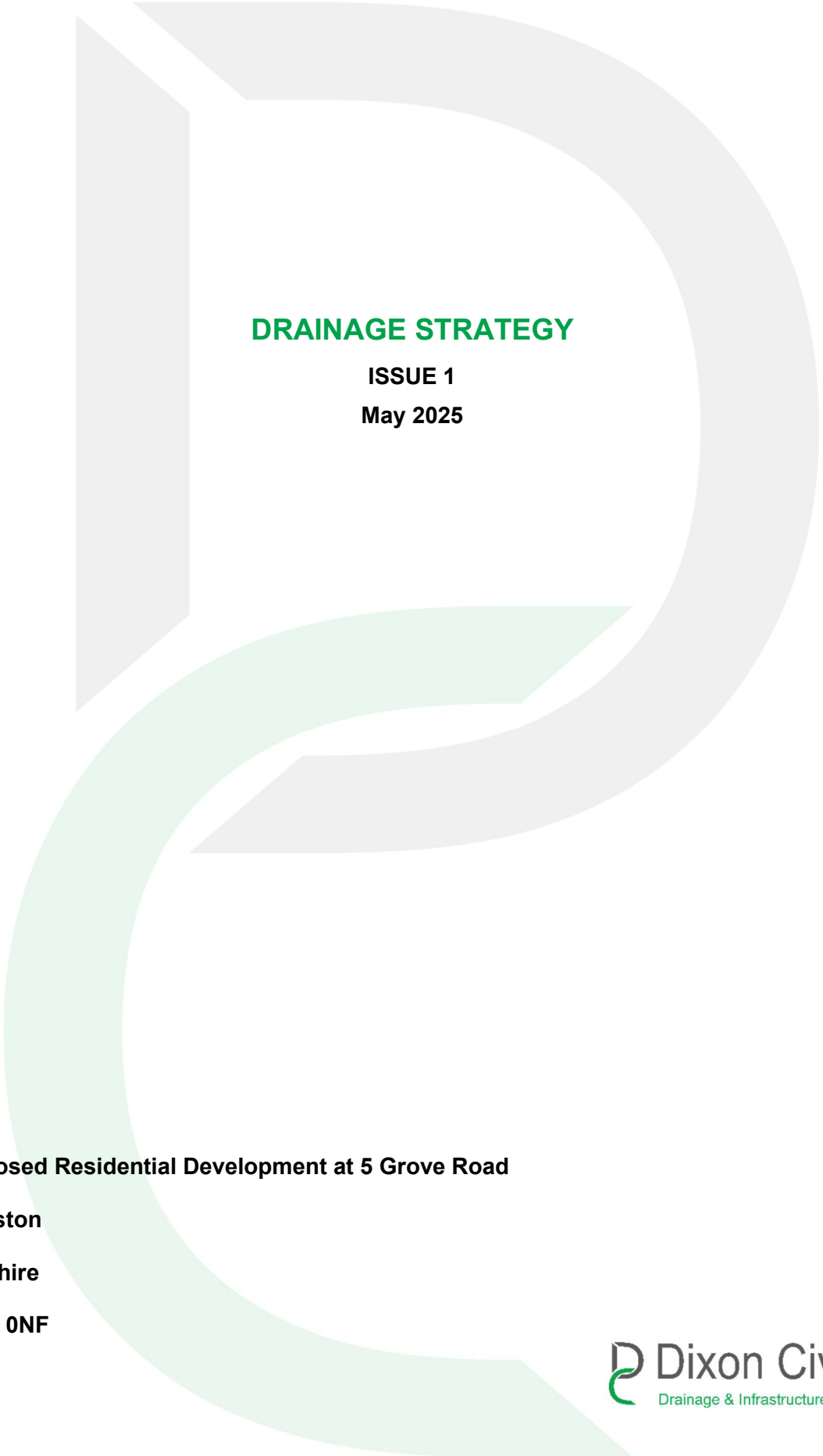




DRAINAGE STRATEGY

ISSUE 1
May 2025

Proposed Residential Development at 5 Grove Road

Sherston

Wiltshire

SN16 0NF

Document Control

Client	Palmer Building Contractors		
Report title	Drainage Strategy		
Report reference	1164-01		
Report status	Draft		
Prepared by	A.Dixon BSc(Hons) CEng MICE		
Document check	Z.West		
Issue Number/status/Date	1	Draft	19-05-2025

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APPENDIX

TITLE

PRODUCED BY

Appendix A – Drawings by DC

Drainage Strategy Layout

Dixon Civils

Appendix B – Drawings by others

Proposed Site Layout

Poulsom Architectural Design

Topographical Survey

D&H Surveys

Appendix C – Sewer Records

Appendix D – BRE365 Infiltration Tests Results

Appendix E – Calculations

1.0 Introduction

This drainage strategy report has been prepared on behalf of Palmer Building Contractors for the proposed development of 3 residential properties at 5 Grove Road, Sherston, Malmesbury. This report will introduce how the appropriate means of sustainable surface water drainage will be achieved for the development site in line with national guidance.

The development proposal comprises the demolition of an existing residential property and commercial unit to enable the erection of three new residential properties. Access to the site is off Grove Road as existing. Refer to the Proposed Site Plan (334/101 Rev B) prepared by Poulsom Architectural Design and Planning Services within Appendix B this report.

This study has been prepared to advise on an appropriate foul and surface water drainage scheme based on Sustainable Drainage Systems (SuDS) for the development site in line with national guidance, namely the National Planning Policy Framework (NPPF) and its accompanying Planning Practice Guidance (PPG).

2.0 The Existing Site

The application site covers 1350m² (0.135ha) of land mostly occupied by buildings, commercial hardstanding areas and access road. Refer to the existing topographic survey prepared by D&H Surveys enclosed within Appendix B this report.

The site is located within flood zone 1 and is bounded to the north, south and west by existing dwellings and to the east by Grove Road. Land use in the vicinity is predominantly residential.

The topographical survey indicates that the site falls to the northeast toward the site entrance at Grove Road. Existing ground levels within the application site vary from approximately 116mAOD at the site's western extent, to 111.50mAOD at its northeast extent. The topographical survey is included in DC Drawing 1164-01-01 [Drainage Strategy Layout] in Appendix A.

2.1 Existing ground conditions

British Geological Survey (BGS) mapping indicates that the site is located over Forest Marble Limestone Formation.

Defra's Multi-Agency Geographic Information for the Countryside (MAGIC) map indicates that no aquifer features are present in the vicinity of the site. The site is located within Groundwater Source Protection Zone 2C.

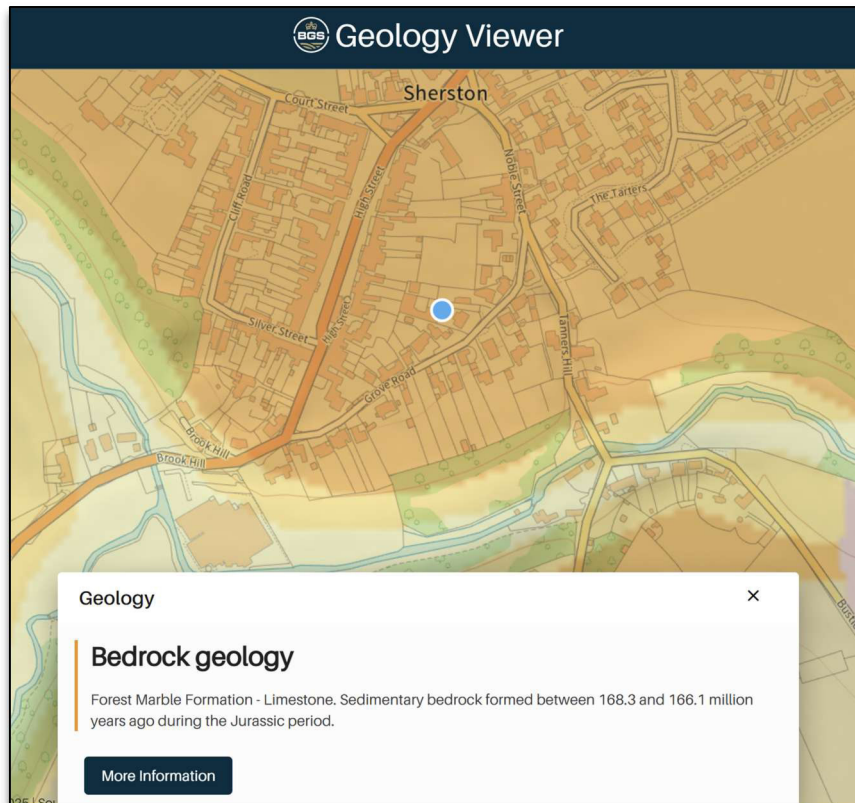


Figure 1: Bedrock Geology - Extract from British Geological Survey Geology of Britain Viewer
Source: <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer>

2.1 Intrusive Site Investigations

An intrusive site investigation, comprising 2 trial pits excavated to a depth of 1.3m and 1.5m below ground level (bgl) has been undertaken on site in May 2025. Infiltration testing to BRE365 standards was completed within each of the test pits. Investigations confirmed that the site is underlain by a brash rock strata and favourable infiltration results were found within both trial pits. See summary below.



Front Garden	Rate	Rear Garden	Rate
Test 1	1.402 x 10 ⁻⁴	Test 1	9.755 x 10 ⁻⁵
Test 2	2.04 x 10 ⁻⁴	Test 2	8.310 x 10 ⁻⁵
Test 3	1.320 x 10 ⁻⁴	Test 3	8.974 x 10 ⁻⁵
Worst Test Rate = 8.310 x 10 ⁻⁵ m/s (0.299 m/hr)			

Raw data and test synopsis is enclosed within Appendix D of this report. Groundwater was not encountered within either of the trial pits.

2.2 Existing Watercourses and Drainage Features

There are no watercourses within or adjacent to the development. The nearest watercourse to the site is the River Avon, approximately 150m to the south. The River Avon is an Environment Agency designated main river.

Asset records obtained from Wessex Water indicate the presence of a public gravity foul water sewer in Grove Road heading northeast. Private foul water drainage serving the site connects to this public sewer at the site entrance. There are no surface water sewers within the vicinity of the site.

Refer to Wessex Water sewer records within Appendix C of this report.

2.3 Existing surface water drainage arrangement

The site has no formal surface water drainage system. It is assumed that hardstanding runoff soaks away to surrounding ground and overflows to the Grove Road highway drainage network, while roof water is assumed to currently discharge in part to ground and to the foul water network.

3.0 Surface Water Drainage Proposals

Refer to DC Drawing 1164-01-01 [*Drainage Strategy Layout*] in Appendix A.

This section of the report addresses how flood risk generated as a result of developing the site will be managed using sustainable control measures to ensure that flood risks are not increased on and off the site and how surface water is managed post development.

The existing buildings comprise approximately 450m² (0.045ha) of roof area.

To provide a betterment over the existing arrangement, it is proposed to remove any surface water contribution to the foul water sewer and direct all new hardstanding runoff flows to the new surface water SUDS systems within the proposed development, thus freeing up capacity within the existing network.

3.1 Drainage Hierarchy

The surface water drainage strategy for the site has been prepared according to the drainage discharge hierarchy from CIRIA C753 The SuDS Manual, where the first available option will be utilised as follows.

Technique		Summary
1	Infiltration to the maximum extent that is practical	Proposed solution – brash soils enable the use of infiltration
2	To surface water body	Unfeasible/Not required – No watercourses within the vicinity of the site
3	To a surface water sewer, highway drain or another drainage system	Unfeasible/Not required – No surface water sewers within the vicinity of the site.
4	To a combined sewer	Not required

3.2 Infiltration Design

Good infiltration properties of brash Limestone soils enable the use of soakaways and permeable surfaces for drainage of the roof and external hard surfaces.

Roof water runoff attenuation and infiltration is proposed by means of a cellular soakaways beneath the gardens and gravel driveways.

Calculations indicate SuDS attenuation of 5.4m³ will be required to accommodate roof water flow from plot 3 and its garage, while plots 1 & 2 will require 2.3m³ each, which attenuate for all storm events up to and including the 100year +45% climate change event. A minimum of 100mm deep clean sub-base stone below permeable surfacing will provide sufficient attenuation for the same events below the parking and access road.

The enclosed calculations are based on the worst recorded infiltration rate of 8.31x10⁻⁵m/s.

Refer to the BRE365 test results included in Appendix D and proposed drainage calculations enclosed within Appendix E of this report.

3.5 Design Exceedance

Should the drainage system and SuDS fail under extreme events or blockages, floodwaters will follow the natural topography along the private access road toward Grove Road to the east, mirroring the existing development arrangement.

3.6 Water Quality

Roof water is considered fairly uncontaminated, therefore further pollution interception beyond that provided by the cellular storage is not proposed.

Runoff from the access road and parking areas can be susceptible to hydrocarbon contamination, which in this instance will be intercepted within permeable stone and textiles that make up the sub-base construction, before discharging to ground.

3.7 Adoption

The onsite drainage components will remain private and be the maintenance responsibility of the property owners.

3.8 Maintenance

Regular inspection and maintenance are important for the effective operation of the SuDS systems as designed. The regular maintenance of SuDS should be carried out in line with C753 The SUDS Manual (CIRIA, November 2015) or as per manufacturer's specification.

Pipework and Catchpits

It is not envisaged that silt build up within the pipework systems will require rigorous maintenance. Notwithstanding this, a suitable maintenance regime for the systems will comprise of routine inspection (every six months) and silt removal as necessary.

Cellular Infiltration Tank

It is not envisaged that silt build up within the cellular crate systems will require a rigorous maintenance regime so long as silt is removed from upstream catch pits and inspection chambers on a regular basis. Camera access can be gained via inspection chambers and inlet pipework to the soakaway. Silt removal can be achieved by jetting the inspection tunnels, where a standard jet head with rear facing nozzles should be used. The head should be fed to the far end of the crate tunnel via the nearest inspection chamber, activated and retracted. As the nozzle is removed, debris will be swept back into the inspection chamber where it can then be removed with the use of a standard gully sucker.

Permeable Paving/Surfacing

Permeable surfaces need to be regularly cleaned of silt and other sediments to preserve the infiltration capability of the surface. Suggested brushing regime would be at the end of winter to collect winter debris, mid-summer to collect dust, vegetation and grass-type deposits and after autumn leaf fall.

4.0 Foul Water Drainage Proposals

Refer to DC Drawing 1164-01-01 [*Proposed Drainage Strategy*] in Appendix A.

4.1 Proposal

It is proposed to connect foul water flows from the site into the existing on site private foul water drainage network which joins the Wessex Water public sewer network within Grove Road to the south.

4.2 Sewer Capacity

A capacity check has been submitted to Wessex Water and a response is awaited.

4.3 Adoption

The foul water drainage components will remain private and be the maintenance responsibility of the property owners.

5.0 Conclusions

The proposed redevelopment of 5 Grove Road to demolish existing buildings and build 3 residential properties will generate a small increase in impermeable surface area when compared to existing. Surface water runoff from the buildings and external hard surfaces will be directed to sustainable drainage systems that dispose of all water at source via infiltration.

On site storage for the building roofs will be provided within cellular soakaway tanks and external surfaces will be constructed of porous materials with sub-base SUDS attenuation. The SUDS features have been designed to accommodate the 1 in 100 year storm event, including a 45% allowance for climate change, in accordance with NPPF guidance.

Through the redevelopment, any surface water flow entering the foul sewer network will be removed.

The proposed SUDS and all other foul and surface water drainage components will be maintained by the owners of the property.

These proposals demonstrate that the development is achievable without worsening of flood risk to the site and local area, while providing an improvement over existing arrangements with the introduction of sustainable drainage systems.

Dixon Civils Ltd

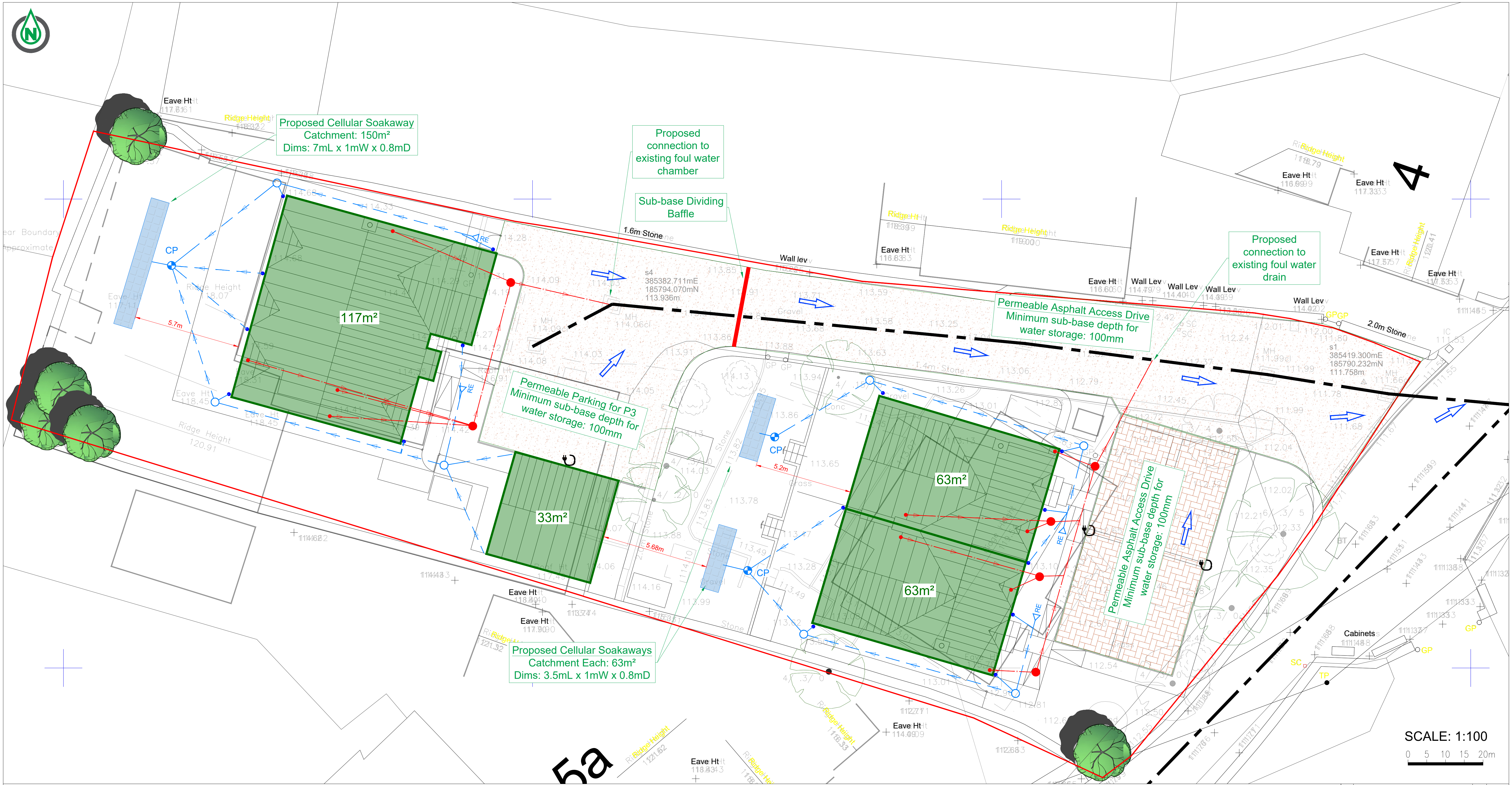
Issue 1 - May 2025

APPENDIX A

Drawings by Dixon Civils

Drawing ref. 1164-01-01

Drainage Strategy Layout



KEY:

- Proposed Private Surface Water Drain, Inspection Chamber & Invert Level
- Proposed Rodding Eye
- Proposed Surface Water Catchpit Chamber
- Proposed Private Foul Water Drain, Inspection Chamber & Invert Level
- Assumed Route Of Existing Foul Water Sewer (To be confirmed)
- Proposed Permeable Paving
- Flood Flow Route (Over 1:100yr+45% storm event)

NOTES:

- Do not scale from this drawing.
- Drawing issued for planning purposes only, not for construction.
- This drawing is based on topographical survey compiled by D&H Surveys - Drawing Number SU01, Jan 2024
- All levels are in metres and relate to the ordnance survey level.
- Do not scale from this drawing. Work only from stated dimensions or setting out details.
- This drawing shall be read in conjunction with all relevant scheme drawings and specifications.
- At the commencement of works the contractor is to carry out trial pits and liaise with Utility Companies in order to establish the exact position of all existing statutory utility plant in the vicinity of works and take adequate precautions for their protection.
- All foul and storm water drains which are not subject to adoption as public sewers under a Section 104 Agreement must be constructed in accordance with the latest Building Regulations, BS8301, and, where appropriate, the relevant agreement certificates.
- 100mmØ private foul water drainage shall be laid no flatter than 1 in 80. 150mmØ pipework shall be laid no flatter than 1 in 150.

FIRST ISSUE (DRAFT)		AD	19.05.25
Rev	Description	Dm	Date
REVISIONS			
Dixon Civils Drainage & Infrastructure Design www.DixonCivils.com 01249 490813 Enquiries@DixonCivils.com			
CLIENT Palmer Building Contractors			
JOB TITLE 5 Grove Road Sherston Malmesbury			
DRAWING TITLE Drainage Strategy Layout			
DATE	MAY 2025	DRAWN	AD
DRAWING No.	1164-01-01	REV	-
SCALE	1:100 @ A1	ISSUED FOR	FOR APPROVAL
This drawing is the copyright of Dixon Civils Limited. It may not be reproduced or amended without the written approval of Dixon Civils Limited.			

APPENDIX B

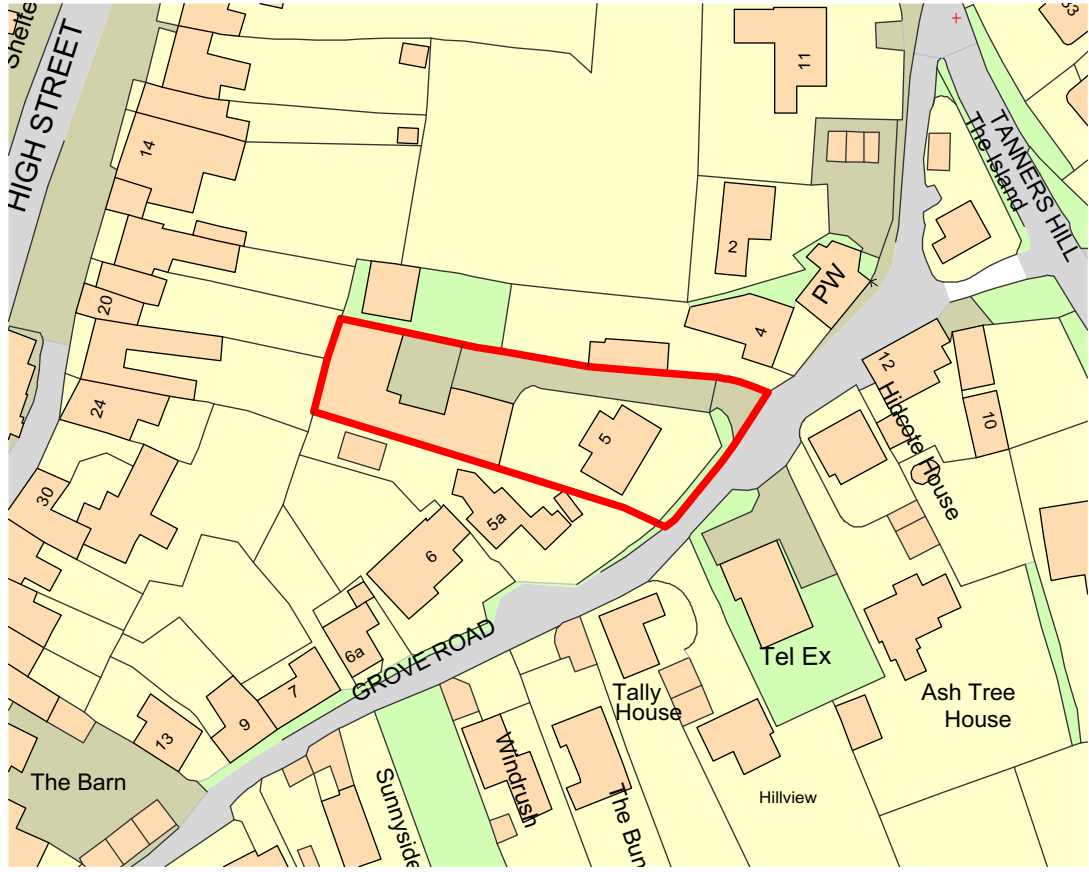
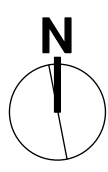
Drawings by others

Drawing ref. 334-101B

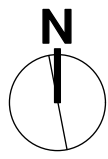
Site Layout (Poulsom Architectural
design and Planning Services)

Drawing ref. SU01

Topographic Survey (D&H Surveys)



Site Location Plan - Scale 1:1250



Proposed Block/Roof Plan - Scale 1:200

Notes

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- * Any works carried out prior to the necessary approvals being granted are carried out at the clients own risk.
- * These drawings are copyright and their use or reproduction without the written permission of Poulsom Architectural Design and Planning Services is prohibited.
- * Party Wall - where work involves alterations to a party wall or works close to a boundary, it is the owners responsibility to comply with the necessary notices etc. required by the Party Wall Act, 1996. Notices to be served at least two months before work commences.
- * General Notes - the contractor must comply in all respects with current building regulations & relevant building standards & practice whether specifically stated on this drawing or not.
- * Before the start of work all site measurements, angles & levels must be checked by the contractor in the event of any inaccuracies on this drawing no liability or responsibility will be accepted once work has started.
- * Only the materials on this drawing are to be used. Any substitutions must be of a similar quality & standard as that stated. All materials are to be used in accordance with manufacturers instructions unless otherwise directed.
- * All construction projects large and small are subject to the CDM Regulations (2015). If the development will be for a domestic Client or less than 30 days in duration then the responsibility for Health and Safety is then passed onto the Main Contractor. In all cases the Client may devolve the responsibility to a CDM Planning Supervisor, who will act on the Clients behalf. Please refer to Planning Supervisor for advice.
- * Before starting work you need to check if any asbestos is present, in Commercial properties there should be a plan register - [Ask Locala](#). You need to check that the plan covers the area of the building that you will be working in and if you are doing refurbishment work that includes a survey that tells you what types of asbestos is present and its condition. If there is no Register or survey or the report is not clear - [Do not start work](#).

Proposed materials

Boundary treatments

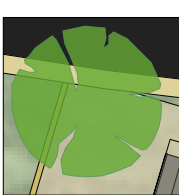


2m high close boarded fences to rear of dwellings.

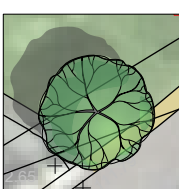
Planting



Low level planting to front of dwellings.



Existing tree retained.

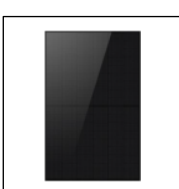


Proposed tree.

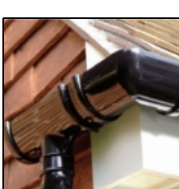
Roof



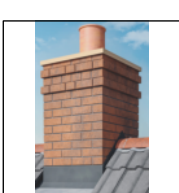
Bradstone Conservation roof tile.



Integrated PV panels.



Black rainwater goods.

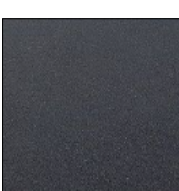


GRP chimney.

Hard landscaping



Permeable block paving to parking areas.



Tarmacadam to existing driveway.

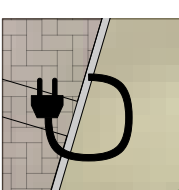


Buff textured paving slabs to entrances and rear gardens.

Miscellaneous



Single bike Secure by Design shed storage to all properties.



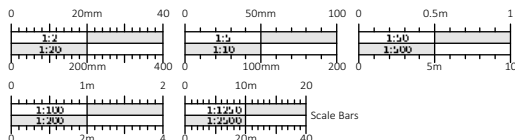
Bollard mounted car charger on all plots.



4No. Manthorpe Swift brick.

General notes

BS - All dwellings to have refuse storage to rear of dwellings. This is Wiltshire Council's requirement, 1No. 180ltr black refuse bin, 1No. 240ltr blue lid recycling bin and 1No. black recycling box. Collection to be via road collection on Grove Road.



Do not scale this drawing. Check all dimensions on site. This drawing is only to be used on the site for which designed all materials specified are subject to confirmation on site prior to works commencing. Figured dimensions and levels to be used. Any inaccuracies must be notified to Poulsom Architectural Design and Planning Services. Detail drawings and larger scale drawings take precedence over smaller drawings.

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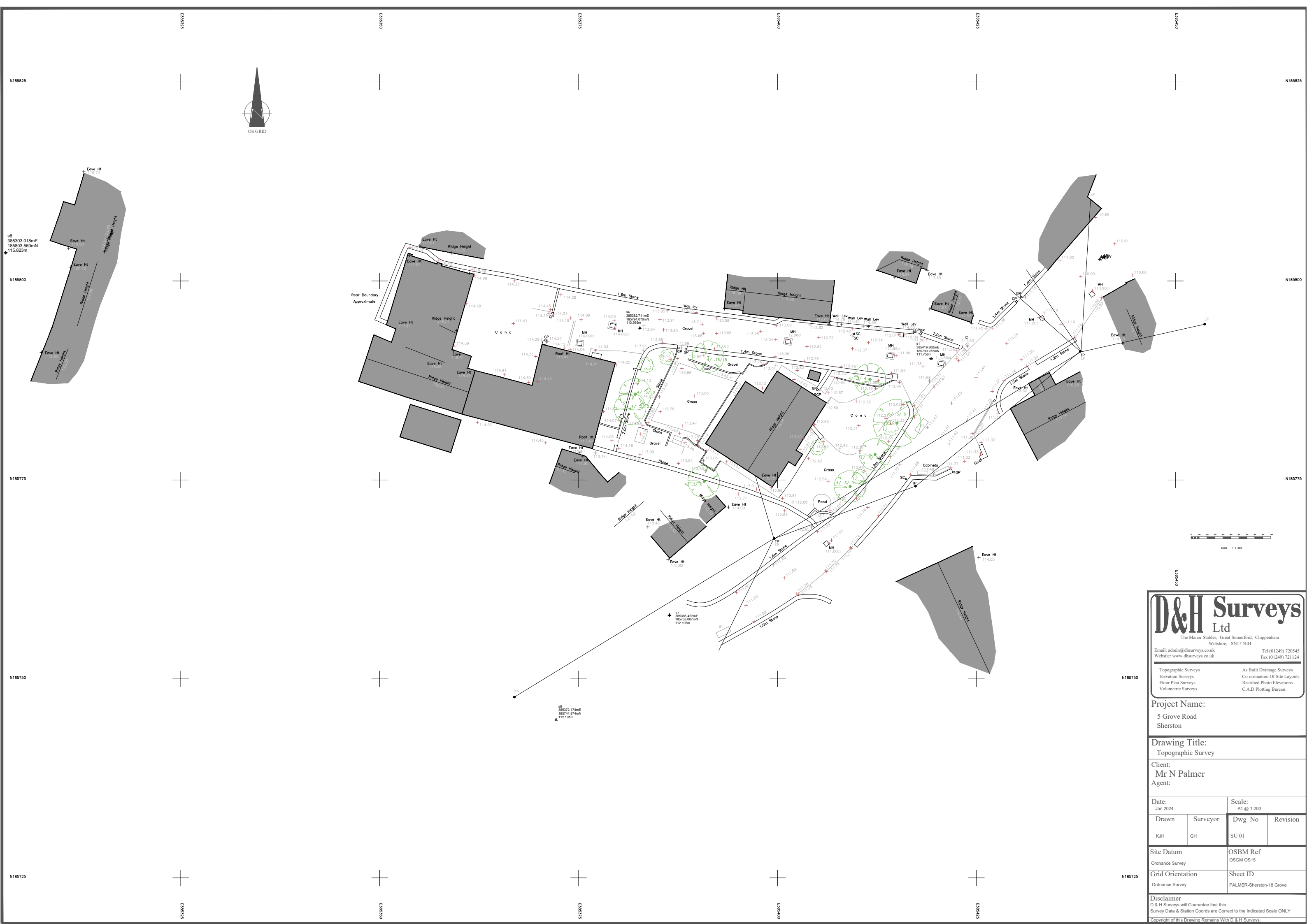
PRELIMINARY	✓	TENDER
PLANNING		CONSTRUCTION

Revision Description
Rev 08.11.24 layout amended to a single semi detached dwelling and a detached dwelling.
Rev 13.11.24 roof tile amended to Bradstone Conservation roof tiles.

Drawing No. 334/101
Rev. b

Client Name -
Site - 5 Grove Road, Shepton, Wiltshire
Drawing Title - Site location plan and proposed site block plan drawings
Scale - 1:200 & 1:1250 @ A1
Date - September 2024
Drawn - BP





D&H Surveys Ltd

The Manor Stables, Great Somerford, Chippenham
Wiltshire, SN15 5EH.

Email: admin@dhsurveys.co.uk
Website: www.dhsurveys.co.uk

Topographic Surveys
Elevation Surveys
Floor Plan Surveys
Volumetric Surveys

As Built Drainage Surveys
Co-ordination Of Site Layouts
Rectified Photo Elevations
C.A.D Plotting Bureau

Project Name:

5 Grove Road
Sherston

Drawing Title:

Topographic Survey

Client:

Mr N Palmer

Agent:

Date:

Jan 2024

Scale:

A1 @ 1:200

Drawn

Surveyor

Dwg No

Revision

KJH

GH

SU 01

Site Datum

Ordnance Survey

OSBM Ref

OSGM OS15

Grid Orientation

Ordnance Survey

Sheet ID

PALMER-Sherston-18 Grove

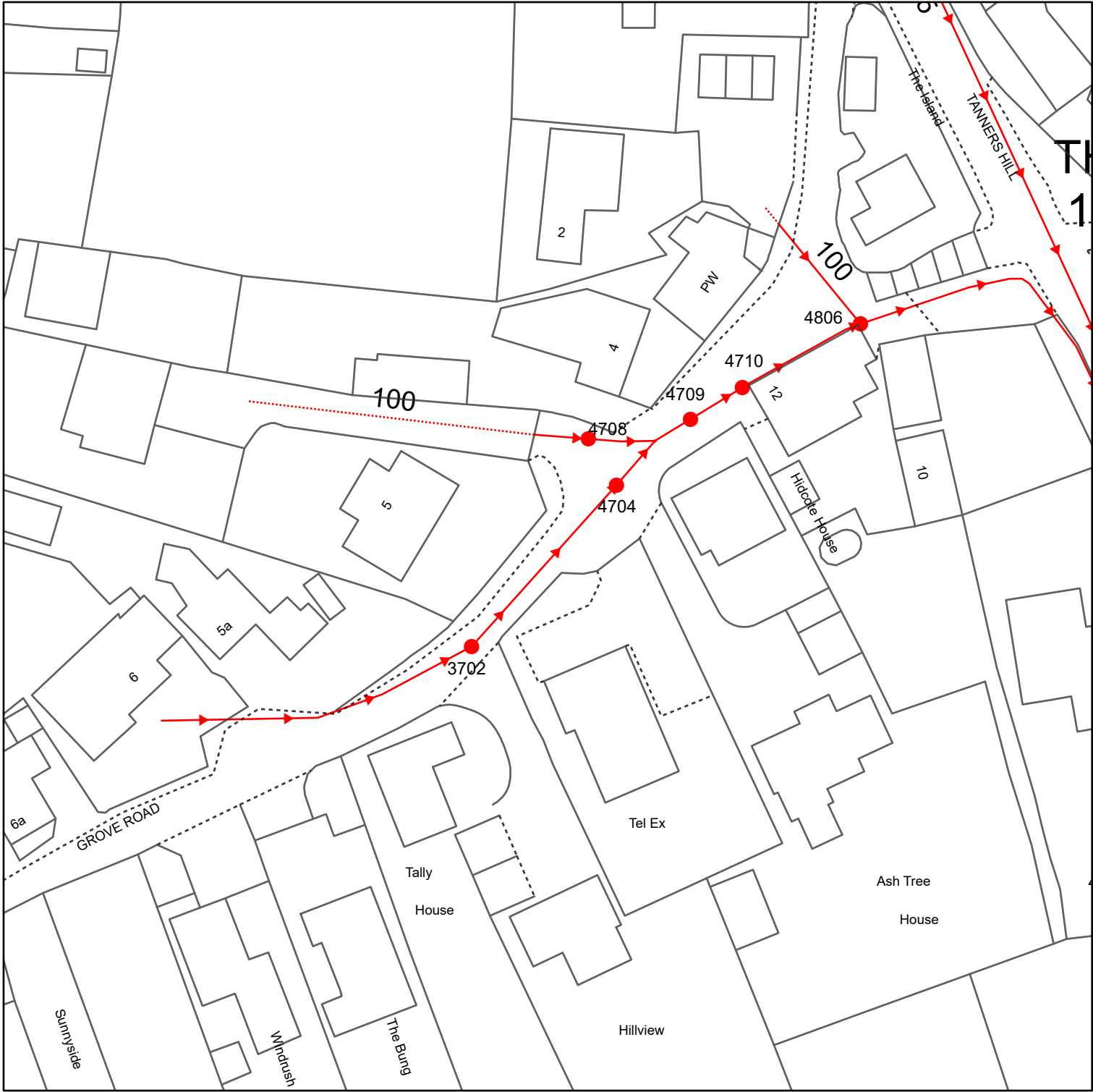
Disclaimer

D & H Surveys will Guarantee that this
Survey Data & Station Coords are Correct to the Indicated Scale ONLY
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APPENDIX C

Wessex Water Sewer Records

Wessex Water Network Map



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WATER MAINS	SEWERS	STRATEGIC PUBLIC	PRIVATE	SECTION 104	OTHER WESSEX PIPES	NON-WESSEX / UNKNOWN
- Distribution - Washout - Raw Water - Abandoned - Private	- Foul - Surface - Combined - Abandoned	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).	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).	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).	- Rising Mains - Standby Rising Mains - EDM Effluent Disposal - Overflow - Syphon	- Private Rising Mains - Culverted Watercourse - Highway Drain - Use Unknown - Status Unknown
FITTINGS - Hydrant - Other	STRUCTURES - Manhole - Foul - Manhole - Surface - Manhole - Combined - Inlet - Outfall - Lamphole - Bifurcation - Foul - Bifurcation - Surface - Bifurcation - Combined - Combined Sewage Overflow	- Pumping Station - Surface - Pumping Stn - Foul/Combined - Gully - Vent Column - Rodding Eye - Catchpit - Flushing Chamber - Soakaway - Non Return Valve - Air Valve - Hatch Box - Washout	- Pumping Station - Surface - Pumping Stn - Foul/Combined - Gully - Vent Column - Rodding Eye - Catchpit - Flushing Chamber - Soakaway - Non Return Valve - Air Valve - Hatch Box - Washout	- Pumping Station - Surface - Pumping Stn - Foul/Combined - Gully - Vent Column - Rodding Eye - Catchpit - Flushing Chamber - Soakaway - Non Return Valve - Air Valve - Hatch Box - Washout	- OTHER STRUCTURES - Attenuation Tank - Storage Tank - Chamber - Tunnel - Interceptor	- OTHER STRUCTURES - Attenuation Tank - Storage Tank - Chamber - Tunnel - Interceptor

Information in this map 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. If you are proposing to build over or near Wessex Water's apparatus you should contact the Developer Services Team, tel: 01225 526333 or e-mail: developer.enquiries@wessexwater.co.uk to discuss your proposals. Details of assets within Wessex Water's land ownership are unavailable through this service.

Wessex Water
YTL GROUP

Date: 02/08/2024
Centre: 385415E, 185778N
Scale: 1:625
(when printed at A4 size)

APPENDIX D

BRE365 Infiltration Test Results

SOIL INFILTRATION RATE TESTING BRIEF

This test method follows the procedures laid out by the BRE Digest 365 (2016)

Trial Hole Digging

- CAT scan location of proposed trial hole to check for existing buried services.
- The test hole should be typically 0.3m-1m wide and 1m-3m long, with vertical sides cut square. Make a record of the test hole dimensions.
- The base of the trial hole should be approximately the same depth as anticipated in the full size soakaway.
- Overall excavation depth is typically 1.5m-2.5m, unless otherwise instructed by drainage designer.

Test Procedure

- Fill trial hole with water – this should be done rapidly, not with a hose pipe.
- Record the time taken for the water level to fall within the trial hole from 75% to 25% full. A record sheet is provided attached to this brief.
- Repeat 3 times, allowing the trial hole to drain between tests.
- Record and photograph pit dimensions, groundwater level (if encountered) and note strata type at each location.
- At the end of testing, the pit is to be backfilled and made safe.

Calculating The Result

$$\text{Soil infiltration rate } f = \frac{V_{p75-25}}{a_{s50} \times t_{p75-25}}$$

Where:

- V_{p75-25} = Effective storage volume of water in the soakage trial pit between 75% and 25% effective storage depth.
- a_{s50} = Internal surface area of the soakage trial pit up to 50% effective storage depth and including the base area.
- t_{p75-25} = Time for the water level to fall from 75% to 25% effective storage depth.

Alternatively contact Dixon Civils on 01249 490813, who can assist with converting the test results and assist with your Sustainable Drainage Design.

The attached test record sheet can also be sent to **Enquiries@DixonCivils.Com**

TEST RECORD

Test Pit Number: _____ Front garden soil

Pit dimensions: _____ 1400mm **Long x** _____ 750 **Wide x** _____ 1500 **Deep**

	Reading (% full)	Depth of water from base	Time
Test 1	100%	600	7.00
	75%	450	7.05
	50%	300	7.12
	25%	150	7.21
Test 2	100%	600	9.05
	75%	450	9.09
	50%	300	9.15
	25%	150	9.20
Test 3	100%	600	12.30
	75%	450	12.36
	50%	300	12.44
	25%	150	12.53

Calculated Infiltration Rate =

TEST RECORD

Test Pit Number: _____ rear garden soil/brash

Pit dimensions: _____ 1400mm **Long x** _____ 750 **Wide x** _____ 1300 **Deep**

	Reading (% full)	Depth of water from base	Time
Test 1	100%	600	8.15
	75%	450	8.22
	50%	300	8.31
	25%	150	8.45
Test 2	100%	600	3.00
	75%	450	3.08
	50%	300	3.20
	25%	150	3.35
Test 3	100%	600	4.00
	75%	450	4.10
	50%	300	4.23
	25%	150	4.35

Calculated Infiltration Rate =



APPENDIX E

Calculations

Infodrainage Soakaway Calculations

Project: 5 Grove Road Sherston	Date: 19/05/2025		
	Designed by: AD	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	Company: Dixon Civils		



P3 Catchment

Type : Catchment Area

Area (ha)	0.015
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100



P 1/2 Catchment

Type : Catchment Area

Area (ha)	0.007
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100



P1/2 PP Catchment

Type : Catchment Area

Area (ha)	0.008
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Driveway catchment

Type : Catchment Area

Area (ha)	0.02
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project:: 5 Grove Road Sherston	Date: 19/05/2025		
	Designed by: AD	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	Company:: Dixon Civils		



P5 Drive Catchment

Type : Catchment Area

Area (ha)	0.012
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project:: 5 Grove Road Sherston	Date: 19/05/2025		
	Designed by: AD	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company:: Dixon Civils		



P1/2 Porous Paving

Type : Porous Paving

Dimensions

Exceedance Level (m)	112.000
Depth (m)	0.350
Base Level (m)	111.650
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1000.0
Porosity (%)	30
Length (m)	12.500
Long. Slope (1:X)	1000.00
Width (m)	6.500
Total Volume (m³)	5.362

Advanced

Base Infiltration Rate (m/hr)	0.299
Side Infiltration Rate (m/hr)	0.299
Safety Factor	2.0
Conductivity (m/hr)	1000.0



Porous Driveway

Type : Porous Paving

Dimensions

Exceedance Level (m)	111.500
Depth (m)	0.350
Base Level (m)	111.150
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1000.0
Porosity (%)	30
Length (m)	35.000
Long. Slope (1:X)	17.50
Width (m)	5.000
Total Volume (m³)	11.550

Advanced

Base Infiltration Rate (m/hr)	0.299
Side Infiltration Rate (m/hr)	0.299
Safety Factor	2.0
Conductivity (m/hr)	1000.0

Project: 5 Grove Road Sherston	Date: 19/05/2025		
	Designed by: AD	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company: Dixon Civils		



Porous Paving

Type : Porous Paving

Dimensions	
Exceedance Level (m)	113.850
Depth (m)	0.350
Base Level (m)	113.500
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1000.0
Porosity (%)	30
Length (m)	12.500
Long. Slope (1:X)	20.00
Width (m)	9.500
Total Volume (m³)	7.837

Advanced	
Base Infiltration Rate (m/hr)	0.299
Side Infiltration Rate (m/hr)	0.299
Safety Factor	2.0
Conductivity (m/hr)	1000.0

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Report Details: Type: Stormwater Controls Storm Phase: Phase	Company: Dixon Civils		


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 Drainage & Infrastructure Design



P3 Soakaway

Type : Cellular Storage

Dimensions

Exceedance Level (m)	116.500
Depth (m)	0.800
Base Level (m)	114.000
Number of Crates Long	7
Number of Crates Wide	2
Number of Crates High	2
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	7.020

Advanced

Base Infiltration Rate (m/hr)	0.299
Side Infiltration Rate (m/hr)	0.299
Safety Factor	2.0



P1/2 Soakaway

Type : Cellular Storage

Dimensions

Exceedance Level (m)	112.500
Depth (m)	0.800
Base Level (m)	110.000
Number of Crates Long	1
Number of Crates Wide	7
Number of Crates High	2
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	4.360

Advanced

Base Infiltration Rate (m/hr)	0.299
Side Infiltration Rate (m/hr)	0.299
Safety Factor	2.0

Project:: 5 Grove Road Sherston	Date: 19/05/2025			 Dixon Civils Drainage & Infrastructure Design
	Designed by: AD	Checked by:	Approved By:	
Report Title: Rainfall Analysis Criteria	Company:: Dixon Civils			

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

Project: 5 Grove Road Sherston		Date: 19/05/2025		 Dixon Civils Drainage & Infrastructure Design	
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: AD	Checked by:		Approved By:
		Company: Dixon Civils			



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 (%)
P3 Soakaway	FSR: 100 years: +45 %: 120 mins: Winter	114.800	114.800	0.800	0.800	3.0	5.316	0.000	8.013	0.0	0.000	82	24.268
P1/2 Soakaway	FSR: 100 years: +45 %: 120 mins: Winter	110.677	110.677	0.677	0.677	1.4	2.251	0.000	3.779	0.0	0.000	72	48.371
P1/2 Porous Paving	FSR: 100 years: +45 %: 15 mins: Winter	111.666	111.653	0.003	0.003	4.8	0.061	0.000	2.295	0.0	0.000	0	98.853
Porous Driveway	FSR: 100 years: +45 %: 15 mins: Winter	113.156	111.171	0.006	0.021	11.6	0.567	0.000	5.599	0.0	0.000	1	95.090
Porous Paving	FSR: 100 years: +45 %: 15 mins: Winter	114.129	113.516	0.004	0.016	7.3	0.207	0.000	3.497	0.0	0.000	1	97.357

Project:: 5 Grove Road Sherston	Date: 19/05/2025			 Dixon Civils Drainage & Infrastructure Design
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Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company:: Dixon Civils			

Status
OK
OK
OK
OK
OK

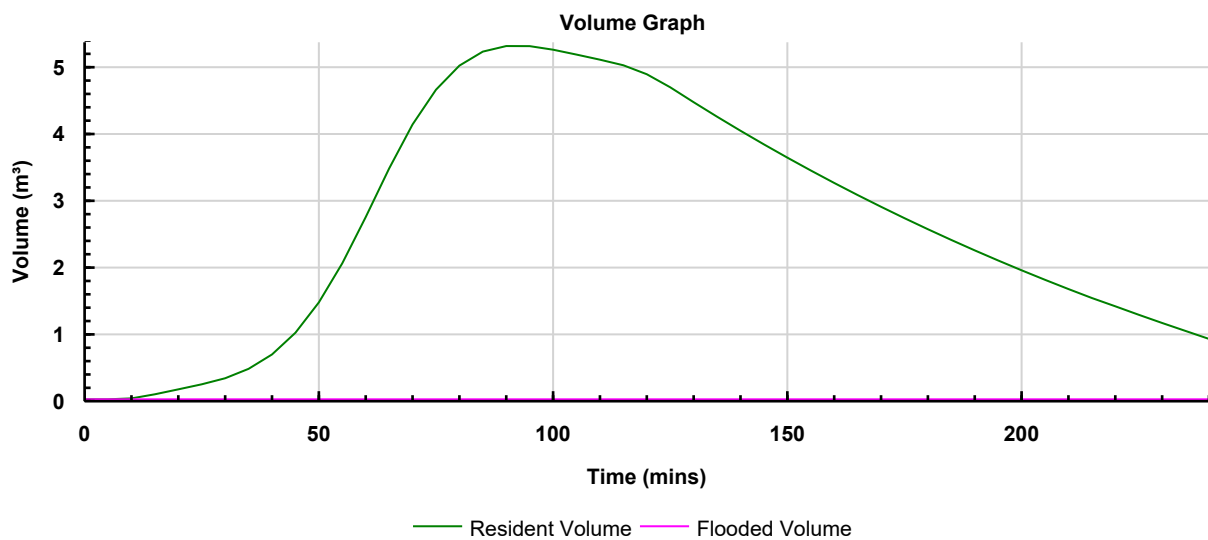
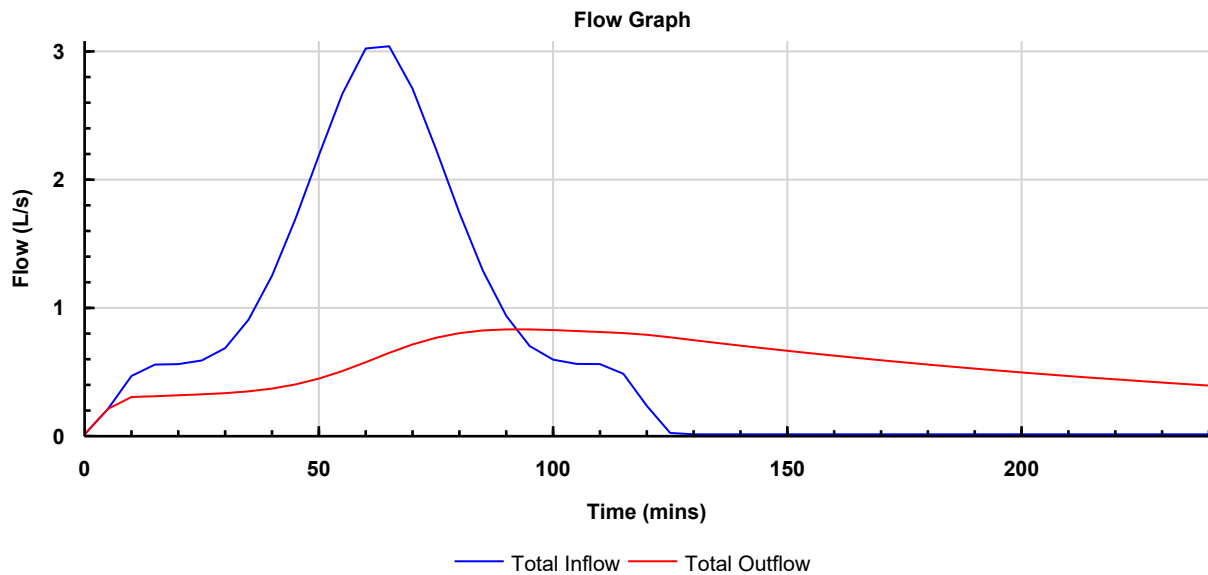
Project: 5 Grove Road Sherston	Date: 19/05/2025		
	Designed by: AD	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company: Dixon Civils		



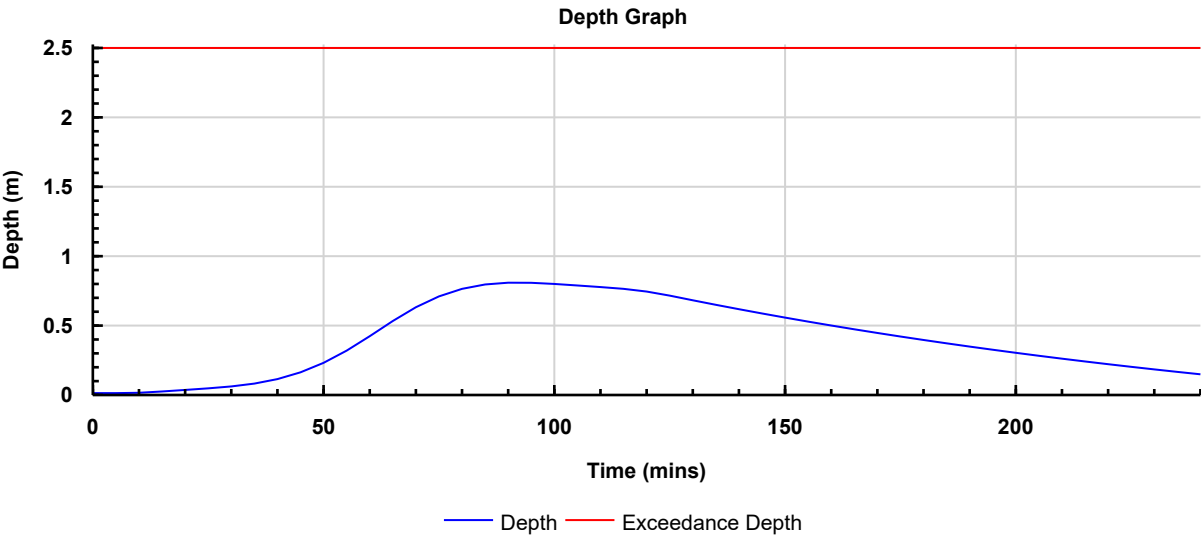
P3 Soakaway
Critical Storm: FSR: 100 years: Increase Rainfall (%): +45: 120 mins: Winter

Type : Cellular Storage

Graphs



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	Designed by: AD	Checked by:	Approved By:	
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company: Dixon Civils			



Project: 5 Grove Road Sherston	Date: 19/05/2025		
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Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company: Dixon Civils		


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 Drainage & Infrastructure Design

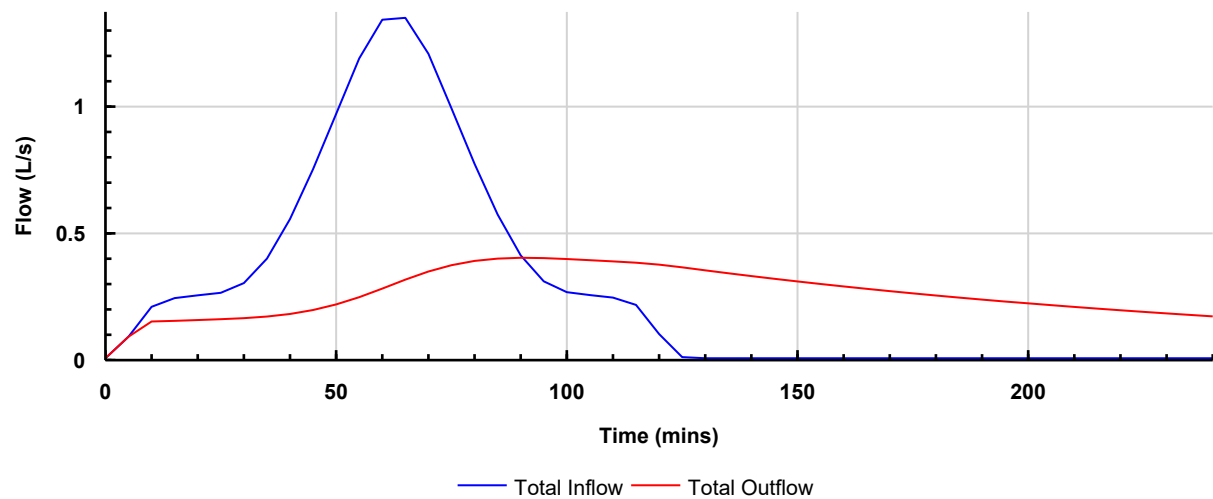


P1/2 Soakaway
Critical Storm: FSR: 100 years: Increase Rainfall (%): +45: 120 mins: Winter

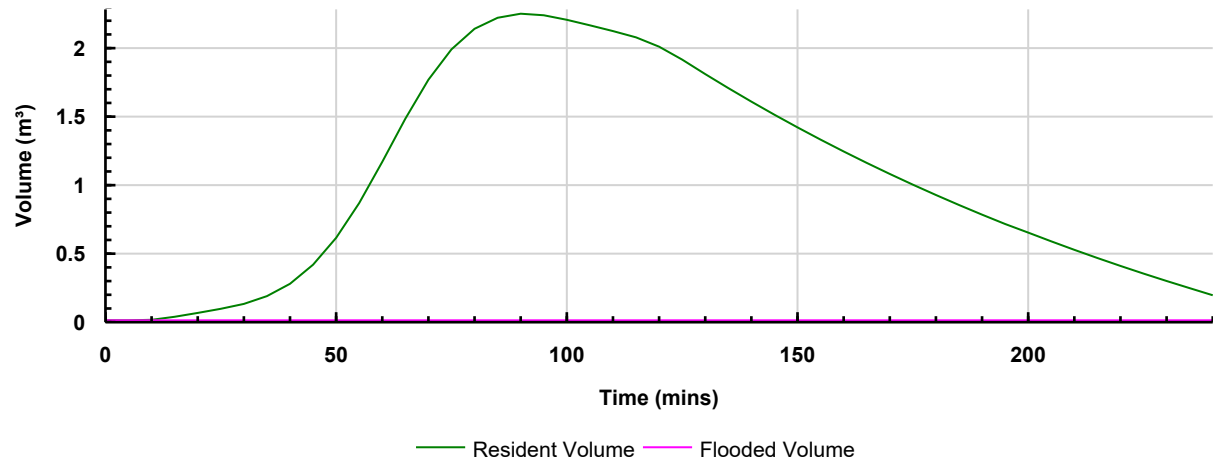
Type : Cellular Storage

Graphs

Flow Graph

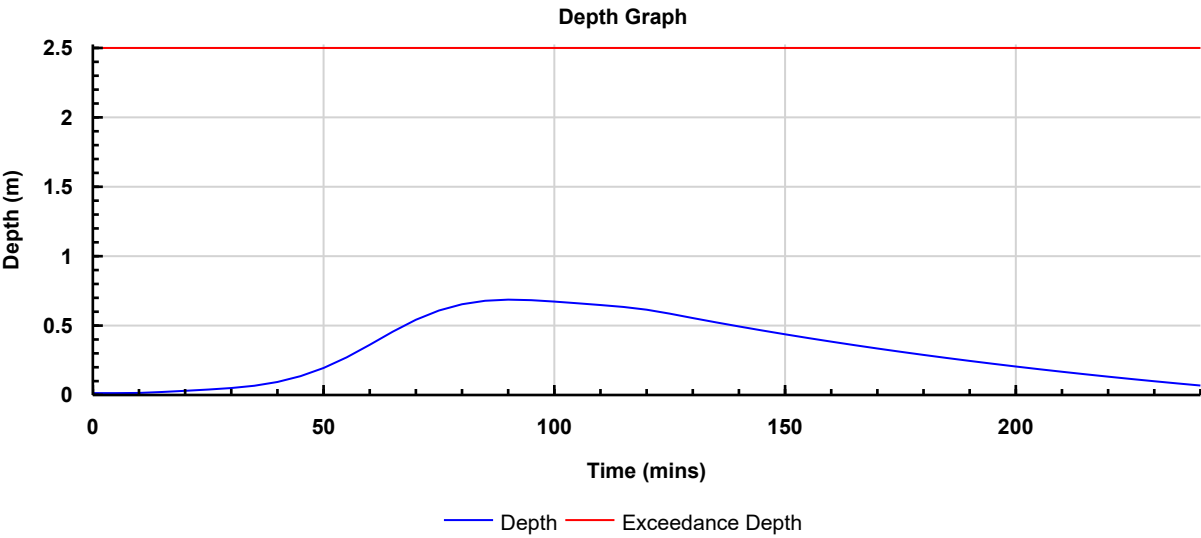


Volume Graph



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	Designed by: AD	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company: Dixon Civils		

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Drainage & Infrastructure Design



Project: 5 Grove Road Sherston	Date: 19/05/2025		
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Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company: Dixon Civils		

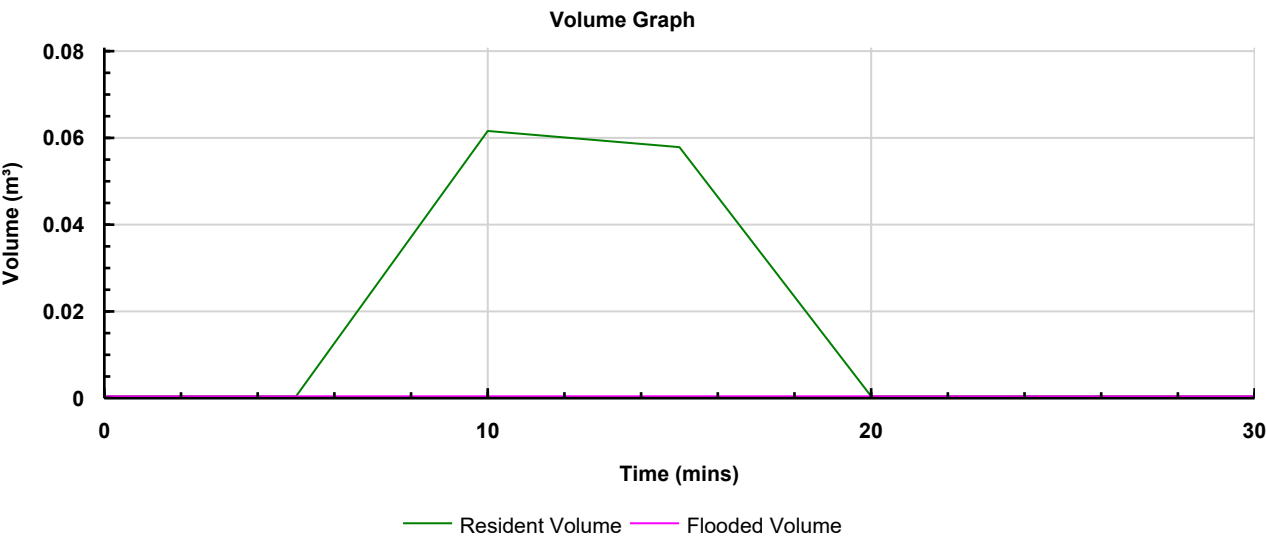
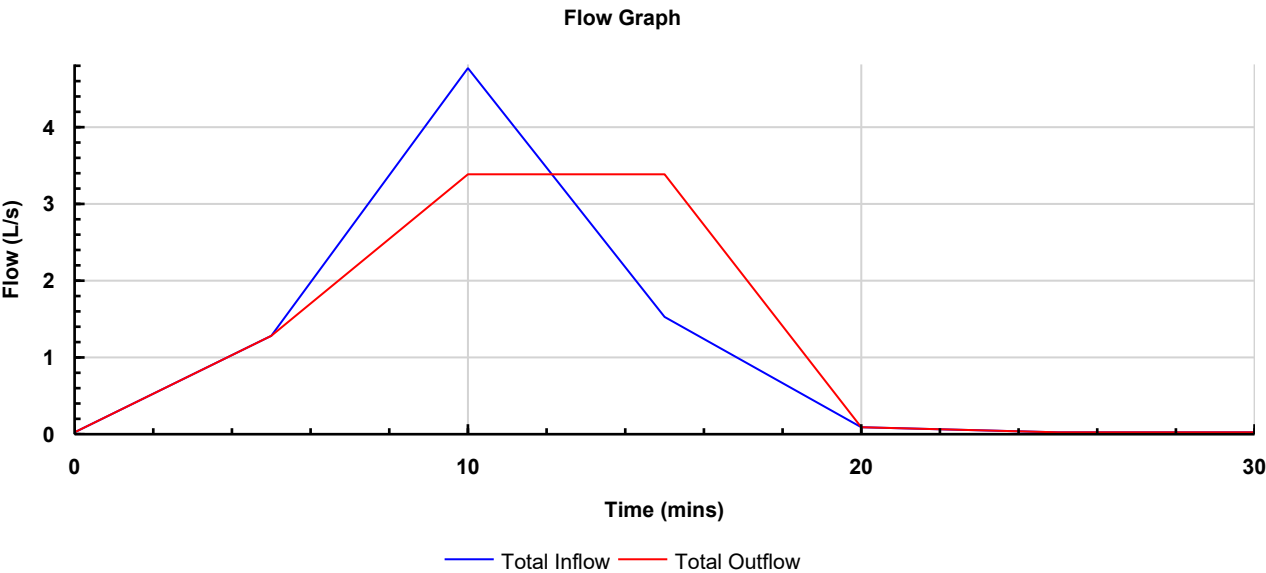

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P1/2 Porous Paving
Critical Storm: FSR: 100 years: Increase Rainfall (%): +45: 15 mins: Winter

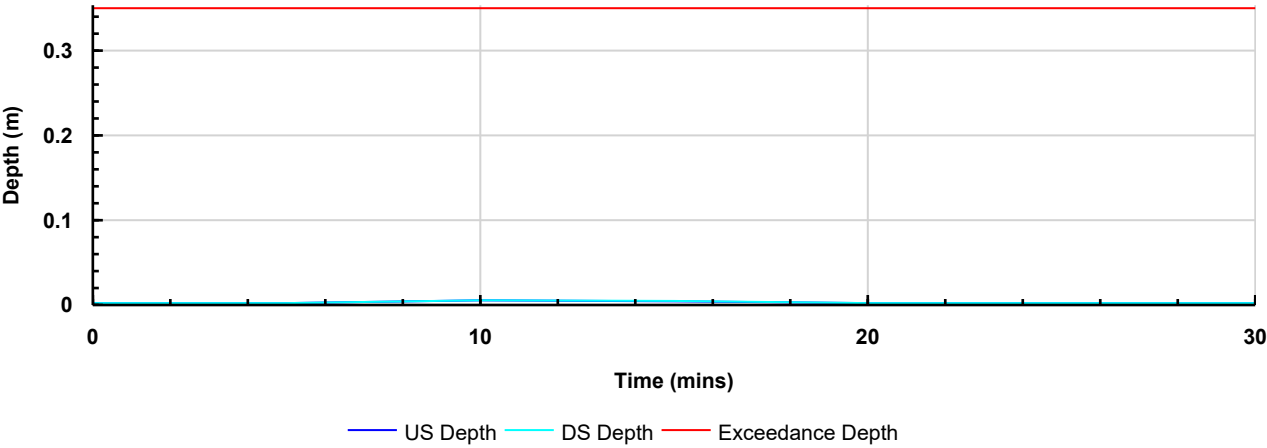
Type : Porous Paving

Graphs



Project: 5 Grove Road Sherston	Date: 19/05/2025			 Dixon Civils Drainage & Infrastructure Design
	Designed by: AD	Checked by:	Approved By:	
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company: Dixon Civils			

Depth Graph



Project: 5 Grove Road Sherston	Date: 19/05/2025		
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Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company: Dixon Civils		

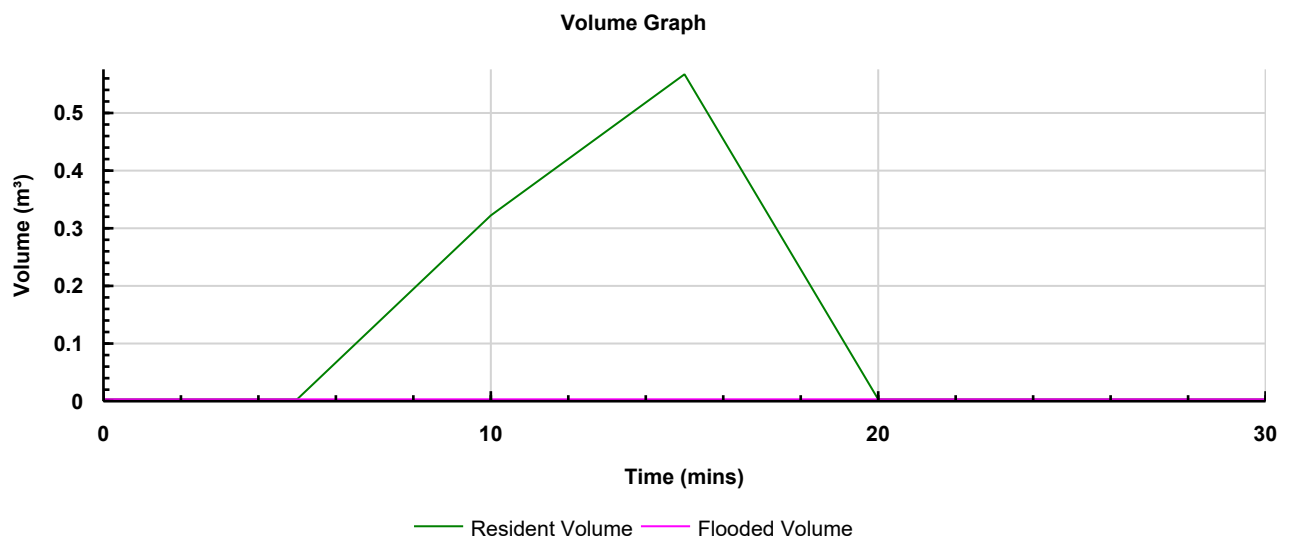
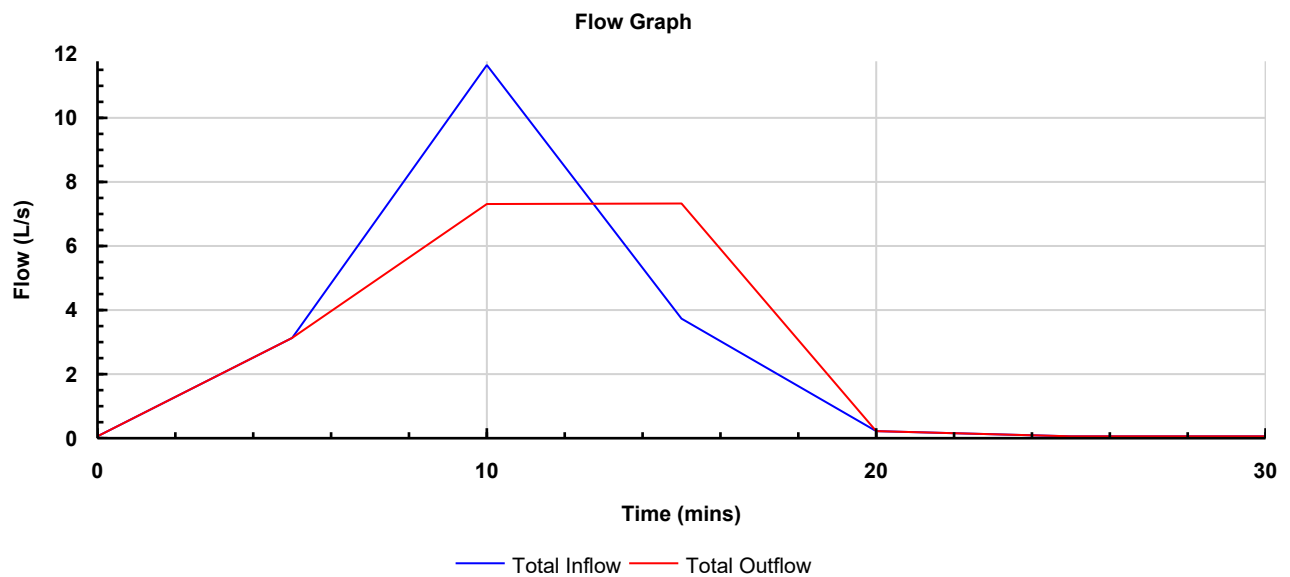

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Porous Driveway
Critical Storm: FSR: 100 years: Increase Rainfall (%): +45: 15 mins: Winter

Type : Porous Paving

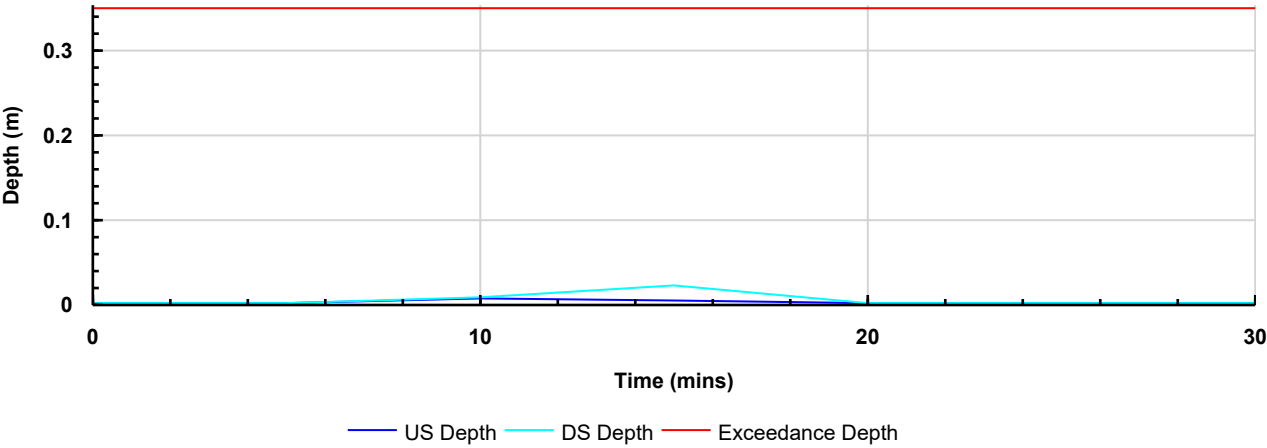
Graphs



Project:: 5 Grove Road Sherston	Date: 19/05/2025		
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Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company:: Dixon Civils		

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Depth Graph



Project: 5 Grove Road Sherston	Date: 19/05/2025		
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Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company: Dixon Civils		

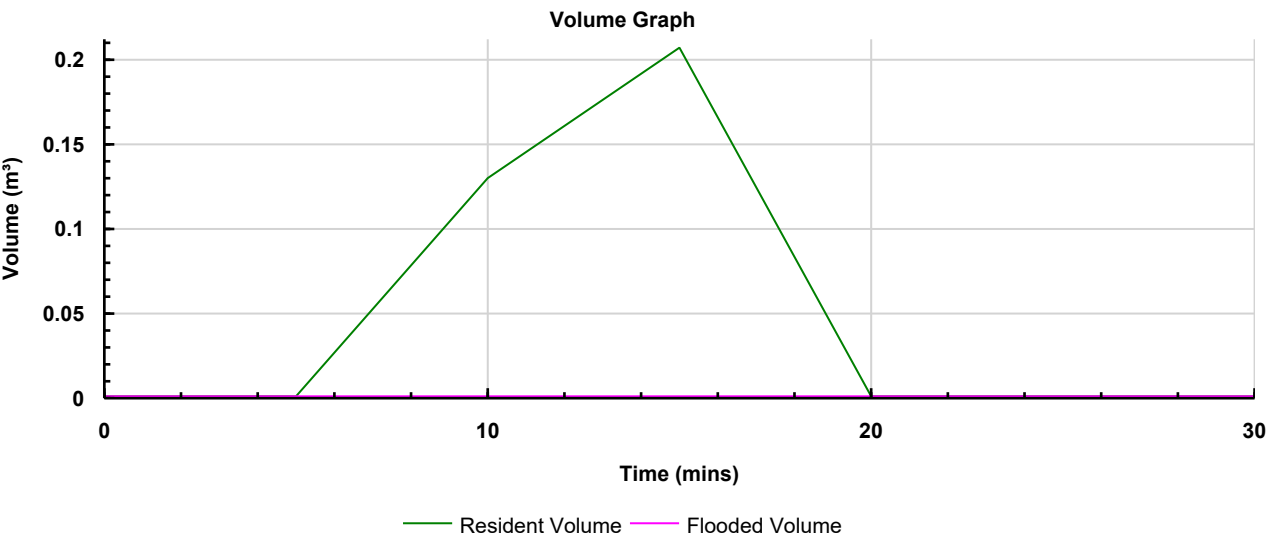
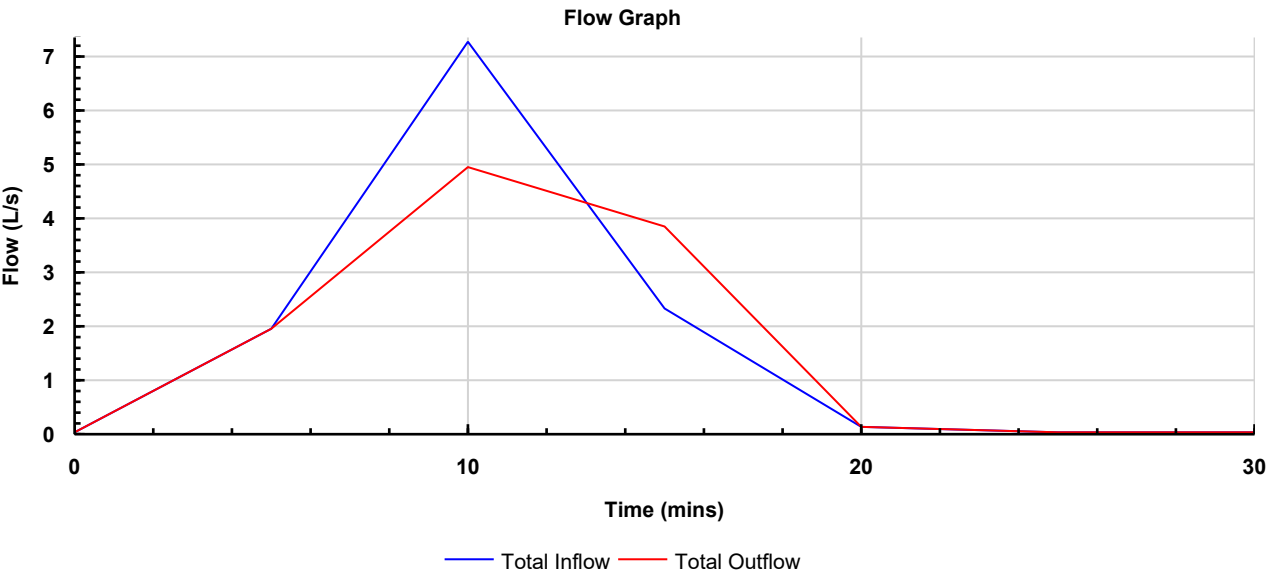

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Porous Paving
Critical Storm: FSR: 100 years: Increase Rainfall (%): +45: 15 mins: Winter

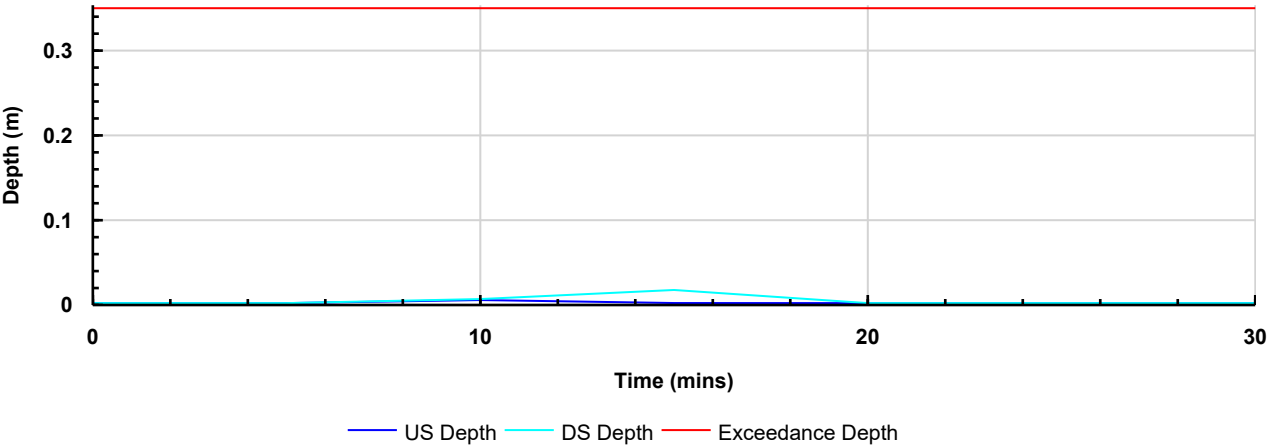
Type : Porous Paving

Graphs



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Depth Graph





FOR MORE INFORMATION CONTACT US AT:

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