



Flood Risk Assessment and Drainage Statement

Proposed Residential Development at

Windmill Inn, Mill Lane, Rustington

On behalf of

Planning Issues

April 2026

Document History and Status

Project Number 23915

Date	Version	Prepared By	Reviewed By	Approved By
19 June 2024	1.0	Steve Doughty Director	Stuart Magowan IEng MICE	Stuart Magowan IEng MICE
27 June 2024	1.1	Nathan Thompson	Steve Doughty Director	Steve Doughty Director
30 July 2024	1.2	Nathan Thompson	Stuart Magowan IEng MICE	Stuart Magowan Director
11 Dec 2024	1.3	Steve Doughty Director	Stuart Magowan IEng MICE	Stuart Magowan Director
13 Dec 2024	1.4	Steve Doughty Director	Stuart Magowan IEng MICE	Stuart Magowan Director
16 April 2026	2.0	Steve Doughty Director	Stuart Magowan IEng MICE	Stuart Magowan Director

This document has been prepared in accordance with the scope of services for The Civil Engineering Practice's appointment with its client and is subject to the terms of the appointment. It is addressed to and for the sole use and reliance of The Civil Engineering Practice's client. The Civil Engineering Practice accepts no liability for any use of this document other than by its client and only for the purposes stated in the document, for which it was prepared and provided. No person other than the client may copy (in whole or in part) use or rely on the contents of this document, without the prior written permission of The Civil Engineering Practice.

Any advice, opinions, or recommendations within this document should be read and relied upon only in the context of the document as a whole. In preparing this document, information and advice may have been sought from third parties. The Civil Engineering Practice cannot be held liable for the accuracy of third party information.

The information contained within this document takes precedence over that contained within any previous version.



Certificate No.87852002

CONTENTS

1	Non Technical Summary	1
2	Planning Policy Context	2
2.1	National Planning Policy Framework	2
2.2	National Standards for Sustainable Drainage Systems (SuDS)	3
2.3	Lead Local Flood Authority	6
2.4	Arun District Council	6
2.5	Local Planning Policy	7
3	Existing Site	10
3.1	Site Location	10
3.2	Site Description	10
3.3	Existing Onsite Drainage	11
3.4	Geology and Groundwater	11
4	Flood Zone, and Flood History	13
4.1	Tidal Flood Zone	13
4.2	Fluvial Flood Zone	13
4.3	Flood History	13
5	Flooding Potential	14
5.1	Tidal Flooding	14
5.2	Fluvial Flooding	14
5.3	Surface Water Flooding	14
5.4	Groundwater Flooding	14
6	Development Proposals	15
6.1	Description	15
6.2	Surface Water Drainage	15
6.3	Foul Drainage	17
6.4	Water Quality	17
7	Safe Development	18
7.1	Flood Zone Compatibility	18
7.2	Risk to Others	18
7.3	Surface Water Exceedance Routes	19
8	Compliance with National Standards for SuDS	20
8.1	Standard 1 - Runoff Destinations	20
8.2	Standard 2 - Management of Everyday Rainfall (Interception)	20
8.3	Standard 3 - Management of Extreme Rainfall and Flooding	20
8.4	Standard 4 - Water Quality	20
8.5	Standard 5 - Amenity	20
8.6	Standard 6 - Biodiversity	20
8.7	Standard 7 - Design of Drainage for Construction, Operation, Maintenance, Decommissioning and Structural Integrity	20
9	Conclusions	21
10	List of Appendices, Images and Tables	22

1 Non Technical Summary

- 1.1 This Flood Risk Assessment and Drainage Statement has been undertaken in accordance with the National Planning Policy Framework on behalf of Planning Issues in support of a Planning Application for the demolition of the existing properties and the construction of a 28 unit retirement living scheme and 3 two bed cottages with associated access roads, carparking and landscaping on the east side of Mill Lane, Rustington on the site of the Windmill Inn, and the residential property number 34 Mill Lane Rustington, BN16 3JN.
- 1.2 This report is to be read in conjunction with all planning, architectural and other reports that accompany the Planning Application for the proposed development.
- 1.3 The site is located in Flood Zone 1.
- 1.4 Surface water drainage is currently discharged in part by infiltration to ground and in part to the public foul sewer beneath Mill Lane.
- 1.5 Surface water drainage will be based on infiltration to ground with sufficient storage provided to accommodate all storm return periods up to and including the 1:100 year plus climate change event.
- 1.6 Foul drainage will be discharged by gravity to the existing public foul sewer located beneath Mill Lane.
- 1.7 This report concludes that the site is not at risk of flooding from tidal or fluvial sources, groundwater or overland flows.
- 1.8 In terms of flood risk the proposed development is suitable at this location.

2 Planning Policy Context

2.1 National Planning Policy Framework

2.1.1 The current version of the National Planning Policy Framework is dated December 2024 and was amended on 7 February 2025 to correct cross references from footnotes 7 and 8 and amend the end of the first sentence of paragraph 155 in relation to development in the Green Belt to make its intent clear.

2.1.2 With regard to planning and flood risk the National Planning Policy Framework states that *‘when determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment⁶³. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:*

- a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;*
- b) the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;*
- c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;*
- d) any residual risk can be safely managed; and*
- e) safe access and escape routes are included where appropriate, as part of an agreed emergency plan.’*

2.1.3 Footnote 63 states that *‘a site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.’*

2.1.4 With regard to major developments the NPPF states that *‘sustainable drainage systems provided as part of proposals for major development should:*

- a) take account of advice from the Lead Local Flood Authority;*

- b) *have appropriate proposed minimum operational standards; and*
- c) *have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development.'*

2.1.5 Major development is defined as follows:

'For housing, development where 10 or more homes will be provided, or the site has an area of 0.5 hectares or more. For non-residential development it means additional floorspace of 1,000m² or more, or a site of 1 hectare or more, or as otherwise provided in the Town and Country Planning (Development Management Procedure) (England) Order 2015.'

2.2 National Standards for Sustainable Drainage Systems (SuDS)

2.2.1 The National Standards for Sustainable Drainage Systems were published on 19 June 2025 and updated on 30 July 2025.

2.2.2 The standards are intended to be used in conjunction with the National Planning Policy Framework and remain non statutory guidance.

2.2.3 **Standard 1: runoff destinations** states:

'1.1 a 'SuDS approach' shall be adopted to address the management of surface water by the development and where it should be discharged. Runoff shall be treated as a resource and managed in a way that avoids negative impacts of the development on flood risk, the morphology and water quality of receiving waters and the associated ecology.'

1.2 Runoff from the development shall be discharged to the following final destinations, to the maximum extent practicable, in accordance with the below hierarchy:

priority 1: collected for non-potable use

priority 2: infiltrated to ground

priority 3: discharged to an above ground surface water body

priority 4: discharged to a surface water sewer, or another piped surface water drainage system

priority 5: discharged to a combined sewer

Note 1: priority 1 is the highest priority and priority 5 is the lowest.

Note 2: for the purposes of this standard, a combined sewer is a sewer intended to receive both foul sewage and surface runoff and does not include a sewer intended to receive only foul sewage, even if

it has the capacity to accommodate additional flows or has an element of surface water in it already.

1.3 To utilise a lesser priority final destination, appropriate evidence shall be provided that demonstrates all higher priority final destinations have been utilised to the maximum extent practicable. Higher cost alone shall not be a reason to utilise lower priority final destinations.

1.4 Where more than one final destination is utilised, each final destination's ability to accept runoff shall be maximised in order of priority.'

2.2.4 Standard 2: management of everyday rainfall (interception) states:

'2.1 Apply a 'SuDS approach' so that at least the first 5mm of rainfall for the majority of rainfall events does not result in runoff from the site to surface waters or piped drainage systems.

2.2 Evidence shall be provided that the approach to managing runoff from 'everyday' rainfall has been developed alongside and in support of the management of runoff quality (standard 4) and the delivery of amenity and biodiversity benefits (standards 5 and 6).'

2.2.5 Standard 3: management of extreme rainfall and flooding states:

'3.1 A 'SuDS approach' shall be adopted to address the management of development runoff during extreme rainfall, including allowances for climate change and urban creep to:

- protect people and property on the development from flooding of the surface water drainage system*
- mitigate any increased flood risk to people and property adjacent to or downstream of the development*
- protect the receiving water body from morphological damage or minimise the impact on sewer capacity*

3.2 When discharging to an infiltration feature, the system shall be appropriately sized to accommodate the design event based on ground conditions and contributing areas.

3.3 When discharging to an above ground surface water body, sewer or other piped drainage system, the surface water runoff (rate and volume) for the 1% annual exceedance probability (AEP) event shall be controlled to ensure the runoff from the development does not increase flood risk elsewhere.

- 3.4 *When discharging to an above ground surface water body, sewer or other piped drainage system, the surface water runoff rate for the 50% AEP event shall be controlled to ensure development runoff from an event of this magnitude has no negative impact.*
- 3.5 *Any flooding from the surface water drainage system for events up to the 1% AEP event shall be managed within the development.*
- 3.6 *Any flooding from off-site sources for the 1% AEP event should be managed on site or safely routed through the site, ensuring any downstream risks are not increased compared to the pre-development scenario.*
- 3.7 *The risks (both on and off the development) associated with flooding from the surface water drainage system for exceedance events greater than the 1% AEP event shall be appropriately managed.'*

2.2.6 Standard 4: water quality states:

- '4.1 Apply a 'SuDS approach' that protects surface waters, groundwater and coastal waters by managing the quality of the surface water runoff to adequately address water quality risks from the development.*
- 4.2 The proposed SuDS management train(s) shall be based on a robust water quality risk assessment, appropriate to the pollution hazard and sensitivity of receiving waters, reflecting industry recognised guidance or other quantitative assessment as agreed with the approving body and permitting requirements.'*

2.2.7 Standard 5: amenity states:

- '5.1 A 'SuDS approach' shall be adopted that maximises benefits for amenity through the creation of multi-functional places and landscapes.'*

2.2.8 Standard 6: biodiversity states:

- '6.1 A 'SuDS approach' shall be adopted to ensure the surface water drainage system maximises biodiversity benefits throughout the development lifecycle.*
- 6.2 The surface water drainage system shall add biodiversity value by:*
- creating diverse, self-sustaining, resilient local ecosystems which contribute to net gains in biodiversity*
 - supporting and promoting natural local habitat and species, for example, through local nature recovery strategies (LNRS)*
 - contributing to the delivery of local biodiversity strategies*

- *contributing to habitat connectivity*

2.2.9 Standard 7: design of drainage for construction, operation, maintenance, decommissioning and structural integrity states:

'7.1 A 'SuDS approach' shall be adopted to ensure that surface water drainage systems are designed so they can be easily and safely constructed, operated and maintained taking account of the need to minimise negative impacts on natural resources and the environment.

7.2 The designer shall provide a management and maintenance plan [that supports the design objectives detailed in standards 1 to 6 and ensures the performance of the surface water drainage system with regards to runoff destinations, everyday and extreme rainfall, water quality, amenity and biodiversity is maintained throughout the lifetime of the development.

7.3 Surface water drainage design shall examine for the likelihood and consequences of potential failure scenarios that may occur during the operation phase and safely manage the associated risks.

7.4 The surface water drainage system shall be designed to ensure structural integrity of all components under anticipated loading conditions for the design life of the development so that it does not affect the structural integrity of any existing or proposed components within, or adjacent to, the development.'

2.3 Lead Local Flood Authority

2.3.1 West Sussex County Council became a Lead Local Flood Authority under the Flood and Water Management Act 2010 and was given a series of new responsibilities to coordinate the management of local flood risk.

2.3.2 As part of its role West Sussex County Council has commissioned and produced the following documents:

- Strategic Flood Risk Assessment - January 2010
- Preliminary Flood Risk Assessment - May 2011
- Local Flood Risk Management Strategy - July 2025

2.3.3 In addition to the above documents the West Sussex County Council Policy for the Management of Surface Water was updated in November 2018.

2.3.4 The above documents have been reviewed in the preparation of this report.

2.4 Arun District Council

2.4.1 Arun District Council has commissioned and produced the following documents:

- Arun Strategic Surface Water Management Study - October 2016
- Combined Level 1 and Level 2 Strategic Flood Risk Assessment - November 2016

2.4.2 In Arundel District Council has produced a Surface Water Drainage Proposal Checklist (current version 7.0 dated October 2025) which outlines the councils' expectations and requirements for Surface Water Drainage proposals.

2.4.3 The above documents have been reviewed in the preparation of this report.

2.5 Local Planning Policy

2.5.1 The Arun Local Plan 2011 - 2031 was adopted in July 2018.

2.5.2 The following policies are of specific relevance to this Flood Risk Assessment:

2.5.3 **Policy W DM2 – Flood Risk** states that *'development in areas at risk from flooding, identified on the latest Environment Agency flood risk maps and the Council's Strategic Flood Risk Assessment (SFRA) will only be permitted where all of the following criteria have been satisfied:*

- a) The sequential test in accordance with the National Planning Policy Guidance has been met.*
- b) A site specific Flood Risk Assessment demonstrates that the development will be safe, including access and egress, without increasing flood risk elsewhere and reduce flood risk overall.*
- c) The sustainability benefits to the wider community are clearly identified.*
- d) The scheme identifies adaptation and mitigation measures.*
- e) Appropriate flood warning and evacuation plans are in place; and*
- f) New site drainage systems are designed to take account of events which exceed the normal design standard i.e. consideration of flood flow routing and utilising temporary storage areas.*

The reports prepared as part of the criteria above must take into account contingency allowances, taking climate change into account as set out in Flood Risk Assessments: climate change allowances section of the NPPG.

In locations where strategic flood defence or resilient and resistant construction measures are necessary within the site itself, proposals will be required to demonstrate how measures have been incorporated as an intrinsic part of the scheme in a manner which is compatible with the latest Strategic Flood Risk Assessment.

All development proposals must take account of relevant Surface Water Management Plans, Catchment Flood Management Plans and related Flood Defence Plans and strategies such as the Lower Tidal River Arun Strategy. The council may require financial contributions from development on sites where measures to address flood risk or to improve the environmental quality of watercourses have been identified by these Plans and Strategies.'

2.5.4 Policy W DM3 – Sustainable Urban Drainage Systems states that 'to increase the levels of water capture and storage and improve water quality, all development must identify opportunities to incorporate a range of Sustainable Urban Drainage Systems (SUDS), appropriate to the size of development, at an early stage of the design process.

Proposals for both major and minor development proposals must incorporate SUDS within the private areas of the development in order to provide source control features to the overall SUDS design. These features include:

- *Green roofs*
- *Permeable driveways and parking*
- *Soakaways*
- *Water harvesting and storage features including water butts.*

Proposals for major development must also integrate SUDS within public open spaces and roads, reflecting discussion with the appropriate bodies. SUDS must therefore be integrated into the overall design of a development and must:

- a) Contribute positively to the appearance of the area, integrating access to allow maintenance of existing watercourses and the system.*
- b) Effectively manage water (including its quality)*
- c) Accommodate and enhance biodiversity by making connections to existing Green Infrastructure assets and*
- d Provide amenity for local residents (ensuring a safe environment)*
- e) Retain the existing drainage network of the site and the wider area,*
- f) Be maintained in perpetuity, supported through a Maintenance and Management Plan/Regime, including its financing, agreed with the Local Planning Authority.*

In order to ensure that SUDS discharge water from the development at the same or lesser rate, as prior to construction, developers must:

- f) *Follow the hierarchy of preference for different types of surface water drainage disposal systems as set out in Approved Document H of the Building Regulations and the SUDS manual produced by CIRIA.*
- g) *Undertake up to six months groundwater monitoring within the winter period.*
- h) *Undertake winter percolation testing in accordance with BRE365.*
- i) *The proposed drainage system must be designed to ensure that there is no flooding on a 1 in 30 year storm event.*
- j) *The design must also take account of the 1 in 100 year storm event plus 30% allowance for climate change, on stored volumes, to ensure that there is no flooding of properties or the public highway or inundation of the foul sewerage system. Any excess flows must be contained within the site boundary, and within designated storage areas.'*

2.5.5 Policy ECC SP1 – Adapting to climate change states that *'the Council will support development which is located and appropriately designed to adapt to impacts arising from climate change such as the increased probability of tidal and fluvial flooding; water stress; health impacts as a result of extreme temperatures and a decline in the quality of habitats and richness of biodiversity.*

In order to achieve this, development must be designed to take account of the following issues:

- a) *Location (in relation to flood risk and vulnerability to coastal erosion);*
- b) *Water efficiency;*
- c) *Shade, cooling, ventilation, solar gain;*
- d) *Connectivity to the green infrastructure network;*
- e) *Layout and massing;*
- f) *Resilience of buildings and building materials to extreme weather events; and*
- g) *Capacity of drainage systems and incorporation of Sustainable urban Drainage Systems (SuDS).'*

3 Existing Site

3.1 Site Location

- 3.1.1 The development site is located on the east side of Mill Lane, Rustington on the site of the Windmill Inn, and the residential property number 34 Mill Lane Rustington, BN16 3JN and centred on Ordnance Survey reference TQ 056 029.



Image 1: Site Location

- 3.1.2 The site is located within a well established residential area and is bounded to the west by the B2187 Mill Lane and on all other sides by residential dwellings.
- 3.1.3 The closest watercourse is a tributary of the Black Ditch which is located on the north side of the West Coastway railway line approximately 150m to the north site boundary.
- 3.1.4 The site is approximately 1.5km north of the coast.
- 3.1.5 A copy of the site location plan is located in Appendix 1 at the rear of this report.
- #### 3.2 Site Description

- 3.2.1 The site is 3,094m² in area and currently comprises the Windmill Inn, its carpark and beer garden and the residential property of 34 Mill Lane.
- 3.2.2 Existing ground levels are typically between approximately 7.5m AOD at the centre of the site and 6.5m AOD at its northwest corner (adjacent to Mill Lane) and along its northern most boundary.
- 3.2.3 A copy of the existing site layout plan is located in Appendix 2 at the rear of this report.

3.3 Existing Onsite Drainage

- 3.3.1 There is a 150mm diameter public foul sewer on the western side of Mill Lane near the northwest corner of the site at a depth of approximately 1.82m below ground level which discharges to the public foul sewer network to the north of the site.
- 3.3.2 There is also a 150mm public foul sewer located on the eastern side of Mill Lane at the south of the existing site entrance at a depth of approximately 1.53m below ground level which discharges to the public foul network to the south of the site.
- 3.3.3 There are no public surface water sewers in the locality of the site.
- 3.3.4 A CCTV survey was undertaken by Utility Surveys Limited in March 2024 and confirms a number of rainwater pipe connections from the roofs of Windmill Inn and number 34 Mill Lane via the onsite foul drainage systems to the public foul sewer beneath Mill Lane.
- 3.3.5 The connections to the public sewer are both by 100mm diameter pipes.
- 3.3.6 A copy of the sewer records together with extracts from the CCTV survey is located in Appendix 3 at the rear of this report.

3.4 Geology and Groundwater

- 3.4.1 Site investigation has been undertaken by Wilson Bailey which included groundwater monitoring through the winter of 2025-2026 and soakage testing undertaken in accordance with BRE 365.
- 3.4.2 Clay soils were encountered to depths of between 1.80m and 4.50m below ground level and were generally found to be underlain by more granular soils of the River Terrace Deposits comprising sand and gravel deposits with occasional clay layers, which were encountered to depths of between 3.50m and 5.00m below ground level over chalk bedrock.
- 3.4.3 Winter groundwater monitoring confirmed a highest levels within the northern part of the site of 3.29mOD, within the southeast part of the site at 3.79m AOD and within the southwest part of the site at a level of 3.81m AOD.
- 3.4.4 These levels were recorded in February 2026. The Met Office confirmed on 2 March 2016 that the southeast of England experienced 114.4mm of rain in February, 188% of its long term February average.
- 3.4.5 Infiltration testing confirmed negligible soakage rates within the clay substrata and soakage rates of between 6.9×10^{-6} m/s and 5.4×10^{-6} m/s within the permeable strata beneath the clay.

- 3.4.6 The geotechnical report notes that *'on the basis of the site investigation and infiltration testing, a soakaway formed with a base level at about 4.20m OD would be expected to be formed predominantly within granular River Terrace Deposits or the upper weathered levels of the chalk and may be designed on the basis of an assessed infiltration rate of 6e-6m/s'*.
- 3.4.7 A copy of the site investigation report is located in Appendix 4 at the rear of this report.

4 Flood Zone, and Flood History

4.1 Tidal Flood Zone

- 4.1.1 The Environment Agency's online mapping confirms that the site is located in Tidal Flood Zone 1 and is not at risk of fluvial flooding from anything less extreme than a 1:1,000 year flood event.

4.2 Fluvial Flood Zone

- 4.2.1 The Environment Agency's online mapping confirms that the site is located in Fluvial Flood Zone 1 and is not at risk of fluvial flooding from anything less extreme than a 1:1,000 year flood event.

4.3 Flood History

4.3.1 Environment Agency

- 4.3.1.1 The Environment Agency maps of historic flood incidents do not identify any historic incidents of flooding in the locality of the site.

4.3.2 West Sussex County Council

- 4.3.2.1 Neither the Strategic Flood Risk Assessment dated January 2010, the Preliminary Flood Risk Assessment dated May 2011 nor the Local Flood Risk Management Strategy dated May 2014 identify any specific flood incidents in the immediate vicinity of the site.

4.3.3 Arun District Council

- 4.3.3.1 The Combined Level 1 and Level 2 Strategic Flood Risk Assessment dated November 2016 does not identify any specific flood incidents in the immediate vicinity of the site.

- 4.3.4 Copies of the available flood maps are located in Appendix 5 at the rear of this report.

5 Flooding Potential

5.1 Tidal Flooding

5.1.1 The site is located 1.5km from the coast and is not at risk of tidal flooding.

5.2 Fluvial Flooding

5.2.1 The site is located in Flood Zone 1 and is not at risk of fluvial flooding from anything less extreme than a 1:1,000 year flood event.

5.3 Surface Water Flooding

5.3.1 The Environment Agency maps confirm the site is at very low risk of flooding from surface water flows, the lowest classification.

5.3.2 The flood mapping contained within the various flood documents produced by West Sussex County Council and Arun District Council does not identify any flood risk associated with overland flow routes.

5.4 Groundwater Flooding

5.4.1 The British Geological Survey borehole log information recorded groundwater at a depth of 3m below ground level.

5.4.2 The flood mapping contained within Arun District Council's Level 1 Strategic Flood Risk Assessment includes a map showing areas susceptible to groundwater emergence.

5.4.3 The mapping is divided into 1x1km squares and identifies the proportion of each square where geological and hydrogeological conditions show that groundwater might emerge. It does not show the likelihood of groundwater flooding occurring.

5.4.4 The proposed development site is located within a 1x1km square, less than 25% of which is potentially susceptible to groundwater emergence.

5.4.5 There are no records identified within West Sussex County Council's Strategic Flood Risk Assessment, Preliminary Flood Risk Assessment or Local Flood Risk Management Strategy Not in Arun District Council's Combined Level 1 and Level 2 Strategic Flood Risk Assessment

6 Development Proposals

6.1 Description

6.1.1 The development proposals are for the demolition of the existing properties and the construction of a 28 unit retirement living scheme and 3 two bed cottages with associated access roads, carparking and landscaping.

6.1.2 The areas of the various positively drained elements of the development are summarised as follows:

- Roof Areas 1,062m²
- Access Road and Parking Areas 713m²
- Footpaths and Patios 65m²

6.1.3 A copy of the proposed site layout plan showing the positively drained areas is located in Appendix 6 at the rear of this report.

6.2 Surface Water Drainage

6.2.1 CIRIA report C753 The SuDS Manual-v6 provides guidance on surface water drainage. The aim for surface water runoff is to match greenfield runoff rates and volumes where reasonably achievable.

6.2.2 The National Standards for Sustainable Drainage Systems set out the drainage hierarchy for surface water drainage and notes the following list of drainage options in order of preference:

- Priority 1: collected for non-potable use
- Priority 2: infiltrated to ground
- Priority 3: discharged to an above ground surface water body
- Priority 4: discharged to a surface water sewer, or another piped surface water drainage system
- Priority 5: discharged to a combined sewer

6.2.3 Rainwater harvesting for non-potable use will be provided for irrigation of communal landscaped areas.

6.2.4 Discharge of surface water in excess of that collected for non-potable use will be based on infiltration to ground.

6.2.5 A base draining 30% voided soakaway is proposed beneath the access road sized with sufficient storage to accommodate a 1:100 year storm event including an additional 45% to account for the predicted effects of future climate change.

- 6.2.6 As recommended in the site investigation report the base of the soakaway will be located at a depth of 4.2m AOD.
- 6.2.7 If any areas of impermeable strata are encountered during formation of the base of the soakaway these will be removed and replaced with permeable material.
- 6.2.8 Ground water levels in the location of the proposed soakaway recorded in groundwater monitoring boreholes 2 and 6 reached a level of 3.79m AOD.
- 6.2.9 The base of the proposed soakaway will be 410mm above that level.
- 6.2.10 As previously noted these levels were recorded in February 2026 which experienced 188% of its long term February average rainfall.
- 6.2.11 As stated in the CIRIA report C753 The SuDS Manual-v6 freeboard between the base of the infiltration structure and the highest recorded groundwater level should be ideally be 1m where possible.
- 6.2.12 However on the coastal plain in particular where geology dictates and where shallow perched / tidally influenced water tables are often present this is unlikely to be achievable.
- 6.2.13 Irrespective of this infiltration must still be fully considered. Therefore, to maximise this potential and avoid utilising other less favourable methods of surface water disposal, the bases of infiltration structures are permitted to be immediately above the peak recorded groundwater levels where it is deemed necessary.
- 6.2.14 The geotechnical report undertaken by Wilson Bailey recommended the design could be based on an infiltration rate of 6.0×10^{-6} m/s.
- 6.2.15 The design has however been based on the lowest recorded infiltration rate within the permeable strata beneath the clay of 5.4×10^{-6} m/s.
- 6.2.16 An additional 10% of roof area has been included within the calculations to account for potential future urban creep amounting to a total positively drained area of 1,946m².
- 6.2.17 No reduction has been made within the calculations with regard to water reuse.
- 6.2.18 A further calculation has been undertaken to confirm the time to half empty of the 1:30 year storm remains below 24 hours.
- 6.2.19 The retention of the first 5mm of rainfall for 'every day' rainfall required by Standard 2 of the National standards for sustainable drainage systems has been met with the provision of a permeable pavement, swale and soakaway.

6.3 Foul Drainage

6.3.1 Foul drainage will be discharged by gravity to the existing public foul sewer located beneath Mill Lane.

6.3.2 A copy of the proposed drainage strategy plan and calculations are located in Appendix 7 at the rear of this report.

6.4 Water Quality

6.4.1 The proposed development is for residential use. In accordance with CIRIA SuDS Manual 2015 (Report C753), the pollution hazard level for this type of development is classified as between very low and low depending on the use / area of the site.

6.4.2 The surface water scheme will include mitigation to ensure that surface water is suitably treated and any pollution risk adequately managed prior to discharge.

6.4.3 Table 26.2 in Chapter 26 of CIRIA report C753 The SuDS Manual provides Pollution Hazard Indices for varying land types. Those of relevance to the development proposals are as follows:

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 park, low-traffic roads	Low	0.5	0.4	0.4

Table 2: Pollution Hazard Indices

6.4.4 The use of a permeable pavement and soakaway is sufficient to meet the target treatment level required for runoff from the roofs and the access road.

SuDS Type	Total suspended solids (TSS)	Metals	Hydrocarbons
Permeable pavement	0.7	0.6	0.7
Soakaway with 300mm minimum depth underlying soil drainage media	0.4	0.4	0.4

Table 3: Pollution Mitigation Indices

6.4.5 An interim drainage management and maintenance plan is located in Appendix 8 at the rear of this report.

7 Safe Development

7.1 Flood Zone Compatibility

7.1.1 The site and its wider area are in Flood Zone 1 and will remain so for the foreseeable future.

7.1.2 With reference to Annex 3 of the National Planning Policy Framework and Table 2 of the Government Guidance on Flood Risk and Coastal Change at <https://www.gov.uk/guidance/flood-risk-and-coastal-change>:

- Annex 3: Flood Risk Vulnerability Classification

Residential development is classified as More Vulnerable.

- Table 2: Flood Risk Vulnerability and Flood Zone Compatibility

More Vulnerable development is considered appropriate in Flood Zones 1 and 2.

7.2 Risk to Others

7.2.1 The proposed surface water drainage system has been designed to current SuDS standards and incorporate attenuation and storage which will minimise runoff leaving the site during times of heavy rainfall.

7.2.2 Allowance has been made for a 45% increase in rainfall intensities which accords with the latest figures published by the Environment Agency and with the requirements under the National Planning Policy Framework.

7.2.3 The proposed drainage system will incorporate sufficient treatment prior to final discharge thus mitigating the risk of pollution from the site.

7.2.4 The preliminary surface water drainage design is based on infiltration to ground and the greenfield runoff rates will therefore be reduced.

7.2.5 The risk of surface water flooding to others due to the development proposals will be reduced and the existing discharge of surface water to the public foul sewer will be eliminated.

7.2.6 The residual risk of sewer flooding from this development for the foreseeable future is therefore reduced.

7.3 Surface Water Exceedance Routes

- 7.3.1 In the unlikely event that part of the onsite surface water drainage network was to become blocked or suffering a failure due to lack of maintenance or in the event of a storm return period in excess of the 1:100 year +45% design standard surface water would flow overland towards the West Coastway Railway Line to the north of the site.
- 7.3.2 This is unaltered from the existing situation other than that the new drainage infrastructure will have significantly more storage available than the historic situation and the associated risk will be significantly reduced.
- 7.3.3 A surface water exceedance route plan is located in Appendix 9 at the rear of this report.

8 Compliance with National Standards for SuDS

8.1 Standard 1 - Runoff Destinations

8.1.1 Rainwater harvesting for non-potable use will be provided for irrigation of communal landscaped areas.

8.1.2 Discharge of surface water in excess of that collected for non-potable use will be based on infiltration to ground.

8.2 Standard 2 - Management of Everyday Rainfall (Interception)

8.2.1 The retention of the first 5mm of rainfall for 'every day' rainfall has been met with the provision of a permeable pavement and soakaway.

8.3 Standard 3 - Management of Extreme Rainfall and Flooding

8.3.1 The proposed surface water drainage system has been designed to current SuDS standards and incorporates attenuation and storage which will minimise runoff leaving the site during times of heavy rainfall.

8.3.2 Allowance has been made for a 1:100 year event including a 45% increase in rainfall intensity which accords with the latest figures published by the Environment Agency. All storage is provided below ground.

8.4 Standard 4 - Water Quality

8.4.1 The use of a permeable pavement and soakaway is sufficient to meet the target treatment level required for the type of development proposed.

8.5 Standard 5 - Amenity

8.5.1 The proposed permeable paving provides a multifunctional space comprising vehicular access and parking as well as storage for the attenuated surface water discharge from site.

8.6 Standard 6 - Biodiversity

8.6.1 A swale has been incorporated into the drainage strategy to provide biodiversity benefit within the site.

8.7 Standard 7 - Design of Drainage for Construction, Operation, Maintenance, Decommissioning and Structural Integrity

8.7.1 An interim drainage management and maintenance plan has been produced a copy of which is included at the rear of this report.

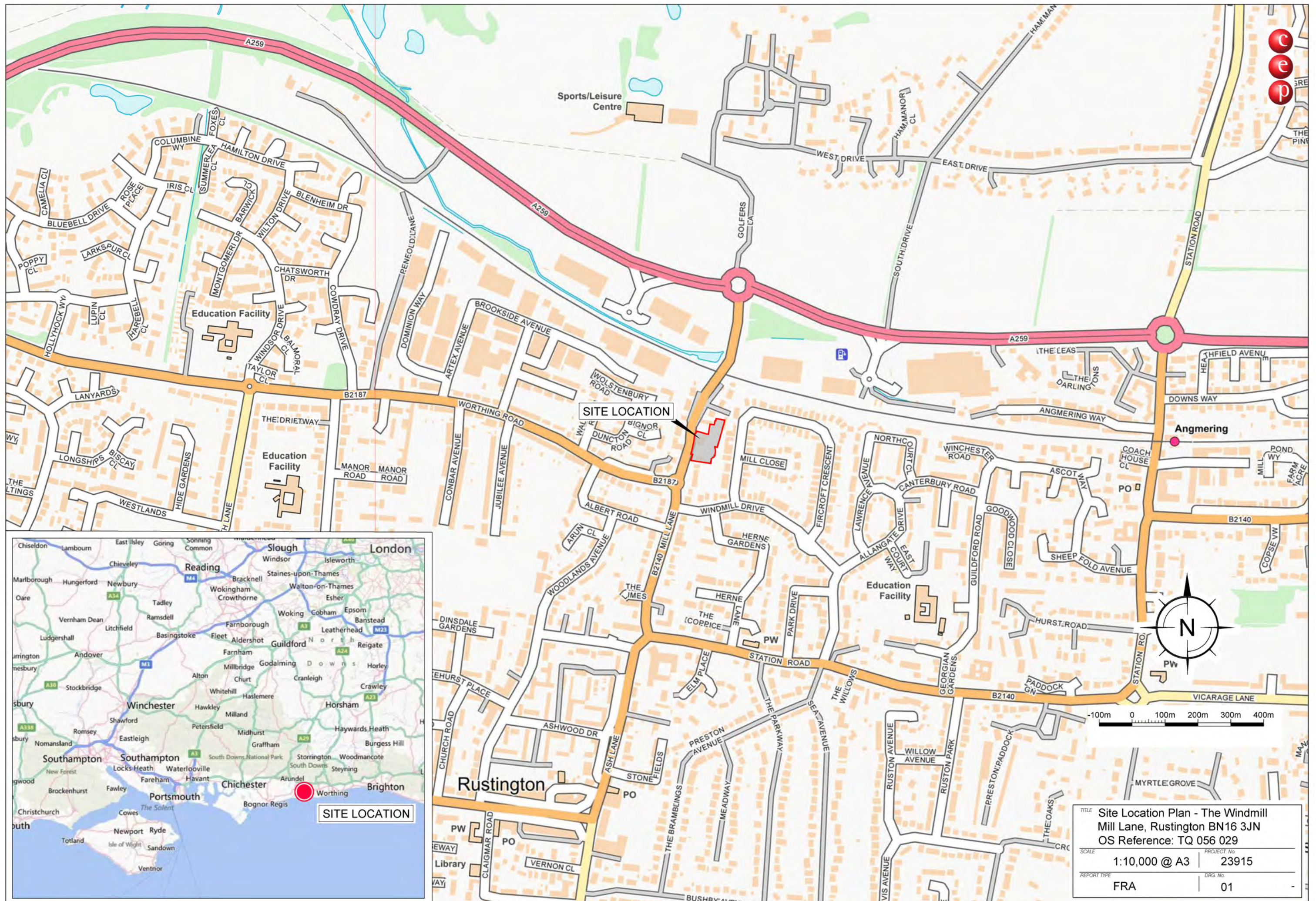
9 Conclusions

- 9.1 The site is located within Flood Zone 1 and is not at risk of flooding from tidal or fluvial sources, groundwater or overland surface water flows.
- 9.2 The Environment Agency maps confirm the site is at very low risk of flooding from overland flows, the lowest classification and the proposed development is not at significant risk.
- 9.3 There are no historic records of flooding from any source affecting the site or its immediate area.
- 9.4 The site is brownfield in nature and accommodation Windmill Inn, its carpark and the residential property of 34 Mill Lane all of which are positively drained.
- 9.5 Surface water drainage is currently discharged in part to the public foul sewer beneath Mill Lane.
- 9.6 Rainwater harvesting for non-potable use will be provided for irrigation of communal landscaped areas.
- 9.7 Discharge of surface water in excess of that collected for non-potable use will be based on infiltration to ground with sufficient storage provided to accommodate all storm return periods up to and including the 1:100 year plus climate change event.
- 9.8 Water quality improvement will be provided to mitigate against any risk to any receiving waterbody.
- 9.9 Foul drainage will be discharged by gravity to the existing public foul sewer located beneath Mill Lane.
- 9.10 In terms of flood risk planning the proposed development is safe and will manage surface water from all rainfall events up to the 1:100 year plus climate change event so as not to increase flood risk elsewhere.
- 9.11 The development proposals are suitable at this location.

10 List of Appendices, Images and Tables

Appendix 1	Site Location Plan
Appendix 2	Existing Site Layout Plan
Appendix 3	Sewer Records and Extracts from CCTV Survey
Appendix 4	Site Investigation Report
Appendix 5	Flood Maps
Appendix 6	Proposed Site Layout and Positively Drained Areas Plan
Appendix 7	Drainage Strategy Plan and Calculations
Appendix 8	Interim Drainage Management and Maintenance Plan
Appendix 9	Surface Water Exceedance Route Plan
Image 1	Site Location
Table 1	Existing Surface Water Runoff to Public Foul Sewer
Table 2	Pollution Hazard Indices
Table 3	Pollution Mitigation Indices

Appendix 1
Site Location Plan



Appendix 2
Existing Site Layout Plan

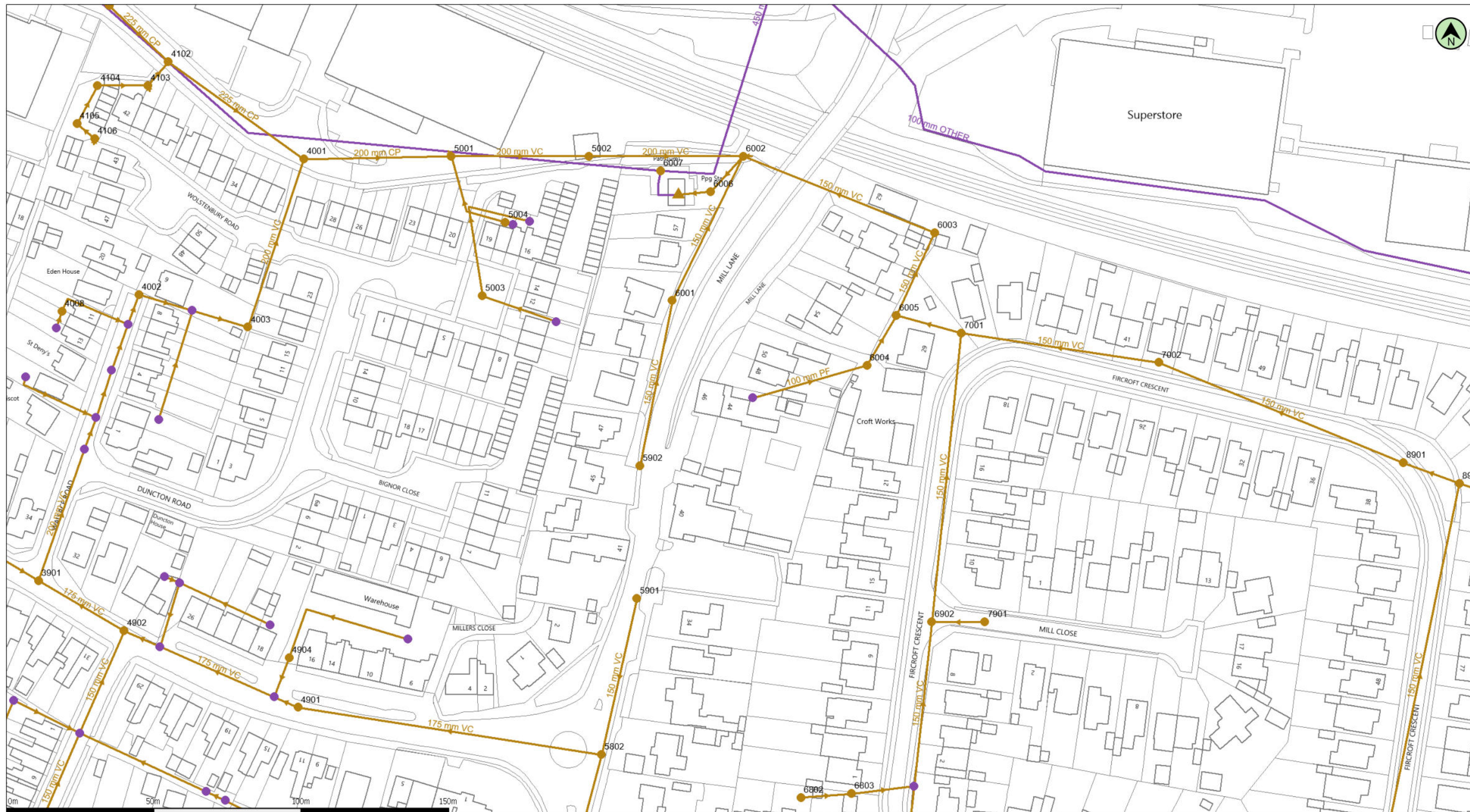


TITLE
Existing Site Layout Plan

SCALE	1:250 @ A3	PROJECT. No.	23915
REPORT TYPE	FRA	DWG. No.	02

Appendix 3

Sewer Records and Extracts from CCTV Survey

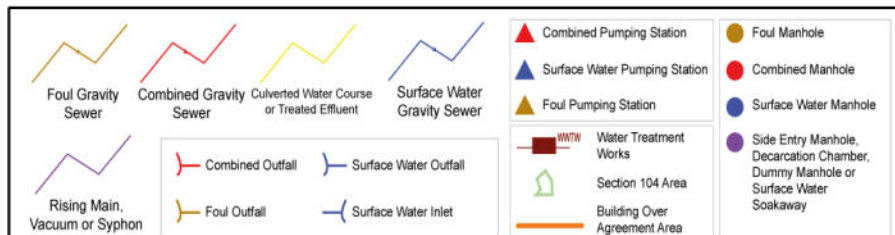


(c) Crown copyright and database rights 2024 Ordnance Survey 100031673 Date: 26/03/24 Scale: 1:1250 Map Centre: 505634,103011 Data updated: 12/01/24 Our Ref: 1430710 - 1 Wastewater Plan A3

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2024 Ordnance Survey 100031673. This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement.



mat@civil.co.uk

23915 THE WINDMILL





UTILITY SURVEYS LTD

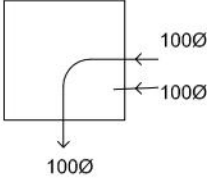
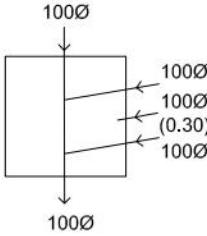
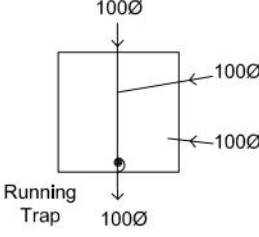
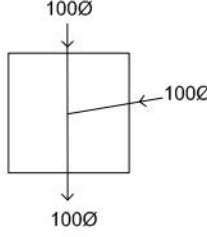
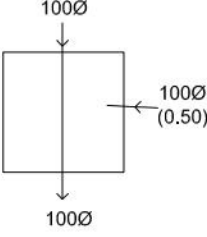
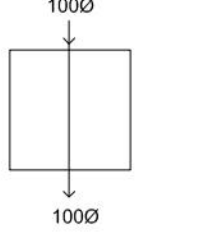
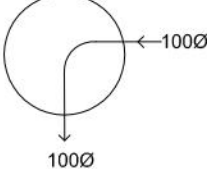
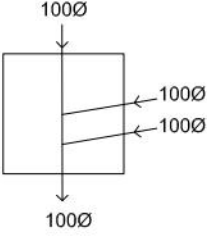
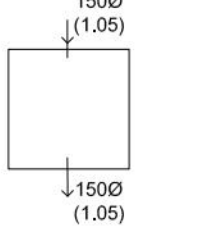
5 SUFFOLK ROAD MALDON ESSEX CM9 6AX

LOCATION: MILL LANE RUSTINGTON LITTLEHAMPTON

JOB REF: 071574

CLIENT: CHURCHILL RETIREMENT LIVING

DATE: 28/03/2024

MH No. F1 DEPTH. 0.48 COVER. RL CONSTRUCTION. Br REMARKS.		MH No. F7 DEPTH. 0.88 COVER. RL CONSTRUCTION. Br REMARKS.	
MH No. F2 DEPTH. COVER. CONSTRUCTION. REMARKS.	INTERNAL MANHOLE	MH No. F8 DEPTH. 0.70 COVER. RM CONSTRUCTION. Br REMARKS.	
MH No. F3 DEPTH. COVER. CONSTRUCTION. REMARKS.	INTERNAL MANHOLE	MH No. F9 DEPTH. 0.40 COVER. RM CONSTRUCTION. Co REMARKS.	
MH No. F4 DEPTH. 0.84 COVER. RL CONSTRUCTION. Br REMARKS.		MH No. F10 DEPTH. 0.60 COVER. RM CONSTRUCTION. Br REMARKS. RENDERED	
MH No. F5 DEPTH. 0.80 COVER. RL CONSTRUCTION. Plastic REMARKS.		MH No. F11 DEPTH. COVER. CONSTRUCTION. REMARKS.	BURIED MANHOLE
MH No. F6 DEPTH. 0.78 COVER. RL CONSTRUCTION. Br REMARKS.		MH No. S1 DEPTH. 1.20 COVER. RH CONSTRUCTION. Br REMARKS. SURCHARGED	
KEY:	C - Circular S - Square T - Triangular	L - Light Duty M - Medium Duty H - Heavy Duty	Co - Concrete Br - Brick R - Rectangular

CCTV Sewer Survey – Daily Record Sheet

Date 28/03/2024 Job No 071574

Client CHURCHILL RETIREMENT LIVING

Site Address MILL LANE

RUSTINGTON

LITTLEHAMPTON BN163JN

Rig Manager	S. GARDINER	Operative	M. CAMPBELL
-------------	-------------	-----------	-------------

--	--



5 Suffolk Road
Maldon
Essex
CM9 6AX

Manhole		Sewer dia.	Recorded Metreage	Survey Abandoned	Remarks
Start	Finish				
F1	F2	100	6-01		INTERNAL MH
F2	F3	100	5-78		
F4	F3	100	4-11		
F4	F5	100	4-22		
F5	F6	100	2-62		
F6	F7	100	3-08		
F7	F8	100	4-57		
F8	MAN	100	14-96		JOINS MAIN
F9	F10	100	5-57		
F10	F11	100	9-34		
F11	MAIN	100	7-49		
TOTAL					

Standing Time	
---------------	--

Meterage check	X
----------------	---

Length	OK
--------	----

Reason for standing time

Remarks

RWP'S ON GROUND & INTO GROUND PLUS
SOME MIXED RWP'S & WASTE GULLIES
INTO FOUls SYSTEM

Special Instructions; Site Contact –

Appendix 4
Site Investigation Report

11 April 2026

Our ref: J2538/c02a/db

Stuart Goodwill
Managing Director
Planning Issues
Churchill House
Parkside
Ringwood
Hampshire
BH24 3SG

Dear Mr Goodwill,

RE: WINDMILL INN DEVELOPMENT SITE
WINTER WATER LEVEL MONITORING AND BRE365 SOAKAGE TESTING

Further to your instruction and following on from a previous phase of ground investigation carried out by others we have carried the following supplementary works;

Supplementary desk study research to provide an assessment of the chalk dissolution risk;

Installation and subsequent fortnightly monitoring through the winter of 2025/2026 of a series of groundwater monitoring wells to determine the seasonal fluctuation of groundwater beneath this site and establish worst case winter water levels

Soakage testing in accessible locations in accordance with BRE365 to determine the viability of infiltration based drainage and inform the design of the surface water management system by CEP as Civil Designers.

This letter and the enclosed factual records provides our report on these works and is provided in accordance with our standard terms, conditions and limitations.

Chalk Dissolution Risk

Whilst the site is underlain by Chalk, such that it has a back ground risk of chalk dissolution due to the presence of chalk soils. This site is indicated to be classified by the British Geological Survey as being in a location where a low to negligible risk of ground dissolution has been identified. The site is not in a chalk dissolution setting where the risk of chalk dissolution may be prevalent and the results of searches carried out on the National Chalk Cavities Database have not indicated and reported natural cavities or reported recent incidents of ground cavities or sinkholes within 500m of the site the National Karst Database has also not identified any recorded karstic features (such as sinkholes, cavities or associated damage) within 500m of the site.

On the basis of this review of desk study information it is not considered that the site has an increased risk of chalk dissolution, such that infiltration based drainage should not be discounted.

Ground Investigation Findings Summary

The Borehole and Soakage Test Pit Logs are enclosed with this letter report together with the results of the soakage testing and a site plan indicating the locations of the exploratory holes, together with the locations of the exploratory holes drilled previously by others.

The ground conditions that have been encountered are consistent with the published geological records and our extensive local experience of the ground conditions across the wider area.

Underlying the initial surfacing layer of topsoil, reworked topsoil and made ground, the boreholes and trial pits have encountered variably firm pale brown and orange brown variably silty and sandy clay soils consistent with the locally prevalent River Terrace Deposits.

The previous works carried out by others indicated these to be locally soft, with locally low to very low N values presented. It is however considered that these may have been affected by the presence of groundwater seepages that were reports as part of their site works and potentially the use of SPT(cone) equipment rather than SPT(split spoon)equipment as local experience has shown that the use of a cone in the silty sandy layers of the River Terrace Deposits can indicate lower than actual strength indications in these soils.

These predominantly clay soils were encountered to depths of between 1.80m and 4.50m below ground level and were generally found to be underlain by more granular soils of the River Terrace Deposits comprising sand and gravel deposits with occasional clay layers, which were encountered to depths of between 3.50m and 5.00m below ground level. These granular soils were locally absent in several of the boreholes drilled previously by others, although the clay soils are indicated to have been recorded to be very sandy below 2.50 m below ground level.

Underlying the variable River Terrace Deposits, weathered white Chalk was encountered in each of the exploratory positions and proved to a maximum depth of 5.45m below ground level.

Groundwater Discussion

Groundwater was not generally encountered as part of the borehole drilling or trial pit excavation carried out at this site. One borehole drilled as part of the previous phase of investigation carried out in April 2024 encountered what is assumed to be perched water at 3.00m, with the remainder of the boreholes being noted as dry.

A programme of winter groundwater level monitoring has been carried out and the results are presented relative to existing ground level and relative to Ordnance Datum on the enclosed record sheets.

The shallowest depth below ground level groundwater was recorded in Borehole No 5, located within the northern part of the site, at a depth of 3.25m below ground level on the 21st of February 2026, which corresponds with a level of 3.29mOD.

The highest groundwater level, relative to Ordnance Datum, was however recorded in Borehole No 3, located within the south western part of the site at a level of 3.81m OD on 6 February 2026, which corresponds with a depth below ground level of 3.68m bgl.

Infiltration Testing Discussion

Trial Pit Nos 1 & 2

Trial Pit No 1 was located within the northern part of the site and the base of the infiltration tests were excavated to 2.25m below ground level, so as to be 1m above the worst case water level recorded during the period of winter monitoring.

Trial Pit No 2 was excavated to a depth of 2.40m below ground level, which was the maximum achievable depth of excavation possible using the restricted access mini digger that was able to access into the rear pub garden without demolition works being required.

These trial pits encountered clay soils to 1.80 m and 2.00m respectively and did not encounter groundwater, with the excavation sides remaining stable.

The results of the infiltration testing, carried out in accordance with the BRE365 methodology are enclosed and indicate that the testing in these locations provided infiltration rates of 6.9e-6m/s and 5.4e-6m/s respectively.

Trial Pit No 3

This trial pit was extended to a depth of 2.50m below ground level and encountered clay soil to the full depth of excavation. It was not possible to extend the depth of excavation due to the limitations of the restricted access mini-digger that was able to access into the rear pub garden without demolition works being required.

The infiltration test was carried out over a period of three days with only negligible infiltration recorded such that the test was subsequently abandoned.

Trial Pit No 4

This trial pit was located within the pub carpark such that an 8 tonne tracked excavator on rubber tracks could be used to excavate this trial pit to an increased depth of 3.10m below ground level in order to extend the excavation into the upper levels of the white weathered chalk encountered at 3.00m beneath the clay soils of the River Terrace Deposits.

The results of the infiltration testing, carried out in accordance with the BRE365 methodology are enclosed and indicate an infiltration rate of 6.8e-6m/s.

Discussion of Results

The results of the infiltration testing have indicated a relatively consistent infiltration rate has been achieved in either the lower sand soils of the River Terrace Deposits or the underlying weathered chalk that has been encountered beneath the superficial clay soils of the River Terrace Deposits.

The results of the winter groundwater monitoring indicate that in the northern part of the site the permeable sand strata can be reached at a depth that does not encroach into the usual 1.00m offset above the shallowest recorded winter groundwater level.

In the southern part of the site the results indicate that the depth to the base of the clay soils is generally deeper, and whilst these soils are still present at a depth that is shallower than the worst-case winter groundwater level, the increased depth of permeable strata is within the usually required 1.00m offset. The permeable chalk being encountered at a depth of 3.00m bgl, with the worst-case winter groundwater encountered in this part of the site at 3.68m bgl.

Discussion of Soakaway Design

In accordance with standard Building Regulations, the location of any soakaway formed at this site should be a minimum of 5m away from any proposed structure. It is not considered that additional separation is required as the site is not indicated to be located within an increased risk chalk dissolution zone.

Any soakaway should be formed with a flat and level base that extends into either the sand and gravel soils of the River Terrace Deposits or the upper weathered Chalk.

On the basis of the site investigation and infiltration testing, a soakaway formed with a base level at about 4.20m OD would be expected to be formed predominantly within granular River Terrace Deposits or the upper weathered levels of the chalk and may be designed on the basis of an assessed infiltration rate of 6e-6m/s.

The depth of the soakaway may need to be locally deepened to ensure that the superficial clay soils are effectively bypassed. In any such localised instances, the excavation carried out to reach a deeper formatting level should be backfilled with clean granular stone in order to ensure stability and the provision of a flat and level soakaway base.

The base of the soakaway should be carefully prepared to ensure that it is level and should be formed with a geotextile separator layer and a geotextile mesh reinforcement to mitigate any differential ground movements associated with the potential presence of granular River Terrace Deposits, weathered chalk and single sized stone backfill.

Validation

A record should be kept of the construction of the proposed soakaway to confirm that it has been constructed in accordance with these requirements and the design provided by CEP. This record should include records of any site inspections, site photographs and copies of the design requirements.

We trust that this letter report provides sufficient information for your needs, although please do not hesitate to contact me to discuss any questions or queries.

Yours sincerely
Wilson Bailey Partnership

Dominic Brightman
BSc MSc DIC FGS CGeol ARSM
Encs



Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Churchill Retirement Living	Job Number J202538
	Location	Dates 17/09/2025	Engineer DPB	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				(0.30) 0.30	TOPSOIL		
					(0.50) 0.80	Firm dark reddish orange-brown silty sandy CLAY		
1.00-1.45 1.00	SPT N=12 D2		2,3/3,3,3,3			Firm orange-brown and brown silty sandy CLAY		
1.50	D3				(2.00)			
2.00-2.45 2.00	SPT N=9 D4		3,4/3,2,2,2					
2.50	D5							
3.00-3.45 3.00	SPT N=27 D6		7,6/7,7,7,6		2.80 (0.30) 3.10	Firm orange-brown and brown silty sandy CLAY with abundant fine and medium chalk gravel		
3.50	D7					Recovered as completely weathered white CHALK		
4.00-4.45 4.00	SPT N=11 D8		4,4/3,2,3,3		(1.35)			
4.45	D9				4.45	Complete at 4.45m		

Remarks Groundwater not encountered. Standpipe installed with a response zone from 1.00m to 4.00m. Possibly desiccated to 1.40m.	Scale (approx)	Logged By
	1:50	
	Figure No. J202538.BH2	

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site The Windmill Inn, Rustington		Number BH3
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Churchill Retirement Living		Job Number J202538
		Location		Dates 17/09/2025		Engineer DPB		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				(0.35) 0.35	TOPSOIL		
						Firm brown silty sandy CLAY with occasional fine flint gravel		
1.00-1.45 1.00	SPT N=4 D2		1,0/1,1,1,1		(1.05)			
1.50	D3				1.40	Firm pale brown silty sandy CLAY		
2.00-2.45 2.00	SPT N=7 D4		1,1/1,2,2,2					
2.50	D5				(2.10)			
3.00-3.45 3.00	SPT N=8 D6		2,1/2,2,2,2					
3.50	D7				3.50 (0.20)	Pale yellowish brown and pale orange-brown silty SAND		
					3.70	Firm pale brown silty CLAY		
4.00-4.45 4.00	SPT N=15 D8		2,3/4,4,3,4		(0.80) 3.90	Pale yellowish brown sandy SILT		
4.50	D9				(0.35) 4.30	Firm pale brown silty CLAY with occasional fine chalk gravel		
					(0.65) 4.95	Firm pale brown silty CLAY with abundant flint and chalk gravel		
5.00-5.45 5.00	SPT N=18 D10		3,3/5,4,4,5		(0.50) 5.45	Recovered as completely weathered white CHALK		
5.45	D11					Complete at 5.45m		
Remarks Groundwater not encountered. Standpipe installed with a response zone from 1.00m to 5.00m.							Scale (approx) 1:50	Logged By
							Figure No. J202538.BH3	

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site The Windmill Inn, Rustington		Number BH4	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Churchill Retirement Living		Job Number J202538	
		Location		Dates 17/09/2025		Engineer DPB		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	D1				(0.25) 0.25	TOPSOIL Firm orange-brown and brown silty slightly sandy CLAY			
1.00	D2				(1.65)				
1.50	D3								
2.00	D4				1.90 (0.60)	Pale yellowish brown silty locally clayey fine SAND			
2.50	D5				2.50 (0.60)	Firm pale brown and yellowish brown silty sandy CLAY with occasional fine chalk gravel			
3.00	D6				3.10	Pale yellowish brown silty SAND with layers of fine to medium pale yellowish brown very silty sandy CLAY			
3.50	D7				(0.90)				
4.00	D8				4.00	Recovered as completely weathred white and off white CHALK			
4.50	D9				(1.45)				
5.00	D10								
5.45	D11				5.45	Complete at 5.45m			
Remarks Groundwater not encountered but sand damp at 2.00m.							Scale (approx)		Logged By
							1:50		
							Figure No. J202538.BH4		



Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Churchill Retirement Living	Job Number J202538
	Location	Dates 17/09/2025	Engineer DPB	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				(0.25) 0.25	TOPSOIL		
1.00-1.45 1.00	SPT N=8 D2		1,2/2,2,2,2		(1.55)	Firm brown and orange-brown silty slightly sandy CLAY		
1.50	D3							
2.00-2.45 2.00	SPT N=9 D4		1,1/1,2,3,3		1.80 (0.30) 2.10	Orange-brown silty slightly clayey SAND with fine flint gravel		
2.50	D5				(0.60)	Pale yellowish brown silty SAND		
3.00-3.45 3.00	SPT N=15 D6		2,2/3,3,5,4		2.70 2.80	Orange-brown silty slightly clayey SAND		
3.50	D7				(0.60)	Pale yellowish brown silty SAND		
4.00-4.45 4.00	SPT N=24 D8		5,5/6,6,6,6		3.40	Recovered as completely weathered white CHALK		
4.45	D9				(1.05) 4.45	Complete at 4.45m		

Remarks Groundwater not encountered. Standpipe installed with a response zone from 1.00m to 4.00m.	Scale (approx) 1:50	Logged By
	Figure No. J202538.BH5	



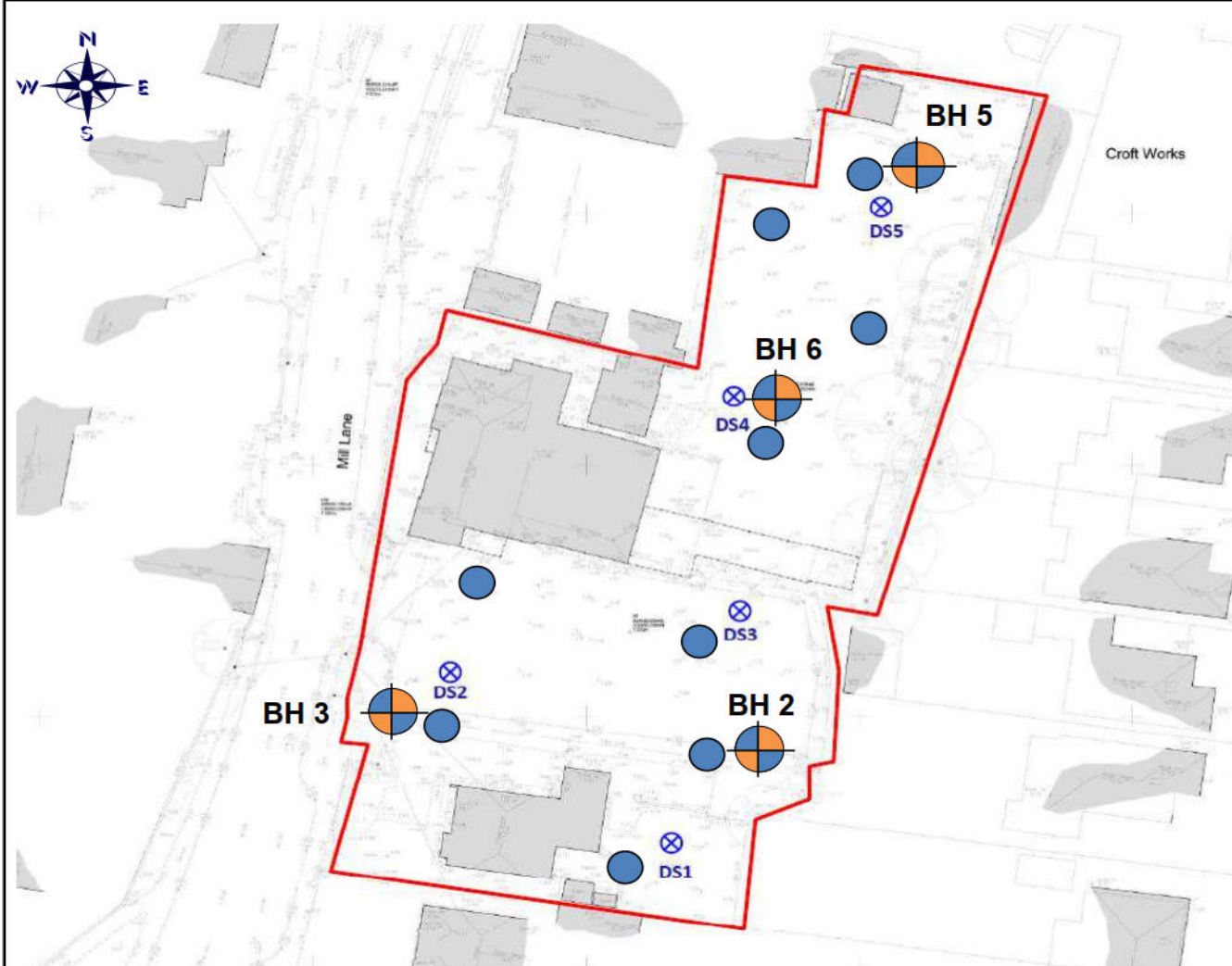
Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Churchill Retirement Living	Job Number J202538
	Location	Dates 17/09/2025	Engineer DPB	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				(0.30) 0.30	TOPSOIL		
1.00-1.45 1.00	SPT N=7 D2		1,1/1,2,2,2		(1.90)	Firm brown and orange-brown silty locally sandy CLAY with occasional partings of orange-brown silty sand		
1.50	D3							
2.00-2.45 2.00	SPT N=6 D4		1,1/1,2,1,2		2.20 (0.20)	Orange-brown silty SAND		
2.50	D5				2.40 (0.20)	Firm orange-brown silty sandy CLAY		
					2.60 (0.30)	Pale yellowish orange-brown silty SAND		
3.00-3.45 3.00	SPT N=30 D6		8,8/7,8,8,7		2.90 (0.60)	Pale yellowish orange-brown and off white silty SAND and GRAVEL with fine to medium gravel of flint and chalk		
3.50	D7				3.50	Recovered as completely weathred white and off white CHALK		
4.00-4.45 4.00	SPT N=26 D8		5,5/6,7,6,7		(0.95)			
4.45	D9				4.45	Complete at 4.45m		

Remarks Groundwater not encountered. Standpipe installed with a response zone from 1.00m to 4.00m.	Scale (approx) 1:50	Logged By
	Figure No. J202538.BH6	

Site Windmill In Site, Rustington

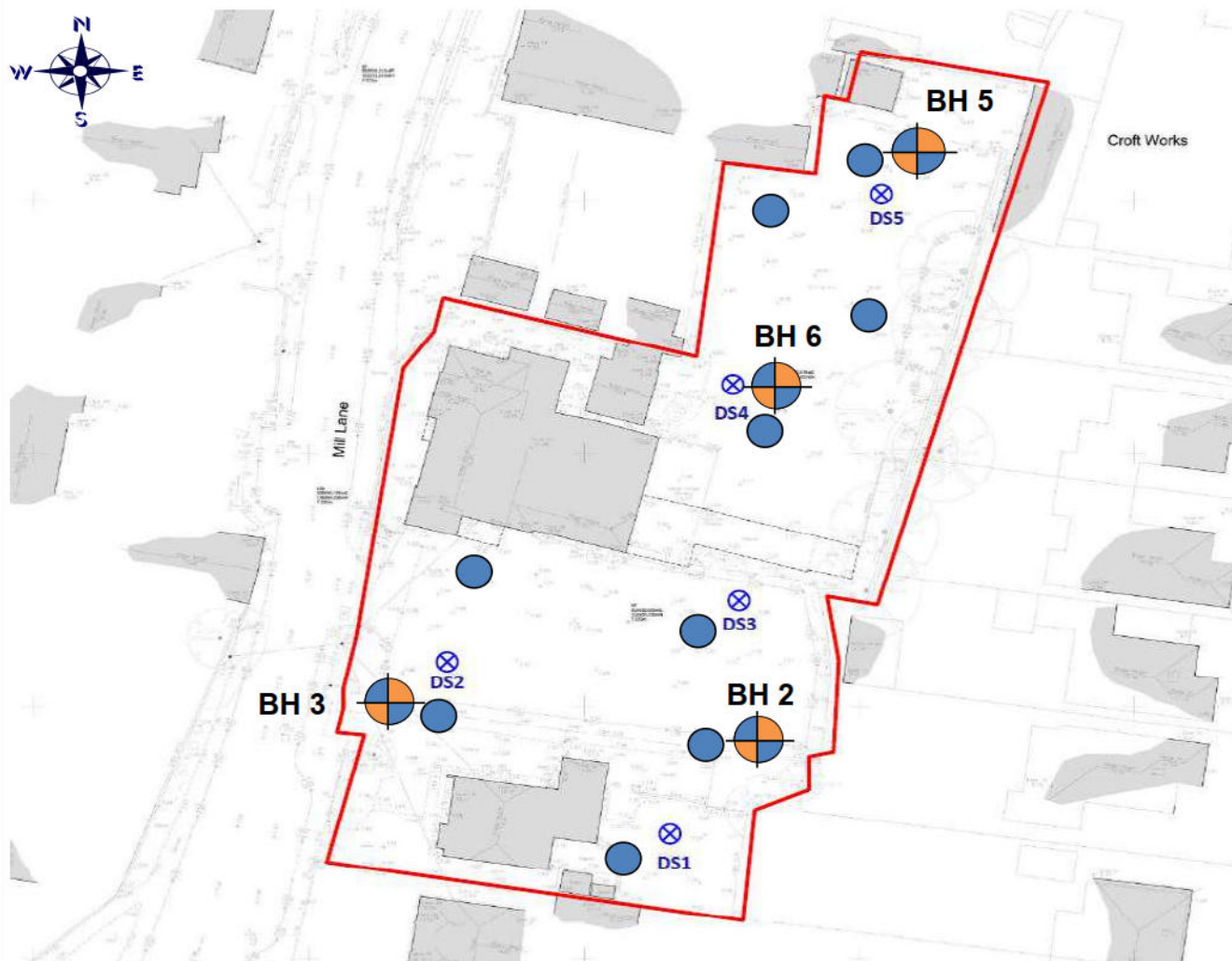
Client Planning Issues Limited



Ground water monitoring results (metres below ground level)				
Date	BH2	BH3	BH5	BH6
Depth of well	4.47	5.44	4.45	4.39
11/10/2025	4.50	5.10	dry	4.40
06/11/2025	dry	5.04	4.18	dry
28/11/2025	dry	4.99	dry	3.97
05/12/2025	dry	dry	dry	4.04
12/12/2025	3.96	4.71	3.46	dry
20/12/2025	dry	4.71	4.21	3.95
27/12/2025	dry	4.83	4.41	4.03
03/01/2026	dry	4.87	4.06	dry
09/01/2026	dry	4.87	4.01	4.30
17/01/2026	dry	4.38	3.74	dry
30/01/2026	3.96	4.35	3.63	3.99
06/02/2026	3.48	3.68	3.53	3.20
13/02/2026	3.77	3.97	3.37	3.75
21/02/2026	3.60	3.82	3.25	3.63
01/03/2026	3.90	4.09	3.51	3.91
08/03/2026	dry	4.32	4.10	3.71

Site Windmill In Site, Rustington

Client Planning Issues Limited

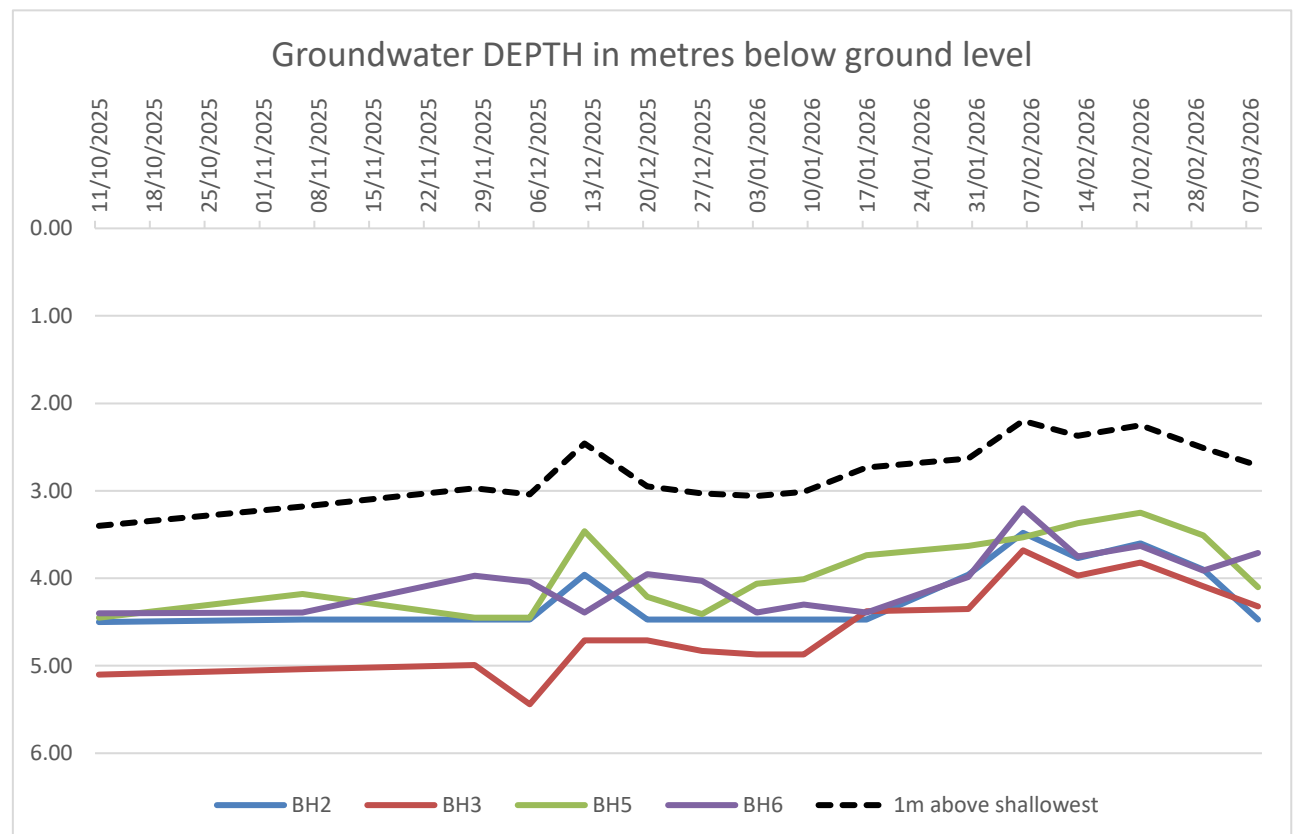
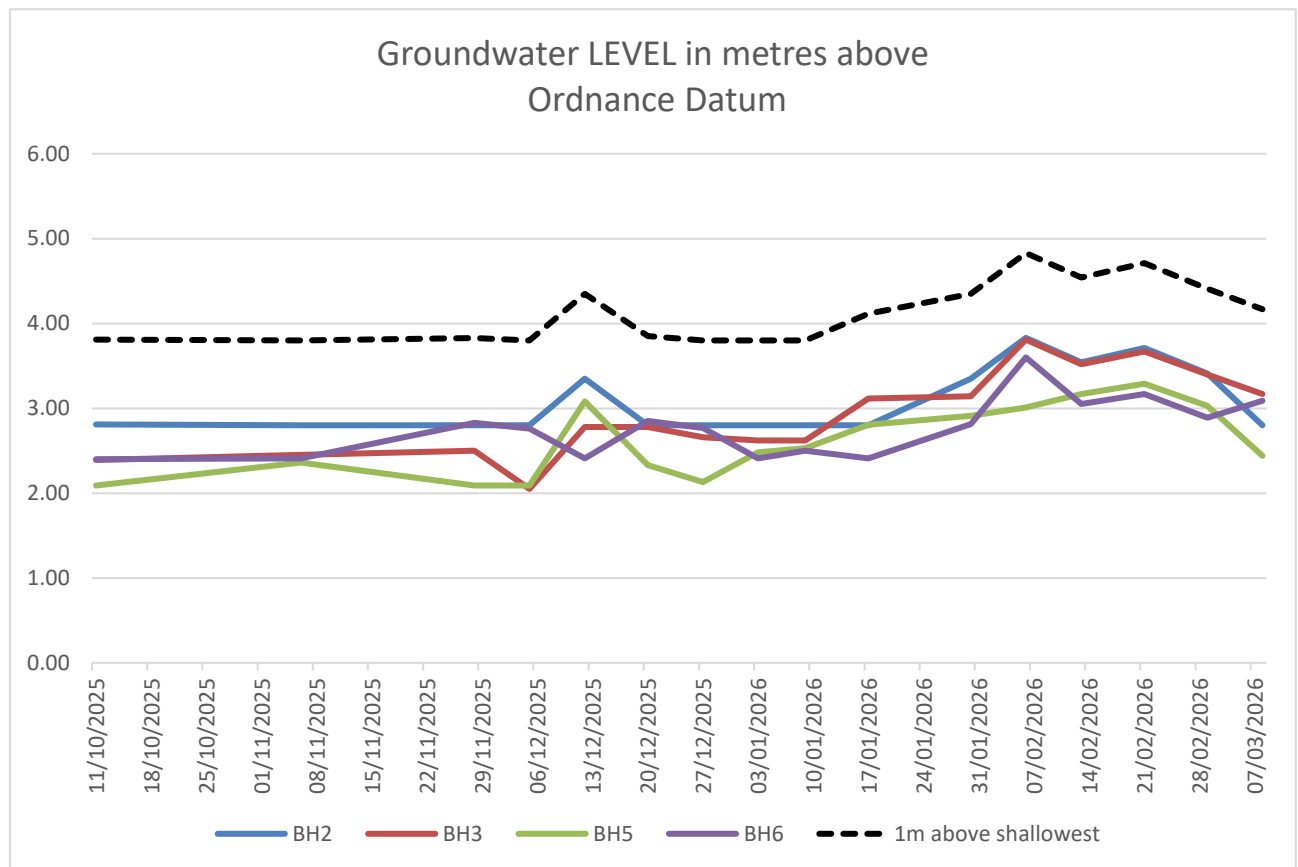


Ground water monitoring results (relative to Ordnance Datum)				
Date	BH2	BH3	BH5	BH6
Top of Well	7.31	7.49	6.54	6.80
Base of well	2.80	2.05	2.09	2.41
11/10/2025	2.77	2.39	dry	2.40
06/11/2025	dry	2.45	2.36	dry
28/11/2025	dry	2.50	dry	2.83
05/12/2025	dry	dry	dry	2.76
12/12/2025	3.31	2.78	3.08	dry
20/12/2025	dry	2.78	2.33	2.85
27/12/2025	dry	2.66	2.13	2.77
03/01/2026	dry	2.62	2.48	dry
09/01/2026	dry	2.62	2.53	2.50
17/01/2026	dry	3.12	2.81	dry
30/01/2026	3.31	3.14	2.91	2.82
06/02/2026	3.79	3.81	3.01	3.60
13/02/2026	3.50	3.52	3.17	3.05
21/02/2026	3.67	3.67	3.29	3.17
01/03/2026	3.37	3.40	3.03	2.89
08/03/2026	dry	3.17	2.44	3.09

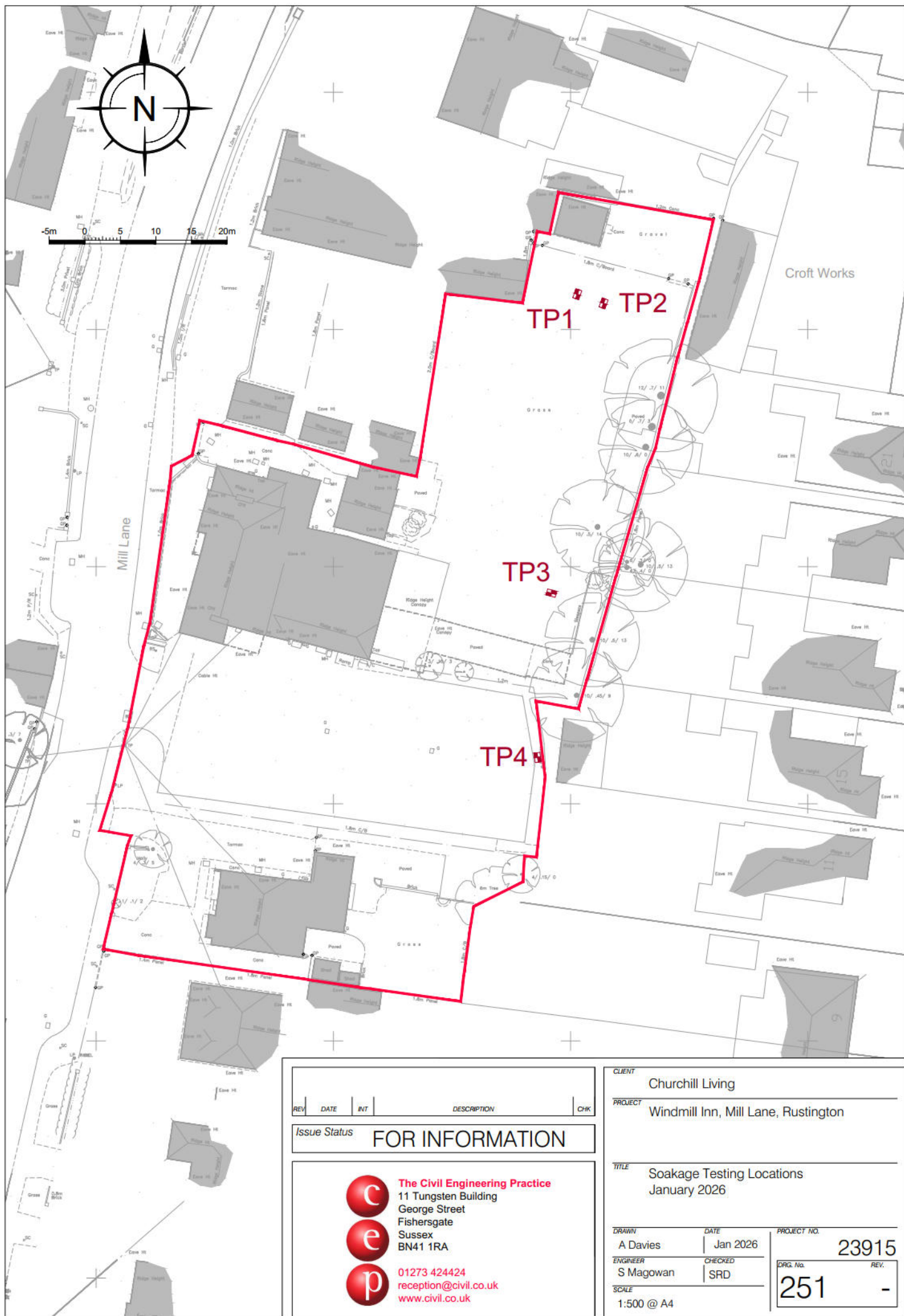
Site Windmill In Site, Rustington

alz

Client Planning Issues Limited



Where boreholes have been monitored as dry, the base depth or base level of the well has been plotted.



REV	DATE	INT	DESCRIPTION	CHK
Issue Status				
FOR INFORMATION				



The Civil Engineering Practice
11 Tungsten Building
George Street
Fishergate
Sussex
BN41 1RA
01273 424424
reception@civil.co.uk
www.civil.co.uk

CLIENT			Churchill Living		
PROJECT			Windmill Inn, Mill Lane, Rustington		
TITLE			Soakage Testing Locations January 2026		
DRAWN		DATE		PROJECT NO.	
A Davies		Jan 2026		23915	
ENGINEER		CHECKED		DRG. No.	
S Magowan		SRD		251	
SCALE				REV.	
1:500 @ A4				-	

Site Windmill Inn Rustington

Client Churchill Retirement Living

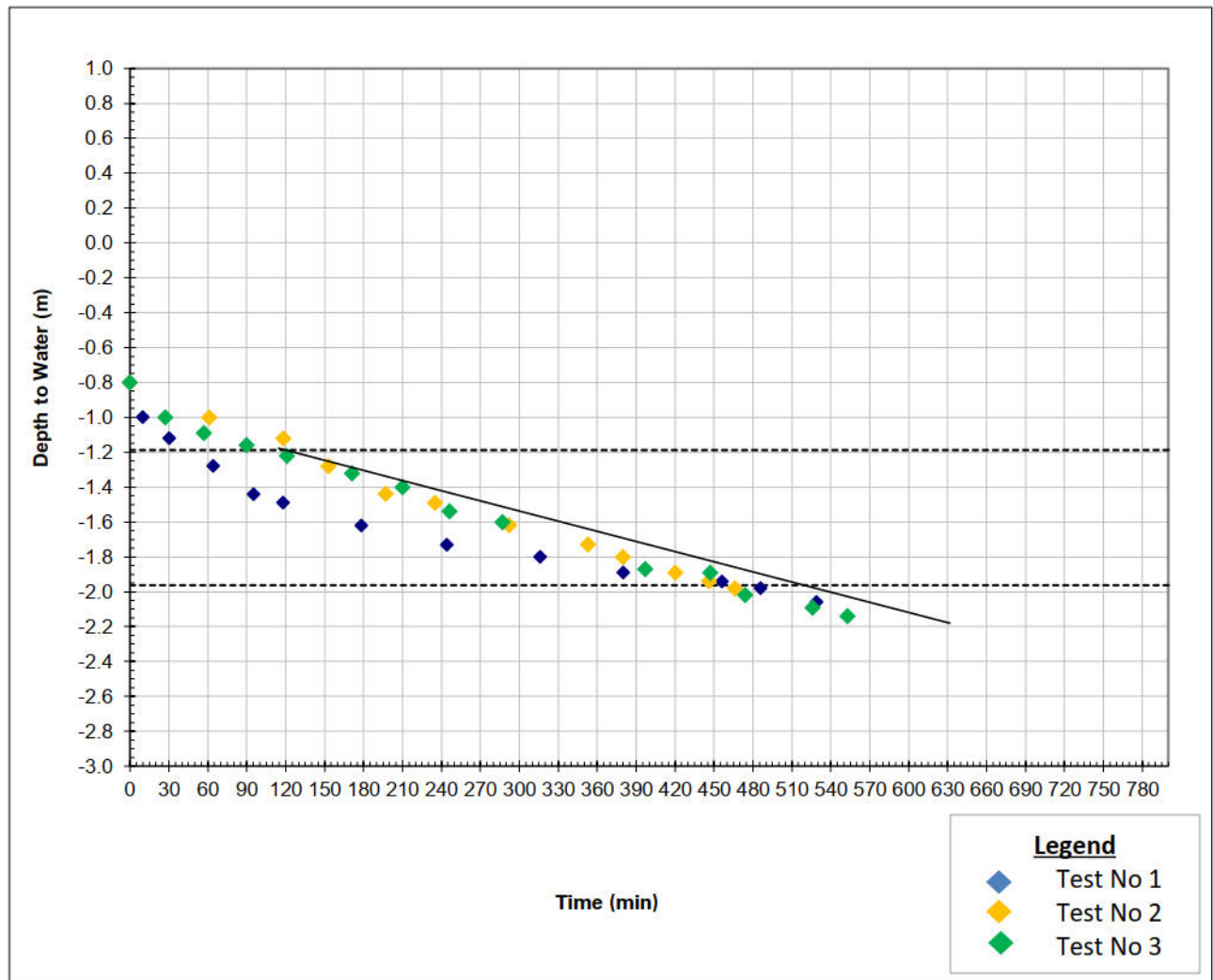
Trial Pit No. TP1

Pit Length (m) 1.50

Pit Width (m) 0.60

Date of testing 17 Feb - 19 Feb 2026

Pit Depth (m) 2.35



Design Soakage Rate 6.9E-06 m/s (based on linear portion of graph as shown)
0.60 m/day

Notes

Trial Pit excavated on 16 Feb 2026.
Soakage test carried out in accordance with requirements of BRE365 with three completed fills.
Worst case infiltration rate assessed from plot above in accordance with the BRE365 methodology.
Trial pit encountered topsoil to 0.35m, overlying firm orange-brown CLAY to 1.80 m, beneath which orange-brown sand was encountered to the full depth of excavation at 2.35m.
Groundwater was not encountered as part of this excavation.
Excavation remained stable for the duration of the testing.
Trial pit back filled with tamped down arisings.

Site Windmill Inn Rustington

Client Churchill Retirement Living

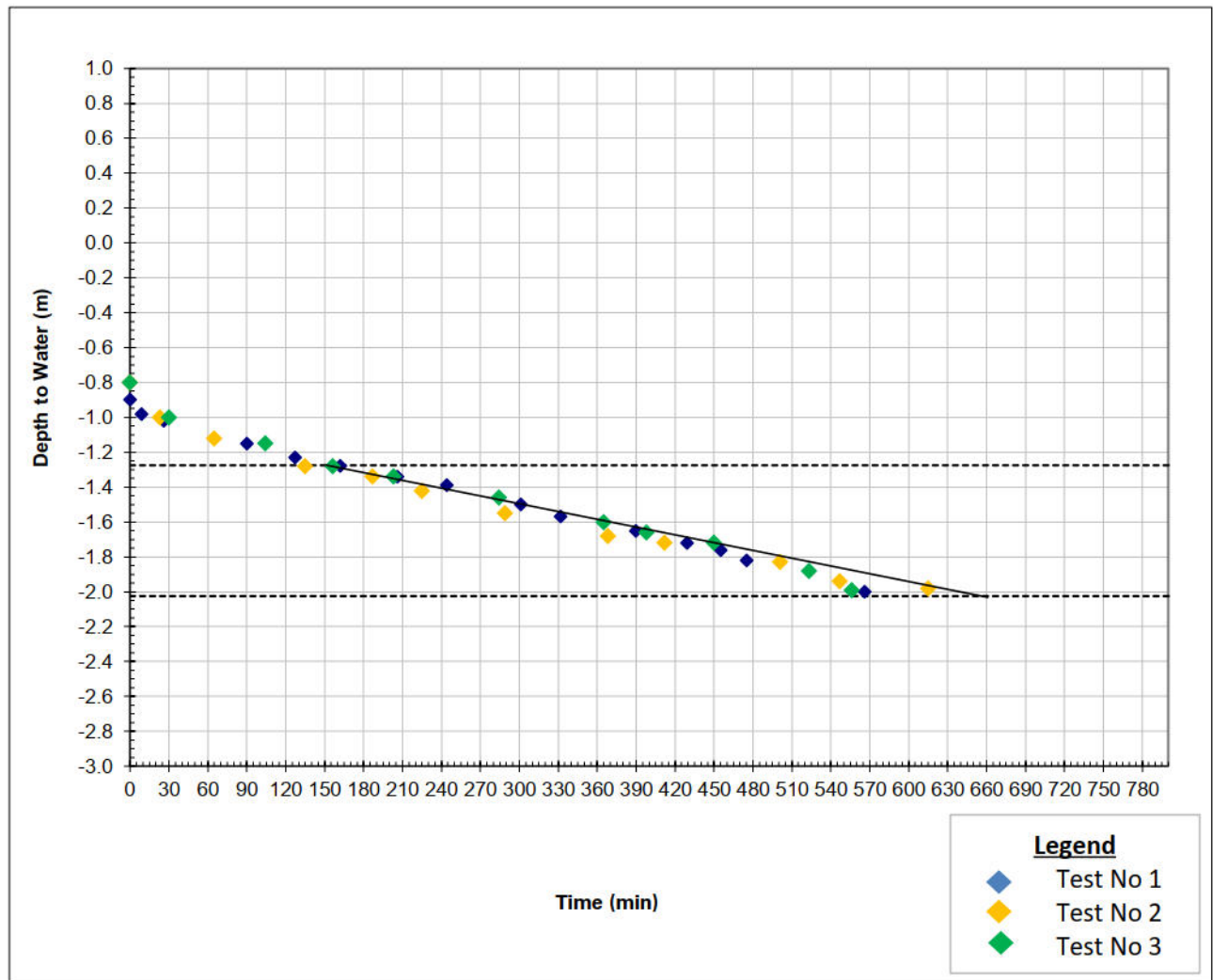
Trial Pit No. TP2

Pit Length (m) 1.50

Pit Width (m) 0.60

Date of testing 17 Feb - 19 Feb 2026

Pit Depth (m) 2.40



Design Soakage Rate 5.4E-06 m/s (based on linear portion of graph as shown)
0.47 m/day

Notes

Trial Pit excavated on 16 Feb 2026.
Soakage test carried out in accordance with requirements of BRE365 with three completed fills.
Worst case infiltration rate assessed from plot above in accordance with the BRE365 methodology
Trial pit encountered topsoil to 0.35m, overlying firm orange-brown CLAY to 2.00 m, beneath which orange-brown sand was encountered to the full depth of excavation at 2.40m.
Groundwater was not encountered as part of this excavation.
Excavation remained stable for the duration of the testing.
Trial pit back filled with tamped down arisings.

Site Windmill Inn Rustington

Client Churchill Retirement Living

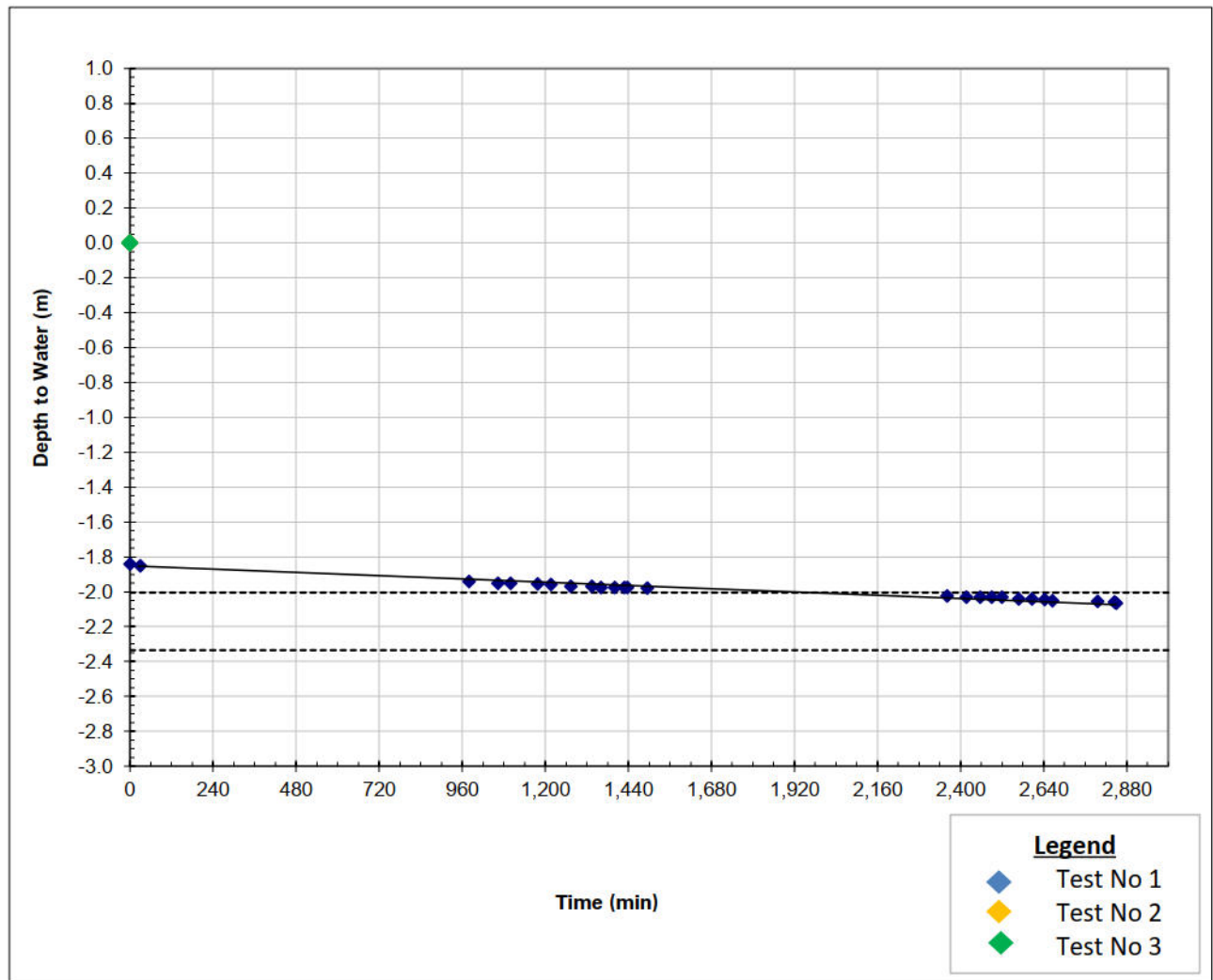
Trial Pit No. TP3

Pit Length (m) 1.50

Pit Width (m) 0.60

Date of testing 16 Feb - 19 Feb 2026

Pit Depth (m) 2.50



Design Soakage Rate -- m/s (based on linear portion of graph as shown)
-- m/day
Test abandoned

Notes

Trial Pit excavated on 16 Feb 2026.
Soakage test started in accordance with requirements of BRE365 but testing abandoned
Only a single partially completed test carried out over four days
Test abandoned
Trial pit encountered topsoil to 0.30m, overlying firm orange-brown CLAY to 2.50m to full depth
Groundwater was not encountered as part of this excavation.
Excavation remained stable for the duration of the testing.
Trial pit back filled with tamped down arisings.

Site Windmill Inn Rustington

Client Churchill Retirement Living

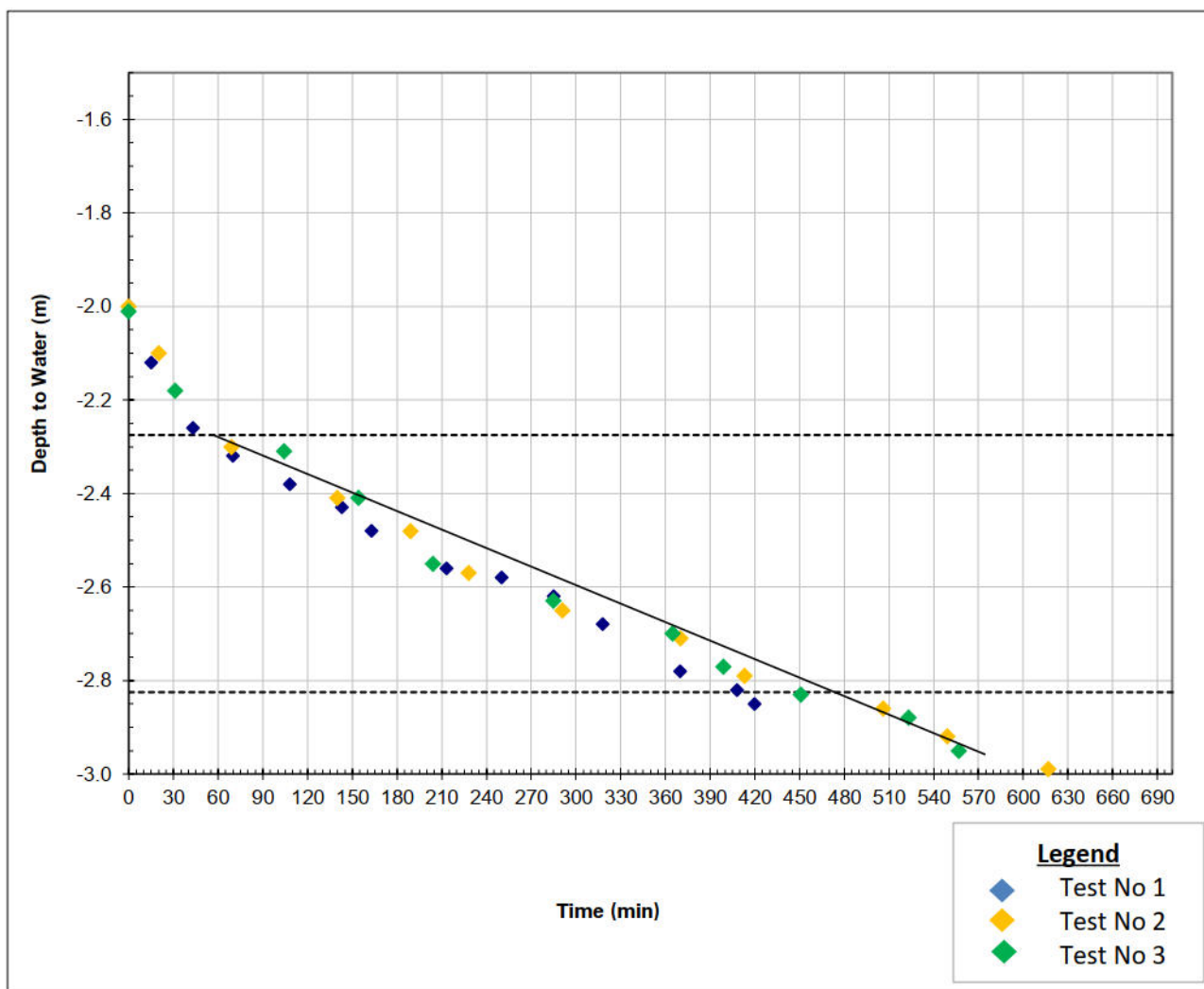
Trial Pit No. TP4

Pit Length (m) 1.80

Pit Width (m) 0.60

Date of testing 19 Feb - 20 Feb & 23 Feb 2026

Pit Depth (m) 3.10



Design Soakage Rate 6.8E-06 m/s (based on linear portion of graph as shown)
0.59 m/day

Notes

Trial Pit excavated on 16 Feb 2026.
Trial pit extended to 3.10m on 19 Feb 2026 using bigger excavator
Trial pit backfilled with single sized stone for safety and installed with a slotted monitoring pipe
Soakage test carried out in accordance with requirements of BRE365 with three completed fills.
Worst case infiltration rate assessed from plot above in accordance with the BRE365 methodology.
Trial pit encountered topsoil to 0.15m, overlying firm orange-brown sandy CLAY to 3.00 m,
beneath which white completely weathered CHALK was encountered at the base of the pit
Groundwater was not encountered as part of this excavation.