



Latimer Road

Wokingham

The Jubb logo, consisting of the word "Jubb" in a stylized, white, sans-serif font. The letters are bold and have a modern, geometric feel.

Contents

1	Project Information	2
1.1	Project Information	2
1.2	Project Details	2
1.3	Report Details	2
1.4	Project Authorisation	2
2	Introduction	3
2.1	Instruction	3
2.2	Existing Site Address & Location	3
2.3	Site Description	3
2.4	Proposed Development.....	3
3	Drainage Strategy.....	3
3.1	Existing Drainage	3
3.2	Surface Water Drainage Strategy	4
3.3	STANDARD 1: Runoff destination	4
3.3.1	Priority 1: Collected for non-potable use	4
3.3.2	Priority 2: Infiltrated to ground	4
3.3.3	Priority 3: Discharge to an above ground surface water body.....	4
3.3.4	Priority 4: Discharge to a surface water sewer.....	4
3.3.5	Priority 5: Discharge to a combined sewer.....	6
3.4	STANDARD 2: Management of everyday rainfall (Interception)	6
3.5	STANDARD 3: Management of extreme rainfall and flooding	6
3.6	STANDARD 4: Water quality	6
3.7	STANDARDS 5 & 6: Amenity & Biodiversity.....	6
3.8	STANDARD 7: Construction	6
3.9	Foul Water Drainage Strategy	7
	Appendix A: 25235-JUB-XX-XX-DR-C-0500 Drainage layout	
	Appendix B: Utility Survey	
	Appendix C: Thames Water Asset Plan	
	Appendix D: Drainage Calculations	

1 Project Information

1.1 Project Information

Client Doswell Projects Ltd.

1.2 Project Details

Project Name Latimer Road

Location Wokingham

Jubb Project Number 25235

1.3 Report Details

No. 25235-JUB-XX-XX-RP-C-0001

Version 01

Status Planning Condition

Date 05/01/2026

1.4 Project Authorisation

ISSUE HISTORY:

Version	Date	Detail
01	05/01/26	Planning Condition

AUTHORISATION:

Prepared By	Approved By
KP	GS

2 Introduction

2.1 Instruction

Jubb have been instructed by Doswell Projects Ltd. to provide engineering design input relating to drainage strategy and S106 approval for the development of a proposed residential scheme located at Latimer Road, Wokingham.

This report sets out the principles associated with draining both surface water and foul water flows from the proposed development.

This report is for the private and confidential use of Doswell Projects Ltd., to whom alone is owed a duty of care (and their professional advisors and consultants) in connection with the current development proposals for the site. This report may not be relied upon or reproduced by any third party for any use without the written agreement of Jubb Consulting Engineers Ltd.

2.2 Existing Site Address & Location

Site Address:

Latimer Road
Wokingham
RG41 2WA

The site is located on Latimer Road, Wokingham, centred on National grid reference 480600 E, 168514 N.

2.3 Site Description

The site is currently occupied by private offices and associated parking. The site is notionally triangular in plan, with access from Latimer Road and is bound by housing to the south and west, and by a railway to the north. Based upon the redline planning boundary provided, the site has an area of approximately 0.38ha and approximately 100% hardstanding or buildings.

2.4 Proposed Development

The proposed development will include the demolition of the existing structures to allow for the construction of a new residential development featuring four-storey apartments and a two-storey maisonette with associated parking.

3 Drainage Strategy

3.1 Existing Drainage

A utility survey and drainage CCTV inspection were undertaken to confirm the existing drainage layout, with the survey plan provided in Appendix B. The survey identified surface water sewers (150-225mm Ø) serving downpipes and gullies, discharging to the north of the site into the existing Thames Water surface water sewer. The foul water sewers (100-150 mm Ø) also discharge to the north of the site into the existing Thames Water foul water network. Thames Water Asset Plan on Appendix C show the adopted surface water and foul water sewers along Barkham Road.

3.2 Surface Water Drainage Strategy

As part of the advancement in Sustainable Drainage Systems (SuDS) design, the drainage strategy for this development has been designed according to the National Standards for Sustainable Drainage Systems. Any SuDS proposed would need to conform to CIRA C753, 'The SuDS Manual' and any additional guidance or information provided by the LLFA.

Due to the extensive network of existing stormwater sewers it is proposed to remove the current onsite drainage network up to the last sewer exiting the site, to accommodate the change in the site layout.

3.3 STANDARD 1: Runoff destination

The following hierarchy has been followed before deciding upon the discharge destination of surface water runoff from the development.

3.3.1 Priority 1: Collected for non-potable use

Reuse has been discounted for this site.

3.3.2 Priority 2: Infiltrated to ground

Infiltration via soakaways is not proposed for the due to the infiltration rates being on the lower end of the acceptable rates with one rate falling outside. Borehole BH101 could only be tested once and borehole WS104 only tested twice, due to the slow infiltration rates. The poor soakaway rates would result in very large or deep attenuation tanks.

The geotechnical investigation conducted by RSK Geosciences (30345-L01) confirmed the presence of Bagshot Formation and London Clay strata, comprising predominantly clayey, silty sand. Groundwater monitoring data indicate an elevated water table across the assessed area

Additionally, the development is classified as a brownfield site and is adjacently bordered by a network rail line to the north.

3.3.3 Priority 3: Discharge to an above ground surface water body

This strategy does not propose discharge to a surface water body due the closest watercourse being in excess of 300m away and would require the connection to cross numerous private properties.

3.3.4 Priority 4: Discharge to a surface water sewer

Therefore, the only viable option is proposed to discharge to the existing surface water sewer located along the North-western boundary of the site, which connects to the existing Thames Water surface water sewer located along Barkham Road.

This point of proposed connection is the current discharge point of the existing site drainage. It is the view of the client that the existing private sewer is an asset of the local authority (Thames Water).

3.3.4.1 Runoff Rate

The development surface water will discharge into the existing 225mmØ private surface water sewer. The proposed discharge rate will be limited via a flow control for all storm periods up to 1 in 100-year + 40% CC. The planning approved proposed discharge rate is 2 l/s. The flow control will be limited to 2 l/s to reduce the risk of blockages and maintain self-cleansing within the pipes. Refer to the Infodrainage model calculations for more details.

3.3.4.2 Attenuation

Attenuation is provided via three 0.4m deep geo-cellular attenuation tanks, which have been sized to accommodate surface water runoff for 1:100 year +40% climate change storm event. Surface water runoff from all areas of the site is attenuated within the system when flows are above the 2 l/s flow control restriction.

The runoff volume from the development has been modelled in Infodrainage for storm events up to the 1-in-100-year event + 40% climate change. Refer to the Infodrainage model calculations for more details.

3.3.4.3 Buoyancy Check

Tank A

Cover Level	Invert Level	Tank Depth (m)	Cover Depth (m)	Water Pressure (Kpa)	Safety Factor	Soil Density (kN/m ²)
57.521	56.321	0.4	0.8	10	1.35	11

Tank B

Cover Level	Invert Level	Tank Depth (m)	Cover Depth (m)	Water Pressure (Kpa)	Safety Factor	Soil Density (kN/m ²)
57.566	56.366	0.4	0.8	10	1.35	11

Tank C

Cover Level	Invert Level	Tank Depth (m)	Cover Depth (m)	Water Pressure (Kpa)	Safety Factor	Soil Density (kN/m ²)
57.491	56.291	0.4	0.8	10	1.35	11

Uplift destabilising pressure = Water Pressure x Tank Depth x Safety Factor

$$= 10 \times 0.4 \times 1.35$$

$$= 5.4 \text{ kPa}$$

Restoring pressure = Cover Depth x Soil Density

$$= 0.8 \times 11$$

$$= 8.8 \text{ kPa}$$

For Tanks A, B & C = Restore > Uplift

Therefore, buoyancy is negated.

3.3.5 Priority 5: Discharge to a combined sewer

This strategy does not propose to discharge to an existing combined sewer.

3.4 STANDARD 2: Management of everyday rainfall (Interception)

Surface water is managed to prevent any discharge from the site for rainfall events of less than 5mm through a system comprising of permeable paving and filter drains. The site has been designed holistically so that catchments drain via SuDS features as much as possible prior to discharging, this also relates to treatment.

3.5 STANDARD 3: Management of extreme rainfall and flooding

The proposed site levels have been designed to convey surface water during exceedance events away from the proposed development.

For further information on flooding, refer to the Flood Risk Assessment carried out by Ardent Consulting Engineers, which confirms that the site is not at risk from groundwater flooding.

3.6 STANDARD 4: Water quality

Where possible, proposed parking bays, roads and rainwater pipes from buildings, are to pass through permeable paving to aid treatment, improve water quality and reduce peak flow rates.

The SuDS features proposed have been selected based upon mitigation index values given within Tables 26.2 & 26.3 of CIRIA C753, with the land use considered to be low pollution hazard level. The SuDS features proposed are suitable up to medium pollution hazard level. We note that not all SuDS features are equal in their ability to treat surface water, and the three main categories of pollutants: total suspended solids (TSS), metals & hydrocarbons.

3.7 STANDARDS 5 & 6: Amenity & Biodiversity

Refer to Landscape layouts which show the proposed green areas.

3.8 STANDARD 7: Construction

The proposed drainage system has been designed in accordance with Building Regulations Part H. Each SuDS feature has been designed in-line with the CIRIA SuDS Manual where possible. The drainage system has been designed so that it can be constructed easily and safely by using industry standard construction details (such as Sewer Sector Guidance manhole details). The drainage system has been designed so that it can be maintained easily and safely.

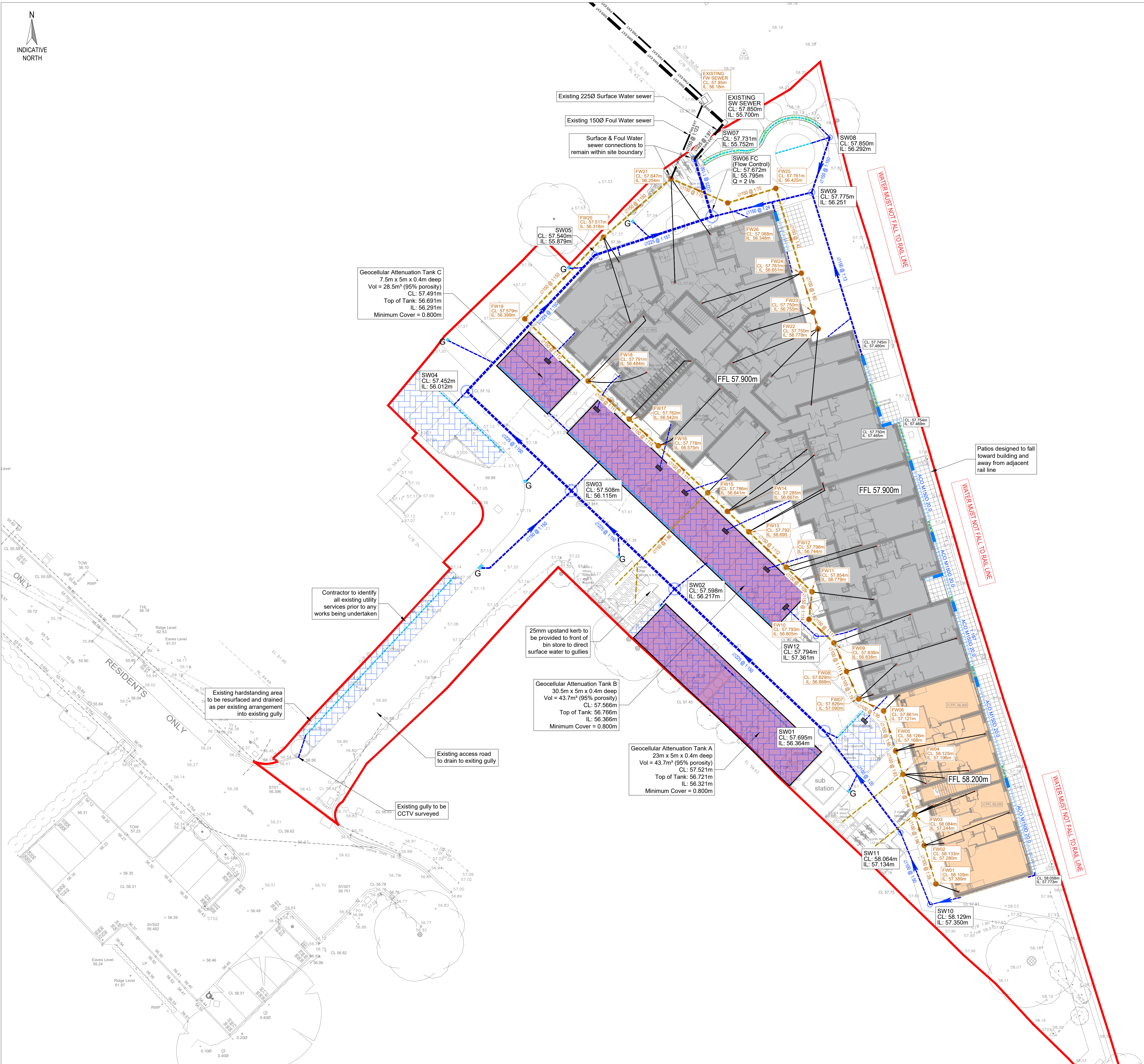
- Catchpits with a sump to be installed prior to cellular attenuation to help manage sediment.
- Pipe protection to be incorporated where sufficient depths are not achieved.
- Flow control to be designed in accordance with the manufacturer's guidance.

3.9 Foul Water Drainage Strategy

The foul water from the proposed residential development will be conveyed via the internal foul water network and will discharge via the existing private foul sewer which connects to the existing Thames Water foul water sewer located along Barkham Road.

The proposed drainage connection will require a S106 agreement prior to the completion of works and/or communication of flows to the Thames Water network.

Appendix A: 25235-JUB-XX-XX-DR-C-0500 Drainage layout



Legend

- Proposed Surface Water Drainage
- Proposed Perforated Pipe
- Proposed Foul Water Drainage
- Proposed Private Foul Water Drainage
- SWS EXT
- Existing SW Drainage To Remain
- FWS EXT
- Existing FW Drainage To Remain
- Permeable paving
- Geocellular Attenuation Tank
- Surface water distribution box
- Surface water road gully
- Grass covered filter strip + perforated pipe
- Linear channel drain (ACO M150D 20.0)
- Stone grip (250mm wide x 280mm deep) with 150mmØ perforated pipe
- Site Boundary
- Building extents - FFL 57.900m
- Building extents - FFL 58.200m

- Notes
- Do not scale from this drawing, use figured dimensions only.
 - This drawing is preliminary and should not be used for construction.
 - This drawing is to be read in conjunction with all other architectural, engineering and M&E information.
 - All drainage to be constructed in line with Building Regulations Part H & Design and Construction Guidance.
 - Surface water discharge is restricted to a rate of 2 l/s.
 - Attenuation sized to attenuate for all storm events up to and including 100 year + 40% CC.
 - Existing public sewers identified within the site are to be diverted under a S185 diversion.
 - Existing building drainage connections to be abandoned. Refer to Jubb drawing 505 for drainage to be removed.
 - Foul discharge points subject to approval.
 - Contractor to confirm route of sewer and inverts of outfalls prior to construction. Any discrepancies to be reported to the engineer.
 - Refer to site investigation report for existing ground conditions and any special requirements for buried concrete (special requirements for buried concrete shall include all pre-cast and in-situ concrete and mortars). Where appropriate refer to contamination reports for details of chemicals affecting choice of materials and other additional requirements.
 - Topographical survey taken from Survey Solutions, drawing 45114CVLS-01.
 - Existing drainage information taken from Utility survey by Survey Solutions, drawing 0923-ABRI-16283_R1.
 - Contractor to identify all existing utilities prior to construction.
 - Site plan taken from PDP Architecture, drawing 28196-SK100_J.
 - All rainwater down pipes to provide maintenance access above ground.
 - Surface water must not fall into rail tracks.
 - Refer to manufacturers guides for installation of attenuation tanks. Note that tank dimensions vary depending on chosen supplier.

C1	22.01.26	Construction Issue	KP	GS
P9	13.01.26	Revised pop-up locations	KP	GS
P8	05.01.26	Revised foul water	KP	GS
P7	08.12.25	Revised drainage along eastern boundary	KP	GS
P6	02.12.25	Connection points within boundary	KP	GS
P5	28.10.25	Foul pop-up locations updated	KP	GS
P4	17.10.25	Revised architect layout	KP	GS

Rev Date Description By Apvd

PROJECT:
LATIMER ROAD, WOKINGHAM

TITLE:
DRAINAGE LAYOUT

CLIENT:
DOSWELL PROJECTS LIMITED

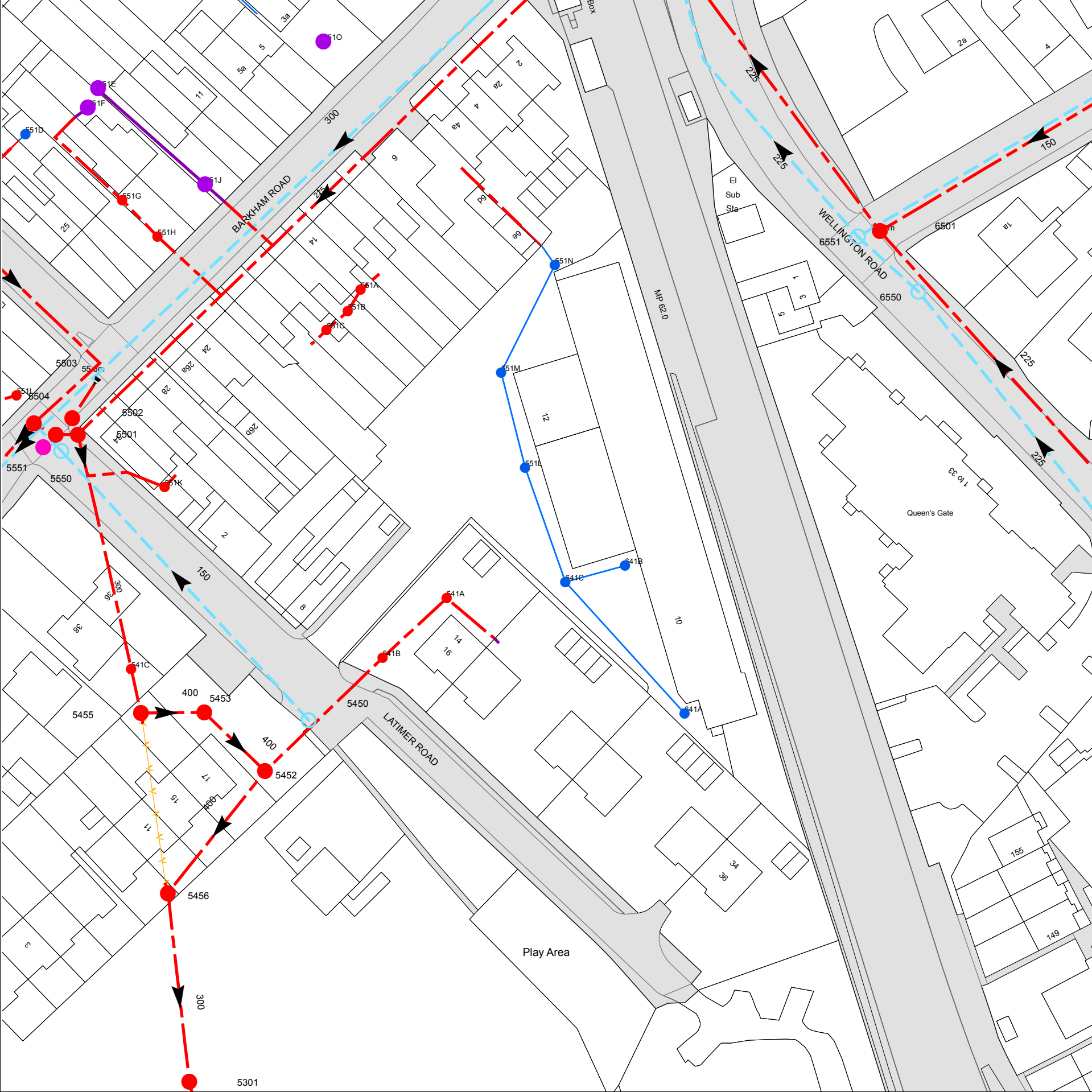
SCALE@A1:
1:200

PROJECT REF:
25235
DRAWING No:
JUB-XX-XX-DR-C-0500
REV:
C1

Revision Referencing
P = Preliminary A = Approval T = Tender C = Construction

Appendix B: Utility Survey

Appendix C: Thames Water Asset Plan



The width of the displayed area is 200m

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map (2020) with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

Appendix D: Drainage Calculations

Project:	Date: 19/09/2025		
	Designed by: KeronPerumal	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: SW Network	Company Address:		



Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
SW09	Manhole	480632.768	168475.814	58.028	0.789	57.239	Circular	0.600
SW10	Manhole	480627.374	168494.027	57.726	0.727	56.999	Circular	0.600
SW06 FC	Manhole	480604.641	168535.812	57.670	1.875	55.795	Circular	1.200
SW05	Manhole	480587.981	168530.465	57.455	1.576	55.879	Circular	0.600
SW11	Manhole	480622.705	168509.932	57.719	0.886	56.833	Circular	0.600
SW01	Manhole	480612.501	168479.526	57.695	1.331	56.364	Circular	1.200
SW02	Manhole	480596.481	168494.762	57.598	1.381	56.217	Circular	1.200
SW03	Manhole	480585.446	168505.257	57.508	1.393	56.115	Circular	1.200
SW12	Manhole	480618.610	168523.550	57.733	1.128	56.605	Circular	0.600
SW04	Manhole	480574.270	168515.885	57.452	1.440	56.012	Circular	1.200
SW08	Manhole	480577.774	168497.229	57.193	1.004	56.189	Circular	1.200
SW14	Manhole	480613.101	168543.050	57.850	1.558	56.292	Circular	0.450
SW13	Manhole	480613.822	168538.754	57.775	1.524	56.251	Circular	0.600
EXST SW1	Manhole	480601.902	168544.675	57.990	2.290	55.700	Circular	1.200

Name	Part Family	Lock
SW09	Cylindrical Structure Slab Top Circular Frame SI	None
SW10	Cylindrical Structure Slab Top Circular Frame SI	None
SW06 FC	Cylindrical Structure Slab Top Circular Frame SI	None
SW05	Cylindrical Structure Slab Top Circular Frame SI	None
SW11	Cylindrical Structure Slab Top Circular Frame SI	None
SW01	Cylindrical Structure Slab Top Circular Frame SI	None
SW02	Cylindrical Structure Slab Top Circular Frame SI	None
SW03	Cylindrical Structure Slab Top Circular Frame SI	None
SW12	Cylindrical Structure Slab Top Circular Frame SI	None
SW04	Cylindrical Structure Slab Top Circular Frame SI	None

Project:	Date: 19/09/2025			
	Designed by: KeronPerumal	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Junctions Storm Phase: SW Network				

SW08	Cylindrical Structure Slab Top Circular Frame SI	None
SW14	Cylindrical Structure Slab Top Circular Frame SI	None
SW13	Cylindrical Structure Slab Top Circular Frame SI	None
EXST SW1	Cylindrical Structure Slab Top Circular Frame SI	None

Project:	Date: 19/09/2025		
	Designed by: KeronPerumal	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: SW Network	Company Address:		





Porous Paving

Type : Porous Paving

Dimensions

Exceedance Level (m)	57.596
Depth (m)	0.550
Base Level (m)	57.046
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	4.5
Porosity (%)	30
Length (m)	15.000
Long. Slope (1:X)	100.00
Width (m)	5.000
Total Volume (m³)	10.657

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (2)
Outlet Type	Orifice
Diameter (m)	0.010
Coefficient of Discharge	0.600
Invert Level (m)	57.046

Advanced

Conductivity (m/hr)	150.0
---------------------	-------

Project:	Date: 19/09/2025		
	Designed by: KeronPerumal	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: SW Network	Company Address:		





Porous Paving (1)

Type : Porous Paving

Dimensions

Exceedance Level (m)	57.650
Depth (m)	0.550
Base Level (m)	57.100
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	4.5
Porosity (%)	30
Length (m)	5.000
Long. Slope (1:X)	100.00
Width (m)	24.000
Total Volume (m³)	16.947

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (1)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (3)
Outlet Type	Orifice
Diameter (m)	0.010
Coefficient of Discharge	0.600
Invert Level (m)	57.100

Advanced

Conductivity (m/hr)	150.0
---------------------	-------

Project:	Date: 19/09/2025		
	Designed by: KeronPerumal	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: SW Network	Company Address:		





Porous Paving (2)

Type : Porous Paving

Dimensions

Exceedance Level (m)	57.521
Depth (m)	0.550
Base Level (m)	56.971
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	4.5
Porosity (%)	30
Length (m)	24.000
Long. Slope (1:X)	100.00
Width (m)	5.000
Total Volume (m³)	17.052

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment - 04
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (4)
Outlet Type	Orifice
Diameter (m)	0.050
Coefficient of Discharge	0.600
Invert Level (m)	56.971

Advanced

Conductivity (m/hr)	150.0
---------------------	-------

Project:	Date: 19/09/2025		
	Designed by: KeronPerumal	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: SW Network	Company Address:		





Porous Paving (3)

Type : Porous Paving

Dimensions

Exceedance Level (m)	57.263
Depth (m)	0.550
Base Level (m)	56.713
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	4.5
Porosity (%)	30
Length (m)	10.000
Long. Slope (1:X)	100.00
Width (m)	5.000
Total Volume (m³)	7.105

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment - 10
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	(None)
Outlet Type	Under Drain

Outlet (1)

Outgoing Connection	Pipe (5)
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	150.0
---------------------	-------

Project:	Date: 19/09/2025			
	Designed by: KeronPerumal	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: SW Network	Company Address:			



Cellular Storage A

Type : Cellular Storage

Dimensions	
Exceedance Level (m)	57.521
Depth (m)	0.400
Base Level (m)	56.321
Number of Crates Long	23
Number of Crates Wide	5
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	1
Crate Height (m)	0.4
Total Volume (m³)	44.500

Outlets	
Outlet	
Outgoing Connection	Pipe
Outlet Type	Free Discharge



Cellular Storage B

Type : Cellular Storage

Dimensions	
Exceedance Level (m)	57.566
Depth (m)	0.400
Base Level (m)	56.366
Number of Crates Long	5
Number of Crates Wide	61
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	58.750

Outlets	
Outlet	
Outgoing Connection	Pipe (1)
Outlet Type	Free Discharge

Project:	Date: 19/09/2025			
	Designed by: KeronPerumal	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Stormwater Controls Storm Phase: SW Network				



Cellular Storage C

Type : Cellular Storage

Dimensions	
Exceedance Level (m)	57.596
Depth (m)	0.400
Base Level (m)	56.396
Number of Crates Long	15
Number of Crates Wide	5
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	0.5
Crate Width (m)	1
Crate Height (m)	0.4
Total Volume (m³)	15.050

Outlets	
Outlet	
Outgoing Connection	Pipe (6)
Outlet Type	Free Discharge

Project:	Date: 19/09/2025		
	Designed by: KeronPerumal	Checked by:	Approved By:
Report Details: Type: Inflow Summary Storm Phase: SW Network		Company Address:	



Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (m²)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (m²)
Catchment - 01	SW01		Time of Concentration	98.581	100	0	100	98.581
Catchment - 02	SW01		Time of Concentration	117.119	100	0	100	117.119
Catchment - 03	SW01		Time of Concentration	22.518	100	0	100	22.518
Catchment - 04	Porous Paving (2)		Time of Concentration	274.412	100	0	100	274.412
Catchment - 05	SW02		Time of Concentration	95.003	100	0	100	95.003
Catchment - 06	SW03		Time of Concentration	168.832	100	0	100	168.832
Catchment - 07	SW03		Time of Concentration	187.701	100	0	100	187.701
Catchment - 08	SW03		Time of Concentration	138.110	100	0	100	138.110
Catchment - 09	SW08		Time of Concentration	50.861	100	0	100	50.861
Catchment - 10	Porous Paving (3)		Time of Concentration	171.160	100	0	100	171.160
Catchment - 11	SW05		Time of Concentration	80.212	100	0	100	80.212
Catchment - 12	SW14		Time of Concentration	96.429	100	0	100	96.429
Catchment - 13	SW06 FC		Time of Concentration	191.564	100	0	100	191.564
Catchment - 14	SW12		Time of Concentration	232.335	100	0	100	232.335
Catchment - 15	SW11		Time of Concentration	94.028	100	0	100	94.028
Catchment - 16	SW10		Time of Concentration	128.544	100	0	100	128.544
Catchment - 17	SW09		Time of Concentration	92.500	100	0	100	92.500
Catchment Area	Porous Paving		Time of Concentration	75.419	100	0	100	75.419
Catchment Area (1)	Porous Paving (1)		Time of Concentration	121.408	100	0	100	121.408
TOTAL		0.0		2436.733				2436.733

Project:	Date: 19/09/2025			
	Designed by: KeronPerumal	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Network Design Criteria Storm Phase: SW Network				

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (hrs)	0.083
Max. Travel Time (hrs)	0.50

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Pipe Size Library

Default

Add. Increment (mm)	75
Max. Diameter (mm)	0

Diameter (mm)	Min. Slope (1:X)	Max. Slope (1:X)
100	0.00	0.00
150	0.00	0.00

Project:	Date: 19/09/2025		
	Designed by: KeronPerumal	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: SW Network	Company Address:		



Manhole Options

Apply Offset ☐

Manhole Size Library

Default

Diameter / Width

Connection (mm)	Diameter / Length (m)	Width (m)
0	1.200	0.000
375	1.350	0.000
500	1.500	0.000
750	1.800	0.000

Additional Sizing

Connection (mm)	900
Diameter / Length (m)	0.900
Width (m)	0.000

Depth

Depth (m)	Diameter / Length (m)	Width (m)
0.000	1.050	0.000
1.500	1.200	0.000

Access

Depth (m)	Ladder Protrusion (mm)
0.000	130
3.000	230

Benching Requirements

Landing Width (mm)	500
Benching Width (mm)	225

Project:	Date: 19/09/2025			
	Designed by: KeronPerumal	Checked by:	Approved By:	
Report Details: Type: Outfall Details Storm Phase: SW Network	Company Address:			

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
Porous Paving (3)	Free Discharge			
EXST SW1	Free Discharge			

Project:	Date: 19/09/2025			
	Designed by: KeronPerumal	Checked by:	Approved By:	
Report Title: Rainfall Analysis Criteria	Company Address:			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall		
FEH		Type: FEH
Site Location	GB 480578 168445 SU 80578 68445	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	0.000
100.0	40.000

Storm Durations

Duration (hrs)	Run Time (hrs)
0.50	1.00
1.00	2.00
2.00	4.00
3.00	6.00
4.00	8.00
6.00	12.00
8.00	16.00
10.00	20.00
12.00	24.00
16.00	32.00
24.00	48.00

Project:	Date: 19/09/2025		
	Designed by: KeronPerumal	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: SW Network	Company Address:		





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW09	FEH: 2 years: +0 %: 6.00 hrs: Summer	58.02 8	57.23 9	57.249	0.010	0.1	0.003	0.000	0.1	2.657	OK
SW10	FEH: 2 years: +0 %: 6.00 hrs: Winter	57.72 6	56.99 9	57.014	0.015	0.3	0.004	0.000	0.3	6.346	OK
SW06 FC	FEH: 2 years: +0 %: 8.00 hrs: Summer	57.67 0	55.79 5	56.422	0.627	1.8	0.710	0.000	1.6	65.844	Surcharged
SW05	FEH: 2 years: +0 %: 8.00 hrs: Summer	57.45 5	55.87 9	56.423	0.544	1.4	0.154	0.000	1.4	40.934	Surcharged
SW11	FEH: 2 years: +0 %: 6.00 hrs: Winter	57.71 9	56.83 3	56.848	0.015	0.5	0.004	0.000	0.5	9.040	OK
SW01	FEH: 2 years: +0 %: 8.00 hrs: Summer	57.69 5	56.36 4	56.423	0.059	0.3	0.067	0.000	0.3	7.245	OK
SW02	FEH: 2 years: +0 %: 8.00 hrs: Summer	57.59 8	56.21 7	56.423	0.206	1.9	0.233	0.000	1.3	44.929	OK
SW03	FEH: 2 years: +0 %: 8.00 hrs: Summer	57.50 8	56.11 5	56.423	0.308	1.4	0.348	0.000	1.4	44.789	Surcharged
SW12	FEH: 2 years: +0 %: 6.00 hrs: Summer	57.73 3	56.60 5	56.621	0.016	0.8	0.005	0.000	0.8	15.711	OK
SW04	FEH: 2 years: +0 %: 8.00 hrs: Summer	57.45 2	56.01 2	56.423	0.411	1.4	0.465	0.000	1.4	39.873	Surcharged
SW08	FEH: 2 years: +0 %: 8.00 hrs: Summer	57.19 3	56.18 9	56.423	0.234	0.2	0.264	0.000	0.1	1.650	Surcharged
SW14	FEH: 2 years: +0 %: 8.00 hrs: Summer	57.85 0	56.29 2	56.422	0.130	0.1	0.021	0.000	0.2	2.960	OK
SW13	FEH: 2 years: +0 %: 8.00 hrs: Summer	57.77 5	56.25 1	56.422	0.171	1.0	0.049	0.000	1.1	19.803	OK
EXST SW1	FEH: 2 years: +0 %: 2.00 hrs: Winter	57.99 0	55.70 0	55.727	0.027	1.6	0.000	0.000	1.6	14.457	OK

Project:	Date: 19/09/2025		
	Designed by: KeronPerumal	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: SW Network	Company Address:		





FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW09	FEH: 30 years: +0 %: 6.00 hrs: Winter	58.028	57.239	57.253	0.014	0.3	0.004	0.000	0.3	5.183	OK
SW10	FEH: 30 years: +0 %: 6.00 hrs: Winter	57.726	56.999	57.019	0.020	0.7	0.006	0.000	0.7	12.376	OK
SW06 FC	FEH: 30 years: +0 %: 8.00 hrs: Summer	57.670	55.795	56.591	0.796	2.3	0.900	0.000	1.7	87.741	Surcharged
SW05	FEH: 30 years: +0 %: 8.00 hrs: Summer	57.455	55.879	56.591	0.712	1.6	0.201	0.000	1.6	53.799	Surcharged
SW11	FEH: 30 years: +0 %: 6.00 hrs: Winter	57.719	56.833	56.854	0.021	0.9	0.006	0.000	0.9	17.680	OK
SW01	FEH: 30 years: +0 %: 8.00 hrs: Summer	57.695	56.364	56.591	0.227	0.7	0.257	0.000	0.7	13.597	Surcharged
SW02	FEH: 30 years: +0 %: 8.00 hrs: Summer	57.598	56.217	56.591	0.374	4.0	0.423	0.000	1.4	91.707	Surcharged
SW03	FEH: 30 years: +0 %: 8.00 hrs: Summer	57.508	56.115	56.591	0.476	3.3	0.538	0.000	1.6	83.767	Surcharged
SW12	FEH: 30 years: +0 %: 6.00 hrs: Winter	57.733	56.605	56.626	0.021	1.6	0.006	0.000	1.6	30.750	OK
SW04	FEH: 30 years: +0 %: 8.00 hrs: Summer	57.452	56.012	56.591	0.579	1.8	0.655	0.000	1.6	60.623	Surcharged
SW08	FEH: 30 years: +0 %: 8.00 hrs: Summer	57.193	56.189	56.591	0.402	0.4	0.455	0.000	0.2	2.686	Surcharged
SW14	FEH: 30 years: +0 %: 8.00 hrs: Summer	57.850	56.292	56.591	0.299	0.3	0.047	0.000	0.3	5.448	Surcharged
SW13	FEH: 30 years: +0 %: 8.00 hrs: Summer	57.775	56.251	56.591	0.340	1.8	0.096	0.000	1.8	37.092	Surcharged
EXST SW1	FEH: 30 years: +0 %: 8.00 hrs: Summer	57.990	55.700	55.727	0.027	1.7	0.000	0.000	1.7	77.918	OK

Project:	Date: 19/09/2025		
	Designed by: KeronPerumal	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: SW Network	Company Address:		





FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW09	FEH: 100 years: +40 %: 6.00 hrs: Summer	58.028	57.239	57.257	0.018	0.5	0.005	0.000	0.5	9.077	OK
SW10	FEH: 100 years: +40 %: 6.00 hrs: Summer	57.726	56.999	57.195	0.196	1.1	0.055	0.000	1.1	21.702	Surcharged
SW06 FC	FEH: 100 years: +40 %: 6.00 hrs: Summer	57.670	55.795	57.194	1.399	4.3	1.582	0.000	2.2	101.119	Surcharged
SW05	FEH: 100 years: +40 %: 6.00 hrs: Summer	57.455	55.879	57.193	1.314	3.0	0.372	0.000	1.8	61.416	Flood Risk
SW11	FEH: 100 years: +40 %: 6.00 hrs: Summer	57.719	56.833	57.194	0.361	1.6	0.102	0.000	1.6	30.924	Surcharged
SW01	FEH: 100 years: +40 %: 6.00 hrs: Summer	57.695	56.364	57.195	0.830	1.2	0.939	0.000	1.2	22.584	Surcharged
SW02	FEH: 100 years: +40 %: 6.00 hrs: Summer	57.598	56.217	57.194	0.977	8.0	1.105	0.000	2.2	127.741	Surcharged
SW03	FEH: 100 years: +40 %: 6.00 hrs: Summer	57.508	56.115	57.194	1.079	7.0	1.220	0.000	3.4	127.804	Surcharged
SW12	FEH: 100 years: +40 %: 6.00 hrs: Summer	57.733	56.605	57.194	0.589	2.8	0.167	0.000	2.8	53.266	Surcharged
SW04	FEH: 100 years: +40 %: 6.00 hrs: Summer	57.452	56.012	57.193	1.181	4.2	1.336	0.000	1.8	90.133	Flood Risk
SW08	FEH: 100 years: +40 %: 8.00 hrs: Summer	57.193	56.189	57.193	1.004	1.1	1.580	0.444	1.2	5.306	Flood
SW14	FEH: 100 years: +40 %: 6.00 hrs: Summer	57.850	56.292	57.194	0.902	0.5	0.143	0.000	0.6	8.600	Surcharged
SW13	FEH: 100 years: +40 %: 6.00 hrs: Summer	57.775	56.251	57.194	0.943	3.3	0.267	0.000	3.3	61.972	Surcharged
EXST SW1	FEH: 100 years: +40 %: 10.00 hrs: Winter	57.990	55.700	55.731	0.031	2.2	0.000	0.000	2.2	114.397	OK

Project:	Date: 19/09/2025		
	Designed by: KeronPerumal	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: SW Network	Company Address:		





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (hrs)	Percentage Available (%)
Cellular Storage A	FEH: 2 years: +0 %: 8.00 hrs: Summer	56.423	56.423	0.102	0.102	2.0	11.124	0.000	0.000	1.0	10.373		75.002
Cellular Storage B	FEH: 2 years: +0 %: 8.00 hrs: Summer	56.423	56.423	0.057	0.057	1.6	8.233	0.000	0.000	0.7	7.642		85.986
Porous Paving	FEH: 2 years: +0 %: 16.00 hrs: Summer	57.254	57.202	0.058	0.156	0.1	2.125	0.000	0.000	0.0	1.416	23.15	80.064
Porous Paving (1)	FEH: 2 years: +0 %: 24.00 hrs: Winter	57.228	57.228	0.078	0.128	0.1	3.720	0.000	0.000	0.0	2.132	36.05	78.050
Porous Paving (2)	FEH: 2 years: +0 %: 6.00 hrs: Winter	57.281	57.096	0.070	0.125	0.4	2.984	0.000	0.000	0.4	6.502	2.22	82.498
Porous Paving (3)	FEH: 2 years: +0 %: 8.00 hrs: Summer	56.909	56.720	0.096	0.007	0.2	0.767	0.000	0.000	0.3	5.074	0.70	89.212
Cellular Storage C	FEH: 2 years: +0 %: 8.00 hrs: Summer	56.423	56.423	0.027	0.027	0.3	0.955	0.000	0.000	0.1	0.877		93.655

Project:	Date: 19/09/2025			
	Designed by:	Checked by:	Approved By:	
	KeronPerumal			
Report Details: Type: Stormwater Controls Summary Storm Phase: SW Network		Company Address:		

Status
OK
OK
OK
OK
OK
OK
OK

Project:	Date: 19/09/2025		
	Designed by: KeronPerumal	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: SW Network		Company Address:	





FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (hrs)	Percentage Available (%)
Cellular Storage A	FEH: 30 years: +0 %: 8.00 hrs: Summer	56.591	56.591	0.270	0.270	3.4	29.501	0.000	0.000	0.6	8.873		33.707
Cellular Storage B	FEH: 30 years: +0 %: 8.00 hrs: Summer	56.591	56.591	0.225	0.225	2.7	32.599	0.000	0.000	0.7	11.752		44.512
Porous Paving	FEH: 30 years: +0 %: 12.00 hrs: Summer	57.301	57.301	0.105	0.255	0.2	4.051	0.000	0.000	0.0	1.400	27.53	61.985
Porous Paving (1)	FEH: 30 years: +0 %: 24.00 hrs: Winter	57.321	57.321	0.171	0.221	0.2	7.054	0.000	0.000	0.0	2.882	51.13	58.377
Porous Paving (2)	FEH: 30 years: +0 %: 6.00 hrs: Summer	57.289	57.248	0.078	0.277	0.8	6.019	0.000	0.000	0.6	13.897	1.87	64.701
Porous Paving (3)	FEH: 30 years: +0 %: 6.00 hrs: Summer	56.942	56.724	0.129	0.011	0.5	1.038	0.000	0.000	0.7	9.286	0.37	85.389
Cellular Storage C	FEH: 30 years: +0 %: 8.00 hrs: Summer	56.591	56.591	0.195	0.195	0.7	6.945	0.000	0.000	0.2	2.901		53.854

Project:	Date: 19/09/2025			
	Designed by:	Checked by:	Approved By:	
	KeronPerumal			
Report Details: Type: Stormwater Controls Summary Storm Phase: SW Network		Company Address:		

Status
OK
OK
OK
OK
OK
OK
OK

Project:	Date: 19/09/2025		
	Designed by: KeronPerumal	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: SW Network	Company Address:		





**FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By:
Max. Avg. Depth**

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (hrs)	Percentage Available (%)
Cellular Storage A	FEH: 100 years: +40 %: 6.00 hrs: Summer	57.194	57.194	0.873	0.873	4.6	44.189	0.000	0.000	0.1	0.483		0.700
Cellular Storage B	FEH: 100 years: +40 %: 6.00 hrs: Summer	57.194	57.194	0.828	0.828	5.8	58.408	0.000	0.000	0.8	3.637		0.582
Porous Paving	FEH: 100 years: +40 %: 16.00 hrs: Summer	57.446	57.446	0.250	0.400	0.3	7.311	0.000	0.000	0.0	2.493	38.07	31.403
Porous Paving (1)	FEH: 100 years: +40 %: 24.00 hrs: Winter	57.475	57.475	0.325	0.375	0.4	12.614	0.000	0.000	0.0	3.814	69.37	25.571
Porous Paving (2)	FEH: 100 years: +40 %: 6.00 hrs: Summer	57.454	57.548	0.243	0.577	1.4	13.488	0.810	0.000	0.8	21.236	2.70	20.901
Porous Paving (3)	FEH: 100 years: +40 %: 8.00 hrs: Summer	57.213	57.266	0.400	0.553	4.1	6.596	0.069	0.000	1.2	40.461		7.165
Cellular Storage C	FEH: 100 years: +40 %: 6.00 hrs: Summer	57.194	57.194	0.798	0.798	1.6	14.641	0.000	0.000	0.7	2.343		2.717

Project:	Date: 19/09/2025			
	Designed by:	Checked by:	Approved By:	
	KeronPerumal			
Report Details: Type: Stormwater Controls Summary Storm Phase: SW Network		Company Address:		

Status
OK
OK
OK
OK
Flood
Flood
OK

Project:	Date: 19/09/2025		
	Designed by: KeronPerumal	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: SW Network	Company Address:		





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe955	FEH: 2 years: +0 %: 6.00 hrs: Winter	Pipe	SW01	SW02	57.695	56.419	0.128	6.776	0.3	0.01	0.4	OK
Pipe956	FEH: 2 years: +0 %: 6.00 hrs: Winter	Pipe	SW02	SW03	57.598	56.419	0.225	8.920	0.2	0.03	1.3	OK
Pipe957	FEH: 2 years: +0 %: 6.00 hrs: Winter	Pipe	SW03	SW04	57.508	56.419	0.225	23.297	0.4	0.03	1.4	Surcharged
Pipe958	FEH: 2 years: +0 %: 6.00 hrs: Winter	Pipe	SW04	SW05	57.452	56.419	0.225	26.769	0.3	0.03	1.4	Surcharged
Pipe959	FEH: 2 years: +0 %: 6.00 hrs: Winter	Pipe	SW05	SW06 FC	57.455	56.419	0.225	27.952	0.1	0.04	1.4	Surcharged
Pipe960	FEH: 2 years: +0 %: 2.00 hrs: Winter	Pipe	SW06 FC	EXST SW1	57.670	56.350	0.027	14.457	0.6	0.03	1.6	Surcharged
Pipe961	FEH: 2 years: +0 %: 6.00 hrs: Winter	Pipe	SW08	SW03	57.193	56.419	0.150	1.166	0.1	0.01	0.1	Surcharged
Pipe049	FEH: 2 years: +0 %: 6.00 hrs: Winter	Pipe	SW09	SW10	58.028	57.249	0.012	2.651	0.3	0.02	0.1	OK
Pipe050	FEH: 2 years: +0 %: 6.00 hrs: Winter	Pipe	SW10	SW11	57.726	57.014	0.015	6.346	0.4	0.02	0.3	OK
Pipe051	FEH: 2 years: +0 %: 6.00 hrs: Winter	Pipe	SW11	SW12	57.719	56.848	0.015	9.040	0.5	0.02	0.5	OK
Pipe052	FEH: 2 years: +0 %: 6.00 hrs: Winter	Pipe	SW12	SW13	57.733	56.621	0.089	15.714	0.7	0.01	0.8	OK
Pipe053	FEH: 2 years: +0 %: 8.00 hrs: Summer	Pipe	SW13	SW06 FC	57.775	56.422	0.225	19.800	0.1	0.01	1.1	OK
Pipe068	FEH: 2 years: +0 %: 8.00 hrs: Summer	Pipe	SW14	SW13	57.850	56.422	0.150	2.957	0.2	0.01	0.2	OK
Pipe	FEH: 2 years: +0 %: 8.00 hrs: Summer	Pipe	Cellular Storage A	SW02	57.521	56.423	0.150	0.000	0.3	0.05	1.0	OK
Pipe (1)	FEH: 2 years: +0 %: 6.00 hrs: Summer	Pipe	Cellular Storage B	SW02	57.566	56.421	0.129	0.000	0.1	0.03	0.7	OK
Pipe (2)	FEH: 2 years: +0 %: 16.00 hrs: Summer	Pipe	Porous Paving	SW03	57.746	57.140	0.100	1.414	0.2	0	0.0	OK
Pipe (3)	FEH: 2 years: +0 %: 16.00 hrs: Winter	Pipe	Porous Paving (1)	SW02	57.700	57.201	0.093	1.368	0.2	0	0.0	Surcharged
Pipe (4)	FEH: 2 years: +0 %: 6.00 hrs: Winter	Pipe	Porous Paving (2)	SW02	57.761	57.054	0.100	6.496	0.0	0.03	0.4	OK
Pipe (5)	FEH: 2 years: +0 %: 6.00 hrs: Winter	Pipe	Porous Paving (3)	SW04	57.363	56.764	0.100	4.625	0.2	0.01	0.3	OK

Project:				Date:							
				19/09/2025							
Designed by:		Checked by:		Approved By:							
KeronPerumal											
Report Details:				Company Address:							
Type: Connections Summary											
Storm Phase: SW Network											

Pipe (6)	FEH: 2 years: +0 %: 6.00 hrs: Summer	Pipe	Cellular Storage C	SW03	57.596	56.421	0.150	0.000	0.0	0.01	0.1	OK
----------	--	------	--------------------------	------	--------	--------	-------	-------	-----	------	-----	----

Project:	Date: 19/09/2025		
	Designed by: KeronPerumal	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: SW Network	Company Address:		





FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe955	FEH: 30 years: +0 %: 2.00 hrs: Summer	Pipe	SW01	SW02	57.695	56.455	0.164	5.974	0.3	0.02	0.7	OK
Pipe956	FEH: 30 years: +0 %: 6.00 hrs: Winter	Pipe	SW02	SW03	57.598	56.588	0.225	1.929	0.3	0.03	1.4	Surcharged
Pipe957	FEH: 30 years: +0 %: 3.00 hrs: Summer	Pipe	SW03	SW04	57.508	56.543	0.225	3.135	0.5	0.04	1.7	Surcharged
Pipe958	FEH: 30 years: +0 %: 6.00 hrs: Winter	Pipe	SW04	SW05	57.452	56.588	0.225	10.278	0.3	0.04	1.6	Surcharged
Pipe959	FEH: 30 years: +0 %: 6.00 hrs: Winter	Pipe	SW05	SW06 FC	57.455	56.588	0.225	13.438	0.1	0.05	1.6	Surcharged
Pipe960	FEH: 30 years: +0 %: 8.00 hrs: Summer	Pipe	SW06 FC	EXST SW1	57.670	56.591	0.028	77.918	0.6	0.03	1.7	Surcharged
Pipe961	FEH: 30 years: +0 %: 4.00 hrs: Winter	Pipe	SW08	SW03	57.193	56.576	0.150	2.100	0.1	0.01	0.2	Surcharged
Pipe049	FEH: 30 years: +0 %: 6.00 hrs: Winter	Pipe	SW09	SW10	58.028	57.253	0.017	5.183	0.3	0.04	0.3	OK
Pipe050	FEH: 30 years: +0 %: 6.00 hrs: Winter	Pipe	SW10	SW11	57.726	57.019	0.021	12.376	0.5	0.04	0.7	OK
Pipe051	FEH: 30 years: +0 %: 6.00 hrs: Winter	Pipe	SW11	SW12	57.719	56.854	0.021	17.680	0.6	0.04	0.9	OK
Pipe052	FEH: 30 years: +0 %: 6.00 hrs: Winter	Pipe	SW12	SW13	57.733	56.626	0.174	30.750	0.7	0.02	1.6	OK
Pipe053	FEH: 30 years: +0 %: 6.00 hrs: Winter	Pipe	SW13	SW06 FC	57.775	56.587	0.225	35.209	0.1	0.02	1.9	Surcharged
Pipe068	FEH: 30 years: +0 %: 3.00 hrs: Winter	Pipe	SW14	SW13	57.850	56.543	0.150	3.877	0.2	0.02	0.3	Surcharged
Pipe	FEH: 30 years: +0 %: 16.00 hrs: Winter	Pipe	Cellular Storage A	SW02	57.521	56.561	0.150	0.000	0.3	0.05	1.0	Surcharged

Project:				Date: 19/09/2025							
				Designed by: KeronPerumal	Checked by:	Approved By:					
Report Details: Type: Connections Summary Storm Phase: SW Network				Company Address:							

Pipe (1)	FEH: 30 years: +0 %: 8.00 hrs: Winter	Pipe	Cellular Storage B	SW02	57.566	56.590	0.150	0.000	0.0	0.03	0.7	Surcharged
Pipe (2)	FEH: 30 years: +0 %: 12.00 hrs: Summer	Pipe	Porous Paving	SW03	57.746	57.226	0.100	1.396	0.0	0	0.0	Surcharged
Pipe (3)	FEH: 30 years: +0 %: 24.00 hrs: Winter	Pipe	Porous Paving (1)	SW02	57.700	57.296	0.100	2.879	0.3	0	0.0	Surcharged
Pipe (4)	FEH: 30 years: +0 %: 6.00 hrs: Summer	Pipe	Porous Paving (2)	SW02	57.761	57.138	0.100	13.889	0.1	0.04	0.6	Surcharged
Pipe (5)	FEH: 30 years: +0 %: 4.00 hrs: Winter	Pipe	Porous Paving (3)	SW04	57.363	56.782	0.100	8.254	0.1	0.03	0.8	OK
Pipe (6)	FEH: 30 years: +0 %: 8.00 hrs: Winter	Pipe	Cellular Storage C	SW03	57.596	56.590	0.150	0.000	0.0	0.01	0.2	Surcharged

Project:	Date: 19/09/2025			
	Designed by: KeronPerumal	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Connections Summary Storm Phase: SW Network				



FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe955	FEH: 100 years: +40 %: 3.00 hrs: Summer	Pipe	SW01	SW02	57.695	56.791	0.225	17.284	0.4	0.05	2.3	Surcharged
Pipe956	FEH: 100 years: +40 %: 3.00 hrs: Winter	Pipe	SW02	SW03	57.598	56.792	0.225	1.386	0.3	0.08	3.3	Surcharged
Pipe957	FEH: 100 years: +40 %: 6.00 hrs: Summer	Pipe	SW03	SW04	57.508	57.194	0.225	4.607	0.4	0.08	3.4	Surcharged
Pipe958	FEH: 100 years: +40 %: 1.00 hrs: Summer	Pipe	SW04	SW05	57.452	56.434	0.225	1.255	0.4	0.05	2.0	Surcharged
Pipe959	FEH: 100 years: +40 %: 6.00 hrs: Winter	Pipe	SW05	SW06 FC	57.455	57.180	0.225	3.177	0.1	0.05	1.8	Flood Risk
Pipe960	FEH: 100 years: +40 %: 10.00 hrs: Winter	Pipe	SW06 FC	EXST SW1	57.670	57.157	0.032	114.397	0.6	0.04	2.2	Surcharged
Pipe961	FEH: 100 years: +40 %: 8.00 hrs: Summer	Pipe	SW08	SW03	57.193	57.193	0.150	4.650	0.1	0.08	1.2	Flood
Pipe049	FEH: 100 years: +40 %: 6.00 hrs: Winter	Pipe	SW09	SW10	58.028	57.257	0.097	9.077	0.4	0.07	0.5	OK
Pipe050	FEH: 100 years: +40 %: 6.00 hrs: Winter	Pipe	SW10	SW11	57.726	57.181	0.150	21.723	0.5	0.06	1.1	Surcharged
Pipe051	FEH: 100 years: +40 %: 6.00 hrs: Winter	Pipe	SW11	SW12	57.719	57.181	0.150	30.956	0.7	0.07	1.6	Surcharged
Pipe052	FEH: 100 years: +40 %: 6.00 hrs: Winter	Pipe	SW12	SW13	57.733	57.181	0.225	53.234	0.7	0.04	2.8	Surcharged
Pipe053	FEH: 100 years: +40 %: 6.00 hrs: Winter	Pipe	SW13	SW06 FC	57.775	57.181	0.225	61.944	0.1	0.03	3.5	Surcharged
Pipe068	FEH: 100 years: +40 %: 10.00 hrs: Summer	Pipe	SW14	SW13	57.850	57.176	0.150	9.254	0.2	0.04	0.6	Surcharged
Pipe	FEH: 100 years: +40 %: 24.00 hrs: Winter	Pipe	Cellular Storage A	SW02	57.521	56.882	0.150	0.000	0.3	0.05	1.0	Surcharged

Project:				Date: 19/09/2025							
				Designed by: KeronPerumal	Checked by:	Approved By:					
Report Details: Type: Connections Summary Storm Phase: SW Network				Company Address:							

Pipe (1)	FEH: 100 years: +40 %: 16.00 hrs: Winter	Pipe	Cellular Storage B	SW02	57.566	57.024	0.150	0.000	0.1	0.05	1.2	Surcharged
Pipe (2)	FEH: 100 years: +40 %: 6.00 hrs: Summer	Pipe	Porous Paving	SW03	57.746	57.349	0.100	0.754	0.0	0.01	0.2	Surcharged
Pipe (3)	FEH: 100 years: +40 %: 6.00 hrs: Summer	Pipe	Porous Paving (1)	SW02	57.700	57.414	0.100	0.736	0.0	0	0.1	Surcharged
Pipe (4)	FEH: 100 years: +40 %: 6.00 hrs: Summer	Pipe	Porous Paving (2)	SW02	57.761	57.528	0.100	21.217	0.1	0.06	0.9	Flood
Pipe (5)	FEH: 100 years: +40 %: 6.00 hrs: Summer	Pipe	Porous Paving (3)	SW04	57.363	57.264	0.100	11.644	0.2	0.05	1.3	Flood
Pipe (6)	FEH: 100 years: +40 %: 6.00 hrs: Summer	Pipe	Cellular Storage C	SW03	57.596	57.194	0.150	0.000	0.0	0.03	0.7	Surcharged