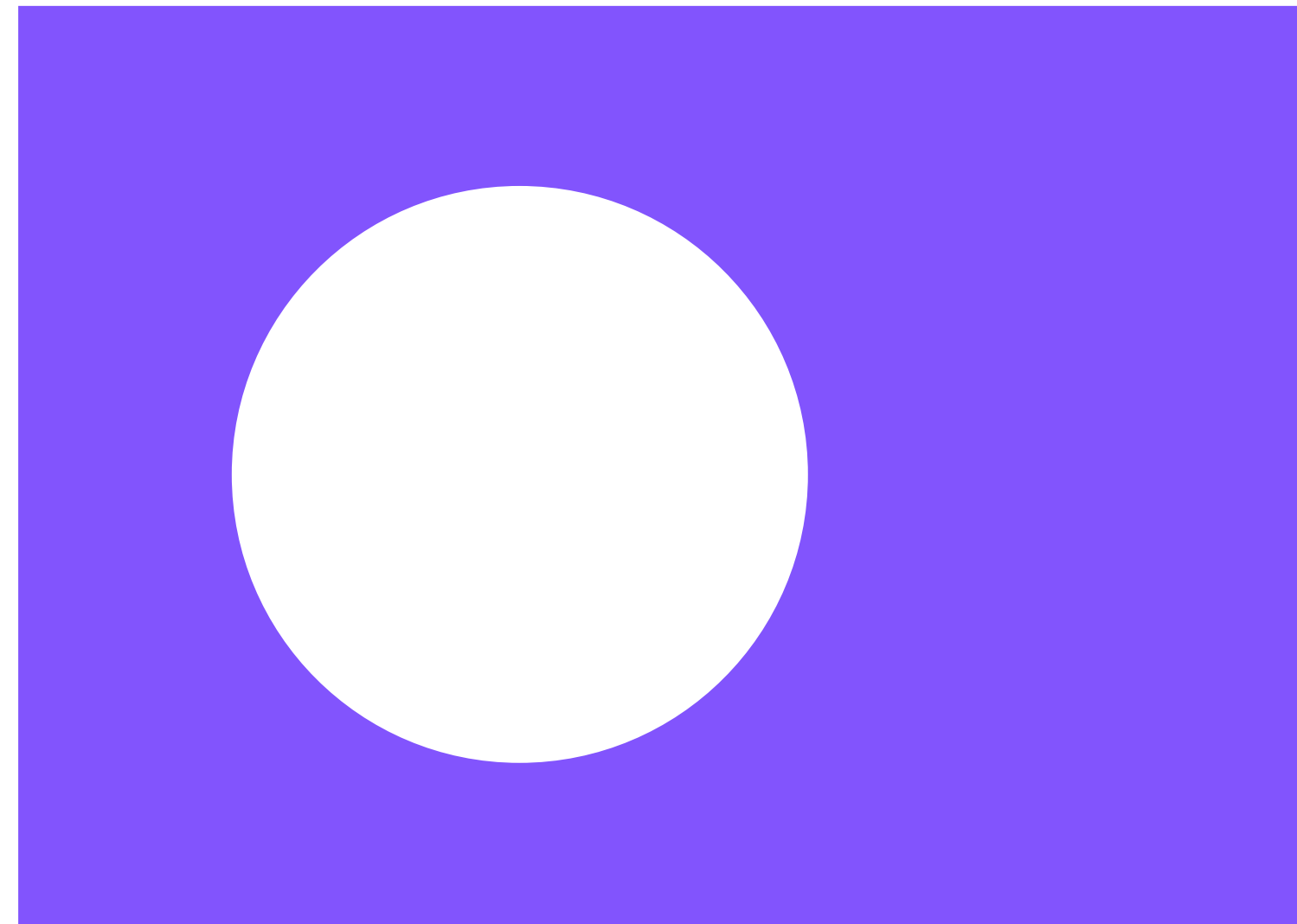




Salisbury DASH

Flood Risk Study and Drainage Strategy

July 2026

This page left intentionally blank for pagination.

Mott MacDonald
2 Callaghan Square
Cardiff CF10 5BT
United Kingdom

T +44 (0)29 2046 7800
mottmac.com

Salisbury DASH

Flood Risk Study and Drainage Strategy

July 2026

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
P01	20/06/2025	Nathan Rudge	Ram Shankar	Andrew Rolf	RIBA2 Issue
P02	31/03/2026	Owen Dawes	Amy Lambourne	Andrew Rolf	Updated RiBA2 Issue
P03	17/04/2026	Owen Dawes	Patrick Barton	Andrew Rolf	Updated for Planning
P04	30/04/2026	Owen Dawes	Patrick Barton	Andrew Rolf	Issued for Pre-App
P05	12/06/2026	Owen Dawes	Patrick Barton	Andrew Rolf	Draft Issue for Comment
P06	30/06/2026	Owen Dawes/ Henry Clark	Sean Hughes	Patrick Barton	Draft Issue for Comment
P07	15/07/2026	Henry Clark	Owen Dawes	Patrick Barton	Issue for Planning
P08	16/07/2026	Henry Clark	Owen Dawes	Patrick Barton	Issue for Planning

Document reference: STECC-MMD-ZZ-ZZ-RP-CE | 930001 | P08

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

Contents

Executive summary	1
1 Introduction	2
1.1 Purpose	2
1.2 Limitations of this report	2
2 Existing Site	3
2.1 Site Location	3
2.2 Sources of Information	3
2.3 Ground Conditions	4
2.4 Surface Levels	4
2.5 Existing Drainage	4
2.6 Flood Risk	4
2.7 Climate Change Allowances	5
3 Surface Water Drainage Strategy	6
3.1 Statutory Guidance	6
3.2 Surface Water Discharge Hierarchy	6
3.2.1 Infiltration Based Systems	6
3.2.2 Watercourses	6
3.2.3 Surface Water Sewers	6
3.2.4 Combined Sewer	6
3.3 Sustainable Drainage Systems (SuDS) and Water Quality	6
3.4 SuDS Design	8
3.4.1 Permeable Paving	8
3.4.2 Rain Garden/ bioretention areas	8
3.4.3 Below Ground Storage Structures	8
3.5 Attenuation Requirements	8
3.6 Run-off Quality	8
3.7 Exceedance Routing	8
3.8 Proposed Surface Water Drainage Arrangement	8
3.9 Maintenance of Drainage Assets	8
4 Foul Water Drainage Strategy	10
4.1 Overview	10
4.2 Foul Water Loading	10
4.3 Proposed Foul Water Drainage Arrangement	10
4.4 Maintenance of Foul Water Drainage	10

5 Appendices	11
Appendix A – Site Soakaway Test (dated 26/02/2026)	12
Appendix B – Existing Wessex Water Sewer Records	14
Appendix C – Long-term Flood Risk Summary	16
Appendix D – Calculations	17

Executive summary

Mott MacDonald have developed the RIBA Stage 3 Civil and Structural Engineering design for the proposed Salisbury NHS Trust Diagnostic and Surgical Hub (DASH). This outlines the structural design strategy, sustainability objectives, and technical considerations that underpin the development of a modern, efficient, and low-carbon healthcare facility.

This report summaries the flood risks on site and describes the preliminary drainage strategy for the proposed Salisbury DASH development.

The proposed site for Salisbury DASH is in Flood Zone 1 and has a very low probability of flooding from surface water according to the Environment Agency 'Flood map for planning'. The proposed site is approximately 1.06 hectares in area and due to the very low flood risk from all sources of flooding, it is assumed no flood risk assessment is required at this time.

Surface water will be attenuated to accommodate a 1 in 100-year storm event with a 45% allowance for climate change before infiltrated into the ground throughout the proposed development area.

Storage and infiltration is split across the site based on proposed topography and the retained ground levels. Infiltration via pervious paving is provided for all footpaths and car parking spaces within the development. Larger storage and infiltration areas are provided using below-ground attenuation tanks within non-landscaped areas (under access roads or carparking areas), accessible for maintenance. Bioretention SuDS are also proposed within landscaped areas to promote capture of road runoff and initial retention for lower return periods.

The peak foul flow rate from the development is estimated to be 10.5l/s, based the current internal floor plans. This will be discharged into the existing Wessex Water foul sewer running parallel to Victoria Road East along the western boundary of the site.

1 Introduction

Salisbury NHS Foundation Trust is planning to build a new Diagnostic and Surgical Hub (DASH), within the grounds of Salisbury District Hospital. Mott MacDonald, appointed for the drainage design of the new facility, is currently developing the proposed RIBA Stage 3 design.

1.1 Purpose

The purpose of this report is to provide a summary of the flood risk study and preliminary drainage strategy for the proposed Salisbury DASH development. This report includes potential drainage options for both surface water and foul water for developing the site design at further stages.

1.2 Limitations of this report

Mott MacDonald has followed accepted procedure in providing the services but given the residual risk associated with any prediction and the variability which can be experienced in flood conditions, we take no liability for and give no warranty against actual flooding of any property (Salisbury DASH site or third party) or the consequences of flooding in relation to the performance of the service. This report has been prepared for the purposes of planning approval only and is to assist Salisbury NHS Foundation Trust and the local Planning Authority to make an informed decision on the flood risks associated with the site redevelopment.

Allowance for the effects of climate change have been made in accordance with government recommendations in place and statistical data available at the time of writing this report. These recommendations may become more onerous, and the statistical data may be revised in the future; we will not make any estimate of what changes may result from this. Please be aware that this, and other issues over which Mott MacDonald has no control, may affect future flood risk at the development and require further work to be undertaken for which we accept no liability.

2 Existing Site

2.1 Site Location

The existing Salisbury District Hospital is located to the south of Salisbury City centre at approximate National Grid Reference SU148274. The approximate development area (hereafter referred to as the “site”) and existing Salisbury District Hospital boundary are shown in Figure 2.1. The development area (shown in red) is approximately 1.06ha, currently consisting of a carpark to the north and a separate access road, off Victoria Drive East, leading to a helipad and open grassland. The Salisbury District Hospital boundary is shown by the blue boundary.

Salisbury District Hospital is bounded to the west by Odstock Road, beyond which is farmland. The remaining boundaries of the hospital also border farmland and open fields with the A338 approximately 530m to the east.

The River Ebble, which is classified as a ‘main river’ by the Environment Agency, flows from west to east, approximately 900m to the south of the hospital. The River Avon, also classified as a main river, flows north to south, approximately 1.2km to the east of the site.

Figure 2.1: Site Location Plan



Source: © Environment Agency copyright and/or database rights 2026. All rights reserved. © Crown copyright and database rights 2026
Ordnance Survey licence number AC0000807064.

2.2 Sources of Information

The following information sources have been used to develop the proposed RIBA Stage 3 surface water and foul water drainage design:

- Environment Agency (EA) Long Term Flood Maps;
- Department of Environment Food & Rural Affairs (DEFRA) Climate Change Allowances (CCA) Map Viewer;
- Topographical survey data (reference: 2321207-TOPO-XX-ZZ-3D-G-0001-C01), undertaken by RSK Geosciences, dated July 2025;
- Desk Based Utilities (C2) Report (reference: 4340819-DB-R01(00)), undertaken by RSK Geosciences, dated July 2025;

- PAS128 Utilities Report (reference: 4340819-R01(00)), undertaken by RSK Geosciences, dated July 2025;
- Historic Drainage Record Drawings, received May 2026;
- Geotechnical Desk Study (reference: STECC-MMD-XX-XX-RP-GE-100001 – P04), dated April 2026;
- Architects General Arrangements designed by P+HS, dated May 2026:
 - Proposed Lower Ground Floor Plan (reference: STECC-PHS-XX-B1-D-A-20000);
 - Proposed Ground Floor Plan (reference: STECC-PHS-XX-00-D-A-20001); and
 - Proposed First Floor Plan (reference: STECC-PHS-XX-01-D-A-20002).
- Landscaping General Arrangement (reference: STECC-COL-XX-XX-D-L-1001 – P17), designed by Colour, dated May 2026.

2.3 Ground Conditions

Ground conditions are based on a site ground investigation undertaken by Geotechnics Ltd in March 2026. At the time of writing, these records are provided as provisional draft information only and are limited to the Salisbury District Hospital site boundary.

Borehole records suggest the site is underlain by approximately 0.5m of made ground and a bed rock comprising of Structureless Chalk Formation.

Groundwater monitoring undertaken within the development boundary suggest groundwater levels were not encountered on site, with boreholes reaching to a depth of approximately 15m below ground level.

Soakaway testing (refer to Appendix A) undertaken within the site development boundary suggests soil infiltration rates for the site are in the order 3x10⁻⁵ m/s.

2.4 Surface Levels

Surface levels are based on a topographical survey undertaken by RSK Geosciences Geospacial (Ref: 2321207-TOPO-XX-ZZ-3D-G-0001-C01[80], dated July 2025). Site levels general fall across the site from southwest to northeast. With the helipad and car park having general falls of approximately 1 in 40 and 1 in 20 respectively in this direction. A high point of 87.36mAOD is in the southwest corner of the site and a low point of 81.91mAOD is in the northeast of the development boundary within the existing carpark.

2.5 Existing Drainage

Available sewer records provided by Wessex Water, shown in Appendix B, indicate a 200mm diameter foul sewer within Victoria Drive East, within the site boundary. Site surveys suggest this sewer is at a depth of approx. 7mbgl. No public surface water sewers are shown in the vicinity of the development boundary.

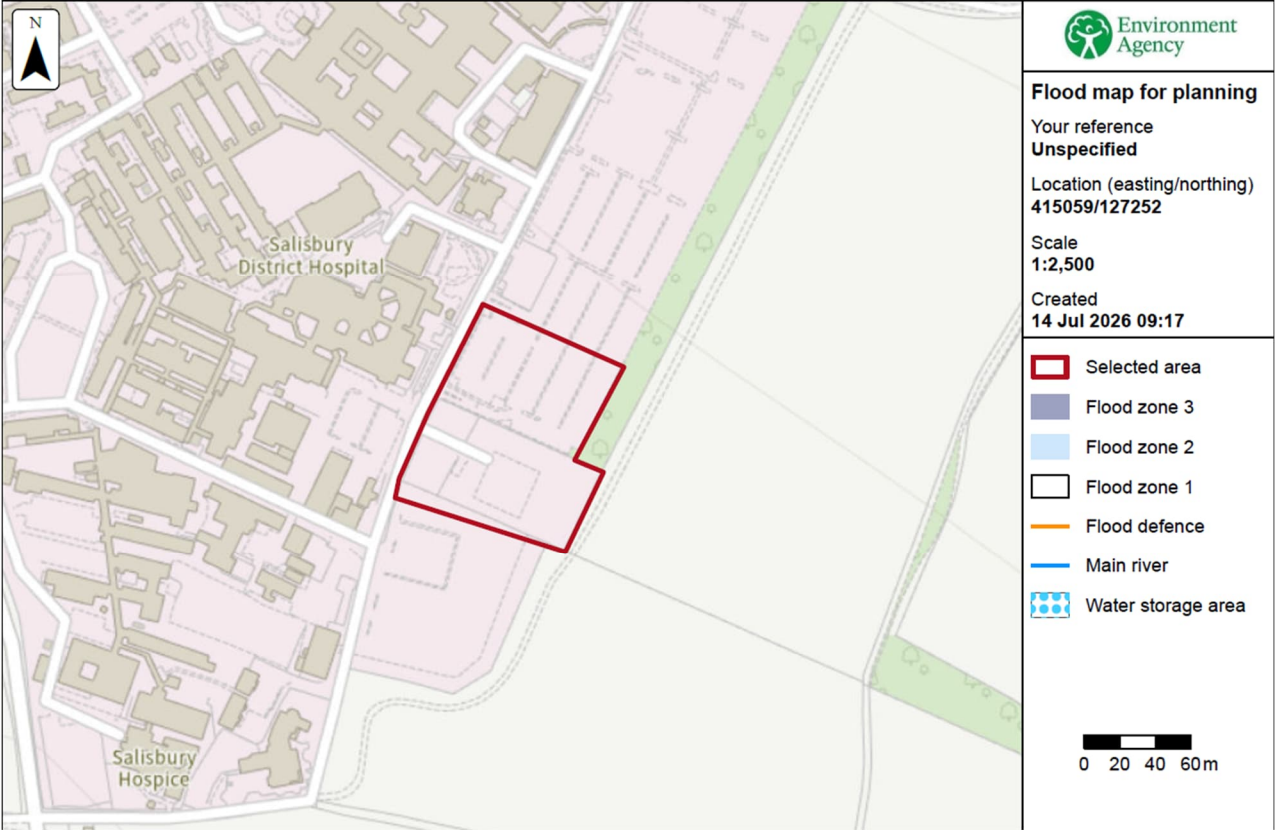
Topographical surveys and satellite imagery available at this stage indicate the presence of kerbside gullies and highway drainage along Victoria Road East, adjacent to the site. A manhole cover has also been identified in a location that corresponds with records from Wessex Water.

Topographic and utility surveys undertaken by RSK Geosciences Geospacial (Ref: 4340819-SG-XX-00-2D-U-0003-C01, dated July 2025) show existing drainage features surrounding the helipad and although the outfall location could not be fully traced, it appears to coveys flows towards the eastern boundary to the site. The surveys also identified drainage within the existing carparking to the north and south of the development boundary. Record drawings show that these flows enter soakaways to the north of the carpark.

2.6 Flood Risk

The proposed development site is located within Flood Zone 1 as indicated by the Environment Agency's (EA) flood map – refer to Figure 2.2 below. The development site is considered to have a low probability of flooding from rivers and the sea. Salisbury, including Salisbury District Hospital is not currently within a Critical Drainage Area according to the Environment Agency "Areas with Critical Drainage Problems" (ACDP's)

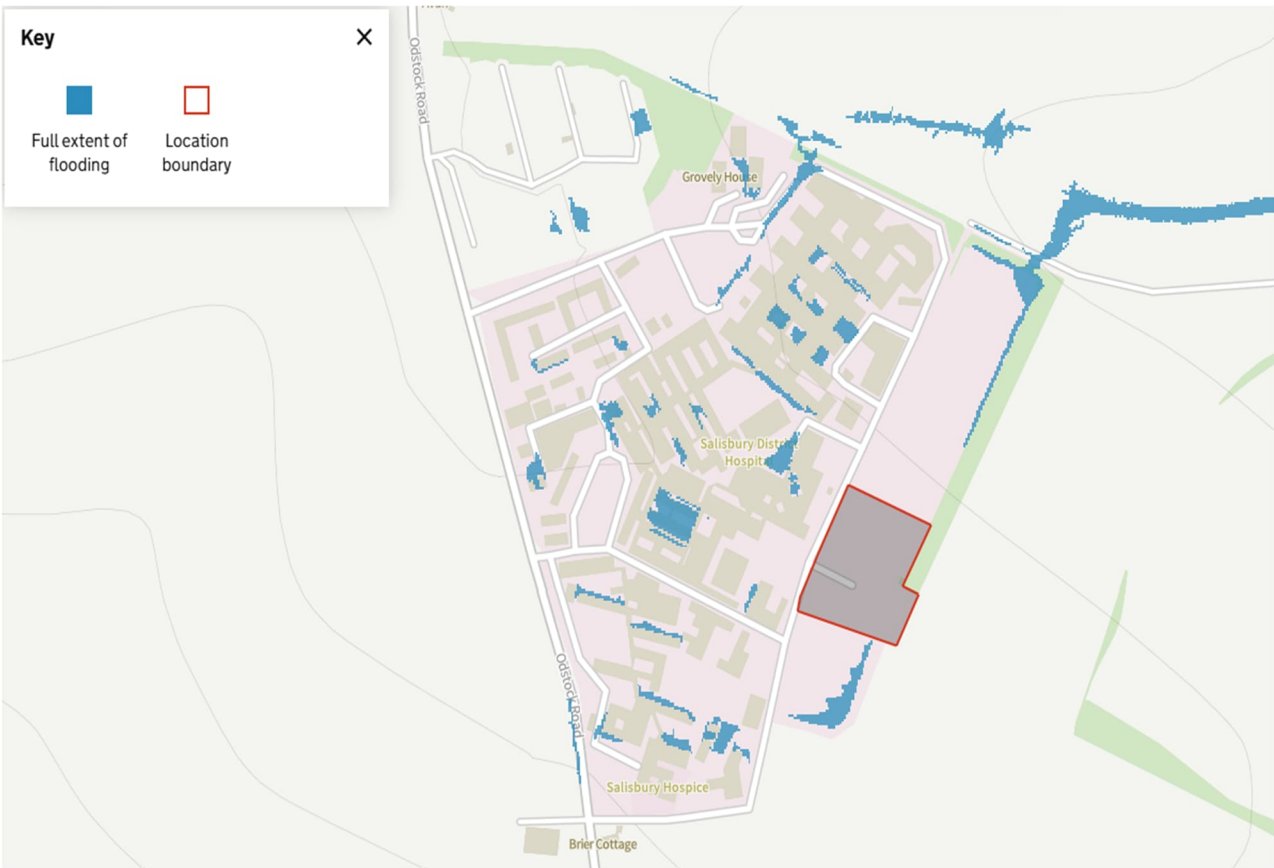
Figure 2.2: Flood Maps for Planning



Source: © Environment Agency copyright and/or database rights 2026. All rights reserved. © Crown copyright and database rights 2026
Ordnance Survey licence number AC0000807064.

EA mapping suggests that the development site has a very low probability (<0.1%) of risk of flooding from surface water. There is a low risk of surface flooding in the area to the south of the proposed site but it is not within the boundary of the development site. Figure 2.3 indicates the areas subject to surface water flooding in a 1 in 1000 year storm event.

Figure 2.3: Extent of Surface Water Flooding



Source: © Environment Agency copyright and/or database rights 2025. All rights reserved. © Crown copyright and database rights 2025
Ordnance Survey licence number AC0000807064.

The long-term flood risk summary on Gov.uk (Shown in Appendix C) indicates that flooding from reservoirs is unlikely in the area of the development. The same summary suggests that Groundwater flooding is possible during periods of high ground water. The Salisbury Surface Water Management Plan – Intermediate Assessment of Groundwater Flooding Susceptibility highlights that the majority of historic groundwater flood events which occurred in areas of the wider hospital site were identified in the regional groundwater model, as having the potential for elevated groundwater levels (<4m below ground level). Ground investigations encountered no groundwater strikes in the top 15m of earth, therefore it is assumed no groundwater flood risk to the proposed development will be present.

With the very low risk from all flooding sources identified above it is assumed no separate Flood Risk Assessment is required at this time.

2.7 Climate Change Allowances

As part of the statutory planning process, the National Planning Policy Framework (NPPF) requires new developments to consider and duly allow for the effects of climate change in surface water drainage system designs. In accordance with the EA's climate change allowance, a climate change allowance of 40%, for return periods up to and including the 1 in 30-year event, and 45% for the 1 in 100-year event, are to be adopted for the drainage strategy and associated modelling of the networks. This has been determined using the 'Upper end allowance' for the 2070s epoch from the EA climate change allowance map.

3 Surface Water Drainage Strategy

3.1 Statutory Guidance

The assessment and design of surface water drainage management systems is to be undertaken in accordance with the relevant and applicable requirements of the following statutory and regulatory guidance, standards and specifications:

- BS EN 752 – Drain and sewer systems outside buildings (2017)
- Building Regulations Approved Document Part H: Drainage and Waste Disposal (2015)
- The SUDS Manual C753F (CIRIA, 2015)
- C574 Engineering in Chalk (CIRIA, 2002)
- Sustainable Drainage Systems: Non-statutory Technical Standards for Sustainable Drainage Systems (DEFRA, 2015)
- BRE Digest 365 – Soakaway Design (BRE, 2016)
- Flood Risk Assessments: climate change allowances (Environment Agency, 2022)
- National Planning Policy Framework (NPPF) (Ministry of Housing, Community & Local Government, 2024)
- Wiltshire Local Flood Risk Management Strategy (Wiltshire Council, 2015)
- Surface Water Management Plan – Focussed on Chippenham, Trowbridge and Salisbury (Wiltshire Council, 2011)
- National Standards for Sustainable Drainage Systems (SuDS) (DEFRA. June 2025).

3.2 Surface Water Discharge Hierarchy

The NPPF outlines the hierarchy of surface water disposal as follows:

- Into the ground (infiltration).
- Into a surface water body (watercourse).
- To a surface water sewer, highway drain or other drainage system.
- To a combined sewer.

It is necessary to identify the most appropriate method of controlling and discharging surface water. The design seeks to improve the local run-off profile by using systems that can either attenuate run-off and reduce peak flow rates or positively impact on the existing flood profile.

3.2.1 Infiltration Based Systems

Soakaway tests (refer to Appendix A) suggest soil infiltration rates for the site are in the order of 3x10⁻⁵ m/s with ground conditions showing Structureless Chalk formation, approximately 0.5m below ground level (refer to Geotechnical and Geo-environmental Desk Study report, dated July 2026, Ref STESS-MMD-XX-XX-RP-GE-100001). Any soakaways shall be located at least 10m away from any building or structure foundations, in line with CIRIA C574 Engineering in Chalk. Where practicable, pervious paving will be used to promote source infiltration. Roof run off will be directed away from the building and infiltrated using buried tanks sized to accommodate runoff volumes.

3.2.2 Watercourses

The nearest watercourses are the River Ebble, located approximately 900 metres south of the site, and the River Avon, around 1.2 kilometres to the east. An outfall into either watercourse would require significant

drainage assets laid through private land and are therefore ruling out as viable surface water discharge locations.

3.2.3 Surface Water Sewers

There are no known surface water sewers identified within the vicinity of the site. Furthermore, previous developments on site appear to utilise infiltration (Elizabeth Bulilding) as the sole form of surface water disposal. This also supports the lack of evidence that an existing surface water network is present within the site.

3.2.4 Combined Sewer

There are no known combined sewers within the vicinity of the site.

3.3 Sustainable Drainage Systems (SuDS) and Water Quality

Planning policy, flood risk and coastal change, aims to provide not only flood risk mitigation but also maximise additional gains such as improvements in run-off quality and provision of amenity and biodiversity. It is a requirement of planning policy that SuDS are considered as the primary means of collection, control, and disposal for storm water as close to source as possible.

The use of Sustainable Drainage Systems (SuDS) is intended as part of the surface water management strategy for the site. However, it should be noted that not all SuDS techniques are suitable or feasible given the specific site constraints. Table 3.1 provides an overview of various SuDS options assessed for their potential applicability on this development.

Table 3.1: SuDS Techniques Appraisal

SuDS Group	Technique	Description	Advantages	Disadvantages	Suitability for this Site
Source Control	Brown / Green / Blue Roof	System which covers building roof with vegetation / landscaping over a drainage layer. Intercepts and retains rainfall, reduces the volume of runoff and attenuating peak flows.	Insulates buildings Mimics greenfield state of building footprint Good removal of pollutants Sound abruption Good biodiversity benefit	Additional weight Not appropriate for steep roofs Maintenance issues with roof vegetation High risk associated with healthcare environments	No – A green/blue roof is deemed unsuitable for the site, due to risks associated healthcare environments and potential implications and impact of system malfunctions.
	Rainwater Harvesting	Uses rainwater from roofs to supply toilets, washing machines and irrigation systems. Harvested water is stored underground and is substituted for potable water mains supply. Reduction in site discharge and water consumption.	Source control of storm water runoff Reduces demand on mains water	Use is dependent on demand, contributing surface area and seasonal rainfall. High capital cost Potential requirement for pumping	No – Rainwater harvesting is not considered for this site.
	Permeable Paving	Pavements allow rainfall to soak through the surface into underlying layers to temporarily hold the water before is soaks to ground or passes to an outfall.	Provides source attenuation and low-level treatment of surface runoff Reduction in runoff volume if infiltrating Lined systems can be used where infiltration not possible	Increases construction depth Cannot be used where large sediment loads may be washed/carried onto the surface May not be suitable for heavy vehicular loadings Long term risk of clogging is not maintained	Yes – Permeable paving is suitable for the site and can be considered in the design.
Infiltration	Infiltration Trench	Surface water runoff discharges directly to ground by infiltrating. The base of the soakaway must always be 1m above ground water levels and in appropriate ground conditions to receive the quality and quantity of water.	Reduces volume of runoff Effective pollutant removal Contributes to groundwater recharge Low cost option	Requires appropriate ground conditions To be set away from building and road foundations Silt to be intercepted at source	Yes –Infiltration is deemed practical for the site.
	Infiltration Basin				
	Soakaway				
Retention	Balancing Pond / Rain Gardens	Provides storm water attenuation and treatment. Runoff is captured and treated in the pond. Pollutants removed through sedimentation.	Pollutant Removal Good for vulnerable ground water areas High biodiversity benefit Good amenity value	High land take No reduction in runoff volumes	Yes – rain gardens can be used, however available space for balancing ponds is minimal and are unlikely to be applicable for this site.
	Below Ground Storage	Oversized pipes, tank systems and geocellular systems can be used to create subsurface storage.	Used for infiltration and storage High void ratios Modular and flexible Can be used in vehicular areas and in soft landscaping	No water quality treatment Issues with siltation if not maintained	Yes – below ground storage is suitable for this site under vehicular areas or soft landscaped areas
	Enhanced Dry Swale	Linear vegetated channel with flat base in which surface water can be collected, conveyed or stored. Can be designed for infiltration as well.	Works well with landscaping features Good pollutant removal Reduces runoff rates and volumes Low cost Good amenity value	Unsuitable for steep sites Land take Erosion control required and silt collection if not removed at source	Yes – swales would be suitable for the site depending on final landscaping proposals.
	Enhanced Wet Swale				
Wetlands	Wetlands (including all varieties shallow, extended, pocket, submerged etc)	Shallow depressions in nearly or completely covered in marsh vegetation with little open water. Can store large volumes of surface water runoff and provide treatment for soluble pollutants.	Pollutant Removal Good for vulnerable ground water areas High biodiversity benefit Good amenity value	High land take No reduction in runoff volumes Not suitable for steep sites Requires baseflow	No – no expected baseflow available, system will only be wet following rainfall events.
Filtration	Surface Sand Filter	Generally used where high pollutant removal is required. Structures design to treat surface water runoff through filtration of a sand bed filter medium. Can be designed with or without infiltration.	Efficient pollutant removal Suitable for constrained areas Flexibility of design and can be retrofit	Not suitable for high sediment content Minimum hydraulic head requirements Possible odour issues Can be prone to algae growth High capital and maintenance cost	No – not expected to need this level of pollutant control from the site use.
	Sub-Surface Sand				
	Perimeter Sand Filter				
	Filter Trench / Drain	Shallow excavations filled with stone or rubble so create subsurface storage for filtration.	Hydraulic benefits Trenches can be installed within landscaping or near car parks and roads	High risk of failure due to clogging without effective pre-treatment Limited to small catchments High cost of replacement	Yes – filter drains could be used to collect surface water runoff on site.

3.4 SuDS Design

3.4.1 Permeable Paving

Pervious pavements allow rainwater to infiltrate through the surface where water can be infiltrated to the ground or discharged to a downstream drainage system. Permeable paving may be considered on this site, utilising infiltration of direct runoff only when within 10m of the building. Pervious paving also provides storage, while flows are directly infiltrated into the ground.

3.4.2 Rain Garden/ bioretention areas

Rain gardens are shallow landscaped depressions that store rainwater by up to a maximum depth of 150mm. They can reduce run off rates and volumes and also provide pollution treatment through engineered soils and vegetation. They are a very flexible surface water management system that can add aesthetic and biodiversity benefits. Rain gardens could be used across the proposed site to control water at the source.

3.4.3 Below Ground Storage Structures

Underground storage solutions such as a geocellular attenuation tank or oversized pipes can be used where there is limited land available for above ground storage. Modular storage tanks offer a flexible arrangement and can be sited under roads or soft landscaped area. Below ground storage could be used to accommodate the storage capacity or in combination with other features to meet the site attenuation volume requirements.

3.5 Attenuation Requirements

The provision of suitable attenuation on site to mitigate flood risk resulting from the development will be required in the evolution of the site development layout.

Estimated Quick Storage Volume

The volume of attenuation required for the development may be estimated using the Quick Storage Estimate tool in InfoDrainage. The proposed infiltration rate of 3x10⁻⁵m/s is used in the calculations.

For rainfall modelling, the Flood Estimation Handbook (FEH) data, for the site is applied, for a volumetric runoff coefficient (C_v) of 1.0, hardstanding area (including roads and roof runoff) = 0.59ha, and safety factor = 10. The Quick Storage Estimate of attenuation calculates between 412m³ and 720m³ of volume required for the site. These figures are based on the current site layout and are liable to change during further design development.

3.6 Run-off Quality

The application of a SuDS based systems has been considered as the primary measure for dealing with surface water runoff and treatment. Runoff is treated through the use of pervious paving and bioretention areas for direct road runoff. Area of high risk pollution will be treated using an oil separator and cut off penstock located upstream of the proposed infiltration tanks.

3.7 Exceedance Routing

It is important to consider the systems performance during extreme events (>1 in 100 year). Based on the topography survey from the site, the site slopes from south to north, therefore the

exceedance routes potentially flow towards the building, for runoff from the south and away from the building, from runoff within the northern extent.

The drainage network will be designed to accommodate flows up to an including during the 1 in 100 year storm + 45% climate change. The modelling will also determine exceedance flows for events up to the 1 in 200 year storm + 45% climate change.

3.8 Proposed Surface Water Drainage Arrangement

The drainage system will operate on a gravity-based system. Surrounding footpaths will be designed with appropriate gradients to direct surface water away from the structure, mitigating flood risk. All chamber covers and gully inlets will comply with BS EN 124, ensuring the correct loading class to accommodate anticipated traffic loads.

All surface water runoff from the proposed site will be discharged, by infiltration, to the ground. Based on the current site layout, it is proposed to install below-ground attenuation features throughout the site to provide the approximately 505m³ of storage volume. Further storage is provided within the subbase of the proposed permeable paving to provide further resilience against flooding. Further consultation with the Environment Agency will be required, during the next stage of design, to confirm if any permits or licences are required to discharge via infiltration.

It is recommended that further soakaway testing, in accordance with BRE365 is undertaken during Stage 4 at locations where soakaways are proposed.

Any below ground storage shall be a minimum of 10m offset from buildings. Tree pits and rain gardens/ bioretention areas shall be incorporated into the landscaping plan, helping to collect additional runoff from the footpaths and open areas around the building.

The design aims to implement Sustainable Drainage Systems (SuDS) on site, to maximise water quality and amenity within the site. SuDS features have the potential to reduce the required volume of attenuation, while also enhancing the site's aesthetic appeal and supporting biodiversity.

Any retaining walls will require back of wall drainage crucial for stability and longevity of the structure, preventing accumulation that can lead to structural failure.

3.9 Maintenance of Drainage Assets

Maintenance of the conventional drainage manhole chambers, pipework and channels should be undertaken in accordance with the manufacturer's product guidelines by a competent contractor following appropriate Health, Safety, and Environmental practices. In the event this is not feasible, maintenance could be undertaken as shown in Table 3.2 below.

Table 3.2: Below ground drainage and manhole chamber maintenance summary

Table 3.2: Below ground drainage and manhole chamber maintenance summary

Maintenance Schedule	Required Action	Typical Frequency
Before Use	Remove any inappropriate material from within the chamber and dispose appropriately off-site.	At start
	All drains to be flushed with water to remove silt, and CCTV surveys to check for blockages	At start
Regular Maintenance and Inspection	Removal of debris (inc. leaves, rubbish and/or branches) from areas served by drainage	Monthly
Remedial Actions	For blockages resulting in flooded manhole chambers: drain down manhole chamber and unblock.	As required
	For pipework blockages: rod or jet between access points to unblock.	As required
Monitoring	Lift covers and inspect chambers. Inspect covers, surrounds, gullies, channels, and drainage feature for signs of damage and incorrect operation. Undertake any remedial action if required.	Annually (as a minimum)

4 Foul Water Drainage Strategy

4.1 Overview

The foul water drainage strategy proposes discharging foul flows into the Wessex Water foul sewer located along the western boundary of the site. Foul loading calculations have been undertaken to estimate the expected wastewater flows to be conveyed to this sewer.

4.2 Foul Water Loading

An assessment of the estimated foul appliances has been carried out and the total number of estimated discharge units (DU) has been calculated in accordance with BS EN 12056-2:2000, the findings are shown in Table 4.1.

Table 4.1: Foul water appliances discharge unit calculations

Appliance	Number of Appliances	Total DU of appliance
Wash basin	30	9.0
Shower with plug	5	6.5
Sinks	43	55.9
WC	30	60.0
Sum of DU		131.4

System III has been assumed to generate the DU values, in compliance with CIBSE Guide G. The below formula was used to calculate an anticipated wastewater flow rate of 10.5l/s and applying a 25% safety factor to the calculated value.

$$Q_{ww} = K\sqrt{\Sigma DU}$$

Where:

- Q_{ww} = Wastewater flow rate (l/s)
- K = Frequency factor – assigned a value of 0.7 (frequent use, e.g. in hospital, school, restaurant, hotel)
- ΣDU = Sum of discharge units

4.3 Proposed Foul Water Drainage Arrangement

A detailed drainage survey of the existing public foul sewer located along the western boundary of the site is recommended to inform the design process.

The foul drainage network will operate as a gravity system and shall be designed in accordance with BS EN 752 to ensure adequate self-cleansing velocities are maintained. All chamber covers will be specified to meet the required loading classes for anticipated traffic, in accordance with BS EN 124.

A pre-planning advice enquiry has been submitted to Wessex Water to confirm connection and capacity for the proposed development. The information provided in this response will then be used to inform the next stage of design.

4.4 Maintenance of Foul Water Drainage

Foul water maintenance should be carried out similarly to the surface water network as described in Section 3.10 and Table 3.2. Pipes are to be designed in line with Building Regulations and have self-cleansing velocities to minimise the risk of blockage.

New chambers will be required at the proposed connection to the existing public sewer and offered for adoption by Wessex Water. These chambers will be approx. 7m in depth, based on known depths of the existing sewer. Maintenance and access risks will be evaluated during design development and in consultation with Wessex Water.

5 Appendices

Appendix A – Site Soakaway Test (dated 26/02/2026)

INSITU TESTING - Soakaway Test

Form INS009 Rev 6

Project SALISBURY DISTRICT HOSPITAL ELECTIVE CARE CENTRE

Trial Pit TP02

Test No I

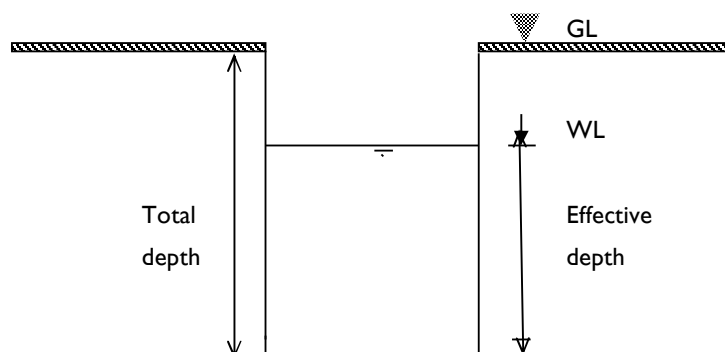
Project No PE252012

Client Mott McDonald

Date 26/02/2026

ELAPSED TIME (mins)	DEPTH of water below ground level (m)	HEAD (m)	HEAD (%)
0.00	0.84	1.16	100.00
0.50	0.87	1.13	97.41
1.00	0.87	1.13	97.41
1.50	0.90	1.10	94.83
2.00	0.94	1.06	91.38
2.50	0.96	1.04	89.66
3.00	0.99	1.01	87.07
3.50	1.03	0.97	83.62
4.00	1.08	0.92	79.31
5.00	1.13	0.87	75.00
6.00	1.17	0.83	71.55
7.00	1.20	0.80	68.97
8.00	1.23	0.77	66.38
9.00	1.26	0.74	63.79
10.00	1.29	0.71	61.21
11.00	1.31	0.69	59.48
12.00	1.33	0.67	57.76
13.00	1.35	0.65	56.03
14.00	1.37	0.63	54.31
15.00	1.39	0.61	52.59
16.00	1.40	0.60	51.72
17.00	1.42	0.58	50.00
18.00	1.43	0.57	49.14
19.00	1.45	0.55	47.41
20.00	1.46	0.54	46.55
21.00	1.46	0.54	46.55
22.00	1.48	0.52	44.83

TRIAL PIT SOAKAWAY



Trial pit length = 2.300 m

Trial pit width = 0.400 m

Trial pit depth = 2.000 m

Effective depth (Head of Water) = 1.160 m

Initial depth from GL = 0.840m			
% of effective depth	Head (m)	Depth from GL (m)	Time (mins)
75%	0.870	1.130	5.00
25%	0.290	1.710	60.00
Vp75-25	=	0.534	m3
ap50	=	4.052	m2
tp75-25	=	55.000	min
Soil Infiltration, f =		3.99E-05	m/sec

Sheet I

Remarks

GEOTECHNICS

Form INS009 Rev 6

Trial Pit	TP02
Test No	1
Project No	PE252012
Date	26/02/2026

Client Mott McDonald

The diagram illustrates a cross-section of a trial pit soakaway. On the left, a vertical line represents the pit wall, with a double-headed arrow indicating the 'Total depth' from the ground level to the bottom. On the right, a horizontal line represents the ground level (GL), marked with a downward-pointing triangle. Below the GL, a horizontal line represents the water level (WL), marked with an upward-pointing triangle. The vertical distance between the GL and the WL is labeled 'Effective depth' with a double-headed arrow. The bottom of the pit is indicated by a horizontal line with a small circle in the center.

Trial pit length	=	2.300	m
Trial pit width	=	0.400	m
Trial pit depth	=	2.000	m
Effective depth (Head of Water)	=	1.160	m

Initial depth from GL		=	0.840m	
% of effective depth	Head (m)		Depth from GL (m)	Time (mins)
75%	0.870		1.130	5.00
25%	0.290		1.710	60.00
Vp75-25	=	0.534	m3	
ap50	=	4.052	m2	
tp75-25	=	0.000	min	
Soil Infiltration, f	=	3.99E-05	m/sec	

Sheet 2

Remarks

INSITU TESTING - Soakaway Test

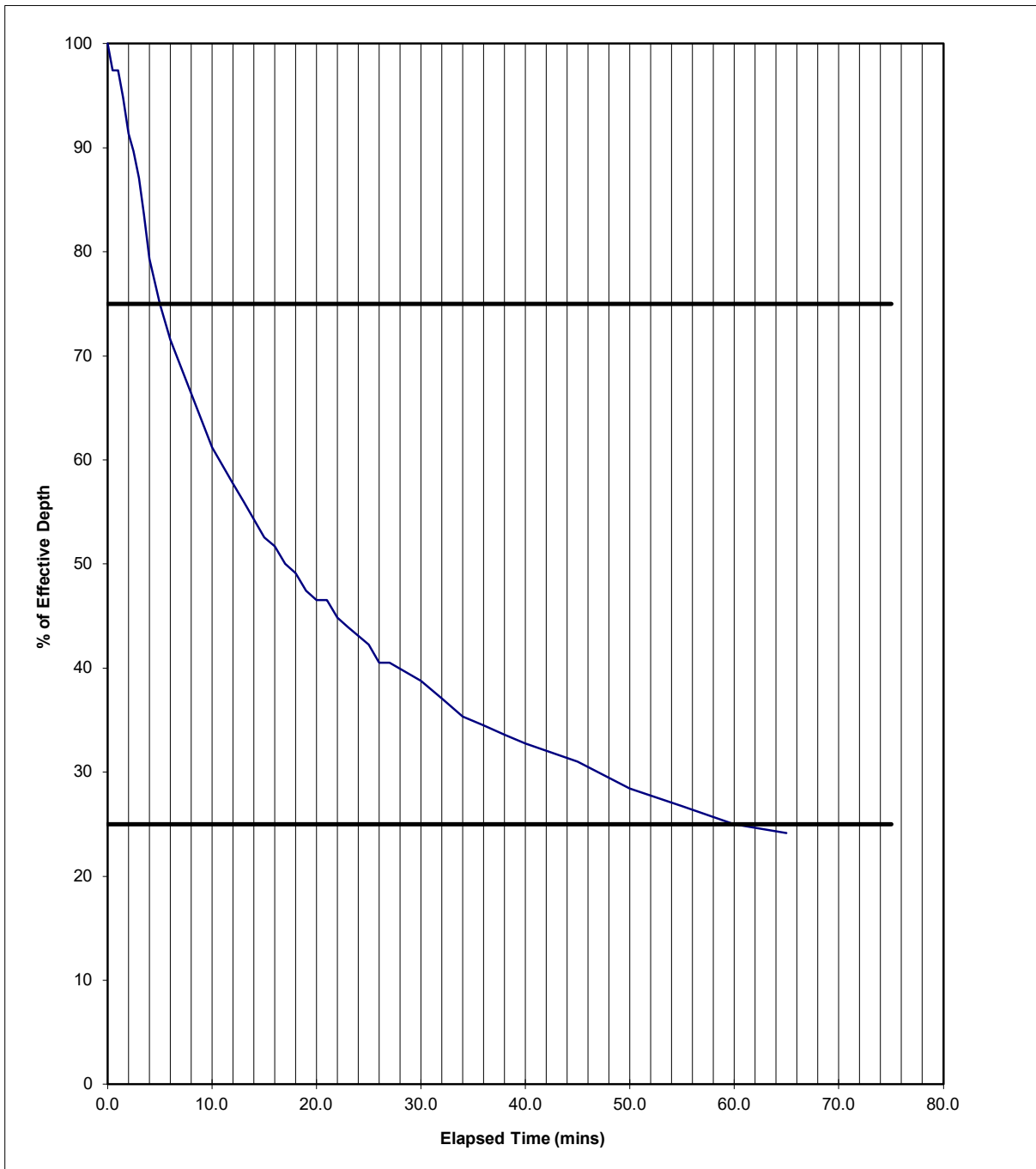
Form INS009 Rev 6

Project SALISBURY DISTRICT HOSPITAL ELECTIVE CARE CENTRE

Trial Pit
Test No
Project No
Date

TP02
I
PE252012
26/02/2026

Client Mott McDonald



tp75	=	5.00
tp25	=	60.00

Sheet 3

Remarks

INSITU TESTING - Soakaway Test

Form INS009 Rev 6

Project SALISBURY DISTRICT HOSPITAL ELECTIVE CARE CENTRE

Trial Pit TP02

Test No 2

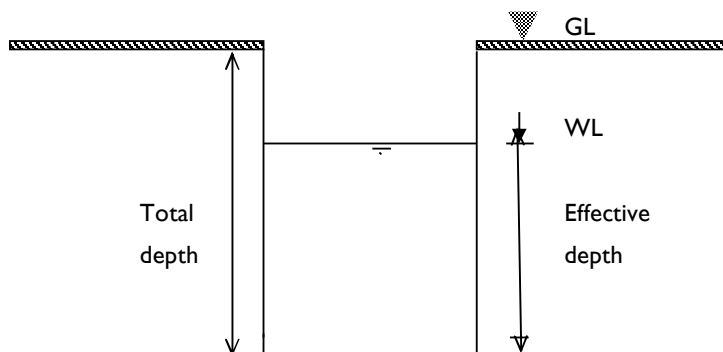
Project No PE252012

Client Mott McDonald

Date 26/02/2026

ELAPSED TIME (mins)	DEPTH of water below ground level (m)	HEAD (m)	HEAD (%)
0.00	0.90	1.10	100.00
0.50	0.91	1.09	99.09
1.00	0.93	1.07	97.27
1.50	0.96	1.04	94.55
2.00	0.98	1.02	92.73
2.50	1.01	0.99	90.00
3.00	1.02	0.98	89.09
3.50	1.05	0.95	86.36
4.00	1.07	0.93	84.55
5.00	1.10	0.90	81.82
6.00	1.14	0.86	78.18
7.00	1.18	0.82	74.55
8.00	1.21	0.79	71.82
9.00	1.23	0.77	70.00
10.00	1.26	0.74	67.27
11.00	1.28	0.72	65.45
12.00	1.31	0.69	62.73
13.00	1.33	0.67	60.91
14.00	1.36	0.64	58.18
15.00	1.36	0.64	58.18
16.00	1.38	0.62	56.36
17.00	1.39	0.61	55.45
18.00	1.40	0.60	54.55
19.00	1.42	0.58	52.73
20.00	1.43	0.57	51.82
21.00	1.44	0.56	50.91
22.00	1.45	0.55	50.00

TRIAL PIT SOAKAWAY



Trial pit length = 2.300 m

Trial pit width = 0.400 m

Trial pit depth = 2.000 m

Effective depth (Head of Water) = 1.100 m

Initial depth from GL	=	0.900m	
% of effective depth	Head (m)	Depth from GL (m)	Time (mins)
75%	0.825	1.175	7.00
25%	0.275	1.725	77.00
Vp75-25	=	0.506 m3	
ap50	=	3.890 m2	
tp75-25	=	70.000 min	
Soil Infiltration, f	=	3.10E-05 m/sec	

Sheet 1

Remarks

GEOTECHNICS

INSITU TESTING - Soakaway Test

Form INS009 Rev 6

Project SALISBURY DISTRICT HOSPITAL ELECTIVE CARE CENTRE

Trial Pit TP02

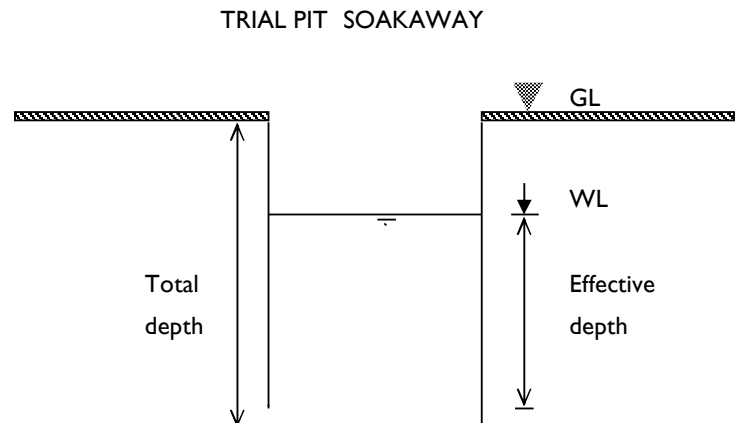
Test No 2

Project No PE252012

Client Mott McDonald

Date 26/02/2026

ELAPSED TIME (mins)	DEPTH of water below ground level (m)	HEAD (m)	HEAD (%)
23.00	1.46	0.540	49.1
24.00	1.47	0.530	48.2
25.00	1.48	0.520	47.3
26.00	1.49	0.510	46.4
27.00	1.50	0.500	45.5
28.00	1.50	0.500	45.5
29.00	1.51	0.490	44.5
30.00	1.52	0.480	43.6
32.00	1.53	0.470	42.7
34.00	1.55	0.450	40.9
36.00	1.56	0.440	40.0
39.00	1.58	0.420	38.2
43.00	1.60	0.400	36.4
45.00	1.61	0.390	35.5
50.00	1.63	0.370	33.6
55.00	1.64	0.360	32.7
61.00	1.66	0.340	30.9
65.00	1.68	0.320	29.1
70.00	1.70	0.300	27.3
75.00	1.72	0.280	25.5
80.00	1.73	0.270	24.5



Trial pit length = 2.300 m

Trial pit width = 0.400 m

Trial pit depth = 2.000 m

Effective depth (Head of Water) = 1.100 m

Initial depth from GL	=	0.900m	
% of effective depth	Head (m)	Depth from GL (m)	Time (mins)
75%	0.825	1.175	7.00
25%	0.275	1.725	77.00
Vp75-25	=	0.506 m3	
ap50	=	3.890 m2	
tp75-25	=	0.000 min	
Soil Infiltration, f	=	3.10E-05 m/sec	

Sheet 2

Remarks

GEOTECHNICS

INSITU TESTING - Soakaway Test

Form INS009 Rev 6

Project SALISBURY DISTRICT HOSPITAL ELECTIVE CARE CENTRE

Trial Pit

TP02

Test No

2

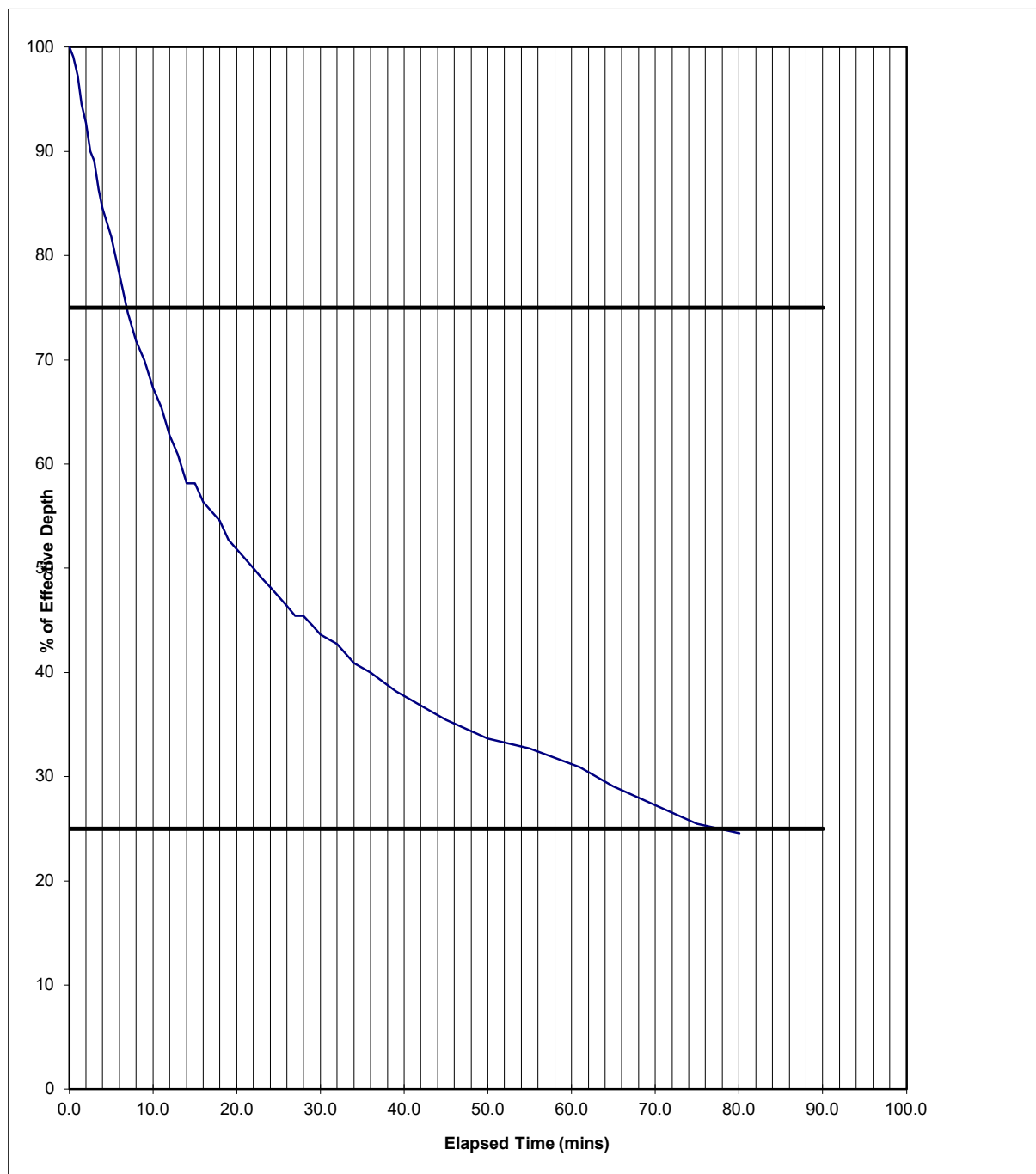
Project No

PE252012

Client Mott McDonald

Date

26/02/2026



tp75	=	7.00
tp25	=	77.00

Remarks

Sheet 3

INSITU TESTING - Soakaway Test

Form INS009 Rev 6

Project SALISBURY DISTRICT HOSPITAL ELECTIVE CARE CENTRE

Trial Pit TP02

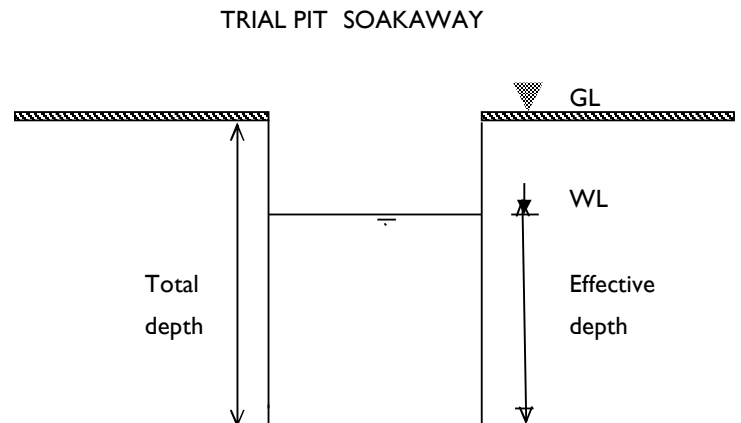
Test No 3

Project No PE252012

Client Mott McDonald

Date 26/02/2026

ELAPSED TIME (mins)	DEPTH of water below ground level (m)	HEAD (m)	HEAD (%)
0.00	1.00	1.00	100.00
0.50	1.01	0.99	99.00
1.00	1.04	0.96	96.00
1.50	1.07	0.93	93.00
2.00	1.10	0.90	90.00
2.50	1.12	0.88	88.00
3.00	1.14	0.86	86.00
3.50	1.15	0.85	85.00
4.00	1.17	0.83	83.00
5.00	1.19	0.81	81.00
6.00	1.22	0.78	78.00
7.00	1.25	0.75	75.00
8.00	1.27	0.73	73.00
9.00	1.30	0.70	70.00
10.00	1.30	0.70	70.00
11.00	1.32	0.68	68.00
12.00	1.34	0.66	66.00
13.00	1.36	0.64	64.00
14.00	1.38	0.62	62.00
15.00	1.39	0.61	61.00
16.00	1.41	0.59	59.00
17.00	1.41	0.59	59.00
18.00	1.43	0.57	57.00
19.00	1.44	0.56	56.00
20.00	1.45	0.55	55.00
21.00	1.45	0.55	55.00
22.00	1.46	0.54	54.00



Trial pit length = 2.300 m

Trial pit width = 0.400 m

Trial pit depth = 2.000 m

Effective depth (Head of Water) = 1.000 m

Initial depth from GL = 1.000m			
% of effective depth	Head (m)	Depth from GL (m)	Time (mins)
75%	0.750	1.250	7.00
25%	0.250	1.750	80.00
Vp75-25	=	0.460 m ³	
ap50	=	3.620 m ²	
tp75-25	=	73.000 min	
Soil Infiltration, f =		2.90E-05 m/sec	

Sheet 1

Remarks

GEOTECHNICS

INSITU TESTING - Soakaway Test

Form INS009 Rev 6

Project SALISBURY DISTRICT HOSPITAL ELECTIVE CARE CENTRE

Trial Pit TP02

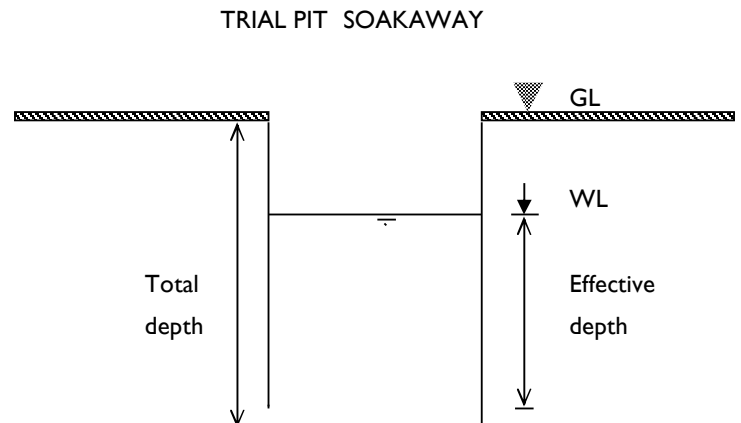
Test No 3

Project No PE252012

Client Mott McDonald

Date 26/02/2026

ELAPSED TIME (mins)	DEPTH of water below ground level (m)	HEAD (m)	HEAD (%)
23.00	1.46	0.540	54.0
24.00	1.48	0.520	52.0
25.00	1.50	0.500	50.0
26.00	1.51	0.490	49.0
27.00	1.52	0.480	48.0
28.00	1.52	0.480	48.0
29.00	1.52	0.480	48.0
30.00	1.53	0.470	47.0
31.00	1.53	0.470	47.0
32.00	1.54	0.460	46.0
33.00	1.54	0.460	46.0
34.00	1.55	0.450	45.0
35.00	1.55	0.450	45.0
36.00	1.55	0.450	45.0
37.00	1.56	0.440	44.0
38.00	1.57	0.430	43.0
40.00	1.58	0.420	42.0
42.00	1.59	0.410	41.0
45.00	1.62	0.380	38.0
50.00	1.65	0.350	35.0
55.00	1.67	0.330	33.0
60.00	1.68	0.320	32.0
70.00	1.72	0.280	28.0
80.00	1.750	0.250	25.0
90.00	1.770	0.230	23.0
100.00	1.790	0.210	21.0



Trial pit length = 2.300 m

Trial pit width = 0.400 m

Trial pit depth = 2.000 m

Effective depth (Head of Water) = 1.000 m

Initial depth from GL = 1.000m			
% of effective depth	Head (m)	Depth from GL (m)	Time (mins)
75%	0.750	1.250	7.00
25%	0.250	1.750	80.00
Vp75-25	=	0.460 m ³	
ap50	=	3.620 m ²	
tp75-25	=	0.000 min	
Soil Infiltration, f		= 2.90E-05	m/sec

Sheet 2

Remarks

INSITU TESTING - Soakaway Test

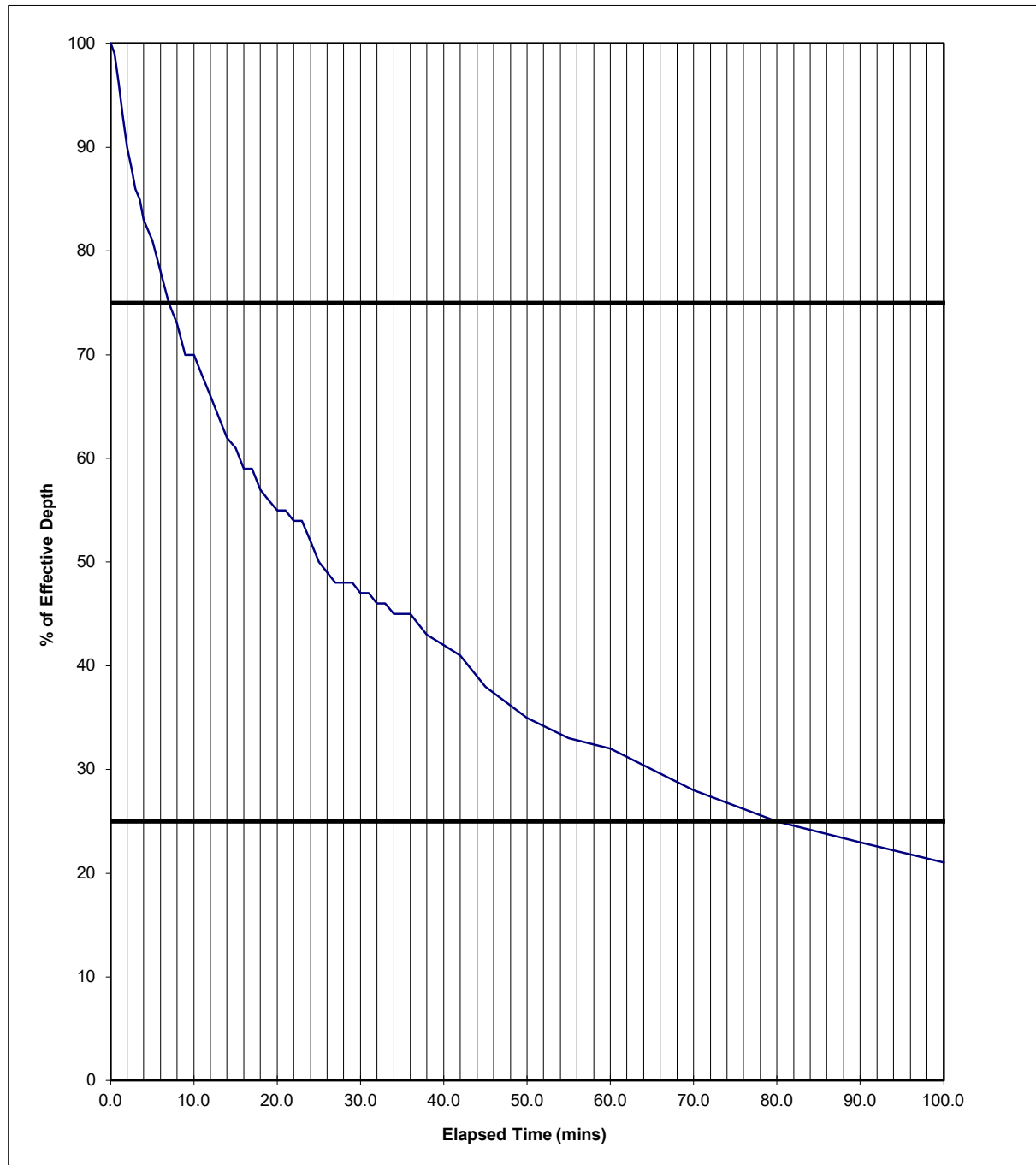
Form INS009 Rev 6

Project SALISBURY DISTRICT HOSPITAL ELECTIVE CARE CENTRE

Trial Pit
Test No
Project No
Date

TP02
3
PE252012
26/02/2026

Client Mott McDonald



tp75	=	7.00
tp25	=	80.00

Sheet 3

Remarks

Page intentionally left blank so PDF can replace this page

Appendix B – Existing Wessex Water Sewer Records

[illegible]

WATER MAINS	SEWERS	PUBLIC	PRIVATE	SECTION 104	OTHER WESSEX PIPES	NON-WESSEX / UNKNOWN
Distribution Main	Foul				Rising Mains	Private Rising Mains
Washout Main	Surface				Standby Rising Mains	Culverted Watercourse
Raw Water Main	Combined				EDM	Highway Drain
Abandoned Main	Abandoned				Overflow	Use Unknown
Private Main					Syphon	Status Unknown

Colours generally indicate the use of the sewer/drain (i.e Red - Foul, Dark Blue - Surface, Magenta - Combined/Dual Use, Light Green - Highway Drain, Mid Green - Overflow) styles of line are shown on the key in sample/typical colours.

SITES	STRUCTURES	OTHER STRUCTURES
Source	Manhole - Foul	Chamber
Reservoir	Manhole - Surface	Tunnel
Pump	Manhole - Combined	Interceptor
Treatment Works	Outfall	Attenuation Tank
	Inlet	Storage Tank
	Lamphole	
	Bifurcation - Foul	
	Bifurcation - Surface	
	Bifurcation - Combined	
FITTINGS	Combined Sewage Overflow	
Valve - Open	Pumping Station - Surface	
Valve - Closed	Pumping Stn - Foul/Combined	
Fire Hydrant	Gully	
Pressure Reducing Valve	Rodding Eye	
Meter	Catchpit	
	Flushing Chamber	
	Soakaway	
	Non Return Valve	
	Washout	
	Air Valve	
	Hatch Box	

Information in this plan is provided for identification purposes only. No warranty as to accuracy is given or implied. The precise route of pipe work may not exactly match that shown. Wessex Water does not accept liability for inaccuracies. Sewers and lateral drains adopted by Wessex Water under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 are to be plotted over time and may not yet be shown. In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located. If you are considering any form of building works and pipe work is shown within the boundary of your property or a property to be purchased (or very close by) a surveyor should plot its exact position prior to commencing works or purchase. Building over or near Wessex Water's apparatus is not normally permitted.

Date: 13/12/2022, 10:38:01

Scale: 1:1,250

Centre: 414,948, 127,148

Page intentionally left blank so PDF can replace this page

Appendix C – Long-term Flood Risk Summary

Beta This is a new service. Help us improve it and [give your feedback](#).

[Back to select an address](#)

Flood risk summary

Your selected location: Salisbury District Hospital, Odstock Road, Salisbury, SP2 8BJ

This information tells you the flood risk of the land around a building, not the building itself.

► [How we assess an area's flood risk](#)

► [Flood risk and climate change](#)

Surface water

[More about your surface water flood risk](#)

Yearly chance of flooding

Very low

Low

Medium

High

Yearly chance of flooding between 2040 and 2060

Very low

Low

Medium

High

What surface water is

Surface water flooding is sometimes known as flash flooding. It happens when rainwater cannot drain away through normal drainage systems.

► [Why surface water flooding is a problem](#)

Rivers and the sea

[More about your rivers and sea flood risk](#)

Yearly chance of flooding

Very low

Low

Medium

High

Yearly chance of flooding between 2036 and 2069

Very low

Low

Medium

High

What makes rivers and sea flooding more likely

Low-lying areas that are close to rivers or the sea are more likely to flood when water levels rise.

This information takes into account any flood defences.

► [Why flood defences cannot completely prevent flooding](#)

Other flood risks

[More about groundwater and reservoirs](#)

Groundwater

Flooding is possible when groundwater levels are high.

Reservoirs

Flooding from reservoirs is unlikely in this area.

Appendix D – Calculations

STECC-MMD-XX-XX-CA-CE-520002 – Surface Water Drainage

STECC-MMD-XX-XX-CA-CE-520003 – Foul Water Drainage

Project title	Salisbury DASH	Project number	100123741	
File number	STECC-MMD-XX-XX-CA-CE-520002	Number of sheets	12 + Appendices	
Section	N/A	Calculation number	DR04	
Subject	Surface Water Drainage Calculation			
Project Manager	P Barton			
Originator	H Clark	Originator role	Civil Engineer	
See requirements – Requirements – DO – Execute the project				
Phase	A. Concept or preliminary design	☒	C. Design verification	☐
	B. Analysis and detailed design	☐	D. Other (specify below) Add text.	☐

Computer applications used						
Name			Version date			
InfoDrainage			2026.1			
Excel						
Scopes for checking manual and computer-generated calculations						
Add text.						
Sheets checked*	Calculations by			Checked by		
	Name	Signature	Date	Name	Signature	Date
All	H Clark	HC	10/06/26			
*If an Excel spreadsheet or other computer file has been checked and has not been attached, enter the name, date and full file path or SharePoint location of the file that was checked.						

Basic design information or source and reference (required field)						
- See Section 2 – Design Standards and Best Practice - Topographical Survey Data (Reference: 2321207-TOPO-XX-ZZ-3D-G-0001) - GPR Utilities Survey Data (Reference: 4340819-SG-XX-00-2D-U-0003)						
Identify document / technical records where output will be used (required field)						
RIBA 3 Drainage Strategy (Reference: STECC-MMD-ZZ-ZZ-RP-CE-930001)						
Approved by Project Manager						
Name	P Barton	Signature		Date	30/06/26	
Distribution	List.				Original to project file	☐

Project:
Salisbury DASH

Calculations for:
Surface Water Drainage Calculation

Div/Dept: BLD

Job Nr/File No: 100123741 / DR04

Calculated by:
H Clark

Date: 13/07/2026

Page 2 of 12

Checked by:
O Dawes

Date: 13/07/26

1. Scope

Mott MacDonald (MM) has been commissioned by Salisbury NHS Foundation Trust to design the new Salisbury Diagnostic and Surgical Hub (DASH). This calculation describes the design and hydraulic modelling of the proposed surface water network including SuDS and aims to demonstrate that the proposed network complies with the required standards for hydraulic performance. The surface water network model will be used to inform the RIBA Stage 3 drainage design.

1.1. Proposed Development

The existing Salisbury District Hospital is located to the south of Salisbury City centre at National Grid Reference SU148274. The proposed development area, hereinafter referred to as the "site", is highlighted in red within Figure 4.1.

Figure 1.1: Site Location Plan.



Project:
Salisbury DASH

Calculations for: Surface Water Drainage Calculation	Div/Dept: BLD	Job Nr/File No: 100123741 / DR04	
	Calculated by: H Clark	Date: 13/07/2026	Page 3 of 12
	Checked by: O Dawes	Date: 13/07/26	

2. Design Standards and Best Practice

The following design standards and industry best practice guidance documents have been used for this calculation:

- Building Regulations 2010 Approved Document H 'Drainage and waste Disposal', hereinafter referred to as 'Building Regulations Part H';
- BS EN 752:2017 (or just 'EN 752:2017') 'Drain and sewer systems outside buildings - Sewer system management', hereinafter referred to as 'BS EN 752';
- CIRIA Report C753 The SuDS Manual; and
- Sewerage Sector Guidance – Appendix C: Design and Construction Guidance for foul and surface water sewers offered for adoption under the Code for adoption agreements for water and sewerage companies operating wholly or mainly in England.

3. Methodology

In line with the above standards and best practice documents, the following methodology has been adopted for the design and hydraulic modelling of the proposed surface water network:

- Identify the proposed drained area;
- Determine the design criteria/catchment characteristics;
- Create a network model based on the site constraint and compliance against standards; and
- Design SuDS based on guidance and design criteria.

4. Design Criteria

4.1. Design Return Periods

In accordance with BS EN 752, the following design return periods and flood considered have been used for the proposed network modelling:

- 1 in 1-year – no surcharge of the drainage system;
- 1 in 30-year – no flooding of the proposed drainage system; and
- 1 in 100-year – no flooding of the proposed building or flooding leaving the proposed site.

4.2. Climate Change Allowance

Climate Change Allowance (CCA) values have been taken from the Department for Environment Food & Rural Affairs site for the catchment. As part of a conservative approach, upper end allowances for the 2070's epoch have been used.

Table 4.1: Climate Change Allowances.

Return Period	1 in 1-year	1 in 30-year	1 in 100-year
CCA	+40%*	+40%	+45%

*No CCA value for the 1 in 1-year return period, therefore value for 1 in 30-year return period used in lieu.

4.3. Catchment Areas

The site is comprised of 3 main catchment areas:

- DASH North;

Project:
Salisbury DASH

Calculations for:

Surface Water Drainage Calculation

Div/Dept: BLD

Job Nr/File No: 100123741 / DR04

Calculated by:
H Clark

Date: 13/07/2026

Page 4 of 12

Checked by:
O Dawes

Date: 13/07/26

- DASH South; and
- Temporary Car Park.

A summary of the permeable, impermeable, and total areas for each catchment is provided in Table 4.2.

Table 4.2: Catchment Area Summary.

Catchment	Permeable Areas (m ²)		Impermeable Area (m ²)		Total Area (m ²)
	Existing	Proposed	Existing	Proposed	
Catchment 1 – DASH North	0.0	1921.8	3563.0	1641.2	3563.0
Catchment 2 – DASH South	4906.3	2780.4	2155.1	4281.0	7061.4
Total	4906.3	4702.2	5718.1	5922.2	10624.4

4.4. Modelling Criteria

The following design criteria have been used when developing the proposed InfoDrainage Model:

- Rainfall Model = Flood Estimation Handbook (FEH);
- Global Time of Entry = 5 minutes (as recommended by the SuDS Manual);
- Percentage Impermeability:
 - Hardstanding Areas = 100%
 - SuDS = 100%
 - Landscaped Areas = 10%
- Volumetric Runoff Coefficients (Cv) for both Summer and Winter (for conservatism and in line with the SuDS Manual and LLFA requirements):
 - Hardstanding Areas = 1.0
 - SuDS = 1.0
 - Landscaped Areas = 0.1
- Roughness Coefficient = 0.6mm;
- Porosity:
 - Filter material (Porous Paving) = 0.3
 - Attenuation crates = 0.95
- Infiltration factor of safety = 10; and
- Infiltration Rate = 3x10⁻⁵m/s.

4.5. Interface with Roof Drainage

At the time of writing, the location of the proposed rainwater downpipes (RWPs) has not been determined. As such surface water drainage runs are provided on all building elevations to capture runoff from proposed DASH building roof.

4.6. Retaining Wall Drainage

To reduce the risk of failure for the proposed retaining walls, drainage will be provided. For the internal retaining walls, a back of wall pipe will be installed to discharge any water buildup to the surface water drainage network. For external retaining walls, weep holes will be provided and will drain to the adjacent permeable surfaces.

Project:
Salisbury DASH

Calculations for: Surface Water Drainage Calculation	Div/Dept: BLD	Job Nr/File No: 100123741 / DR04	
	Calculated by: H Clark	Date: 13/07/2026	Page 5 of 12
	Checked by: O Dawes	Date: 13/07/26	

5. Network Design

Surface water runoff from the site will be discharged to groundwater via a number of soakaways located around the site. Due to the existing ground constraints, no soakaways are to be located within 10m of the proposed building to limit the risk of settlement.

5.1. Collection of Surface Water Runoff

Where feasible, permeable surfaces will be utilised to reduce runoff from site and to collect runoff from hardstanding areas such as car parks. It is proposed that all footpaths around the site and the vehicle parking bays within the carpark to the south are to be porous paving.

In addition, tree pits will be positioned around the proposed highway to collect runoff from the highway, and ambulance access road. For locations where it is not possible to drain surface to SuDS devices, road gullies will be used to collect runoff from hardstanding areas.

5.2. Surface Water Discharge

The SuDS manual and Non-Statutory Standards set out a hierarchy of discharge for surface water. As much runoff as reasonably practicable should be discharged at each level of the hierarchy, before moving to a subsequent level. The hierarchy is as follows:

1. Collection of runoff for use.
2. Discharge of runoff to groundwater.
3. Discharge of runoff to a receiving surface water body.
4. Discharge of runoff to a surface water sewer or highway sewer.
5. Discharge of runoff to a combined sewer.

Consideration has been given to utilising surface water runoff for use as non-potable water; however, due to the proposed site use the risk of contamination, it has been ruled out as a potential discharge level.

Infiltration testing previously undertaken suggests infiltration rates on site are approximately 3×10^{-5} m/s. The SuDS Manual suggests a minimum value of 1×10^{-6} m/s for infiltration devices to form a viable method of surface water discharge. Therefore, infiltration devices such as below ground soakaway units and permeable paving will be used to discharge runoff to groundwater.

However, due to the underlying soils, consideration will need to be given to the location of any soakaway units. As per CIRIA C574, all dedicated soakaways shall be a minimum of 10m from building foundations.

All runoff will be discharged to groundwater and therefore no further priority levels have been considered.

5.3. Treatment

The simple index approach, set out in Section 26.7 of the SuDS Manual, has been used to assess the potential pollution risk from site and the required treatment to mitigate the risk to the receiving water.

Table 26.2 of the SuDS manual sets out the pollution hazard indices for the proposed site use. The relevant land uses and associated pollution indices are included in Table 5.1.

Table 5.1: Land Use and Associated Pollution Hazard Indices.

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
----------	------------------------	------------------------------	--------	--------------

Project:
Salisbury DASH

Calculations for:

Surface Water Drainage Calculation

Div/Dept: BLD

Job Nr/File No: 100123741 / DR04

Calculated by:
H Clark

Date: 13/07/2026

Page 6 of 12

Checked by:
O Dawes

Date: 13/07/26

Roofs (other than residential roofs)	Low	0.3	0.2	0.05
Low traffic roads	Low	0.5	0.4	0.4
Non residential parking with frequent change (e.g. hospitals)	Medium	0.7	0.6	0.7
Sites with heavy pollution (e.g. haulage yards)	High	0.8	0.8	0.9

Source: Reproduced from Table 26.2 of The SuDS Manual.

To provide suitable protection to the receiving waters, the proposed SuDS mitigation indices should exceed the pollution hazard indices for the drained areas land use. Where multiple SuDS devices are used in series, the mitigation indices of the subsequent SuDS devices should be reduced by half to account for the reduced concentration of incoming contamination.

The mitigation indices for the proposed SuDS are included in Table 5.2.

Table 5.2: Proposed SuDS Devices and Associated Mitigation Indices.

SuDS Device	TSS	Metals	Hydrocarbons
Permeable Pavement	0.7	0.6	0.7
Swale (Tree pits)	0.5	0.6	0.6
Proprietary treatment systems (e.g. oil separator)*	0.8	0.6	0.9
Infiltration through 300mm of soil with good contaminant attenuation potential	0.4	0.4	0.4

Source: Reproduced from Table 26.3 and Table 26.4 of The SuDS Manual.

* Based on technical information for Klargsters AQUATREAT Full Retention Separator.

A summary of the proposed SuDS strategy for each land use is provided in Table 5.3.

Table 5.3: Land Use and Associated Pollution Hazard Indices.

Land Use	SuDS Devices	Total Suspended Solids (TSS)	Metals	Hydrocarbons	
----------	--------------	------------------------------	--------	--------------	--

Project:
Salisbury DASH

Calculations for:

Surface Water Drainage Calculation

Div/Dept: BLD

Job Nr/File No: 100123741 / DR04

Calculated by:
H Clark

Date: 13/07/2026

Page 7 of 12

Checked by:
O Dawes

Date: 13/07/26

		Required	Provided	Required	Provided	Required	Provided	Further Treatment Required
Roofs (other than residential roofs)	Infiltration	0.3	0.4	0.2	0.4	0.05	0.4	No
Low traffic roads	Swale/Tree Pits Infiltration	0.5	0.7	0.4	0.8	0.4	0.8	No
Non-residential parking with frequent change (e.g. hospitals)	Permeable Paving	0.7	0.7	0.6	0.6	0.7	0.7	No
Sites with heavy pollution (e.g. haulage yards)	Oil Separator Infiltration	0.8	1.0	0.8	0.8	0.9	1.0	No

As all the provided mitigation indices exceed the pollution hazard indices for all site uses, the proposed treatment strategy is deemed to be suitable.

5.4. SuDS Design

The proposed SuDS to be used on site include:

- Swale/Tree Pits;
- Permeable Paving; and
- Soakaways.

5.4.1. Tree Pits

The proposed tree pits will consist of a shallow depression with banks graded at a maximum of 1:3, a minimum base width of 1m, and a nominal longitudinal gradient of 1:200. The depth of the proposed ponding area will vary between 300-600mm depending on the available width. In addition, trees are to be planted within the ponding areas to improve biodiversity and amenity on site.

The base of the tree pits will consist of filter material with a minimum depth of 300mm and subsequent storage layer with a minimum depth 300mm, separated with a permeable geotextile. A 150mm diameter underdrain will be installed at 1:150 to connect adjacent tree pits and allow runoff to be discharged to the proposed below ground drainage network. For exceedance events, overflow gullies will be located within the ponding areas, 100mm below the top of the depression, and connect directly to the proposed underdrains.

Due to the proximity to the proposed building and risk to the underlying soils, all tree pits will be lined with an impermeable geomembrane.

A typical cross-section of the proposed swale/tree pit is provided in Figure 5.1.

Figure 5.1: Indicative Swale/Tree Pit Cross-Section.

Project:
Salisbury DASH

Calculations for:

Surface Water Drainage Calculation

Div/Dept: BLD

Job Nr/File No: 100123741 / DR04

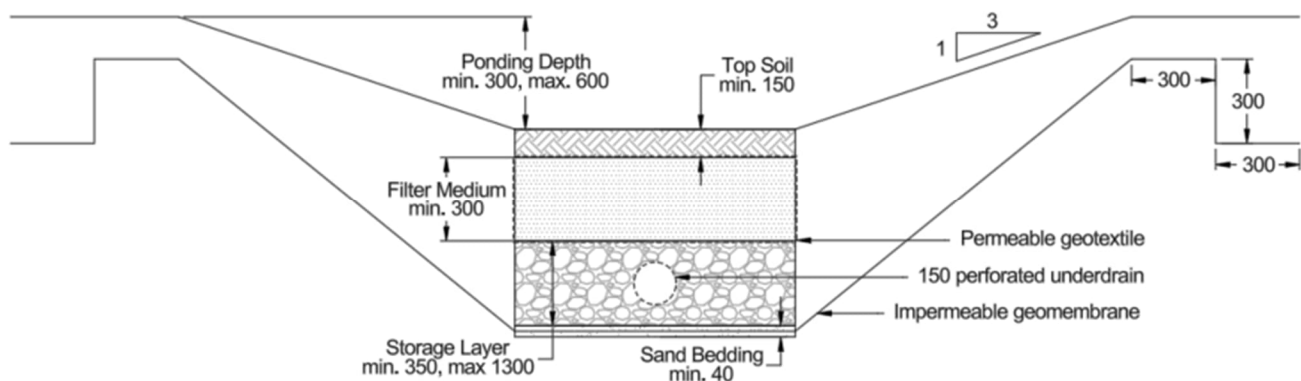
Calculated by:
H Clark

Date: 13/07/2026

Page 8 of 12

Checked by:
O Dawes

Date: 13/07/26



All dimensions provided are in mm.

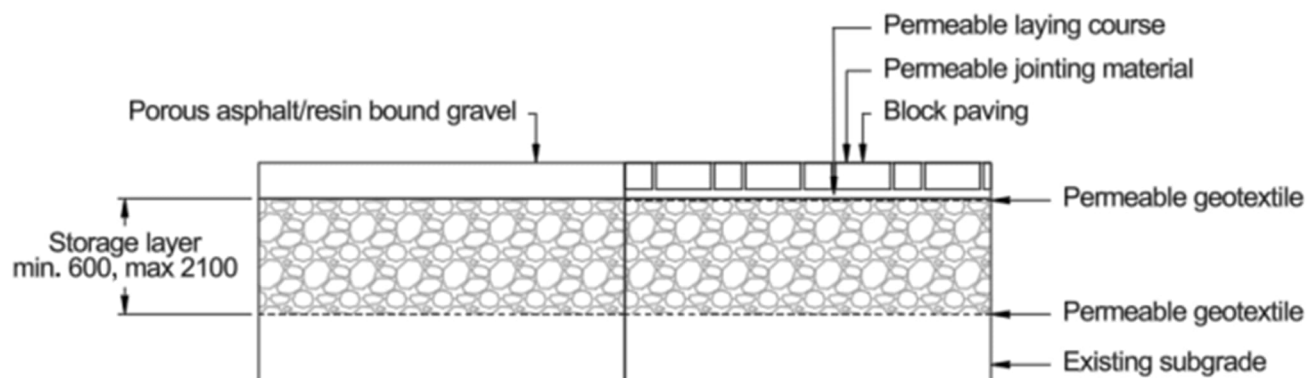
5.4.2. Permeable Paving

The proposed permeable paving will be 'Type 1', as per the SuDS Manual Section 20. The proposed surface courses will be as per the landscape architect's specification.

The proposed storage (drainage) layer will be a minimum thickness of 300mm, up to a maximum of 1100mm, with the exception of the permeable paving in the southern car park, where the maximum depth is 2100mm, to allow surface water to discharge into the infiltration creates located below.

A typical cross-section of the proposed permeable paving is provided in Figure 5.2.

Figure 5.2: Indicative Permeable Paving Cross-Section.



All dimensions provided are in mm.

5.4.3. Soakaways

The proposed soakaway units are to consist of geocellular storage creates, wrapped in a permeable geotextile. The proposed soakaways are to be located a minimum of 10m from any existing or proposed building foundations.

A typical section of the proposed soakaway is provided in Figure 5.3

Project:
Salisbury DASH

Calculations for:
Surface Water Drainage Calculation

Div/Dept: BLD

Job Nr/File No: 100123741 / DR04

Calculated by:
H Clark

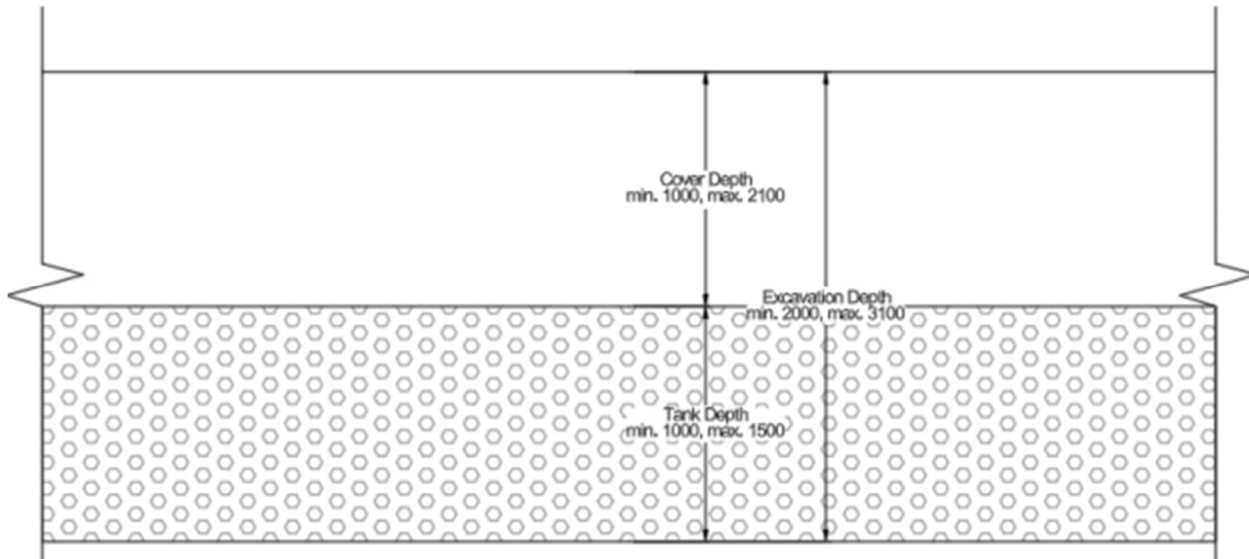
Date: 13/07/2026

Page 9 of 12

Checked by:
O Dawes

Date: 13/07/26

Figure 5.3: Indicative Soakaway Cross-Section.



All dimensions provided are in mm.

6. Simulation Results

Further information regarding InfoDrainage Simulation Results are provided in Appendix C.

- 1 in 2-year plus 40% CCA

Critical results for the 1 in 2-year events indicate no surcharging of pipes within the main network; however, 3 pipes collector pipes within SuDS devices are shown as being surcharge due to the use of the SuDS as attenuation storage.

The proposed network meets the requirements set out in Section 4.1 for this design return period.

- 1 in 30-year plus 40% CCA

Critical results for the 1 in 30-year events show no flooding within the proposed network. A total of 6 carrier pipes are also shown to be surcharged, in addition to 4 collector pipes within SuDS devices.

The proposed network meets the requirements set out in Section 4.1 for this design return period.

- 1 in 100-year plus 45% CCA

Critical results for the 1 in 100-year events shows no flooding of the proposed network. A total of 11 carrier pipes are shown to be surcharged in addition to 4 collector pipes within SuDS devices.

Therefore, the proposed network meets the requirements set out in Section 4.1 for this design return period.

7. Conclusion

The proposed drainage network design complies with the design criteria set out in Section 4.1, with the exception of collector pipes located within SuDS devices. However, this is considered acceptable, due to the SuDS devices being used to provide attenuation of flows.

Project:
Salisbury DASH

Calculations for: Surface Water Drainage Calculation	Div/Dept: BLD	Job Nr/File No: 100123741 / DR04	
	Calculated by: H Clark	Date: 13/07/2026	Page 10 of 12
	Checked by: O Dawes	Date: 13/07/26	

8. Appendices

Appendix A – Proposed Drainage Sketch
[1 page]

The use of drawings by the Customer and/or any other person is subject to the following conditions. The Customer must not use the drawings if it does not agree with any of the following statements. All drawings are based upon the information supplied by third parties and as such their accuracy cannot be guaranteed. All features are approximate and subject to verification by a detailed topographical survey, statutory service enquiries and confirmation of the local authorities. Do not scale the drawings. Figure dimensions must be used in all cases. All dimensions must be checked on site. Any discrepancies must be reported in writing to ColourUDS before proceeding. All drawings are copyright protected. Refer to full Terms & Conditions at www.colour-uds.com

- Site Boundary
- Existing Features
- Existing Vegetation To be removed
- Proposed Features
- Proposed Tree
- Woodland Understorey Planting
Biodiverse mix of shade tolerant plants
- Amenity Lawn
Species rich grassland
- Ornamental Planting
Biodiverse mix of ornamental shrubs, herbaceous plants & grasses
- Native Hedgerow
Species rich
- Vehicular Paving
Macadam
- Pedestrian Paving
Macadam
- Arrival Forecourt & Pedestrian Routes
Block paving
- Play Space
Rubber play surface
- Cycle Route
Coloured macadam
- Garden Area
Resin bound gravel
- Benches
- Cycle Stands
Sheffield stands
- Bollard
- Retaining Wall
Gabion faced
- Steps
- Balustrade
1.1m high vertical bar railing
- Balustrade
0.7m high railing
- Levels
- Existing Levels
- Proposed Levels
- Proposed Gradients

- Porous Paving
- Soakaway
- Tree Pits
- DASH Catchment 1
- DASH Catchment 2
- DASH Catchment 3

P17	Layout updated	27.05.26	RH	CG
P16	Southern access reorientated	21.05.26	JR	CG
P15	Trees added	29.04.26	FT	CG
P14	Plan coloured for pre-app	16.04.26	FT	CG
P13	Layout updated for pre-app	15.04.26	FT	CG
P12	Radlex Updated	01.04.26	FT	CG
P11	Radlex Approved	26.03.26	FT	CG
P10	Building Footprint Updated	30.03.26	FT	CG
P09	FTL Raised	19.03.26	FT	CG
P08	Building Footprint North	12.03.26	FT	CG
P07	Building positions adjusted	11.03.26	FT	CG
P06	Surrounding context added	05.03.26	FT	CG
P05	DASH Concept first issue	04.03.26	FT	CG
P04	Layout updated for stage 2	22.02.25	FT	CG
P03	Pathway to disposal hold added	19.06.25	FT	CG
P02	Bollards & cycle stands added	17.06.25	FT	CG
P01	Pre issue	16.06.25	FT	CG

Rev	Amendments	Date	Drawn	Child
Project	Salisbury DASH			
Drawing Title	Landscape General Arrangement Plan			
Project No.	2628	Scale @ A0 1:200	Project Status S2	
Drawing No.	STECC-GOL-XX-XX-D-L-1001		Revision PI7	



Project:
Salisbury DASH



Calculations for: Surface Water Drainage Calculation	Div/Dept: BLD	Job Nr/File No: 100123741 / DR04	
	Calculated by: H Clark	Date: 13/07/2026	Page 11 of 12
	Checked by: O Dawes	Date: 13/07/26	

Appendix B – InfoDrainage Model Build
[36 pages]

Project: Salisbury DASH RIBA Stage 3 Drainage Model				Date: 14/07/2026									
Report Details: Type: Junctions Storm Phase: RIBA Stage 3 Phase				Designed by: Henry Clark		Checked by: O Dawes						Approved By:	
				Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT									

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Sump Depth (m)	Chamber Shape	Diameter (m)	Diameter (m)	Width (m)	Lock
S1/1	Manhole	415101.736	127257.479	83.600	1.100	82.500	0.300	Circular	0.600			None
S1/2	Manhole	415115.850	127284.776	82.100	1.175	80.925	0.300	Circular	1.350			None
S1/3	Manhole	415062.425	127310.414	82.200	1.670	80.530	0.300	Circular	1.200			None
S1/4	Manhole	415053.543	127293.257	82.200	1.875	80.325	0.300	Circular	1.200			None
S2/1	Manhole	415047.650	127281.852	82.200	1.100	81.100	0.300	Circular	0.600			None
S5/2	Manhole	415033.384	127283.425	86.240	1.475	84.765	0.300	Circular	1.350			None
S5/3	Manhole	415020.910	127259.316	86.000	1.500	84.500	0.300	Circular	1.350			None
S5/4	Manhole	415040.394	127250.194	85.900	1.545	84.355	0.300	Circular	1.200			None
S5/5	Manhole	415035.118	127229.913	86.800	3.300	83.500	0.300	Circular	1.350			None
S3/3	Manhole	415067.913	127228.478	86.000	2.275	83.725	0.300	Circular	1.350			None
S4/1 (PS)	Manhole	415061.001	127202.527	86.600	2.570	84.030	0.300	Circular	1.500			None
S3/2	Manhole	415085.965	127223.657	85.400	1.550	83.850	0.300	Circular	1.350			None
S4/2 (OS)	Manhole	415062.086	127206.387	86.600	3.600	83.000	1.200	Rectangular		3.900	1.200	None
S5/4a	Simple Junction	415038.869	127244.263									
S3/4 (NRV)	Manhole	415063.082	127210.163	86.687	2.862	83.825	0.000	Circular	1.200			None
S5/1	Manhole	415049.665	127274.850	86.350	1.100	85.250	0.300	Circular	0.600			None
S3/1	Manhole	415099.430	127249.693	85.500	1.150	84.350	0.300	Circular	0.600			None

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
Report Details: Type: Stormwater Controls Storm Phase: RIBA Stage 3 Phase		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			



Rain Garden - Access Road 2

Type : Bioretention

Ponding Area

Exceedance Level (m)	86.200
Depth (m)	0.450
Base Level (m)	85.750
Top Area (m²)	88.90
Side Slope (1:X)	3.00
Base Area (m²)	38.50
Freeboard (mm)	0
Porosity (%)	100
Length (m)	18.666
Long. Slope (1:X)	0.00
Filtration Rate (m/hr)	1.54
Friction Scheme	Manning's n
n	0.03
Total Volume (m³)	39.293

Filter Area

Base Level (m)	84.950
----------------	--------

Under Drain

Height Above Base (m)	0.100
Diameter (mm)	150
No. of Barrels	1
Friction Scheme	Manning's n
n	0.015
Release Height (m)	0.000

Filtration Layers

Use	Name	Filtration Layer Depth (mm)	Porosity (%)	Conductivity (m/hr)	Soil Type
☒	Soil	300	40	30.0	Soil Type
	Storage	500	30	300.0	

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Rain Garden - Access Road 2 Rain Garden - Access Road 1
Bypass Destination	(None)
Inlet Destination	Ponding Area
Capacity Type	No Restriction

Inlet (1)

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

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
Report Details: Type: Stormwater Controls Storm Phase: RIBA Stage 3 Phase		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			

Outlets

Outlet

Outgoing Connection	(None)
Outlet Type	Under Drain

Outlet (1)

Outgoing Connection	S5.003.2
Outlet Type	Under Drain

Advanced

Safety Factor	10.0
---------------	------

Ponding Area

Base Perimeter (m)	41.458
Top Perimeter (m)	46.858

Filter Area

Base Infiltration Rate (m/hr)	0.11
-------------------------------	------



Rain Garden - Highway 1

Type : Bioretention

Project: Salisbury DASH RIBA Stage 3 Drainage Model	Date: 14/07/2026		
	Designed by: Henry Clark	Checked by: O Dawes	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: RIBA Stage 3 Phase	Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT		



Ponding Area

Exceedance Level (m)	85.800
Depth (m)	0.500
Base Level (m)	85.300
Top Area (m²)	49.27
Side Slope (1:X)	3.00
Base Area (m²)	11.66
Freeboard (mm)	0
Porosity (%)	100
Length (m)	12.538
Long. Slope (1:X)	0.00
Filtration Rate (m/hr)	1.54
Friction Scheme	Manning's n
n	0.03
Total Volume (m³)	18.012

Filter Area

Base Level (m)	84.650
----------------	--------

Under Drain

Height Above Base (m)	0.100
Diameter (mm)	150
No. of Barrels	1
Friction Scheme	Manning's n
n	0.015
Release Height (m)	0.000

Filtration Layers

Use	Name	Filtration Layer Depth (mm)	Porosity (%)	Conductivity (m/hr)	Soil Type
☒	Soil	300	40	30.0	Soil Type
	Storage	350	30	300.0	

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Rain Garden - Highway 1
Bypass Destination	(None)
Inlet Destination	Ponding Area
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	S5.003.2 Southern Highway 2
Bypass Destination	(None)
Inlet Destination	Subsurface Area
Capacity Type	No Restriction

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
Report Details: Type: Stormwater Controls Storm Phase: RIBA Stage 3 Phase		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			

Outlets

Outlet	
Outgoing Connection	(None)
Outlet Type	Under Drain

Outlet (1)	
Outgoing Connection	S5.003.3
Outlet Type	Under Drain

Advanced	
Safety Factor	10.0

Ponding Area	
Base Perimeter (m)	26.936
Top Perimeter (m)	32.936

Filter Area	
Base Infiltration Rate (m/hr)	0.11



Rain Garden - Highway 2

Type : Bioretention

Project: Salisbury DASH RIBA Stage 3 Drainage Model	Date: 14/07/2026		
	Designed by: Henry Clark	Checked by: O Dawes	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: RIBA Stage 3 Phase	Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT		



Ponding Area

Exceedance Level (m)	85.800
Depth (m)	0.600
Base Level (m)	85.200
Top Area (m²)	183.34
Side Slope (1:X)	5.31
Base Area (m²)	75.00
Freeboard (mm)	0
Porosity (%)	100
Length (m)	17.000
Long. Slope (1:X)	0.00
Filtration Rate (m/hr)	1.54
Friction Scheme	Manning's n
n	0.03
Total Volume (m³)	102.462

Filter Area

Base Level (m)	84.200
----------------	--------

Under Drain

Height Above Base (m)	0.100
Diameter (mm)	150
No. of Barrels	1
Friction Scheme	Manning's n
n	0.015
Release Height (m)	0.000

Filtration Layers

Use	Name	Filtration Layer Depth (mm)	Porosity (%)	Conductivity (m/hr)	Soil Type
☒	Soil	300	40	30.0	Soil Type
	Storage	700	30	300.0	

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Rain Garden - Highway 2
Bypass Destination	(None)
Inlet Destination	Ponding Area
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	Southern Highway 3
Bypass Destination	(None)
Inlet Destination	Subsurface Area
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	S3.001.1
Outlet Type	Under Drain

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
Report Details: Type: Stormwater Controls Storm Phase: RIBA Stage 3 Phase		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			

Advanced

Safety Factor	10.0
---------------	------

Ponding Area

Base Perimeter (m)	42.824
Top Perimeter (m)	55.569

Filter Area

Base Infiltration Rate (m/hr)	0.11
-------------------------------	------



Rain Garden - Carpark 1

Type : Bioretention

Ponding Area

Exceedance Level (m)	86.600
Depth (m)	0.400
Base Level (m)	86.200
Top Area (m²)	195.20
Side Slope (1:X)	3.00
Base Area (m²)	82.87
Freeboard (mm)	0
Porosity (%)	100
Length (m)	46.805
Long. Slope (1:X)	0.00
Filtration Rate (m/hr)	1.54
Friction Scheme	Manning's n
n	0.03
Total Volume (m³)	88.509

Filter Area

Base Level (m)	85.000
----------------	--------

Under Drain

Height Above Base (m)	0.100
Diameter (mm)	150
No. of Barrels	1
Friction Scheme	Manning's n
n	0.015
Release Height (m)	0.000

Filtration Layers

Use	Name	Filtration Layer Depth (mm)	Porosity (%)	Conductivity (m/hr)	Soil Type
☒	Soil	300	40	30.0	Soil Type
	Storage	900	30	300.0	

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Rain Garden - Carpark 1
Bypass Destination	(None)
Inlet Destination	Ponding Area
Capacity Type	No Restriction

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
Report Details: Type: Stormwater Controls Storm Phase: RIBA Stage 3 Phase		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			

Outlets

Outlet

Outgoing Connection	(None)
Outlet Type	Under Drain

Outlet (1)

Outgoing Connection	S5.003.5
Outlet Type	Under Drain

Advanced

Safety Factor	10.0
---------------	------

Ponding Area

Base Perimeter (m)	97.152
Top Perimeter (m)	101.952

Filter Area

Base Infiltration Rate (m/hr)	0.11
-------------------------------	------



Rain Garden - Carpark 2

Type : Bioretention

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
Report Details: Type: Stormwater Controls Storm Phase: RIBA Stage 3 Phase		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			

Ponding Area

Exceedance Level (m)	86.400
Depth (m)	0.400
Base Level (m)	86.000
Top Area (m²)	78.84
Side Slope (1:X)	3.00
Base Area (m²)	38.04
Freeboard (mm)	0
Porosity (%)	100
Length (m)	17.000
Long. Slope (1:X)	0.00
Filtration Rate (m/hr)	1.54
Friction Scheme	Manning's n
n	0.03
Total Volume (m³)	36.140

Filter Area

Base Level (m)	85.000
----------------	--------

Under Drain

Height Above Base (m)	0.100
Diameter (mm)	150
No. of Barrels	1
Friction Scheme	Manning's n
n	0.015
Release Height (m)	0.000

Filtration Layers

Use	Name	Filtration Layer Depth (mm)	Porosity (%)	Conductivity (m/hr)	Soil Type
☒	Soil	300	40	30.0	Soil Type
	Storage	700	30	300.0	

Inlets

Outlets

Outlet

Outgoing Connection	S5.003.4
Outlet Type	Under Drain

Advanced

Safety Factor	10.0
---------------	------

Ponding Area

Base Perimeter (m)	38.475
Top Perimeter (m)	43.275

Filter Area

Base Infiltration Rate (m/hr)	0.11
-------------------------------	------

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
Report Details: Type: Stormwater Controls Storm Phase: RIBA Stage 3 Phase		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			



Porous Paving South

Type : Porous Paving

Dimensions

Exceedance Level (m)	86.000
Depth (m)	0.600
Base Level (m)	85.400
Paving Layer Depth (mm)	100
Membrane Percolation (m/hr)	1.54
Porosity (%)	30
Length (m)	82.411
Long. Slope (1:X)	500.00
Width (m)	5.525
Total Volume (m³)	68.303

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Porous Paving South
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Advanced

Base Infiltration Rate (m/hr)	0.11
Safety Factor	5.0
Conductivity (m/hr)	300.0

Project: Salisbury DASH RIBA Stage 3 Drainage Model	Date: 14/07/2026			
	Designed by: Henry Clark	Checked by: O Dawes	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: RIBA Stage 3 Phase	Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			



Porous Paving North

Type : Porous Paving

Dimensions

Exceedance Level (m)	82.200
Depth (m)	0.600
Base Level (m)	81.600
Paving Layer Depth (mm)	100
Membrane Percolation (m/hr)	1.54
Porosity (%)	30
Length (m)	80.948
Long. Slope (1:X)	500.00
Width (m)	10.468
Total Volume (m³)	127.102

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Porous Paving North
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Advanced

Base Infiltration Rate (m/hr)	0.11
Safety Factor	10.0
Conductivity (m/hr)	300.0

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
Report Details: Type: Stormwater Controls Storm Phase: RIBA Stage 3 Phase		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			



Porous Paving Parking 2

Type : Porous Paving

Dimensions

Exceedance Level (m)	86.800
Depth (m)	1.700
Base Level (m)	85.100
Paving Layer Depth (mm)	100
Membrane Percolation (m/hr)	1.54
Porosity (%)	30
Length (m)	45.500
Long. Slope (1:X)	500.00
Width (m)	10.000
Total Volume (m³)	218.400

Inlets

Inlet (1)

Inlet Type	Lateral Inflow
Incoming Item(s)	Porous Paving Carpark 2
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	No Delay Car Park 2
Outlet Type	Orifice
Diameter (m)	1.000
Coefficient of Discharge	0.600
Invert Level (m)	85.100

Advanced

Conductivity (m/hr)	300.0
---------------------	-------

Project: Salisbury DASH RIBA Stage 3 Drainage Model	Date: 14/07/2026			
Report Details: Type: Stormwater Controls Storm Phase: RIBA Stage 3 Phase	Designed by: Henry Clark	Checked by: O Dawes	Approved By:	
	Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			



Porous Paving Parking 1

Type : Porous Paving

Dimensions

Exceedance Level (m)	86.600
Depth (m)	1.500
Base Level (m)	85.100
Paving Layer Depth (mm)	100
Membrane Percolation (m/hr)	1.54
Porosity (%)	30
Length (m)	53.000
Long. Slope (1:X)	500.00
Width (m)	7.600
Total Volume (m³)	169.181

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Porous Paving Carpark 1
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	Rain Garden - Carpark 2
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	No Delay Car Park 1
Outlet Type	Orifice
Diameter (m)	1.000
Coefficient of Discharge	0.600
Invert Level (m)	85.100

Advanced

Conductivity (m/hr)	300.0
---------------------	-------

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
Report Details: Type: Stormwater Controls Storm Phase: RIBA Stage 3 Phase		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			



Porous Paving Highway

Type : Porous Paving

Dimensions

Exceedance Level (m)	86.000
Depth (m)	0.600
Base Level (m)	85.400
Paving Layer Depth (mm)	100
Membrane Percolation (m/hr)	1.54
Porosity (%)	30
Length (m)	45.641
Long. Slope (1:X)	500.00
Width (m)	3.937
Total Volume (m³)	26.955

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Porous Paving Highway
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Advanced

Base Infiltration Rate (m/hr)	0.11
Safety Factor	5.0
Conductivity (m/hr)	300.0

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
Report Details: Type: Stormwater Controls Storm Phase: RIBA Stage 3 Phase		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			



Cellular Storage North

Type : Cellular Storage

Dimensions

Exceedance Level (m)	80.950
Depth (m)	0.914
Base Level (m)	80.035
Number of Crates Long	17
Number of Crates Wide	12
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	1.2
Crate Width (m)	0.6
Crate Height (m)	0.914
Total Volume (m³)	127.537

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	S1.003
Bypass Destination	(None)
Capacity Type	No Restriction

Advanced

Base Infiltration Rate (m/hr)	0.11
Safety Factor	10.0

Project: Salisbury DASH RIBA Stage 3 Drainage Model	Date: 14/07/2026			
Report Details: Type: Stormwater Controls Storm Phase: RIBA Stage 3 Phase	Designed by: Henry Clark	Checked by: O Dawes	Approved By:	
Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT				



Cellular Storage South

Type : Cellular Storage

Dimensions

Exceedance Level (m)	84.065
Depth (m)	0.914
Base Level (m)	83.150
Number of Crates Long	33
Number of Crates Wide	18
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	1.2
Crate Width (m)	0.6
Crate Height (m)	0.914
Total Volume (m³)	371.356

Inlets

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	No Delay Car Park 2
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (2)

Inlet Type	Point Inflow
Incoming Item(s)	S3.003
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (3)

Inlet Type	Point Inflow
Incoming Item(s)	No Delay Car Park 1
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	S5.004
Bypass Destination	(None)
Capacity Type	No Restriction

Advanced

Base Infiltration Rate (m/hr)	0.11
Safety Factor	10.0

Project: Salisbury DASH RIBA Stage 3 Drainage Model				Date: 14/07/2026									
Report Details: Type: Connections Storm Phase: RIBA Stage 3 Phase				Designed by: Henry Clark		Checked by: O Dawes						Approved By:	
				Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT									

Name	From	To	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook-White Roughness (mm)	No. of Barrels	Diameter / Base Width (mm)	Side Slope (1:X)	Upstream Cover Level (m)	Upstream Invert Level (m)
S1.000	S1/1	S1/2	30.730	Pipe	20.486		0.6	1	150		83.600	82.800
S2.000	S2/1	S1/4	12.838	Pipe	20.540		0.6	1	150		82.200	81.400
S1.003	S1/4	Cellular Storage North	7.095	Pipe	202.704		0.6	1	300		82.200	80.625
S5.002	S5/3	S5/4	21.513	Pipe	148.368		0.6	1	225		86.000	84.800
S5.003	S5/4	S5/4a	6.123	Pipe	136.077		0.6	1	225		85.900	84.665
S4.000	S4/1 (PS)	S4/2 (OS)	4.010	Pipe	50.124		0.6	1	225		86.600	84.330
S4.001	S4/2 (OS)	S3/4 (NRV)	3.905	Pipe	48.813		0.6	1	225		86.600	84.200
S3.003	S3/4 (NRV)	Cellular Storage South	21.213	Pipe	222.270		0.6	1	300		86.687	83.825
S3.002	S3/3	S3/4 (NRV)	18.941	Pipe	145.702		0.6	1	225		86.000	84.025
No Delay Car Park 1	Porous Paving Parking 1	Cellular Storage South	7.559	No Delay								
S5.004	S5/5	Cellular Storage South	5.161	Pipe	73.735		0.6	1	300		86.800	83.800
S5.003.2	Rain Garden - Access Road 2	Rain Garden - Highway 1	10.334	Pipe	34.445		0.6	1	150		86.200	85.050
S5.003.3	Rain Garden - Highway 1	S5/4a	2.870	Pipe	18.516		0.6	1	150		85.800	84.750
S3.001.1	Rain Garden - Highway 2	S3/3	6.280	Pipe	6.977		0.6	1	150		85.800	85.000
S5.003a	S5/4a	S5/5	14.832	Pipe	134.840		0.6	1	225		86.163	84.620
S5.003.5	Rain Garden - Carpark 1	S5/5	2.692	Pipe	2.564		0.6	1	150		86.600	85.000
S3.001	S3/2	S3/3	18.685	Pipe	150.000		0.6	1	225		85.400	84.150
S5.003.4	Rain Garden - Carpark 2	S5/5	3.222	Pipe	2.802		0.6	1	150		86.400	85.100
S1.001	S1/2	S1/3	59.259	Pipe	149.971		0.6	1	225		82.100	81.225
No Delay Car Park 2	Porous Paving Parking 2	Cellular Storage South	10.638	No Delay								

Project: Salisbury DASH RIBA Stage 3 Drainage Model				Date: 14/07/2026									
				Designed by: Henry Clark		Checked by: O Dawes						Approved By:	
Report Details: Type: Connections Storm Phase: RIBA Stage 3 Phase				Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT									

S5.000	S5/1	S5/2	18.402	Pipe	44.882		0.6	1	150		86.350	85.550
S3.000	S3/1	S3/2	29.312	Pipe	58.625		0.6	1	225		85.500	84.650
S1.002	S1/3	S1/4	19.320	Pipe	148.612		0.6	1	225		82.200	80.830
S5.001	S5/2	S5/3	27.146	Pipe	102.436		0.6	1	225		86.240	85.065

Name	Downstream Cover Level (m)	Downstream Invert Level (m)	Lock	Min. Cover Depth (m)	Flow Restriction (L/s)
S1.000	82.100	81.300	All	0.600	
S2.000	82.200	80.775	All	0.600	
S1.003	82.200	80.590	All	0.900	
S5.002	85.900	84.655	All	0.900	
S5.003	86.163	84.620	All	0.900	
S4.000	86.600	84.250	All	0.900	
S4.001	86.687	84.120	All	0.900	159.8
S3.003	86.800	83.730	All	0.900	
S3.002	86.687	83.895	All	0.900	
No Delay Car Park 1					
S5.004	86.800	83.730	All	0.900	
S5.003.2	85.900	84.750	All	0.600	0.0
S5.003.3	86.163	84.595	All	0.600	0.0
S3.001.1	86.000	84.100	All	0.600	0.0
S5.003a	86.800	84.510	All	0.900	
S5.003.5	86.800	83.950	All	0.600	0.0
S3.001	86.000	84.025	None	0.000	
S5.003.4	86.800	83.950	All	0.600	0.0
S1.001	82.200	80.830	All	0.000	
No Delay Car Park 2					
S5.000	86.240	85.140	All	0.000	
S3.000	85.400	84.150	All	0.000	
S1.002	82.200	80.700	All	0.000	
S5.001	86.000	84.800	All	0.900	

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
Report Details: Type: Manhole Schedule Storm Phase: RIBA Stage 3 Phase		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S1/1	83.600 82.500	Diameter / Length: 0.600					Manhole
E:415101.736 N:127257.479	1.100						
			{a} S1.000	Pipe	82.800	Diam/Width:150	Not Applicable
S1/2	82.100 80.925	Diameter / Length: 1.350	{1} S1.000	Pipe	81.300	Diam/Width:150	Manhole
E:415115.850 N:127284.776	1.175						
			{a} S1.001	Pipe	81.225	Diam/Width:225	Not Applicable
S1/3	82.200 80.530	Diameter / Length: 1.200	{1} S1.001	Pipe	80.830	Diam/Width:225	Manhole
E:415062.425 N:127310.414	1.670						
			{a} S1.002	Pipe	80.830	Diam/Width:225	Not Applicable
S1/4	82.200 80.325	Diameter / Length: 1.200	{1} S2.000	Pipe	80.775	Diam/Width:150	Manhole
E:415053.543 N:127293.257	1.875		{2} S1.002	Pipe	80.700	Diam/Width:225	
			{a} S1.003	Pipe	80.625	Diam/Width:300	Not Applicable
S2/1	82.200 81.100	Diameter / Length: 0.600					Manhole
E:415047.650 N:127281.852	1.100						
			{a} S2.000	Pipe	81.400	Diam/Width:150	Not Applicable

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026		
Report Details: Type: Manhole Schedule Storm Phase: RIBA Stage 3 Phase		Designed by: Henry Clark	Checked by: O Dawes	
		Approved By:		
		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT		

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S5/2	86.240 84.765	Diameter / Length: 1.350	{1} S5.000	Pipe	85.140	Diam/Width:150	Manhole
E:415033.384 N:127283.425	1.475						
			{a} S5.001	Pipe	85.065	Diam/Width:225	Not Applicable
S5/3	86.000 84.500	Diameter / Length: 1.350	{1} S5.001	Pipe	84.800	Diam/Width:225	Manhole
E:415020.910 N:127259.316	1.500						
			{a} S5.002	Pipe	84.800	Diam/Width:225	Not Applicable
S5/4	85.900 84.355	Diameter / Length: 1.200	{1} S5.002	Pipe	84.655	Diam/Width:225	Manhole
E:415040.394 N:127250.194	1.545						
			{a} S5.003	Pipe	84.665	Diam/Width:225	Not Applicable
S5/5	86.800 83.500	Diameter / Length: 1.350	{1} S5.003.4	Pipe	83.950	Diam/Width:150	Manhole
E:415035.118 N:127229.913	3.300		{2} S5.003a	Pipe	84.510	Diam/Width:225	
			{3} S5.003.5	Pipe	83.950	Diam/Width:150	
			{a} S5.004	Pipe	83.800	Diam/Width:300	Not Applicable

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
Report Details: Type: Manhole Schedule Storm Phase: RIBA Stage 3 Phase		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S3/3	86.000 83.725	Diameter / Length: 1.350	{1} S3.001	Pipe	84.025	Diam/Width:225	Manhole
E:415067.913 N:127228.478	2.275		{2} S3.001.1	Pipe	84.100	Diam/Width:150	
			{a} S3.002	Pipe	84.025	Diam/Width:225	Not Applicable
S4/1 (PS)	86.600 84.030	Diameter / Length: 1.500					Manhole
E:415061.001 N:127202.527	2.570						
			{a} S4.000	Pipe	84.330	Diam/Width:225	Not Applicable
S3/2	85.400 83.850	Diameter / Length: 1.350	{1} S3.000	Pipe	84.150	Diam/Width:225	Manhole
E:415085.965 N:127223.657	1.550						
			{a} S3.001	Pipe	84.150	Diam/Width:225	Not Applicable
S4/2 (OS)	86.600 83.000	Diameter / Length: 3.900 Width: 1.200	{1} S4.000	Pipe	84.250	Diam/Width:225	Manhole
E:415062.086 N:127206.387	3.600						
			{a} S4.001	Pipe	84.200	Diam/Width:225	Not Applicable

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
Report Details: Type: Manhole Schedule Storm Phase: RIBA Stage 3 Phase		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S5/4a		Diameter / Length: 1.200	{1} S5.003	Pipe	84.620	Diam/Width:225	Simple Junction
E:415038.869			{2} S5.003.3	Pipe	84.595	Diam/Width:150	
N:127244.263			{a} S5.003a	Pipe	84.620	Diam/Width:225	Not Applicable
S3/4 (NRV)	86.687 83.825	Diameter / Length: 1.200	{1} S4.001	Pipe	84.120	Diam/Width:225	Manhole
E:415063.082	2.862		{2} S3.002	Pipe	83.895	Diam/Width:225	
N:127210.163			{a} S3.003	Pipe	83.825	Diam/Width:300	Not Applicable
S5/1	86.350 85.250	Diameter / Length: 0.600					Manhole
E:415049.665	1.100						
N:127274.850			{a} S5.000	Pipe	85.550	Diam/Width:150	Not Applicable
S3/1	85.500 84.350	Diameter / Length: 0.600					Manhole
E:415099.430	1.150						
N:127249.693			{a} S3.000	Pipe	84.650	Diam/Width:225	Not Applicable

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
Report Details: Type: Network Design Criteria Storm Phase: RIBA Stage 3 Phase		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

FEH

Type: FEH

Site Location	GB 415062 127275 SU 15062 27275
Return Period (years)	30.0
Rainfall Version	2022

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	0.900
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	☐

Manhole Options

Apply Offset	☐
--------------	--------------------------

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
Report Details: Type: Outfall Details Storm Phase: RIBA Stage 3 Phase		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
Rain Garden - Access Road 2	Free Discharge			
Rain Garden - Highway 1	Free Discharge			
Rain Garden - Carpark 1	Free Discharge			

Project: Salisbury DASH RIBA Stage 3 Drainage Model	Date: 14/07/2026			
Report Title: Rainfall Analysis Criteria	Designed by: Henry Clark	Checked by: O Dawes	Approved By:	
Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT				

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
Prefill Manhole Sumps	☒
Perform No Discharge Analysis	☐

Rainfall

FEH		Type: FEH
Site Location	GB 415062 127275 SU 15062 27275	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	40.000
30.0	40.000
100.0	45.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
240	480
360	720
480	960
960	1920
1440	2880

Project:
Salisbury DASH



Calculations for: Surface Water Drainage Calculation	Div/Dept: BLD	Job Nr/File No: 100123741 / DR04	
	Calculated by: H Clark	Date: 13/07/2026	Page 12 of 12
	Checked by: O Dawes	Date: 13/07/26	

Appendix C – InfoDrainage Model Results
[9 pages]

Project: Salisbury DASH RIBA Stage 3 Drainage Model	Date: 14/07/2026			
	Designed by:	Checked by:	Approved By:	
Report Details: Type: Inflows Summary Storm Phase: RIBA Stage 3 Phase	Henry Clark	O Dawes		
	Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			



Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
DASH South - East	FEH: 100 years: +45 %: 15 mins: Summer	0.07	56.0	24.291
DASH South - North	FEH: 100 years: +45 %: 15 mins: Summer	0.04	27.8	12.078
DASH South - West	FEH: 100 years: +45 %: 15 mins: Summer	0.04	33.1	14.366
DASH North - West	FEH: 100 years: +45 %: 15 mins: Summer	0.03	22.5	9.754
DASH North - East	FEH: 100 years: +45 %: 15 mins: Summer	0.06	47.6	20.671
DASH North - North	FEH: 100 years: +45 %: 15 mins: Summer	0.01	7.8	3.401
Porous Paving South	FEH: 100 years: +45 %: 15 mins: Summer	0.04	33.2	14.402
DASH North - South	FEH: 100 years: +45 %: 15 mins: Summer	0.03	25.7	11.178
Southern Highway 1	FEH: 100 years: +45 %: 15 mins: Summer	0.03	22.7	9.835
Southern Highway 3	FEH: 100 years: +45 %: 15 mins: Summer	0.02	15.9	6.895
Porous Paving Carpark 1	FEH: 100 years: +45 %: 15 mins: Summer	0.08	65.0	28.217
Rain Garden - Carpark 2	FEH: 100 years: +45 %: 15 mins: Summer	0.01	7.0	3.050
Southern Highway 4	FEH: 100 years: +45 %: 15 mins: Summer	0.03	19.3	8.371
Porous Paving Carpark 2	FEH: 100 years: +45 %: 15 mins: Summer	0.10	78.2	33.949

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
Report Details: Type: Inflows Summary Storm Phase: RIBA Stage 3 Phase		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			

Rain Garden - Access Road 1	FEH: 100 years: +45 %: 15 mins: Summer	0.01	4.8	2.084
Plant Compound	FEH: 100 years: +45 %: 15 mins: Summer	0.10	73.9	32.098
Southern Highway 2	FEH: 100 years: +45 %: 15 mins: Summer	0.01	10.2	4.433
Rain Garden - Carpark 1	FEH: 100 years: +45 %: 15 mins: Summer	0.02	15.1	6.544
Rain Garden - Access Road 2	FEH: 100 years: +45 %: 15 mins: Summer	0.02	14.3	6.187
Rain Garden - Highway 1	FEH: 100 years: +45 %: 15 mins: Summer	0.02	10.9	4.745
Rain Garden - Highway 2	FEH: 100 years: +45 %: 15 mins: Summer	0.05	7.0	3.044
Porous Paving North	FEH: 100 years: +45 %: 15 mins: Summer	0.17	29.7	12.894
Porous Paving Highway	FEH: 100 years: +45 %: 15 mins: Summer	0.02	13.8	5.999

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
Report Details: Type: Junctions Summary Storm Phase: RIBA Stage 3 Phase		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			



Critical Storm Per Item: Rank By: Max. Flooded Volume

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
S1/1	FEH: 2 years: +40 %: 15 mins: Summer	83.60 0	82.50 0	82.871	0.371	17.4	0.105	0.000	16.9	7.572	OK
S1/2	FEH: 2 years: +40 %: 15 mins: Summer	82.10 0	80.92 5	81.329	0.404	19.8	0.578	0.000	18.4	8.795	OK
S1/3	FEH: 2 years: +40 %: 15 mins: Summer	82.20 0	80.53 0	80.958	0.428	26.7	0.485	0.000	23.4	12.405	OK
S1/4	FEH: 2 years: +40 %: 15 mins: Summer	82.20 0	80.32 5	80.774	0.449	32.7	0.507	0.000	31.7	16.485	OK
S2/1	FEH: 2 years: +40 %: 15 mins: Summer	82.20 0	81.10 0	81.452	0.352	9.4	0.100	0.000	9.3	4.095	OK
S5/2	FEH: 2 years: +40 %: 15 mins: Summer	86.24 0	84.76 5	85.130	0.365	9.9	0.522	0.000	9.5	4.420	OK
S5/3	FEH: 2 years: +40 %: 15 mins: Summer	86.00 0	84.50 0	84.917	0.417	21.6	0.597	0.000	20.1	9.655	OK
S5/4	FEH: 2 years: +40 %: 15 mins: Summer	85.90 0	84.35 5	84.782	0.427	20.1	0.483	0.000	19.2	9.618	OK
S5/5	FEH: 2 years: +40 %: 15 mins: Summer	86.80 0	83.50 0	83.885	0.385	18.3	0.550	0.000	17.9	10.284	OK
S3/3	FEH: 2 years: +40 %: 15 mins: Summer	86.00 0	83.72 5	84.153	0.428	25.4	0.612	0.000	23.5	11.957	OK
S4/1 (PS)	FEH: 2 years: +40 %: 15 mins: Summer	86.60 0	84.03 0	84.458	0.428	27.1	0.756	0.000	26.5	11.749	OK
S3/2	FEH: 2 years: +40 %: 15 mins: Summer	85.40 0	83.85 0	84.286	0.436	27.1	0.624	0.000	25.4	11.833	OK
S4/2 (OS)	FEH: 2 years: +40 %: 15 mins: Summer	86.60 0	83.00 0	84.404	1.404	26.5	6.571	0.000	24.5	11.733	OK
S5/4a	FEH: 2 years: +40 %: 15 mins: Summer		84.59 5	84.728	0.133	19.2			18.3	10.323	OK
S3/4 (NRV)	FEH: 2 years: +40 %: 15 mins: Summer	86.68 7	83.82 5	84.006	0.181	46.9	0.205	0.000	43.9	23.643	OK
S5/1	FEH: 2 years: +40 %: 15 mins: Summer	86.35 0	85.25 0	85.616	0.366	10.2	0.104	0.000	9.9	4.424	OK
S3/1	FEH: 2 years: +40 %: 15 mins: Summer	85.50 0	84.35 0	84.734	0.384	20.5	0.109	0.000	20.1	8.878	OK

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: RIBA Stage 3 Phase		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			



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 (mins)	Percentage Available (%)
Porous Paving South	FEH: 100 years: +45 %: 60 mins: Winter	85.675	85.513	0.110	0.113	16.0	15.281	0.000	19.376	0.0	0.000		77.627
Porous Paving North	FEH: 100 years: +45 %: 60 mins: Winter	81.814	81.653	0.052	0.053	14.3	13.403	0.000	18.002	0.0	0.000		89.455
Rain Garden - Access Road 2	FEH: 100 years: +45 %: 60 mins: Winter	86.112	86.112	1.162	1.162	22.9	26.941	0.000	0.802	2.4	14.993	50	31.434
Rain Garden - Highway 1	FEH: 100 years: +45 %: 60 mins: Summer	85.643	85.643	0.993	0.993	12.7	8.927	0.000	0.247	1.5	11.323		50.441
Rain Garden - Highway 2	FEH: 100 years: +45 %: 15 mins: Summer	85.210	85.210	1.010	1.010	22.9	10.194	0.000	0.331	1.2	0.346		90.051
Porous Paving Parking 2	FEH: 100 years: +45 %: 480 mins: Winter	85.698	85.138	0.507	0.038	7.7	51.005	0.000	0.000	2.6	61.091		76.646
Porous Paving Parking 1	FEH: 100 years: +45 %: 960 mins: Summer	85.810	85.131	0.604	0.031	6.3	51.385	0.000	0.000	1.8	73.985		69.627
Rain Garden - Carpark 1	FEH: 100 years: +45 %: 30 mins: Summer	86.243	86.243	1.243	1.243	10.1	8.669	0.000	0.758	1.0	1.387		90.205
Rain Garden - Carpark 2	FEH: 2 years: +40 %: 15 mins: Summer	85.000	85.000	0.000	0.000	0.0	0.274	0.000	0.000	0.0	0.000		99.242
Porous Paving Highway	FEH: 100 years: +45 %: 60 mins: Winter	85.610	85.524	0.118	0.124	6.7	6.537	0.000	7.662	0.0	0.000		75.747
Cellular Storage North	FEH: 100 years: +45 %: 1440 mins: Winter	80.806	80.806	0.771	0.771	4.3	107.606	0.000	76.718	0.0	0.000		15.628
Cellular Storage South	FEH: 100 years: +45 %: 1440 mins: Winter	84.008	84.008	0.858	0.858	12.2	348.572	0.000	222.544	0.0	2.169		6.135

Project: Salisbury DASH RIBA Stage 3 Drainage Model	Date: 14/07/2026			
	Designed by: Henry Clark	Checked by: O Dawes	Approved By:	
Report Details: Type: Stormwater Controls Summary Storm Phase: RIBA Stage 3 Phase	Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			

Status
OK
OK
OK
OK
OK
OK
OK
OK
OK
OK
OK
OK
OK

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
Report Details: Type: Connections Summary Storm Phase: RIBA Stage 3 Phase		Designed by: Henry Clark	Checked by: O Dawes		
		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			



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
S1.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S1/1	S1/2	83.600	83.186	0.150	20.493	2.2	0.99	39.0	Surcharged
S2.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S2/1	S1/4	82.200	81.491	0.114	11.142	1.8	0.65	25.6	OK
S1.003	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S1/4	Cellular Storage North	82.200	80.911	0.256	44.968	1.3	1.08	84.3	OK
S5.001	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	S5/2	S5/3	86.240	85.178	0.225	12.066	0.6	0.43	21.9	OK
S5.002	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S5/3	S5/4	86.000	85.170	0.225	26.337	1.3	1.19	50.6	Surcharged
S5.003	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S5/4	S5/4a	85.900	84.934	0.225	26.349	1.3	1.13	50.1	Surcharged
S4.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S4/1 (PS)	S4/2 (OS)	86.600	84.853	0.225	32.076	1.7	0.94	69.0	Surcharged
S4.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S4/2 (OS)	S3/4 (NRV)	86.600	84.708	0.177	32.059	1.7	0.77	57.8	Surcharged
S3.003	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S3/4 (NRV)	Cellular Storage South	86.687	84.280	0.300	64.683	1.6	1.49	110.9	Surcharged
S3.002	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S3/3	S3/4 (NRV)	86.000	84.553	0.225	32.609	1.4	1.3	55.8	Surcharged
No Delay Car Park 1	FEH: 100 years: +45 %: 30 mins: Summer	No Delay	Porous Paving Parking 1	Cellular Storage South		85.386	0.035	8.750	0.0		8.2	
S5.004	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S5/5	Cellular Storage South	86.800	83.940	0.130	26.783	1.5	0.33	43.2	OK
S5.003.2	FEH: 2 years: +40 %: 60 mins: Winter	Pipe	Rain Garden - Access Road 2	Rain Garden - Highway 1	86.200	85.789	0.139	2.718	0.8	0.06	1.7	Surcharged
S5.003.3	FEH: 30 years: +40 %: 30 mins: Winter	Pipe	Rain Garden - Highway 1	S5/4a	85.800	85.521	0.103	1.727	0.6	0.19	7.8	Surcharged

Project: Salisbury DASH RIBA Stage 3 Drainage Model		Date: 14/07/2026			
Report Details: Type: Connections Summary Storm Phase: RIBA Stage 3 Phase		Designed by: Henry Clark	Checked by: O Dawes		Approved By:
		Company Address: Mott MacDonald 2 Callaghan Square Cardiff, CF10 5BT			

S3.001.1	FEH: 2 years: +40 %: 15 mins: Summer	Pipe	Rain Garden - Highway 2	S3/3	85.800	84.900	0.026	0.000	0.0	0	0.0	OK
S5.003a	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S5/4a	S5/5	86.163	84.831	0.193	26.703	1.2	0.99	44.0	OK
S5.003.5	FEH: 100 years: +45 %: 120 mins: Summer	Pipe	Rain Garden - Carpark 1	S5/5	86.600	86.221	0.008	2.447	1.7	0.01	0.7	Surcharged
S3.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S3/2	S3/3	85.400	84.861	0.225	32.414	1.5	1.43	60.6	Surcharged
S5.003.4	FEH: 2 years: +40 %: 15 mins: Summer	Pipe	Rain Garden - Carpark 2	S5/5	86.400	85.000	0.000	0.000	0.0	0	0.0	OK
S1.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S1/2	S1/3	82.100	81.638	0.225	23.944	1.0	0.96	40.8	Surcharged
No Delay Car Park 2	FEH: 100 years: +45 %: 30 mins: Summer	No Delay	Porous Paving Parking 2	Cellular Storage South		85.367	0.032	11.030	0.0		9.8	
S5.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S5/1	S5/2	86.350	85.694	0.132	12.019	1.6	0.99	26.3	OK
S3.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S3/1	S3/2	85.500	85.155	0.225	24.196	1.2	0.71	48.5	Surcharged
S1.002	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S1/3	S1/4	82.200	81.234	0.225	33.829	1.5	1.43	60.8	Surcharged

Project title	Salisbury DASH	Project number	100123741	
File number	STECC-MMD-XX-XX-CA-CE-520003	Number of sheets	7 + Appendices	
Section	N/A	Calculation number	DR03	
Subject	Foul Water Drainage Calculation			
Project Manager	P Barton			
Originator	H Clark	Originator role	Civil Engineer	
See requirements – Requirements – DO – Execute the project				
Phase	A. Concept or preliminary design	☒	C. Design verification	☐
	B. Analysis and detailed design	☐	D. Other (specify below) Add text.	☐

Computer applications used						
Name			Version date			
InfoDrainage			2026.1			
Excel						
Scopes for checking manual and computer-generated calculations						
Add text.						
Sheets checked*	Calculations by			Checked by		
	Name	Signature	Date	Name	Signature	Date
All	H Clark	HC	10/06/26	O Dawes	OWD	10/06/26
*If an Excel spreadsheet or other computer file has been checked and has not been attached, enter the name, date and full file path or SharePoint location of the file that was checked.						

Basic design information or source and reference (required field)						
- See Section 2 – Design Standards and Best Practice - Topographical Survey Data (Reference: 2321207-TOPO-XX-ZZ-3D-G-0001) - GPR Utilities Survey Data (Reference: 4340819-SG-XX-00-2D-U-0003)						
Identify document / technical records where output will be used (required field)						
RIBA 3 Drainage Strategy (Reference: STECC-MMD-XX-XX-CA-CE-930001)						
Approved by Project Manager						
Name	P Barton	Signature		Date	30/06/26	
Distribution	List.				Original to project file	☐

Project:
Salisbury DASH

Calculations for:

Foul Water Drainage Calculation

Div/Dept: BLD

Job Nr/File No: 100123741 / DR03

Calculated by:
H Clark

Date: 10/06/2026

Page 2 of 7

Checked by:
O Dawes

Date: 10/06/26

1. Scope

Mott MacDonald (MM) has been commissioned by Salisbury NHS Foundation Trust to design the new Salisbury Diagnostic and Surgical Hub (DASH). This calculation investigates the peak foul flow rates from the proposed development, assisting in determining the pipe diameters, gradients and levels for the proposed foul water connections to the existing public foul water network.

1.1. Proposed Development

The existing Salisbury District Hospital is located to the south of Salisbury City centre at National Grid Reference SU148274. The proposed development area, hereinafter referred to as the "site", is highlighted in red within Figure 4.1.

Figure 1.1: Site Location Plan.



Project:
Salisbury DASH

Calculations for: Foul Water Drainage Calculation	Div/Dept: BLD	Job Nr/File No: 100123741 / DR03	
	Calculated by: H Clark	Date: 10/06/2026	Page 3 of 7
	Checked by: O Dawes	Date: 10/06/26	

2. Design Standards and Best Practice

The following design standards and industry best practice guidance documents have been used for this calculation:

- Building Regulations 2010 Approved Document H 'Drainage and waste Disposal', hereinafter referred to as 'Building Regulations Part H';
- BS EN 752:2017 'Drain and sewer systems outside buildings - Sewer system management', hereinafter referred to as 'BS EN 752';
- BS EN 12056:2000 'Gravity drainage systems inside buildings, hereinafter referred to as 'BS EN 12056' ; and
- Sewerage Sector Guidance – Appendix C: Design and Construction Guidance for foul and surface water sewers offered for adoption under the Code for adoption agreements for water and sewerage companies operating wholly or mainly in England.

3. Methodology

In line with the above standards and best practice documents, the following methodology has been adopted for the design and hydraulic modelling of the proposed surface water network:

- Identify foul water appliances within the proposed building;
- Determine the discharge units in line with BS EN 12056-2;
- Calculate the peak discharge rate from the site based on the discharge units and frequency factor; and
- Design SuDS based on guidance and design criteria.

4. Design Criteria and Assumptions

The following assumptions have been used in the development of this calculation:

- The locations of foul appliances for the proposed development are as per the P+HS RIBA Stage 2 Design Drawings within the RIBA Stage 2 Architectural Report (Reference: STECC-PHS-XX-XX-PR-A-00007); and
- Toilets are assumed to be 'WC with 9,0 l cistern with a siphon flush', to account for the worst-case scenario.

In addition, the design criteria adopted for this calculation include:

- The proposed network type used is System III with the following discharge units (see Table 2 of BS EN 12056-2):
 - Wash basin = 0.3 l/s
 - Shower with plug = 1.3 l/s
 - Kitchen sink = 1.3 l/s
 - WC with 9,0 l cistern = 2.0 l/s
 - Floor Gully DN 100 = 1.2 l/s
- Frequency factor = 0.7 (frequent use e.g. hospitals, taken from Table 3 of BS EN 12056-2)
- Pipe roughness = 1.5 mm;

5. Foul Water Flow Estimate

5.1. Foul Appliance Loading

A summary of the foul appliances shown on the Salisbury DASH Design Drawings (see Appendix A) is provided in Table 5.1. Due to the proposed retaining wall, the proposed foul system will consist of two networks, hereinafter referred to as the North and South Networks, respectively.

Project:
Salisbury DASH

Calculations for: Foul Water Drainage Calculation	Div/Dept: BLD	Job Nr/File No: 100123741 / DR03	
	Calculated by: H Clark	Date: 10/06/2026	Page 4 of 7
	Checked by: O Dawes	Date: 10/06/26	

Table 5.1: Foul Appliance Discharge Units.

Foul Appliance	Number of Appliances	Discharge Units (l/s)	DU x Number of Appliances (l/s)
Lower Ground Floor North			
Wash Basin	15	0.3	4.5
WC with 9.0 l cistern	15	2.0	30.0
Kitchen Sink	19	1.3	24.7
Shower with plug	4	1.3	5.2
Total			64.4
Ground Floor North			
Wash Basin	10	0.3	3.0
WC with 9.0 l cistern	10	2.0	20.0
Kitchen Sink	10	1.3	13.0
Total			36.0
Ground Floor South			
Wash Basin	2	0.3	0.6
WC with 9.0 l cistern	2	2.0	4.0
Kitchen Sink	13	1.3	16.9
Total			21.5
First Floor North			
Wash Basin	3	0.3	0.9
WC with 9.0 l cistern	3	2.0	6.0
Kitchen Sink	1	1.3	1.3
Shower with plug	1	1.3	1.3
Total			9.5

5.2. Design Flow Rate

The total design flow rate is given the following equation:

$$Q_{\text{tot}} = Q_{\text{ww}} + Q_{\text{c}} + Q_{\text{p}}$$

Where:

Project:
Salisbury DASH

Calculations for:

Foul Water Drainage Calculation

Div/Dept: BLD

Job Nr/File No: 100123741 / DR03

Calculated by:
H Clark

Date: 10/06/2026

Page 5 of 7

Checked by:
O Dawes

Date: 10/06/26

- Q_{tot} = Total flowrate (l/s)
- Q_{ww} = Wastewater flowrate (l/s)
- Q_{c} = Continuous flowrate (l/s)
- Q_{p} = Pumped water flowrate (l/s)

BS EN 12056-2 defines Q_{ww} as the “expected flowrate of wastewater in a part or in the whole drainage system where only domestic sanitary appliances are connected into the system”, and is calculated using:

$$Q_{\text{ww}} = K\sqrt{\sum DU}$$

Where:

- K = Frequency Factor
- $\sum DU$ = Sum of the discharge units (l/s)

BS EN 12056-2 defines Q_{c} as the ‘flow rate of all continuous flows, e.g. cooling water, etc., in litres per second (l/s)’. No cooling is required for the plant, hence the Q_{c} is 0.

BS EN 12056-2 defines Q_{p} as the ‘discharge rate of wastewater pumps in litres per second (l/s)’ (where the pump discharges into the system), which is not the case for this site. Hence, the Q_{p} is 0.

A summary of the proposed foul flowrates are provided in Table 5.2.

Table 5.2: Foul Flowrate Summary.

Network	Sum of Discharge Units (l/s)	Wastewater Flowrate – Q_{ww} (l/s)	Total Flowrate – Q_{tot} (l/s)
DASH North	109.9	7.3	7.3
DASH South	21.5	3.2	3.2

In addition, Section 6.3.4 of BS EN 12056-2 stated that the hydraulic capacity (Q_{max}) of pipes which convey foul water flows should be the maximum of:

- The total calculated wastewater flowrate (Q_{ww}) or total flowrate (Q_{tot}); or
- The flowrate of the appliance with the largest discharge unit.

The proposed appliance with the greatest discharge unit is the WC with 9,0 l cistern (2.0 l/s). As this is less than the values for total flow rate shown in Table 5.2, Q_{max} for the DASH North and DASH South networks will be taken as 7.3 l/s and 3.2 l/s, respectively.

6. Conclusion

The estimated peak discharge from the proposed development has been calculated, based on the RIBA Stage 3 architects layouts, to be 7.3 l/s and 3.2 l/s for the DASH North and DASH South networks, respectively. Hence the total discharge from site into the public sewer (to be agreed) will be 10.5l/s.

Project:
Salisbury DASH

Calculations for: Foul Water Drainage Calculation	Div/Dept: BLD	Job Nr/File No: 100123741 / DR03	
	Calculated by: H Clark	Date: 10/06/2026	Page 6 of 7
	Checked by: O Dawes	Date: 10/06/26	

7. Appendices

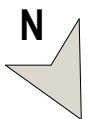
Appendix A – Foul Appliance layouts
[3 pages]



Lower Ground Floor Level GIA Plan
1 : 500

Refer to NBS specification for full details.

This document is © P+HS Architects. If in doubt ASK. Drawing measurements shall not be obtained by scaling. Verify all dimensions prior to construction or product manufacture. Immediately report any discrepancies on this document to the Architect. This document shall be read in conjunction with associated models, specifications and related consultants documents.

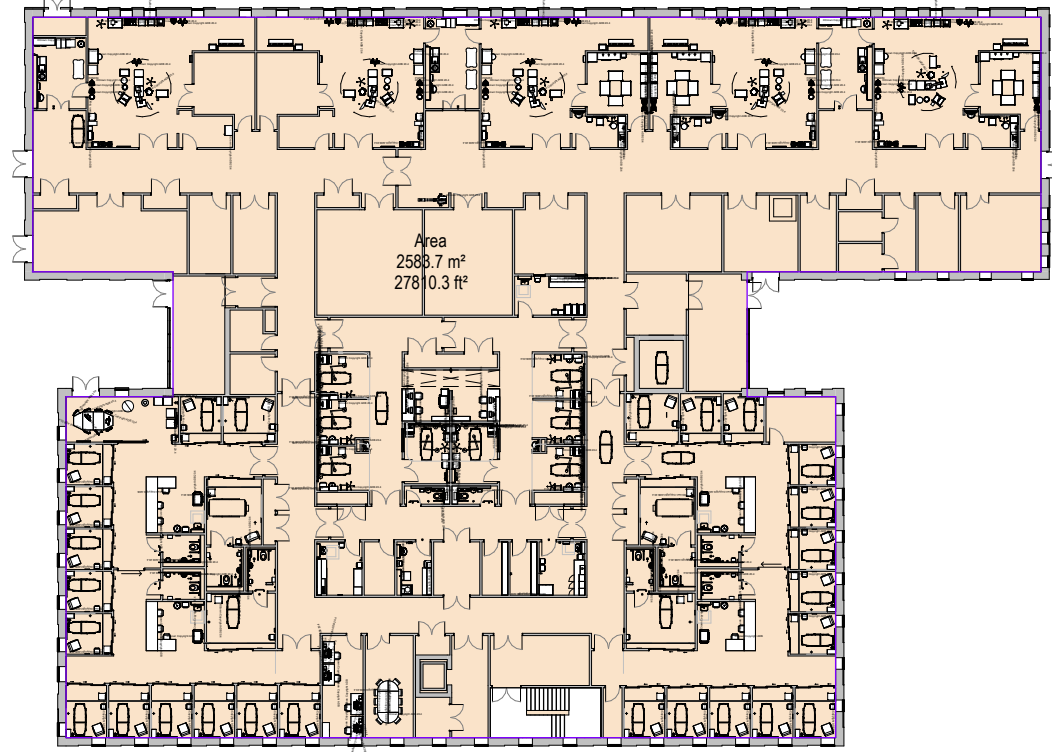


Department

- 1. Entrance
- 2. Admission and Second Stage (Pods)
- 3. Surgical
- 4. First Stage Recovery
- 5. Facilities Management
- 6. Recovery (Shared)
- 7. Clinical Support Facilities
- 8. Staff Support
- 9. Circulation
- 10. Plant

Proposed Ground Floor Plan

1 : 200



Ground Floor Level GIA Plan

1 : 500

Proposed Ground Floor Schedule of Accommodation Comparison					
Level	Department	Room Name	SoA Room Name	Area	SoA Area / Area Difference
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8 m²	9.6 m² -1.58 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8 m²	9.6 m² -1.58 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8.8 m²	9.6 m² -0.77 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8.6 m²	9.6 m² -1.04 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8.8 m²	9.6 m² -0.77 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8 m²	9.6 m² -1.58 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	11.3 m²	9.6 m² 1.67 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8.9 m²	9.6 m² -0.70 m²
Level 00	2. Admission and Second Stage (Pods)	Orthopaedic Mobilisation Room	Orthopaedic Mobilisation Room	13.8 m²	26.4 m² -12.59 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8 m²	9.6 m² -1.58 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8.8 m²	9.6 m² -0.77 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8.6 m²	9.6 m² -1.04 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8.8 m²	9.6 m² -0.77 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	9.2 m²	9.6 m² -0.37 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8 m²	9.6 m² -1.57 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8 m²	9.6 m² -1.58 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8 m²	9.6 m² -1.58 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	10.3 m²	9.6 m² 0.67 m²
Level 00	2. Admission and Second Stage (Pods)	Acc En-suite	Acc WC	7.1 m²	4.6 m² 2.51 m²
Level 00	2. Admission and Second Stage (Pods)	Play Area	Play Area	22.3 m²	26.4 m² -4.11 m²
Level 00	2. Admission and Second Stage (Pods)	Accessible Pod	Accessible Pod	15.8 m²	14 m² 1.75 m²
Level 00	2. Admission and Second Stage (Pods)	Acc Pod WC	Bariatric En-suite	5.6 m²	6.65 m² -1.01 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	9.2 m²	9.6 m² -0.37 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	9.2 m²	9.6 m² -0.37 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8.6 m²	9.6 m² -1.04 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	9.2 m²	9.6 m² -0.37 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	8.8 m²	9.6 m² -0.77 m²
Level 00	2. Admission and Second Stage (Pods)	Acc WC	WC Handwash : Semi Ambulant	5.7 m²	4.6 m² 1.11 m²
Level 00	2. Admission and Second Stage (Pods)	Equipment Bay	Equipment Bay	1.8 m²	1.8 m² 0 m²
Level 00	2. Admission and Second Stage (Pods)	Staff Touchdown	Staff Touchdown	3.2 m²	3.6 m² -0.37 m²
Level 00	2. Admission and Second Stage (Pods)	Acc WC	WC Handwash : Semi Ambulant	5.5 m²	4.6 m² 0.92 m²
Level 00	2. Admission and Second Stage (Pods)	Equip	Equip	1.4 m²	4.6 m² -3.23 m²
Level 00	2. Admission and Second Stage (Pods)	Staff Touchdown	Staff Touchdown	11.1 m²	9.6 m² 1.52 m²
Level 00	2. Admission and Second Stage (Pods)	Ortho Store	Ortho Store	4.1 m²	4.1 m² 0 m²
Level 00	2. Admission and Second Stage (Pods)	Standard Pod	Standard Pod	9.2 m²	9.6 m² -0.37 m²
Level 00	2. Admission and Second Stage (Pods)	Accessible Pod	Accessible Pod	16.6 m²	14 m² 2.59 m²
Level 00	2. Admission and Second Stage (Pods)	Acc En-suite	Acc WC	7.1 m²	4.6 m² 2.51 m²
Level 00	2. Admission and Second Stage (Pods)	Accessible Pod	Accessible Pod	15.8 m²	14 m² 1.75 m²
Level 00	2. Admission and Second Stage (Pods)	Acc Pod WC	Bariatric En-suite	5.6 m²	6.65 m² -1.01 m²
Level 00	2. Admission and Second Stage (Pods)	Acc WC	WC Handwash : Semi Ambulant	5.7 m²	4.6 m² 1.11 m²
Level 00	2. Admission and Second Stage (Pods)	Equip	Equip	1.8 m²	4.6 m² -3.23 m²
Level 00	2. Admission and Second Stage (Pods)	Staff Touchdown	Staff Touchdown	12.4 m²	9.6 m² 2.82 m²
Level 00	2. Admission and Second Stage (Pods)	Acc WC	WC Handwash : Semi Ambulant	5.5 m²	4.6 m² 0.92 m²
Level 00	2. Admission and Second Stage (Pods)	Equip	Equip	1.4 m²	4.6 m² -3.23 m²
Level 00	2. Admission and Second Stage (Pods)	Staff Touchdown	Staff Touchdown	11.1 m²	9.6 m² 1.52 m²
Level 00	3. Surgical	Theatre : Laser	Operating Theatre : Day Surgery	68.8 m²	52 m² 16.8 m²
Level 00	3. Surgical	Prep	Preparation Room	17.8 m²	17.7 m² 0.06 m²
Level 00	3. Surgical	Anaesthetic Bay	Anaesthetic Bay	7.8 m²	8.7 m² -0.86 m²
Level 00	3. Surgical	Anaesthetic Bay	Anaesthetic Bay	7.8 m²	8.7 m² -0.86 m²
Level 00	3. Surgical	Prep	Preparation Room	17.7 m²	17.7 m² 0 m²
Level 00	3. Surgical	Dirty Utility	Dirty Utility : serving 2 theatres	21.4 m²	19.3 m² 2.14 m²
Level 00	3. Surgical	Prep	Preparation Room	17.8 m²	17.7 m² 0.06 m²
Level 00	3. Surgical	Dirty Utility	Dirty Utility : serving 2 theatres	16.5 m²	19.3 m² -2.8 m²
Level 00	3. Surgical	Anaesthetic Bay	Anaesthetic Bay	7.8 m²	8.7 m² -0.86 m²
Level 00	3. Surgical	Theatre : Paediatrics	Operating Theatre : Day Surgery	52 m²	52 m² 0 m²
Level 00	3. Surgical	Theatre : Laminar Flow	Operating Theatre : Laminar Flow : Day Surgery	56.8 m²	52.7 m² 4.1 m²
Level 00	3. Surgical	Scrub	Scrub-up & gowning room : 3 places	9.2 m²	10.3 m² -1.1 m²
Level 00	3. Surgical	Scrub	Scrub-up & gowning room : 3 places	9.2 m²	10.3 m² -1.1 m²
Level 00	3. Surgical	Scrub	Scrub-up & gowning room : 3 places	9.2 m²	10.3 m² -1.1 m²
Level 00	3. Surgical	Patient Stabilisation Room	Patient Stabilisation Room	23.5 m²	19.4 m² 4.06 m²
Level 00	3. Surgical	Theatre : Laser	Operating Theatre : Day Surgery	56.8 m²	52.7 m² 4.06 m²
Level 00	3. Surgical	Anaesthetic Bay	Anaesthetic Bay	7.8 m²	8.7 m² -0.86 m²
Level 00	3. Surgical	Prep	Preparation Room	17.7 m²	17.7 m² 0 m²
Level 00	3. Surgical	Theatre : General	Operating Theatre : Day Surgery	56.8 m²	52.7 m² 4.06 m²
Level 00	3. Surgical	Dirty Utility	Dirty Utility : serving 2 theatres	21.4 m²	19.3 m² 2.14 m²
Level 00	3. Surgical	Prep	Beverage & Snack Preparation Bay	17.8 m²	17.7 m² 0.06 m²
Level 00	3. Surgical	Anaesthetic Bay	Anaesthetic Bay	7.8 m²	8.7 m² -0.86 m²
Level 00	3. Surgical	Scrub	Scrub-up & gowning room : 3 places	9.1 m²	10.3 m² -1.18 m²
Level 00	3. Surgical	Scrub	Scrub-up & gowning room : 3 places	9.2 m²	10.3 m² -1.1 m²
Level 00	4. First Stage Recovery	Staff Base - 4 Staff	Staff Base - 4 Staff	18.2 m²	30.6 m² -12.43 m²
Level 00	4. First Stage Recovery	FS Room 1	FS Room 1	12 m²	12 m² 0 m²
Level 00	4. First Stage Recovery	FS Room 1	FS Room 1	12 m²	12 m² 0 m²
Level 00	4. First Stage Recovery	FS Bay 2	Recovery Bay : Second Stage	9.9 m²	9.8 m² 0.13 m²
Level 00	4. First Stage Recovery	FS Bay 3	Recovery Bay : Second Stage	9.5 m²	9.8 m² -0.29 m²
Level 00	4. First Stage Recovery	FS Bay 1	Recovery Bay : Second Stage	9.7 m²	9.8 m² -0.05 m²
Level 00	4. First Stage Recovery	FS Bay 5	Recovery Bay : Second Stage	9.7 m²	9.8 m² -0.05 m²
Level 00	4. First Stage Recovery	FS Bay 6	FS Bay	10 m²	9.8 m² 0.21 m²
Level 00	4. First Stage Recovery	FS Bay 4	FS Bay	9.6 m²	9.8 m² -0.22 m²
Level 00	4. First Stage Recovery	Equip	Parking Bay : Mobile Equipment	1.6 m²	2.4 m² -0.8 m²
Level 00	4. First Stage Recovery	Reus	Parking Bay : Resuscitation Trolley	1.6 m²	2.4 m² -0.75 m²
Level 00	4. First Stage Recovery	Drug Store	Drug Store	12 m²	12.2 m² -0.24 m²
Level 00	5. Facilities Management	Disposal Hold	Disposal Hold	24.8 m²	22.5 m² 2.3 m²
Level 00	6. Recovery (Shared)	Partny	Beverage & Snack Preparation Bay	10.5 m²	14.6 m² -4.11 m²
Level 00	6. Recovery (Shared)	Clean Utility	Clean Utility : with blood bank	15.8 m²	15.9 m² -0.28 m²
Level 00	6. Recovery (Shared)	Staff WC	Staff WC	3.6 m²	8.2 m² -4.6 m²
Level 00	6. Recovery (Shared)	Cleaner's	Cleaners Room	7.1 m²	9.5 m² -2.41 m²
Level 00	6. Recovery (Shared)	Dirty Utility	Dirty Utility : bedpan disposal & urine test	8 m²	15.2 m² -7.18 m²
Level 00	6. Recovery (Shared)	Linin	Linin Store	6.2 m²	8.1 m² -1.86 m²
Level 00	6. Recovery (Shared)	Store	Store	6 m²	8.7 m² -2.72 m²
Level 00	6. Recovery (Shared)	Staff WC	Staff WC	3.6 m²	8.2 m² -4.6 m²
Level 00	7. Clinical Support Facilities	Cleaners	Cleaners Room	8 m²	9.8 m² -1.84 m²
Level 00	7. Clinical Support Facilities	Centralised sterile Consumables Store	Centralised sterile Consumables Store	40.5 m²	36 m² 4.5 m²
Level 00	7. Clinical Support Facilities	Reus	Parking Bay : Resuscitation Trolley	2.3 m²	1.6 m² 0.72 m²
Level 00	7. Clinical Support Facilities	Store Bulk Supplies	Store Bulk Supplies	48.5 m²	44.8 m² 3.74 m²
Level 00	7. Clinical Support Facilities	Parking Bay	Parking Bay	3.2 m²	3.2 m² 0 m²
Level 00	7. Clinical Support Facilities	Store : Sterile Instrument	Store : Sterile Instrument	32 m²	32 m² 0 m²
Level 00	7. Clinical Support Facilities	Store : Clinical Equipment	Store : Clinical Equipment	14.3 m²	14.7 m² -0.44 m²
Level 00	7. Clinical Support Facilities	Store : Ready to use Medical Gas Cylinders	Store : Ready to use Medical Gas Cylinders	12.1 m²	11.9 m² 0.19 m²
Level 00	7. Clinical Support Facilities	Satellite Pharmacy	Satellite Pharmacy	14.5 m²	11.3 m² 3.18 m²
Level 00	7. Clinical Support Facilities	Store	Store	7 m²	7 m² 0 m²
Level 00	8. Staff Support	Surgical Managers	Office : 4 Person	18.2 m²	21.5 m² -3.33 m²
Level 00	8. Staff Support	Team Huddle Room	Team Huddle Room	21.4 m²	19.7 m² 1.69 m²
Level 00	8. Staff Support	Office (2P)	Office (2P)	13.5 m²	14.4 m² -0.93 m²
Level 00	8. Staff Support	Rest Room	Rest & Dining with Beverage Bay : 25 Staff	26.9 m²	25 m² 1.93 m²
Level 00	8. Staff Support	Staff WC	WC & Handwash : Accessible, Wheelchair	5.4 m²	5.7 m² -0.35 m²
Level 00	8. Staff Support	Staff WC	WC & Handwash : Accessible, Wheelchair	5.6 m²	5.7 m² -0.09 m²
Level 00	9. Circulation	Stairwell	Circulation	27.1 m²	27.1 m² 0 m²
Level 00	9. Circulation	Circulation	Circulation	133.1 m²	133.1 m² 0 m²
Level 00	9. Circulation	Circulation	Circulation	49.4 m²	49.4 m² 0 m²
Level 00	9. Circulation	Circulation	Circulation	117.9 m²	117.9 m² 0 m²
Level 00	9. Circulation	Lobby	Circulation	5.2 m²	5.2 m² 0 m²
Level 00	9. Circulation	Lift Lobby	Circulation	17.9 m²	17.9 m² 0 m²
Level 00	9. Circulation	Stairwell	Circulation	28.3 m²	28.3 m² 0 m²
Level 00	9. Circulation	Circulation	Circulation	38.3 m²	38.3 m² 0 m²
Level 00	9. Circulation	Circulation	Circulation	48.4 m²	48.4 m² 0 m²
Level 00	9. Circulation	Circulation	Circulation	36.2 m²	36.2 m² 0 m²
Level 00	9. Circulation	Circulation	Circulation	36.2 m²	36.2 m² 0 m²
Level 00	9. Circulation	Circulation	Circulation	40.9 m²	40.9 m² 0 m²
Level 00	9. Circulation	Stair (Mattress Evac)	Circulation	24.2 m²	24.2 m² 0 m²
Level 00	9. Circulation	Passenger Lift	Circulation	4.1 m²	4.1 m² 0 m²
Level 00	9. Circulation	Lobby (trolley)	Circulation	22 m²	22 m² 0 m²
Level 00	9. Circulation	Rest Lift	Circulation	17 m²	17 m² 0 m²
Level 00	9. Circulation	Lift Lobby	Circulation	16.4 m²	16.4 m² 0 m²
Level 00	9. Circulation	Circulation	Circulation	10.6 m²	10.6 m² 0 m²
Level 00	9. Circulation	Circulation	Circulation	34.9 m²	34.9 m² 0 m²
Level 00	9. Circulation	Room	Room	18.6 m²	18.6 m² 0 m²
Level 00	10. Plant	Plant	N/A	5.6 m²	5.6 m² 0 m²
Level 00	10. Plant	Plant	Circulation	6.1 m²	6.1 m² 0 m²
Level 00	10. Plant	Plant	N/A	2.3 m²	2.3 m² 0 m²
Level 00	10. Plant	Plant	N/A	2.9 m²	2.9 m² 0 m²
Level 00	10. Plant	Plant	N/A	2.7 m²	2.3 m² 0.43 m²
Level 00	10. Plant	Plant Room	N/A	45.5 m²	45.5 m² 0 m²
Level 00	10. Plant	Plant	N/A	2.6 m²	2.3 m² 0.28 m²
Level 00	10. Plant	DB & IPS	N/A	2.6 m²	2.3 m² 0.28 m²
Level 00	10. Plant	Plant	N/A	10.7 m²	10.7 m² 0 m²
Level 00	10. Plant	Plant	N/A	3.5 m²	3.5 m² 0 m²
Level 00	10. Plant	Plant	N/A	3.5 m²	3.5 m² 0 m²
Level 00	10. Plant	Plant	N/A	2.6 m²	2.6 m² 0 m²
Level 00	10. Plant	Plant	N/A	2.6 m²	2.6 m² 0 m²
Level 00	10. Plant	Riser	N/A	4.3 m²	4.3 m² 0 m²
Grand total:				2421.5 m²	

Rooms in SoA, not included in GIA Plans:

- 2x Accessible Pods (however + 2 Standard Pods)
- 2x Bariatric En-Suite (however + 2 Accessible En-Suite)
- FS Store

Proposed Ground Floor HBN Comparison					
Level	HBN	HBN Room Name	Area	HBN Area	Area Difference
Level 00	N/A	As per Client req.	8 m²		
Level 00	N/A	As per Client req.	8.8 m²		
Level 00	N/A	As per Client req.	8.6 m²		
Level 00	N/A	As per Client req.	8.8 m²		
Level 00	N/A	As per Client req.	8 m²		
Level 00	N/A	As per Client req.	11.3 m²		
Level 00	N/A	As per Client req.	8.9 m²		
Level 00	N/A	As per Client req.	13.8 m²		
Level 00	N/A	As per Client req.	8 m²		
Level 00	N/A	As per Client req.	8.8 m²		
Level 00	N/A	As per Client req.	8.6 m²		
Level 00	N/A	As per Client req.	8.8 m²		
Level 00	N/A	As per Client req.	9.2 m²		
Level 00	N/A	As per Client req.	8 m²		
Level 00	N/A	As per Client req.	8 m²		
Level 00	N/A	As per Client req.	8 m²		
Level 00	N/A	As per Client req.	10.3 m²		
Level 00	HBN 10-02	WC & Handwash - Accessible, Wheelchair	7.1 m²	4.5 m²	2.61 m²
Level 00	HBN 10-02	Play Area - 5 Children	22.3 m²	13 m²	9.29 m²
Level 00	N/A	As per Client req.	15.8 m²		
Level 00	N/A	As per Client req.	5.6 m²		
Level 00	N/A	As per Client req.	9.2 m²		
Level 00	N/A	As per Client req.	9.2 m²	8 m²	1.23 m²
Level 00	N/A	As per Client req.	8.6 m²		
Level 00	N/A	As per Client req.	9.2 m²		
Level 00	N/A	As per Client req.	8 m²		
Level 00	N/A	As per Client req.	8 m²		
Level 00	N/A	As per Client req.	8 m²		
Level 00	N/A	As per Client req.	10.3 m²		
Level 00	HBN 10-02	WC & Handwash - Accessible, Wheelchair	5.7 m²	4.5 m²	1.21 m²
Level 00	HBN 10-02	Parking Bay - Mobile Equipment	1.8 m²	5 m²	3.17 m²
Level 00	HBN 10-02	Staff Base - 4 Staff	12.4 m²	12 m²	0.4 m²
Level 00	HBN 10-02	WC & Handwash - Accessible, Wheelchair	5.5 m²	4.5 m²	1.02 m²
Level 00	HBN 10-02	Parking Bay - Mobile Equipment	1.4 m²	5 m²	3.63 m²
Level 00	HBN 10-02	Staff Base - 4 Staff	11.1 m²	12 m²	0.88 m²
Level 00	HBN 10-02	Small Store	4.1 m²	8 m²	3.9 m²
Level 00	N/A	As per Client req.	9.2 m²		
Level 00	N/A	As per Client req.	16.6 m²		
Level 00	HBN 10-02	WC & Handwash - Accessible, Wheelchair	7.1 m²	4.5 m²	2.61 m²
Level 00	N/A	As per Client req.	15.8 m²		
Level 00	N/A	As per Client req.	5.6 m²		
Level 00	HBN 10-02	WC & Handwash - Accessible, Wheelchair	5.7 m²	4.5 m²	1.21 m²
Level 00	HBN 10-02	Parking Bay - Mobile Equipment	1.8 m²	5 m²	3.17 m²
Level 00	HBN 10-02	Staff Base - 4 Staff	12.4 m²	12 m²	0.4 m²
Level 00	HBN 10-02	WC & Handwash - Accessible, Wheelchair	5.5 m²	4.5 m²	1.02 m²
Level 00	HBN 10-02	Parking Bay - Mobile Equipment	1.4 m²	5 m²	3.63 m²
Level 00	HBN 10-02	Staff Base - 4 Staff	11.1 m²	12 m²	0.88 m²
Level 00	HBN 10-02	Operating Theatre - Day Surgery	56.8 m²	55 m²	1.8 m²
Level 00	HBN 10-02	Preparation Room	17.8 m²	12 m²	5.76 m²
Level 00	N/A	As per Client req.	7.8 m²		
Level 00	N/A	As per Client req.	7.9 m²		
Level 00	HBN 10-02	Preparation Room	17.8 m²	12 m²	5.76 m²
Level 00	HBN 10-02	Day Utility, serving 2 theatres	21.4 m²	14 m²	7.44 m²
Level 00	HBN 10-02	Preparation Room	17.8 m²	12 m²	5.76 m²
Level 00	HBN 10-02	Day Utility, serving 2 theatres	16.5 m²	14 m²	2.5 m²
Level 00	N/A	As per Client req.	7.8 m²		
Level 00	HBN 10-02	Operating Theatre - Day Surgery	56.7 m²	55 m²	1.75 m²
Level 00	HBN 10-02	Operating Theatre - Day Surgery	56.8 m²	55 m²	1.8 m²
Level 00	HBN 10-02	Scrub-up & gowning room 3 places	9.2 m²	11 m²	1.81 m²
Level 00	HBN 10-02	Scrub-up & gowning room 3 places	9.2 m²	11 m²	1.77 m²
Level 00	HBN 10-02	Scrub-up & gowning room 3 places	9.2 m²	11 m²	1.8 m²
Level 00	N/A	As per Client req.	23.5 m²		
Level 00	HBN 10-02	Operating Theatre - Day Surgery	56.8 m²	55 m²	1.78 m²
Level 00	N/A	As per Client req.	7.8 m²		
Level 00	HBN 10-02	Preparation Room	17.7 m²	12 m²	5.72 m²
Level 00	HBN 10-02	Operating Theatre - Day Surgery	56.8 m²	55 m²	1.76 m²
Level 00	HBN 10-02	Day Utility, serving 2 theatres	21.4 m²	14 m²	7.44 m²
Level 00	HBN 10-02	Preparation Room	17.8 m²	12 m²	5.76 m²
Level 00	N/A	As per Client req.	7.8 m²		
Level 00	HBN 10-02	Scrub-up & gowning room 3 places	9.1 m²	11 m²	1.88 m²
Level 00	HBN 10-02	Scrub-up & gowning room 3 places	9.2 m²	11 m²	1.8 m²
Level 00	HBN 10-02	Staff Base - 4 Staff	18.2 m²	12 m²	6.17 m²
Level 00	HBN 10-02	Recovery Bay - Second Stage	12 m²	13.5 m²	1.5 m²
Level 00	HBN 10-02	Recovery Bay - Second Stage	12 m²	13.5 m²	1.5 m²
Level 00	HBN 10-02	Recovery Bay - Second Stage	9.9 m²	13.5 m²	3.57 m²
Level 00	HBN 10-02	Recovery Bay - Second Stage	9.5 m²	13.5 m²	3.99 m²
Level 00	HBN 10-02	Recovery Bay - Second Stage	9.7 m²	13.5 m²	3.76 m²
Level 00	HBN 10-02	Recovery Bay - Second Stage	9.7 m²	13.5 m²	3.75 m²
Level 00	HBN 10-02	Recovery Bay - Second Stage	10 m²	13.5 m²	3.49 m²
Level 00	HBN 10-02	Recovery Bay - Second Stage	9.6 m²	13.5 m²	3.92 m²
Level 00	HBN 10-02	Parking Bay - Mobile Equipment	1.6 m²	5 m²	3.4 m²
Level 00	HBN 10-02	Parking Bay - Resuscitation Trolley	1.6 m²	2 m²	0.39 m²
Level 00	N/A	As per Client req.	12 m²		
Level 00	HBN 10-02	Disposal Hook	24.8 m²	15 m²	9.8 m²
Level 00	HBN 10-02	Beverage & Snack Preparation Bay	10.5 m²	6 m²	4.49 m²
Level 00	HBN 10-02	Clean Utility - with blood bank	10.6 m²	17 m²	6.38 m²
Level 00	HBN 10-02	WC & handwash - semi-ambulant	3.6 m²	2 m²	1.6 m²
Level 00	HBN 10-02	Cleaners Room	7.1 m²	7 m²	0.09 m²
Level 00	HBN 10-02	Day Utility - bedpan disposal & urine test	8 m²	12 m²	3.98 m²
Level 00	HBN 10-02	Linen Store	6.2 m²	3 m²	3.24 m²
Level 00	HBN 10-02	Small Store	6 m²	8 m²	2.02 m²
Level 00	HBN 10-02	WC & handwash - semi-ambulant	3.6 m²	2 m²	1.6 m²
Level 00	HBN 10-02	Cleaners Room	8 m²	7 m²	0.96 m²
Level 00	HBN 10-02	Just In Time* Centralised Non Specialised Clinical Consumable Store	40.5 m²	30 m²	10.47 m²
Level 00	HBN 10-02	Parking Bay - Resuscitation Trolley	2.3 m²	2 m²	0.32 m²
Level 00	HBN 10-02	Parking Bay - Mobile Equipment	46.5 m²	80 m²	33.49 m²
Level 00	HBN 10-02	Parking Bay - Mobile Equipment	3.2 m²	5 m²	1.76 m²
Level 00	HBN 10-02	Store - Clinical Equipment	32 m²	30 m²	1.98 m²
Level 00	HBN 10-02	Store - Clinical Equipment	14.3 m²	30 m²	15.6 m²
Level 00	HBN 10-02	Store - Ready to use Medical Gas Cylinders	12 m²	4 m²	8 m²
Level 00	HBN 10-02	Satellite Pharmacy	14.5 m²	6 m²	8.48 m²
Level 00	N/A	As per Client req.	27 m²		
Level 00	HBN 10-02	Office - 4 Person	18.2 m²	24 m²	6.63 m²
Level 00	HBN 10-02	Meeting Room - 6 Person	21.4 m²	14 m²	7.39 m²
Level 00	HBN 10-02	Office - Medical Reporting - 2 Staff	13.5 m²	13 m²	0.47 m²
Level 00	HBN 10-02	Rest & Dining with Beverage Bay - 25 Staff	26.9 m²	33 m²	6.07 m²
Level 00	HBN 10-02	WC & Handwash - Accessible, Wheelchair	5.4 m²	4.5 m²	0.87 m²
Level 00	N/A	As per Client req.	5.6 m²	4.5 m²	1.11 m²
Level 00	N/A	N/A	21 m²		
Level 00	N/A	N/A	133.1 m²		
Level 00	N/A	N/A	49.4 m²		
Level 00	N/A	N/A	117.9 m²		
Level 00	N/A	N/A	5.2 m²		
Level 00	N/A	N/A	17.9 m²		
Level 00	N/A	N/A	28.3 m²		
Level 00	N/A	N/A	38.3 m²		
Level 00	N/A	N/A	48.4 m²		
Level 00	N/A	N/A	36.2 m²		
Level 00	N/A	N/A	36.2 m²		
Level 00	N/A	N/A	40.9 m²		
Level 00	N/A	N/A	24.2 m²		
Level 00	N/A	N/A	21.6 m²		
Level 00	N/A	N/A	9.2 m²		
Level 00	N/A	N/A	16.4 m²		
Level 00	N/A	N/A	10.6 m²		
Level 00	N/A	N/A	34.9 m²		
Level 00	N/A	N/A	181.6 m²		
Level 00	N/A	N/A	5.6 m²		
Level 00	N/A	N/A	61.6 m²		
Level 00	N/A	N/A	2.3 m²		
Level 00	N/A	N/A	2.9 m²		
Level 00	N/A	N/A	5.4 m²		
Level 00	N/A	N/A	45.5 m²		
Level 00	N/A	N/A	2.6 m²		
Level 00	N/A	N/A	10.6 m²		
Level 00	N/A	N/A	3.5 m²		
Level 00	N/A	N/A	3.5 m²		
Level 00	N/A	N/A	2.6 m²		
Level 00	N/A	N/A	2.6 m²		
Level 00	N/A	N/A	4.3 m²		
Grand Total: 144			2421.5 m²		



Proposed First Floor HBN Comparison					
Level	HBN	HBN Room Name	Area	HBN Area	Area Difference
Level 01	HBN 10-02	Cleaners Room	5 m ²	17 m ²	2.04 m ²
Level 01	HBN 10-02	Staff rest room with beverage bay, 30 places	66.61 m ²	45 m ²	21.61 m ²
Level 01	HBN 10-02	Office 1 Staff	16.1 m ²	10.5 m ²	5.61 m ²
Level 01	HBN 10-02	Office 1 Staff	16.1 m ²	10.5 m ²	5.61 m ²
Level 01	HBN 10-02	Office 1 Staff	10.01 m ²	10.5 m ²	0.49 m ²
Level 01	HBN 10-02	WC & Handwash - Accessible, Wheelchair	5 m ²	4.5 m ²	0.46 m ²
Level 01	HBN 10-02	WC & Handwash - Accessible, Wheelchair	5 m ²	4.5 m ²	0.46 m ²
Level 01	N/A	N/A	6.5 m ²		
Level 01	N/A	N/A	31 m ²		
Level 01	N/A	N/A	30.5 m ²		
Level 01	N/A	N/A	4.7 m ²		
Level 01	N/A	N/A	15.3 m ²		
Level 01	N/A	N/A	9.2 m ²		
Level 01	N/A	N/A	42.5 m ²		
Level 01	N/A	N/A	30.2 m ²		
Level 01	N/A	N/A	42.8 m ²		
Level 01	N/A	N/A	5.9 m ²		
Level 01	N/A	N/A	1.8 m ²		
Level 01	As per M & E req.	As per M & E req.	254.8 m ²		
Level 01	As per M & E req.	As per M & E req.	1352 m ²		
Level 01	As per M & E req.	As per M & E req.	188.8 m ²		
Grand Total:	21		2022.2 m ²		

Refer to NBS specification for full details



This document is © PH+S Architects. If in doubt ASK. Drawing measurements shall not be obtained by scaling. Verify all dimensions prior to construction or product manufacture. Immediately report any discrepancies on this document to the Architect. This document shall be read in conjunction with associated models, specifications and related consultants documents.

Page intentionally left blank so PDF can replace this page

