of lculations will be Depth (m) Flow (1/s 3.000 4.	bother than a invalidated b) Depth (m) 6 7.000	Hydi Flor	ro-Brake <b>w (l/s)</b> 6.9	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200	s specified. lised then the Flow (1/s) 2.3 2.8	Should a ese storag Depth (m) 1.200 1.400	Flow (1/s) 3.0 3.3	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5.	other than a invalidated           Depth (m)           6         7.000           0         7.500	Hydi Flor	ro-Brake w (l/s) 6.9 7.1	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200 0.300	s specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.8	Should a ese storag Depth (m) 1.200 1.400 1.600	Flow (1/s) 3.0 3.3 3.5	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5.	other than a invalidated           Depth (m)           6         7.000           0         7.500           3         8.000	Hydi Flor	ro-Brake w (l/s) 6.9 7.1 7.3	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200	as specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.8 2.7	Should a ese storag Depth (m) 1.200 1.400	Flow (1/s) 3.0 3.3	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5.	other than a invalidated           Depth (m)           6         7.000           0         7.500           3         8.000           6         8.500	Hydi Flor	ro-Brake w (l/s) 6.9 7.1	2
Brake® Optimum a Optimum® be util <b>Depth (m)</b> 0.100 0.200 0.300 0.400	as specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.8 2.7 2.4 2.2	Should a ese storag Depth (m) 1.200 1.400 1.600 1.800 2.000 2.200	Flow (1/s) [ 3.0 3.3 3.5 3.7 3.8 4.0	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5. 4.500 5. 5.000 5. 5.500 6.	other than a invalidated           Depth (m)           6         7.000           0         7.500           3         8.000           6         9.000           2         9.500	Hydi Flor	ro-Brake w (1/s) 6.9 7.1 7.3 7.5	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200 0.300 0.400 0.500 0.600 0.800	As specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.8 2.7 2.4 2.2 2.5	Should a ese storag Depth (m) 1.200 1.400 1.600 1.800 2.000 2.200 2.400	Flow (1/s) [ 3.0 3.3 3.5 3.7 3.8 4.0 4.2	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5. 4.500 5. 5.000 5. 5.500 6. 6.000 6.	ther than a invalidated         b)       Depth (m)         6       7.000         0       7.500         3       8.000         6       8.500         9       9.000         2       9.500         4	Hydi Flor	ro-Brake w (1/s) 6.9 7.1 7.3 7.5 7.8	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200 0.300 0.400 0.500 0.600	as specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.8 2.7 2.4 2.2 2.5	Should a ese storag Depth (m) 1.200 1.400 1.600 1.800 2.000 2.200	Flow (1/s) [ 3.0 3.3 3.5 3.7 3.8 4.0	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5. 4.500 5. 5.000 5. 5.500 6.	ther than a invalidated         b)       Depth (m)         6       7.000         0       7.500         3       8.000         6       8.500         9       9.000         2       9.500         4	Hydi Flor	ro-Brake w (1/s) 6.9 7.1 7.3 7.5 7.8	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	As specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.8 2.7 2.4 2.2 2.5 2.8	Should a ese storag Depth (m) 1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	Flow (1/s) [ 3.0 3.3 3.5 3.7 3.8 4.0 4.2 4.3	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5. 4.500 5. 5.000 5. 5.500 6. 6.000 6.	ther than a invalidated         a)         Depth (m)         6         7.000         0         7.500         8.000         6         9.000         9.000         9.500         4	Hydı Flov	<pre>w (1/s)</pre>	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	As specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.8 2.7 2.4 2.2 2.5 2.8	Should a ese storag Depth (m) 1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	Inother type         ge routing ca         Flow (1/s)         3.0         3.3         3.5         3.7         3.8         4.0         4.2         4.3	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5. 4.500 5. 5.000 5. 5.500 6. 6.000 6. 6.500 6. 1, DS/PN: 1.009 ce MD-SHE-0103-5000	<pre>bother than a invalidated b) Depth (m) 6 7.000 0 7.500 3 8.000 6 8.500 9 9.000 2 9.500 4 7 volume (n 0-1200-5000</pre>	Hydı Flov	<pre>w (1/s)</pre>	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	As specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.8 2.7 2.4 2.2 2.5 2.8	Should a ese storag Depth (m) 1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	Inother type         ge routing ca         Flow (1/s)         3.0         3.3         3.5         3.7         3.8         4.0         4.2         4.3         hole: SWMH2         Unit Reference         Design Head (fr	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5. 4.500 5. 5.000 5. 5.500 6. 6.000 6. 6.500 6. 1, DS/PN: 1.009 ce MD-SHE-0103-5000 m)	<pre>bother than a invalidated b) Depth (m) 6 7.000 0 7.500 3 8.000 6 8.500 9 9.000 2 9.500 4 7 volume (n 0-1200-5000 1.200</pre>	Hydı Flov	<pre>w (1/s)</pre>	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	As specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.8 2.7 2.4 2.2 2.5 2.8	Should a ese storag Depth (m) 1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	Inother type         ge routing ca         Flow (1/s)         3.0         3.3         3.5         3.7         3.8         4.0         4.2         4.3	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5. 4.500 5. 5.000 5. 5.500 6. 6.000 6. 6.500 6. 1, DS/PN: 1.009 ce MD-SHE-0103-5000 m) s)	<pre>bother than a invalidated b) Depth (m) 6 7.000 0 7.500 3 8.000 6 8.500 9 9.000 2 9.500 4 7 volume (n 0-1200-5000</pre>	Hydı Flov	<pre>w (1/s)</pre>	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	As specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.8 2.7 2.4 2.2 2.5 2.8	Should a ese storag Depth (m) 1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	Flow (1/s) I 3.0 3.3 3.5 3.7 3.8 4.0 4.2 4.3 Dole: SWMH2 Unit Reference Design Head (noisign Flow (1/s))	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5. 4.500 5. 5.000 5. 5.500 6. 6.000 6. 6.500 6. 1, DS/PN: 1.009 ce MD-SHE-0103-5000 m) s) o™	other than a invalidated         o)       Depth (m)         6       7.000         0       7.500         3       8.000         6       8.500         9       9.000         2       9.500         4       7         0       7.200-5000         1.200       5.0         Calculated	Hydı Flov	<pre>w (1/s)</pre>	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	As specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.8 2.7 2.4 2.2 2.5 2.8	Should a ese storag Depth (m) 1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600 Imum Manh E Des	Flow (1/s) I 3.0 3.3 3.5 3.7 3.8 4.0 4.2 4.3 Dole: SWMH2 Unit Reference Design Head (I Sign Flow (1/: Flush-Flo Objectiv Application	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5. 4.500 5. 5.000 5. 5.500 6. 6.000 6. 6.500 6. 1, DS/PN: 1.009 ce MD-SHE-0103-5000 m) s) o™ ve Minimise upstress	other than a invalidated         a) <b>Depth (m)</b> 6         7.000         8.000         8.000         8.000         8.000         8.000         9.000         9.000         9.000         2         9.000         2         9.500         4         7         0-1200-5000         1.200         5.0         Calculated         eam storage         Surface	Hydı Flov	<pre>w (1/s)</pre>	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	As specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.8 2.7 2.4 2.2 2.5 2.8	Should a ese storag Depth (m) 1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600 Imum Manh E Des	Flow (1/s) I 3.0 3.3 3.5 3.7 3.8 4.0 4.2 4.3 hole: SWMH2 Unit Reference Design Head (no Sign Flow (1/sign Flow (1/sign Flow)) Flush-Flow Objective Application Sump Availab	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5. 4.500 5. 5.000 5. 5.500 6. 6.000 6. 6.500 6. 1, DS/PN: 1.009 ce MD-SHE-0103-5000 m) s) o™ ve Minimise upstress	other than a invalidated         a)         Depth (m)         6         7.000         8.000         8.000         8.000         8.000         8.000         9.000         9.000         2         9.000         2         9.000         2         9.500         4         7         0-1200-5000         1.200         5.0         Calculated         eam storage         Surface         Yes	Hydı Flov	<pre>w (1/s)</pre>	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	As specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.8 2.7 2.4 2.2 2.5 2.8	Should a ese storag Depth (m) 1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600 Imum Manh	Imported type of type o	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5. 4.500 5. 5.000 5. 5.500 6. 6.000 6. 6.500 6. 1, DS/PN: 1.009. ce MD-SHE-0103-5000 m) s) o™ Ve Minimise upstread	<pre>bother than a invalidated b) Depth (m) 6 7.000 0 7.500 3 8.000 6 8.500 9 9.000 2 9.500 4 7 v Volume (n 0-1200-5000 1.200 5.0 Calculated eam storage Surface Yes 103</pre>	Hydı Flov	<pre>w (1/s)</pre>	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	As specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.7 2.4 2.2 2.5 2.8 Brake® Opti	Should a ese storag Depth (m) 1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600 Imum Manh Des	Flow (1/s) I 3.0 3.3 3.5 3.7 3.8 4.0 4.2 4.3 hole: SWMH2 Unit Reference Design Head (no Sign Flow (1/sign Flow (1/sign Flow)) Flush-Flow Objective Application Sump Availab	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5. 4.500 5. 5.000 5. 5.500 6. 6.000 6. 6.500 6. 1, DS/PN: 1.009. ce MD-SHE-0103-5000 m) s) o™ Ve Minimise upstread	other than a invalidated         a)         Depth (m)         6         7.000         8.000         8.000         8.000         8.000         8.000         9.000         9.000         2         9.000         2         9.000         2         9.500         4         7         0-1200-5000         1.200         5.0         Calculated         eam storage         Surface         Yes	Hydı Flov	<pre>w (1/s)</pre>	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	As specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.7 2.4 2.2 2.5 2.8 Brake® Options Minimum Options	Should a ese storag Depth (m) 1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600 Imum Manh C Des In utlet Pipe	Imported type of type o	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5. 4.500 5. 5.000 5. 5.500 6. 6.000 6. 6.500 6. 1, DS/PN: 1.009. ce MD-SHE-0103-5000 m) s) o™ We Minimise upstread	<pre>bother than a invalidated b) Depth (m) 6 7.000 0 7.500 3 8.000 6 8.500 9 9.000 2 9.500 4 7 v Volume (n 0-1200-5000 1.200 5.0 Calculated eam storage Surface Yes 103 54.567</pre>	Hydı Flov	<pre>w (1/s)</pre>	2
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	As specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.7 2.4 2.2 2.5 2.8 Brake® Options Minimum Of Suggester	Should a ese storag Depth (m) 1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600 Imum Manh Des In utlet Pipe ed Manhole	Imported type         ge routing ca         Flow (1/s)         3.0         3.3         3.5         3.7         3.8         4.0         4.2         4.3         hole: SWMH2         Unit Reference         Design Head (not sign Flow (1/s)         Flush-Flow         Objective         Application         Sump Availab         Diameter (monostructure)         Diameter (monostructure)	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5. 4.500 5. 5.000 5. 5.500 6. 6.000 6. 6.500 6. 1, DS/PN: 1.009. ce MD-SHE-0103-5000 m) s) o™ We Minimise upstread	<pre>bother than a invalidated b) Depth (m) 6 7.000 0 7.500 3 8.000 6 8.500 9 9.000 2 9.500 4 7 v Volume (n 0-1200-5000 1.200 5.0 Calculated eam storage Surface Yes 103 54.567 150 1200</pre>	Hydr Flor	<pre>w (1/s)</pre>	3
Brake® Optimum a Optimum® be util Depth (m) 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000 Hydro-:	As specified. Lised then the Flow (1/s) 2.3 2.8 2.8 2.7 2.4 2.2 2.5 2.8 Brake® Options Minimum Options Suggester Points	Should a ese storag Depth (m) 1.200 1.400 1.600 2.200 2.400 2.600 Emum Manh E Des In utlet Pipe ed Manhole Head (m) 1.200	Flow (1/s) I 3.0 3.3 3.5 3.7 3.8 4.0 4.2 4.3 Dole: SWMH2 Unit Reference Diameter (moments) Diameter (moments) Diameter (moments) Flow (1/s) 5.0	of control device of lculations will be Depth (m) Flow (1/s 3.000 4. 3.500 5. 4.000 5. 4.500 5. 5.000 5. 5.500 6. 6.000 6. 6.500 6. 1. DS/PN: 1.009 ce MD-SHE-0103-5000 m) s) o™ We Minimise upstree on le m) m) m) m) Control Points	other than a invalidated         a)         Depth (m)         6       7.000         0       7.500         3       8.000         6       9.000         9       9.000         2       9.500         4       7         0       -1200-5000         1.200       5.0         Calculated       surface         Yes       103         54.567       150         1200       s         Head       k-Flo®       0.	Hydr Flor	<pre>ro-Brake w (1/s)</pre>	3

Mott MacDonald		Page 8
Mott MacDonald House		
8-10 Sydenham Road	108939-Marubeni	
Croydon CR0 2EE	Proposed 1 in 100y+40%CC	Micro
Date 15/11/2022 09:44	Designed by A.J	Dcainago
File CONCEPUTAL HYDROGENSITE MOD	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	

Hydro-Brake® Optimum Manhole: SWMH21, DS/PN: 1.009, Volume (m<sup>3</sup>): 7.1

Depth (m) Flo	ow (1/s)	Depth (m) Flow	w (l/s)	Depth (m) Flo	w (l/s)	Depth (m)	Flow (l/s)
0.100	3.4	1.200	5.0	3.000	7.7	7.000	11.5
0.200	4.7	1.400	5.4	3.500	8.3	7.500	11.8
0.300	5.0	1.600	5.7	4.000	8.8	8.000	12.2
0.400	5.0	1.800	6.0	4.500	9.3	8.500	12.6
0.500	4.9	2.000	6.3	5.000	9.8	9.000	12.9
0.600	4.7	2.200	6.6	5.500	10.2	9.500	13.3
0.800	4.1	2.400	6.9	6.000	10.7		
1.000	4.6	2.600	7.2	6.500	11.1		

	NSITE MOD. Stor	Propo Desic Check	gned by ked by ork 202	in 1 A.J ARD 0.1.	00y+40%CC	<u> </u>	Micro Drainage
2EE 22 09:44 AL HYDROGE		Propo Desio Check Netwo	osed 1 gned by ked by ork 202	in 1 A.J ARD 0.1.	00y+40%CC	2	
22 09:44 Al HYDROGE		Desic Check Netwo	gned by ked by ork 202	A.J ARD 0.1.	3	2	
AL HYDROGE		Netwo	ked by ork 202	ARD 0.1.	3		
		Netwo	ork 202	0.1.			Diamaye
	Stor						
	Stor	age Stru	ctures	for	Ctorm		
					SCOTI		
<u>T</u>	ank or Por	nd Manhole	e: SWMH	12,	DS/PN: 1	.007	
(m) Area (1	m <sup>2</sup> ) Depth (r	n) Area (m²	) Depth	(m)	Area (m²)	Depth (m) A	rea (m²)
	I		I		1	1.300	526.3
Tre	ench Soaka	way Manhc	le: SWN	4H15,	, DS/PN:	3.001	
iltration Co	efficient Ba	ase (m/hr)	0.00000		Tren	ch Width (m)	1.5
		,					
	Safe					Slope (1:X)	0.0
	Transat						
	Invert	Level (m)	20.311	Cap	Infiltrati	on Depth (m)	1.000
Tre	ench Soaka	way Manhc	ole: SWN	4H18,	DS/PN:	4.001	
lltration Co	efficient Ba	ase (m/hr)	0.00000		Tren	ch Width (m)	1.5
lltration Co					Trenc	h Length (m)	58.0
	Safe					Slope (1:X)	
	Invert	-					
Πrc.				-		-	1.000
116	EIICH SUAKA	way Mainic	JIE. SWI	1119	, DS/EN.	4.002	
lltration Co	efficient Ba	ase (m/hr)	0.00000		Tren	ch Width (m)	1.5
lltration Co					Trenc	2	
	Safe	-			Con Volu	-	
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	.000 25 <u>Tre</u> iltration Co iltration Co iltration Co iltration Co <u>Tre</u> iltration Co <u>Tre</u> iltration Co	.000 256.9 0.50 <u>Trench Soaka</u> iltration Coefficient Ba iltration Coefficient S: Safe Invert <u>Trench Soaka</u> iltration Coefficient Ba iltration Coefficient Ba Safe	(m) Area (m²)       Depth (m) Area (m²)         .000       256.9       0.500       349.         Trench Soakaway Manho         iltration Coefficient Base (m/hr)         iltration Coefficient Side (m/hr)         Safety Factor         Porosity         Invert Level (m)         Trench Soakaway Manho         iltration Coefficient Base (m/hr)         iltration Coefficient Base (m/hr)         iltration Coefficient Base (m/hr)         iltration Coefficient Base (m/hr)         Invert Level (m)         Trench Soakaway Manho         iltration Coefficient Base (m/hr)         iltration Coefficient Base (m/hr)         iltration Coefficient Base (m/hr)         iltration Coefficient Base (m/hr)         Invert Level (m)         Trench Soakaway Manho         iltration Coefficient Base (m/hr)         Safety Factor         Porosity         Invert Level (m)         Trench Soakaway Manho         iltration Coefficient Base (m/hr)         Safety Factor         Porosity         Invert Level (m)         Trench Soakaway Manho	(m) Area (m <sup>2</sup> ) Depth (m) Area (m <sup>2</sup> ) Depth .000 256.9 0.500 349.2 1 Trench Soakaway Manhole: SWM iltration Coefficient Base (m/hr) 0.00000 iltration Coefficient Side (m/hr) 0.00001 Safety Factor 2.0 Porosity 0.30 Invert Level (m) 56.511 Trench Soakaway Manhole: SWM iltration Coefficient Base (m/hr) 0.00000 iltration Coefficient Side (m/hr) 0.00001 Safety Factor 2.0 Porosity 0.30 Invert Level (m) 56.213 Trench Soakaway Manhole: SWM iltration Coefficient Base (m/hr) 0.00000 iltration Coefficient Side (m/hr) 0.00001 Safety Factor 2.0 Porosity 0.30 Invert Level (m) 56.062 Trench Soakaway Manhole: SWM iltration Coefficient Base (m/hr) 0.00000 iltration Coefficient Side (m/hr) 0.00000 Intert Level (m) 56.062	(m) Area (m <sup>2</sup> ) Depth (m) Area (m <sup>2</sup> ) Depth (m) .000 256.9 0.500 349.2 1.000 Trench Soakaway Manhole: SWMH15, iltration Coefficient Base (m/hr) 0.00000 iltration Coefficient Side (m/hr) 0.00001 Safety Factor 2.0 Porosity 0.30 Invert Level (m) 56.511 Cap Trench Soakaway Manhole: SWMH18, iltration Coefficient Base (m/hr) 0.00000 iltration Coefficient Side (m/hr) 0.00011 Safety Factor 2.0 Porosity 0.30 Invert Level (m) 56.213 Cap Trench Soakaway Manhole: SWMH19, iltration Coefficient Base (m/hr) 0.00000 iltration Coefficient Base (m/hr) 0.00000 iltration Coefficient Side (m/hr) 0.00001 Safety Factor 2.0 Porosity 0.30 Invert Level (m) 56.062 Cap Trench Soakaway Manhole: SWMH20, iltration Coefficient Base (m/hr) 0.00001 Safety Factor 2.0 Porosity 0.30 Invert Level (m) 56.062 Cap Trench Soakaway Manhole: SWMH20, iltration Coefficient Base (m/hr) 0.00001 Safety Factor 2.0 Porosity 0.30	.000 256.9 0.500 349.2 1.000 455.6 Trench Soakaway Manhole: SWMH15, DS/PN: iltration Coefficient Base (m/hr) 0.00000 Tren iltration Coefficient Side (m/hr) 0.00011 Trenc Safety Factor 2.0 Porosity 0.30 Cap Volu Invert Level (m) 56.511 Cap Infiltrati Trench Soakaway Manhole: SWMH18, DS/PN: iltration Coefficient Base (m/hr) 0.00000 Tren iltration Coefficient Side (m/hr) 0.00011 Trenc Safety Factor 2.0 Porosity 0.30 Cap Volu Invert Level (m) 56.213 Cap Infiltrati Trench Soakaway Manhole: SWMH19, DS/PN: iltration Coefficient Base (m/hr) 0.00000 Tren iltration Coefficient Base (m/hr) 0.0000 Tren	(m) Area (m²)       Depth (m) Area (m²)       Depth (m) Area (m²)       Depth (m) Area (m²)       Depth (m) Area (m²)         .000       256.9       0.500       349.2       1.000       455.6       1.300         Trench Soakaway Manhole:       SWMH15, DS/PN: 3.001       Trench Width (m)         iltration Coefficient Base (m/hr)       0.00000       Trench Width (m)         Safety Factor       2.0       Slope (1:X)         Porosity       0.30       Cap Volume Depth (m)         Invert Level (m)       56.511       Cap Infiltration Depth (m)         Itration Coefficient Base (m/hr)       0.00000       Trench Width (m)         iltration Coefficient Base (m/hr)       0.00000       Trench Width (m)         iltration Coefficient Base (m/hr)       0.00000       Trench Width (m)         Safety Factor       2.0       Slope (1:X)         Porosity       0.30       Cap Volume Depth (m)         Invert Level (m)       56.213       Cap Infiltration Depth (m)         Invert Level (m)       56.213       Cap Infiltration Depth (m)         Safety Factor       2.0       Slope (1:X)         Porosity       0.30       Cap Volume Depth (m)         Invert Level (m)       56.062       Cap Infiltration Depth (m)         Safet

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Duration(s)           Return Period(s) Climate Char           US/MH           PN         Name         Even           1.000         SWMH01         30 minute 100 ye           1.001         SWMH02         30 minute 100 ye           1.002         SWMH03         30 minute 100 ye           2.000         SWMH04         30 minute 100 ye           2.001         SWMH05         30 minute 100 ye           2.002         SWMH06         30 minute 100 ye           2.003         SWMH07         30 minute 100 ye           1.003         SWMH08         30 minute 100 ye           1.004         SWMH09         30 minute 100 ye           1.005         SWMH10         30 minute 100 ye	(mins) (years) nge (%) nt ear Summer I ear Summer I	US/C: (m) 1+40% 63.73 1+40% 63.77 1+40% 63.73 1+40% 63.76 1+40% 63.62 1+40% 63.80 1+40% 63.80 1+40% 63.80	Water 5 L Level (m) 36 62.951 3 62.933 8 62.891 30 63.377 52 63.347 28 63.282 33 63.037 00 62.537 00 62.537 00 62.243 00 61.740	80, 240, 36 960, Surcharged Depth (m) 0.040 0.128 0.244 0.772 0.850 0.901 0.776 0.547 0.260 -0.229	0, 480, 1440, 2 Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	600, 72 160, 28 1 <b>Flow /</b> <b>Cap.</b> 0.35 0.60 0.73 0.60 0.84 1.40 1.33 2.54 2.71 0.32	0, 80 00 40 <b>Overflow</b>	Flow (1/s) 22. 38. 91. 37. 53. 88. 120. 210. 211. 211.
Duration(s) Return Period(s) Climate Char <b>US/MH</b> <b>PN Name Even</b> 1.000 SWMH01 30 minute 100 ye 1.001 SWMH02 30 minute 100 ye 1.002 SWMH03 30 minute 100 ye 2.000 SWMH04 30 minute 100 ye 2.001 SWMH05 30 minute 100 ye 2.002 SWMH06 30 minute 100 ye 1.003 SWMH07 30 minute 100 ye 1.003 SWMH08 30 minute 100 ye 1.004 SWMH09 30 minute 100 ye 1.005 SWMH10 30 minute 100 ye 1.006 SWMH11 960 minute 100 ye	(mins) (years) nge (%) nt ear Summer I ear Summer I	US/C: (m) I+40% 63.73 I+40% 63.77 I+40% 63.71 I+40% 63.76 I+40% 63.62 I+40% 63.80 I+40% 63.80 I+40% 63.80 I+40% 63.80 I+40% 58.50	Water 8 L Level (m) 36 62.951 3 62.933 8 62.891 30 63.377 32 63.347 38 63.282 33 63.037 30 62.537 30 62.243 30 61.740 30 58.346	<pre>80, 240, 36 960, Surcharged Depth (m) 0.040 0.128 0.244 0.772 0.850 0.901 0.776 0.547 0.260</pre>	0, 480, 1440, 2 Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	600, 72 160, 28 1 <b>Flow /</b> <b>Cap</b> . 0.35 0.60 0.73 0.60 0.84 1.40 1.33 2.54 2.71	0, 80 00 40 <b>Overflow</b>	Flow (1/s) 22. 38. 91. 37. 53. 88. 120. 210. 211. 211. 29.
Duration(s)           Return Period(s) Climate Char           US/MH           PN         Name         Even           1.000         SWMH01         30 minute 100 ye           1.001         SWMH02         30 minute 100 ye           1.002         SWMH03         30 minute 100 ye           2.000         SWMH04         30 minute 100 ye           2.001         SWMH05         30 minute 100 ye           2.002         SWMH06         30 minute 100 ye           2.003         SWMH07         30 minute 100 ye           1.003         SWMH08         30 minute 100 ye           1.004         SWMH09         30 minute 100 ye           1.005         SWMH10         30 minute 100 ye	(mins) (years) nge (%) nt ear Summer I ear Summer I	US/C: (m) 1+40% 63.73 1+40% 63.77 1+40% 63.71 1+40% 63.76 1+40% 63.62 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 53.50 1+40% 58.50	Water 5 L Level (m) 36 62.951 3 62.933 8 62.891 30 63.377 52 63.347 28 63.282 3 63.037 0 62.537 0 62.243 0 61.740 0 58.346 0 58.346	80, 240, 36 960, Surcharged Depth (m) 0.040 0.128 0.244 0.772 0.850 0.901 0.776 0.547 0.260 -0.229 0.816	0, 480, 1440, 2 Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	600, 72 160, 28 1 <b>Flow /</b> <b>Cap.</b> 0.35 0.60 0.73 0.60 0.84 1.40 1.33 2.54 2.71 0.32 0.25	0, 80 00 40 <b>Overflow</b>	Flow (1/s 22. 38. 91. 37. 53. 88. 120. 210. 211. 211. 29. 3.
Duration(s) Return Period(s) Climate Char US/MH PN Name Even 1.000 SWMH01 30 minute 100 ye 1.001 SWMH02 30 minute 100 ye 1.002 SWMH03 30 minute 100 ye 2.000 SWMH04 30 minute 100 ye 2.001 SWMH05 30 minute 100 ye 2.002 SWMH06 30 minute 100 ye 2.003 SWMH07 30 minute 100 ye 1.003 SWMH08 30 minute 100 ye 1.004 SWMH09 30 minute 100 ye 1.005 SWMH10 30 minute 100 ye 1.006 SWMH11 960 minute 100 ye 1.007 SWMH12 960 minute 100 ye 1.008 SWMH13 960 minute 100 ye 3.000 SWMH14 30 minute 100 ye	(mins) (years) nge (%) nt ear Summer I ear Winter I ear Winter I	US/C: (m) 1+40% 63.73 1+40% 63.77 1+40% 63.71 1+40% 63.73 1+40% 63.62 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 58.50 1+40% 58.50 1+40% 58.50 1+40% 61.97	Water 8 L Level (m) 36 62.951 3 62.933 8 62.891 30 63.377 52 63.347 8 63.282 3 63.037 50 62.537 50 62.243 50 61.740 58.346 50 58.346 50 58.346 50 56.987 22 60.585	80, 240, 36 960, Surcharged Depth (m) 0.040 0.128 0.244 0.772 0.850 0.901 0.776 0.547 0.260 -0.229 0.816 0.821 -0.518 -0.187	0, 480, 1440, 2 Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	600, 72 160, 28 1 Flow / Cap. 0.35 0.60 0.73 0.60 0.84 1.40 1.33 2.54 2.71 0.32 0.25 0.02 0.00 0.07	0, 80 00 40 <b>Overflow</b>	Flow (1/s) 22.1 38. 91.1 37. 53.3 88.0 120.2 210.2 211.2 211.2 211.2 211.3 211.3 211.3 211.3 211.3 21.3 2
Duration(s) Return Period(s) Climate Char US/MH PN Name Even 1.000 SWMH01 30 minute 100 ye 1.001 SWMH02 30 minute 100 ye 1.002 SWMH03 30 minute 100 ye 2.000 SWMH04 30 minute 100 ye 2.001 SWMH05 30 minute 100 ye 2.002 SWMH06 30 minute 100 ye 2.003 SWMH07 30 minute 100 ye 1.003 SWMH08 30 minute 100 ye 1.004 SWMH09 30 minute 100 ye 1.005 SWMH10 30 minute 100 ye 1.005 SWMH10 30 minute 100 ye 1.006 SWMH11 960 minute 100 ye 1.008 SWMH13 960 minute 100 ye 3.000 SWMH14 30 minute 100 ye 3.001 SWMH15 60 minute 100 ye	(mins) (years) nge (%) nt ear Summer I ear Winter I ear Winter I ear Winter I	US/C: (m) 1+40% 63.73 1+40% 63.77 1+40% 63.71 1+40% 63.73 1+40% 63.62 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 58.50 1+40% 58.50 1+40% 58.50 1+40% 57.66	Water 8 L Level (m) 36 62.951 3 62.933 8 62.891 30 63.377 32 63.347 38 63.282 33 63.037 30 62.537 30 62.243 30 61.740 30 58.346 30 58.346 30 56.987 32 60.585 32 57.033	80, 240, 36 960, Surcharged Depth (m) 0.040 0.128 0.244 0.772 0.850 0.901 0.776 0.547 0.260 -0.229 0.816 0.821 -0.518 -0.187 -0.192	0, 480, 1440, 2 Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	600, 72 160, 28 1 Flow / Cap. 0.35 0.60 0.73 0.60 0.84 1.40 1.33 2.54 2.71 0.32 0.25 0.02 0.00 0.07 0.05	0, 80 00 40 <b>Overflow</b>	Flow (1/s) 22.1 38. 91.1 37. 53. 88.0 120.2 210.2 211.2 211.2 211.2 211.3 211.3 211.5 5.5
Duration(s) Return Period(s) Climate Char US/MH PN Name Even 1.000 SWMH01 30 minute 100 ye 1.001 SWMH02 30 minute 100 ye 1.002 SWMH03 30 minute 100 ye 2.000 SWMH04 30 minute 100 ye 2.001 SWMH05 30 minute 100 ye 2.002 SWMH06 30 minute 100 ye 2.003 SWMH07 30 minute 100 ye 1.003 SWMH08 30 minute 100 ye 1.004 SWMH09 30 minute 100 ye 1.005 SWMH10 30 minute 100 ye 1.005 SWMH10 30 minute 100 ye 1.006 SWMH11 960 minute 100 ye 1.008 SWMH13 960 minute 100 ye 3.000 SWMH14 30 minute 100 ye 3.001 SWMH15 60 minute 100 ye 4.000 SWMH17 30 minute 100 ye	(mins) (years) nge (%) nt ear Summer I ear Winter I ear Winter I ear Winter I ear Winter I ear Winter I	US/C: (m) 1+40% 63.73 1+40% 63.77 1+40% 63.71 1+40% 63.73 1+40% 63.62 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 58.50 1+40% 58.50 1+40% 58.50 1+40% 57.66 1+40% 61.52	Water         S           Level (m)         (m)           36         62.951           3         62.933           8         62.891           30         63.377           52         63.347           28         63.282           30         62.537           90         62.537           90         62.243           90         58.346           90         58.346           90         58.346           90         58.346           91         56.987           92         60.585           93         60.130	80, 240, 36 960, Surcharged Depth (m) 0.040 0.128 0.244 0.772 0.850 0.901 0.776 0.547 0.260 -0.229 0.816 0.821 -0.518 -0.187 -0.192 -0.191	0, 480, 1440, 2 Flooded Volume (m <sup>3</sup> ) 0.000	600, 72 160, 28 1 Flow / Cap. 0.35 0.60 0.73 0.60 0.84 1.40 1.33 2.54 2.71 0.32 0.25 0.02 0.00 0.07 0.05 0.05	0, 80 00 40 <b>Overflow</b>	Flow (1/s) 22.0 38.3 91.0 37.5 53.3 88.8 120.3 210.3 211.2 211.3 29.3 3.2 7.0 5.3
Duration(s) Return Period(s) Climate Char <b>US/MH</b> <b>PN Name Even</b> 1.000 SWMH01 30 minute 100 ye 1.001 SWMH02 30 minute 100 ye 1.002 SWMH03 30 minute 100 ye 2.000 SWMH04 30 minute 100 ye 2.001 SWMH05 30 minute 100 ye 2.002 SWMH06 30 minute 100 ye 2.003 SWMH07 30 minute 100 ye 1.003 SWMH08 30 minute 100 ye 1.004 SWMH09 30 minute 100 ye 1.005 SWMH10 30 minute 100 ye 1.006 SWMH10 30 minute 100 ye 1.007 SWMH12 960 minute 100 ye 1.008 SWMH13 960 minute 100 ye 3.000 SWMH14 30 minute 100 ye 3.001 SWMH15 60 minute 100 ye 4.000 SWMH17 30 minute 100 ye 4.001 SWMH18 480 minute 100 ye	(mins) (years) nge (%) nt ear Summer I ear Winter I ear Winter I ear Winter I ear Winter I ear Winter I ear Winter I	US/C: (m) 1+40% 63.73 1+40% 63.77 1+40% 63.71 1+40% 63.73 1+40% 63.62 1+40% 63.62 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 58.50 1+40% 58.50 1+40% 58.50 1+40% 57.66 1+40% 57.30	Water 8 L Level (m) 36 62.951 3 62.933 8 62.891 30 63.377 32 63.347 38 63.282 33 63.037 30 62.537 30 62.243 30 61.740 30 58.346 30 58.346 30 58.346 30 56.987 32 60.585 32 57.033 31 60.130 32 56.876	80, 240, 36 960, Surcharged Depth (m) 0.040 0.128 0.244 0.772 0.850 0.901 0.776 0.547 0.260 -0.229 0.816 0.821 -0.518 -0.187 -0.192	0, 480, 1440, 2 Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	600, 72 160, 28 1 Flow / Cap. 0.35 0.60 0.73 0.60 0.84 1.40 1.33 2.54 2.71 0.32 0.25 0.02 0.00 0.07 0.05	0, 80 00 40 <b>Overflow</b>	Flow (1/s) 22.0 38.7 91.0 37.7 53.3 88.8 120.3 210.5 211.2 211.3 29.7 3.2 3.2 7.0 5.5 5.8 1.4
Duration(s) Return Period(s) Climate Char US/MH PN Name Even 1.000 SWMH01 30 minute 100 ye 1.001 SWMH02 30 minute 100 ye 1.002 SWMH03 30 minute 100 ye 2.000 SWMH04 30 minute 100 ye 2.001 SWMH05 30 minute 100 ye 2.002 SWMH06 30 minute 100 ye 2.003 SWMH07 30 minute 100 ye 1.003 SWMH08 30 minute 100 ye 1.004 SWMH09 30 minute 100 ye 1.005 SWMH10 30 minute 100 ye 1.006 SWMH10 30 minute 100 ye 1.006 SWMH11 960 minute 100 ye 1.008 SWMH13 960 minute 100 ye 3.000 SWMH14 30 minute 100 ye 3.001 SWMH15 60 minute 100 ye 4.000 SWMH17 30 minute 100 ye	(mins) (years) nge (%) nt ear Summer I ear Winter I	US/C: (m) 1+40% 63.73 1+40% 63.77 1+40% 63.71 1+40% 63.73 1+40% 63.62 1+40% 63.62 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 58.50 1+40% 58.50 1+40% 57.66 1+40% 57.30 1+40% 57.30 1+40% 55.80	Water 8 L Level (m) 36 62.951 3 62.933 8 62.891 30 63.377 32 63.347 38 63.282 30 63.282 30 63.347 30 62.537 30 62.243 30 61.740 30 58.346 30 58.346 30 56.987 32 60.585 32 57.033 31 60.130 32 56.876 30 55.187	80, 240, 36 960, Surcharged Depth (m) 0.040 0.128 0.244 0.772 0.850 0.901 0.776 0.547 0.260 -0.229 0.816 0.821 -0.518 -0.187 -0.192 -0.191 -0.210	0, 480, 1440, 2 Flooded Volume (m <sup>3</sup> ) 0.000	600, 72 160, 28 1 Flow / Cap. 0.35 0.60 0.73 0.60 0.84 1.40 1.33 2.54 2.71 0.32 0.25 0.02 0.00 0.07 0.05 0.05 0.01	0, 80 00 40 <b>Overflow</b>	Flow (1/s) (1/s) 22.0 38.7 91.6 37.7 53.3 88.8 120.3 210.5 211.2 211.3 29.1 3.2 3.2 7.6 5.7 5.8 1.4
Duration(s) Return Period(s) Climate Char <b>US/MH</b> <b>PN Name Even</b> 1.000 SWMH01 30 minute 100 ye 1.001 SWMH02 30 minute 100 ye 1.002 SWMH03 30 minute 100 ye 2.000 SWMH04 30 minute 100 ye 2.001 SWMH05 30 minute 100 ye 2.002 SWMH06 30 minute 100 ye 2.003 SWMH07 30 minute 100 ye 1.003 SWMH08 30 minute 100 ye 1.004 SWMH09 30 minute 100 ye 1.005 SWMH10 30 minute 100 ye 1.006 SWMH10 30 minute 100 ye 1.006 SWMH11 960 minute 100 ye 1.008 SWMH13 960 minute 100 ye 3.000 SWMH14 30 minute 100 ye 3.001 SWMH15 60 minute 100 ye 4.000 SWMH17 30 minute 100 ye 4.001 SWMH18 480 minute 100 ye 4.002 SWMH19 480 minute 100 ye	(mins) (years) nge (%) nt ear Summer I ear Winter I	US/C: (m) 1+40% 63.73 1+40% 63.77 1+40% 63.71 1+40% 63.73 1+40% 63.62 1+40% 63.62 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 58.50 1+40% 58.50 1+40% 57.30 1+40% 57.30 1+40% 55.80 1+40% 55.50	Water 8 L Level (m) 36 62.951 3 62.933 8 62.891 30 63.377 32 63.347 38 63.282 30 63.282 30 63.037 30 62.537 30 62.243 30 61.740 30 58.346 30 58.346 30 56.987 32 60.585 32 57.033 31 60.130 32 56.876 30 55.187 30 55.027	80, 240, 36 960, Surcharged Depth (m) 0.040 0.128 0.244 0.772 0.850 0.901 0.776 0.547 0.260 -0.229 0.816 0.821 -0.518 -0.187 -0.192 -0.191 -0.210 -0.202	0, 480, 1440, 2 Flooded Volume (m <sup>3</sup> ) 0.000	600, 72 160, 28 1 Flow / Cap. 0.35 0.60 0.73 0.60 0.84 1.40 1.33 2.54 2.71 0.32 0.25 0.02 0.00 0.07 0.05 0.01 0.02	0, 80 00 40 <b>Overflow</b>	Flow (1/s) (1/s) 22.0 38.7 91.0 37.7 53.3 88.8 120.3 210.5 211.2 211.3 29.1 3.2 3.2 7.6 5.5 5.8 1.4 3.1
Duration(s) Return Period(s) Climate Char <b>US/MH</b> <b>PN Name Even</b> 1.000 SWMH01 30 minute 100 ye 1.001 SWMH02 30 minute 100 ye 1.002 SWMH03 30 minute 100 ye 2.000 SWMH04 30 minute 100 ye 2.001 SWMH05 30 minute 100 ye 2.002 SWMH06 30 minute 100 ye 2.003 SWMH07 30 minute 100 ye 1.003 SWMH08 30 minute 100 ye 1.004 SWMH09 30 minute 100 ye 1.005 SWMH10 30 minute 100 ye 1.005 SWMH10 30 minute 100 ye 1.006 SWMH11 960 minute 100 ye 1.007 SWMH12 960 minute 100 ye 3.000 SWMH14 30 minute 100 ye 3.000 SWMH14 30 minute 100 ye 3.001 SWMH15 60 minute 100 ye 4.000 SWMH17 30 minute 100 ye 4.001 SWMH18 480 minute 100 ye 3.002 SWMH20 600 minute 100 ye 3.002 SWMH20 600 minute 100 ye	(mins) (years) nge (%) nt ear Summer I ear Winter I	US/C: (m) 1+40% 63.73 1+40% 63.77 1+40% 63.71 1+40% 63.73 1+40% 63.62 1+40% 63.62 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 58.50 1+40% 58.50 1+40% 57.30 1+40% 57.30 1+40% 55.80 1+40% 55.50	Water 8 L Level (m) 36 62.951 3 62.933 8 62.891 30 63.377 32 63.347 38 63.282 30 63.282 30 63.037 30 62.537 30 62.243 30 61.740 30 58.346 30 58.346 30 56.987 32 60.585 32 57.033 31 60.130 32 56.876 30 55.187 30 55.027	80, 240, 36 960, Surcharged Depth (m) 0.040 0.128 0.244 0.772 0.850 0.901 0.776 0.547 0.260 -0.229 0.816 0.821 -0.518 -0.187 -0.192 -0.191 -0.210 -0.202 -0.133	0, 480, 1440, 2 Flooded Volume (m <sup>3</sup> ) 0.0000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000000	600, 72 160, 28 1 Flow / Cap. 0.35 0.60 0.73 0.60 0.84 1.40 1.33 2.54 2.71 0.32 0.25 0.02 0.00 0.07 0.05 0.05 0.01 0.02 0.08	0, 80 00 40 <b>Overflow</b>	Flow (1/s) 22.0 38. 91.0 37. 53.3 88.8 120.3 210.3 211.2 211.3 211.3 211.3 211.3 211.5 5.5 5.5 5.5 1.4 1.4 3.3
Duration(s) Return Period(s) Climate Char <b>US/MH</b> <b>PN Name Even</b> 1.000 SWMH01 30 minute 100 ye 1.001 SWMH02 30 minute 100 ye 1.002 SWMH03 30 minute 100 ye 2.000 SWMH04 30 minute 100 ye 2.001 SWMH05 30 minute 100 ye 2.002 SWMH06 30 minute 100 ye 2.003 SWMH07 30 minute 100 ye 1.003 SWMH08 30 minute 100 ye 1.004 SWMH09 30 minute 100 ye 1.005 SWMH10 30 minute 100 ye 1.005 SWMH10 30 minute 100 ye 1.006 SWMH11 960 minute 100 ye 1.007 SWMH12 960 minute 100 ye 3.000 SWMH14 30 minute 100 ye 3.000 SWMH14 30 minute 100 ye 3.001 SWMH15 60 minute 100 ye 4.000 SWMH17 30 minute 100 ye 4.001 SWMH18 480 minute 100 ye 3.002 SWMH20 600 minute 100 ye 3.002 SWMH20 600 minute 100 ye	(mins) (years) nge (%) nt ear Summer I ear Winter I	US/C: (m) 1+40% 63.73 1+40% 63.77 1+40% 63.71 1+40% 63.73 1+40% 63.62 1+40% 63.62 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 58.50 1+40% 58.50 1+40% 57.30 1+40% 57.30 1+40% 55.80 1+40% 55.50	Water 8 L Level (m) 36 62.951 3 62.933 8 62.891 30 63.377 32 63.347 38 63.282 30 63.282 30 63.037 30 62.537 30 62.243 30 61.740 30 58.346 30 58.346 30 56.987 32 60.585 32 57.033 31 60.130 32 56.876 30 55.187 30 55.027	80, 240, 36 960, Surcharged Depth (m) 0.040 0.128 0.244 0.772 0.850 0.901 0.776 0.547 0.260 -0.229 0.816 0.821 -0.518 -0.187 -0.192 -0.191 -0.210 -0.202 -0.133	0, 480, 1440, 2 Flooded Volume (m <sup>3</sup> ) 0.0000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000000	600, 72 160, 28 1 Flow / Cap. 0.35 0.60 0.73 0.60 0.84 1.40 1.33 2.54 2.71 0.32 0.25 0.02 0.00 0.07 0.05 0.05 0.01 0.02 0.08	0, 80 00 40 <b>Overflow</b>	Flow (1/s) 22.0 38. 91.0 37. 53.3 88.8 120.3 210.5 211.2 211.3 29.2 3.2 3.2 7.0 5.5 5.8 1.4 3.2
Duration(s) Return Period(s) Climate Char <b>US/MH</b> <b>PN Name Even</b> 1.000 SWMH01 30 minute 100 ye 1.001 SWMH02 30 minute 100 ye 1.002 SWMH03 30 minute 100 ye 2.000 SWMH04 30 minute 100 ye 2.001 SWMH05 30 minute 100 ye 2.002 SWMH06 30 minute 100 ye 2.003 SWMH07 30 minute 100 ye 1.003 SWMH08 30 minute 100 ye 1.004 SWMH09 30 minute 100 ye 1.005 SWMH10 30 minute 100 ye 1.005 SWMH10 30 minute 100 ye 1.006 SWMH11 960 minute 100 ye 1.007 SWMH12 960 minute 100 ye 3.000 SWMH14 30 minute 100 ye 3.000 SWMH14 30 minute 100 ye 3.001 SWMH15 60 minute 100 ye 4.000 SWMH17 30 minute 100 ye 4.001 SWMH18 480 minute 100 ye 3.002 SWMH20 600 minute 100 ye 3.002 SWMH20 600 minute 100 ye	(mins) (years) nge (%) nt ear Summer I ear Winter I	US/C: (m) 1+40% 63.73 1+40% 63.77 1+40% 63.71 1+40% 63.73 1+40% 63.62 1+40% 63.62 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 63.80 1+40% 58.50 1+40% 58.50 1+40% 57.30 1+40% 57.30 1+40% 55.80 1+40% 55.50	Water         S           Level (m)           36         62.951           3         62.933           8         62.891           30         63.377           52         63.347           38         63.282           39         63.037           90         62.537           90         62.537           90         62.537           90         62.643           90         51.740           90         58.346           90         58.346           90         58.346           91         60.130           92         56.876           93         55.027           90         55.026	80, 240, 36 960, Surcharged Depth (m) 0.040 0.128 0.244 0.772 0.850 0.901 0.776 0.547 0.260 -0.229 0.816 0.821 -0.518 -0.187 -0.192 -0.191 -0.210 -0.202 -0.133 -0.066	0, 480, 1440, 2 Flooded Volume (m <sup>3</sup> ) 0.0000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000000	600, 72 160, 28 1 Flow / Cap. 0.35 0.60 0.73 0.60 0.84 1.40 1.33 2.54 2.71 0.32 0.25 0.02 0.00 0.07 0.05 0.05 0.01 0.02 0.08	0, 80 00 40 <b>Overflow</b>	-

Mott MacDonald		Page 11
Mott MacDonald House		
8-10 Sydenham Road	108939-Marubeni	
Croydon CR0 2EE	Proposed 1 in 100y+40%CC	Micro
Date 15/11/2022 09:44	Designed by A.J	Drainage
File CONCEPUTAL HYDROGENSITE MOD	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	

PN	US/MH Name	Status
1.000	SWMH01	SURCHARGED
1.001	SWMH02	SURCHARGED
1.002	SWMH03	SURCHARGED
2.000	SWMH04	SURCHARGED
2.001	SWMH05	SURCHARGED
2.002	SWMH06	SURCHARGED
2.003	SWMH07	SURCHARGED
1.003	SWMH08	SURCHARGED
1.004	SWMH09	SURCHARGED
1.005	SWMH10	OK
1.006	SWMH11	FLOOD RISK
1.007	SWMH12	FLOOD RISK
1.008	SWMH13	OK
3.000	SWMH14	OK
3.001	SWMH15	OK
4.000	SWMH17	OK
4.001	SWMH18	OK
4.002	SWMH19	OK
3.002	SWMH20	OK
1.009	SWMH21	OK

Mott MacDona	ald									Page 1	
Mott MacDona	ald House										
3-10 Sydenha	am Road			10	08939-1	Maruben	i				
Croydon CR	0 2EE			P	roposed	d 1 in .	30y+40%CC			Micro	
Date 15/11/2	2022 09:45			De	esigned	d by A.	J				
File CONCEPT	UTAL HYDRO	GENSIT	E MOD.	Cł	hecked	by ARD				Drain	Idy
Innovyze				Ne	etwork	2020.1	.3				
	Summary of	Criti	cal Re	sults	by Ma	ximum I	Level (Rar	nk 1) f	or Sto	rm	
				Simu	lation	Criteria					
	Areal						l Flow - %				
	II.e.t	Hot St	art (mi: Level (1	ns)	0 0	MADD	Factor * 10	)m³/ha St : Coeffie			
Ма	nhole Headlo	ss Coef	f (Glob	al) 0.	500 Flo	w per Pe					
	Foul Sewage					1	÷	1 . 1	. 1,		
Number	f Input Hydr	aaranha	0 N.	mhor o	f offli	no Contra	olo O Numbo	w of mir	ma / 7 maa	Diagrama	0
	of Online C									-	
					-						
		P:	<u>Sy</u> ainfall		ic Rainf	fall Deta	<u>ils</u>	FEH			
	:		nfall Ve					2013			
					GB 2916	550 18430	00 SS 91650				
			Data Cv (Si	a Type			Cat	chment 0.750			
			CV (Si CV (Wi					0.750			
			- (	,							
	Marg	in for			-		0 DVD S				
			A	-	s Times DTS Stat	-	e Inertia S M	status Of	5.F.		
					210 00a	040 01					
		Profi	. ,	1 5		100 1	00 040 0	Summer			
	Durati		le(s) mins)	15,	, 30, 60	), 120, 1	.80, 240, 30	60, 480,	600, 7	20,	
	Durati Return Perio	on(s) (1	mins)	15,	, 30, 60	), 120, 1			600, 7	20,	
:	Return Perio	on(s) (1	mins) ears)	15,	, 30, 60	), 120, 1		60, 480,	600, 7	20, 880	
:	Return Perio	on(s) (1 d(s) (y	mins) ears)	15,	, 30, 60	), 120, 1		60, 480,	600, 7	20, 880 30	
	Return Perio	on(s) (1 d(s) (y	mins) ears)	15 <b>,</b>		Water :	960, <b>Surcharged</b>	60, 480, , 1440, : <b>Flooded</b>	600, 7: 2160, 2	20, 880 30 40	Pipe
US/MH	Return Perio	on(s) (1 d(s) (y e Chango	mins) ears) e (%)	15,	US/CL	Water : Level	960, Surcharged Depth	60, 480, , 1440, : Flooded Volume	600, 7: 2160, 2: Flow /	20, 880 30 40 <b>Overflow</b>	Flow
US/MH PN Name	Return Perio Climat	on(s) (1 d(s) (y e Chango <b>Event</b>	mins) ears) e (%)		US/CL (m)	Water : Level (m)	960, Surcharged Depth (m)	<pre>60, 480,  , 1440,  Flooded Volume (m³)</pre>	600, 7: 2160, 2 Flow / Cap.	20, 880 30 40	Flow (1/s
US/MH PN Name 1.000 SWMH01	Return Perio Climat 30 minute	on(s) (1 d(s) (y e Chango <b>Event</b> 30 year	mins) ears) e (%) Winter	I+40%	US/CL (m) 63.736	Water : Level (m) 62.716	960, Surcharged Depth (m) -0.195	<pre>60, 480, , 1440, 3</pre> Flooded Volume (m <sup>3</sup> ) 0.000	600, 7: 2160, 2 Flow / Cap. 0.27	20, 880 30 40 <b>Overflow</b>	<b>Flow</b> (1/s 16.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02	Return Perio Climat 30 minute 15 minute	on(s) (1 d(s) (y e Change <b>Event</b> 30 year 30 year	mins) ears) e (%) Winter Winter	I+40% I+40%	US/CL (m) 63.736 63.773	Water : Level (m) 62.716 62.670	960, Surcharged Depth (m) -0.195 -0.134	<pre>60, 480, , 1440, :: Flooded Volume (m<sup>3</sup>) 0.000 0.000</pre>	600, 7: 2160, 2: Flow / Cap. 0.27 0.40	20, 880 30 40 <b>Overflow</b>	Flow (1/s 16. 26.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03	Return Perio Climat 30 minute 15 minute 15 minute	on(s) (1 d(s) (ye e Change <b>Event</b> 30 year 30 year	<pre>mins) ears) e (%) Winter Winter Winter Winter</pre>	I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718	Water : Level (m) 62.716 62.670 62.637	960, Surcharged Depth (m) -0.195 -0.134 -0.009	<pre>60, 480, , 1440, :: Flooded Volume (m<sup>3</sup>) 0.000 0.000 0.000</pre>	600, 7: 2160, 2: <b>Flow /</b> Cap. 0.27 0.40 0.68	20, 880 30 40 <b>Overflow</b>	Flow (1/s 16. 26. 85.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute	on(s) (1 d(s) (ye e Change <b>Event</b> 30 year 30 year 30 year 30 year	<pre>mins) ears) e (%) Winter Winter Winter Winter Winter Winter</pre>	I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730	Water : Level (m) 62.716 62.670 62.637 62.915	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310	<pre>60, 480, , 1440, :: Flooded Volume (m<sup>3</sup>) 0.000 0.000 0.000 0.000</pre>	600, 7: 2160, 2: Flow / Cap. 0.27 0.40 0.68 0.47	20, 880 30 40 <b>Overflow</b>	Flor (1/s 16. 26. 85. 29.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute 15 minute	on(s) (1 d(s) (ye e Change Event 30 year 30 year 30 year 30 year 30 year	<pre>mins) ears) e (%) Winter Winter Winter Winter Winter Winter Winter</pre>	I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762	Water (m) 62.716 62.670 62.637 62.915 62.897	960, Surcharged Depth (m) -0.195 -0.134 -0.009	<pre>60, 480, , 1440, :: Flooded Volume (m<sup>3</sup>) 0.000 0.000 0.000</pre>	600, 7: 2160, 2: <b>Flow /</b> Cap. 0.27 0.40 0.68	20, 880 30 40 <b>Overflow</b>	Flor (1/s 16. 26. 85. 29. 43.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute	on(s) (1 d(s) (ye e Change Event 30 year 30 year 30 year 30 year 30 year	<pre>mins) ears) e (%) Winter Winter Winter Winter Winter Winter Winter Winter</pre>	I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628	Water : Level (m) 62.716 62.670 62.637 62.915 62.897 62.854	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399	<pre>60, 480, 1440, Flooded Volume (m<sup>3</sup>) 0.000 0.000 0.000 0.000 0.000</pre>	600, 7: 2160, 2: Flow / Cap. 0.27 0.40 0.68 0.47 0.68	20, 880 30 40 <b>Overflow</b>	Flor (1/s 16. 26. 85. 29. 43. 70.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05 2.002 SWMH06 2.003 SWMH07 1.003 SWMH08	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute	on(s) (1 d(s) (ye e Change Event 30 year 30 year 30 year 30 year 30 year 30 year 30 year	<pre>mins) ears) e (%) Winter Winter</pre>	I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628 63.593 63.800	Water (m) 62.716 62.670 62.637 62.915 62.897 62.854 62.694 62.359	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399 0.473 0.433 0.370	<pre>Flooded Volume (m<sup>3</sup>) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000</pre>	600, 7: 2160, 2: Flow / Cap. 0.27 0.40 0.68 0.47 0.68 1.12 1.08 2.14	20, 880 30 40 <b>Overflow</b>	Flor (1/s 16. 26. 85. 29. 43. 70. 97. 177.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05 2.002 SWMH06 2.003 SWMH07 1.003 SWMH08 1.004 SWMH09	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute	on(s) (r d(s) (y e Change Event 30 year 30 year 30 year 30 year 30 year 30 year 30 year 30 year	<pre>mins) ears) e ars) e (%) Winter Winter</pre>	I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628 63.593 63.800 63.800	Water : Level (m) 62.716 62.670 62.637 62.915 62.897 62.854 62.694 62.359 62.155	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399 0.473 0.433 0.433 0.370 0.172	<pre>Flooded Volume (m³) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000</pre>	600, 7: 2160, 2: <b>Flow /</b> Cap. 0.27 0.40 0.68 0.47 0.68 1.12 1.08 2.14 2.27	20, 880 30 40 <b>Overflow</b>	Flor (1/s 16. 26. 85. 29. 43. 70. 97. 177.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05 2.002 SWMH06 2.003 SWMH07 1.003 SWMH08 1.004 SWMH09 1.005 SWMH10	Return Perio Climat 30 minute 15 minute	on(s) (r d(s) (y e Change Event 30 year 30 year 30 year 30 year 30 year 30 year 30 year 30 year 30 year 30 year	<pre>mins) ears) e (%) Winter Winter</pre>	I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628 63.593 63.800 63.800 63.800	Water : Level (m) 62.716 62.670 62.637 62.915 62.897 62.854 62.694 62.359 62.155 61.727	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399 0.473 0.433 0.370 0.172 -0.243	<pre>Flooded Volume (m³) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000</pre>	600, 7: 2160, 2: <b>Flow /</b> Cap. 0.27 0.40 0.68 0.47 0.68 1.12 1.08 2.14 2.27 0.27	20, 880 30 40 <b>Overflow</b>	Flor (1/s 16. 26. 85. 29. 43. 70. 97. 177. 177. 176.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05 2.002 SWMH06 2.003 SWMH07 1.003 SWMH08 1.004 SWMH09 1.005 SWMH10	Return Perio Climat 30 minute 15 minute 960 minute	en(s) (r d(s) (y e Change Event 30 year 30 year	<pre>mins) ears) e ars) e (%) Winter Winter</pre>	I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628 63.593 63.800 63.800 63.800 58.500	Water : Level (m) 62.716 62.670 62.637 62.915 62.897 62.854 62.694 62.359 62.155 61.727 58.152	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399 0.473 0.433 0.433 0.370 0.172 -0.243 0.622	<pre>Flooded Volume (m³) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000</pre>	600, 7: 2160, 2: 2160, 2: <b>Flow /</b> <b>Cap</b> . 0.27 0.40 0.68 0.47 0.68 1.12 1.08 2.14 2.27 0.27 0.21	20, 880 30 40 <b>Overflow</b>	<b>Flo</b> (1/s 16. 26. 85. 29. 43. 70. 97. 177. 176. 24.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05 2.002 SWMH05 2.003 SWMH06 2.003 SWMH07 1.003 SWMH08 1.004 SWMH09 1.005 SWMH10 1.006 SWMH11	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 960 minute	en(s) (r d(s) (y e Change Event 30 year 30 year	<pre>mins) ears) e ars) e (%) Winter Winter</pre>	I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628 63.593 63.800 63.800 63.800 58.500	Water : Level (m) 62.716 62.670 62.637 62.915 62.897 62.854 62.694 62.359 62.155 61.727 58.152 58.152	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399 0.473 0.433 0.370 0.172 -0.243 0.622 0.627	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: <b>Flow /</b> <b>Cap</b> . 0.27 0.40 0.68 0.47 0.68 1.12 1.08 2.14 2.27 0.27 0.21 0.02	20, 880 30 40 <b>Overflow</b>	<b>Flo</b> (1/s 16. 26. 85. 29. 43. 70. 97. 177. 176. 24. 3.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05 2.002 SWMH06 2.003 SWMH07 1.003 SWMH08 1.004 SWMH09 1.005 SWMH10 1.006 SWMH11 1.007 SWMH12	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 960 minute 960 minute	en(s) (r d(s) (y e Change Event 30 year 30 year	<pre>mins) ears) e ars) e (%) Winter Winter</pre>	I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628 63.593 63.800 63.800 63.800 58.500 58.500	Water (m) 62.716 62.670 62.637 62.915 62.897 62.854 62.694 62.359 62.155 61.727 58.152 58.152 58.152 56.986	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399 0.473 0.433 0.370 0.172 -0.243 0.622 0.627 -0.519	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: <b>Flow /</b> <b>Cap</b> . 0.27 0.40 0.68 0.47 0.68 1.12 1.08 2.14 2.27 0.27 0.21 0.02 0.00	20, 880 30 40 <b>Overflow</b>	<b>Flo</b> (1/s 26. 85. 29. 43. 70. 97. 177. 177. 176. 24. 3.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05 2.002 SWMH06 2.003 SWMH05 1.003 SWMH09 1.003 SWMH09 1.005 SWMH10 1.006 SWMH11 1.007 SWMH12 1.008 SWMH13 3.000 SWMH14	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 960 minute 960 minute 30 minute	en(s) (r d(s) (y e Change Event 30 year 30 year	<pre>mins) ears) ears) e (%)  Winter Winter</pre>	I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628 63.593 63.800 63.800 63.800 58.500 58.500 58.500 61.972	Water (m) 62.716 62.670 62.637 62.915 62.897 62.854 62.694 62.359 62.155 61.727 58.152 58.152 58.152 56.986 60.580	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399 0.473 0.433 0.433 0.370 0.172 -0.243 0.622 0.627 -0.519 -0.192	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: <b>Flow /</b> <b>Cap</b> . 0.27 0.40 0.68 0.47 0.68 1.12 1.08 2.14 2.27 0.27 0.21 0.02 0.00 0.05	20, 880 30 40 <b>Overflow</b>	Flo: (1/s 16. 26. 85. 29. 43. 70. 97. 177. 177. 176. 24. 3. 6.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05 2.002 SWMH06 2.003 SWMH05 1.003 SWMH09 1.003 SWMH09 1.005 SWMH10 1.006 SWMH11 1.007 SWMH12 1.008 SWMH13 3.000 SWMH15	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 960 minute 960 minute 30 minute	on(s) (1 d(s) (ye e Change Event 30 year 30 year	<pre>mins) ears) ears) e (%)  Winter Winter</pre>	I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628 63.593 63.800 63.800 63.800 58.500 58.500 58.500 58.500 61.972 57.662	Water (m) 62.716 62.670 62.637 62.915 62.897 62.854 62.694 62.359 62.155 61.727 58.152 58.152 58.152 56.986 60.580 57.025	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399 0.473 0.433 0.370 0.172 -0.243 0.622 0.627 -0.519	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: <b>Flow /</b> <b>Cap</b> . 0.27 0.40 0.68 0.47 0.68 1.12 1.08 2.14 2.27 0.27 0.21 0.02 0.00	20, 880 30 40 <b>Overflow</b>	Flor (1/s 16. 26. 85. 29. 43. 70. 97. 177. 177. 176. 24. 3. 6. 3.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05 2.002 SWMH06 2.003 SWMH06 2.003 SWMH06 1.003 SWMH09 1.005 SWMH09 1.005 SWMH10 1.006 SWMH11 1.007 SWMH12 1.008 SWMH13 3.000 SWMH14 3.001 SWMH15 4.000 SWMH18	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 960 minute 960 minute 30 minute 30 minute 30 minute	on(s) (1 d(s) (ye e Change Event 30 year 30 year	mins) ears) e (%) Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter	I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628 63.593 63.800 63.800 63.800 58.5000 58.5000 58.5000 58.5000 58.5000 58.5000 58.5000 58.5000 58.5000 58.5000 58.5000 58.5000 58.5000 58.5000 58.50000 58.50000 58.50000000000	Water (m) 62.716 62.670 62.637 62.915 62.897 62.854 62.694 62.359 62.155 61.727 58.152 58.152 58.152 56.986 60.580 57.025 60.126 56.869	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399 0.473 0.433 0.433 0.473 0.433 0.473 0.622 0.627 -0.243 0.622 0.627 -0.519 -0.192 -0.200 -0.195 -0.217	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: <b>Flow /</b> <b>Cap</b> . 0.27 0.40 0.68 0.47 0.68 1.12 1.08 2.14 2.27 0.27 0.21 0.02 0.00 0.05 0.03 0.04 0.01	20, 880 30 40 <b>Overflow</b>	Flov (1/s 16. 26. 85. 29. 43. 70. 97. 177. 177. 176. 24. 3. 6. 3. 4. 0.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05 2.002 SWMH06 2.003 SWMH06 2.003 SWMH06 1.003 SWMH09 1.005 SWMH09 1.005 SWMH09 1.005 SWMH10 1.006 SWMH11 1.007 SWMH12 1.008 SWMH13 3.000 SWMH14 3.001 SWMH15 4.000 SWMH18 4.002 SWMH19	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 960 minute 960 minute 30 minute 30 minute 720 minute	on(s) (1 d(s) (ye e Change e Change de Change de Change sevent 30 year 30 year	mins) ears) e (%) Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter	I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628 63.593 63.800 63.800 63.800 58.500 57.500 57.500 57.500 57.500 57.500 57.500 57.5000 57.5000 57.5000 57.5000 57.5000 57.5000 57.50000 57.50000000000	Water (m) 62.716 62.670 62.637 62.915 62.897 62.854 62.694 62.359 62.155 61.727 58.152 58.152 56.986 60.580 57.025 60.126 56.869 55.177	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399 0.473 0.433 0.433 0.370 0.172 -0.243 0.622 0.627 -0.519 -0.192 -0.200 -0.195 -0.217 -0.213	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: <b>Flow /</b> <b>Cap</b> . 0.27 0.40 0.68 0.47 0.68 1.12 1.08 2.14 2.27 0.27 0.21 0.02 0.00 0.05 0.03 0.04 0.01 0.01	20, 880 30 40 <b>Overflow</b>	Flow (1/s 16. 26. 85. 29. 43. 70. 97. 177. 177. 176. 24. 3. 6. 3. 4. 0. 0.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05 2.002 SWMH06 2.003 SWMH06 2.003 SWMH07 1.003 SWMH09 1.005 SWMH09 1.005 SWMH09 1.005 SWMH10 1.006 SWMH11 1.007 SWMH12 1.008 SWMH13 3.000 SWMH14 3.001 SWMH15 4.000 SWMH17 4.001 SWMH18 4.002 SWMH20	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 960 minute 960 minute 30 minute 30 minute 720 minute 960 minute	on(s) (1 d(s) (ye e Change e Change 30 year 30 year	mins) ears) e (%) Winter	I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628 63.593 63.800 63.800 63.800 58.500 58.500 58.500 58.500 51.972 57.662 61.521 57.302 55.800 55.500	Water (m) 62.716 62.670 62.637 62.915 62.897 62.854 62.694 62.359 62.155 61.727 58.152 58.152 56.986 60.580 57.025 60.126 56.869 55.177 54.967	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399 0.473 0.433 0.433 0.370 0.172 -0.243 0.622 0.627 -0.519 -0.192 -0.200 -0.195 -0.217 -0.213 -0.213 -0.194	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: <b>Flow /</b> <b>Cap</b> . 0.27 0.40 0.68 0.47 0.68 1.12 1.08 2.14 2.27 0.27 0.21 0.02 0.00 0.05 0.03 0.04 0.01 0.01 0.04	20, 880 30 40 <b>Overflow</b>	Flow (1/s 16. 26. 85. 29. 43. 70. 97. 177. 177. 177. 176. 24. 3. 6. 3. 4. 0. 0. 1.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05 2.002 SWMH05 2.002 SWMH06 2.003 SWMH07 1.003 SWMH09 1.004 SWMH09 1.005 SWMH10 1.006 SWMH11 1.007 SWMH12 1.008 SWMH13 3.000 SWMH14 3.001 SWMH15 4.000 SWMH17 4.001 SWMH18 4.002 SWMH20	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 960 minute 960 minute 30 minute 30 minute 720 minute 960 minute	on(s) (1 d(s) (ye e Change e Change 30 year 30 year	mins) ears) e (%) Winter	I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628 63.593 63.800 63.800 63.800 58.500 58.500 58.500 58.500 51.972 57.662 61.521 57.302 55.800 55.500	Water (m) 62.716 62.670 62.637 62.915 62.897 62.854 62.694 62.359 62.155 61.727 58.152 58.152 56.986 60.580 57.025 60.126 56.869 55.177 54.967	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399 0.473 0.433 0.433 0.370 0.172 -0.243 0.622 0.627 -0.519 -0.192 -0.200 -0.195 -0.217 -0.213	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: <b>Flow /</b> <b>Cap</b> . 0.27 0.40 0.68 0.47 0.68 1.12 1.08 2.14 2.27 0.27 0.21 0.02 0.00 0.05 0.03 0.04 0.01 0.01	20, 880 30 40 <b>Overflow</b>	Flow (1/s 16. 26. 85. 29. 43. 70. 97. 177. 177. 176. 24. 3. 6. 3. 4. 0. 0.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05 2.002 SWMH05 2.002 SWMH06 2.003 SWMH07 1.003 SWMH09 1.004 SWMH09 1.005 SWMH10 1.006 SWMH11 1.007 SWMH12 1.008 SWMH13 3.000 SWMH14 3.001 SWMH15 4.000 SWMH17 4.001 SWMH18 4.002 SWMH20	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 960 minute 960 minute 30 minute 30 minute 720 minute 960 minute	on(s) (1 d(s) (ye e Change e Change 30 year 30 year	mins) ears) e (%) Winter	I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628 63.593 63.800 63.800 63.800 58.500 58.500 58.500 58.500 51.972 57.662 61.521 57.302 55.800 55.500	Water (m) 62.716 62.670 62.637 62.915 62.897 62.854 62.694 62.359 62.155 61.727 58.152 58.152 56.986 60.580 57.025 60.126 56.869 55.177 54.967	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399 0.473 0.433 0.433 0.370 0.172 -0.243 0.622 0.627 -0.519 -0.192 -0.200 -0.195 -0.217 -0.213 -0.213 -0.194	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: <b>Flow /</b> <b>Cap</b> . 0.27 0.40 0.68 0.47 0.68 1.12 1.08 2.14 2.27 0.27 0.21 0.02 0.00 0.05 0.03 0.04 0.01 0.01 0.04	20, 880 30 40 <b>Overflow</b>	Flor (1/s 16. 26. 85. 29. 43. 70. 97. 177. 177. 177. 176. 24. 3. 3. 6. 3. 4. 0. 0. 1.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05 2.002 SWMH05 2.002 SWMH06 2.003 SWMH07 1.003 SWMH09 1.005 SWMH10 1.006 SWMH10 1.006 SWMH11 1.007 SWMH12 1.008 SWMH13 3.000 SWMH14 3.001 SWMH15 4.000 SWMH18 4.002 SWMH19	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 960 minute 960 minute 30 minute 30 minute 720 minute 960 minute	on(s) (1 d(s) (ye e Change e Change 30 year 30 year	mins) ears) e (%) Winter	I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628 63.593 63.800 63.800 63.800 58.500 58.500 58.500 58.500 51.972 57.662 61.521 57.302 55.800 55.500	Water (m) 62.716 62.670 62.637 62.915 62.897 62.854 62.694 62.359 62.155 61.727 58.152 58.152 56.986 60.580 57.025 60.126 56.869 55.177 54.967	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399 0.473 0.433 0.433 0.370 0.172 -0.243 0.622 0.627 -0.519 -0.192 -0.200 -0.195 -0.217 -0.213 -0.213 -0.194	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: <b>Flow /</b> <b>Cap</b> . 0.27 0.40 0.68 0.47 0.68 1.12 1.08 2.14 2.27 0.27 0.21 0.02 0.00 0.05 0.03 0.04 0.01 0.01 0.04	20, 880 30 40 <b>Overflow</b>	Flor (1/s 16. 26. 85. 29. 43. 70. 97. 177. 177. 177. 176. 24. 3. 3. 6. 3. 4. 0. 0. 1.
US/MH PN Name 1.000 SWMH01 1.001 SWMH02 1.002 SWMH03 2.000 SWMH04 2.001 SWMH05 2.002 SWMH05 2.002 SWMH06 2.003 SWMH07 1.003 SWMH09 1.004 SWMH09 1.005 SWMH10 1.006 SWMH11 1.007 SWMH12 1.008 SWMH13 3.000 SWMH14 3.001 SWMH15 4.000 SWMH17 4.001 SWMH18 4.002 SWMH20	Return Perio Climat 30 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 960 minute 960 minute 30 minute 30 minute 720 minute 960 minute	on(s) (1 d(s) (ye e Change e Change 30 year 30 year	mins) ears) e (%) Winter	I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40% I+40%	US/CL (m) 63.736 63.773 63.718 63.730 63.762 63.628 63.593 63.800 63.800 63.800 58.500 58.500 58.500 58.500 51.972 57.662 61.521 57.302 55.800 55.500	Water (m) 62.716 62.670 62.637 62.915 62.897 62.854 62.694 62.359 62.155 61.727 58.152 58.152 56.986 60.580 57.025 60.126 56.869 55.177 54.967	960, Surcharged Depth (m) -0.195 -0.134 -0.009 0.310 0.399 0.473 0.433 0.433 0.370 0.172 -0.243 0.622 0.627 -0.519 -0.192 -0.200 -0.195 -0.217 -0.213 -0.213 -0.194	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: <b>Flow /</b> <b>Cap</b> . 0.27 0.40 0.68 0.47 0.68 1.12 1.08 2.14 2.27 0.27 0.21 0.02 0.00 0.05 0.03 0.04 0.01 0.01 0.04	20, 880 30 40 <b>Overflow</b>	Flor (1/s 16. 26. 85. 29. 43. 70. 97. 177. 177. 177. 176. 24. 3. 3. 6. 3. 4. 0. 0. 1.

Mott MacDonald		Page 2
Mott MacDonald House		
8-10 Sydenham Road	108939-Marubeni	
Croydon CR0 2EE	Proposed 1 in 30y+40%CC	Micro
Date 15/11/2022 09:45	Designed by A.J	Drainage
File CONCEPUTAL HYDROGENSITE MOD	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	

PN	US/MH Name	Status
1.000	SWMH01	OK
1.001	SWMH02	OK
1.002	SWMH03	OK
2.000	SWMH04	SURCHARGED
2.001	SWMH05	SURCHARGED
2.002	SWMH06	SURCHARGED
2.003	SWMH07	SURCHARGED
1.003	SWMH08	SURCHARGED
1.004	SWMH09	SURCHARGED
1.005	SWMH10	OK
1.006	SWMH11	SURCHARGED
1.007	SWMH12	SURCHARGED
1.008	SWMH13	OK
3.000	SWMH14	OK
3.001	SWMH15	OK
4.000	SWMH17	OK
4.001	SWMH18	OK
4.002	SWMH19	OK
3.002	SWMH20	OK
1.009	SWMH21	OK

Nott MacDonald			I					Page 1	
Nott MacDonald Ho									
3-10 Sydenham Roa	ad			Marubeni					( <u></u>
Croydon CRO 2EE			_	d 1 in 2	-			- Micro	]
Date 15/11/2022 0			-	d by A.J				Drain	апе
File CONCEPUTAL H	HIDROGENSITE	MOD	Checked	2020.1.	2				
Innovyze			Network	2020.1.	5				
Summa	ry of Critic	cal Resul	ts by Ma	ıximum L€	evel (Rar	nk 1) f	or Sto	rm	
Foul Se	Hot Start L Headloss Coeff ewage per hect	on Factor art (mins) Level (mm) Global) Lare (l/s)	0 0 0.500 Flo 0.000	dditional MADD Fa w per Pers	actor * 10 Inlet son per Da	m³/ha St Coeffie y (l/per	corage 2 cient ( c/day) (	2.000 0.800 0.000	0
Number of Input Number of Onl	t Hydrographs line Controls							-	
		Synth	etic Rainf	fall Detai	ls				
		infall Mod fall Versi				FEH 2013			
		ite Locati		650 184300	) SS 91650				
		Data Ty	-		Cat	chment			
		Cv (Summe Cv (Winte				0.750 0.840			
		ov (wince	- /			0.010			
	Margin for F		-						
		Analy	DTS Sta	-	Inertia S	status Of	Ε.		
	Profil	$\circ$ (s)				Gummor	and Min	tor	
Γ	Profil Duration(s) (m	( )	15, 30, 60	), 120, 18	80, 240, 30	Summer a			
	Duration(s) (m	iins)	15, 30, 60	), 120, 18			600 <b>,</b> 7	20, 880	
Return		ars)	15, 30, 60	), 120, 18		50, 480,	600 <b>,</b> 7	20,	
Return	Duration(s) (m Period(s) (ye	ars)	15, 30, 60	), 120, 18		50, 480,	600 <b>,</b> 7	20, 880 2	
Return	Duration(s) (m Period(s) (ye	ars)		Water Su	960, <b>urcharged</b>	60, 480, , 1440, 3 <b>Flooded</b>	600, 7: 2160, 2:	20, 880 2 40	Pipe
Return	Duration(s) (m Period(s) (ye	ars)	15, 30, 60 US/CL (m)		960,	60, 480, , 1440, 3 <b>Flooded</b>	600, 7: 2160, 2:	20, 880 2	
Return US/MH PN Name	Duration(s) (m Period(s) (ye Climate Change <b>Event</b>	nins) ears) e (%)	US/CL (m)	Water Su Level (m)	960, urcharged Depth (m)	50, 480, 1440, 3 Flooded Volume (m <sup>3</sup> )	600, 7: 2160, 2 Flow / Cap.	20, 880 2 40 <b>Overflow</b>	Flor (1/s
Return U <b>S/MH PN Name</b> 1.000 SWMH01 30 m	Duration(s) (m Period(s) (ye Climate Change	Winter I+4	US/CL (m) 0% 63.736	Water St Level (m) 62.680	960, urcharged Depth	50, 480, , 1440, 2 Flooded Volume	600, 7: 2160, 2: Flow /	20, 880 2 40 <b>Overflow</b>	Flor (1/s 7.
Return US/MH PN Name 1.000 SWMH01 30 m 1.001 SWMH02 30 m 1.002 SWMH03 15 m	Duration(s) (m Period(s) (ye Climate Change <b>Event</b> minute 2 year minute 2 year minute 2 year	Winter I+4 Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718	Water St Level (m) 62.680 62.594 62.459	960, urcharged Depth (m) -0.231 -0.210 -0.187	<pre>50, 480, 14400, 1440, 140</pre>	600, 7: 2160, 2: Flow / Cap. 0.12 0.19 0.30	20, 880 2 40 <b>Overflow</b>	<b>Flo</b> (1/s 12 37
Return US/MH PN Name 1.000 SWMH01 30 m 1.001 SWMH02 30 m 1.002 SWMH03 15 m 2.000 SWMH04 30 m	Duration(s) (m Period(s) (ye Climate Change <b>Event</b> minute 2 year minute 2 year minute 2 year minute 2 year	Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.730	Water St Level (m) 62.680 62.594 62.459 62.394	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211	<pre>50, 480, 1440</pre>	600, 7: 2160, 2: Flow / Cap. 0.12 0.19 0.30 0.19	20, 880 2 40 <b>Overflow</b>	Flo (1/s 7. 12. 37. 12.
Return US/MH PN Name 1.000 SWMH01 30 m 1.001 SWMH02 30 m 1.002 SWMH03 15 m 2.000 SWMH04 30 m 2.001 SWMH05 30 m	Duration(s) (m Period(s) (ye Climate Change <b>Event</b> minute 2 year minute 2 year minute 2 year minute 2 year minute 2 year	Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.730 0% 63.762	Water St Level (m) 62.680 62.594 62.459 62.394 62.313	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211 -0.184	<pre>50, 480, 1440</pre>	600, 7: 2160, 2: Flow / Cap. 0.12 0.19 0.30 0.19 0.32	20, 880 2 40 <b>Overflow</b>	Flo (1/s 7. 12. 37. 12. 20.
Return US/MH PN Name 1.000 SWMH01 30 m 1.001 SWMH02 30 m 1.002 SWMH03 15 m 2.000 SWMH03 30 m 2.001 SWMH05 30 m 2.002 SWMH06 15 m	Duration(s) (m Period(s) (ye Climate Change <b>Event</b> minute 2 year minute 2 year minute 2 year minute 2 year	Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.730 0% 63.762 0% 63.628	Water St Level (m) 62.680 62.594 62.459 62.394 62.313 62.247	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211	<pre>50, 480, 1440</pre>	600, 7: 2160, 2: Flow / Cap. 0.12 0.19 0.30 0.19	20, 880 2 40 <b>Overflow</b>	<b>Flo</b> (1/s 7 12 37 12 20 36
Return US/MH PN Name 1.000 SWMH01 30 m 1.001 SWMH02 30 m 1.002 SWMH03 15 m 2.000 SWMH03 30 m 2.001 SWMH05 30 m 2.002 SWMH06 15 m 2.003 SWMH06 15 m	Duration(s) (m Period(s) (ye Climate Change <b>Event</b> minute 2 year minute 2 year	Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.730 0% 63.762 0% 63.628 0% 63.593 0% 63.800	Water St Level (m) 62.680 62.594 62.459 62.394 62.313 62.247 62.121 61.999	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211 -0.184 -0.134 -0.140 0.010	<pre>Flooded Volume (m³) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000</pre>	600, 7: 2160, 2: Flow / Cap. 0.12 0.19 0.30 0.19 0.32 0.58 0.55 0.95	20, 880 2 40 <b>Overflow</b>	<b>Flo</b> (1/: 7 12 37 12 20 36 49 78
Return US/MH PN Name 1.000 SWMH01 30 m 1.001 SWMH02 30 m 1.002 SWMH03 15 m 2.000 SWMH03 30 m 2.001 SWMH05 30 m 2.002 SWMH05 30 m 2.003 SWMH05 15 m 1.003 SWMH08 15 m	Duration(s) (m Period(s) (ye Climate Change minute 2 year minute 2 year	Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.730 0% 63.762 0% 63.628 0% 63.593 0% 63.800 0% 63.800	Water St Level (m) 62.680 62.594 62.459 62.394 62.313 62.247 62.121 61.999 61.982	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211 -0.184 -0.134 -0.140 0.010 0.000	<pre>Flooded Volume (m³) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000</pre>	600, 7: 2160, 2: Flow / Cap. 0.12 0.19 0.30 0.19 0.32 0.58 0.55 0.95 1.01	20, 880 2 40 <b>Overflow</b>	<b>Flo</b> (1/s 7 12 37 12 20 36 49 78 78
US/MH         Name           1.000         SWMH01         30 m           1.001         SWMH02         30 m           1.002         SWMH03         15 m           2.000         SWMH03         15 m           2.001         SWMH05         30 m           2.002         SWMH05         30 m           2.003         SWMH05         15 m           1.003         SWMH08         15 m           1.004         SWMH09         15 m	Duration(s) (m Period(s) (ye Climate Change minute 2 year minute 2 year	Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.730 0% 63.762 0% 63.628 0% 63.800 0% 63.800 0% 63.800	Water Sn Level (m) 62.680 62.594 62.459 62.394 62.313 62.247 62.121 61.999 61.982 61.680	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211 -0.184 -0.134 -0.140 0.010 0.000 -0.290	<pre>Flooded Volume (m³) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000</pre>	<pre>600, 7: 2160, 2: 2160, 2: 7 Cap. 0.12 0.19 0.30 0.19 0.32 0.58 0.55 0.95 1.01 0.12</pre>	20, 880 2 40 <b>Overflow</b>	Flo (1/s 7 12 37 12 20 36 49 78 78 78
US/MH         Name           1.000         SWMH01         30 m           1.001         SWMH02         30 m           1.002         SWMH03         15 m           2.000         SWMH03         15 m           2.001         SWMH05         30 m           2.002         SWMH04         30 m           2.003         SWMH05         15 m           1.003         SWMH07         15 m           1.004         SWMH09         15 m           1.005         SWMH10         15 m	Duration(s) (m Period(s) (ye Climate Change <b>Event</b> minute 2 year minute 2 year	Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.730 0% 63.762 0% 63.628 0% 63.628 0% 63.800 0% 63.800 0% 63.800 0% 58.500	Water Sn Level (m) 62.680 62.594 62.459 62.394 62.313 62.247 62.121 61.999 61.982 61.680 57.737	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211 -0.184 -0.134 -0.140 0.010 0.000 -0.290 0.207	<pre>Flooded Volume (m³) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000</pre>	<pre>600, 7: 2160, 2:</pre>	20, 880 2 40 <b>Overflow</b>	Flo (1/s 12. 37. 12. 20. 36. 49. 78. 78. 78. 15.
US/MH         Name           1.000         SWMH01         30 m           1.001         SWMH02         30 m           1.002         SWMH03         15 m           2.000         SWMH03         15 m           2.001         SWMH05         30 m           2.002         SWMH03         15 m           2.003         SWMH05         30 m           1.003         SWMH07         15 m           1.003         SWMH08         15 m           1.004         SWMH09         15 m           1.005         SWMH10         15 m           1.006         SWMH11         960 m	Duration(s) (m Period(s) (ye Climate Change minute 2 year minute 2 year	Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.730 0% 63.762 0% 63.628 0% 63.800 0% 63.800 0% 63.800 0% 58.500	Water St Level (m) 62.680 62.594 62.459 62.394 62.313 62.247 62.121 61.999 61.982 61.680 57.737 57.736	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211 -0.184 -0.134 -0.140 0.010 0.000 -0.290	<pre>Flooded Volume (m³) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000</pre>	<pre>600, 7: 2160, 2: 2160, 2: 7 Cap. 0.12 0.19 0.30 0.19 0.32 0.58 0.55 0.95 1.01 0.12</pre>	20, 880 2 40 <b>Overflow</b>	<b>Flo</b> (1/s 12. 37. 12. 20. 36. 49. 78. 78. 15. 2.
US/MH         Name           1.000         SWMH01         30 m           1.001         SWMH02         30 m           1.002         SWMH03         15 m           2.000         SWMH03         15 m           2.001         SWMH05         30 m           2.002         SWMH04         30 m           2.003         SWMH05         15 m           1.003         SWMH07         15 m           1.003         SWMH08         15 m           1.004         SWMH09         15 m           1.005         SWMH10         15 m           1.006         SWMH12         960 m           1.007         SWMH13         360 m           3.000         SWMH14         30 m	Duration(s) (m Period(s) (ye Climate Change <b>Event</b> minute 2 year minute 2 year	Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.730 0% 63.762 0% 63.628 0% 63.628 0% 63.800 0% 63.800 0% 63.800 0% 58.500 0% 58.500 0% 58.500 0% 61.972	Water Sr Level (m) 62.680 62.594 62.459 62.394 62.313 62.247 62.121 61.999 61.982 61.680 57.737 57.736 56.986 60.571	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211 -0.184 -0.134 -0.140 0.010 0.000 -0.290 0.207 0.211 -0.519 -0.201	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: <b>Flow /</b> Cap. 0.12 0.19 0.30 0.19 0.32 0.58 0.55 0.95 1.01 0.12 0.13 0.02 0.00 0.02	20, 880 2 40 <b>Overflow</b>	Flo (1/s 7 12 37 12 20 36 49 78 78 78 78 15 2 2 2 2
US/MH         Name           1.000         SWMH01         30 m           1.001         SWMH02         30 m           1.002         SWMH03         15 m           2.000         SWMH03         15 m           2.001         SWMH05         30 m           2.002         SWMH05         30 m           2.003         SWMH07         15 m           1.003         SWMH09         15 m           1.004         SWMH09         15 m           1.005         SWMH10         15 m           1.006         SWMH12         960 m           1.007         SWMH13         360 m           3.000         SWMH14         30 m	Duration(s) (m Period(s) (ye Climate Change Event minute 2 year minute 2 year	Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.730 0% 63.762 0% 63.628 0% 63.800 0% 63.800 0% 63.800 0% 63.800 0% 58.500 0% 58.500 0% 58.500 0% 58.500 0% 58.500 0% 61.972 0% 57.662	Water Sr Level (m) 62.680 62.594 62.459 62.394 62.313 62.247 62.121 61.999 61.982 61.680 57.737 57.736 56.986 60.571 57.007	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211 -0.184 -0.134 -0.140 0.010 0.000 -0.290 0.207 0.211 -0.519 -0.201 -0.218	<pre>Flooded Volume (m<sup>3</sup>) 0.000</pre>	600, 7: 2160, 2: 2160, 2: <b>Flow /</b> Cap. 0.12 0.19 0.30 0.19 0.32 0.58 0.55 0.95 1.01 0.12 0.13 0.02 0.00 0.02 0.01	20, 880 2 40 <b>Overflow</b>	Flo (1/s 7 12 37 12 20 36 49 78 78 78 78 15 2 2 2 2 0
US/MH         Name           I.000         SWMH01         30 m           1.001         SWMH02         30 m           1.002         SWMH03         15 m           2.000         SWMH03         15 m           2.001         SWMH05         30 m           2.002         SWMH05         30 m           2.003         SWMH07         15 m           1.003         SWMH09         15 m           1.004         SWMH09         15 m           1.005         SWMH10         15 m           1.006         SWMH12         960 m           1.007         SWMH13         360 m           3.000         SWM13         360 m           3.001         SWM15         720 m           4.000         SWM17         30 m	Duration(s) (m Period(s) (ye Climate Change Event minute 2 year minute 2 year	Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.730 0% 63.762 0% 63.628 0% 63.628 0% 63.800 0% 63.800 0% 63.800 0% 63.800 0% 58.500 0% 58.500 0% 58.500 0% 58.500 0% 58.500 0% 57.662 0% 61.521	Water Sr Level (m) 62.680 62.594 62.459 62.394 62.313 62.247 62.121 61.999 61.982 61.680 57.737 57.736 56.986 60.571 57.007 60.117	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211 -0.184 -0.134 -0.140 0.010 0.000 -0.290 0.207 0.211 -0.519 -0.201 -0.218 -0.204	<pre>Flooded Volume (m<sup>3</sup>) 0.000</pre>	600, 7: 2160, 2: 2160, 2: <b>Flow /</b> Cap. 0.12 0.19 0.30 0.19 0.32 0.58 0.55 0.95 1.01 0.12 0.13 0.02 0.00 0.02 0.01 0.02	20, 880 2 40 <b>Overflow</b>	Flor (1/s 7. 12. 37. 12. 20. 36. 49. 78. 78. 78. 78. 15. 2. 2. 2. 0. 2.
US/MH         Name           PN         Name           1.000         SWMH01         30 m           1.001         SWMH02         30 m           1.002         SWMH03         15 m           2.000         SWMH04         30 m           2.001         SWMH05         30 m           2.002         SWMH05         30 m           2.003         SWMH07         15 m           1.003         SWMH08         15 m           1.004         SWMH09         15 m           1.005         SWMH10         15 m           1.006         SWMH12         960 m           1.007         SWMH13         360 m           3.000         SWM13         360 m           3.001         SWM15         720 m           4.000         SWM17         30 m	Duration(s) (m Period(s) (ye Climate Change <b>Event</b> minute 2 year minute 2 year	Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.730 0% 63.762 0% 63.628 0% 63.628 0% 63.800 0% 63.800 0% 63.800 0% 63.800 0% 58.500 0% 58.500 0% 58.500 0% 58.500 0% 58.500 0% 58.500 0% 57.662 0% 61.521 0% 57.302	Water Sr Level (m) 62.680 62.594 62.459 62.394 62.313 62.247 62.121 61.999 61.982 61.680 57.737 57.736 56.986 60.571 57.007 60.117 56.862	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211 -0.184 -0.134 -0.140 0.010 0.000 -0.290 0.207 0.211 -0.519 -0.201 -0.218 -0.204 -0.223	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: 2160, 2: 2160, 2: 0.12 0.12 0.19 0.30 0.19 0.32 0.58 0.55 0.95 1.01 0.12 0.13 0.02 0.00 0.02 0.01 0.02 0.00	20, 880 2 40 <b>Overflow</b>	Flor (1/s 7. 12. 37. 12. 20. 36. 49. 78. 78. 78. 78. 15. 2. 2. 0. 2. 0. 0. 0.
US/MH         Name           PN         Name           1.000         SWMH01         30 m           1.001         SWMH02         30 m           1.002         SWMH03         15 m           2.000         SWMH04         30 m           2.001         SWMH05         30 m           2.002         SWMH05         30 m           2.003         SWMH07         15 m           1.003         SWMH09         15 m           1.004         SWMH09         15 m           1.005         SWMH10         15 m           1.006         SWMH10         15 m           1.007         SWMH12         960 m           1.008         SWM13         360 m           3.000         SWM14         30 m           3.001         SWM15         720 m	Duration(s) (m Period(s) (ye Climate Change minute 2 year minute 2 year	Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.700 0% 63.762 0% 63.628 0% 63.593 0% 63.800 0% 63.800 0% 63.800 0% 63.800 0% 58.500 0% 58.500 0% 58.500 0% 58.500 0% 57.662 0% 61.521 0% 57.302 0% 55.800	Water St Level (m) 62.680 62.594 62.459 62.394 62.313 62.247 62.121 61.999 61.982 61.680 57.737 57.736 56.986 60.571 57.007 60.117 56.862 55.167	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211 -0.184 -0.134 -0.140 0.010 0.000 -0.290 0.207 0.211 -0.519 -0.201 -0.218 -0.204	<pre>Flooded Volume (m<sup>3</sup>) 0.000</pre>	600, 7: 2160, 2: 2160, 2: 2160, 2: <b>Flow /</b> <b>Cap</b> . 0.12 0.19 0.30 0.19 0.32 0.58 0.55 0.95 1.01 0.12 0.13 0.02 0.00 0.02 0.01 0.02	20, 880 2 40 <b>Overflow</b>	Flor (1/s 7. 12. 37. 12. 20. 36. 49. 78. 78. 78. 78. 15. 2. 2. 0. 0. 0. 0.
US/MH         Name           PN         Name           1.000         SWMH01         30 m           1.001         SWMH02         30 m           1.002         SWMH03         15 m           2.000         SWMH03         15 m           2.001         SWMH05         30 m           2.002         SWMH05         30 m           2.003         SWMH05         15 m           1.003         SWMH07         15 m           1.004         SWMH09         15 m           1.005         SWM11         960 m           1.006         SWM11         960 m           1.007         SWM12         960 m           1.008         SWM13         360 m           3.001         SWM13         360 m           3.001         SWM14         30 m           4.000         SWM17         30 m           4.001         SWM18         2880 m	Duration(s) (m Period(s) (ye Climate Change minute 2 year minute 2 year	Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.700 0% 63.762 0% 63.628 0% 63.628 0% 63.800 0% 63.800 0% 63.800 0% 63.800 0% 58.500 0% 58.500 0% 58.500 0% 57.662 0% 61.521 0% 57.302 0% 55.800 0% 55.500	Water St Level (m) 62.680 62.594 62.459 62.394 62.313 62.247 62.121 61.999 61.982 61.680 57.737 57.736 56.986 60.571 57.007 60.117 56.862 55.167 54.947	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211 -0.184 -0.134 -0.140 0.010 0.000 -0.290 0.207 0.211 -0.519 -0.201 -0.218 -0.204 -0.223 -0.222	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: 2160, 2: 2160, 2: 0.12 0.19 0.30 0.19 0.32 0.58 0.55 0.95 1.01 0.12 0.13 0.02 0.00 0.02 0.01 0.02 0.00 0.00	20, 880 2 40 <b>Overflow</b>	Flo
US/MH         Name           PN         Name           1.000         SWMH01         30 m           1.001         SWMH02         30 m           1.002         SWMH03         15 m           2.000         SWMH04         30 m           2.001         SWMH05         30 m           2.002         SWMH06         15 m           2.003         SWMH07         15 m           1.004         SWMH09         15 m           1.005         SWMH10         15 m           1.006         SWMH10         15 m           1.007         SWMH12         960 m           3.000         SWM113         360 m           3.001         SWM113         360 m           3.001         SWM115         720 m           4.001         SWM118         2880 m           4.002         SWM120         2880 m	Duration(s) (m Period(s) (ye Climate Change minute 2 year minute 2 year	Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.700 0% 63.762 0% 63.628 0% 63.628 0% 63.800 0% 63.800 0% 63.800 0% 63.800 0% 58.500 0% 58.500 0% 58.500 0% 57.662 0% 61.521 0% 57.302 0% 55.800 0% 55.500	Water St Level (m) 62.680 62.594 62.459 62.394 62.313 62.247 62.121 61.999 61.982 61.680 57.737 57.736 56.986 60.571 57.007 60.117 56.862 55.167 54.947	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211 -0.184 -0.134 -0.140 0.010 0.000 -0.290 0.207 0.211 -0.519 -0.201 -0.218 -0.204 -0.223 -0.222 -0.214	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: 2160, 2: 2160, 2: 0.12 0.19 0.30 0.19 0.32 0.58 0.55 0.95 1.01 0.12 0.13 0.02 0.00 0.02 0.01 0.02 0.00 0.00 0.01	20, 880 2 40 <b>Overflow</b>	Flor (1/s 7. 12. 37. 12. 20. 36. 49. 78. 78. 78. 78. 15. 2. 2. 0. 0. 0. 0. 0. 0.
US/MH         Name           IN000         SWMH01         30 m           1.0001         SWMH02         30 m           1.0002         SWMH03         15 m           1.0001         SWMH04         30 m           1.0002         SWMH03         15 m           2.0001         SWMH05         30 m           2.0012         SWMH05         30 m           2.0023         SWMH07         15 m           1.0003         SWMH09         15 m           1.0004         SWMH09         15 m           1.0005         SWMH10         15 m           1.0006         SWMH12         960 m           1.0007         SWMH13         360 m           3.0001         SWM13         360 m           3.0001         SWM115         720 m           4.0001         SWM118         2880 m           3.002         SWM120         2880 m	Duration(s) (m Period(s) (ye Climate Change minute 2 year minute 2 year	Winter I+4 Winter I+4	US/CL (m) 0% 63.736 0% 63.773 0% 63.718 0% 63.700 0% 63.762 0% 63.628 0% 63.628 0% 63.800 0% 63.800 0% 63.800 0% 63.800 0% 58.500 0% 58.500 0% 58.500 0% 57.662 0% 61.521 0% 57.302 0% 55.800 0% 55.500	Water St Level (m) 62.680 62.594 62.459 62.394 62.313 62.247 62.121 61.999 61.982 61.680 57.737 57.736 56.986 60.571 57.007 60.117 56.862 55.167 54.947	960, urcharged Depth (m) -0.231 -0.210 -0.187 -0.211 -0.184 -0.134 -0.140 0.010 0.000 -0.290 0.207 0.211 -0.519 -0.201 -0.218 -0.204 -0.223 -0.222 -0.214	<pre>Flooded Volume (m³) 0.000</pre>	600, 7: 2160, 2: 2160, 2: 2160, 2: 2160, 2: 0.12 0.19 0.30 0.19 0.32 0.58 0.55 0.95 1.01 0.12 0.13 0.02 0.00 0.02 0.01 0.02 0.00 0.00 0.01	20, 880 2 40 <b>Overflow</b>	Flor (1/s 7. 12. 37. 12. 20. 36. 49. 78. 78. 78. 78. 15. 2. 2. 0. 0. 0. 0. 0. 0.

Mott MacDonald		Page 2
Mott MacDonald House		
8-10 Sydenham Road	108939-Marubeni	
Croydon CRO 2EE	Proposed 1 in 2y+40%CC	Micro
Date 15/11/2022 09:47	Designed by A.J	Drainage
File CONCEPUTAL HYDROGENSITE MOD	Checked by ARD	Diamade
Innovyze	Network 2020.1.3	1

PN	US/MH Name	Status
1.000	SWMH01	OK
1.001	SWMH02	OK
1.002	SWMH03	OK
2.000	SWMH04	OK
2.001	SWMH05	OK
2.002	SWMH06	OK
2.003	SWMH07	OK
1.003	SWMH08	SURCHARGED
1.004	SWMH09	OK
1.005	SWMH10	OK
1.006	SWMH11	SURCHARGED
1.007	SWMH12	SURCHARGED
1.008	SWMH13	OK
3.000	SWMH14	OK
3.001	SWMH15	OK
4.000	SWMH17	OK
4.001	SWMH18	OK
4.002	SWMH19	OK
3.002	SWMH20	OK
1.009	SWMH21	OK

Mott MacDonald		Page 1
Mott MacDonald House	108939-Solar Site	
8-10 Sydenham Road	1 in 100y+40%CC	
Croydon CR0 2EE		Micro
Date 15/11/2022 10:14	Designed by BN	Drainage
File 108939-SOLAR SITE MODEL.MDX	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	

#### STORM SEWER DESIGN by the Modified Rational Method

#### Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and WalesReturn Period (years)2PIMP (%)100M5-60 (mm)21.000Add Flow / Climate Change (%)0Ratio R0.200Minimum Backdrop Height (m)0.200Maximum Rainfall (mm/hr)50Maximum Backdrop Height (m)1.500Maximum Time of Concentration (mins)30Min Design Depth for Optimisation (m)1.200Foul Sewage (1/s/ha)0.000Min Vel for Auto Design only (m/s)1.00Volumetric Runoff Coeff.0.750Min Slope for Optimisation (1:X)500

Designed with Level Soffits

Time Area Diagram for Storm

Time<br/>(mins)Area<br/>(ha)Time<br/>(mins)Area<br/>(mins)Time<br/>(ha)Area<br/>(mins)Area<br/>(ha)0-40.0354-80.2958-120.091Total<br/>Area<br/>ContributingContributing(ha)=0.421

Total Pipe Volume  $(m^3) = 43.296$ 

#### Network Design Table for Storm

« - Indicates pipe capacity < flow

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	-	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	54.757	0.543	100.8	0.051	5.00	0.0	1.500	0	150	Pipe/Conduit	æ
1.001	13.603	0.135	100.8	0.000	0.00	0.0	1.500	0	150	Pipe/Conduit	<u>.</u>
1.002	24.910	0.247	100.8	0.000	0.00	0.0	1.500	0	150	Pipe/Conduit	ð
1.003	11.281	0.112	100.7	0.000	0.00	0.0	1.500	0	150	Pipe/Conduit	<u>.</u>
1.004	47.306	0.469	100.9	0.103	0.00	0.0	1.500	0	225	Pipe/Conduit	ۍ
1.005	75.356	6.280	12.0	0.000	0.00	0.0	1.500	0	225	Pipe/Conduit	<del>.</del>
1.006	5.776	0.116	50.0	0.000	0.00	0.0	1.500	0	225	Pipe/Conduit	<u>.</u>
1.007	13.976	1.398	10.0	0.000	0.00	0.0	1.500	0	225	Pipe/Conduit	æ

#### Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (1/s)	Vel (m/s)	Cap (1/s)	Flow (l/s)
1.000	48.44	6.05	88.036	0.051	0.0	0.0	0.0	0.87	15.4	6.7
1.001	47.73	6.31	87.493	0.051	0.0	0.0	0.0	0.87	15.4	6.7
1.002	46.50	6.78	87.358	0.051	0.0	0.0	0.0	0.87	15.4	6.7
1.003	45.97	7.00	87.111	0.051	0.0	0.0	0.0	0.87	15.4	6.7
1.004	44.38	7.69	86.924	0.153	0.0	0.0	0.0	1.14	45.4	18.4
1.005	43.57	8.07	86.455	0.153	0.0	0.0	0.0	3.32	132.1	18.4
1.006	43.44	8.12	80.175	0.153	0.0	0.0	0.0	1.63	64.6	18.4
1.007	43.31	8.19	80.060	0.153	0.0	0.0	0.0	3.64	144.8	18.4

Mott MacI	Don	ald										Page 2
Mott MacI	Don	ald Ho	use			108	3939-Solar					
8-10 Syde	enh	am Roa	d			1 :	in 100y+40					
Croydon	CR	0 2EE					_		Micro			
Date 15/1	L1/	2022 1	0:14			Des	signed by	BN				
File 1089	File 108939-SOLAR SITE MODEL.MDX							ARD				Drainage
Innovyze Network 2020.1.3												
					Networ	k Des	ign Table	for S	torm			
P	'n	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (1/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
												-
		61.087		40.0	0.000	0.00		1.500	0		Pipe/Conduit	
1.0	009	43.759	1.094	40.0	0.000	0.00	0.0	1.500	0	225	Pipe/Conduit	8
2.0	000	27.009	0.225	120.0	0.068	5.00	0.0	1.500	0	225	Pipe/Conduit	<del>0</del>
2.0	001	22.449	0.187	120.0	0.000	0.00	0.0	1.500	0	225	Pipe/Conduit	Ū.
2.0	002	37.162	0.310	120.0	0.000	0.00	0.0	1.500	0	225	Pipe/Conduit	ď
		60.172			0.000	0.00		1.500	0		Pipe/Conduit	<b>v</b>
		23.233			0.000	0.00		1.500	0		Pipe/Conduit	-
2.0	005	12.516	0.104	120.0	0.000	0.00	0.0	1.500	0	225	Pipe/Conduit	ď
3.0	000	61.551	5.730	10.7	0.032	5.00	0.0	1.500	0	225	Pipe/Conduit	ð
4.0	000	50.630	0.506	100.1	0.018	5.00	0.0	1.500	0	225	Pipe/Conduit	۵
3.0	001	8.073	0.146	55.3	0.055	0.00	0.0	1.500	0	225	Pipe/Conduit	ď
		34.001		50.0	0.000	0.00		1.500	0		Pipe/Conduit	<b>•</b>
3.0	003	30.647	0.383	80.0	0.000	0.00		1.500	0	225	Pipe/Conduit	
3.0	004	18.504	1.850	10.0	0.000	0.00	0.0	1.500	0		Pipe/Conduit	
3.0	005	18.593	0.186	100.0	0.000	0.00	0.0	1.500	0	150	Pipe/Conduit	
2.0	006	7.977	0.066	120.0	0.000	0.00	0.0	1.500	0	150	Pipe/Conduit	•
5.0	000	17.632	0.147	119.9	0.062	5.00	0.0	1.500	0	225	Pipe/Conduit	<del>0</del>
5.0	001	6.433	0.054	120.0	0.000	0.00		1.500	0		Pipe/Conduit	ð
5.0	002	13.566	0.113	120.0	0.000	0.00	0.0	1.500	0	225	Pipe/Conduit	

#### Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)		Add Flow (l/s)	Vel (m/s)	Cap (1/s)	Flow (l/s)	
1.008 1.009	42.20 41.45		78.662 77.135	0.153 0.153	0.0	0.0	0.0	1.82 1.82	72.3 72.3	18.4 18.4	
2.000 2.001 2.002 2.003 2.004	50.00 49.17 47.53 45.17 44.34	5.79 6.38 7.34	75.141 74.916 74.729 74.419 73.918	0.068 0.068 0.068 0.068 0.068	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	1.05 1.05 1.05 1.05 1.05	41.6 41.6 41.6 41.6 41.6	9.3 9.3 9.3 9.3 9.3	
2.004 2.005 3.000	44.34 43.91 50.00	7.90	73.918 73.724 82.903	0.068	0.0	0.0	0.0	1.05	41.6 41.6	9.3 9.3 4.3	
4.000	49.33		77.679	0.018	0.0	0.0	0.0	1.15	45.6	2.4	
3.001 3.002 3.003 3.004 3.005	49.07 48.09 47.04 46.82 45.94	6.17 6.57 6.65	77.173 77.027 76.347 75.964 74.113	0.105 0.105 0.105 0.105 0.105	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	1.55 1.63 1.28 3.64 0.88	61.5 64.6 51.1 144.8 15.5	13.9 13.9 13.9 13.9 13.9 13.9	
2.006	43.55	8.07	73.620	0.173	0.0	0.0	0.0	0.80	14.1«	20.4	
5.000 5.001 5.002	50.00 50.00 49.73	5.38	74.784 74.637 74.583	0.062 0.062 0.062	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	1.05 1.05 1.05	41.7 41.6 41.6	8.3 8.3 8.3	
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Mott MacDonald House	108939-Solar Site	
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File 108939-SOLAR SITE MODEL.MDX	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	

#### Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)		Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
5.004 5.005 5.006	11.085 16.839 19.222 41.645 32.327	0.140 0.160 0.347	120.0 120.0 120.0	0.000 0.000 0.000 0.000 0.000	0.00 0.00 0.00 0.00 0.00	0.0 0.0 0.0	1.500 1.500 1.500 1.500 1.500		225 225 225	Pipe/Conduit Pipe/Conduit Pipe/Conduit Pipe/Conduit Pipe/Conduit	5 5 5 •
2.007 1.010 1.011 1.012	40.591	2.030	20.0	0.033	0.00	0.0	1.500 1.500 0.600 0.600	0	225 225 300	Pipe/Conduit Pipe/Conduit Pipe/Conduit Pipe/Conduit	۳ ۳

#### Network Results Table

PN	Rain	T.C.	US/IL	Σ I.Area	Σ Base	Foul	Add Flow	Vel	Cap	Flow
	(mm/hr)	(mins)	(m)	(ha)	Flow (l/s)	(1/s)	(l/s)	(m/s)	(1/s)	(l/s)
5.003 5.004 5.005 5.006	49.21 48.45 47.61 45.93	6.04 6.35 7.01	74.470 74.378 74.238 74.077	0.062 0.062 0.062 0.062	0.0 0.0 0.0	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	1.05 1.05 1.05 1.05	41.6 41.6 41.6 41.6	8.3 8.3 8.3 8.3
5.007 2.007	44.73 41.28	9.24	73.730 73.461	0.062	0.0	0.0	0.0	1.05	41.6 41.6	8.3 29.9
1.010	40.81	9.97	72.847	0.421	0.0	0.0	0.0	2.57	102.3	46.6
1.011	40.03		70.742	0.421	0.0	0.0	0.0	1.28	90.6	46.6
1.012	39.35		70.800	0.421	0.0	0.0	0.0	2.43	96.7	46.6

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Mott MacDonald House	108939-Solar Site	
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Innovyze	Network 2020.1.3	

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)
SWMH1	89.236	1.200	Open Manhol	.e 1050	1.000	88.036	150				
SWMH2	88.729	1.236	Open Manhol	e 1050	1.001	87.493	150	1.000	87.493	150	
SWMH3	88.526	1.168	Open Manhol	e 1050	1.002	87.358	150	1.001	87.358	150	
SWMH4	88.314	1.203	Open Manhol	e 1050	1.003	87.111	150	1.002	87.111	150	
SWMH5	88.001	1.077	Open Manhol	.e 1200	1.004	86.924	225	1.003	86.999	150	
SWMH6	87.760	1.305	Open Manhol	.e 1200	1.005	86.455	225	1.004	86.455	225	
SWMH7	81.246	1.071	Open Manhol	.e 1200	1.006	80.175	225	1.005	80.175	225	
SWMH8	81.001	0.941	Open Manhol	.e 1200	1.007	80.060	225	1.006	80.060	225	
SWMH9	79.644	0.981	Open Manhol	.e 1200	1.008	78.662	225	1.007	78.662	225	
SWMH10	78.304	1.169	Open Manhol	e 1200	1.009	77.135	225	1.008	77.135	225	
SWMH11	76.341	1.200	Open Manhol	e 1050	2.000	75.141	225				
SWMH12	76.459	1.543	Open Manhol	e 1200	2.001	74.916	225	2.000	74.916	225	
SWMH13	76.566	1.837	Open Manhol	e 1200	2.002	74.729	225	2.001	74.729	225	
SWMH14	76.256	1.837	Open Manhol	e 1200	2.003	74.419	225	2.002	74.419	225	
SWMH15	77.116	3.198	Open Manhol	e 1200	2.004	73.918	225	2.003	73.918	225	
SWMH16	77.144	3.420	Open Manhol	e 1200	2.005	73.724	225	2.004	73.724	225	
SWMH17	84.103	1.200	Open Manhol	e 1050	3.000	82.903	225				
SWMH18	78.871	1.192	Open Manhol	e 1050	4.000	77.679	225				
SWMH19	78.398	1.225	Open Manhol	e 1050	3.001	77.173	225	3.000	77.173	225	
								4.000	77.173	225	
SWMH20	78.207	1.180	Open Manhol	e 1200	3.002	77.027	225	3.001	77.027	225	
SWMH21	77.223	0.876	Open Manhol	e 1200	3.003	76.347	225	3.002	76.347	225	
SWMH22	77.031	1.067	Open Manhol	e 1200	3.004	75.964	225	3.003	75.964	225	
SWMH23	75.151	1.038	Open Manhol	e 1200	3.005	74.113	150	3.004	74.114	225	
SWMH24	76.982	3.363	Open Manhol	e 1200	2.006	73.620	150	2.005	73.620	225	
								3.005	73.927	150	307
SWMH25	75.984	1.200	Open Manhol	e 1050	5.000	74.784	225				
SWMH26	76.171	1.534	Open Manhol	e 1200	5.001	74.637	225	5.000	74.637	225	
	76.398		-			74.583		5.001	74.583	225	
SWMH28	77.475	3.005	Open Manhol	e 1200	5.003	74.470	225	5.002	74.470	225	
SWMH29	76.713	2.335	Open Manhol	e 1200	5.004	74.378	225	5.003	74.378	225	
SWMH30	76.521	2.283	Open Manhol	e 1200	5.005	74.238	225	5.004	74.238	225	
SWMH31	76.124	2.047	Open Manhol	e 1200	5.006	74.077	225	5.005	74.077	225	
SWMH32	77.373	3.643	Open Manhol	e 1200	5.007	73.730	225	5.006	73.730	225	
SWMH33	76.092	2.631	Open Manhol	e 1200	2.007	73.461	225	2.006	73.553	150	17
								5.007	73.461	225	
SWMH34	77.447	4.600	Open Manhol	e 1200	1.010	72.847	225	1.009	76.041	225	3194
								2.007	72.847	225	
			Open Manhol		1.011	70.742	300	1.010	70.817	225	
SWMH36	72.000	1.494	Open Manhol	e 1200	1.012	70.800	225	1.011	70.506	300	
37	69.000	0.300	Open Manhol	.e 0		OUTFALL		1.012	68.700	225	

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Innovyze	Network 2020.1.3	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SWMH1	291843.547	184619.107	291843.547	184619.107	Required	-
SWMH2	291794.119	184642.668	291794.064	184642.497	Required	
SWMH3	291780.712	184644.971	291780.776	184645.139	Required	
SWMH4	291759.388	184657.846	291759.368	184657.668	Required	
SWMH5	291748.645	184654.405	291748.764	184654.327	Required	0
SWMH6	291754.282	184607.436	291754.141	184607.452	Required	
SWMH7	291729.077	184536.421	291729.219	184536.413	Required	
SWMH8	291730.380	184530.794	291730.237	184530.795	Required	
SWMH9	291727.212	184517.182	291727.354	184517.195	Required	
SWMH10	291751.397	184461.086	291751.256	184461.065	Required	1
SWMH11	291933.249	184305.748	291933.249	184305.748	Required	$\overline{}$
SWMH12	291915.089	184325.739	291914.999	184325.629	Required	
SWMH13	291895.815	184337.251	291895.752	184337.123	Required	
SWMH14	291861.162	184350.672	291861.274	184350.760	Required	
SWMH15	291853.125	184410.305	291852.900	184410.213	Required	
SWMH16	291839.194	184428.898	291839.060	184428.696	Required	1
SWMH17	291850.557	184589.678	291850.557	184589.678	Required	~
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Mott MacDonald House	108939-Solar Site	
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File 108939-SOLAR SITE MODEL.MDX	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	1

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SWMH18	291897.810	184539.785	291897.810	184539.785	Required	
SWMH19	291848.532	184528.160	291848.532	184528.160	Required	J-
SWMH20	291842.364	184522.952	291842.482	184522.873	Required	Q
SWMH21	291831.766	184490.644	291831.906	184490.615	Required	
SWMH22	291828.659	184460.155	291828.530	184460.215	Required	
SWMH23	291815.949	184446.708	291816.091	184446.700	Required	er.
SWMH24	291827.010	184431.762	291827.010	184431.762	Required	2
SWMH25	291846.885	184279.582	291846.885	184279.582	Required	1
SWMH26	291848.123	184297.171	291847.981	184297.160	Required	
SWMH27	291846.708	184303.446	291846.583	184303.378	Required	
SWMH28	291837.069	184312.992	291837.262	184313.138	Required	×.
SWMH29	291831.585	184322.626	291831.723	184322.664	Required	d
SWMH30	291831.585	184339.465	291831.727	184339.449	Required	Ì
SWMH31	291835.915	184358.193	291835.773	184358.205	Required	Ļ
SWMH32	291833.884	184399.789	291833.649	184399.729	Required	
SWMH33	291819.606	184428.792	291819.606	184428.792	Required	
SWMH34	291746.783	184417.571	291746.783	184417.571	Required	-

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Mott MacDonald House	108939-Solar Site	
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File 108939-SOLAR SITE MODEL.MDX	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	1

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SWMH35	291738.007	184377.940	291737.847	184378.023	Required	6
SWMH36	291714.073	184351.674	291713.946	184351.802	Required	6
37	291667.969	184311.371			No Entry	· • •

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Mott MacDonald House	108939-Solar Site	
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#### 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)
1.000	0	150	SWMH1	89.236	88.036	1.050	Open Manhole	1050
1.001	0	150	SWMH2	88.729	87.493	1.086	Open Manhole	1050
1.002	0	150	SWMH3	88.526	87.358	1.018	Open Manhole	1050
1.003	0	150	SWMH4	88.314	87.111	1.053	Open Manhole	1050
1.004	0	225	SWMH5	88.001	86.924	0.852	Open Manhole	1200
1.005	0	225	SWMH6	87.760	86.455	1.080	Open Manhole	1200
1.006	0	225	SWMH7	81.246	80.175	0.846	Open Manhole	1200
1.007	0	225	SWMH8	81.001	80.060	0.716	Open Manhole	1200
1.008	0	225	SWMH9	79.644	78.662	0.756	Open Manhole	1200
1.009	0	225	SWMH10	78.304	77.135	0.944	Open Manhole	1200
2.000	0	225	SWMH11	76.341	75.141	0.975	Open Manhole	1050
2.001	0	225	SWMH12	76.459	74.916	1.318	Open Manhole	1200
2.002	0	225	SWMH13	76.566	74.729	1.612	Open Manhole	1200
2.003	0	225	SWMH14	76.256	74.419	1.612	Open Manhole	1200
2.004	0	225	SWMH15	77.116	73.918	2.973	Open Manhole	1200
2.005	0	225	SWMH16	77.144	73.724	3.195	Open Manhole	1200
3.000	0	225	SWMH17	84.103	82.903	0.975	Open Manhole	1050
4.000	0	225	SWMH18	78.871	77.679	0.967	Open Manhole	1050
3.001	0	225	SWMH19	78.398	77.173	1.000	Open Manhole	1050
3.002	0	225	SWMH20	78.207	77.027	0.955	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)
1 000	54.757	100 9	SWMH2	88.729	87.493	1 096	Open Manhole	1050
	13.603		SWMH2 SWMH3	88.526	87.358		Open Manhole	1050
	24.910		SWMH3 SWMH4	88.314	87.111		Open Manhole	1050
	11.281		SWMH4 SWMH5	88.001	86.999		Open Manhole	1050
	47.306		SWMH5 SWMH6	87.760	86.455		Open Manhole	1200
	75.356	12.0	SWMH0 SWMH7	81.246	80.175		Open Manhole	1200
1.005		50.0	SWMH / SWMH8	81.001	80.060		Open Manhole	1200
		10.0	SWMH0 SWMH9	79.644	78.662		Open Manhole	1200
	61.087	40.0	SWMH10	78.304	77.135		Open Manhole	1200
	43.759	40.0	SWMH10 SWMH34	78.304	76.041		Open Manhole	1200
1.009	43.759	40.0	SWMH34	//.44/	/0.041	1.100	open Mannole	1200
2 000	27.009	120 0	CENTRE 1 2	76.459	74.916	1 210	Open Manhole	1200
	27.009		SWMH12 SWMH13	76.566	74.910		Open Manhole	1200
	37.162			76.256	74.729		Open Manhole	1200
	60.172			76.236	73.918		Open Manhole	1200
	23.233			77.144	73.724		1	1200
				76.982	73.620		Open Manhole	
2.005	12.516	120.0	SWMH24	/6.982	/3.620	3.137	Open Manhole	1200
3.000	61.551	10.7	SWMH19	78.398	77.173	1.000	Open Manhole	1050
4.000	50.630	100.1	SWMH19	78.398	77.173	1.000	Open Manhole	1050
3.001	8.073	55.3	SWMH20	78.207	77.027	0.955	Open Manhole	1200
3.002	34.001	50.0	SWMH21	77.223	76.347		Open Manhole	1200
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Innovy	ze				Ne	etwork	2020.1	.3				
	S	ummary d	of Criti	.cal Re	sults	by Ma	ximum	Level (Rai	nk 1) f	or Sto	rm	
N11	Fc	H nole Head oul Sewage	Hot St ot Start loss Coef e per hec	art (mi: Level (n f (Glob tare (l	tor 1. ns) mm) al) 0. /s) 0.	000 A 0 500 Flo 000	MADD w per Pe	al Flow - % Factor * 10	Om³/ha St Coeffie ay (l/per	corage 2 ecient ( c/day) (	2.000 0.800 0.000	0
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				Cv (Sı					0.750			
				Cv (Wi	inter)				0.840			
		Ma	rain for							FF		
		Fid.	rgin ior		nalysi	-	tep Fir	0 DVD S ne Inertia S DN				
	Re	Durat turn Per:	Profi	A: le(s) mins) ears)	nalysi: J	s Timest DTS Stat	tep Fir tus C	ne Inertia S	Status 01 Summer 60, 480,	FF and Win 600, 7 1440, 2	20,	
	Re	Durat turn Per:	Profi tion(s) ( iod(s) (y	A: le(s) mins) ears)	nalysi: J	s Timest DTS Stat	tep Fir tus C	ne Inertia S DN	Status 01 Summer 60, 480,	FF and Win 600, 7 1440, 2	20, 160 100	
		Durat turn Per:	Profi tion(s) ( iod(s) (y	A: le(s) mins) ears)	nalysi: J	s Timest DTS Stat	tep Fir tus C ), 120, Water	ne Inertia S DN 180, 240, 3 Surcharged	Status Ol Summer 60, 480, 960, <b>Flooded</b>	FF and Win 600, 7 1440, 2	20, 160 100 40	Pip
PN	Re US/MH Name	Durat turn Per:	Profi tion(s) ( iod(s) (y	A le(s) mins) ears) e (%)	nalysi: J	s Timest DTS Stat	tep Fir tus C	ne Inertia S DN 180, 240, 3	Status Ol Summer 60, 480, 960, <b>Flooded</b>	FF and Win 600, 7 1440, 2	20, 160 100	-
	US/MH Name	Durat eturn Per: Clima	Profi tion(s) (s iod(s) (y ate Chang <b>Event</b>	A mins) ears) e (%)	nalysi: 1 15,	s Timest DTS Stat . 30, 60 US/CL (m)	tep Fir tus (), 120, Water Level (m)	Ne Inertia S N 180, 240, 3 Surcharged Depth (m)	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> )	FF and Win 600, 7 1440, 2 Flow / Cap.	20, 160 100 40 <b>Overflow</b>	Flo (1/s
<b>PN</b> 1.000 1.001	US/MH Name SWMH1 1	Durat turn Per: Clima .5 minute	Profi tion(s) (: iod(s) (y ate Chang	A: mins) ears) e (%) Winter	nalysi: 15, 140%	s Timest DTS Stat . 30, 60 US/CL (m) 89.236	tep Fir tus C ), 120, Water Level (m) 89.036	ne Inertia S DN 180, 240, 3 Surcharged Depth	Status Ol Summer 60, 480, 960, Flooded Volume	FF and Win 600, 7 1440, 2 <b>Flow /</b>	20, 160 100 40 Overflow (1/s)	Flo
1.000	US/MH Name SWMH1 1 SWMH2 1	Durat turn Per: Clima .5 minute .5 minute	Profi tion(s) (s iod(s) (y ate Chang <b>Event</b> 100 year	A: mins) ears) e (%) Winter Winter	nalysi: 15, 140% 1+40%	s Timest DTS Stat . 30, 60 US/CL (m) 89.236 88.729	tep Fir tus C ), 120, Water Level (m) 89.036 88.131	Ne Inertia S N 180, 240, 3 Surcharged Depth (m) 0.850	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34	20, 160 100 40 Overflow (1/s)	<b>Flo</b> (1/: 20 19
1.000 1.001 1.002 1.003	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1	Durat eturn Per: Clima .5 minute .5 minute .5 minute .5 minute	Profi tion(s) (s iod(s) (y ate Chang <b>Event</b> 100 year 100 year 100 year 100 year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter	<pre>nalysi:     1</pre>	s Timest DTS Stat 30, 60 US/CL (m) 89.236 88.729 88.526 88.314	tep Fir tus C 0, 120, Water Level (m) 89.036 88.131 87.887 87.639	<pre>he Inertia \$ h 180, 240, 3  Surcharged Depth (m) 0.850 0.488 0.379 0.378</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49	20, 160 40 <b>Overflow</b> (1/s)	<b>Flc</b> (1/) 20 19 20 21
1.000 1.001 1.002 1.003 1.004	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH4 1 SWMH5 1	Durat eturn Per: Clima 5 minute 5 minute 5 minute 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang Event 100 year 100 year 100 year 100 year 100 year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter	<pre>nalysi:     1     1     15,     15,     140%     1+40%     1+40%     1+40%     1+40%     1+40%</pre>	s Timest DTS Stat 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001	tep Fir tus C 0, 120, Water Level (m) 89.036 88.131 87.887 87.639 87.579	<pre>he Inertia S h l80, 240, 3 Surcharged Depth (m) 0.850 0.488 0.379 0.378 0.430</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36	20, 160 40 <b>Overflow</b> (1/s)	<b>Flo</b> (1/3 20 19 20 21 59
1.000 1.001 1.002 1.003 1.004 1.005	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH4 1 SWMH5 1 SWMH6 1	Durat eturn Per: Clima 5 minute 5 minute 5 minute 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang Event 100 year 100 year 100 year 100 year 100 year 100 year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter	<pre>nalysi:     1</pre>	s Timest DTS Stat 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760	<pre>tep Fir tus C , 120, Water Level (m) 89.036 88.131 87.887 87.639 87.579 86.563</pre>	<pre>he Inertia S h ls0, 240, 3 ls0, 240, 3 surcharged</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36 0.46	20, 160 40 <b>Overflow</b> (1/s)	Flc (1/) 20 20 21 59 59
1.000 1.001 1.002 1.003 1.004 1.005 1.006	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH4 1 SWMH5 1 SWMH6 1 SWMH6 1	Durat eturn Per: Clima 5 minute 5 minute 5 minute 5 minute 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang Event 100 year 100 year 100 year 100 year 100 year 100 year 100 year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter	nalysi: 15, 15, 140% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	s Timest DTS Stat 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246	<pre>tep Fir tus C , 120, Water Level (m) 89.036 88.131 87.887 87.639 87.579 86.563 80.453</pre>	<pre>he Inertia \$ he Inertia \$</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36 0.46 1.25	20, 160 40 <b>Overflow</b> (1/s)	<b>Flc</b> (1/ 20 19 20 21 59 59 59
1.000 1.001 1.002 1.003 1.004 1.005	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH4 1 SWMH5 1 SWMH6 1 SWMH6 1 SWMH7 1 SWMH8 1	Durat eturn Per: Clima 5 minute 5 minute 5 minute 5 minute 5 minute 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang Event 100 year 100 year 100 year 100 year 100 year 100 year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter Winter	nalysi: 15, 15, 140% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	s Timest DTS Stat 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001	<pre>tep Fir tus C , 120, Water Level (m) 89.036 88.131 87.887 87.639 87.579 86.563 80.453 80.167</pre>	<pre>he Inertia S h ls0, 240, 3 ls0, 240, 3 surcharged</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36 0.46	20, 160 40 <b>Overflow</b> (1/s)	Flc (1/ 20 20 21 59 59 59 59
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH4 1 SWMH5 1 SWMH6 1 SWMH6 1 SWMH7 1 SWMH8 1 SWMH9 1	Durat eturn Per: Clima 5 minute 5 minute 5 minute 5 minute 5 minute 5 minute 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang Event 100 year 100 year 100 year 100 year 100 year 100 year 100 year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter Winter Winter	<pre>nalysi: 1 15, 15, 140% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%</pre>	s Timest DTS Stat 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644	<pre>tep Fir tus C  , 120,  Water Level (m)  89.036 88.131 87.887 87.639 87.579 86.563 80.453 80.167 78.822</pre>	<pre>le Inertia \$ last inertia \$ las</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36 0.46 1.25 0.46	20, 160 40 <b>Overflow</b> (1/s)	<b>Flc</b> (1/ 20 20 21 59 59 59 59
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH5 1 SWMH5 1 SWMH6 1 SWMH6 1 SWMH7 1 SWMH8 1 SWMH9 1 SWMH10 1 SWMH11 1	Durat eturn Per: Clima 5 minute 5 minute 5 minute 5 minute 5 minute 5 minute 5 minute 5 minute 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang Event 100 year 100 year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter	nalysi: 15, 15, 140% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	s Timest DTS Stat DTS Stat 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341	<pre>tep Fir tus C , 120,  Water Level (m)  89.036 88.131 87.887 87.639 87.579 86.563 80.453 80.167 78.822 77.295 75.315</pre>	e Inertia S N 180, 240, 3 Surcharged Depth (m) 0.850 0.488 0.379 0.378 0.430 -0.117 0.053 -0.118 -0.065 -0.065 -0.051	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36 0.46 1.25 0.46 0.84 0.85 0.92	20, 160 40 <b>Overflow</b> (1/s)	<b>Flc</b> (1/ 20 19 20 21 59 59 59 59 59 58 36
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH5 1 SWMH5 1 SWMH6 1 SWMH6 1 SWMH7 1 SWMH8 1 SWMH9 1 SWMH10 1 SWMH11 1 SWMH12 1	Durat eturn Per: Clima 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang Event 100 year 100 year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter	<pre>nalysi: 15, 15, 15, 140% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%</pre>	s Timest DTS Stat DTS Stat 0 30, 60 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<pre>tep Fir tus C  , 120,  Water Level (m)  89.036 88.131 87.887 87.639 87.579 86.563 80.453 80.167 78.822 77.295 75.315 75.088</pre>	<pre>le Inertia S last inertia S Surcharged Depth (m) 0.850 0.488 0.379 0.378 0.430 -0.117 0.053 -0.118 -0.065 -0.065 -0.051 -0.053</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36 0.46 1.25 0.46 0.84 0.85 0.92 0.94	20, 160 40 <b>Overflow</b> (1/s)	<b>Flc</b> (1/ 20 20 21 59 59 59 59 59 59 58 36 36
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.001	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH5 1 SWMH5 1 SWMH6 1 SWMH6 1 SWMH7 1 SWMH8 1 SWMH9 1 SWMH9 1 SWMH10 1 SWMH10 1 SWMH11 1 SWMH12 1 SWMH13 1	Durat eturn Per: Clima 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang Event 100 year 100 year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter	<pre>nalysi: 1 15, 15, 15, 15, 15, 140% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%</pre>	s Timest DTS Stat DTS Stat 0 30, 60 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<pre>tep Fir tus C  , 120,  Water Level (m)  89.036 88.131 87.887 87.639 87.579 86.563 80.453 80.167 78.822 77.295 75.315 75.088 74.897</pre>	<pre>le Inertia S last inertia S Surcharged Depth (m) 0.850 0.488 0.379 0.378 0.430 -0.117 0.053 -0.118 -0.065 -0.065 -0.051 -0.053 -0.057</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36 0.46 1.25 0.46 0.84 0.85 0.92 0.94 0.89	20, 160 40 <b>Overflow</b> (1/s)	<b>Flc</b> (1/ 20 20 21 59 59 59 59 59 59 59 58 36 36 35
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH5 1 SWMH5 1 SWMH5 1 SWMH6 1 SWMH6 1 SWMH7 1 SWMH8 1 SWMH9 1 SWMH1 1 SWMH11 1 SWMH12 1 SWMH13 1 SWMH14 1	Durat eturn Per: Clima 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang Event 100 year 100 year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter	<pre>nalysi: 1 15, 15, 15, 15, 15, 140% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%</pre>	s Timest DTS Stat DTS Stat 0 30, 60 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<pre>tep Fir tus C  , 120,  Water Level (m)  89.036 88.131 87.887 87.639 87.579 86.563 80.453 80.167 78.822 77.295 75.315 75.088 74.897 74.583</pre>	<pre>le Inertia S last inertia S Surcharged Depth (m) 0.850 0.488 0.379 0.378 0.430 -0.117 0.053 -0.118 -0.065 -0.065 -0.051 -0.053</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36 0.46 1.25 0.46 0.84 0.85 0.92 0.94	20, 160 100 40 <b>Overflow</b> (1/s)	<b>Flc</b> (1/) 20 21 59 59 59 59 59 59 58 36 36 35 34
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH5 1 SWMH5 1 SWMH6 1 SWMH6 1 SWMH7 1 SWMH8 1 SWMH9 1 SWMH1 1 SWMH11 1 SWMH12 1 SWMH13 1 SWMH14 1 SWMH15 1	Durat eturn Per: Clima 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang Event 100 year 100 year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter	nalysi: 15, 15, 140% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	s Timest DTS Stat DTS Stat 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341 76.459 76.566 76.256 77.116	<pre>tep Fir tus C  , 120,  Water Level (m)  89.036 88.131 87.887 87.639 87.579 86.563 80.453 80.167 78.822 77.295 75.315 75.088 74.897 74.583 74.215</pre>	<pre>le Inertia S last inertia S Surcharged Depth (m) 0.850 0.488 0.379 0.378 0.430 -0.117 0.053 -0.118 -0.065 -0.065 -0.051 -0.053 -0.051 -0.053 -0.061</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36 0.46 1.25 0.46 0.84 0.85 0.92 0.94 0.89 0.84	20, 160 100 40 <b>Overflow</b> (1/s)	<b>Fl</b> (1/ 20 19 20 21 59 59 59 59 59 59 59 59 59 59 59 59 59
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005 3.000	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH3 1 SWMH5 1 SWMH6 1 SWMH6 1 SWMH10 1 SWMH10 1 SWMH10 1 SWMH10 1 SWMH11 1 SWMH12 1 SWMH13 1 SWMH14 1 SWMH15 1 SWMH15 1 SWMH16 1 SWMH16 1	Durat eturn Per: Clima 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang Event 100 year 100 year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter	nalysi: 15, 15, 15, 140% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	s Timest DTS Stat DTS Stat 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341 76.459 76.566 76.256 77.116 77.144 84.103	<pre>tep Fir tus C  , 120,  Water Level (m)  89.036 88.131 87.887 87.639 87.579 86.563 80.453 80.167 78.822 77.295 75.315 75.088 74.897 74.583 74.215 74.122 82.956</pre>	<pre>le Inertia S last inertia S Surcharged Depth (m) 0.850 0.488 0.379 0.378 0.430 -0.117 0.053 -0.118 -0.065 -0.065 -0.051 -0.053 -0.051 -0.053 -0.061 0.072</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36 0.46 1.25 0.46 0.84 0.85 0.92 0.94 0.89 0.84 0.76 0.86 0.13	20, 160 100 40 <b>Overflow</b> (1/s)	<b>Fl</b> (1/ 20 20 21 59 59 59 59 59 59 58 36 36 35 34 29 31
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005 3.000 4.000	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH3 1 SWMH5 1 SWMH6 1 SWMH6 1 SWMH7 1 SWMH10 1 SWMH10 1 SWMH10 1 SWMH11 1 SWMH12 1 SWMH13 1 SWMH14 1 SWMH15 1 SWMH16 1 SWMH16 1 SWMH16 1 SWMH18 1	Durat eturn Per: Clima 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang Event 100 year 100 year	A le(s) mins) ears) e(%) Winter	nalysi: 15, 15, 15, 15, 15, 15, 15, 140% 1+40% 1	s Timest DTS Stat DTS Stat 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341 76.459 76.566 76.256 77.116 77.144 84.103 78.871	tep Fir tus C 0, 120, Water Level (m) 89.036 88.131 87.887 87.639 87.579 86.563 80.453 80.167 78.822 77.295 75.315 75.088 74.897 74.583 74.215 74.122 82.956 77.751	<pre>le Inertia S N I80, 240, 3 Surcharged Depth (m) 0.850 0.488 0.379 0.378 0.430 -0.117 0.053 -0.118 -0.065 -0.065 -0.051 -0.053 -0.051 -0.053 -0.057 -0.061 0.072 0.172 -0.172 -0.153</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36 0.46 1.25 0.46 0.84 0.85 0.92 0.94 0.89 0.84 0.76 0.84 0.76 0.86 0.13 0.22	20, 160 100 40 <b>Overflow</b> (1/s)	<b>Fl</b> (1/) (1/) 20 20 20 21 59 59 59 59 59 59 59 58 36 36 35 34 29 31 17 9
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005 3.000 4.000 3.001	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH3 1 SWMH5 1 SWMH5 1 SWMH6 1 SWMH6 1 SWMH1 1 SWMH10 1 SWMH10 1 SWMH10 1 SWMH12 1 SWMH13 1 SWMH14 1 SWMH15 1 SWMH16 1 SWMH16 1 SWMH16 1 SWMH18 1 SWMH18 1	Durat eturn Per: Clima 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang Event 100 year 100 year	A le(s) mins) ears) e(%) Winter	nalysi: 15, 15, 15, 15, 15, 15, 15, 140%	s Timest DTS Stat DTS Stat Stat DTS Stat Stat Stat Stat Stat Stat Stat Sta	tep Fir tus C 0, 120, Water Level (m) 89.036 88.131 87.887 87.639 87.579 86.563 80.453 80.167 78.822 77.295 75.315 75.088 74.897 74.583 74.215 74.122 82.956 77.751 77.423	<pre>le Inertia S N I80, 240, 3 Surcharged Depth (m) 0.850 0.488 0.379 0.378 0.430 -0.117 0.053 -0.118 -0.065 -0.065 -0.051 -0.053 -0.051 -0.053 -0.057 -0.061 0.072 0.172 -0.172 -0.153 0.025</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000	FF and Win 600, 7 1440, 2 <b>Flow /</b> Cap. 1.34 1.35 1.34 1.49 1.36 0.46 1.25 0.46 0.84 0.85 0.92 0.94 0.89 0.84 0.76 0.89 0.84 0.76 0.80 0.13 0.22 1.09	20, 160 100 40 <b>Overflow</b> (1/s)	<b>Floo</b> (1/: 20 19 20 21 59 59 59 59 59 59 59 59 59 59 59 59 59
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005 3.000 4.000 3.001 3.002	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH3 1 SWMH5 1 SWMH5 1 SWMH6 1 SWMH6 1 SWMH1 1 SWMH10 1 SWMH10 1 SWMH10 1 SWMH12 1 SWMH13 1 SWMH14 1 SWMH15 1 SWMH16 1 SWMH16 1 SWMH16 1 SWMH16 1 SWMH18 1 SWMH18 1 SWMH19 1 SWMH20 1	Durat eturn Per: Clima 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang	A le(s) mins) ears) e(%) Winter	nalysi: 15, 15, 15, 15, 15, 15, 15, 140%	s Timest DTS Stat DTS Stat US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341 76.459 76.566 77.116 77.144 84.103 78.871 78.398 78.207	<pre>tup Fir tus C  , 120,  Water Level (m)  89.036 88.131 87.887 87.639 87.579 86.563 80.453 80.167 78.822 77.295 75.315 75.088 74.897 74.583 74.215 74.122 82.956 77.751 77.423 77.202</pre>	<pre>le Inertia S N I80, 240, 3 Surcharged Depth (m) 0.850 0.488 0.379 0.378 0.430 -0.117 0.053 -0.118 -0.065 -0.065 -0.051 -0.053 -0.051 -0.053 -0.057 -0.061 0.072 0.172 -0.172 -0.172 -0.153 0.025 -0.050</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36 0.46 1.25 0.46 0.84 0.85 0.92 0.94 0.89 0.84 0.76 0.89 0.84 0.76 0.80 0.13 0.22 1.09 0.91	20, 160 100 40 <b>Overflow</b> (1/s)	<b>Floo</b> (1/: 20 19 20 21 59 59 59 59 59 59 59 59 59 59 59 59 59
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005 3.000 4.000 3.001 3.002 3.003	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH3 1 SWMH5 1 SWMH5 1 SWMH6 1 SWMH6 1 SWMH7 1 SWMH10 1 SWMH10 1 SWMH10 1 SWMH11 1 SWMH12 1 SWMH15 1 SWMH16 1 SWMH16 1 SWMH16 1 SWMH16 1 SWMH17 1 SWMH18 1 SWMH19 1 SWMH20 1 SWMH20 1	Durat eturn Per: Clima 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang Event 100 year 100 year	A le(s) mins) ears) e(%) Winter	nalysi: 15, 15, 15, 15, 15, 15, 15, 15,	s Timest DTS Stat DTS Stat DTS Stat Stat Stat Stat Stat Stat Stat Sta	<pre>tup Fir tus C  water Level (m)  89.036 88.131 87.887 87.639 87.579 86.563 80.453 80.167 78.822 77.295 75.315 75.088 74.897 74.583 74.215 74.122 82.956 77.751 77.423 77.202 76.661</pre>	<pre>le Inertia S N I80, 240, 3 Surcharged Depth (m) 0.850 0.488 0.379 0.378 0.430 -0.117 0.053 -0.118 -0.065 -0.065 -0.051 -0.053 -0.057 -0.061 0.072 0.172 -0.172 -0.172 -0.153 0.025 -0.050 0.089</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36 0.46 1.25 0.46 0.84 0.85 0.92 0.94 0.89 0.84 0.76 0.89 0.84 0.76 0.80 0.13 0.22 1.09 0.91 1.12	20, 160 100 40 <b>Overflow</b> (1/s)	Flood (1/s 20 20 21 59 59 59 59 59 59 59 59 59 59 59 59 59
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005 3.000 4.000 3.001 3.002 3.003 3.004	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH3 1 SWMH5 1 SWMH5 1 SWMH6 1 SWMH6 1 SWMH7 1 SWMH8 1 SWMH10 1 SWMH10 1 SWMH10 1 SWMH12 1 SWMH15 1 SWMH16 1 SWMH16 1 SWMH16 1 SWMH16 1 SWMH16 1 SWMH17 1 SWMH18 1 SWMH19 1 SWMH20 1 SWMH20 1	Durat eturn Per: Clima 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang	A le(s) mins) ears) e(%) Winter	nalysi: 15, 15, 15, 15, 15, 15, 15, 15,	s Timest DTS Stat DTS Stat DTS Stat Stat Stat Stat Stat Stat Stat Sta	<pre>tup Fir tus C  Water Level (m)  89.036 88.131 87.887 87.639 87.579 86.563 80.453 80.167 78.822 77.295 75.315 75.088 74.897 74.583 74.215 74.122 82.956 77.751 77.423 77.202 76.661 76.223</pre>	<pre>le Inertia S N I80, 240, 3 Surcharged Depth (m) 0.850 0.488 0.379 0.378 0.430 -0.117 0.053 -0.118 -0.065 -0.065 -0.051 -0.053 -0.051 -0.053 -0.057 -0.061 0.072 0.172 -0.172 -0.172 -0.153 0.025 -0.050</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36 0.46 1.25 0.46 0.84 0.85 0.92 0.94 0.89 0.84 0.76 0.89 0.84 0.76 0.80 0.13 0.22 1.09 0.91	20, 160 100 40 <b>Overflow</b> (1/s)	Flo (1/s 20
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005 3.000 4.000 3.001 3.002 3.003 3.004 3.005 2.006	US/MH Name SWMH1 1 SWMH2 1 SWMH3 1 SWMH3 1 SWMH3 1 SWMH5 1 SWMH5 1 SWMH6 1 SWMH6 1 SWMH7 1 SWMH10 1 SWMH10 1 SWMH10 1 SWMH10 1 SWMH12 1 SWMH15 1 SWMH16 1 SWMH16 1 SWMH16 1 SWMH16 1 SWMH17 1 SWMH16 1 SWMH16 1 SWMH12 1 SWMH2 1 SWMH2 1 SWMH22 1 SWMH22 1 SWMH22 1 SWMH22 1 SWMH22 1	Durat eturn Per: Clima 5 minute 5 minute	Profi tion(s) (s iod(s) (y ate Chang Event 100 year 100 year	A le(s) mins) ears) e (%) Winter	nalysi: 15, 15, 15, 140%	s Timest DTS Stat DTS Stat DTS Stat Stat Stat Stat Stat Stat Stat Sta	<pre>Water Level (m) 89.036 88.131 87.887 87.639 87.579 86.563 80.453 80.453 80.167 78.822 77.295 75.315 75.088 74.583 74.215 74.122 82.956 77.751 77.423 77.202 76.661 76.223 75.988 74.062</pre>	<pre>le Inertia S N I80, 240, 3 Surcharged Depth (m) 0.850 0.488 0.379 0.378 0.430 -0.117 0.053 -0.118 -0.065 -0.065 -0.051 -0.053 -0.057 -0.061 0.072 0.172 -0.172 -0.172 -0.153 0.025 -0.050 0.089 0.035</pre>	Status Ol Summer 60, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000	FF and Win 600, 7 1440, 2 Flow / Cap. 1.34 1.35 1.34 1.49 1.36 0.46 1.25 0.46 0.84 0.85 0.92 0.94 0.89 0.84 0.76 0.89 0.84 0.76 0.80 0.13 0.22 1.09 0.91 1.12 0.38	20, 160 100 40 <b>Overflow</b> (1/s)	Flood (1/s 20 20 21 59 59 59 59 59 59 59 59 59 59 59 59 59

Mott MacDonald		Page 2
Mott MacDonald House	108939-Solar Site	
8-10 Sydenham Road	1 in 100y+40%CC	
Croydon CR0 2EE		Micro
Date 16/11/2022 16:55	Designed by BN	Drainage
File 108939-SOLAR SITE MODEL.MDX	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	

	US/MH	
PN	Name	Status
1.000	SWMH1	FLOOD RISK
1.001	SWMH2	SURCHARGED
1.002	SWMH3	SURCHARGED
1.003	SWMH4	SURCHARGED
1.004	SWMH5	SURCHARGED
1.005	SWMH6	OK
1.006	SWMH7	SURCHARGED
1.007	SWMH8	OK
1.008	SWMH9	OK
1.009	SWMH10	OK
2.000	SWMH11	OK
2.001	SWMH12	OK
2.002	SWMH13	OK
2.003	SWMH14	OK
2.004	SWMH15	SURCHARGED
2.005	SWMH16	SURCHARGED
3.000	SWMH17	OK
4.000	SWMH18	OK
3.001	SWMH19	SURCHARGED
3.002	SWMH20	OK
3.003	SWMH21	SURCHARGED
3.004	SWMH22	SURCHARGED
3.005	SWMH23	FLOOD RISK
2.006	SWMH24	SURCHARGED
5.000	SWMH25	OK

Mott MacDonald		Page 3
Mott MacDonald House	108939-Solar Site	
8-10 Sydenham Road	1 in 100y+40%CC	
Croydon CR0 2EE		Micro
Date 16/11/2022 16:55	Designed by BN	
File 108939-SOLAR SITE MODEL.MDX	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	

	PN	US/MH Name		1	Ivent			US/CL (m)	Water Level (m)	Surcharged Depth (m)			Overflow (1/s)	Pipe Flow (l/s)
5	5.001	SWMH26	15 mir	nute 100	year	Winter	I+40%	76.171	74.825	-0.037	0.000	1.00		32.6
5	5.002	SWMH27	15 mir	ute 100	year	Winter	I+40%	76.398	74.747	-0.062	0.000	0.87		32.6
5	5.003	SWMH28	15 mir	ute 100	year	Winter	I+40%	77.475	74.636	-0.059	0.000	0.89		32.6
5	5.004	SWMH29	15 mir	ute 100	year	Winter	I+40%	76.713	74.539	-0.064	0.000	0.86		32.6
5	5.005	SWMH30	15 mir	ute 100	year	Winter	I+40%	76.521	74.397	-0.065	0.000	0.84		32.3
5	5.006	SWMH31	15 mir	ute 100	year	Winter	I+40%	76.124	74.237	-0.065	0.000	0.79		31.6
5	5.007	SWMH32	15 mir	ute 100	year	Winter	I+40%	77.373	74.096	0.141	0.000	0.66		26.2
2	2.007	SWMH33	15 min	ute 100	year	Winter	I+40%	76.092	73.981	0.220	0.000	1.16		100.5
1	L.010	SWMH34	15 mir	ute 100	year	Winter	I+40%	77.447	73.041	-0.106	0.000	0.75		154.6
1	L.011	SWMH35	30 min	ute 100	year	Winter	I+40%	72.710	71.901	0.783	0.000	1.83		152.9
1	L.012	SWMH36	480 mir	ute 100	year	Winter	I+40%	72.000	71.626	0.601	0.000	0.05		5.0

	US/MH	
PN	Name	Status
5.001	SWMH26	OK
5.002	SWMH27	OK
5.003	SWMH28	OK
5.004	SWMH29	OK
5.005	SWMH30	OK
5.006	SWMH31	OK
5.007	SWMH32	SURCHARGED
2.007	SWMH33	SURCHARGED
1.010	SWMH34	OK
1.011	SWMH35	SURCHARGED
1.012	SWMH36	SURCHARGED

lott Ma	acbona												Page 1	
lott Ma	acDona	ld	House				1	08939-	Solar	Site				
-10 Sy	ydenha	m R	Road				1	in 30	y+40%C	С				
roydor	n CRO	2E	Ε										– Micr	
ate 1	5/11/2	022	10:1	5			D	esigne	d by Bl	N				
ile 10	08939-	SOL	AR SI	re N	IODE	L.MDX	С	hecked	by AR	D			Uldi	nage
nnovy	ze						N	etwork	2020.	1.3				
	- Man F mber of	hol 'oul	Area Hc e Headl Sewage put Hyd	l Re Hc oss per rogr Cont	educt bt St Coef c hec caphs crols	ion Fac art (mi Level ( if (Glok tare (1 0 Nu 1 Numk	Simu tor 1. .ns) mm) oal) 0. ./s) 0. .umber co per of ynthet Model	1lation 00 5500 Flc 000 00 00 00 00 00 00 00 00 00 00 00 0	Criteri Addition MADD Dw per P .ne Cont : Struct	al Flow - % Factor * 1 Inle erson per D rols 0 Numb ures 1 Numb	of Tota Om³/ha S t Coeffi ay (l/pe er of Ti	l Flow torage ecient r/day) me/Area	0.000 2.000 0.800 0.000	
				гып					650 1843	300 SS 91650				
						Dat	а Туре				chment			
							ummer)				0.750			
						Cv (W	inter)				0.840			
				E	Profi	le(s)	-	DTS Sta	tus	ne Inertia ON 180, 240, 3	Summer	and Win		
	R	etu		E ion( od(s	Profi (s) ( s) (y	A le(s) mins) ears)	-	DTS Sta	tus		Summer 360, 480,	and Win	720,	
PN	R US/MH Name	etu	Durat rn Peri	F ion( od(s te C	Profi (s) ( s) (y	A le(s) mins) ears) e (%)	-	DTS Sta	tus 0, 120,	ON	Summer 360, 480, 960, <b>Flooded</b>	and Win 600, 7 1440, 2	720, 2160 30	Pipe Flow (1/s
	US/MH Name		Durat rn Peri Clima	F ion( od(s te C	Profi (s) (y Chang <b>Event</b>	A le(s) mins) ears) e (%)	15	DTS Sta , 30, 60 US/CL (m)	tus 0, 120, Water Level (m)	ON 180, 240, 3 Surcharged Depth (m)	Summer 360, 480, 960, Flooded Volume (m <sup>3</sup> )	and Win 600, 7 1440, 2 Flow / Cap.	720, 2160 30 40 <b>Overflow</b>	Flow (1/s
<b>PN</b> 1.000 1.001	US/MH Name SWMH1	15	Durat rn Peri Clima minute	F ion( od(s te C <b>E</b> 30	Profi (s) (y Chang <b>Event</b> year	A le(s) mins) ears) e (%) Winter	15 I+40%	DTS Sta , 30, 60 US/CL	tus 0, 120, Water Level (m) 88.570	ON 180, 240, 3 Surcharged Depth	Summer 360, 480, 960, <b>Flooded</b> Volume	and Win 600, 7 1440, 2 Flow /	720, 2160 30 40 <b>Overflow</b>	Flo
1.000 1.001 1.002	US/MH Name SWMH1 SWMH2 SWMH3	15 15 15	Durat rn Peri Clima minute minute minute	F ion( od(s te C <b>E</b> 30 30 30	Profi (s) (y Chang <b>Event</b> year year year	A le(s) mins) ears) e (%) Winter Winter Winter Winter	15 I+40% I+40% I+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526	tus 0, 120, Water Level (m) 88.570 87.846 87.656	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148	Summer 860, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16	720, 2160 30 40 <b>Overflow</b> (1/s)	<pre>Flow (1/s 18. 17. 17.</pre>
1.000 1.001 1.002 1.003	US/MH Name SWMH1 SWMH2 SWMH3 SWMH4	15 15 15	Durat rn Peri Clima minute minute minute minute	F ion( od(s te C 30 : 30 : 30 : 30 :	Profi (s) (y Chang Year year year year year	A le(s) mins) ears) e (%) Winter Winter Winter Winter Winter	15 I+40% I+40% I+40% I+40% I+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314	tus 0, 120, Water Level (m) 88.570 87.846 87.656 87.420	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159	Summer 860, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000	and Win 600, 7 1440, 2 <b>Flow /</b> <b>Cap</b> . 1.20 1.19 1.16 1.25	720, 2160 30 40 <b>Overflow</b> (1/s)	<b>Flo</b> (1/s 18 17 17
1.000 1.001 1.002 1.003 1.004	US/MH Name SWMH1 SWMH2 SWMH3 SWMH4 SWMH5	15 15 15 15	Durat rn Peri Clima minute minute minute minute minute	E ion( od(s te C 30 : 30 : 30 : 30 : 30 : 30 :	Profi (s) (y Chang Year year year year year year	A le(s) mins) ears) e (%) Winter Winter Winter Winter Winter Winter	15 I+40% I+40% I+40% I+40% I+40% I+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001	<pre>tus 0, 120, Water Level (m) 88.570 87.846 87.656 87.420 87.354</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205	Summer 860, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16 1.25 1.18	720, 2160 30 40 <b>Overflow</b> (1/s)	<b>Flo</b> (1/s 18 17 17 17 51
1.000 1.001 1.002 1.003 1.004 1.005	US/MH Name SWMH1 SWMH2 SWMH3 SWMH4 SWMH5 SWMH6	15 15 15 15 15	Durat rn Peri Clima minute minute minute minute minute	F ion( od(s te C 30 30 30 30 30 30 30 30	Profi (s) (y Chang Year year year year year year year year	A le(s) mins) ears) e (%) Winter Winter Winter Winter Winter Winter	15 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760	<pre>tus tus 0, 120, Water Level (m) 88.570 87.846 87.656 87.420 87.354 86.554</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205 -0.126	Summer 860, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000	and Win 600, 7 1440, 2 <b>Flow /</b> <b>Cap</b> . 1.20 1.19 1.16 1.25 1.18 0.40	720, 2160 30 40 <b>Overflow</b> (1/s)	<b>Flo</b> (1/: 18 17 17 17 51 51
1.000 1.001 1.002 1.003 1.004 1.005 1.006	US/MH Name SWMH1 SWMH2 SWMH3 SWMH4 SWMH5 SWMH6 SWMH7	15 15 15 15 15 15 15	Durat rn Peri Clima minute minute minute minute minute minute	F ion( od(s te C 30 30 30 30 30 30 30 30 30 30	Profi (s) (y Chang Year year year year year year year year y	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter	15 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001	<pre>tus 0, 120, Water Level (m) 88.570 87.846 87.656 87.420 87.354 86.554 80.410</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205	Summer 860, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16 1.25 1.18	720, 2160 30 40 <b>Overflow</b> (1/s)	Flo (1/: 18 17 17 17 51 51 51
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008	US/MH Name SWMH1 SWMH2 SWMH3 SWMH4 SWMH5 SWMH6 SWMH6 SWMH7 SWMH8 SWMH9	15 15 15 15 15 15 15 15 15	Durat rn Peri Clima minute minute minute minute minute minute minute	F ion( od(s te C 30 30 30 30 30 30 30 30 30 30 30 30 30	Profi (s) (y Chang Year year year year year year year year y	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter Winter Winter	15 140% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644	<pre>tus tus , 120, Water Level (m) 88.570 87.846 87.656 87.420 87.354 86.554 80.410 80.158 78.807</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205 -0.126 0.009 -0.126 -0.081	Summer 360, 480, 960, <b>Flooded</b> <b>Volume</b> (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16 1.25 1.18 0.40 1.08 0.40 0.73	720, 2160 30 40 <b>Overflow</b> (1/s)	<b>Flo</b> (1/: 18 17 17 51 51 51 51 51
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009	US/MH Name SWMH1 SWMH2 SWMH3 SWMH4 SWMH5 SWMH6 SWMH7 SWMH8 SWMH9 SWMH10	15 15 15 15 15 15 15 15 15	Durat rn Peri Clima minute minute minute minute minute minute minute minute	F ion( od(s te C 30 30 30 30 30 30 30 30 30 30 30 30 30	Profi (s) (y Chang Year Year Year Year Year Year Year Year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter	15 140% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304	<pre>tus tus 0, 120, Water Level (m) 88.570 87.846 87.656 87.420 87.354 86.554 80.410 80.158 78.807 77.279</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205 -0.126 0.009 -0.126 -0.081 -0.081	Summer 360, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16 1.25 1.18 0.40 1.08 0.40 0.73 0.74	720, 2160 30 40 <b>Overflow</b> (1/s)	Flo (1/s 18 17 17 51 51 51 51 51 51 51
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000	US/MH Name SWMH1 SWMH2 SWMH3 SWMH4 SWMH3 SWMH4 SWMH5 SWMH6 SWMH7 SWMH8 SWMH9 SWMH10 SWMH11	15 15 15 15 15 15 15 15 15 15	Durat rn Peri Clima minute minute minute minute minute minute minute minute minute	F ion( od(s te C 30 30 30 30 30 30 30 30 30 30 30 30 30	Profi (s) (y Chang Chang Year Year Year Year Year Year Year Year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter	15 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341	<pre>tus tus 0, 120, Water Level (m) 88.570 87.846 87.656 87.420 87.354 86.554 80.410 80.158 78.807 77.279 75.289</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205 -0.126 0.009 -0.126 -0.081 -0.081 -0.077	Summer 360, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	and Win 600, 7 1440, 2 <b>Flow /</b> <b>Cap</b> . 1.20 1.19 1.16 1.25 1.18 0.40 1.08 0.40 0.73 0.74 0.74	720, 2160 30 40 <b>Overflow</b> (1/s)	Flo (1/: 18 17 17 51 51 51 51 51 51 51 29
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001	US/MH Name SWMH1 SWMH2 SWMH3 SWMH4 SWMH3 SWMH4 SWMH5 SWMH6 SWMH7 SWMH8 SWMH9 SWMH10 SWMH11 SWMH12	15 15 15 15 15 15 15 15 15 15 15	Durat rn Peri Clima minute minute minute minute minute minute minute minute minute minute	F ion( od(s te C 30 30 30 30 30 30 30 30 30 30 30 30 30	Profi (s) (y Chang Chang Year Year Year Year Year Year Year Year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter	15 140% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341 76.459	<pre>tus tus 0, 120, Water Level (m) 88.570 87.846 87.656 87.420 87.354 86.554 80.410 80.158 78.807 77.279 75.289 75.063</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205 -0.126 0.009 -0.126 -0.081 -0.081	Summer 360, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16 1.25 1.18 0.40 1.08 0.40 0.73 0.74	720, 2160 30 40 <b>Overflow</b> (1/s)	Flo (1/s)
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH4 SWMH5 SWMH5 SWMH5 SWMH6 SWMH7 SWMH8 SWMH9 SWMH10 SWMH11 SWMH12 SWMH13	15 15 15 15 15 15 15 15 15 15 15 30	Durat rn Peri Clima minute minute minute minute minute minute minute minute minute minute minute	F ion( od(s te C 30 30 30 30 30 30 30 30 30 30 30 30 30	Profi (s) (y Chang Chang Year Year Year Year Year Year Year Year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter	15 140% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341	<pre>tus tus 0, 120, Water Level (m) 88.570 87.846 87.656 87.420 87.354 86.554 80.410 80.158 78.807 77.279 75.289 75.063 74.952</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205 -0.126 0.009 -0.126 -0.081 -0.081 -0.077 -0.078	Summer 360, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16 1.25 1.18 0.40 1.08 0.40 0.73 0.74 0.74 0.75	220, 2160 30 40 <b>Overflow</b> (l/s)	Flo (1/: 18 17 17 51 51 51 51 51 51 29 29 29 24
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004	US/MH Name SWMH1 SWMH2 SWMH3 SWMH4 SWMH3 SWMH5 SWMH5 SWMH6 SWMH7 SWMH8 SWMH9 SWMH10 SWMH10 SWMH11 SWMH12 SWMH13 SWMH14 SWMH15	15 15 15 15 15 15 15 15 15 15 15 30 30 30	Durat rn Peri Clima minute minute minute minute minute minute minute minute minute minute minute minute	F ion( od(s te C <b>E</b> 30 30 30 30 30 30 30 30 30 30 30 30 30	Profi (s) (y Chang Chang Year Year Year Year Year Year Year Year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter	15 140% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341 76.459 76.566 76.256 77.116	<pre>tus tus 0, 120, Water Level (m) 88.570 87.846 87.656 87.420 87.354 86.554 80.410 80.158 78.807 77.279 75.289 75.063 74.952 74.910 74.855</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205 -0.126 0.009 -0.126 -0.081 -0.081 -0.077 -0.078 -0.002 0.265 0.713	Summer 360, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16 1.25 1.18 0.40 1.08 0.40 0.73 0.74 0.74 0.75 0.62 0.52 0.52	720, 2160 30 40 <b>Overflow</b> (l/s)	Flo (1/s)
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH4 SWMH5 SWMH5 SWMH6 SWMH7 SWMH10 SWMH10 SWMH10 SWMH12 SWMH13 SWMH14 SWMH15 SWMH16	15 15 15 15 15 15 15 15 15 15 30 30 30 30	Durat rn Peri Clima minute minute minute minute minute minute minute minute minute minute minute minute minute	F ion( od(s te C <b>E</b> 30 30 30 30 30 30 30 30 30 30 30 30 30	Profi (s) (y Chang Chang Year Year Year Year Year Year Year Year	A le(s) mins) ears) e(%) Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter Winter	15 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341 76.459 76.566 76.256 77.116 77.144	<pre>tus tus 0, 120, Water Level (m) 88.570 87.846 87.656 87.420 87.354 86.554 80.410 80.158 78.807 77.279 75.289 75.063 74.952 74.910 74.855 74.821</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205 -0.126 0.009 -0.126 -0.081 -0.081 -0.077 -0.078 -0.002 0.265 0.713 0.872	Summer 360, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16 1.25 1.18 0.40 1.08 0.40 0.73 0.74 0.74 0.75 0.62 0.52 0.52 0.59	720, 2160 30 40 <b>Overflow</b> (l/s)	<b>Flo</b> (1/s (1/s 18, 17, 17, 51, 51, 51, 51, 51, 51, 51, 51, 51, 29, 24, 21, 20, 21,
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005 3.000	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH4 SWMH5 SWMH5 SWMH6 SWMH7 SWMH10 SWMH10 SWMH11 SWMH12 SWMH13 SWMH14 SWMH15 SWMH16 SWMH17	15 15 15 15 15 15 15 15 15 15 30 30 30 30 15	Durat rn Peri Clima minute minute minute minute minute minute minute minute minute minute minute minute minute minute minute minute	F ion( od(s te C <b>E</b> 30 30 30 30 30 30 30 30 30 30 30 30 30	Profi (s) (y Chang Chang Year Year Year Year Year Year Year Year	A le(s) mins) ears) e(%) Winter	15 1440% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341 76.459 76.566 76.256 77.116 77.144 84.103	<pre>tus tus 0, 120, Water Level (m) 88.570 87.846 87.656 87.420 87.354 86.554 80.410 80.158 78.807 77.279 75.289 75.063 74.952 74.910 74.855 74.821 82.951</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205 -0.126 0.009 -0.126 -0.081 -0.081 -0.077 -0.078 -0.002 0.265 0.713 0.872 -0.177	Summer 360, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16 1.25 1.18 0.40 1.08 0.40 0.73 0.74 0.74 0.75 0.62 0.52 0.52 0.59 0.10	720, 2160 30 40 <b>Overflow</b> (l/s)	Flo (1/s)
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005 3.000 4.000	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH5 SWMH5 SWMH6 SWMH7 SWMH8 SWMH9 SWMH10 SWMH10 SWMH11 SWMH12 SWMH13 SWMH14 SWMH15 SWMH16 SWMH17 SWMH18	15 15 15 15 15 15 15 15 15 15 30 30 30 30 15	Durat rn Peri Clima minute minute minute minute minute minute minute minute minute minute minute minute minute minute minute minute	F ion( od(s te C <b>E</b> 30 30 30 30 30 30 30 30 30 30 30 30 30	Profi (s) (y Chang Chang Year Year Year Year Year Year Year Year	A le(s) mins) ears) e(%) Winter Winte	15 1440% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341 76.459 76.566 76.256 77.116 77.144	<pre>tus tus 0, 120, Water Level (m) 88.570 87.846 87.656 87.420 87.354 86.554 80.410 80.158 78.807 77.279 75.289 75.063 74.952 74.910 74.855 74.821 82.951 77.743</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205 -0.126 0.009 -0.126 -0.081 -0.081 -0.077 -0.078 -0.002 0.265 0.713 0.872	Summer 360, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16 1.25 1.18 0.40 1.08 0.40 0.73 0.74 0.74 0.75 0.62 0.52 0.52 0.59	720, 2160 30 40 <b>Overflow</b> (l/s)	Flo (1/s (1/s 18. 17. 17. 17. 51. 51. 51. 51. 51. 51. 51. 29. 29. 24. 21. 20. 21. 13. 7.
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005 3.000 4.000 3.001	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH4 SWMH5 SWMH5 SWMH6 SWMH7 SWMH10 SWMH10 SWMH10 SWMH12 SWMH13 SWMH14 SWMH15 SWMH16 SWMH17 SWMH18 SWMH19	15 15 15 15 15 15 15 15 15 15 30 30 30 30 15 15	Durat rn Peri Clima minute minute minute minute minute minute minute minute minute minute minute minute minute minute minute minute minute	F ion( od(s te C <b>E</b> 30 30 30 30 30 30 30 30 30 30 30 30 30	Profi (s) (y Chang Chang Year Year Year Year Year Year Year Year	A le(s) mins) ears) e(%) Winter Winte	15 1440% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341 76.459 76.566 76.256 77.116 77.144 84.103 78.871	<pre>tus tus 0, 120, Water Level (m) 88.570 87.846 87.656 87.420 87.354 86.554 80.410 80.158 78.807 77.279 75.289 75.063 74.952 74.910 74.855 74.821 82.951 77.743 77.342</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205 -0.126 0.009 -0.126 -0.081 -0.081 -0.081 -0.077 -0.078 -0.002 0.265 0.713 0.872 -0.177 -0.161	Summer 360, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16 1.25 1.18 0.40 1.08 0.40 0.73 0.74 0.74 0.75 0.62 0.52 0.52 0.52 0.59 0.10 0.18	720, 2160 30 40 <b>Overflow</b> (l/s)	<b>Flo</b> (1/s 18. 17. 17. 17. 51. 51. 51. 51. 51. 51. 51. 29. 24. 21. 20. 21. 13. 7. 46.
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005 3.000 4.000 3.001 3.002 3.003	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH5 SWMH5 SWMH5 SWMH6 SWMH7 SWMH10 SWMH10 SWMH10 SWMH11 SWMH12 SWMH13 SWMH14 SWMH15 SWMH16 SWMH17 SWMH18 SWMH19 SWMH20 SWMH21	15 15 15 15 15 15 15 15 15 15 30 30 30 30 30 15 15 15	Durat nn Peri Clima minute	F ion( od(s te C <b>E</b> 30 30 30 30 30 30 30 30 30 30 30 30 30	Profi (s) (y chang Year year year year year year year year y	A le(s) mins) ears) e(%) Winter Winte	15 1440% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341 76.459 76.566 77.116 77.144 84.103 78.871 78.398 78.207 77.223	<pre>tus tus 0, 120, Water Level (m) 88.570 87.846 87.656 87.420 87.354 86.554 80.410 80.158 78.807 77.279 75.289 75.063 74.952 74.910 74.855 74.821 82.951 77.743 77.342 77.175 76.521</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205 -0.126 0.009 -0.126 -0.081 -0.081 -0.081 -0.077 -0.078 -0.002 0.265 0.713 0.872 -0.177 -0.161 -0.056 -0.077 -0.051	Summer 360, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16 1.25 1.18 0.40 1.08 0.40 0.73 0.74 0.74 0.75 0.62 0.52 0.52 0.52 0.52 0.59 0.10 0.18 0.90 0.75 0.95	720, 2160 30 40 <b>Overflow</b> (l/s)	<b>Flow</b> (1/s) 18. 17. 17. 17. 51. 51. 51. 51. 51. 51. 51. 29. 29. 24. 21. 20. 21. 13. 7. 46. 45.
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005 3.000 4.000 3.001 3.002 3.003 3.004	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH5 SWMH5 SWMH5 SWMH6 SWMH7 SWMH10 SWMH10 SWMH10 SWMH10 SWMH12 SWMH13 SWMH14 SWMH15 SWMH15 SWMH16 SWMH17 SWMH18 SWMH19 SWMH20 SWMH21 SWMH22	15 15 15 15 15 15 15 15 15 15 30 30 30 30 15 15 15 15 15	Durat nn Peri Clima minute	F ion( od(s te C 30 30 30 30 30 30 30 30 30 30 30 30 30	Profi (s) (y Chang Chang Year Year Year Year Year Year Year Year	A le(s) mins) ears) e(%) Winter	15 1440% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40% 1+40%	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341 76.459 76.566 77.116 77.144 84.103 78.871 78.398 78.207 77.223 77.031	<pre>tus tus tus tus tus tus tus tus tus tus</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205 -0.126 0.009 -0.126 0.009 -0.126 0.009 -0.126 0.009 -0.126 0.001 -0.081 -0.081 -0.081 -0.077 -0.078 -0.002 0.265 0.713 0.872 -0.177 -0.161 -0.056 -0.051 -0.134	Summer 360, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16 1.25 1.18 0.40 1.08 0.40 0.73 0.74 0.74 0.74 0.75 0.62 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.5	720, 2160 30 40 <b>Overflow</b> (1/s)	<b>Flow</b> (1/s) 18. 17. 17. 17. 51. 51. 51. 51. 51. 51. 51. 51. 29. 29. 24. 21. 20. 21. 13. 7. 46. 45. 45.
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005 3.000 4.000 3.001 3.002 3.003 3.004 3.005	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH5 SWMH5 SWMH5 SWMH6 SWMH7 SWMH10 SWMH10 SWMH10 SWMH10 SWMH11 SWMH12 SWMH13 SWMH14 SWMH15 SWMH15 SWMH15 SWMH15 SWMH15 SWMH15 SWMH12 SWMH20 SWMH21 SWMH22 SWMH23	15 15 15 15 15 15 15 15 15 15 30 30 30 30 15 15 15 15 15 30	Durat nn Peri Clima minute	F ion( od(s te C 30 30 30 30 30 30 30 30 30 30 30 30 30	Profi (s) (y Chang Cvent Year year year year year year year year y	A le(s) mins) ears) e(%) Winter	15 1440% 1+40%1+40% 1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40%1+40% 1+40%1+40%1+40% 1+40%1+40%1+40%1+40% 1+40%1+40%1+40% 1+40%1+40%1+40% 1+40%1+40%1+40%1+40%1+40% 1+40%1+40%1+40%1+40% 1+40%1+40%1+40% 1+40%1+40%1+40%1+40% 1+40%1+40%1+40%1+40% 1+40%1+40%1+40% 1+40%1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40%1+40% 1+40%1+40%1+40%1+40% 1+40%1+40%1+40%1+4	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341 76.459 76.566 77.116 77.144 84.103 78.871 78.398 78.207 77.223 77.031 75.151	<pre>tus tus tus tus tus tus tus tus tus tus</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205 -0.126 0.009 -0.126 0.009 -0.126 0.009 -0.126 0.009 -0.126 0.009 -0.126 0.009 -0.126 0.007 -0.081 -0.077 -0.078 -0.002 0.265 0.713 0.872 -0.177 -0.161 -0.056 -0.051 -0.134 0.891	Summer 360, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16 1.25 1.18 0.40 1.08 0.40 0.73 0.74 0.74 0.74 0.75 0.62 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.5	720, 2160 30 40 <b>Overflow</b> (1/s)	<b>Flow</b> (1/s)
1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005 3.000 4.000 3.001 3.002 3.003 3.004 3.005 2.006	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH5 SWMH5 SWMH5 SWMH6 SWMH7 SWMH10 SWMH10 SWMH10 SWMH10 SWMH10 SWMH12 SWMH13 SWMH14 SWMH15 SWMH14 SWMH15 SWMH15 SWMH14 SWMH15 SWMH12 SWMH20 SWMH21 SWMH22 SWMH23 SWMH24	15 15 15 15 15 15 15 15 15 15 15 15 15 1	Durat nn Peri Clima minute	F ion( od(s te C 30 30 30 30 30 30 30 30 30 30 30 30 30	Profi (s) (y Chang Chang Year Year Year Year Year Year Year Year	A le(s) mins) ears) e(%) Winter Winte	15 1440% 1+40%1+40% 1+40% 1+40%1+40% 1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40%1+40% 1+40%1+40% 1+40%1+40%1+40%1+40% 1+40%1+40%1+40%1+40% 1+40%1+40%1+40% 1+40%1+40%1+40%1+40%1+40% 1+40%1+40%1+40%1+40% 1+40%1+40%1+40%1+40% 1+40%1+40%1+40%1+40% 1+40%1+40%1+40%1+40% 1+40%1+40%1+40% 1+40%1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40% 1+40%1+40%1+40% 1+40%1+40%1+40%1+40% 1+40%1+40%1+40%1+4	DTS Sta , 30, 60 US/CL (m) 89.236 88.729 88.526 88.314 88.001 87.760 81.246 81.001 79.644 78.304 76.341 76.459 76.566 77.116 77.144 84.103 78.871 78.398 78.207 77.223 77.031	<pre>tus tus 0, 120, Water Level (m) 88.570 87.846 87.656 87.420 87.354 86.554 80.410 80.158 78.807 77.279 75.289 75.063 74.952 74.910 74.855 74.821 82.951 77.743 77.342 77.175 76.521 76.055 75.154 74.796</pre>	ON 180, 240, 3 Surcharged Depth (m) 0.384 0.203 0.148 0.159 0.205 -0.126 0.009 -0.126 0.009 -0.126 0.009 -0.126 0.009 -0.126 0.001 -0.081 -0.081 -0.081 -0.077 -0.078 -0.002 0.265 0.713 0.872 -0.177 -0.161 -0.056 -0.051 -0.134	Summer 360, 480, 960, Flooded Volume (m <sup>3</sup> ) 0.000	and Win 600, 7 1440, 2 Flow / Cap. 1.20 1.19 1.16 1.25 1.18 0.40 1.08 0.40 0.73 0.74 0.74 0.74 0.75 0.62 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.5	720, 2160 30 40 <b>Overflow</b> (1/s)	Flo (1/s (1/s (1/s (1/s (1/s) (1/

Mott MacDonald		Page 2
Mott MacDonald House	108939-Solar Site	
8-10 Sydenham Road	1 in 30y+40%CC	
Croydon CR0 2EE		Micro
Date 15/11/2022 10:15	Designed by BN	Drainage
File 108939-SOLAR SITE MODEL.MDX	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	

	US/MH	
PN	Name	Status
1.000	SWMH1	SURCHARGED
1.001	SWMH2	SURCHARGED
1.002	SWMH3	SURCHARGED
1.003	SWMH4	SURCHARGED
1.004	SWMH5	SURCHARGED
1.005	SWMH6	OK
1.006	SWMH7	SURCHARGED
1.007	SWMH8	OK
1.008	SWMH9	OK
1.009	SWMH10	OK
2.000	SWMH11	OK
2.001	SWMH12	OK
2.002	SWMH13	OK
2.003	SWMH14	SURCHARGED
2.004	SWMH15	SURCHARGED
2.005	SWMH16	SURCHARGED
3.000	SWMH17	OK
4.000	SWMH18	OK
3.001	SWMH19	OK
3.002	SWMH20	OK
3.003	SWMH21	OK
3.004	SWMH22	OK
3.005	SWMH23	FLOOD
2.006	SWMH24	SURCHARGED
5.000	SWMH25	OK

Mott MacDonald		Page 3
Mott MacDonald House	108939-Solar Site	
8-10 Sydenham Road	1 in 30y+40%CC	
Croydon CR0 2EE		Micro
Date 15/11/2022 10:15	Designed by BN	
File 108939-SOLAR SITE MODEL.MDX	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	

PN	US/MH Name			Event			US/CL (m)	Water Level (m)	Surcharged Depth (m)			Overflow (1/s)	Pipe Flow (l/s)
5.001	SWMH26	15 minut	e 30	year	Winter	I+40%	76.171	74.794	-0.068	0.000	0.82		26.7
5.002	SWMH27	15 minut	e 30	year	Winter	I+40%	76.398	74.725	-0.084	0.000	0.72		26.8
5.003	SWMH28	15 minut	e 30	year	Winter	I+40%	77.475	74.615	-0.081	0.000	0.72		26.4
5.004	SWMH29	15 minut	e 30	year	Winter	I+40%	76.713	74.518	-0.085	0.000	0.70		26.6
5.005	SWMH30	30 minut	e 30	year	Winter	I+40%	76.521	74.419	-0.044	0.000	0.59		22.7
5.006	SWMH31	30 minut	e 30	year	Winter	I+40%	76.124	74.388	0.086	0.000	0.52		20.8
5.007	SWMH32	30 minut	e 30	year	Winter	I+40%	77.373	74.341	0.386	0.000	0.38		15.2
2.007	SWMH33	30 minut	e 30	year	Winter	I+40%	76.092	74.300	0.614	0.000	1.34		54.5
1.010	SWMH34	30 minut	e 30	year	Winter	I+40%	77.447	73.252	0.180	0.000	0.98		96.0
1.011	SWMH35	480 minut	e 30	year	Winter	I+40%	72.710	71.491	0.449	0.000	0.33		27.3
1.012	SWMH36	480 minut	e 30	year	Winter	I+40%	72.000	71.486	0.461	0.000	0.05		5.0

	US/MH	
PN	Name	Status
5.001	SWMH26	OK
5.002	SWMH27	OK
5.003	SWMH28	OK
5.004	SWMH29	OK
5.005	SWMH30	OK
5.006	SWMH31	SURCHARGED
5.007	SWMH32	SURCHARGED
2.007	SWMH33	SURCHARGED
1.010	SWMH34	SURCHARGED
1.011	SWMH35	SURCHARGED
1.012	SWMH36	SURCHARGED

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8-10 Syd				in	30y+40%C					- Jul
Croydon									— Micr	Ū
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File 108	8939-8	SOLAR SITE	E MODEL.MDX		ed by AR				Dian	nage
Innovyze	е			Netwo	ork 2020.	1.3				
	S	ummary of	Critical Re	sults by	Maximum	Level (Ra	ank 1) :	for Sto	orm	
Numł	Fo	Hot hole Headlo bul Sewage p	Reduction Fact Hot Start (min Start Level (r ss Coeff (Globa per hectare (1, ographs 0 Nu	tor 1.000 nm) 0 al) 0.500 /s) 0.000	MADE Flow per F	al Flow - % ) Factor * 1 Inle Person per D	.0m³/ha S et Coeffi Day (l/pe	Storage ecient er/day)	2.000 0.800 0.000	5 0
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				-	Status					
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	Re		on(s) (mins) d(s) (years)	15, 30,	60, 120,	180, 240, 3			720,	
	Re	eturn Period		15, 30,	60, 120,	180, 240, 3	360, 480	, 600, '	720, 2160	
		eturn Period	d(s) (years)		Water	Surcharged	360, 480 960, <b>Flooded</b>	, 600, 7 1440, 2	720, 2160 2 40	Pipe
	US/MH	eturn Period	l(s) (years) Change (%)	us/c	Water L Level	Surcharged Depth	360, 480 960, Flooded Volume	, 600, 7 1440, 2 Flow /	720, 2160 2 40 <b>Overflow</b>	Flow
PN	US/MH Name	eturn Perioo Climate	d(s) (years) e Change (%) <b>Event</b>	US/C (m)	Water L Level (m)	Surcharged Depth (m)	360, 480 960, Flooded Volume (m <sup>3</sup> )	, 600, 1440, 2 1440, 2 Flow / Cap.	720, 2160 2 40	Flow (1/s)
<b>PN</b> 1.000	US/MH Name SWMH1	eturn Period Climate	d(s) (years) e Change (%) <b>Event</b> 2 year Winter I	US/C (m) 1+40% 89.2	Water L Level (m) 36 88.128	Surcharged Depth (m) -0.058	<pre>360, 480 960, Flooded Volume (m<sup>3</sup>) 0.000</pre>	, 600, 1440, 2 1440, 2 <b>Flow /</b> Cap. 0.65	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8
PN 1.000 1.001	US/MH Name SWMH1 SWMH2	eturn Perioo Climate 15 minute 2 15 minute 2	d(s) (years) e Change (%) <b>Event</b> 2 year Winter 1 2 year Winter 1	US/C (m) 1+40% 89.2 1+40% 88.7	Water L Level (m) 36 88.128 29 87.584	Surcharged Depth (m) -0.058 -0.059	<pre>360, 480 960, Flooded Volume (m<sup>3</sup>) 0.000 0.000</pre>	, 600, 1440, 2 I440, 2 Flow / Cap. 0.65 0.68	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7
PN 1.000 1.001 1.002	US/MH Name SWMH1 SWMH2 SWMH3	25 minute 2 15 minute 2 15 minute 2	d(s) (years) e Change (%) Event 2 year Winter 1 2 year Winter 1 2 year Winter 1	US/C (m) [+40% 89.2 [+40% 88.7 [+40% 88.5	Water L Level (m) 36 88.128 29 87.584 26 87.447	Surcharged Depth (m) -0.058 -0.059 -0.061	<pre>360, 480 960, Flooded Volume (m³) 0.000 0.000 0.000</pre>	<pre>, 600, 1440, 2 Flow / Cap. 0.65 0.68 0.66</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7
PN 1.000 1.001 1.002 1.003	US/MH Name SWMH1 SWMH2 SWMH3 SWMH4	25 minute 2 15 minute 2 15 minute 2 15 minute 2 15 minute 2	d(s) (years) e Change (%) <b>Event</b> 2 year Winter 1 2 year Winter 1	US/C (m) 1+40% 89.2 1+40% 88.7 1+40% 88.5 1+40% 88.3	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202	Surcharged Depth (m) -0.058 -0.059	<pre>360, 480 960, Flooded Volume (m<sup>3</sup>) 0.000 0.000</pre>	, 600, 1440, 2 I440, 2 Flow / Cap. 0.65 0.68	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7
<b>PN</b> 1.000 1.001 1.002 1.003	US/MH Name SWMH1 SWMH2 SWMH3 SWMH4 SWMH5	15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute	d(s) (years) e Change (%) Event 2 year Winter 1 2 year Winter 1 2 year Winter 1 2 year Winter 1	US/C (m) [+40% 89.2 [+40% 88.7 [+40% 88.3 [+40% 88.3 [+40% 88.0	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059	<pre>360, 480 960, 960, Flooded Volume (m³) 0.000 0.000 0.000 0.000</pre>	<pre>, 600, 1440, 2     I440, 2     Flow /     Cap.     0.65     0.68     0.66     0.68</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 9.7
<b>PN</b> 1.000 1.001 1.002 1.003 1.004 1.005 1.006	US/MH Name SWMH1 SWMH2 SWMH3 SWMH4 SWMH5 SWMH6 SWMH7	15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute 15 minute	d(s) (years) c Change (%) Event 2 year Winter 1 2 year Winter 1	US/C (m) 1+40% 89.2 1+40% 88.5 1+40% 88.3 1+40% 88.0 1+40% 87.7 1+40% 81.2	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108	<pre>360, 480 960, 960, Flooded Volume (m³) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000</pre>	<pre>, 600, / 1440, 2 Flow / Cap. 0.65 0.68 0.66 0.68 0.58 0.20 0.53</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 9.7 25.6 25.4 25.4
<b>PN</b> 1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007	US/MH Name SWMH1 SWMH2 SWMH3 SWMH4 SWMH5 SWMH6 SWMH6 SWMH7 SWMH8	15 minute 15 minute	d(s) (years) e Change (%) Event 2 year Winter 1 2 year Winter 1	US/C (m) 1+40% 89.2 1+40% 88.5 1+40% 88.3 1+40% 88.0 1+40% 87.7 1+40% 81.2 1+40% 81.0	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292           01         80.127	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108 -0.157	<pre>Flooded Volume (m³) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000</pre>	<pre>, 600, 7 1440, 2 Flow / Cap. 0.65 0.68 0.66 0.68 0.58 0.20 0.53 0.20</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 9.7 25.6 25.4 25.4 25.5
<b>PN</b> 1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008	US/MH Name SWMH1 SWMH2 SWMH3 SWMH4 SWMH5 SWMH6 SWMH6 SWMH7 SWMH8 SWMH9	15 minute 15 minute	d(s) (years) e Change (%) Event 2 year Winter 1 2 year Winter 1	US/C (m) 1+40% 89.2 1+40% 88.5 1+40% 88.3 1+40% 88.3 1+40% 88.0 1+40% 87.7 1+40% 81.2 1+40% 81.0 1+40% 79.6	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292           01         80.127           44         78.756	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108 -0.157 -0.131	<pre>Flooded</pre>	<pre>, 600, - 1440, 2 1440, 2 Flow / Cap. 0.65 0.68 0.66 0.68 0.58 0.20 0.53 0.20 0.36</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 25.6 25.4 25.4 25.5 25.2
<b>PN</b> 1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 \$	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH4 SWMH5 SWMH6 SWMH7 SWMH8 SWMH9 SWMH10	15 minute 15 minute	d(s) (years) e Change (%) Event 2 year Winter 1 2 year Winter 1	US/C (m) 1+40% 89.2 1+40% 88.5 1+40% 88.3 1+40% 88.0 1+40% 87.7 1+40% 81.2 1+40% 81.2 1+40% 81.0 1+40% 79.6 1+40% 78.3	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292           01         80.127           44         78.756           04         77.229	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108 -0.157 -0.131 -0.131	<pre>Flooded</pre>	<pre>Flow / Cap. 0.65 0.68 0.66 0.68 0.58 0.20 0.53 0.20 0.36 0.36</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 25.6 25.4 25.4 25.5 25.2 25.2 25.3
PN 1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 S 2.000 S	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH4 SWMH5 SWMH6 SWMH7 SWMH8 SWMH9 SWMH10 SWMH11	15 minute 15 minute	d(s) (years) c Change (%) Event 2 year Winter 1 2 year Winter 1	US/C (m) 1+40% 89.2 1+40% 88.5 1+40% 88.3 1+40% 88.0 1+40% 88.0 1+40% 87.7 1+40% 81.2 1+40% 81.0 1+40% 79.6 1+40% 78.3 1+40% 76.3	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292           01         80.127           44         78.756           04         77.229           41         75.234	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108 -0.157 -0.131 -0.131 -0.132	<pre>Flooded</pre>	<pre>Flow / Cap. 0.65 0.68 0.66 0.68 0.58 0.20 0.53 0.20 0.36 0.36 0.36</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 25.6 25.4 25.4 25.5 25.2 25.2 25.3 13.6
PN 1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 s 2.000 s 2.001 s	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH4 SWMH5 SWMH5 SWMH6 SWMH7 SWMH8 SWMH9 SWMH10 SWMH11 SWMH12	15 minute 15 minute	d(s) (years) e Change (%) Event 2 year Winter 1 2 year Winter 1	US/C (m) 1+40% 89.2 1+40% 88.5 1+40% 88.3 1+40% 88.0 1+40% 88.0 1+40% 87.7 1+40% 81.2 1+40% 81.2 1+40% 79.6 1+40% 76.3 1+40% 76.4	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292           01         80.127           44         78.756           04         77.229           41         75.234           59         75.009	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108 -0.157 -0.131 -0.131	<pre>Flooded</pre>	<pre>Flow / Cap. 0.65 0.68 0.66 0.68 0.58 0.20 0.53 0.20 0.36 0.36</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 25.6 25.4 25.4 25.5 25.2 25.2 25.3
PN 1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 S 2.000 S 2.001 S 2.002 S	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH4 SWMH5 SWMH5 SWMH6 SWMH7 SWMH8 SWMH9 SWMH10 SWMH11 SWMH12 SWMH13	15 minute 15 minute	d(s) (years) Change (%) Event 2 year Winter 1 2 year Winter 1	US/C (m) (+40% 89.2 (+40% 88.5 (+40% 88.3 (+40% 88.3 (+40% 88.0 (+40% 87.7 (+40% 81.2 (+40% 81.2 (+40% 79.6 (+40% 76.3 (+40% 76.4 (+40% 76.5	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292           01         80.127           44         78.756           04         77.229           41         75.234           59         75.009           66         74.819	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108 -0.157 -0.131 -0.131 -0.132 -0.132	<pre>Flooded</pre>	<pre>Flow / Cap. 0.65 0.68 0.66 0.68 0.58 0.20 0.53 0.20 0.36 0.36 0.35 0.35</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 25.6 25.4 25.4 25.5 25.2 25.2 25.3 13.6 13.7
PN 1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.003 2.004 3.05 2.004 3.05 3.55 3.5	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH4 SWMH5 SWMH5 SWMH6 SWMH7 SWMH8 SWMH10 SWMH10 SWMH11 SWMH12 SWMH13 SWMH14 SWMH15	15 minute 15 minute	d(s) (years) Change (%) Event 2 year Winter 1 2 year Winter 1	US/C (m) 1+40% 89.2 1+40% 88.5 1+40% 88.3 1+40% 88.3 1+40% 88.0 1+40% 87.7 1+40% 81.2 1+40% 81.2 1+40% 79.6 1+40% 76.3 1+40% 76.4 1+40% 76.5 1+40% 76.2 1+40% 77.1	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292           01         80.127           44         78.756           04         77.229           41         75.234           59         75.009           66         74.819           56         74.508           16         74.052	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108 -0.157 -0.131 -0.131 -0.132 -0.132 -0.134 -0.136 -0.091	<pre>Flooded</pre>	<pre>Flow / Cap. 0.65 0.68 0.66 0.68 0.58 0.20 0.53 0.20 0.36 0.36 0.35 0.35 0.35 0.34 0.32 0.30</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 25.6 25.4 25.5 25.2 25.3 13.6 13.7 13.4 12.9 11.7
PN 1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.004 2.005	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH3 SWMH5 SWMH5 SWMH6 SWMH7 SWMH10 SWMH10 SWMH10 SWMH11 SWMH13 SWMH14 SWMH15 SWMH16	turn Period Climate 15 minute 15 minute	d(s) (years) Change (%) Event 2 year Winter 1 2 year Winter 1	US/C (m) (+40% 89.2 (+40% 88.5 (+40% 88.3 (+40% 88.3 (+40% 88.0 (+40% 88.0 (+40% 87.7 (+40% 81.2 (+40% 81.2 (+40% 79.6 (+40% 76.3 (+40% 76.2 (+40% 77.1	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292           01         80.127           44         78.756           04         77.229           41         75.234           59         75.009           66         74.819           56         74.508           16         74.052           44         74.025	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108 -0.157 -0.131 -0.131 -0.132 -0.132 -0.134 -0.136 -0.091 0.075	<pre>Flooded</pre>	<pre>Flow / Cap. 0.65 0.68 0.66 0.68 0.58 0.20 0.36 0.36 0.35 0.35 0.35 0.34 0.32 0.30 0.37</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 25.6 25.4 25.4 25.5 25.2 25.3 13.6 13.7 13.4 12.9 11.7 13.6
PN 1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.005 3.000 5 3.000 5 5 5 5 5 5 5 5 5 5 5 5 5	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH3 SWMH5 SWMH5 SWMH6 SWMH7 SWMH6 SWMH10 SWMH10 SWMH11 SWMH12 SWMH13 SWMH14 SWM115 SWM16 SWM115 SWM16 SWM17	turn Period Climate 15 minute 15 minute	d(s) (years) Change (%) Event 2 year Winter 1 2 year Winter 1	US/C (m) (+40% 89.2 (+40% 88.5 (+40% 88.3 (+40% 88.3 (+40% 88.0 (+40% 88.0 (+40% 87.7 (+40% 81.2 (+40% 81.2 (+40% 79.6 (+40% 76.3 (+40% 76.2 (+40% 77.1 (+40% 77.1 (+40% 84.1	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292           01         80.127           44         78.756           04         77.229           41         75.234           59         75.009           66         74.819           56         74.508           16         74.052           44         74.025           03         82.934	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108 -0.157 -0.131 -0.131 -0.132 -0.132 -0.134 -0.136 -0.091 0.075 -0.194	<pre>Flooded</pre>	<pre>Flow / Cap. 0.65 0.68 0.66 0.68 0.58 0.20 0.36 0.35 0.35 0.35 0.34 0.32 0.30 0.37 0.05</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 25.6 25.4 25.4 25.5 25.2 25.3 13.6 13.7 13.4 12.9 11.7 13.6 6.4
PN 1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 2.001 2.002 2.003 2.004 2.003 2.004 2.005 3.000 5 3.000 5 3.000 5 3.000 5 5 5 5 5 5 5 5 5 5 5 5 5	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH3 SWMH4 SWMH5 SWMH6 SWMH7 SWMH6 SWMH10 SWMH10 SWMH10 SWMH11 SWMH13 SWMH14 SWM115 SWM16 SWM115 SWM16 SWM115 SWM116 SWM117 SWM18	turn Period Climate 15 minute 15 minute	d(s) (years) Change (%) Event 2 year Winter 1 2 year Winter 1	US/C (m) (+40% 89.2 (+40% 88.5 (+40% 88.3 (+40% 88.3 (+40% 88.0 (+40% 88.0 (+40% 87.7 (+40% 81.2 (+40% 81.2 (+40% 79.6 (+40% 76.3 (+40% 76.2 (+40% 77.1 (+40% 77.1 (+40% 78.8	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292           01         80.127           44         78.756           04         77.229           41         75.234           59         75.009           66         74.819           56         74.508           16         74.052           44         74.025           03         82.934           71         77.723	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108 -0.157 -0.131 -0.131 -0.132 -0.132 -0.132 -0.134 -0.136 -0.091 0.075 -0.194 -0.181	Flooded 960, 960, Flooded Volume (m <sup>3</sup> ) 0.0000 0.0000 0.00000 0.00000 0.00000 0.00000 0.00000 0.0000000 0.00000000	<pre>Flow / Cap. 0.65 0.68 0.66 0.68 0.58 0.20 0.36 0.35 0.35 0.35 0.35 0.34 0.32 0.30 0.37 0.05 0.08</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 25.6 25.4 25.5 25.2 25.3 13.6 13.7 13.4 12.9 11.7 13.6 6.4 3.6
PN 1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 2.000 S 2.001 S 2.001 S 2.002 S 2.003 S 2.004 S 2.005 S 3.000 S 3.000 S 3.001 S 3.000 S S 3.000 S S 3.000 S S S S S S S S S S S S S	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH3 SWMH4 SWMH5 SWMH6 SWMH7 SWMH6 SWMH10 SWMH10 SWMH10 SWMH11 SWMH13 SWMH14 SWM115 SWM116 SWM117 SWM118 SWM19	turn Period Climate 15 minute 15 minute	d(s) (years) Change (%) Event 2 year Winter 1 2 year	US/C (m) (+40% 89.2 (+40% 88.5 (+40% 88.5) (+40% 88.3) (+40% 88.0) (+40% 88.0) (+40% 87.7 (+40% 81.2) (+40% 81.2) (+40% 79.6) (+40% 76.3) (+40% 76.2) (+40% 77.1) (+40% 77.1) (+40% 78.8) (+40% 78.8)	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292           01         80.127           44         78.756           04         77.229           41         75.234           59         75.009           66         74.819           56         74.508           16         74.052           44         74.025           03         82.934           71         77.223           98         77.269	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108 -0.157 -0.131 -0.131 -0.132 -0.132 -0.132 -0.134 -0.136 -0.091 0.075 -0.194 -0.129	Flooded 960, 960, Flooded Volume (m <sup>3</sup> ) 0.0000 0.0000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000000	<pre>Flow / Cap. 0.65 0.68 0.66 0.68 0.58 0.20 0.36 0.35 0.35 0.35 0.34 0.32 0.30 0.37 0.05 0.08 0.38</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 25.6 25.4 25.5 25.2 25.3 13.6 13.7 13.4 12.9 11.7 13.6 6.4 3.6 19.4
PN 1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 2.000 2.000 2.001 2.002 2.003 2.004 2.005 3.000 3.001 3.002	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH3 SWMH4 SWMH5 SWMH6 SWMH7 SWMH6 SWMH7 SWMH10 SWMH10 SWMH10 SWMH11 SWMH13 SWMH14 SWMH15 SWMH16 SWMH16 SWMH17 SWMH18 SWM119 SWM120	15 minute 15 minute	d(s) (years) Change (%) Event 2 year Winter 1 2 year	US/C (m) (+40% 89.2 (+40% 88.5 (+40% 88.5) (+40% 88.3) (+40% 88.0) (+40% 88.0) (+40% 87.7 (+40% 88.0) (+40% 79.6 (+40% 78.3) (+40% 76.2) (+40% 77.1) (+40% 77.1) (+40% 78.8) (+40% 78.3) (+40% 78.3) (+40% 78.3)	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292           01         87.050           60         77.229           41         75.234           59         75.009           66         74.819           56         74.508           16         74.052           44         78.763           50         74.508           61         74.052           62         82.934           71         77.223           98         77.269           07         77.114	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108 -0.157 -0.131 -0.131 -0.132 -0.132 -0.132 -0.134 -0.136 -0.091 0.075 -0.194 -0.181 -0.129 -0.138	Flooded 960, 960, Flooded Volume (m <sup>3</sup> ) 0.0000 0.0000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000000	<pre>Flow / Cap. 0.65 0.68 0.66 0.68 0.58 0.20 0.36 0.35 0.35 0.35 0.34 0.32 0.30 0.37 0.05 0.08 0.38 0.32</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 25.6 25.4 25.5 25.2 25.3 13.6 13.7 13.4 12.9 11.7 13.6 6.4 3.6 19.4 19.5
PN 1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 2.000 2.001 2.002 2.003 2.004 2.005 2.004 2.005 3.000 3.001 3.002 3.003	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH3 SWMH4 SWMH5 SWMH6 SWMH7 SWMH6 SWMH7 SWMH10 SWMH10 SWMH10 SWMH11 SWM113 SWM114 SWM115 SWM116 SWM115 SWM116 SWM117 SWM118 SWM111 SWM112 SWM111 SWM112 SWM111 SWM112 SWM111 SWM112 SWM112 SWM112 SWM120 SWM121 SWM120 SWM121 SWM111 SWM121 SWM111 SWM111 SWM111 SWM112 SWM111 SWM112 SWM111 SWM112 SWM111 SWM111 SWM111 SWM111 SWM112 SWM111 SWM112 SWM111 SWM112 SWM111 SWM112 SWM111 SWM112 SWM12 SW	15 minute 15 minute	d(s) (years) Change (%) Event 2 year Winter 1 2 year	US/C (m) (+40% 89.2 (+40% 88.5 (+40% 88.3 (+40% 88.3 (+40% 88.3 (+40% 88.0 (+40% 88.0 (+40% 87.7 (+40% 81.2 (+40% 79.6 (+40% 76.3 (+40% 76.2 (+40% 77.1 (+40% 77.1 (+40% 78.8 (+40% 78.3 (+40% 78.2 (+40% 77.2	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292           01         80.127           44         78.756           04         77.229           41         75.234           59         75.009           66         74.819           56         74.508           16         74.052           44         78.2934           71         77.23           98         77.269           07         77.114           23         76.445	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108 -0.157 -0.131 -0.131 -0.132 -0.132 -0.132 -0.134 -0.136 -0.091 0.075 -0.194 -0.129	Flooded 960, 960, Flooded Volume (m <sup>3</sup> ) 0.0000 0.0000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000000	<pre>Flow / Cap. 0.65 0.68 0.66 0.68 0.58 0.20 0.36 0.35 0.35 0.35 0.34 0.32 0.30 0.37 0.05 0.08 0.38</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 25.6 25.4 25.4 25.5 25.2 25.3 13.6 13.7 13.4 12.9 11.7 13.6 6.4 3.6 19.4
PN 1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 1.009 S 2.001 S 2.001 S 2.001 S 2.002 S 2.003 S 2.004 S 3.000 S 3.001 S 3.002 S 3.003 S 3.004	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH3 SWMH4 SWMH5 SWMH6 SWMH7 SWMH6 SWMH7 SWMH10 SWMH10 SWMH10 SWMH11 SWMH12 SWMH13 SWMH14 SWMH15 SWMH14 SWMH15 SWMH16 SWMH17 SWMH18 SWM115 SWM115 SWM111 SWM112 SWM120 SWM121 SWM221 SWM	15 minute 15 minute	e Change (%) Event 2 year Winter 1 2	US/C (m) (+40% 89.2 (+40% 88.5 (+40% 88.5 (+40% 88.3 (+40% 88.0 (+40% 88.0 (+40% 87.7 (+40% 81.2 (+40% 79.6 (+40% 79.6 (+40% 76.3 (+40% 76.2 (+40% 77.1 (+40% 77.1 (+40% 78.8 (+40% 78.3 (+40% 78.2 (+40% 77.2 (+40% 77.0	Water           Level           (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292           01         80.127           44         78.756           04         77.229           41         75.234           59         75.009           66         74.819           56         74.508           16         74.052           44         78.726           03         82.934           71         77.223           98         77.269           07         77.114           23         76.445           31         76.021	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108 -0.157 -0.131 -0.131 -0.132 -0.132 -0.132 -0.134 -0.136 -0.091 0.075 -0.194 -0.181 -0.129 -0.138 -0.127	Flooded 960, 960, 960, Volume (m <sup>3</sup> ) 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.000000	<pre>Flow / Cap. 0.65 0.68 0.66 0.68 0.58 0.20 0.36 0.35 0.35 0.35 0.34 0.32 0.30 0.37 0.05 0.08 0.38 0.32 0.39</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 25.6 25.4 25.4 25.5 25.2 25.3 13.6 13.7 13.4 12.9 11.7 13.6 6.4 3.6 19.4 19.5 19.1
PN 1.000 1.001 1.002 1.003 1.004 1.005 1.006 1.007 1.008 2.000 2.000 2.001 2.002 2.003 2.004 2.005 3.000 3.001 3.002 3.003 3.004 3.005 2.006 3.005 3.05 3.005	US/MH Name SWMH1 SWMH2 SWMH3 SWMH3 SWMH3 SWMH3 SWMH4 SWMH5 SWMH5 SWMH6 SWMH7 SWMH6 SWMH7 SWMH10 SWMH10 SWMH10 SWMH11 SWMH11 SWMH12 SWMH14 SWMH15 SWMH14 SWMH15 SWMH14 SWMH15 SWMH14 SWMH15 SWMH14 SWMH15 SWMH14 SWMH15 SWMH12 SWMH20 SWMH21 SWMH22 SWMH22 SWMH22 SWMH22 SWMH22 SWMH24	15 minute 15 minute	e Change (%) Event 2 year Winter 1 2	US/C (m) (+40% 89.2 (+40% 88.5 (+40% 88.3 (+40% 88.3 (+40% 88.3 (+40% 88.0 (+40% 87.7 (+40% 81.2 (+40% 79.6 (+40% 79.6 (+40% 76.3 (+40% 76.2 (+40% 77.1 (+40% 77.1 (+40% 78.3 (+40% 78.3 (+40% 78.2 (+40% 77.2 (+40% 77.2 (+40% 77.1 (+40% 75.1 (+40% 76.9	Water           Level (m)           36         88.128           29         87.584           26         87.447           14         87.202           01         87.050           60         86.523           46         80.292           01         80.127           44         78.756           04         77.229           41         75.234           59         75.009           66         74.819           56         74.508           16         74.052           43         82.934           71         77.223           98         77.269           07         77.114           23         76.445           31         76.021           51         74.378           82         74.005	Surcharged Depth (m) -0.058 -0.059 -0.061 -0.059 -0.099 -0.157 -0.108 -0.157 -0.131 -0.131 -0.132 -0.132 -0.132 -0.134 -0.136 -0.091 0.075 -0.194 -0.181 -0.129 -0.138 -0.127 -0.168	Flooded 960, 960, 960, 960, 960, 960, 960, 960,	<pre>Flow / Cap.</pre>	720, 2160 2 40 <b>Overflow</b>	Flow (1/s) 9.8 9.7 9.7 25.6 25.4 25.4 25.5 25.2 25.3 13.6 13.7 13.4 12.9 11.7 13.6 6.4 3.6 19.4 19.5 19.1 19.2

5.000 SWMH25 15 minute 2 year Winter I+40% 75.984 74.873 -0.136 0.000 0.32

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12.4

Mott MacDonald		Page 2
Mott MacDonald House	108939-Solar Site	
8-10 Sydenham Road	1 in 30y+40%CC	
Croydon CR0 2EE		Micro
Date 15/11/2022 10:16	Designed by BN	Drainage
File 108939-SOLAR SITE MODEL.MDX	Checked by ARD	Diginarye
Innovyze	Network 2020.1.3	

PN	US/MH Name	Status
1.000	SWMH1	OK
1.001	SWMH2	OK
1.002	SWMH3	OK
1.003	SWMH4	OK
1.004	SWMH5	OK
1.005	SWMH6	OK
1.006	SWMH7	OK
1.007	SWMH8	OK
1.008	SWMH9	OK
1.009	SWMH10	OK
2.000	SWMH11	OK
2.001	SWMH12	OK
2.002	SWMH13	OK
2.003	SWMH14	OK
2.004	SWMH15	OK
2.005	SWMH16	SURCHARGED
3.000	SWMH17	OK
4.000	SWMH18	OK
3.001	SWMH19	OK
3.002	SWMH20	OK
3.003	SWMH21	OK
3.004	SWMH22	OK
3.005	SWMH23	SURCHARGED
2.006	SWMH24	SURCHARGED
5.000	SWMH25	OK

Mott MacDonald		Page 3
Mott MacDonald House	108939-Solar Site	
8-10 Sydenham Road	1 in 30y+40%CC	
Croydon CR0 2EE		Micro
Date 15/11/2022 10:16	Designed by BN	Drainage
File 108939-SOLAR SITE MODEL.MDX	Checked by ARD	Diamage
Innovyze	Network 2020.1.3	

PN	US/MH Name			1	Event			US/CL (m)	Water Level (m)	Surcharged Depth (m)			Overflow (1/s)	Pipe Flow (l/s)
5.001	SWMH26	15	minute	2	year	Winter	I+40%	76.171	74.734	-0.128	0.000	0.38		12.5
5.002	SWMH27	15	minute	2	year	Winter	I+40%	76.398	74.673	-0.135	0.000	0.34		12.5
5.003	SWMH28	15	minute	2	year	Winter	I+40%	77.475	74.561	-0.134	0.000	0.34		12.4
5.004	SWMH29	15	minute	2	year	Winter	I+40%	76.713	74.467	-0.136	0.000	0.33		12.4
5.005	SWMH30	15	minute	2	year	Winter	I+40%	76.521	74.325	-0.137	0.000	0.32		12.4
5.006	SWMH31	15	minute	2	year	Winter	I+40%	76.124	74.163	-0.139	0.000	0.30		12.1
5.007	SWMH32	15	minute	2	year	Winter	I+40%	77.373	73.815	-0.140	0.000	0.30		11.9
2.007	SWMH33	15	minute	2	year	Winter	I+40%	76.092	73.673	-0.013	0.000	0.99		40.4
1.010	SWMH34	15	minute	2	year	Winter	I+40%	77.447	72.980	-0.092	0.000	0.65		64.3
1.011	SWMH35	480	minute	2	year	Winter	I+40%	72.710	71.181	0.138	0.000	0.20		16.5
1.012	SWMH36	480	minute	2	year	Winter	I+40%	72.000	71.174	0.149	0.000	0.05		5.0

	US/MH	
PN	Name	Status
5.001	SWMH26	OK
5.002	SWMH27	OK
5.003	SWMH28	OK
5.004	SWMH29	OK
5.005	SWMH30	OK
5.006	SWMH31	OK
5.007	SWMH32	OK
2.007	SWMH33	OK
1.010	SWMH34	OK
1.011	SWMH35	SURCHARGED
1.012	SWMH36	SURCHARGED

Mott MacDona	ld						Page 1
Mott MacDona	ld House	Ma	ruben	i			
8-10 Sydenha	m Road	So	lar F	arm			
Croydon CR0	2EE	Тел	mpora	ry pond	d calcu	lation	Micco
Date 07/11/2				d by 0.			- Micro
	TEMP POND CALC.		2	by A.			Drainago
	IEMI IOND CALC.						
Innovyze		50	urce	Control	_ 2020.	1.3	
	0	1+	E	Data	De.		
	Summary of Resul	Its for	з уе	ar keti	arn Pei	riod (+10%)	
	Storm	Max	x Max Max Max S			Status	
	Event			Control			
		(m)	- (m)	(l/s)	(m³)		
			0 5 4 0		0.7.0		
	15 min Summer 30 min Summer			5.0 5.0		ОК	
	60 min Summer			5.0		Flood Risk	
	120 min Summer			5.0		Flood Risk	
	180 min Summer			5.0		Flood Risk	
	240 min Summer			5.0		Flood Risk	
	360 min Summer	75.874	0.874	5.0	56.6	Flood Risk	
	480 min Summer			5.0		Flood Risk	
	600 min Summer			5.0		Flood Risk	
	720 min Summer			5.0		Flood Risk	
	960 min Summer			5.0		Flood Risk	
	1440 min Summer 2160 min Summer			5.0 5.0		Flood Risk O K	
	2880 min Summer			5.0			
	4320 min Summer			4.7			
	5760 min Summer			4.1			
	7200 min Summer	75.100	0.100	3.6	3.5	O K	
	8640 min Summer			3.2			
	10080 min Summer			2.9			
	15 min Winter 30 min Winter			5.0 5.0		O K Flood Risk	
	Storm	Rain		oded Dis	charge	Time-Peak (mins)	
	Event	(mm/hı	•			(mills)	
	Event	(mm/h)	•		(m <sup>3</sup> )	(mills)	
	<b>Event</b> 15 min Summe		(п			18	
		er 47.16	<b>(π</b>	13)	(m³)		
	15 min Summe 30 min Summe 60 min Summe	er 47.16 er 33.04 er 22.44	<b>(m</b> 53 49 41	n <sup>3</sup> ) 0.0 0.0 0.0	(m <sup>3</sup> ) 31.6 44.4 60.2	18 32 60	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe	er 47.16 er 33.04 er 22.44 er 14.95	53 49 41 56	0.0 0.0 0.0 0.0 0.0	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3	18 32 60 104	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe 180 min Summe	er 47.16 er 33.04 er 22.44 er 14.95 er 11.73	(m 63 49 41 56 32	0.0 0.0 0.0 0.0 0.0 0.0	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3 94.5	18 32 60 104 138	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe 180 min Summe 240 min Summe	er 47.16 er 33.04 er 22.44 er 14.95 er 11.73 er 9.86	(m 63 49 41 56 32 52	1 <sup>3</sup> ) 0.0 0.0 0.0 0.0 0.0 0.0	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3 94.5 105.9	18 32 60 104 138 172	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe 180 min Summe 240 min Summe 360 min Summe	er 47.16 er 33.04 er 22.44 er 14.95 er 11.73 er 9.86 er 7.71	(m 53 49 41 56 32 52 11	n <sup>3</sup> ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3 94.5 105.9 124.2	18 32 60 104 138 172 242	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe 180 min Summe 240 min Summe	er 47.16 er 33.04 er 22.44 er 14.95 er 11.73 er 9.86 er 7.71 er 6.47	(m 63 49 41 56 32 62 11 70	1 <sup>3</sup> ) 0.0 0.0 0.0 0.0 0.0 0.0	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3 94.5 105.9	18 32 60 104 138 172	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe 180 min Summe 240 min Summe 360 min Summe	er 47.16 er 33.04 er 22.44 er 14.95 er 11.73 er 9.86 er 7.71 er 6.47 er 5.64	(m 63 49 41 56 32 52 11 70 45	<pre>h<sup>3</sup>) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.</pre>	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3 94.5 105.9 124.2 139.0	18 32 60 104 138 172 242 312	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe 180 min Summe 240 min Summe 360 min Summe 600 min Summe 720 min Summe	er 47.16 er 33.04 er 22.44 er 14.95 er 11.73 er 9.86 er 7.71 er 6.47 er 5.64 er 5.64 er 5.04	(m 53 419 41 56 32 52 11 70 45 49	<pre>h<sup>3</sup>) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.</pre>	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3 94.5 105.9 124.2 139.0 151.6 162.7 181.8	18 32 60 104 138 172 242 312 382 452 588	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe 180 min Summe 240 min Summe 360 min Summe 480 min Summe 720 min Summe 960 min Summe	er 47.16 er 33.04 er 22.44 er 14.95 er 11.73 er 9.86 er 7.71 er 6.47 er 5.64 er 5.64 er 5.04 er 4.23 er 3.29	( <b>n</b> 63 49 41 56 32 62 11 70 45 49 33 99	<pre>h<sup>3</sup>) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.</pre>	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3 94.5 105.9 124.2 139.0 151.6 162.7 181.8 212.6	18 32 60 104 138 172 242 312 382 452 588 854	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe 180 min Summe 240 min Summe 360 min Summe 480 min Summe 720 min Summe 960 min Summe 1440 min Summe	er 47.16 er 33.04 er 22.44 er 14.95 er 11.73 er 9.86 er 7.71 er 6.47 er 5.64 er 5.64 er 5.04 er 3.29 er 3.29	( <b>n</b> 63 49 41 56 32 62 11 70 45 49 33 99 71	<pre>h<sup>3</sup>) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.</pre>	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3 94.5 105.9 124.2 139.0 151.6 162.7 181.8 212.6 248.5	18 32 60 104 138 172 242 312 382 452 588 854 1208	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe 180 min Summe 240 min Summe 360 min Summe 480 min Summe 720 min Summe 960 min Summe 1440 min Summe 2160 min Summe	er 47.16 er 33.04 er 22.44 er 14.95 er 11.73 er 9.86 er 7.71 er 6.47 er 5.64 er 5.64 er 5.64 er 3.29 er 3.29 er 3.29 er 2.57	( <b>n</b> 63 49 41 56 32 52 11 70 45 49 33 39 97 154	<pre>h<sup>3</sup>) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.</pre>	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3 94.5 105.9 124.2 139.0 151.6 162.7 181.8 212.6 248.5 277.6	18 32 60 104 138 172 242 312 382 452 588 854 1208 1528	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe 180 min Summe 240 min Summe 360 min Summe 480 min Summe 720 min Summe 960 min Summe 1440 min Summe 2160 min Summe 2880 min Summe	er 47.16 er 33.04 er 22.44 er 14.95 er 11.73 er 9.86 er 7.71 er 6.47 er 5.64 er 5.64 er 3.29 er 3.29 er 2.57 er 2.15	( <b>n</b> 53 49 41 56 32 52 11 70 45 49 33 399 71 54 78	<pre>h<sup>3</sup>) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.</pre>	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3 94.5 105.9 124.2 139.0 151.6 162.7 181.8 212.6 248.5 277.6 324.5	18 32 60 104 138 172 242 312 382 452 588 854 1208 1528 2204	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe 180 min Summe 240 min Summe 360 min Summe 480 min Summe 600 min Summe 960 min Summe 1440 min Summe 2160 min Summe 2880 min Summe 4320 min Summe	er 47.16 er 33.04 er 22.44 er 14.95 er 11.73 er 9.86 er 7.71 er 6.47 er 5.64 er 5.64 er 3.29 er 3.29 er 2.55 er 2.55 er 1.67	( <b>n</b> 53 49 41 56 32 52 11 70 45 49 33 399 71 54 78 06	<pre>h<sup>3</sup>) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.</pre>	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3 94.5 105.9 124.2 139.0 151.6 162.7 181.8 212.6 248.5 277.6 324.5 362.4	18 32 60 104 138 172 242 312 382 452 588 854 1208 1528 2204 2912	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe 180 min Summe 240 min Summe 360 min Summe 480 min Summe 600 min Summe 960 min Summe 1440 min Summe 2160 min Summe 2880 min Summe 4320 min Summe 5760 min Summe	er 47.16 er 33.04 er 22.44 er 14.95 er 11.73 er 9.86 er 7.71 er 6.47 er 5.64 er 5.64 er 3.29 er 2.55 er 2.55 er 2.15 er 1.40 er 1.22	( <b>n</b> 53 49 41 56 32 52 11 70 45 49 33 399 71 54 78 06 26	<pre>h<sup>3</sup>) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.</pre>	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3 94.5 105.9 124.2 139.0 151.6 162.7 181.8 212.6 248.5 277.6 324.5 362.4 395.0	18 32 60 104 138 172 242 312 382 452 588 854 1208 1528 2204 2912 3672	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe 180 min Summe 240 min Summe 360 min Summe 480 min Summe 600 min Summe 960 min Summe 1440 min Summe 2160 min Summe 2880 min Summe 4320 min Summe	er 47.16 er 33.04 er 22.44 er 14.95 er 11.73 er 9.86 er 7.71 er 6.47 er 5.64 er 5.64 er 3.29 er 2.55 er 2.15 er 1.67 er 1.40 er 1.22 er 1.09	( <b>n</b> 53 49 41 56 32 52 11 70 45 49 33 399 71 54 78 06 26 96	<pre>h<sup>3</sup>) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.</pre>	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3 94.5 105.9 124.2 139.0 151.6 162.7 181.8 212.6 248.5 277.6 324.5 362.4	18 32 60 104 138 172 242 312 382 452 588 854 1208 1528 2204 2912	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe 180 min Summe 240 min Summe 360 min Summe 480 min Summe 720 min Summe 960 min Summe 1440 min Summe 2880 min Summe 4320 min Summe 5760 min Summe 7200 min Summe	er 47.16 er 33.04 er 22.44 er 14.95 er 11.73 er 9.86 er 7.71 er 6.47 er 5.64 er 5.64 er 3.29 er 2.55 er 2.15 er 1.40 er 1.22 er 1.09	(m 53 49 41 56 32 52 11 70 45 49 33 399 71 54 78 06 26 996 97	<pre>h<sup>3</sup>) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.</pre>	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3 94.5 105.9 124.2 139.0 151.6 162.7 181.8 212.6 248.5 277.6 324.5 362.4 395.0 423.8	18 32 60 104 138 172 242 312 382 452 588 854 1208 1528 2204 2912 3672 4400	
	15 min Summe 30 min Summe 60 min Summe 120 min Summe 180 min Summe 240 min Summe 360 min Summe 480 min Summe 720 min Summe 960 min Summe 1440 min Summe 2880 min Summe 4320 min Summe 5760 min Summe 5760 min Summe 8640 min Summe	er 47.16 er 33.04 er 22.44 er 14.95 er 11.73 er 9.86 er 7.71 er 6.47 er 5.64 er 5.64 er 3.29 er 2.55 er 2.15 er 1.65 er 1.40 er 1.22 er 1.09 er 0.99 er 47.16	( <b>π</b> 53 49 41 56 32 52 11 70 45 49 33 399 71 54 78 06 26 96 97 53 33 99 71 54 78 06 26 26 26 26 26 27 26 26 27 27 27 27 27 27 27 27 27 27	<pre>h<sup>3</sup>) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.</pre>	(m <sup>3</sup> ) 31.6 44.4 60.2 80.3 94.5 105.9 124.2 139.0 151.6 162.7 181.8 212.6 248.5 277.6 324.5 362.4 395.0 423.8 449.8	18 32 60 104 138 172 242 312 382 452 588 854 1208 1528 2204 2912 3672 4400 5056	

Mott MacDon							
	ald House	Ma	aruber	ni			
8-10 Sydenh	am Road	Sc	olar H	Farm			
Croydon CR	0 2EE	Te	empora	ary po	nd calcu	ulation	
Date 07/11/	2022	De	esigne	ed by (	). Jeff	cock	
File SOLAR	- TEMP POND CALC	Ch	necked	d by A	. Ruiz I	Diaz	
Innovyze					51 2020		
4							
	Summary of Resul	ts fo	r 5 ye	ear Re	turn Pe	riod (+10%)	
	Storm	Max	Max	Max	Max	Status	
	Event		-		1 Volume		
		(m)	(m)	(l/s)	(m³)		
	60 min Winter	75.841	0.841	5.	0 53.2	Flood Risk	
	120 min Winter	75.915	0.915	5.	0 61.1	Flood Risk	
	180 min Winter					Flood Risk	
	240 min Winter					Flood Risk	
	360 min Winter 480 min Winter					Flood Risk Flood Risk	
	600 min Winter					Flood Risk	
	720 min Winter					Flood Risk	
	960 min Winter	75.796	0.796	5.	0 48.8	Flood Risk	
	1440 min Winter			5.			
	2160 min Winter						
	2880 min Winter 4320 min Winter				5 4.8 5 3.4		
	5760 min Winter				0 2.9		
	7200 min Winter	75.078	0.078	2.	6 2.6		
	8640 min Winter				3 2.4		
	10080 min Winter	/5.068	0.068	۷.	1 2.3	0 K	
	Storm	Rain	n Flo	ooded D:	ischarge	Time-Peak	
	Storm Event		nr) Vo	lume	Volume	Time-Peak (mins)	
			nr) Vo		-		
		(mm/h	nr) Vo (	lume	Volume		
	<b>Event</b> 60 min Winter 120 min Winter	(mm/h 22.4 14.9	<b>14</b> 1 956 <b>Vo</b>	lume m³) 0.0 0.0	Volume (m <sup>3</sup> ) 67.5 89.9	(mins) 60 114	
	<b>Event</b> 60 min Winter 120 min Winter 180 min Winter	(mm/h 22.4 14.9 11.7	<b>141</b> 956 732	lume m <sup>3</sup> ) 0.0 0.0 0.0	Volume (m <sup>3</sup> ) 67.5 89.9 105.8	(mins) 60 114 144	
	Event 60 min Winter 120 min Winter 180 min Winter 240 min Winter	(mm/h 22.4 14.9 11.7 9.8	<b>Vo</b> (41 956 732 862	lume m <sup>3</sup> ) 0.0 0.0 0.0 0.0	Volume (m <sup>3</sup> ) 67.5 89.9 105.8 118.6	(mins) 60 114 144 184	
	60 min Winter 120 min Winter 180 min Winter 240 min Winter 360 min Winter	(mm/h 22.4 14.9 11.7 9.8 7.7	<b>Vo</b> (141 956 732 862 711	lume m <sup>3</sup> ) 0.0 0.0 0.0 0.0 0.0	Volume (m <sup>3</sup> ) 67.5 89.9 105.8 118.6 139.1	(mins) 60 114 144 184 262	
	Event 60 min Winter 120 min Winter 180 min Winter 240 min Winter	(mm/h 22.4 14.9 11.7 9.8 7.7 6.4	<b>Vo</b> (141 956 732 862 711 170	lume m <sup>3</sup> ) 0.0 0.0 0.0 0.0	Volume (m <sup>3</sup> ) 67.5 89.9 105.8 118.6	(mins) 60 114 144 184	
	Event 60 min Winter 120 min Winter 180 min Winter 240 min Winter 360 min Winter 480 min Winter	(mm/h 22.4 14.9 11.7 9.8 7.7 6.4 5.6	<b>Vo</b> (141 956 732 862 711 870 545	lume m <sup>3</sup> ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Volume (m <sup>3</sup> ) 67.5 89.9 105.8 118.6 139.1 155.6	(mins) 60 114 144 184 262 340	
	Event 60 min Winter 120 min Winter 180 min Winter 240 min Winter 360 min Winter 480 min Winter 600 min Winter 720 min Winter 960 min Winter	(mm/h 22.4 14.9 11.7 9.8 7.7 6.4 5.6 5.0 4.2	Vo           441           956           732           62           711           170           645           645           933	Lume m <sup>3</sup> ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Volume (m <sup>3</sup> ) 67.5 89.9 105.8 118.6 139.1 155.6 169.7 182.2 203.6	(mins) 60 114 144 262 340 416 488 634	
	Event 60 min Winter 120 min Winter 180 min Winter 240 min Winter 360 min Winter 480 min Winter 600 min Winter 960 min Winter 1440 min Winter	(mm/h) = 22.4 = 14.9 = 11.7 = 9.8 = 7.7 = 6.4 = 5.6 = 5.0 = 4.2 = 3.2	Vo           441           956           322           362           711           170           545           349           233           299	Lume m <sup>3</sup> ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Volume (m <sup>3</sup> ) 67.5 89.9 105.8 118.6 139.1 155.6 169.7 182.2 203.6 238.1	(mins) 60 114 144 262 340 416 488 634 896	
	Event 60 min Winter 120 min Winter 180 min Winter 240 min Winter 360 min Winter 480 min Winter 720 min Winter 960 min Winter 1440 min Winter	(mm/h 22.4 14.9 11.7 9.8 7.7 6.4 5.6 5.0 4.2 3.2 2.5	Vo           441           356           322           362           711           370           545           349           333           299           571	Lume m <sup>3</sup> ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Volume (m <sup>3</sup> ) 67.5 89.9 105.8 118.6 139.1 155.6 169.7 182.2 203.6 238.1 278.3	(mins) 60 114 144 262 340 416 488 634 896 1188	
	Event 60 min Winter 120 min Winter 180 min Winter 240 min Winter 360 min Winter 480 min Winter 720 min Winter 960 min Winter 1440 min Winter 2880 min Winter	(mm/h 22.4 14.9 11.7 9.8 7.7 6.4 5.6 5.0 4.2 3.2 2.5 2.1	Vo           441           956           322           362           711           370           545           949           233           299           571           54	Lume m <sup>3</sup> ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Volume (m <sup>3</sup> ) 67.5 89.9 105.8 118.6 139.1 155.6 169.7 182.2 203.6 238.1 278.3 310.9	(mins) 60 114 144 262 340 416 488 634 896 1188 1476	
	Event 60 min Winter 120 min Winter 180 min Winter 240 min Winter 360 min Winter 480 min Winter 720 min Winter 960 min Winter 1440 min Winter	(mm/h 22.4 14.9 11.7 9.8 7.7 6.4 5.6 5.0 4.2 3.2 2.5 2.1 1.6	Vo           441           956           322           362           411           370           545           549           571           54           578	Lume m <sup>3</sup> ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Volume (m <sup>3</sup> ) 67.5 89.9 105.8 118.6 139.1 155.6 169.7 182.2 203.6 238.1 278.3	(mins) 60 114 144 262 340 416 488 634 896 1188	
	Event 60 min Winter 120 min Winter 180 min Winter 240 min Winter 360 min Winter 480 min Winter 720 min Winter 960 min Winter 1440 min Winter 280 min Winter 4320 min Winter	(mm/h 22.4 14.9 11.7 9.8 7.7 6.4 5.6 5.0 4.2 3.2 2.5 2.11 6 1.6 1.4	Vo           441           956           322           362           411           370           543           571           54           578           406	Lume m <sup>3</sup> ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Volume (m <sup>3</sup> ) 67.5 89.9 105.8 118.6 139.1 155.6 169.7 182.2 203.6 238.1 278.3 310.9 363.4	(mins) 60 114 144 262 340 416 488 634 896 1188 1476 2200	
	Event 60 min Winter 120 min Winter 180 min Winter 240 min Winter 360 min Winter 480 min Winter 600 min Winter 960 min Winter 1440 min Winter 2160 min Winter 2880 min Winter 5760 min Winter	(mm/h 22.4 14.9 11.7 9.8 7.7 6.4 5.6 5.0 4.2 2.5 2.1 1.6 1.6 1.4 2.5 2.1 1.6 1.2 1.2 1.2 2.1 1.6 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	Vo           441           956           322           362           411           370           543           571           54           578           606           226           999           571           54           578           606           226           999	Lume m <sup>3</sup> ) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Volume (m <sup>3</sup> ) 67.5 89.9 105.8 118.6 139.1 155.6 169.7 182.2 203.6 238.1 278.3 310.9 363.4 405.9	(mins) 60 114 144 262 340 416 488 634 896 1188 1476 2200 2928	

Mott MacDonald		Page 3
Mott MacDonald House	Marubeni	
8-10 Sydenham Road	Solar Farm	
Croydon CR0 2EE	Temporary pond calculation	Micro
Date 07/11/2022	Designed by O. Jeffcock	
File SOLAR - TEMP POND CALC	Checked by A. Ruiz Diaz	Drainage
Innovyze	Source Control 2020.1.3	
Innovyze Rainfall Model Return Period (years) Region Engla M5-60 (mm) Ratio R Summer Storms <u>Tir</u> Tota	Source Control 2020.1.3 infall Details FSR Winter Storms Y 5 Cv (Summer) 0.7 and and Wales Cv (Winter) 0.8 19.900 Shortest Storm (mins) 0.228 Longest Storm (mins) 100	es 50 40 15

8-10 Sydenham Road Croydon CRO 2EE Date 07/11/2022 File SOLAR - TEMP POND CALC Innovyze <u>M</u> Storage is Oni <u>Tank c</u>	Designed Checked Source C	rm y pond by O. by A. H ontrol ails	calculat: Jeffcock Ruiz Diaz 2020.1.3	ion	Micro Drainac
Croydon CRO 2EE Date 07/11/2022 File SOLAR - TEMP POND CALC Ennovyze <u>M</u> Storage is On <u>Tank c</u>	Temporar Designed Checked Source C Model Det	y pond by O. by A. H ontrol ails	Jeffcock Ruiz Diaz 2020.1.3	ion	
Croydon CRO 2EE Date 07/11/2022 Tile SOLAR - TEMP POND CALC Ennovyze <u>M</u> Storage is On <u>Tank c</u>	Designed Checked Source C Model Det	by O. by A. H ontrol	Jeffcock Ruiz Diaz 2020.1.3	ion	
pate 07/11/2022 Pile SOLAR - TEMP POND CALC nnovyze <u>M</u> Storage is On <u>Tank c</u>	Designed Checked Source C Model Det	by O. by A. H ontrol	Jeffcock Ruiz Diaz 2020.1.3		
Tile SOLAR - TEMP POND CALC	Checked Source C Nodel Det.	by A. H ontrol ails	Ruiz Diaz 2020.1.3		Drainad
nnovyze <u>M</u> Storage is On <u>Tank c</u>	Source C Model Det	ontrol ails	2020.1.3		
<u>M</u> Storage is On <u>Tank</u> c	lodel Det. line Cover	ails_			
Storage is Oni <u>Tank</u>	line Cover				
Tank c		Level (			
	or Pond S		m) /6.000		
Inver		Structu	re		
	t Level (m	a) 75.000	0		
Depth (m) Area (m <sup>2</sup> ) Dep	oth (m) Are	a (m²)	Depth (m) A	rea (m²)	
0.000 31.5 0.200 44.6	0.400 0.600	59.9 77 5		97.4 119.5	
		1			
<u>Hydro-Brake®</u>	Optimum	Outflo	w Control		
Design	n Head (m)	MD-SHE-	0105-5000-1	1.000	
-	Flow (l/s) Flush-Flo™		0-	5.0 alculated	
1			ca se upstream.		
Ar	oplication	171111111	upscredi	Surface	
-	Available			Yes	
Diar	meter (mm)			105	
	Level (m)			75.000	
Minimum Outlet Pipe Diar Suggested Manhole Diar				150 1200	
		<b>W</b> = = = <b>1</b> (m)			
Control Poi			) Flow (1/s		
Design Point (Ca					
	lush-Flo™ Kick-Flo®				
Mean Flow over H		0.03	- 4.		
The hydrological calculations have be Hydro-Brake® Optimum as specified. S Hydro-Brake Optimum® be utilised the invalidated	Should ano	ther typ	e of contro	ol device c	other than a
Depth (m) Flow (1/s) Depth (m) Flow	(1/s) Der	oth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100 3.6 1.200	5.4	3.000	8.4	7.000	12.5
0.200 4.8 1.400	5.8	3.500	9.0	7.500	12.9
0.300 5.0 1.600	6.2	4.000	9.6	8.000	13.3
0.400 4.9 1.800	6.6	4.500	10.1	8.500	13.7
0.500 4.7 2.000 0.600 4.3 2.200	6.9 7.2	5.000 5.500	10.6 11.1	9.000 9.500	14.1 14.5
0.800 4.5 2.200	7.5	6.000	11.1	9.000	14.0
1.000 5.0 2.600	7.8	6.500	12.1		
<u></u> ⊜1 ۵ Q	2-2020 I:	nn037777	2		

## **E.Greenfield Runoff Calculations**

### Print



## HR Wallingford Norking with water

Calculated by:	Balaji Naik
Site name:	Marubeni Bridgend Green
Site location:	Bryncethin

Runoff estimation approach IH124

This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

## Greenfield runoff rate estimation for sites

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Site Details	
Latitude:	51.54792° N
Longitude:	3.56317° W
Reference:	3802285287
Date:	Oct 26 2022 15:44

	- I	11 1 1 4	.т		
Site characteristics					Notes
Total site area (ha): 0.	421				(1) Is (
Methodology					(1) 13 (
Q <sub>BAR</sub> estimation metho	d: Calcu	ulate f	rom SPR	and SAAR	Whe
SPR estimation method	l: Calcu	ulate f	rom SOIL	type	at 2.
Soil characteristics	Defau	ılt	Edite	ed	
SOIL type:	3		3		(2) Are
HOST class:	N/A		N/A		
SPR/SPRHOST:	0.37		0.37		Whe usua
Hydrological charac	teristics	C	Default	Edited	mate whe
SAAR (mm):		140	)8	1408	drair
Hydrological region:		9		9	(3) Is \$
Growth curve factor 1 y	ear:	0.8	8	0.88	
Growth curve factor 30	years:	1.7	8	1.78	Whe
Growth curve factor 10	0 years:	2.1	8	2.18	soak
Growth curve factor 20	0 years:	2.4	6	2.46	

IN(	JU	es	)	

#### Q<sub>BAR</sub> < 2.0 l/s/ha?

en  $Q_{BAR}$  is < 2.0 l/s/ha then limiting discharge rates are set .0 l/s/ha.

#### e flow rates < 5.0 l/s?

ere flow rates are less than 5.0 l/s consent for discharge is ally set at 5.0 l/s if blockage from vegetation and other erials is possible. Lower consent flow rates may be set ere the blockage risk is addressed by using appropriate nage elements.

#### SPR/SPRHOST $\leq 0.3$ ?

ere groundwater levels are low enough the use of kaways to avoid discharge offsite would normally be ferred for disposal of surface water runoff.

Greenfield runoff rates	Default	Edited
Q <sub>BAR</sub> (I/s):	2.74	2.74
1 in 1 year (l/s):	2.41	2.41
1 in 30 years (l/s):	4.88	4.88
1 in 100 year (l/s):	5.97	5.97
1 in 200 years (l/s):	6.74	6.74



# Greenfield runoff rate estimation for sites

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Calculated by:	Marta Garcia I	Hernansanz		Site Deta	ails
Site name:	Marubani Drid	aand		Latitude:	51.54721° N
	Marubeni Brid	gena		Longitude:	3.5739° W
Site location:	Bridgend				
This is an estimation o in line with Environmer SC030219 (2013), the (Defra, 2015). This info the drainage of surface	nt Agency guidanc e SuDS Manual C7 prmation on greenf	e "Rainfall runoff n 753 (Ciria, 2015) ai ield runoff rates m	nanagement for dev nd the non-statutor	velopments", Reference: y standards for SuDS	Cct 25 2022 09:35
Runoff estimation	on approach	IH124			
Site characterist	tics			Notes	
Total site area (ha):	0.63			(1) Is Q <sub>BAR</sub> < 2.0 I/s/ha?	
Methodology					
$Q_{BAR}$ estimation m	ethod: Calci	ulate from SPR	and SAAR	When $Q_{BAR}$ is < 2.0 l/s/ha	a then limiting discharge rates are set
SPR estimation me	ethod: Calci	ulate from SOIL	. type	at 2.0 l/s/ha.	
Soil characterist	tics Defau	lt Edit	ed		
SOIL type:	3	3		(2) Are flow rates < 5.0 l	/s?
HOST class:	N/A	N/A		Where flow rates are less	than 5.0 l/s consent for discharge is
SPR/SPRHOST:	0.37	0.37			beckage from vegetation and other
Hydrological cha	aracteristics	Default	Edited		ver consent flow rates may be set s addressed by using appropriate
SAAR (mm):		1387	1387	drainage elements.	
Hydrological regior	ר:	9	9	(3) Is SPR/SPRHOST ≤ (	n 32
Growth curve facto	or 1 year:	0.88	0.88		v.v.:
Growth curve facto	or 30 years:	1.78	1.78	e e e e e e e e e e e e e e e e e e e	s are low enough the use of
Growth curve facto	or 100 years:	2.18	2.18	soakaways to avoid disch	narge offsite would normally be surface water runoff.
Growth curve facto	or 200 years:	2.46	2.46		

Greenfield run	off rates	Default	Edited
Q <sub>BAR</sub> (I/s):		4.03	4.03
1 in 1 year (l/s):		3.54	3.54
1 in 30 years (l/s	s):	7.17	7.17
1 in 100 year (l/s	s):	8.78	8.78
1 in 200 years (l/	⁄s):	9.91	9.91

This report was produced using the greenfield runoff tool developed by HR Wallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at www.uksuds.com/termsand-conditions.htm. The outputs from this tool are estimates of greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of this data in the design or operational characteristics of any drainage scheme.

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