



DRAINAGE STRATEGY

ISSUE 2

June 2026

Proposed Residential Development at Newlands Farm

Rodbourne Road

Corston

SN16 0HB

Document Control

Client	Calibre Homes		
Report title	Drainage Strategy		
Report reference	1250-01		
Report status	Draft		
Prepared by	A.Dixon BSc(Hons) CEng MICE		
Document check	Z.West		
Issue Number/status/Date	1	Draft	29-03-2026
	2	Issue 2	25-06-2026

This report is the copyright of Dixon Civils Ltd and is for the sole use of the person/organisation to whom it is addressed. It may not be used or referred to in whole or in part by anyone else without the express agreement of Dixon Civils Ltd.

Any information provided by third parties and referred to herein has not been checked or verified by Dixon Civils, unless otherwise expressly stated within this Report. This Report was checked and approved on the date shown in the Document Issue Record and is therefore valid on this date.

The licence to use and copy this Report is subject to other Terms & Conditions agreed between Dixon Civils and the Client. Dixon Civils do not accept liability for any loss or damage arising from any unauthorised use of this report.

Contents

Contents

1.0 Introduction	4
2.0 The Existing Site	4
2.1 Existing ground conditions.....	4
2.2 Intrusive Site Investigations	5
2.3 Existing Watercourses and Drainage Features	5
2.4 Existing surface water drainage arrangement.....	5
3.0 Surface Water Drainage Proposals	5
3.1 Drainage Hierarchy	5
3.2 Infiltration Design	6
3.3 Attenuation Design	6
3.4 Design Exceedance.....	7
3.5 Water Quality	7
3.6 Adoption	8
3.7 Maintenance	8
4.0 Foul Water Drainage Strategy.....	10
4.1 Existing Sewers and Drainage Arrangement.....	10
4.2 Proposal	10
4.3 Sewer Capacity.....	10
4.4 Adoption	10
5.0 Conclusions	11

APPENDIX	TITLE	PRODUCED BY
Appendix A – Drawings by DC	Drainage Layout	Dixon Civils
Appendix B – Drawings by others	Proposed Site Plan	Fowler Architecture and Planning
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 Calibre Homes for the proposed two plot residential development on land at Newlands Farm, Rodbourne Road, Corston (Application Ref: PL/2026/00442). This report will demonstrate how the appropriate means of foul and sustainable surface water drainage will be achieved for the development site.

2.0 The Existing Site

The application site covers 5335m² (0.53ha) of land occupied by agricultural barns with surrounding grassland and tarmac access road.

Access to the site is off Rodbourne Road as existing. Refer to the Proposed Site Plan prepared by Fowler Architecture and Planning dated Dec 2025 enclosed with this report.

The site is located within flood zone 1 and not at risk of surface water flooding. It is bounded to the north and east by open fields, to the west by housing and to the south by Rodbourne Road. Land use in the vicinity is predominantly residential and open fields.

2.1 Existing ground conditions

British Geological Survey (BGS) mapping indicates that the site is located over Kellaways Clay Member - Mudstone.

Defra's Multi-Agency Geographic Information for the Countryside (MAGIC) map indicates that the site is not underlain by an aquifer and is designated source protection zone 1 – Subsurface activity.

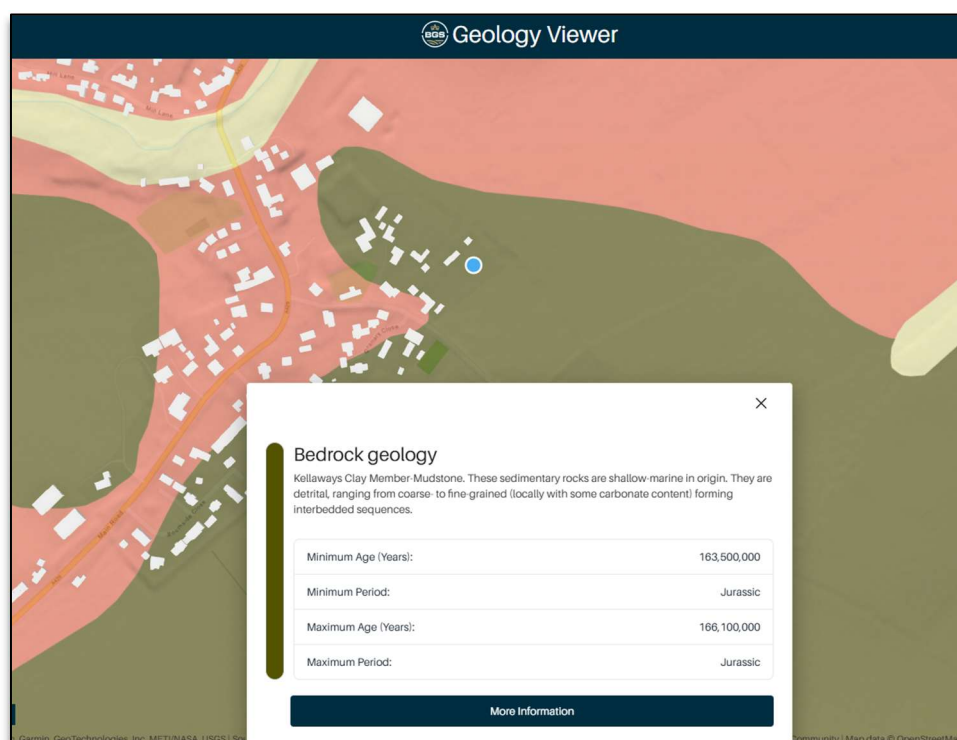


Figure 1: Bedrock Geology - Extract from British Geological Survey Geology of Britain Viewer
Source: <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer>

2.2 Intrusive Site Investigations

As part of an earlier planning application, an intrusive site investigation was completed by Paddock Geo Engineering in January 2022, which included four trial pits excavated to depths between 0.8m and 2.5m below ground level. Infiltration testing was completed within three of the test pits, which recorded no drop in water level and were concluded as failed.

Soils were confirmed as stiff orange brown mottled blue grey clay (Kellaways Clay Member). Groundwater was not encountered within either of the trial pits.

Please refer to the test results enclosed within Appendix D of this report.

2.3 Existing Watercourses and Drainage Features

The nearest watercourse to the site is the Gauze Brook, a tributary of the River Avon, which flows in an easterly direction, passing approximately 230m to the north of the site.

Ditch lines within the adjacent fields to the north and east of the site drain to the Gauze Brook approximately 600m northeast of the site.

Asset records obtained from Wessex Water indicate the presence of a public gravity foul water sewer at the entrance of the site, within Rodbourne Road.

There are no surface water sewers within the vicinity.

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

2.4 Existing surface water drainage arrangement

Surface water from the existing buildings and tarmac access road currently discharges overland to adjacent grassed areas following the natural topography.

3.0 Surface Water Drainage Proposals

Refer to DC Drawing 1250-01-01 [*Drainage 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.

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	Mustone soils prevent the use of infiltration devices. Confirmed by on-site testing.
2	To surface water body	Proposed solution – Attenuated flows restricted to below greenfield rate connect to nearby ditch line.
3	To a surface water sewer, highway drain or another drainage system	Not required – No surface water sewers within the vicinity of the site.
4	To a combined sewer	Not required.

3.2 Infiltration Design

Poor infiltration properties of the Kellaway Clay mudstone soils below the site, evidenced by failed BRE365 testing, precludes the use of soakaways and infiltration devices as the main source of surface water discharge. Permeable surfaces and sub-bases will however be utilised where possible to maximise any available pockets of infiltration, before discharging to attenuation features.

3.3 Attenuation Design

Wiltshire Council's surface water runoff policy for greenfield developments requires a 30% betterment over existing greenfield discharge rates. Based on the existing run-off rates, summarised by the Infodrainage Greenfield runoff rate estimation tool, this equates to a current peak discharge rate from the site for the 100 year storm event at 6.5l/s.

Region	QBAR Rural (L/s)	QBAR Urban (L/s)	Q 1 (years) (L/s)	Q 30 (years) (L/s)	Q 100 (years) (L/s)
Region 8	2.7	2.7	2.1	5.1	6.5

Calculations indicate SuDS attenuation of 61.37m³ will be required to accommodate runoff from the proposed impermeable areas, including the existing access road, for storm events up to and including the 100year + 45% climate change event with a peak outflow rates a minimum of 30% less than pre-development rates, as tabled below.

Storm Return Period	Existing Flow Rate (l/s)	30% reduction target (l/s)	Designed outflow rate (l/s)	Betterment Provided (%)
1 year	2.1	1.47	1.4	33.3
30 year	5.1	3.57	2.5	51
100 year	6.5	4.55	3.0	53.8
100 year +45% climate change increase	6.5+	4.55	3.8	41.5

Roof water will discharge into the permeable driveway sub-base's and benefit from an additional 26.5 m³ attenuation provided by the sub-base stone.

Although the soil infiltration rate is too slow to support an infiltration only based design, the permeable driveways are proposed to be wrapped in permeable geotextiles to maximise any available soakage. Refer to the proposed drainage calculations enclosed within appendix E of this report.

3.4 Design Exceedance

Should the drainage system and SuDS fail under extreme events or blockages, floodwaters will follow the natural topography to the east along the access road toward the adjacent fields and ditch network, mirroring the existing pre-development arrangement.

3.5 Water Quality

Roof water is considered fairly uncontaminated, however runoff from the driveway parking areas can be susceptible to hydrocarbon contamination, which in this instance will be intercepted within permeable stone and textiles that make up the permeable paving sub-base construction, before discharging to the watercourse.

Water quality has been assessed in line with the Simple Index approach from Chapter 26 of CIRIA C753 The SuDS Manual:

1. Step 1 – Allocate suitable pollution hazard indices for the proposed land use.
2. Step 2 – Select SuDS with a total pollution mitigation index that equals or exceeds the pollution hazard index.

Pollution Hazard Indices

Below figures are obtained from Table 26.2 CIRIA C753 The SuDS Manual '*Pollution hazard indices for different land use classifications*'

Land use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydrocarbons
Residential roofs	Very low	0.2	0.2	0.05
Individual property driveways, residential car parks and low traffic roads	Low	0.5	0.4	0.4

Pollution Mitigation Indices

Below figures are taken from Table 26.3 & 26.4 CIRIA C753 The SuDS Manual '*Indicative SuDS mitigation indices for discharge to surface waters and groundwater*'

SuDS Feature	Total suspended solids (TSS)	Metals	Hydrocarbons
Constructed permeable pavement	0.7	0.6	0.7

The pollution mitigation indices for the proposed drainage system therefore exceed the pollution hazard indices and provide suitable pollutant removal

3.6 Adoption

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

3.7 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 Attenuation 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 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.

Drainage Element	Schedule	Maintenance Requirement	Frequency
Permeable Surfacing	Occasional	Removal of weeds	As required
	Remedial	Remedial work to any depressions or cracked or broken blocks considered a hazard to end users or detrimental to performance.	As required
		Rehabilitation of surface and upper sub-structure by remedial sweeping	Every 10 – 15 years, or as required
	Monitoring	Initial inspection Inspect for evidence of weed growth or poor operation Inspect silt accumulation rates Monitor inspection chambers	Monthly for 3 months after installation Three monthly, 48 hours after large storms in first six months Annually Annually
Pipework and Catchpits	Regular	Inspect for accumulation of silt	Every six months
		Inspect for debris and litter Inspect inlets and outlets for blockages	
	Occasional	Remove debris and litter Remove silt	As required
Cellular Attenuation Storage	Regular	Inspect and identify any areas that are not operating correctly	Monthly for 3 months, then annually
		Remove debris from the catchment surface	Monthly
		Remove sediment from pre-treatment structures and internal forebays	Annually, or as required
	Remedial	Repair and rehabilitate inlets, outlets, overflows and vents	As required
	Monitoring	Inspect inlets, outlets, overflows and vents to ensure they are operating as designed Survey inside of tank for sediment build-up and remove as necessary	Annually Every 5 years, or as required

4.0 Foul Water Drainage Strategy

Refer to DC Drawing 1250-01-01 [*Drainage Layout*] in Appendix A.

4.1 Existing Sewers and Drainage Arrangement

The existing application site does not currently generate foul water flows.

Asset records obtained from Wessex Water indicate the presence of public gravity foul and surface water sewers in Rodbourne Road.

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

4.2 Proposal

It is proposed to connect the new foul water flows from the site into Wessex Water public sewer network within Rodbourne Road.

4.3 Sewer Capacity

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

4.4 Adoption

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

5.0 Conclusions

The proposed new dwellings at Newlands Farm will increase the impermeable surface area when compared to existing. On site storage will be provided within a cellular storage tank and permeable driveway Sustainable Urban Drainage Systems (SUDS). The SUDS features have been designed to accommodate the 1 in 100 year storm, including a 45% allowance for climate change and discharge at a minimum of 30% lower than the existing greenfield equivalent rate to the adjacent ditch network.

Foul flow from the proposed dwelling will drain into the existing foul water sewer within Rodbourne Road at the entrance to the site.

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

We can conclude that providing the development adheres to the conditions advised in this report, the proposals can be accommodated without increasing flood risk to the site and local area.

Dixon Civils Ltd

Issue 2 - June 2026

APPENDIX A

Drawings by Dixon Civils

Drawing ref. 1250-01-01

Drainage Layout

APPENDIX B

Drawings by others

Drawing ref. 250713-02A

Proposed Site Plan (Fowler Architecture and
Planning)

Existing Topographical Survey

APPENDIX C

Wessex Water Sewer Records

APPENDIX D

BRE365 Infiltration Test Results

APPENDIX E

Calculations

Infodrainage Attenuation Calculations



FOR MORE INFORMATION CONTACT US AT:

Enquiries@DixonCivils.com

01249 490813

www.DixonCivils.com