

White Street, West Lavington

C G Fry & Son Ltd

Flood Risk Assessment



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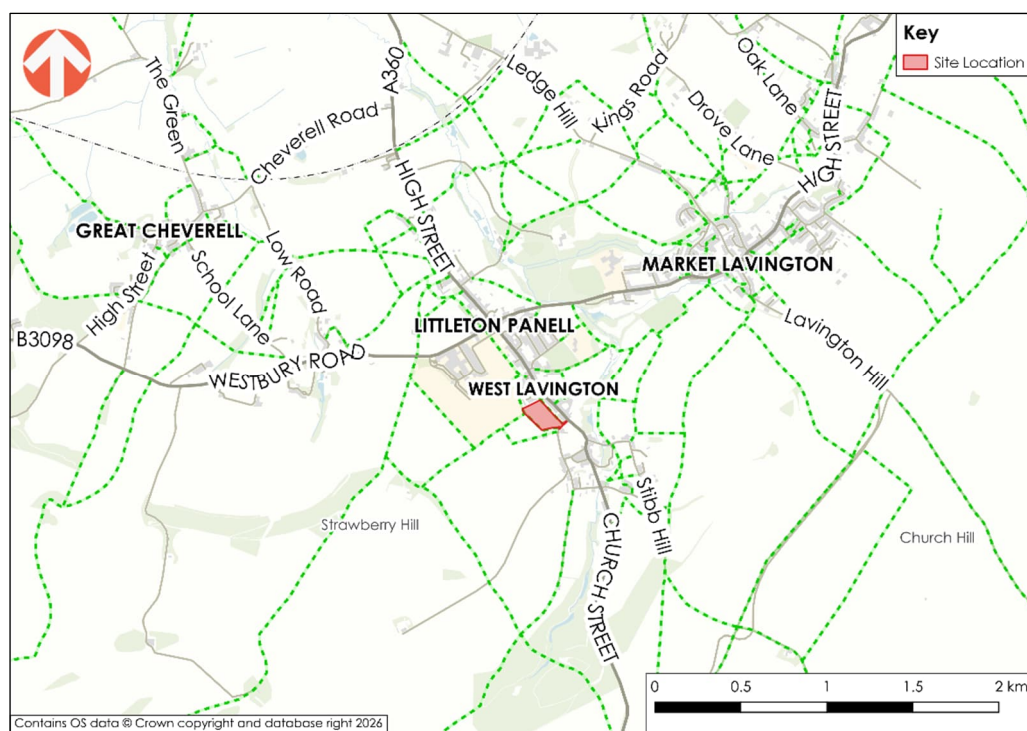
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1 Introduction

- 1.1 AWP (Exeter) LLP have been commissioned by C G Fry & Son Ltd to prepare a Flood Risk Assessment (FRA) in support of a Detailed planning application for 47 residential dwellings and associated works on Land at White Street, West Lavington, Wiltshire, SN10 4HR (BNG SU 00414 53262).
- 1.2 The location of the site in the context of the wider area is shown below in Figure 1.1.

Figure 1.1 - Site Location – Wide Area



- 1.3 A Flood Risk and Drainage Pre-Application Technical Note was submitted to Wiltshire Council (WC) for this proposed development. This FRA has been informed by the subsequent recommendations made by WC in their pre-application response, included within Appendix A.
- 1.4 This report has also been prepared in accordance with the National Planning Policy Framework (NPPF) and Lead Local Flood Authority's (LLFA) guidance available on the WC 'Drainage' website. Key reference documents and guidance used to inform this assessment have been summarised at the end of Section 1.

National Planning Policy Framework

- 1.5 The National Planning Policy Framework (NPPF) and the Planning Practice Guidance – ‘Flood Risk and Coastal Change’ (PPG) were most recently published by the Department for Communities and Local Government in February 2025 and September 2025.
- 1.6 The NPPF states (footnote 63) 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.”*
- 1.7 The aim of a site-specific flood risk assessment is to demonstrate that *“the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall”* (paragraph 178b, NPPF 2025).
- 1.8 Furthermore, the site-specific flood risk assessment must *“assess the flood risk to and from a development site [...] The assessment should demonstrate to the decision-maker how flood risk will be managed now and over the development’s lifetime, taking climate change into account, and with regard to the vulnerability of its users”* (“What is a site-specific flood risk assessment?”, Paragraph: 020 Reference ID: 7-020-20220825, online).

Structure and limitations of this FRA

- 1.9 This site-specific FRA has been written in line with the above Framework, as well as recommendations from WC within their pre-application response, included within Appendix A.
- 1.10 This FRA also includes a Surface Water Management Plan (SWMP) that indicates how the surface water runoff can be managed in such a way as not to increase the flood risk elsewhere.
- 1.11 This document sets out the existing baseline conditions in Section 2, the development proposal in Section 3. The proposed surface water and foul management plans are discussed in Sections 4 and 5, with Section 6 discussing miscellaneous issues, before concluding in Section 7.

References

1.12 This FRA has been prepared with consideration of the following documents and guidelines:

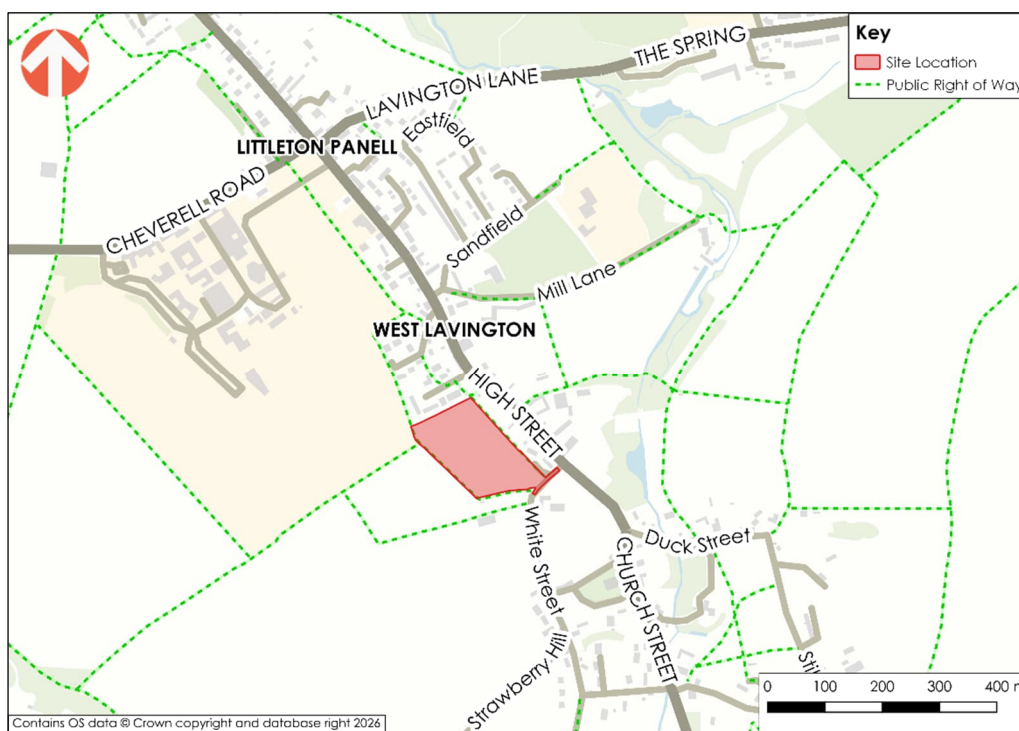
- Ministry of Housing Communities & Local Government (February 2025), National Planning Policy Framework;
- Ministry of Housing Communities & Local Government (September 2025), Planning Practice Guidance – ‘Flood Risk & Coastal Change’;
- DEFRA (July 2025) National Standards for sustainable drainage systems (SuDS);
- Environment Agency – Flood Warning Information Service ‘Flood Risk from Rivers or the Sea’ and ‘Flood Risk from Surface Water’ (Jan 2025);
- Environment Agency – Check Your Long Term Flood Risk (online);
- Environment Agency – Flood Risk Assessments: climate change allowances (online);
- Wiltshire Council Level 1 Strategic Flood Risk Assessment (May 2019);
- Wiltshire Council – Strategic Flood Risk Assessment Data Explorer (online, <https://wiltscouncil.maps.arcgis.com/apps/webappviewer/index>);
- Wiltshire Council –Drainage Policy (available online: <https://www.wiltshire.gov.uk/article/1000/Drainage>);
- Wiltshire Council – Drainage and Betterment Strategy (June 2024);
- West Lavington Parish Council – Adopted West Lavington Neighbourhood Plan 2017-2026 (Made June 2019);
- West Lavington Parish Council – West Lavington Neighbourhood Plan (First Review) 2017-2036 (Draft, April 2023);
- Magic.gov.uk Soilscape Dataset (online), and;
- CIRIA Guide 753 – The SuDS Manual (November 2015).

2 Existing Conditions

Context

- 2.1 The development site is located to the north of White Street, in the village of West Lavington. The location of the proposed site in the context of the local area is shown on Figure 2.1 below.

Figure 2.1 - Site Location – Local Area



Existing Site

- 2.2 The site currently comprises two fields of undeveloped land, bisected by an east-west fence. The site is currently accessed via an existing field gate on the southern side of the site onto White Street.
- 2.3 The site is bordered by residential dwellings to the north, residential properties and a footpath to the east, White Street to the south, and undeveloped fields and a footpath to the west.

Topographic and Arboricultural Surveys

- 2.4 A topographic survey was conducted by Lewis Brown Land Surveyors in August 2024, with a copy included within Appendix B.

- 2.5 The topographic survey shows the site as sloping at a consistent grade from west to east, falling from a high point of 89.63m Above Ordnance Datum (AOD) in the west to the low point of 84.31mAOD in the east, at grades between 1:35 and 1:50.
- 2.6 The topographic survey also included survey of White Street to the south of the site and indicates that levels continue to fall from the site toward and across White Street, with the highway adjacent to the site falling south into a highway ditch of approximately 700mm depth along the southern edge of White Street.
- 2.7 The topographic survey indicates the presence of heavy vegetation within the southern and western boundaries of the site, with dense vegetation in the western extents of the site requiring clearance to allow access.
- 2.8 An arboricultural survey was conducted in November 2024 by Aspect Tree Consultancy. A copy of the tree survey and associated constraints plan is included within Appendix C.

Ground Conditions

- 2.9 A desktop review of the Soilscape Dataset indicates the site is underlain by '*Freely draining slightly acid loamy soils*'.
- 2.10 Intrusive Ground Investigation works have been undertaken on three occasions on the site by Ruddlesden Geotechnical, listed below:
- Phase 2: Geotechnical Investigation and Contamination Assessment Report (February 2025, ref. CM/SR/24385/P2GICAR/01);
 - Soakaway Test Report (November 2025, ref. CM/SR/24385/STR/01);
 - Groundwater Monitoring Results (October 2025 to December 2025).
- 2.11 Extracts from each stage of geotechnical works by Ruddlesden Geotechnical are included within Appendix D.
- 2.12 British Geological Survey data indicates the site to be underlain by Cretaceous Upper Greensand Formation, described as fine-grained silty sand and sandstone.
- 2.13 The geology encountered on site is described as follows within the Soakaway Test Report:
- 'Six windowless sample boreholes and six trial pits typically encountered ground conditions of:*

- *TOPSOIL, to depths of between 0.20m and 0.40m, underlain by...*
- *Firm greenish brown (locally gravelly) sandy silty CLAY (Upper Greensand Formation), to depths of between 0.50m and 1.60m, generally underlain by...*
- *Medium dense to dense greenish grey (clayey/ silty) SAND (Upper Greensand Formation), to depths of between 1.10m and 2.20m, underlain by...*
- *Weak to medium strong greenish grey or grey SANDSTONE (Upper Greensand Formation), to depths of between 1.10m and 2.20m.*

No groundwater was encountered within any of the exploratory holes.'

- 2.14 Soakaway testing was undertaken in three locations across the site in late October 2025, in general accordance with BRE Digest 365. The results of soakaway testing are summarised in Table 2.1, with full results included in Appendix D.

Table 2.1 – Infiltration Testing Results

Test Location	Base Depth of Soakaway Test (mBGL)	Soil Infiltration Rate (m/s)		
		Test 1	Test 2	Test 3
TP02A	2.20	4.44×10^{-6}	5.07×10^{-6}	3.69×10^{-6}
TP03A	1.80	Failed	N/A	N/A
TP06A	2.20	Failed	N/A	N/A

- 2.15 At TP02A, three tests were conducted, with the rate obtained in the third test conservatively extrapolated from the data available, to obtain a design rate of 3.69×10^{-6} m/s. This design rate is not able to support effective soakaway design once 'Factors of Safety' and the 24-hr half-drain time requirement have been applied, as required by CIRIA C753.
- 2.16 Soakaway tests at TP03A and TP06A failed to reach 25% of the effective depth, with no soil infiltration rate able to be calculated. These results indicate that the ground is insufficiently permeable for the use of infiltration drainage at these locations and depths.
- 2.17 The ground investigation states the following in relation to probable infiltration rates at locations TP03A and TP06A:

'Conservative extrapolation of these results indicates that the test would take around between 1,000 minutes (16 hours) and 1,600 minutes (26 hours) to reach 25% of the effective depth and that this would produce a soil infiltration in the order of 1×10^{-6} m/s, which while unsuitable for soakaway drainage design, may be used for interception drainage design.'

- 2.18 Groundwater monitoring was carried out between October 2025 – December 2025 in two borehole locations, measuring groundwater levels up to 5.0m below ground level. Both boreholes remained dry throughout the monitoring period, with no groundwater encountered. A copy of the groundwater monitoring results and borehole location plan is included in Appendix D.

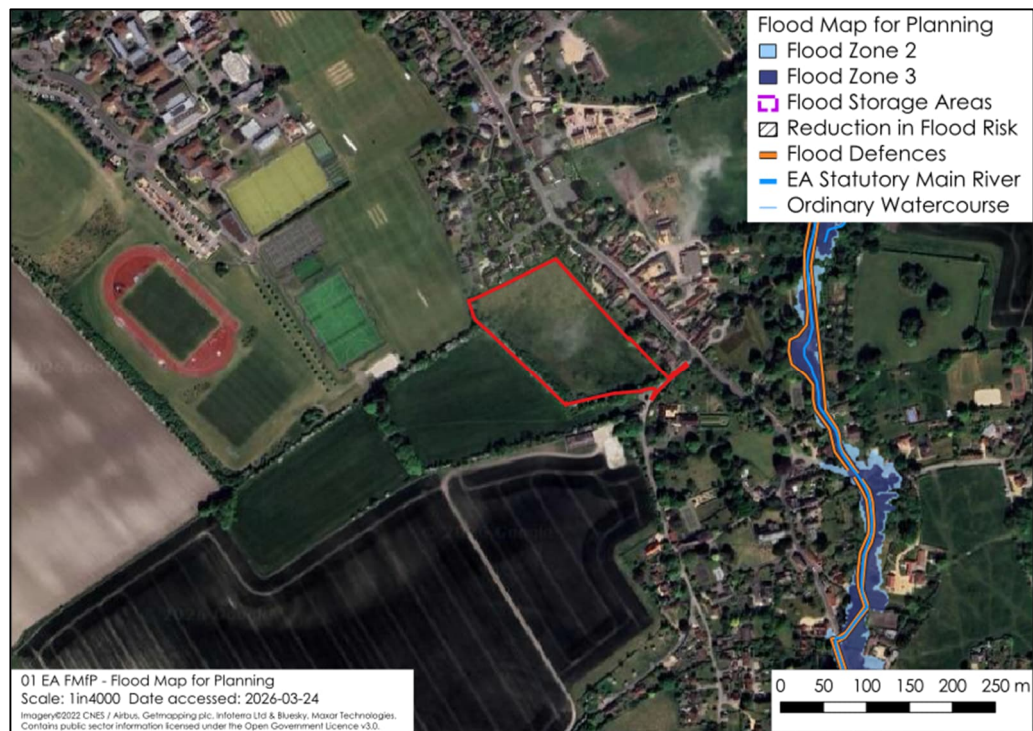
Existing Flood Risk

- 2.19 A desktop assessment of potential flood risk has been carried out using the Environment Agency's (EA) Flood Information Service and the online WC Strategic Flood Risk Assessment (SFRA) Data Explorer.
- 2.20 Data available within the SFRA Explorer was published prior to the updated EA Flood Risk Mapping. The more EA data is therefore considered definitive for Fluvial and Pluvial Flood Risk, but the SFRA Explorer data will be used to assess other sources of flooding. Extracts from the SFRA explorer are included within Appendix E.

Fluvial Sources

- 2.1 The 'Flood Map for Planning' (Figure 2.2) shows the site and surrounding area to be within 'Flood Zone 1', having less than 1 in 1,000 annual exceedance probability (AEP) of flooding from fluvial sources (<0.1%).
- 2.2 The nearest watercourse is an unnamed statutory main river, situated approximately 170 metres east of the site, upstream of Semington Brook.
- 2.3 EA mapping also incorporates future flood extents for river flooding (1.0% AEP, Central CC% Allowance) events up to the year 2125, which indicates that the site remains unaffected by flooding from fluvial sources for its lifetime.

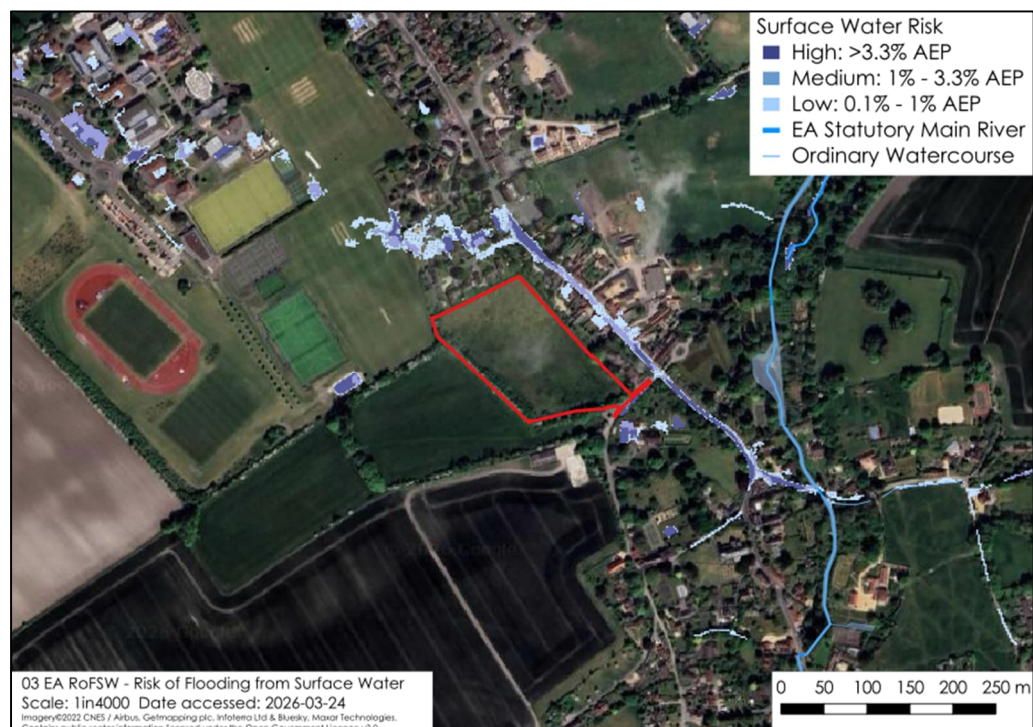
Figure 2.2 – Flood Map for Planning



Pluvial sources

- 2.4 An extract of the EA's 'Risk of Flooding from Surface Water' map, based on LiDAR data and illustrating typical conveyance routes of surface water runoff, is presented in Figure 2.3.

Figure 2.3 – Risk of Flooding from Surface Water



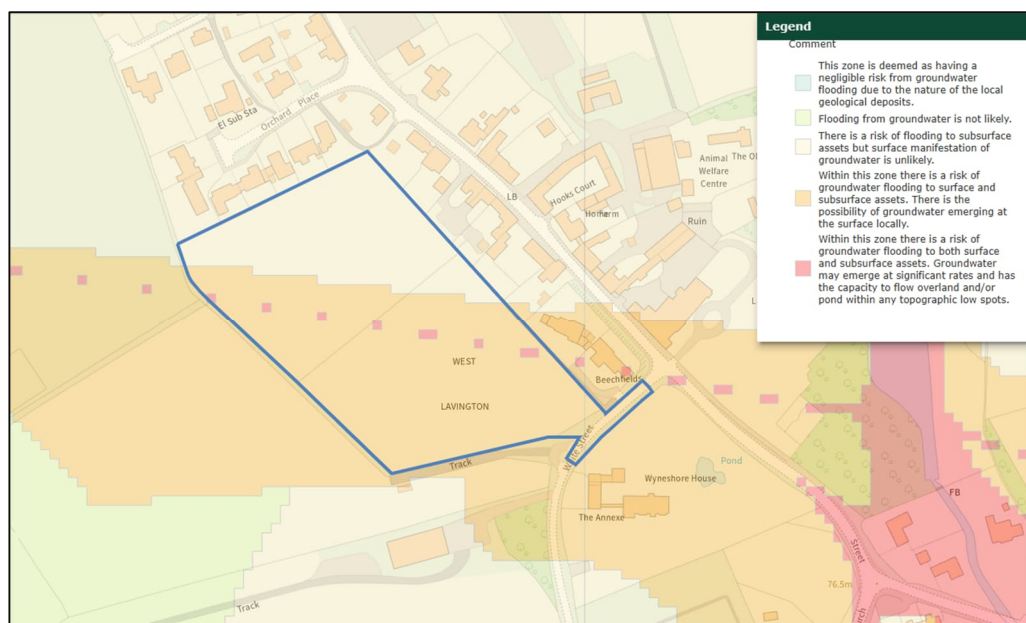
- 2.5 The map shows that the full site is at 'very low risk', with less than 1 in 1,000-year AEP from surface water flooding (0.1% AEP).
- 2.6 The nearest area of mapped surface water flooding is indicated as occurring within High St (A360) to the east of the site, occurring in localised low-points during the 3.3% AEP event, with the extents increasing in the 1.0% and 0.1% AEP events.
- 2.7 The WC Planning Consultation Response, received following review of the Flood Risk and Drainage Pre-Application Technical Note is included within Appendix A. WC provided advice specifically relating to pluvial flood risk, noting that their internal mapping shows *'a significant surface water flow path originating from offsite flows through the centre of the proposed development'*.
- 2.8 By review of the topographic survey, it appears there is a shallow channel beyond the western boundary of the site which in combination with the existing hedgebank will convey upstream flows around the western edge of site. Notwithstanding this, it is acknowledged that further measures should be considered as part of the surface water management plan for this development, to offer a more robust exceedance solution for runoff from the upstream catchment, in order to offer protection to future properties.

Groundwater

- 2.9 The WC SFRA notes that the site is predominantly located in an area where groundwater levels range between 0.025m and 0.5m below the ground surface, shown in Figure 2.4. The SFRA notes in relation to the groundwater flood risk mapping:
- "[...] the map is suitable for general broad-scale assessment of the groundwater emergence in an area but is not explicitly designed for assessment at the scale of a single property. The dataset also shows the risk of emergence of groundwater rather than the actual flood risk from groundwater flooding. [...] There may also be locations, where localised ground conditions and features are not fully represented in the mapping. As a result, this should be used in conjunction with any other relevant local information."*
- 2.10 The British Geological Survey (BGS) identifies three primary settings that may contribute to groundwater flood risk. Each has been assessed against the context of the proposed development:

- Unconfined major aquifers: The BGS hydrogeological map categorises the site as having a “Moderately productive aquifer,” with adjacent areas to the west, south, and east classified as “Highly productive aquifers” associated with the Westbury chalk formation, which has a high groundwater flood risk.
- Shallow unconsolidated sedimentary aquifers: According to the BGS Superficial Geology map, the site is near, though not within, areas of unsorted sedimentary deposits. These formations can be vulnerable to groundwater flooding, particularly during elevated river levels or when ground slopes transition from steep to flat. The site is not considered to fulfil these criteria.
- Groundwater rebound in urban centres: The site is not close to any water abstraction zones near major cities.

Figure 2.4 – Risk of Groundwater Flooding (extract: WC SFRA, May 2019)



- 2.11 Groundwater was not encountered within any trial pits or boreholes during the initial investigation (up to 5.80m depth, Dec 2024), during soakaway testing (up to 5.78m depth, Oct 2025), or during groundwater monitoring (up to 5.0m depth, Oct – Dec 2025).
- 2.12 On site ground investigations therefore suggest that the site does not encounter groundwater levels as close to the surface as suggested in the SFRA, with no groundwater encountered at any point during geotechnical fieldwork. It would be expected that, were groundwater flooding to occur in the local area, then it would emerge initially at lower elevations to the

east of the site, such as from the banks of the unnamed statutory main river, situated approximately 170 metres east of the site.

- 2.13 In the event of elevated groundwater levels, the proposed development will not have any deep wet wells, septic tank systems or belowground structures, such as buried tanks or basements. Any new sewer systems will be sealed to limit groundwater ingress as far as practicable and finished floor levels will sit above external levels.
- 2.14 On the basis of on-site ground investigations, the potential for groundwater emergence is considered to be low and groundwater flood risk does not represent a constraint that should preclude the proposed development of this site.

Artificial sources

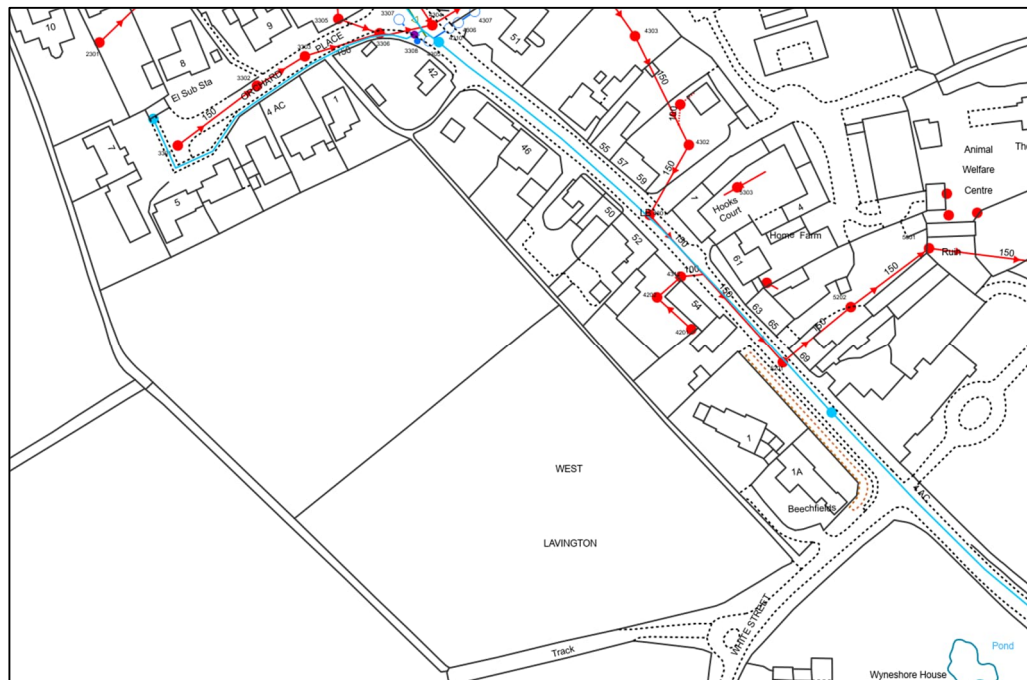
- 2.15 The information available indicates the site is not located in an area at risk from potential infrastructure failures or other artificial sources, such as mines, canals, or reservoirs, with the site classified as Low risk for mining hazards based on the 1km Hex Mining Hazard (Non-Coal) dataset, indicating limited historical mining activity.

Existing Site Drainage

- 2.16 The existing drainage regime represents that of a typical greenfield site, with some surface water runoff soaking into the underlying strata and the remainder following the natural topography of the site, flowing overland towards White Street along the southern boundary of the site.
- 2.17 The topographic survey does not identify any land drainage features within the site.
- 2.18 An extract from Wessex Water (WW) asset records is shown in Figure 2.5. Full asset records are included within Appendix F.
- There are no adopted surface, foul, or combined sewers identified within the site.
 - A 150 mm adopted foul sewer located beneath High Street (A360), approximately 40 m north-east of the site. The nearest manhole (MH 5201) has a cover level (CL) of 83.67 mAOD and an invert level (IL) of 83.05 mAOD (approx. 1.2m below the lowest site level).
 - The upstream manhole of MH5201 is MH4301, which has a CL of 84.910 mAOD and IL of 83.67 mAOD.

- An adopted surface water sewer situated 35 m north of the site, near the junction with Orchard Place, set at an elevation higher than the site's lowest points.
- A separate 150 mm adopted foul sewer located 170 m south-east of the site which has been confirmed to lack sufficient capacity to drain foul flows from the development.

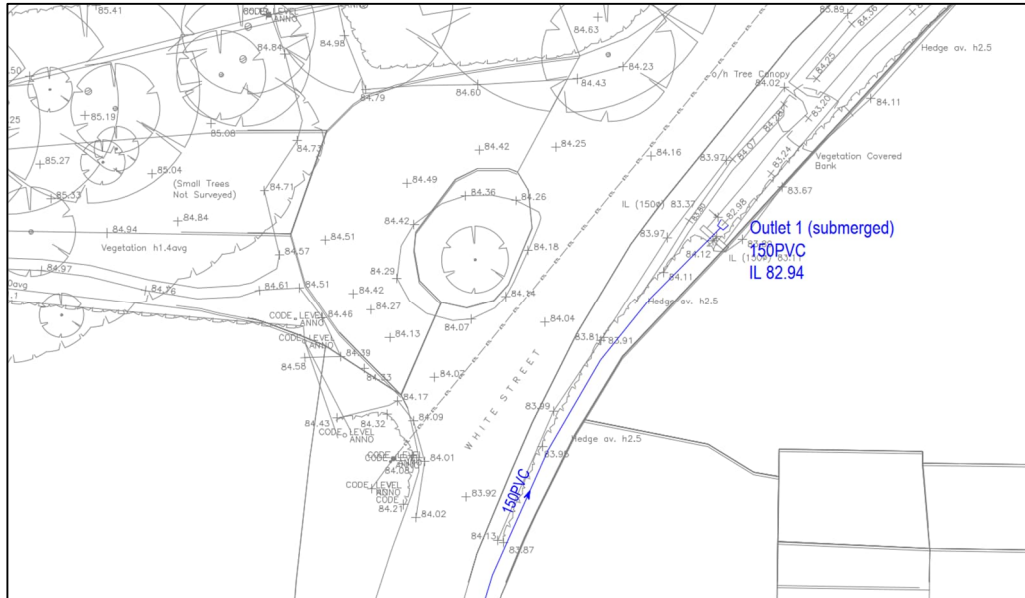
Figure 2.5 – Wessex Water Asset Records (Extract)



- 2.19 A CCTV drainage survey was conducted by Onspot Surveys in February 2025 of the local highway drainage system downstream from the site. A schematic extract from the survey is shown in Figure 2.6, with the full records included within Appendix G.
- 2.20 The CCTV drainage survey indicates the presence of a 150mm diameter highway drain passing along the southern edge of White Street, beyond the southern boundary of the site. This drain discharges into a highway ditch (IL 82.96mAOD) of approximately 0.7 – 0.9m depth, opposite the site access.
- 2.21 The highway ditch runs north-east for 46m before discharging into a 150mm diameter highway drain, with an existing manhole at the junction of White Street and Church Street (IL 82.34mAOD). This system continues beneath Church Street, then runs east beneath Duck Street prior to discharging into the unnamed watercourse via a 375mm diameter outfall.

- 2.22 The highway drainage beneath Church Street was found to be in good condition with no structural issues encountered.

Figure 2.6 – CCTV Drainage Survey (immediately south-east of site)



Utility Constraints

- 2.23 Utility records included within Appendix H show there to be no aboveground or belowground utilities passing through the site.
- 2.24 There are overhead electric cables crossing White Street to the south of the site, shown within the Topographic Survey included within Appendix B. Protection measures may be required during any construction phase to prevent construction plant striking the cable.

3 Development Proposals

Introduction

- 3.1 The Detailed planning application is for the development of 47 residential dwellings. The proposals set out below are broadly consistent with those submitted within the Drainage Pre-Application Technical Note to WC. A copy of the proposed masterplan is included as Appendix I.
- 3.2 The vehicular access junction is proposed to be located on the southern side of the site, with a simple priority junction off White Street.
- 3.3 The development proposes public open space / planted margins within the south and west boundaries of the site, with an open attenuation feature to be provided within a landscaped area in the southern, lower extents of the site.

Vulnerability

- 3.4 In accordance with the PPG, residential dwellings are classified as “More Vulnerable” developments. The NPPF indicates that “More Vulnerable” developments are appropriate within Flood Zone 1, and areas with the lowest risk of flooding.
- 3.5 All development will be situated outside any areas identified as having current and future mapped flood risk, considering all sources of flooding. In line with PPG, the sequential test does not need to be applied.

Cross sections and finished levels

- 3.6 Any future level design at the construction phase should aim to minimise the extent of any re-profiling works and should look to retain existing catchment areas wherever possible.

Safe access and egress

- 3.7 Additional EA Surface Water Flood Mapping data indicates that the surface water flooding within High Street shown in Figure 2.3 will broadly remain below 0.3m during all modelled flood events, with only a minor area within a local depression at the junction with Orchard Place expected to flood to depths exceeding 0.3m in the 1.0% and 0.1% AEP events. Safe access and egress is therefore expected to remain possible in the 3.3% AEP event via routes running north from the site.

- 3.8 South of the junction between High Street and White Street, no surface water flooding is expected which exceeds 0.3m depth. Subsequent routes to local distributor roads are also possible where surface water flooding does not exceed 0.3m depth. Safe access and egress is therefore expected to remain possible in all modelled surface water flooding events via routes running south from the site.

Climate Change Impacts

- 3.9 The NPPF requires that the impact of climate change be considered to minimise vulnerability and provide resilience. The NPPF and Planning Practice Guidance explain that an FRA should demonstrate how flood risk will be managed across the development's lifetime, taking climate change into account.
- 3.10 Climate change allowances for peak rainfall in England are published online by the Department for Environment, Food and Rural Affairs. The 'Avon Bristol and North Somerset Streams Peak Rainfall Allowances' (<https://environment.data.gov.uk/hydrology/climate-change-allowances> Jan 2023) are summarised in Table 3.1 below. These allowances are applicable for developments with a lifetime up to 2125 (epoch 2070s).
- 3.11 The 50th percentile (central allowance) is the point at which half of the possible scenarios for peak rainfall fall below it. The upper end allowance is based on the 95th percentile, thus only 5% of possible scenarios fall above an allowance level.

Table 3.1 – Peak rainfall allowances

Allowance Category	Epoch	Central Allowance	Upper End Allowance
3.3% annual exceedance rainfall event	2050s	20%	35%
	2070s	25%	40%
1% annual exceedance rainfall event	2050s	25%	40%
	2070s	25%	<u>45%</u>

- 3.12 The attenuation for the proposed development has been sized to accommodate runoff from the development up to the 1 in 100-year return period storm, with 45% upper end peak rainfall climate change allowance.

4 Surface Water Management Plan

Discharge Hierarchy

- 4.1 In accordance with 'Standard 1: runoff destinations' of the NSfSuDS, the destination of surface water that is not collected for use on site should be prioritised in the following order:

1. *infiltrated to ground*
2. *discharged to an above ground surface water body*
3. *discharged to a surface water sewer, or another piped surface water drainage system*
4. *discharged to a combined sewer*

- 4.2 Principle 3 of the NSfSuDS is referred to as the 'SuDS Approach' and defines general rules of thumb that should be adhered to in design of a surface water drainage system. One element of Principle 3 states that the SuDS approach is defined as:

'being sustainable, considering both construction and long-term maintenance and the additional environmental and social benefits afforded by the system'

- 4.3 The holistic sustainability of different discharge options has therefore been weighed against the drainage hierarchy outlined in Standard 1. The potential discharge options for the proposed development are discussed below in order of preference, and represented on the Preliminary Drainage Layout, included within Appendix J.

Infiltration Potential

- 4.4 As discussed in the 'Ground Conditions' section of the report, infiltration testing was previously undertaken in three locations, failing in two. The successful test yielded a design infiltration rate of 3.69×10^{-6} , which is not able to support effective soakaway design once 'Factors of Safety' and the 24-hr half-drain time requirement have been applied, as required by CIRIA C753. Infiltration is therefore considered unsuitable for this development.

Discharge to Highway Assets

- 4.5 The Topographic Survey and CCTV drainage survey (included within Appendices B and G respectively) indicate the presence of a highway ditch along the southern edge of White Street, with a positive outfall to the wider piped highway drainage system, leading to the nearest available downstream watercourse.
- 4.6 Based on local topography, it can be seen that any greenfield runoff generated within the site would flow overland, across White Street and into the highway ditch.
- 4.7 The ditch is considered too shallow for a piped connection from the site to be achievable. However, a restricted discharge into the subsequent highway drainage system would closely mirror existing conditions. Future discharge would limit flows to provide 30% betterment compared to existing greenfield rates, whilst also offsetting the impacts of future climate change. This presents further betterment compared to the status-quo, where the rate and volume of runoff would continue to increase as climate change is realised.
- 4.8 The nearest practicable point of connection on the WC highway drainage network achievable by gravity is likely to be the nearest available manhole within Church Street. Such a connection would require approximately 72m of pipework from the basin.
- 4.9 AWP are progressing enquiries with WC Highways to discuss the above outfall arrangements and have received confirmation that a connection can be agreed in principle, subject to further CCTV survey work which may inform potential remedial works or upgrades. A copy of the latest WC response can be seen within Appendix A.

Discharge to Surface Waters

- 4.10 If no agreement can be reached with WC Highways for a restricted discharge into their assets, then a discharge to surface waters will be sought.
- 4.11 The site does not benefit from direct access to a watercourse. The nearest available watercourse is the unnamed statutory main river, situated approximately 170 metres east of the site.
- 4.12 Any offsite connection would pass beneath Church Street, then run east beneath Duck Street, running parallel with the existing highway drainage system, with any outfall likely to be situated adjacent to the existing

highway outfall to the unnamed watercourse. Alternatively, the scheme could consider discharging to the upstream or downstream main river channel, subject to agreeing discharge consent with the riparian landowner.

- 4.13 Owing to the length of the offsite connection required to reach the unnamed watercourse, along with the existing pipework and utility constraints to lay a new pipe at acceptable gradients, required road closures and transport disruption along the main streets of West Lavington, associated higher embodied carbon of construction and maintenance, and presence of an existing highway system which currently receives runoff from the site catchment, this discharge option is considered less favourable and significantly less sustainable than discharging into the local highway drainage network.

Discharge Rates

Greenfield Runoff Rates

- 4.14 The FEH statistical method is indicated as an appropriate method for use in pre-development greenfield rate estimation in CIRIA 753 – The SuDS Manual (2015).
- 4.15 In accordance with Wiltshire Council's Drainage Betterment Strategy (June 2024), the LLFA expects to see that post-development discharge rates be restricted to achieve a 30% reduction below pre-development greenfield runoff rates. This betterment is to be applied across all storm events up to the 1 in 100-years storm events.
- 4.16 In accordance with the National Standards for SuDS (NSfSuDS, June 2025), the greenfield runoff rates have been calculated for 'Positively Drained Area' of the site (1.80 ha), which includes additional pervious catchments (including the footprint of open SuDS features) which will be intercepted and drained by the surface water drainage system.
- 4.17 A copy of the greenfield runoff assessment is included within the hydraulic modelling results in Appendix K of this report, with the results summarised in Table 4.1 below.

Table 4.1 – Greenfield Runoff Rates

Return Period	1.80 ha incl. 30% betterment
2-year	1.6 l/s
30-year	3.5 l/s
100-year	4.3 l/s

Volumetric Runoff Coefficient

- 4.18 The volumetric runoff coefficient (C_v) is a scale factor that allows for runoff from both impermeable and permeable areas within the catchment of a drainage network.
- 4.19 The C_v scale factor is only applied to impermeable areas such that runoff from those areas is equal to the runoff from both the impermeable and permeable areas within the catchment of the drainage system.
- 4.20 The C_v allows models that incorporate only impermeable area to allow for the surface runoff from associated landscaped areas (e.g. gardens and other areas of permeable catchment within the net development area).
- 4.21 The C_v requirements have been calculated based on the UKWIR Runoff Coefficient Equation (UKWIR, 2014) in line with CIRIA753 guidance to account for the site's positively contributing permeable areas and is summarised in Table 4.2 below. The calculation sheets are included in Appendix L.

Table 4.2 – Volumetric Runoff Coefficient

Area Positively Drained to Network (ha)	1.80
Impermeable Area Drained to Network (ha)	1.02
Percentage Imp. (PIMP)	56.9%
Percentage Runoff (PR)	46.8%
Volumetric runoff coefficient (C_v)	0.823

- 4.22 Landscaped areas discharging directly to receiving waters are excluded, as they do not contribute to the drainage system.
- 4.23 This approach reflects the expected runoff characteristics of the proposed development for the design storm event, which informs the sizing of the proposed attenuation features.

Surface Water Management Plan

- 4.24 To ensure the development will be safe throughout its lifetime and that it does not increase flood risk elsewhere, the drainage strategy will include appropriate mitigation measures, so that future development discharges provide 30% betterment compared to existing greenfield rates, for events up to the 1 in 100-year design storm.
- 4.25 The strategy safeguards against the upper end allowances for climate change (45%), providing betterment over undeveloped conditions, where the rate and volume of runoff would continue to increase due to climate change.
- 4.26 The strategy also includes 10% allowance for urban creep, mitigating the impacts of any additional drainage catchments (future property extensions or hard standings).
- 4.27 The discharge location from the site is proposed to be the existing WC Highways drainage system. If this is unfeasible, then a discharge to the nearest watercourse will be pursued.

Attenuation Method

- 4.28 Limiting peak flows to the rates shown in Table 4.1 will require attenuation storage. The storage proposal will need to accommodate all runoff in up to the 1 in 100-year return period, with allowance for climate change.
- 4.29 Private driveways and shared access drives provide an opportunity to utilise permeable paving. Permeable paving provides treatment at source whilst also offering stormwater attenuation and interception, with any positive outflow then released at restricted rates to the piped surface water network.
- 4.30 The piped surface water network will drain towards a proposed SuDS basin located in the southern extents of the site, immediately west of the proposed site access. The SuDS basin will subsequently discharge to the proposed point of discharge at attenuated rates.
- 4.31 The peak rates of discharge will be managed by a hydraulic control ('Hydrobrake' or similar approved) limited to the sites equivalent greenfield rates, with 30% betterment.
- 4.32 The SuDS basin will include 300mm freeboard allowance and will comprise maximum 1:3 earthworks (maximum) as recommended by CIRIA C753.

Variable depths and side slopes will be implemented to provide enhanced biodiversity and amenity benefit.

- 4.33 A copy of the Preliminary Drainage Layout drawing can be found within Appendix J of this report, whilst copies of AWP's correspondence with WC LLFA can be found within Appendix A.
- 4.34 Causeway Flow software has been used to calculate the storage requirements for the development. A summary of the modelled attenuation features and the water depth reached within each feature's critical storm event is summarised in Table 4.3, with copies of the modelling outputs included within Appendix K.

Table 4.3 – Attenuation Summary

Attenuation Feature	Dimensions	Modelled 100yr + 45% Climate Change – Critical Storm Event		
		Modelled Maximum Depth	Remaining Depth Available	Maximum Volume
Permeable Paving 1	Depth: 0.2m* Area: 235.0 m ² Porosity: 30%	0.162 m	0.038 m	10.7m ³
Permeable Paving 2	Depth: 0.2m* Area: 289.0 m ² Porosity: 30%	0.115 m	0.085 m	9.1m ³
Permeable Paving 3	Depth: 0.2m* Area: 484.4 m ² Porosity: 30%	0.091 m	0.109 m	10.3m ³
Permeable Paving 4	Depth: 0.2m* Area: 667.5 m ² Porosity: 30%	0.064 m	0.136 m	8.7m ³
SuDS Basin	Water Storage Depth: 1.7m Total Depth: 2.0m Base Area: 306.0 m ² Freeboard Area: 1065.0 m ²	1.513 m	0.187 m 0.487 m (inc. freeboard)	706.8m ³
* The effective depth of storage is assumed to be 0.2m, though the actual depth may vary depending on local slope and topography. Baffles will be used as needed to maximise attenuation storage.				Total Volume = 745.6m ³

- 4.35 As shown in Table 4.3, the attenuation features proposed are sufficient to meet the requirements of the site, with attenuation storage available in the critical storm event for each feature.

Long-Term storage volume

- 4.36 To mitigate impacts on the downstream catchment, any additional volume of runoff must be discharged at 2 l/s/ha (during the 100-year 360min storm).
- 4.37 The attenuation volume to enable this restriction is termed 'Long-Term Storage' and is calculated using Equation 24.10 of CIRIA C753 'The SuDS Manual'.
- 4.38 A copy of the calculations for each basin has been included within Appendix L of this report and is summarised in Table 4.4.

Table 4.4 – Long Term Storage Volume

Long-term Storage Volume (m ³)	434.4
Long-term Storage Discharge (l/s)	3.6

- 4.39 The flow controls have been designed for the basin to ensure that both the long-term storage volumes are provided as well as restricting flows to greenfield rates, whilst also maintaining at least 300mm freeboard.
- 4.40 Proof of Long-Term Storage requirements being met is included within the Flow Results in Appendix K.

Interception Storage

- 4.41 The NSfSuDS require that interception be delivered within the development for the first 5mm of rainfall for the majority of rainfall events, for both winter and summer seasons. This is to prevent runoff from the site for the majority of small (frequent) rainfall events and for the initial depth of rainfall for larger events. Compliance requires achieving 80% interception in summer (May–October) and 50% in winter (November–April).
- 4.42 The NSfSuDS allows permeable paving (lined or unlined) to provide interception for its own catchment area, as well as additional impermeable catchments, subject to the following condition:

'Where the infiltration capacity of the ground below the permeable surface is greater than 1×10^{-6} m/s and unlined, up to 5 times the permeable surface area may be added as additional contributing area.' Therefore, the permeable paving can take 6x it's interception area.

4.43 As discussed in the 'Ground Conditions' section, whilst the infiltration rates obtained across the site were considered impracticably low for dedicated infiltration features, when rates were extrapolated for all testing locations, the infiltration rates were found to be *'in the order of 1×10^{-6} m/s, which while unsuitable for soakaway drainage design, may be used for interception drainage design.'*

4.44 For detention basins, the NSfSuDS states the following:

Areas of the development drained to detention basins with a flat unlined base [...] shall be assumed to comply where the drained impermeable surface area is up to 5 times the vegetated detention basin surface area receiving the runoff for any soil type. Therefore, the basin can take 5x it's interception area.

The area of the basin that is assumed to contribute to interception of runoff shall be below the outlet level of the basin. For example, to comply with standard 2 for an impermeable surface area of 100m², the area of the flat unlined basin base shall be 20m².

4.45 Runoff will be dispersed across the basin area, providing interception within the underlying soil as far as practicable, enabling most small rainfall events to evaporate or infiltrate without leaving the site. When rainfall exceeds 5 mm in a single event, flows will begin to pass through the flow control chamber, and the SuDS features will engage as attenuation storage with a positive outfall.

4.46 A summary of the interception requirements for the proposed development is given in Table 4.5, which details the 'interception area' provided by the permeable paving (the area of permeable paving) and SuDS basin (base area below the outlet of the basin).

4.47 As the permeable paving area can have an allowable impermeable catchment of 6x it's interception area (1,675.9m²) and the basin can have an allowable impermeable catchment of 5x it's interception area (306m²), the total allowable impermeable catchment for the development which will satisfy the interception requirement is 11,585m² or 1.159ha. The total impermeable area for the site (1.02ha) is less than the allowable catchment, confirming the interception requirement has been met.

Water Quality

4.48 The SWMP has been assessed in line with the Simple Index Approach in CIRIA SuDS Manual C753.

- 4.49 The pollution hazard indices for different land use classifications, taken from CIRIA C753 Table 26.2, show that residential developments have a 'Low' pollution hazard as summarised in Table 4.5. This table also summarises the SuDS mitigation indices for a proposed SuDS basin, taken from Table 26.3.
- 4.50 It should be noted that, when designing in accordance with CIRIA C753, when two or more devices are used in sequence to target the same pollutant, half the mitigation index is applied for secondary measures and beyond.

Table 4.5: Site pollution hazard and mitigation indices

	Total suspended solids (TSS)	Metals	Hydrocarbons
Pollution hazard			
Low	0.5	0.4	0.4
Mitigation indices			
Permeable Pavement	0.7	0.6	0.7
Detention Basin	0.5	0.5	0.6

- 4.51 Table 4.5 demonstrates that either of the proposed SuDS features in isolation are sufficient to meet the 'Low' pollution hazard index. If the two features are connected in sequence, then further betterment will be provided. An appropriate level of water quality management is therefore being achieved.

Exceedance Measures

- 4.52 During exceedance events beyond the 100-year critical storm, surface water runoff will overflow from the aforementioned systems.
- 4.53 Overland flows will follow the topography of the site and will route towards landscaped areas at the lower margins of the site, where any residual capacity within the proposed SuDS basin and surrounding areas can be utilised.
- 4.54 Inside the western extents of the site, the existing ground will be re-profiled to form a swale with depression areas which can intercept any overland flows from the adjacent field to the west. This arrangement will provide additional opportunity for upstream runoff to be captured, attenuated and infiltrated, with any residual exceedance flows to be directed runoff towards the proposed landscaped areas and SuDS feature, where any freeboard allowances can be utilised.

- 4.55 Beyond the freeboard capacity of the SuDS basin, any exceedance flows which overtop the basin will flow toward the eastern boundary of the site, reflecting existing conditions. The proposed depression areas and swale within the west of the site will significantly reduce the frequency and impact of exceedance flooding in and from the site by intercepting flows that would otherwise flow across the site and toward White Street beyond.
- 4.56 A copy of the Preliminary Drainage Layout is included within Appendix J and shows the expected routing of any exceedance flows, in the unlikely event of their occurrence.

5 Foul Water Strategy

- 5.1 In terms of wastewater connections, the developer is entitled to make a connection to the nearest practical point on the network where the existing sewer is at least the same diameter as the new sewer required to provide capacity for the development.
- 5.2 Under the provisions of the Water Industry Act 1992 (as amended), the developer will need to pay the sewerage undertaker the published sewer connection charges and infrastructure charge per dwelling, and the sewerage undertaker is responsible for any network reinforcement.
- 5.3 WW have confirmed acceptance of the proposed gravity foul drainage connection from the site to the nearest public foul sewer beneath High Street, to the east of the site.
- 5.4 The final off-site connection route and design would be progressed by WW under a Section 98 agreement.
- 5.5 Copies of our correspondence with WW can be found within Appendix F of this report.
- 5.6 The proposed foul drainage arrangements are identified on the Preliminary Drainage Layout included within Appendix J of this report.

6 Miscellaneous Issues

Construction Issues

- 6.1 It is good practice to offer a Construction Environmental Management Plan (CEMP) to allow the construction and phasing of drainage works to be closely monitored. Prior to the commencement of construction, it is recommended the contractor produce a CEMP and agree it with the LLFA / WC Drainage Officer.
- 6.2 A construction stage drainage plan (1610-02-PDL-2001) has been prepared to ensure the site and downstream catchment are adequately protected throughout the construction stage. This plan should be agreed with the Local Planning Authority and implemented prior to commencement of construction. The construction stage drainage plan is included within Appendix M of this report.

Residual Flood Risks

- 6.3 The residual risk of blockage or failure of any key component within the proposed drainage strategy will be reduced through appropriate operation and maintenance procedures.
- 6.4 The construction stage drawings should ensure residual risks from exceedance storms will be reduced through appropriate design of the external works. The design will aim to steer exceedance flows away from the buildings in order to utilise any residual capacity within the site (areas of public open space and/or SuDS freeboard etc).

Health and Safety

- 6.5 Under the CDM Regulations, adequate information about the site must be provided by the client in order to allow the potential hazards to be reviewed by the designer; avoidance and mitigation measures must be taken where reasonably practicable.

Maintenance

- 6.6 Any adoptable sewerage networks will be designed in accordance with the Design and Construction Guidance and will be offered to WW for adoption.
- 6.7 Any storm drainage which solely serves the adopted highway will be offered to WC for adoption.

- 6.8 Any private drainage will be designed in accordance with Building Regulations Part H and will become the responsibility of the respective homeowner, or where communal, an appointed management company.
- 6.9 The operation and maintenance of any SuDS features will be undertaken in accordance with 'CIRIA C753 – The SUDS Manual, Chapter 32 – Operation and Maintenance'.
- 6.10 A 'Drainage Maintenance Plan' has been prepared with this submission to set out the maintenance tasks, responsibilities and frequencies for the entire drainage network. The plan should be circulated to all operators and management companies. A copy of the Drainage Maintenance Plan can be found within Appendix N of this report.

7 Mitigation, Conclusions and Recommendations

Mitigation

- 7.1 The proposed development has been assessed in line with the NPPF, to allow the planning application to be progressed and to show that the development can be undertaken in an acceptable manner from a flood risk perspective.
- 7.2 Intrusive ground investigation works carried out soakaway testing in three locations. Two locations failed, whilst the third yielded a poor rate but remains unsuitable for effective soakaway design. Groundwater was not encountered during any stage of site investigation or groundwater monitoring.
- 7.3 The extents of the proposed development and access points are limited to 'Flood Zone 1' only and are not susceptible to flooding from any other sources. In line with the Planning Policy Guidance, the Sequential Test does not need to be applied.
- 7.4 The existing drainage regime represents that of a typical greenfield site, with greenfield runoff following the natural topography of the site towards White Street and the existing highway ditch, beyond the southern boundary of the site.
- 7.5 Whilst some surface water flooding exists within the local highway network, depths are not expected to preclude safe access and egress in any modelled surface water flooding event.
- 7.6 The drainage strategy accounts for runoff from all storms up to the 100-year return period. This ensures the development will be safe throughout its lifetime, without increasing flood risk elsewhere.
- 7.7 The strategy also safeguards against the upper end allowances for climate change (45%), which will provide further betterment until such time as this level of climate change has been realised. The strategy also includes 10% allowance for urban creep.
- 7.8 Surface water runoff from the site will be restricted to greenfield rates (with 30% betterment) before discharging to either the local Wiltshire Council Highway drainage system (if approved) or via a new offsite connection to the unnamed statutory main river, situated approximately 170 metres east of the site.

- 7.9 Attenuation will be managed through on-site SuDS, providing interception in line with the National Standards for SuDS, as well as meeting long-term storage requirements, and appropriate water quality management.
- 7.10 Exceedance flows will route away from dwellings and towards areas of landscaping and SuDS, where any freeboard allowances can be utilised.
- 7.11 Wessex Water have confirmed that foul flows from the development can be discharged to their existing network within High Street. The final route and design of the off-site connection would be progressed by Wessex Water under a Section 98 requisition.

Conclusions

- 7.12 This Flood Risk Assessment has been assessed in line with the NPPF. It is concluded that the development can be undertaken in a sustainable manner, whilst also reducing the flood risk to existing properties in the downstream catchment.

Recommendations

- 7.13 As the development will be safe from flooding for its design life and will reduce flood risk to properties in the downstream catchment, it is recommended that the Lead Local Flood Authority advise the local planning authority that they have no objections to the proposed development.



Appendix A Wiltshire Council Pre-App Response (Drainage) + Latest Wiltshire Council Outfall Response

Ben Fenton

From: Wilding, Ben <Ben.Wilding@atkinsrealis.com>
Sent: 01 April 2025 12:19
To: Jacob De La Croix
Cc: MX0300 - Wiltshire LLFA; Drainage
Subject: RE: 1610 - White Street, West Lavington - permeable driveways query

Good morning

Whilst we understand that these areas will take their own catchment, we would suggest that for gravel driveways, compaction and silt ingress over time will reduce permeability of the driveways. We also note that whilst these driveways will likely provide interception storage they may still be generating runoff during the design rainfall event (1in 100yr +45% cc).

We would suggest that if infiltration rates can be proven to be favourable, assuming the driveway areas are self-draining would be appropriate.

If infiltration rates cannot be demonstrated to be favourable, for gravel driveways we would suggest the percentage runoff is calculated in accordance with CIRIA C753 guidance so as to be modelled accurately

In both cases we would suggest that these areas should be included within the hydraulic model / calculations provided as part of the submission.

Kind Regards

Ben Wilding *MEng (Hons) Eur Ing CEng MICE*

AtkinsRéalis on behalf of Wiltshire Council Drainage

E: ben.wilding@atkinsrealis.com / wilts.drainage@atkinsrealis.com

Stay Informed: Discover Wiltshire Council's latest updates on Drainage Betterment Strategy [here](#).

Annual Leave: 12 - 21 April; 16 May

From: Jacob De La Croix <Jacob.DeLaCroix@awpexeter.com>
Sent: 28 March 2025 16:00
To: Drainage <Drainage@wiltshire.gov.uk>
Subject: 1610 - White Street, West Lavington - permeable driveways query

You don't often get email from jacob.delacroix@awpexeter.com. [Learn why this is important](#)

Hi Wiltshire Drainage Team,

We are currently working on a proposed residential site off White Street, West Lavington, SN10 4HR. We have undertaken some initial soakaway testing with one test providing an acceptable infiltration rate (albeit only one test has been done yet, and we will need 3 in accordance with BRE365) and the remainder of the tests did not provide acceptable infiltration rates. We also understand a 30% betterment discharge rate is required for an attenuation strategy, as part of Wiltshire design guidance.

Can you confirm (for both an infiltration and attenuation strategy option) if driveways are proposed as permeable (e.g gravel), that these areas can be considered as greenfield and that these areas can take their own catchment (similar to gardens)?

Kind regards,

Jacob De la Croix
Senior Engineer



Ada House, Pynes Hill, Exeter EX2 5TU

office: 01392 409007
direct dial: 01392 325597
email: jacob.delacroix@awpexeter.com
web: www.awpexeter.com

AWP is a regional engineering consultancy providing development planning and infrastructure services to developers and house builders across the south west.

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Wiltshire Council Planning Consultation Response

07 July 2025

Wiltshire Council Drainage Engineer
Technical Services Drainage Engineer
Wiltshire Council

Officer's Name: Ruaridh O'Donoghue
Direct Line: 01225 716761

Application No: ENQ/2025/00848
Pre-Application enquiry
Erection of up to 47no. dwellings and associated works
Land At White Street, West Lavington, Devizes, SN10 4JD

Please note the particulars in connection with the above planning application are available to view on the planning website <http://www.wiltshire.gov.uk/planninganddevelopment.htm>

Pre-Application Advice: Flood Risk

The Wiltshire Council Strategic Flood Risk Assessment, [SFRA Data Explorer](#), has indicated that the development is located within Flood Zone 1

The site has a low to medium risk of groundwater flooding (see figure 1).

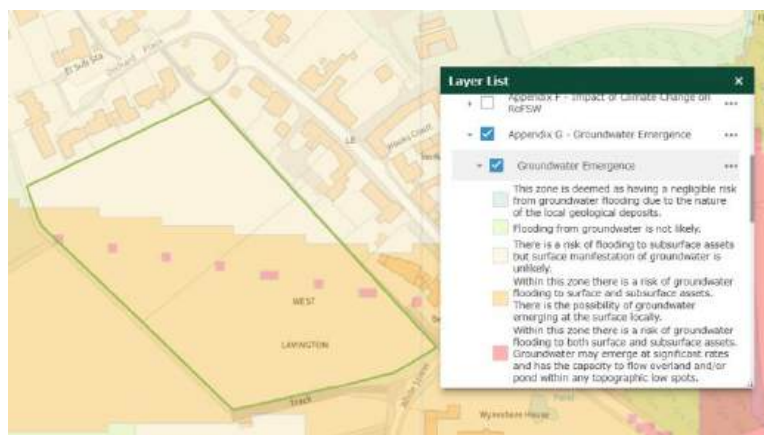


Figure 1

Although the EA RoFSW maps indicate the site itself is at low pluvial flood risk, our preliminary overland flow mapping indicate that a significant surface water flow path originating from offsite flows through the centre of the proposed development. This would need to be considered and managed appropriately by the applicant's drainage strategy.



Figure 2

As a result of the identified groundwater flood risk and the scale of the proposed development, a site-specific Flood Risk Assessment (FRA) is required for this application. The site-specific FRA should demonstrate that the site is not adversely affected by flood risk from different sources, and how the flood risk from **all sources** will be managed without increasing flood risk to the development itself or elsewhere. It should also outline the proposed drainage strategy for the site. The applicant is referred to the Environment Agency's [advice](#) on how to prepare an FRA, as well as their standing [advice](#) for vulnerable developments.

The applicant shall review all published Section 19 reports on historic flooding within Wiltshire and incorporate these into their holistic assessment of flood risk, and historic flood events. These reports can be found on the council website here [Flooding - Wiltshire Council](#)

Pre-Application Advice: Drainage Strategy / Drainage Design

Based on BGS Mapping, the site is indicated to be underlain by Upper Greensand Formation - Sandstone. The suitability of infiltration to dispose of surface water will need to be assessed by the applicant based on Groundwater levels however this strata would suggest at least a partial infiltration system could be utilised.

Based on DEFRA Magic Map the site has been shown not to be in a Source Protection Zone

The applicant should note that in all instances the preference should be to utilise blue-green SuDS which provide multi-faceted benefits to the site (in terms of water quantity, quality, amenity and biodiversity); for example, for attenuation features preference should be given to use of swales / ponds / detention basins (if technically feasible) instead of attenuation tanks. The applicant should adopt a holistic approach to planning the site, and sufficient space for SuDS features should be provided at an early stage in order to fulfil the requirements of NPPF; the LLFA will not accept statements that there is insufficient space for SuDS or that SuDS have not been utilised due to cost.

The applicant must comply with the National standards for sustainable drainage systems (SuDS) guidance published on 19th June 2025, when preparing the drainage strategy, apart from where Wiltshire Council requirements below introduce more onerous requirements.

Any proposals should be designed in accordance with the Non-statutory Technical Standards for Sustainable Drainage Systems and the latest SuDS Manual (C753).

The LLFA would consider this to be a greenfield site for the purposes of planning

The applicant should note the EA's updated climate change guidance (dated [27 May 2022](#)) when preparing the Flood Risk Assessment / Drainage Strategy.

The developer should provide the following information as part of future planning applications:

Drainage Strategy

- Evidence that SuDS have been selected, wherever possible, to provide a wide range of benefits including amenity, biodiversity and maintaining water quality.
- Evidence that SuDS source control measures to manage water quantity and maintain water quality have been implemented wherever possible and throughout the management train so the development is not reliant upon large attenuation features close to the points of discharge.
- Existing greenfield runoff rates for the site.
- Post development runoff rates in accordance with Wiltshire Council's betterment policy:
 - *With regards the control of surface water discharges from new development, Wiltshire Council requires post development discharges from greenfield sites to provide 30% betterment over pre-development discharges for all storm events between the 1 in 1year and 1 in 100year return period events.*
 - *For greenfield development, the runoff volume from the development to any highway drain, sewer or surface water body in the 1 in 100 year, 6 hour rainfall event should never exceed the greenfield runoff volume for the same event.*
- Evidence demonstrating how the surface water disposal hierarchy has been applied and how all other options have been exhausted. The hierarchy is set out below (as per the Sewerage Sector Guidance, paragraph C.3.12):
 - Surface water runoff is collected for use.
 - Discharge into the ground via infiltration.
 - Discharge to a watercourse or other surface water body.
 - Discharge to surface water sewer or other drainage system, discharging to a watercourse or other surface water body.
 - Discharge to a combined sewer.
- The drainage strategy does not increase flood risk, as a result of catchment transfer.
- A detailed plan showing the existing drainage features on the site and how the proposed drainage strategy will be implemented.
- If infiltration is proposed, it is implemented in manner that does not create an offsite impact, particularly if there are reports of groundwater flooding in the area.
- Surface water can be safely managed within the proposed development, up to and including a 1 in 100 year plus climate change event.
- Existing flood flow routes through the site have been maintained or where they will be affected, adequate measures to intercept and safely control flows through the site have been provided to ensure flood risk is not increased elsewhere.
- All proposed drainage features are outside flood zones 2 and 3 and where they are adjacent to an ordinary watercourse, they are not located within the EA surface water flood maps. Where drainage features are located adjacent to flood zones 2 and 3, they must be above the 1 in 100 years plus climate change flood level. This information can be provided by the EA.
- The strategy mimics the existing drainage characteristics of the site by retaining and utilising any existing drainage features.
- Measures to prevent pollution of the receiving groundwater and/or surface waters.
- A clearly labelled drainage layout plan showing the pipe networks and any attenuation ponds. The plan should show any pipe node numbers referred to within the drainage calculations.

Ground Investigations

- Geotechnical factual and interpretive reports, including infiltration tests in accordance with British Research Establishment (BRE) Digest 365 – Soakaway Design.
- Groundwater level monitoring (taking into account seasonal variations).

- The applicant is referred to Wiltshire Council's [Surface Water Soakaway Guidance](#) for the standards that must be met for planning approval and adoption of infiltration drainage features.

Detailed Drainage calculations

- Calculations and drawings for the drainage system design showing designated holding areas and conveyance routes based on no flooding on site for a 1 in 30 year plus climate change rainfall event.
- Calculations and drawings for the drainage system design showing designated holding areas and conveyance routes based on no flooding on site for a 1 in 100 year plus climate change rainfall event in respect to a building (including basement) or utility plant susceptible to water within the development.
- Calculations should include an allowance for increased surface water runoff, as a result of urban creep, in accordance with LASOO guidance.
- Hydraulic Models should set the MADD factor / additional storage volume factor to $0\text{m}^3 / \text{ha}$ in order to prevent an overestimation of storage capacity in the proposed drainage network.
- If the drainage model includes runoff from the full site (both permeable and impermeable areas), the default Cv values of 0.75 (summer) and 0.84 (winter) may be used. If runoff is only included from impermeable catchment areas within the drainage model, a Cv value of 1 must be used.
- If attenuation tanks are proposed that an allowance for reduced attenuation volume due to silt ingress (as per Section 21.9.9 of the SuDS Manual CIRIA C753)

Design Drawings

- A plan showing the cross sections and design of any attenuation pond and its components.
- Drawings showing conveyance routes for flows exceeding the 1 in 100 year plus climate change rainfall event that minimise the risk to people and property.

Third party consent

- Consent for any outfalls from the proposed drainage systems into a public sewer or other drainage system not owned by the applicant.

Ownership and Management

- Details of how the proposed and existing drainage features on the site will be maintained and managed after completion with confirmation from the relevant authority that they will adopt any systems that are being offered for adoption.

Construction

- Adequate measures during construction to control pollution to existing watercourses and groundwater.
- A construction management plan.

Informatives:

The table below stipulates the information typically required at each application stage. Provision of the correct information will expedite the processing of applications by the drainage team.

Pre-app	Outline	Full	Reserved matters	Discharge of conditions	Document to be submitted
✓	✓	✓			Flood Risk Assessment / Statement
✓	✓	✓			Drainage Strategy / Statement & sketch layout plan
	✓				Preliminary layout drawings

Pre-app	Outline	Full	Reserved matters	Discharge of conditions	Document to be submitted
	✓				Preliminary "Outline" hydraulic calculations
	✓				Preliminary landscape proposals
	✓				Ground investigation report (for infiltration)
	✓	✓			Evidence of third party agreement for discharge to their system (in principle/ consent to discharge)
		✓		✓	Maintenance program and on-going maintenance responsibilities
		✓	✓		Detailed development layout
		✓	✓	✓	Detailed flood & drainage design drawings
		✓	✓	✓	Full Structural, hydraulic & ground investigations
		✓	✓	✓	Geotechnical factual and interpretive reports, including infiltration results
		✓	✓	✓	Evidence of measures to prevent pollution of the receiving groundwater and/or surface waters
		✓	✓	✓	Drawings showing conveyance routes for flows exceeding the 1 in 100 year plus climate change
		✓	✓	✓	Detailed landscaping details
		✓	✓	✓	Discharge agreements (temporary and permanent)
		✓	✓	✓	Development Management & Construction Phasing Plan

--

Abhishek Nandan (Atkins) working on behalf of Wiltshire Council Drainage.

Jacob De La Croix

From: Drainage <Drainage@wiltshire.gov.uk>
Sent: 06 March 2026 10:38
To: Jacob De La Croix
Cc: Drainage; Chris Yalden; Phillippa Gatehouse; Mitchell Waters
Subject: RE: 1610 - White Street, West Lavington - Formalise surface water connection

Good morning Jacob,

Following a discussion with the Highways team, the Drainage Team will provide technical guidance and will liaise with you to agree an appropriate discharge rate before Highways make their final decision. Apologies for the confusion.

Due to the Highway drainage system's primary function being to act as a safety system for the public by preventing water accumulation on carriageways as such, there are parameters we must meet in our discussions to ensure that the highway drainage has capacity to take the additional SW flow from the proposed development.

We require a survey of the existing surface water system through to the outfall. This is to include a CCTV survey to determine the condition and size of the existing sewer.

Calculations are required to confirm the volume of water currently being discharged through this system.

In addition, calculations are required to confirm the additional flow of surface water from your development. In the event that the existing drain proves to be inadequate to accommodate the additional surface water from your development you will be required to upgrade the system through to the outfall.

I have provided comments to your previous email where appropriate in **Green**.

Should you have any queries, please do not hesitate to contact us.

Kind Regards

Souya Barton
Land Drainage Engineer
Weather and Drainage Team
Highways Asset Management and Commissioning

Wiltshire Council

Tel: 0300 4560 100
DD: 0124 9468 558
Email: Souya.Barton@wiltshire.gov.uk
Web: www.wiltshire.gov.uk

From: Jacob De La Croix <Jacob.DeLaCroix@awpexeter.com>
Sent: 17 February 2026 13:27

To: Drainage <Drainage@wiltshire.gov.uk>

Cc: Chris Yalden <Chris.Yalden@awpexeter.com>; Drainage <Drainage@wiltshire.gov.uk>; Northern Highways <NorthernHighways@wiltshire.gov.uk>; Phillippa Gatehouse <phillippa.gatehouse@cgfry.co.uk>; Mitchell Waters <mitchell.waters@cgfry.co.uk>

Subject: RE: 1610 - White Street, West Lavington - Formalise surface water connection

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Good afternoon Souya,

Thank you for getting back to me on this. We understand the hierarchy and can confirm the more preferable options are not feasible, which I have listed below:

1. On-site surface water disposal
 - a. We have undertaken infiltration testing (extracts attached) in accordance with BRE 365 and infiltration is not a feasible method of surface water disposal
2. Disposal to a watercourse
 - a. The nearest watercourse is the highway ditch that we are talking about. However looking in more detail at this, due to the shallow ditch depth and necessary cover under White Street, it will be difficult to connect to this. Therefore, we would propose to connect to the manhole on the White Street / Church Street junction.
 - b. The next nearest watercourse is the river circa 250m to the south which the existing highway drainage network currently connects to. However, it is not guaranteed a connection is possible due to avoiding the existing pipework and services, as well as agreeing an LDC or connection to the existing highways outfall. Additionally, this would result in closing and disruption to Church Street (the main road in West Lavington), as well as the additional 250m pipework / works and associated carbon footprint that goes with this.
3. Disposal to the public surface water sewer
 - a. There are no adoptable WW surface water sewers nearby
4. Disposal to the public foul water sewer
 - a. WW will not agree to this.
5. Connection to the Highways Drainage Network
 - a. As we are unable to dispose of surface water through the other options, this is the preferable and only option. Additionally, surface water runoff from the site currently falls into this drainage network and formalising this will provide an improvement to the existing network.

We understand the 'requirements for considering connection to the highways drainage system' and have the following comments:

1. CCTV survey
 - a. This has been undertaken (attached), however due to some manholes being located in the middle of the road and the recent water levels only a section of this has been CCTV surveyed. We could get a follow up CCTV survey to confirm the condition of pipes where the water levels are an issue. Based on the CCTV survey plan, it appears traffic management will be required to survey SMH4 – **We require a survey of the existing surface water system through to the outfall. This is to include a CCTV survey to determine the condition and size of the existing sewer.**
2. Hydraulic Modelling
 - a. Surface water from the site currently discharges into the highway ditch which then connects to the highway network which we are looking to connect to. As the site will provide a 30% betterment to greenfield rates (in line with Wiltshire design guidance), as well as offering up to 45% climate change allowance and 10% urban creep, the development connecting to the highway network will provide an overall benefit to the downstream network and improve the capacity of the network

irrespective of the existing capacity. Therefore, is the hydraulic modelling necessary? – Highways drainage systems are “designed to take a lower magnitude rainfall event (typically one in five year return period) and with capacity to drain the highway extent only. As such the discharge rate is will be lower than if the development was discharging to a watercourse or existing sw drains. This will be confirmed once we have resulting CCTV data. Thereafter, calculations are required to confirm the additional flow of surface water from your development.

3. Schedule of remedial or upgrade works

- a. We will await the CCTV survey to confirm the condition of the entire existing network. As highlighted in Point 2, the development will provide an overall betterment to the highway network and therefore it does not seem necessary to upgrade the network.

Based on the above, the grid reference for the manhole we would like to connect to is SU 00561 53233.

Kind regards,

Jacob De la Croix
Senior Engineer



Ada House, Pynes Hill, Exeter EX2 5TU

office: 01392 409007
direct dial: 01392 325597
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AWP (Exeter) LLP

Registered Office: Ada House, Pynes Hill, Exeter, Devon, EX2 5TU

Registered in England and Wales: Company No. OC453740

From: Drainage <Drainage@wiltshire.gov.uk>

Sent: 17 February 2026 09:35

To: Jacob De La Croix <Jacob.DeLaCroix@awpexeter.com>

Cc: Chris Yalden <Chris.Yalden@awpexeter.com>; Drainage <Drainage@wiltshire.gov.uk>; Northern Highways <NorthernHighways@wiltshire.gov.uk>

Subject: RE: 1610 - White Street, West Lavington - Formalise surface water connection

Good morning Jacob,

Thank you for your email.

Attached is guidance outlining the drainage hierarchy that must be satisfied before any connection to the Highway Drainage Network is considered. Connection to the highway system should be treated strictly as a last-resort option.

Land Drainage Consent will be required for any works affecting an ordinary watercourse (Wiltshire Council LLFA guidance). Surface-water design must apply climate-change uplifts to peak rainfall intensity in line with current guidance typically +40% for 1-in-30-year and +45% for 1-in-100-year events and evidence compliance in the drainage calculations (as referenced in Wiltshire Council development control comments drawing on EA guidance). Please confirm the grid reference for the proposed outfall into the ditch?

Any queries please let us know.

Kind Regards

Souya Barton
Land Drainage Engineer
Weather and Drainage Team
Highways Asset Management and Commissioning



Tel: 0300 4560 100
DD: 0124 9468 558
Email: Souya.Barton@wiltshire.gov.uk
Web: www.wiltshire.gov.uk

From: Jacob De La Croix <Jacob.DeLaCroix@awpexeter.com>
Sent: 06 February 2026 16:41
To: Drainage <Drainage@wiltshire.gov.uk>
Cc: Chris Yalden <Chris.Yalden@awpexeter.com>
Subject: RE: 1610 - White Street, West Lavington - Formalise surface water connection

You don't often get email from jacob.delacroix@awpexeter.com. [Learn why this is important](#)

Good afternoon,

Following my email below, we have now received the CCTV survey which shows the highway network connects to the watercourse. I also note that there is a ditch on White Street that connects to the highway network. As this ditch is within the HMPE extents (see attached). Could you confirm if we could connect to either this ditch or directly into the highway network as the greenfield site currently indirectly connects to the highway network? As mentioned in the email below, the development will provide a betterment to the existing scenario by discharging at greenfield rates with a 30% betterment as well as also offsetting future impacts of climate change (+45% rainfall) and urban creep (+10%).

Kind regards,

Please note I will be on annual leave from 09/02/2026 to 15/02/2026

Jacob De la Croix
Senior Engineer



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AWP (Exeter) LLP

Registered Office: Ada House, Pynes Hill, Exeter, Devon, EX2 5TU

Registered in England and Wales: Company No. OC453740

From: Jacob De La Croix
Sent: 05 February 2026 16:09
To: Drainage <drainage@wiltshire.gov.uk>
Cc: Chris Yalden <Chris.Yalden@awpexeter.com>
Subject: RE: 1610 - White Street, West Lavington - Formalise surface water connection

Good afternoon,

We are working on a proposal for a new residential development of circa 47 houses at White Street, West Lavington (SU 00424 53263).

The attached topo survey shows that greenfield surface water from the site falls to the south east corner of the site where surface water flows will fall onto White Street and into the highway drainage network via gullies on Church Street. We have undertaken a survey which confirms that these gullies connect to an (assumed highways) drainage network to the river, circa 250m away and should receive this mapped later this week.

Ground conditions confirm infiltration is not a suitable form of surface water disposal and there are no nearby Wessex Water surface water assets for the development to connect into. Additionally, laying a new connection to the river would require closing and disruption to Church Street (the main road in West Lavington), as well as the additional 250m pipework / works and associated carbon footprint that goes with this.

The proposed development will store surface water and restrict discharge rates, providing a 30% betterment to the existing greenfield rates. This will be equivalent to only 4.3l/s for the 100yr storm event and only 1.6l/s for the 2year event.

Based on the above, please can you confirm if we can formalise the existing indirect connection to the highway network within Church Street? The connection should reduce existing greenfield flows to the network due to the 30% betterment, whilst also offsetting future impacts of climate change (+45% rainfall) and urban creep (+10%).

I have been suggested your contacts so hopefully you are the correct people to ask this, but apologies if you are not.

Please note that I am on annual leave next week so please can you ensure Chris (cc'd) is copied into your response.

Kind regards,

Please note I will be on annual leave from 09/02/2026 to 15/02/2026

Jacob De la Croix
Senior Engineer



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AWP (Exeter) LLP
Registered Office: Ada House, Pynes Hill, Exeter, Devon, EX2 5TU
Registered in England and Wales: Company No. OC453740

From: Jones, Hannah <Hannah.Jones@wiltshire.gov.uk>
Sent: 05 February 2026 15:13
To: Cleave, Julie <Julie.Cleave@wiltshire.gov.uk>; Jacob De La Croix <Jacob.DeLaCroix@awpexeter.com>; Button, David <David.Button@wiltshire.gov.uk>
Cc: Chris Yalden <Chris.Yalden@awpexeter.com>; Drainage <Drainage@wiltshire.gov.uk>
Subject: RE: 1610 - White Street, West Lavington - Formalise surface water connection

Dear Jacob

Julie is correct , this is a matter you should be discussing directly with the Drainage Team.

However, I can confirm that only very recently on another development they informed me that they are no longer providing any approvals which suggest a connection into existing highway drains.

Please raise this matter via their in box drainage@wiltshire.gov.uk.

With thanks

Hannah



Appendix B Topographic Survey

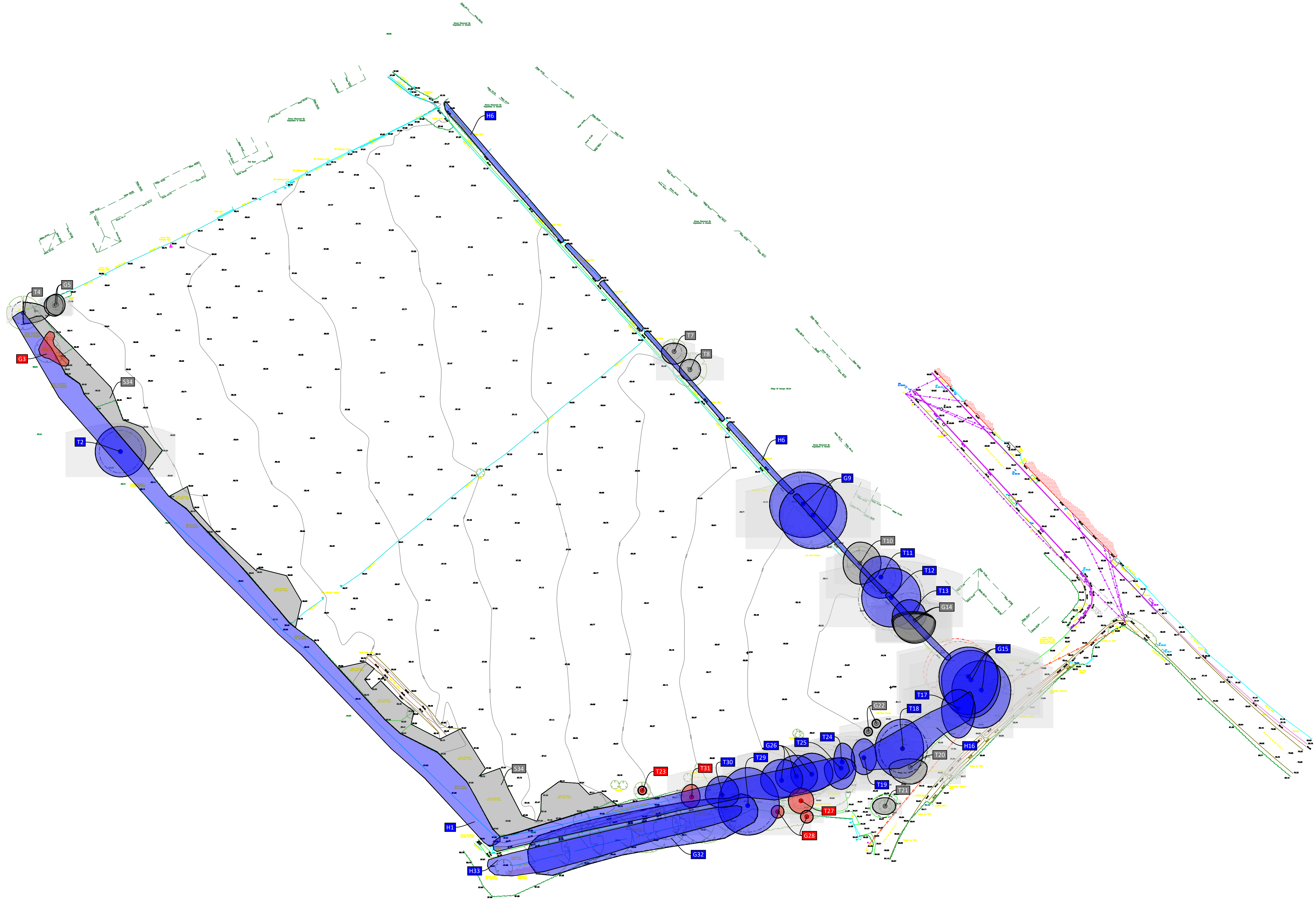
Appendix C Tree Survey (Aspect Tree Consultancy)



Tree Survey

In accordance with
BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'

Site Name:	West Lavington
Instructed by:	C G Fry and Son Ltd
Aspect Ref:	06163
Survey Date(s):	14.10.24
Surveyor(s):	Richard Fletcher
Accompanying Plans:	06163 TCP 12.11.24



KEY

BS 5837:2012 Tree Category



TREE CONSTRAINTS INFORMATION

- TAG** Tree / Group Reference (by category)
- Individual tree (by category)
- Tree group/hedge (by category)
- Root protection area - RPA (BS5837)
- RPA Modified due to site conditions
- Shade arc - Axciscap

DESIGN & LAYOUT OPPORTUNITIES

- TPO** Tree Preservation Order - TPO
- V** Ancient/Veteran Tree - NPPF with buffer zone as defined by government (circle of radius 15 x trunk diameter)

Documents/plans supplied by client for use in this drawing:
Topographical Survey:
• F24181_2D_SX

Accompanying documents which must be read in conjunction with this drawing:
• **06163 Tree Survey 14.10.24**

Notes

- All dimensions are in metres, unless otherwise stated.
- The original of this drawing was produced in colour, a monochrome version should therefore not be relied upon.

Client:	C G Fry and Son Ltd		
Project:	West Lavington		
Title:	Tree Constraints Plan		
Date:	12/11/2024	Sheet:	1 of 1
Scale:	1/500 @ A1	Drawn:	RF
Scale:	1/1000 @ A3		
Dwg Ref:	06163 TCP 12.11.24		



Aspect Tree Consultancy Ltd.
Unit F, Kach Business Park
Pottery Road
Bovey Tracey TQ13 9TZ

Tel: 01364 644822
www.fresh-aspect.com

Tree Ref	Species	No. in Group	HGT	Diams	Diam	Cr Rad				Cr Hgt	Age class	Physiological & Structural con'd Observations –ve/+ve Preliminary Management Recommendations	Est Cont	RPA	BS Cat
						N	E	S	W						
H1	Blackthorn (Prunus spinosa), Hawthorn (Crataegus monogyna), Bramble (Rubus fruticosus), English Elm (Ulmus procera)		7	100	100	3	3	3	3	0	M	P: Good S: Good - Boundary hedgerow. - Unmanaged. - Wildlife habitat potential.	20+	1.2	B2
T2	Ash (Fraxinus excelsior)		13	420	420	6	6	6	6	3	M	P: Good S: Fair - Tree not plotted on topographical survey, stem position estimated on site. - Unable to inspect stem due to undergrowth. - Ash Dieback Disease (ADD) likely to limit longevity.	10+	5.0	B1
G3	English Elm (Ulmus procera)	3	10	140	140	2	2	2	2	3	SM	P: Dead S: Dead Dutch Elm Disease (DED).	<10	1.7	U
T4	Plum (Prunus domestica)		4	230	230	2.5	6	2.5	0	0.5	EM	P: Good S: Poor Lean to east.	10+	2.8	C1
G5	Wild Cherry (Prunus avium)	2	4	85	85	2.5	2	2.5	2.5	1	Y	P: Good S: Good	20+	1.0	C2

Tree Ref	Species	No. in Group	HGT	Diams	Diam	Cr Rad				Cr Hgt	Age class	Physiological & Structural con'd Observations –ve/+ve Preliminary Management Recommendations	Est Cont	RPA	BS Cat
						N	E	S	W						
H6	Hawthorn (Crataegus monogyna), Beech (Fagus sylvatica), (Cotoneaster Species), Box (Buxus sempervirens), Privet (Ligustrum ovalifolium)		1.5-2	75	75	0.5	0.5	0.5	0.5	0	M	P: Good S: Fair - Boundary hedge with gaps. - Managed. - Wildlife habitat potential.	20+	0.9	B2
T7	Wild Cherry (Prunus avium)		5	90,85 85	150	2	3	3	3	2.5	EM	P: Good S: Fair - Tree located off-site. - Unable to inspect stem due to undergrowth.	20+	1.8	C2
T8	Norway Spruce (Picea abies)		8	180	180	2.5	2.5	2.5	2.5	2.5	SM	P: Good S: Fair - Tree located off-site. - Unable to inspect stem due to undergrowth.	20+	2.2	C2
G9	Beech (Fagus sylvatica)	2	16	500, 400	640	7.5	8	8	8	1.5	M	P: Good S: Fair - Exposed roots, 1 damaged root - good woundwood. - Ivy on trees. - Included bark present in fork. - Stem divides below 1.5m. - Major deadwood in crowns (>50mm diameter).	20+	7.7	B2
T10	Cherry Plum (Prunus cerasifera)		6	250	250	5	5	5	4	1.5	M	P: Good S: Fair	20+	3.0	C2

Tree Ref	Species	No. in Group	HGT	Diams	Diam	Cr Rad				Cr Hgt	Age class	Physiological & Structural con'd Observations –ve/+ve Preliminary Management Recommendations	Est Cont	RPA	BS Cat
						N	E	S	W						
T11	Silver Birch (<i>Betula pendula</i>)		15	290	290	5	5	5	5	1.5	M	P: Good S: Fair	20+	3.5	B1
T12	Beech (<i>Fagus sylvatica</i>)		16	650	650	7	7	7	7	1.5	M	P: Good S: Fair - Ivy on tree. - Included bark present in fork. - Multiple stems above 1.5m.	20+	7.8	B2
T13	Beech (<i>Fagus sylvatica</i>)		9	300, 260, 250	469	4	4	3	4	1.5	M	P: Good S: Fair - Topped. - Included bark present in fork. - Multiple stems below 1.5m.	20+	5.6	B2
G14	Cotoneaster (<i>Cotoneaster</i> Species)	3	10	200, 180	269	2	5	5	5	1.5	M	P: Good S: Fair Previously reduced.	20+	3.2	C2
G15	Beech (<i>Fagus sylvatica</i>)	3	16	600	600	7	7	9	7	1.5	M	P: Good S: Fair - Exposed roots - Ivy on trees. - Included bark present in fork. - Stem divides above 1.5m. - RPAs modified due to site conditions.	20+	7.2	B2
H16	Hawthorn (<i>Crataegus monogyna</i>), English Elm (<i>Ulmus procera</i>), Sycamore (<i>Acer pseudoplatanus</i>)		9	170	170	3	3	3	3	1	EM	P: Good S: Good - Boundary hedgerow. - Dead elms - Wildlife habitat potential.	20+	2.0	B2

Tree Ref	Species	No. in Group	HGT	Diams	Diam	Cr Rad				Cr Hgt	Age class	Physiological & Structural con'd Observations –ve/+ve Preliminary Management Recommendations	Est Cont	RPA	BS Cat
						N	E	S	W						
T17	Sycamore (Acer pseudoplatanus)		13	270, 240	361	4.5	4	7	4	2	EM	P: Good S: Fair - Dead elm stems - Ivy on tree. - Stem divides below 1.5m.	20+	4.3	B2
T18	Sycamore (Acer pseudoplatanus)		15		475	7	5	7	6.5	1	M	P: Good S: Fair Ivy growing into crown.	20+	5.7	B2
T19	Hawthorn (Crataegus monogyna)		12	180, 170, 160, 100	311	4.5	3	4	3	1.5	M	P: Good S: Fair - Multiple stems below 1.5m. - Ivy growing into crown.	20+	3.7	B2
T20	English Elm (Ulmus procera)		12	270, 160	314	2	4	4	5	1	EM	P: Poor S: Fair Stem divides below 1.5m.	10+	3.8	C2
T21	Yew (Taxus baccata)		4	150, 120, 85,85	227	2	2.5	2	3	1	Y	P: Good S: Good Multiple stems below 1.5m.	20+	2.7	C1
G22	English Elm (Ulmus procera)	2	2	75	75	1	1	1	1	0	Y	P: Poor S: Poor	<10	0.9	C3
T23	English Elm (Ulmus procera)		2	75	75	1	1	1	1	0	Y	P: Poor S: Poor	<10	0.9	U
T24	Hawthorn (Crataegus monogyna)		12	170, 110, 95,85	239	4.5	3	4	2	1.5	M	P: Good S: Fair - Multiple stems below 1.5m. - Ivy growing into crown.	20+	2.9	B2

Tree Ref	Species	No. in Group	HGT	Diams	Diam	Cr Rad				Cr Hgt	Age class	Physiological & Structural con'd Observations –ve/+ve Preliminary Management Recommendations	Est Cont	RPA	BS Cat
						N	E	S	W						
T25	Sycamore (Acer pseudoplatanus)		13	170, 150	227	2.5	3.5	5	4	1	EM	P: Good S: Fair ● Ivy growing into crown.	20+	2.7	B2
G26	Sycamore (Acer pseudoplatanus)	3	14	400	400	5	5	4	5	1	EM	P: Good S: Fair ● Ivy on trees. ● Stem divides above 1.5m.	20+	4.8	B2
T27	English Elm (Ulmus procera)		11	280	280	3	3	3	3	0	EM	P: Dead S: Dead	<10	3.4	U
G28	English Elm (Ulmus procera)	2	4	150	150	1.5	1.5	1.5	1.5	0	Y	P: Poor S: Poor	<10	1.8	U
T29	Sycamore (Acer pseudoplatanus)		15	450, 270	525	9	7.5	7	7	1.5	EM	P: Good S: Fair ● Included bark present in fork. ● Stem divides below 1.5m. ● Ivy growing into crown.	20+	6.3	B2
T30	Sycamore (Acer pseudoplatanus)		13	270, 90,90	298	4.5	4	3	4	1	EM	P: Good S: Fair ● Ivy growing into crown.	20+	3.6	B2
T31	English Elm (Ulmus procera)		4	240	240	3	2	2.5	2.5	0	EM	P: Dead S: Dead ● Ivy on tree.	<10	2.9	U

Tree Ref	Species	No. in Group	HGT	Diams	Diam	Cr Rad				Cr Hgt	Age class	Physiological & Structural con'd Observations –ve/+ve Preliminary Management Recommendations	Est Cont	RPA	BS Cat
						N	E	S	W						
G32	Sycamore (Acer pseudoplatanus), Ash (Fraxinus excelsior)	6	15	260, 250, 200	412	5	5	5	5	1	EM	P: Good S: Fair - Ivy growing into crowns. - Major deadwood in crowns (>50mm diameter). - ADD Class 1-3. - ADD likely to limit longevity.	10+	4.9	B2
H33	Hawthorn (Crataegus monogyna), English Elm (Ulmus procera), Sycamore (Acer pseudoplatanus)		9	170	170	3	3	3	3	1	EM	P: Good S: Good - Boundary hedgerow. - Dead elms - Wildlife habitat potential.	20+	2.0	B2
S34	Blackthorn (Prunus spinosa), Hawthorn (Crataegus monogyna), Bramble (Rubus fruticosus), English Elm (Ulmus procera)		2-4	75	75	1.5	1.5	1.5	1.5	0	Y	P: Good S: Good - Scrub growth. - Wildlife habitat potential.	10+	0.9	C2



Appendix D Ground Investigation Extracts



Phase 2: Geotechnical Investigation and Contamination Assessment Report



Land to the Northwest of White Street,
West Lavington, Devizes, Wiltshire

C G Fry and Son Ltd

February 2025

CM/SR/24385/P2GICAR/01

REPORT CONTROL SHEET

Site Address	Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire
Client	C G Fry and Son Ltd
Report Title	Phase 2: Geotechnical Investigation and Contamination Assessment Report
Issue Date	03 February 2025
Report No.	CM/SR/24385/P2GICAR/01

Prepared by	Callum Masters
Signature	
Position	Engineering Geologist
Qualifications	BSc (Hons). FGS.

Checked by	Simon Ruddlesden
Signature	
Position	Director
Qualifications	BSc (Hons). MSc. DIC. CGeol. FGS. EurGeol.

Approved by	Simon Ruddlesden
Signature	
Position	Director
Qualifications	BSc (Hons). MSc. DIC. CGeol. FGS. EurGeol.

Ruddlesden geotechnical
The Stables, 65 Langaton Lane,
Pinhoe, Exeter, EX1 3SP

01392 678082
mail@ruddlesden.co.uk
www.ruddlesden.co.uk



2 THE SITE

2.1 Site Location

The site is located to the northwest of White Street, West Lavington, Devizes, Wiltshire. The British National Grid Reference of the site is 400414, 153262, and the (nearest) postcode is SN10 4LW.

The site is located within a semi-rural/ semi-residential area, in the village of West Lavington, approximately 6 miles to the south of the town of Devizes. The surrounding area is gently undulating, and the site is situated on the side of a south-facing slope.

Access to the site is gained via a gateway in the southeast of the site, off White Street.

2.2 Site Description

Photographs of the site are presented in Appendix B of this report.

The site is broadly rectangular in shape, measuring approximately 195m x 120m (maximum extents) (2.24 hectares), and slopes gently to moderately down to the east, falling from a level of approximately 92mAOD, in the west, to a level of approximately 84mAOD, in the east of the site.

The site comprises a grassed field that is divided into two by a post and wire fence, which runs southwest-northeast across the site.

The hedgerow that borders the southwest is overgrown, extending up to 5m-10m into the site, and includes immature plum trees. An overgrown soil bank (<1m high) and dumpy bags full of gravel chippings are also present in this area.

The site is bordered to the northeast by a footpath before housing, to the northwest by residential properties, to the southwest by a mixed deciduous hedgerow and footpath, before fields, to the south and southeast by mixed deciduous trees before White Street and a footpath. Mature deciduous trees are also present adjacent to the eastern corner (off-site).



3 DESK STUDY

3.1 General

A Phase 1 Desk Study has been produced by AG Geo-Consultants Ltd (report ref: 24/070/P1, August 2024). The reader is referred to this report for further information.

Information from within this Phase 1 report has been supplemented with other available information to provide background information, to allow a 'conceptual site model' to be produced, so that an appropriate intrusive investigation could be carried out.

3.2 Site History

The site was undeveloped until around the 1900s, when allotments were present on site. The allotments were present until sometime between the 1930s and the 1980s, since when the field appears to have been used as fields again.

The surroundings of the site have generally been developed for residential purposes since the first edition mapping. A smithy, 17m to the east of the site, was mapped until the 1920s. An old chalk pit was present from first edition mapping (1880s) until the 1900s, when it was no longer labelled. Between the 1900s and 1936, a graveyard was mapped around 100m to the southeast of the site.

3.3 Site Geology

The British Geological Survey (BGS) map of the area indicates the site to be underlain by Cretaceous Upper Greensand Formation, which is described as fine-grained silty sand and sandstone.

3.4 Potential Sources of Contamination

The following potentially contaminative sources were identified at the site within the Phase 1 report:

- made ground across the site, due to former use as allotments;
- herbicides and insecticides, from past use as allotments; and
- possible PAHs due to former bonfires.

No potential contamination sources were identified in the area surrounding the site.

3.5 Radon

No radon protection measures are required for the site.



7 RESULTS OF THE INVESTIGATION

7.1 General

The following sections provide a summary of ground conditions encountered, groundwater and laboratory testing. Further details are provided in the appendices of this report.

The results of this investigation broadly concur with the findings of the desk study.

7.2 Ground Conditions Encountered

7.2.1 Topsoil

Topsoil, comprising black and dark brown slightly gravelly silty clay, was typically encountered to depths of between 0.20m and 0.40m below existing ground levels.

7.2.2 Natural Geology

Upper Greensand Formation

In all the exploratory holes except TP01, beneath the topsoil, firm greenish brown (locally slightly gravelly) sandy silty clay was encountered to depths of between 0.50m and 1.60m.

Except in TP05 and WS04, beneath the clay (and topsoil in TP01), medium dense to dense greenish grey (clayey/ silty) sand was encountered to depths of between 1.10m and 2.20m.

Beneath the sand (and clay in TP05 and WS04), weak to medium strong greenish grey or grey sandstone was encountered, to the base of the exploratory holes, which were terminated at depths of between 0.90m and 2.39m due to refusal/ difficult excavation of the sandstone bedrock.

Estimates of undrained shear strength obtained from in-situ shear vane testing at a depth of 1.00m, within the clay, typically ranged between 55kN/m² and 85kN/m².

The following SPT N-values were recorded in the boreholes (Table 7.1).

Table 7.1: SPT Test Results

	WS01	WS02	WS03	WS04	WS05	WS06
1.00m	13	>50	>50	>50	10	35
1.70m	-	-	-	-	-	>50
1.80m	-	-	-	-	>50	-
2.00m	>50	-	-	-	-	-



7.3 Groundwater

No groundwater was encountered in any of the trial pits or boreholes during the investigation.

7.4 Soakaway Testing

Full details of the soakaway testing results are provided in Appendix A of this report and are summarised in the table below:

Table 7.2: Summary of Soakaway Test Results

Test No.	Total Recorded Fall of Water Level (m)	Duration of Test (minutes)	Soil Infiltration Rate (m/s)
TP01	0.00	141	*
TP02	0.43	265	1.28×10^{-5} #
TP03	0.21	159	*
TP04	0.01	100	*
TP05	0.00	88	*
TP06	0.25	120	*

* = Test failed to reach 25% of the effective depth and so soil infiltration calculation is possible.

= Only one trial undertaken. For the testing to be in accordance with BRE 365, three trials are required. Value to be used for preliminary design only.

7.5 In-Situ CBR Testing (TRL DCP Method)

The results of the in-situ Dynamic Cone Penetrometer (DCP) testing are presented in Appendix A of this report.

From the DCP testing, estimated CBR values ranging from 3% to 18% have been obtained.



8 GEOTECHNICAL ASSESSMENT

8.1 Proposals

No development plans were provided at the time of writing.

In the absence of any other information, for the purposes of this report, it is assumed that the site is to be developed for residential purposes, with the construction of lightweight residential dwellings up to two storeys in height, with ground levels to remain similar to existing.

8.2 Ground Profile

The ground conditions encountered have been summarised in Section 7 of this report and the individual exploratory hole logs, photographs and laboratory testing results should be referred to for further details. Within this section of the report the general ground profile is reviewed and the engineering significance of individual layers is discussed.

Beneath a surface covering of topsoil, firm greenish brown (locally slightly gravelly) sandy silty clay (Upper Greensand Formation) was encountered at each exploratory hole location except TP01 to depths of between 0.50m and 1.60m. Estimates of undrained shear strength of between 55kN/m² and 85kN/m² indicate that this deposit has sufficient bearing capacity to provide a suitable founding stratum. Laboratory testing revealed the clay deposits to be of medium volume change potential in accordance with NHBC Standards, Chapter 4.2.

Beneath the clay (and directly beneath the topsoil in TP01), medium dense to dense greenish grey (clayey/ silty) sand was encountered to depths of between 1.10m and 2.20m. SPT N-values ranging between N=35 and N=>50 within the sand indicate that both of this deposit has sufficient bearing capacity to provide a suitable founding stratum. Laboratory testing revealed the sand to be non-shrinkable in accordance with NHBC Standards, Chapter 4.2.

Beneath the sand (and locally directly beneath the clay), weak to medium strong sandstone was encountered, to depths of between 0.90m and 2.39m. SPT N-values of >50 indicate this deposit also has sufficient bearing capacity to provide a suitable founding stratum. As a rock, this deposit can be treated as being non-shrinkable.

Groundwater was not encountered within any of the exploratory holes.



8.3 Foundations

8.3.1 General

The results of this investigation indicate that strip or trench-fill foundations are suitable to support the proposed structures.

8.3.2 Strip or Trench-Fill Foundations

It is considered that an allowable bearing pressure of 100kN/m^2 may be placed on the firm clay, medium dense to dense sand or weak to medium dense sandstone by strip or trench-fill foundations at a minimum depth of 0.90m below existing or proposed ground levels, whichever is deepest.

Where the foundations are built on the clay, which was encountered in all but one of the exploratory holes, to depths of between 0.50m and 1.60m, and where building near trees, foundations should be deepened in accordance with NHBC Standards, Chapter 4.2, for soils of medium volume change potential.

Where building on the underlying sand (or sandstone), foundations do not need to be deepened further, as laboratory testing classified this deposit as being non-shrinkable in accordance with NHBC Standards, Chapter 4.2.

Where foundations are stepped to take account of the influence of trees they should be stepped gradually with no step exceeding 0.50m.

Where foundation depths exceed 1.50m due to NHBC building near tree requirements, heave precautions are required to protect the foundations from lateral soil heave movements.

It should be endeavoured to build foundations on like material. Where this is not possible, the boundary between the changes in strata, e.g. clay/ sand/ sandstone, should be suitably reinforced.

Alternatively, in order to avoid problems with differential settlement and building near trees requirements, all foundations could be built on the sandstone bedrock, encountered from depths of between 0.80m and 1.70m. The sandstone bedrock would also provide a higher bearing capacity (250kN/m^2).

Any soft or loose material in the base of foundation excavations should be removed and replaced with compacted lean mix concrete prior to pouring the foundations.

8.3.3 Ground Floor Slabs

Where NHBC building near trees requirements mean that foundation depths are greater than 1.50m or where the slope of the ground means that more than 600mm of fill is required beneath floor slabs, fully suspended ground floor slabs are required.

If NHBC building near trees requirements mean that foundation depths are less than 1.50m and slope of the ground means that more than 600mm of fill is required beneath floor slabs, and provided construction is undertaken when the soils are not seasonally desiccated, i.e. in winter/ spring, ground-bearing floor slabs may be adopted.



8.3.4 Sulphate and pH Aggressivity

The results of the pH and soluble sulphate tests have been compared to Table C1 of BRE Special Digest 1: Concrete in Aggressive Ground. This comparison indicates the Design Sulphate Class for the site to be DS-1.

Total potential sulphate and oxidisable sulphide calculations, undertaken in accordance with BRE SD1, indicate that pyrite is probably not present.

As the site is considered to be greenfield, groundwater can be treated as static and pH values greater than 2.5 were recorded, Aggressive Chemical Environment for Concrete (ACEC) class AC-1s is suitable for all buried concrete at this site, i.e. no special precautions.

8.3.5 Radon Protective Measures

BRE Report BR 211: Radon: Guidance on Protective Measures for New Buildings and British Geological Survey (BGS) information obtained as part of the desk study information (see Phase 1 report) indicate that no radon protection measures are required.

8.4 Groundwater and Excavations

No groundwater was encountered in any of the trial pits or boreholes during the investigation. De-watering of temporary excavations is therefore unlikely to be required.

It is noted that groundwater levels fluctuate according to the season and from year to year. In the weeks prior to the investigation the weather had been average for the time of year. Therefore, higher groundwater levels may be encountered during periods of wetter weather.

Given the presence of sandy soils, shoring of excavations may be required be required.

The boreholes and trial pits were terminated at depths of between 0.90m and 2.39m, when sandstone bedrock was encountered. Therefore, heavy plant or breaking may be required for deep excavations.

8.5 Roads

In-situ CBR testing (TRL DCP method) produced estimated CBR values ranging from 6% to 18% from the beneath the topsoil (encountered to depths of 0.20mBGL to 0.40mBGL), to a maximum depth of approximately 0.90mBGL.

The TRL DCP can sometimes produce artificially high CBR values. The Highways England document CD 225: Design for New Pavement Foundations states that the process outlined in the Transport and Road Research Laboratory (TRRL) Laboratory Report (LR) 1132: The Structural Design of Bituminous Roads may be used to review soil properties and construction assumptions when estimating the short-term subgrade surface modulus and/ or long-term subgrade surface modulus.

The laboratory testing results showed the near surface clays/ silts to be of intermediate plasticity. With reference to Table C1 within LR 1132, the laboratory testing results and anticipated long-term groundwater levels, it is recommended that a CBR value of 3% be used for road pavement design at this site for the natural soils.



This design CBR value should be confirmed prior to construction by additional in-situ CBR testing at road formation level. If highways are to be adopted, this is likely to be a requirement of the adopting authority.

Based on the exploratory hole logs and laboratory testing results, it is considered that the soils are frost-susceptible.

8.6 Soakaways

Six in-situ soakaway tests were undertaken in accordance with BRE Digest 365.

In TPs 03, 04, and 06, water level falls of 0.21m, 0.01m and 0.25m, respectively, were recorded over the course of the day. In TP01 and TP05, no discernible water level fall was recorded. All of these tests failed to reach 25% of the effective depth, and so no soil infiltration calculations are possible.

These results indicate that at five of the six locations tested, the ground is insufficient permeable for soakaway/ infiltration drainage.

In TP02, only one trial was completed during the day, producing a soil infiltration of 1.28×10^{-5} m/s. However, for the testing to be in accordance with BRE 365, it needs to be carried out three times, which would take at least three days to complete, and typically produces a lower soil infiltration rate. The soil infiltration rate obtained at TP02 should therefore be used for preliminary design only.

Therefore, while some infiltration drainage may be locally achievable, these results indicate that overall the ground has a relatively low permeability and is generally not suitable for the use of soakaway drainage.

On-site attenuation combined with off-site discharge is considered likely to be the most suitable drainage solution at this site.



TRIAL PIT LOGS

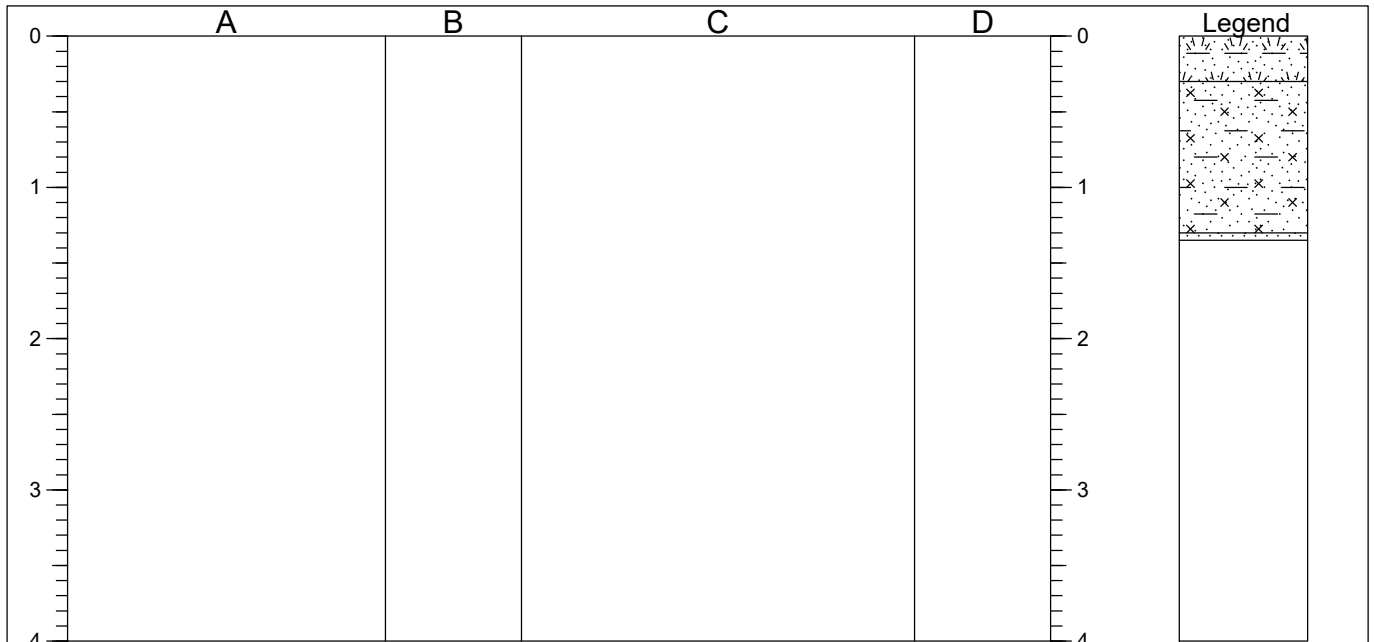




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TRIAL PIT LOG

Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				Trial Pit No TP01
Job No 24385	Date 17-12-24	Ground Level (mAOD) 84.8	Co-Ordinates (BNG) E 400498 N 153217	
Contractor	Method/ Plant JCB 4CX			Sheet 1 of 1



STRATA				SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	Type	Remarks/Tests	
0.00-0.30		TOPSOIL: Black and dark brown slightly gravelly silty clay with frequent rootlets.				
0.30-1.30		Greenish grey very clayey/ silty SAND. (Upper Greensand Formation).				
		1.00 ...becoming slightly gravelly. Gravel is fine to coarse angular to subangular of sandstone.	0.90	B/D		
1.30-1.35		Weak to medium strong greenish grey and grey SANDSTONE. (Upper Greensand Formation).				

Shoring/Support: None. Stability: Stable. Groundwater: None encountered.		GENERAL REMARKS 1. Trial pit terminated at 1.35m due to difficult excavation. 2. Soakaway test undertaken. 3. Ground level estimated from topographic survey.	

All dimensions in metres Scale 1:50	Client: C G Fry and Son Ltd	Logged By CM
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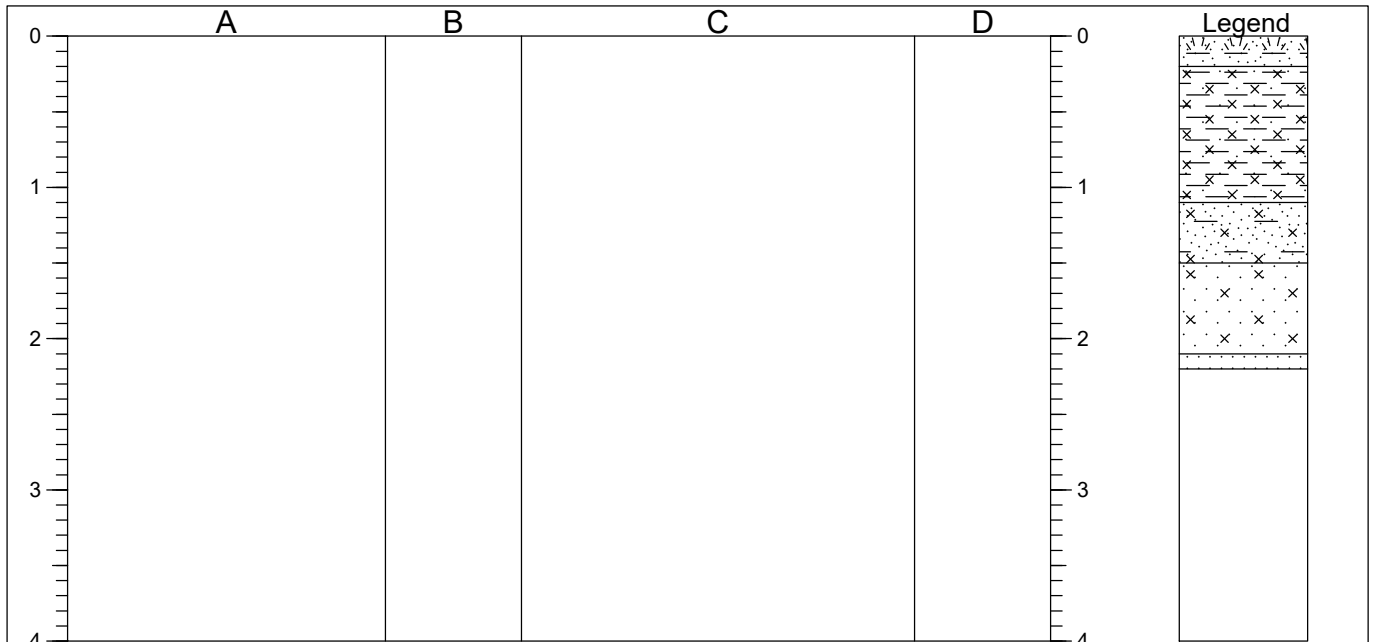
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TRIAL PIT LOG

Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				Trial Pit No TP02
Job No 24385	Date 17-12-24	Ground Level (mAOD) 86.3	Co-Ordinates (BNG) E 400452 N 153198	
Contractor	Method/ Plant JCB 4CX			Sheet 1 of 1



STRATA				SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	Type	Remarks/Tests	
0.00-0.20		TOPSOIL: Black and dark brown slightly gravelly silty clay with frequent rootlets.				
0.20-1.10		Firm greenish brown very sandy silty CLAY. (Upper Greensand Formation).				
1.10-1.50		Greenish grey very clayey/ silty SAND. (Upper Greensand Formation).	1.00	D		
1.50-2.10		Bluish grey and green silty SAND. (Upper Greensand Formation).	1.50	B		
2.10-2.20		Weak to medium strong greenish grey and grey SANDSTONE. (Upper Greensand Formation).				

Shoring/Support: None. Stability: Stable. Groundwater: None encountered.		GENERAL REMARKS 1. Trial pit terminated at 2.20m due to difficult excavation. 2. Soakaway test undertaken. 3. Ground level estimated from topographic survey.	

All dimensions in metres Scale 1:50	Client: C G Fry and Son Ltd	Logged By CM
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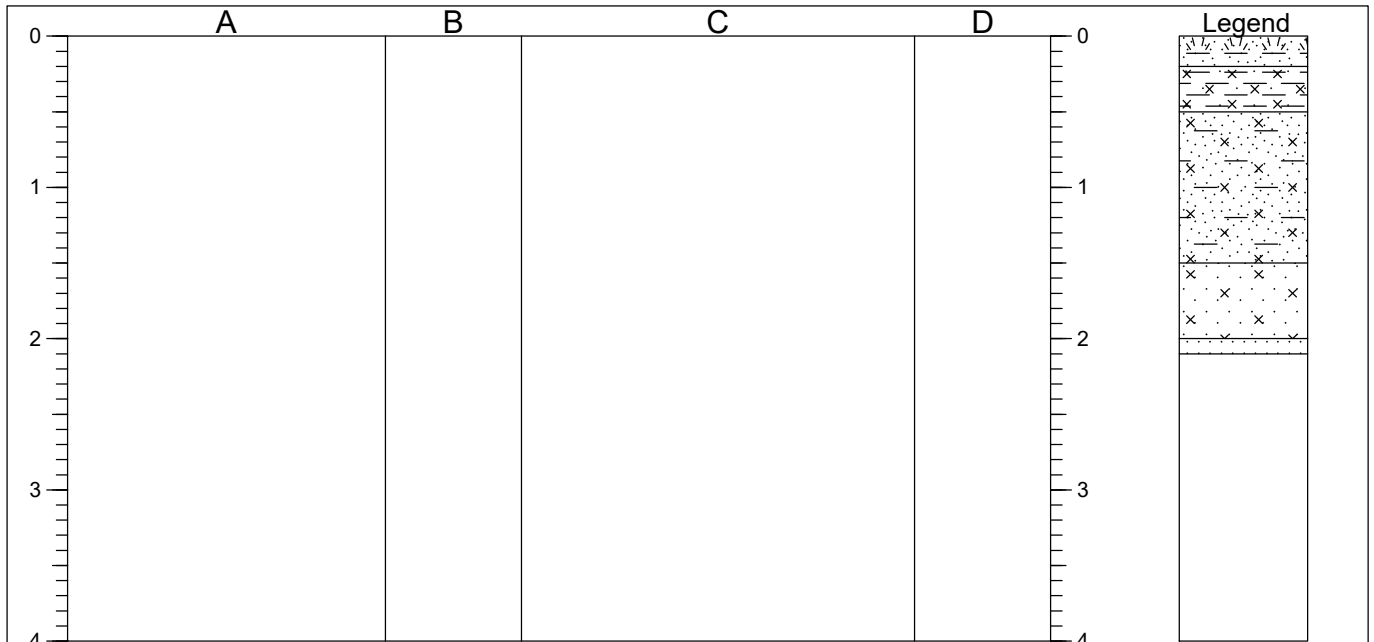
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TRIAL PIT LOG

Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				Trial Pit No TP03
Job No 24385	Date 17-12-24	Ground Level (mAOD) 87.2	Co-Ordinates (BNG) E 400418 N 153249	
Contractor	Method/ Plant JCB 4CX			Sheet 1 of 1



STRATA				SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	Type	Remarks/Tests	
0.00-0.20		TOPSOIL: Black and dark brown slightly gravelly silty clay with frequent rootlets.	0.90	D		
0.20-0.50		Firm greenish brown very sandy silty CLAY. (Upper Greensand Formation).				
0.50-1.50		Greenish grey very clayey/ silty SAND. (Upper Greensand Formation).				
1.50-2.00		Bluish grey and green silty SAND. (Upper Greensand Formation).				
2.00-2.10		Weak to medium strong greenish grey and grey SANDSTONE. (Upper Greensand Formation).				

Shoring/Support: None. Stability: Stable. Groundwater: None encountered.		GENERAL REMARKS 1. Trial pit terminated at 2.10m due to difficult excavation. 2. Soakaway test undertaken. 3. Ground level estimated from topographic survey.	

All dimensions in metres Scale 1:50	Client: C G Fry and Son Ltd	Logged By CM
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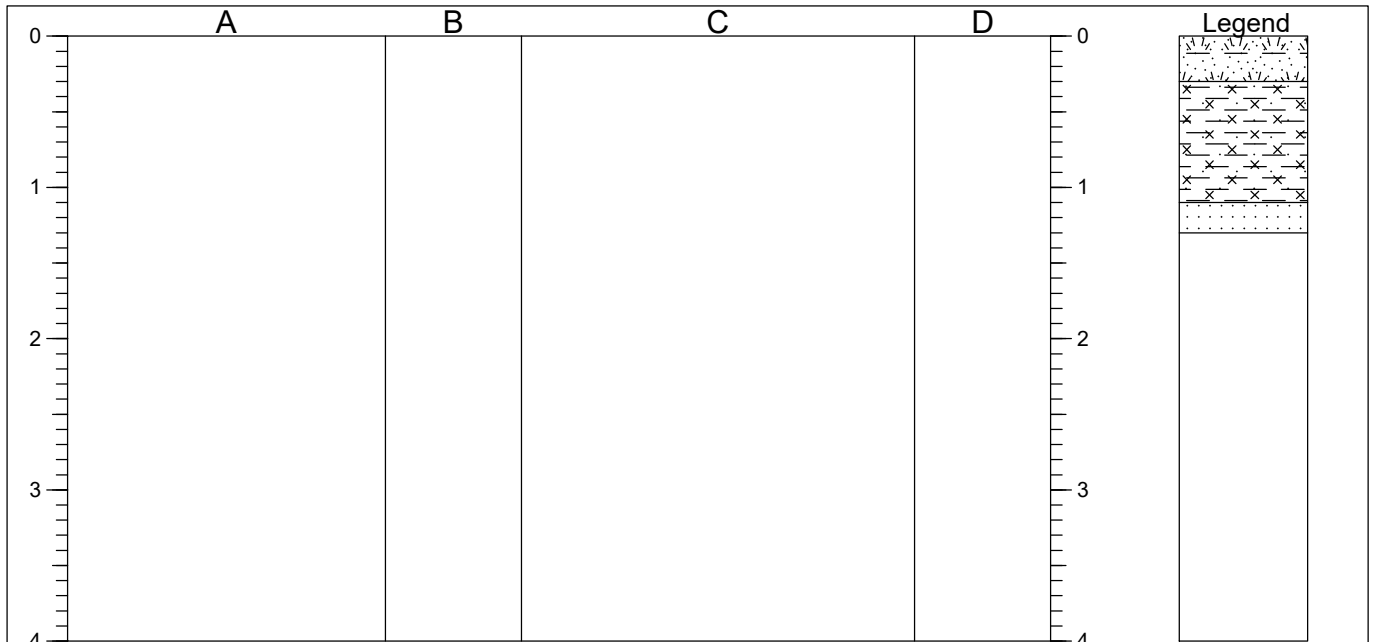
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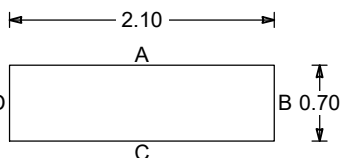
TRIAL PIT LOG

Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				Trial Pit No TP04
Job No 24385	Date 17-12-24	Ground Level (mAOD) 86.7	Co-Ordinates (BNG) E 400434 N 153298	
Contractor	Method/ Plant JCB 4CX			Sheet 1 of 1



STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	Type	Remarks/Tests
0.00-0.30		TOPSOIL: Black and dark brown slightly gravelly silty clay with frequent rootlets.	0.90	D/ V	80-95kN/m²
0.30-1.10		Firm greenish brown and green very sandy silty CLAY. (Upper Greensand Formation).			
1.10-1.30		Weak to medium strong greenish grey and grey SANDSTONE. (Upper Greensand Formation).			

Shoring/Support: None. Stability: Stable. Groundwater: None encountered.		GENERAL REMARKS 1. Trial pit terminated at 1.30m due to difficult excavation. 2. Soakaway test undertaken. 3. Ground level estimated from topographic survey.	
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All dimensions in metres Scale 1:50	Client: C G Fry and Son Ltd	Logged By CM
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TRIAL PIT LOG

Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				Trial Pit No TP05
Job No 24385	Date 17-12-24	Ground Level (mAOD) 87.3	Co-Ordinates (BNG) E 400397 N 153335	
Contractor	Method/ Plant JCB 4CX			Sheet 1 of 1

0	A	B	C	D	0	Legend
1					1	
2					2	
3					3	
4					4	

STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	Type	Remarks/Tests
0.00-0.40		TOPSOIL: Black and dark brown slightly gravelly silty clay with frequent rootlets.			
0.40-0.80		Firm greenish brown very sandy silty CLAY. (Upper Greensand Formation).			
0.80-0.90		Weak to medium strong greenish grey and grey SANDSTONE. (Upper Greensand Formation).			

Shoring/Support: None. Stability: Stable. Groundwater: None encountered. A D C B 0.70		GENERAL REMARKS 1. Trial pit terminated at 0.90m due to difficult excavation. 2. Soakaway test undertaken. 3. Ground level estimated from topographic survey.
---	--	---

All dimensions in metres Scale 1:50	Client: C G Fry and Son Ltd	Logged By CM
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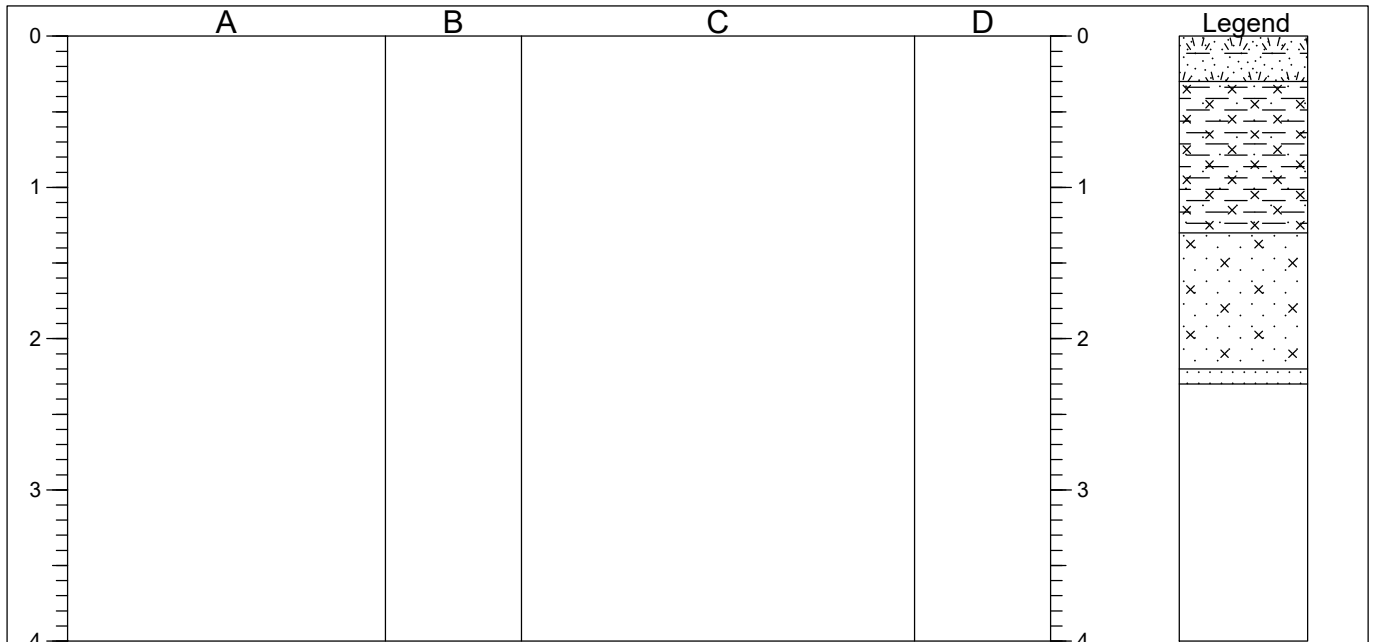
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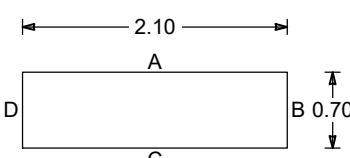
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TRIAL PIT LOG

Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				Trial Pit No TP06
Job No 24385	Date 17-12-24	Ground Level (mAOD) 88.4	Co-Ordinates (BNG) E 400347 N 153293	
Contractor	Method/ Plant JCB 4CX			Sheet 1 of 1



STRATA				SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	Type	Remarks/Tests	
0.00-0.30		TOPSOIL: Black and dark brown slightly gravelly silty clay with frequent rootlets.				
0.30-1.30		Firm greenish brown with occasional orange staining very sandy silty CLAY. (Upper Greensand Formation).	0.80 0.90	D V	55-85kN/m ²	
1.30-2.20		Bluish grey and green silty SAND. (Upper Greensand Formation).				
2.20-2.30		Weak to medium strong greenish grey and grey SANDSTONE. (Upper Greensand Formation).				

Shoring/Support: None. Stability: Stable. Groundwater: None encountered. 		GENERAL REMARKS 1. Trial pit terminated at 2.30m due to difficult excavation. 2. Soakaway test undertaken. 3. Ground level estimated from topographic survey.	
---	--	---	--

All dimensions in metres Scale 1:50	Client: C G Fry and Son Ltd	Logged By CM
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SOAKAWAY TEST RESULTS



Soakaway Test Results

In Accordance with BRE 365 "Soakaway Design"

Job Title: Land to the Northwest of White Street, West Lavington, Devizes
Job No.: 24385
Client: C G Fry and Son Ltd
Date: Dec-24

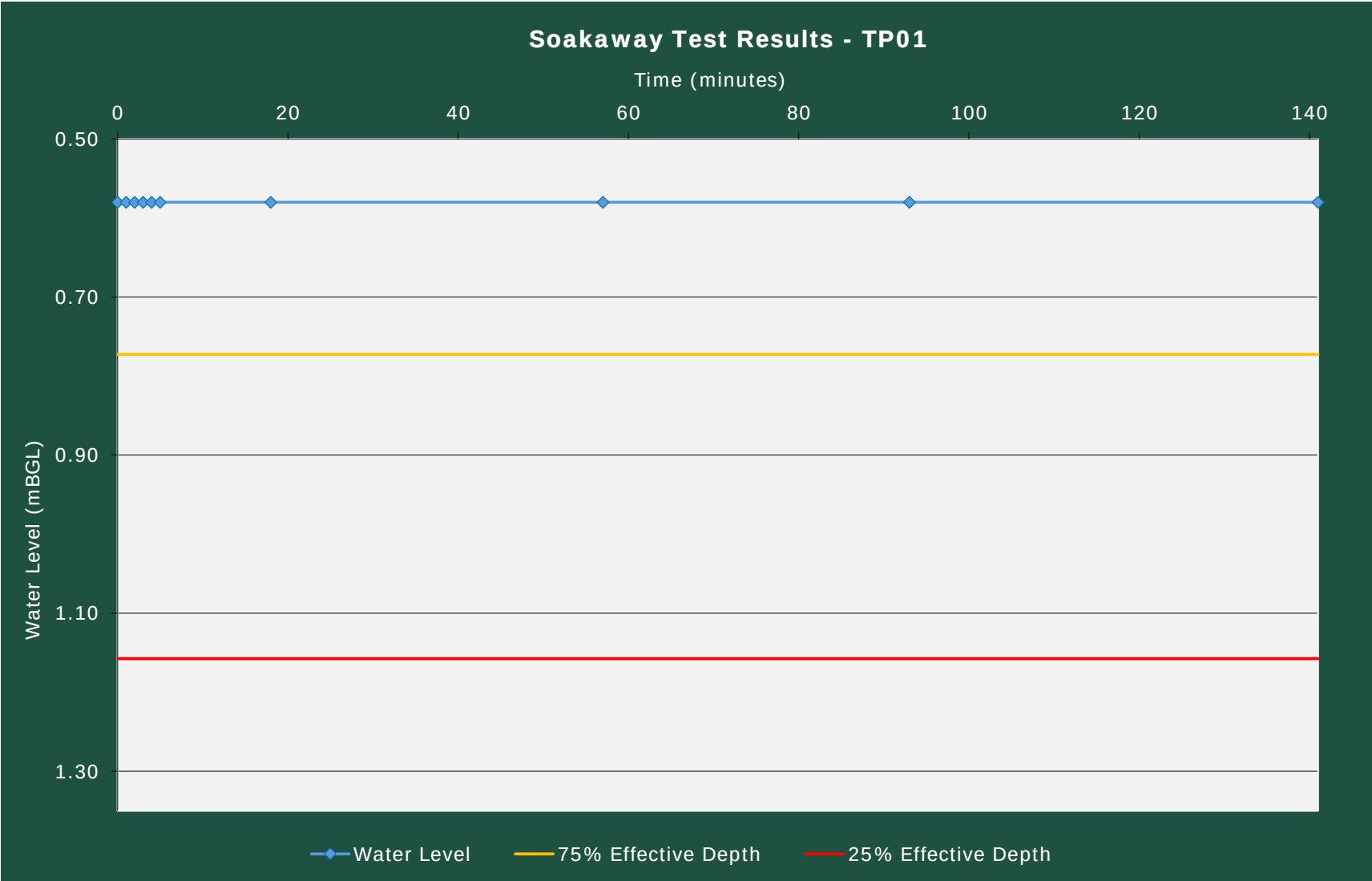
Test No. TP01

Trial Pit Dimensions

Length (m):	1.90
Width (m):	0.70
Depth (m):	1.35
Start Water Level (m):	0.58
Total Depth of Test	0.77

Field Results

[illegible]



Trial observations

Site Ref No : TP02
Site Address : 24385 - White Street, West Lavington

Total excavated depth of soakaway : 2.20 m
Ground level to invert of inflow pipe : 1.64 m

Impermeable surface area (A) : 100.00 m²
Soil infiltration rate (f) : 1.28E-05 m/s

Rainfall ratio : 0.3
Aggregate void : 30%

Trial No. 1	
Interval (mins)	Depth (m)
000	1.64
001	1.64
002	1.64
003	1.64
004	1.64
005	1.65
042	1.73
099	1.80
160	1.89
185	1.92
236	1.99
265	2.07
Rate (f) = 1.28E-05 m/s	

NOTE: Depth is from ground level to water level

Soakaway Test Results

In Accordance with BRE 365 "Soakaway Design"

Job Title: Land to the Northwest of White Street, West Lavington, Devizes

Job No.: 24385

Client: C G Fry and Son Ltd

Date: Dec-24

Test No. TP03

Trial Pit Dimensions

Length (m): 2.20

Width (m):	0.70
------------	------

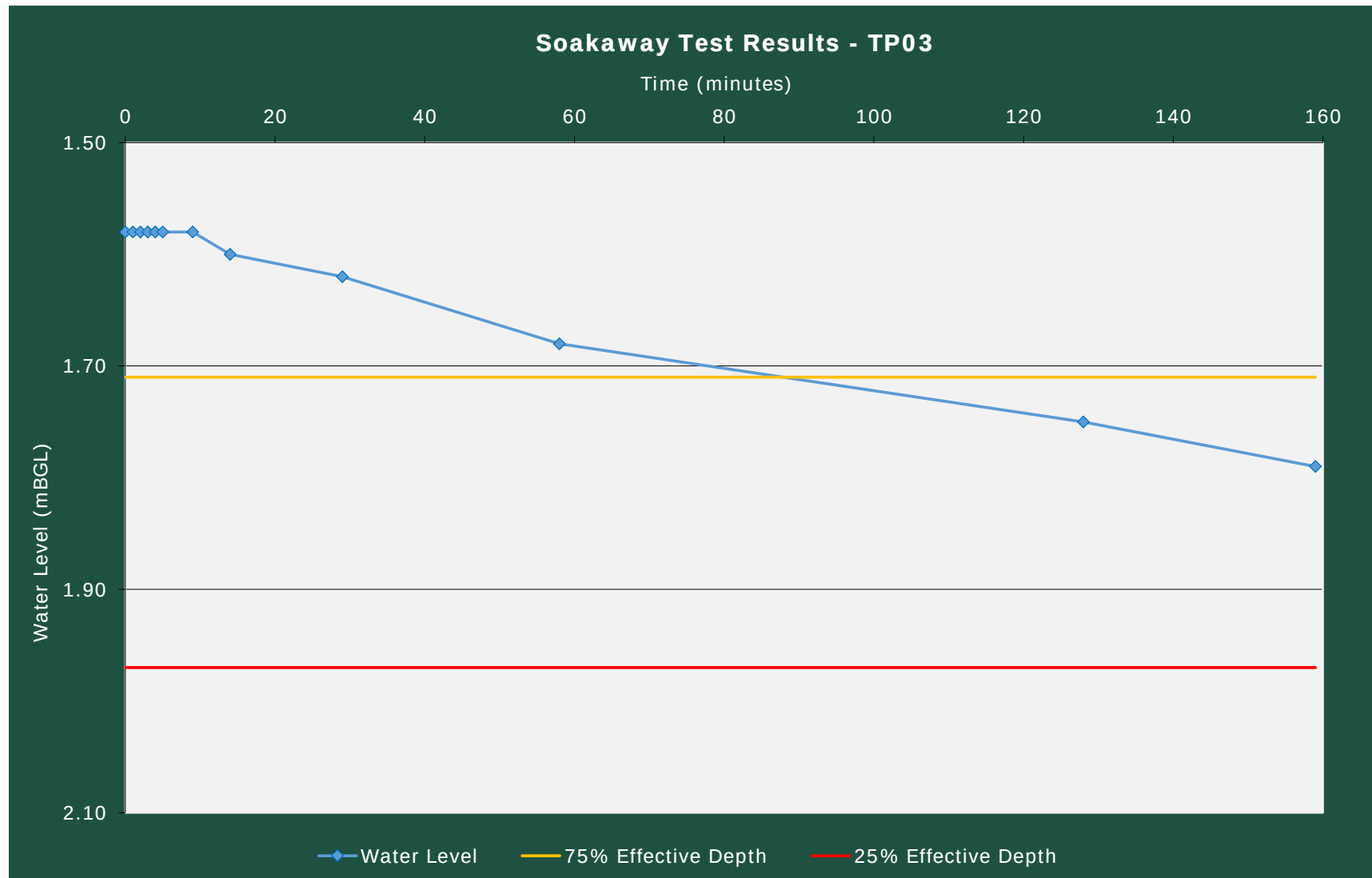
Depth (m):	2.10
------------	------

Start Water Level (m):	1.58
------------------------	------

Total Depth of Test	0.52
---------------------	------

Field Results

[illegible]



Soakaway Test Results

In Accordance with BRE 365 "Soakaway Design"

Job Title: Land to the Northwest of White Street, West Lavington, Devizes

Job No.: 24385

Client: C G Fry and Son Ltd

Date: Dec-24

Test No. TP04

Trial Pit Dimensions

Length (m): 2.10

Width (m):	0.70
------------	------

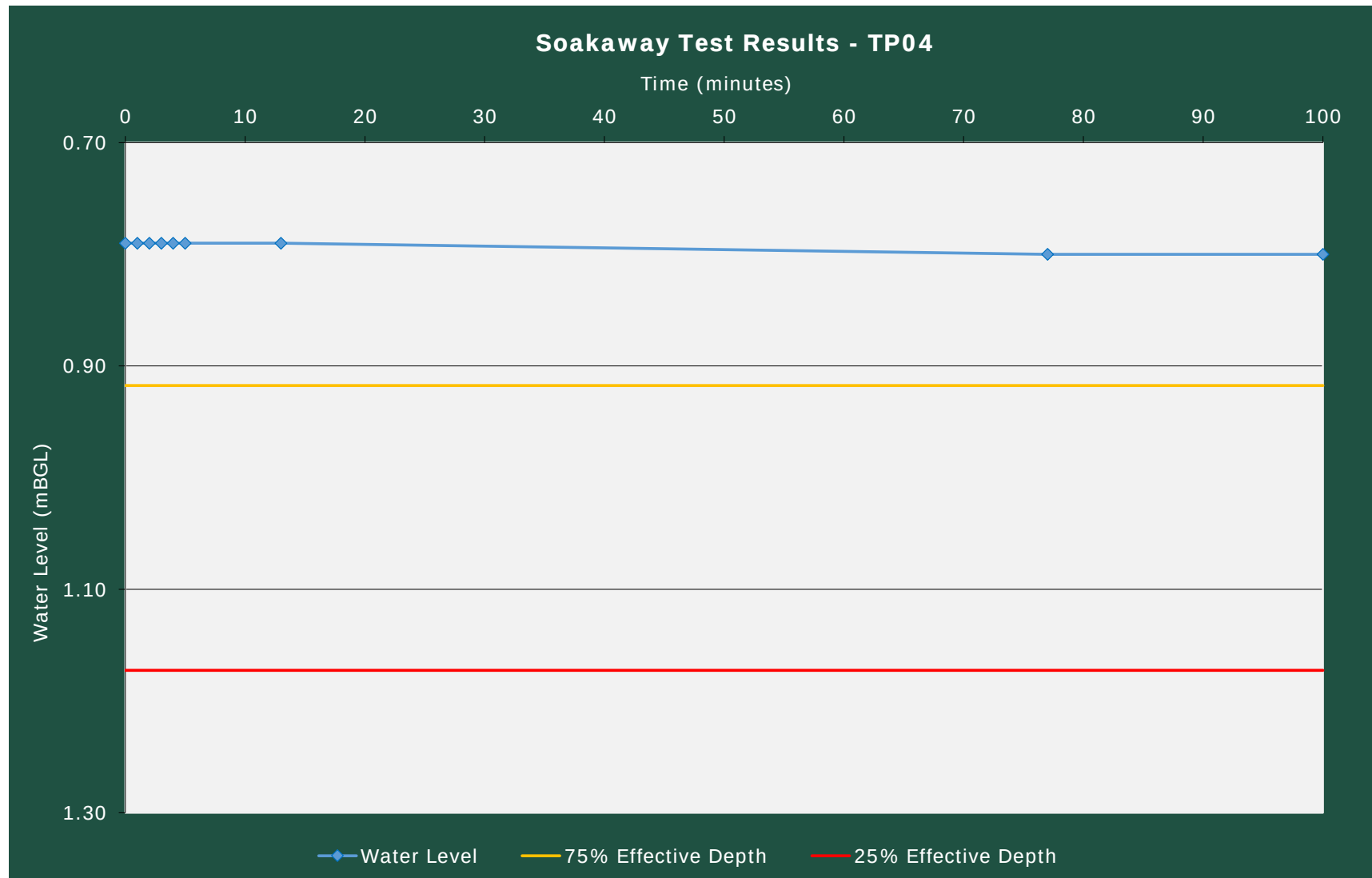
Depth (m):	1.30
------------	------

Start Water Level (m):	0.79
------------------------	------

Total Depth of Test	0.51
---------------------	------

Field Results

[illegible]



Soakaway Test Results

In Accordance with BRE 365 "Soakaway Design"

Job Title: Land to the Northwest of White Street, West Lavington, Devizes

Job No.: 24385

Client: C G Fry and Son Ltd

Date: Dec-24

Test No. TP05

Trial Pit Dimensions

Length (m): 2.20

Width (m):	0.70
------------	------

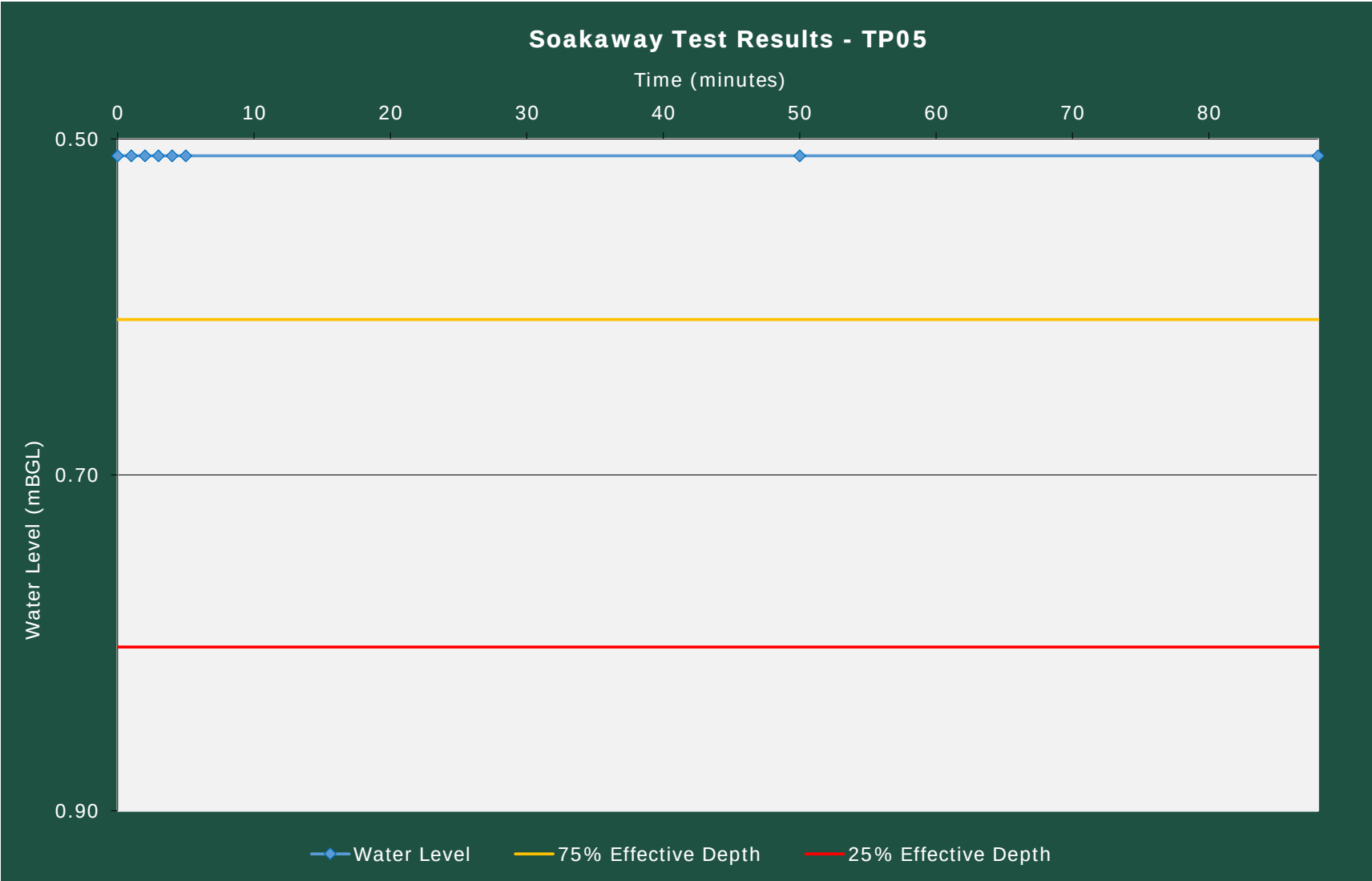
Depth (m):	0.90
------------	------

Start Water Level (m):	0.51
------------------------	------

Total Depth of Test	0.39
---------------------	------

Field Results

[illegible]



Soakaway Test Results

In Accordance with BRE 365 "Soakaway Design"

Job Title: Land to the Northwest of White Street, West Lavington, Devizes

Job No.: 24385

Client: C G Fry and Son Ltd

Date: Dec-24

Test No. TP06

Trial Pit Dimensions

Length (m): 2.10

Width (m):	0.70
------------	------

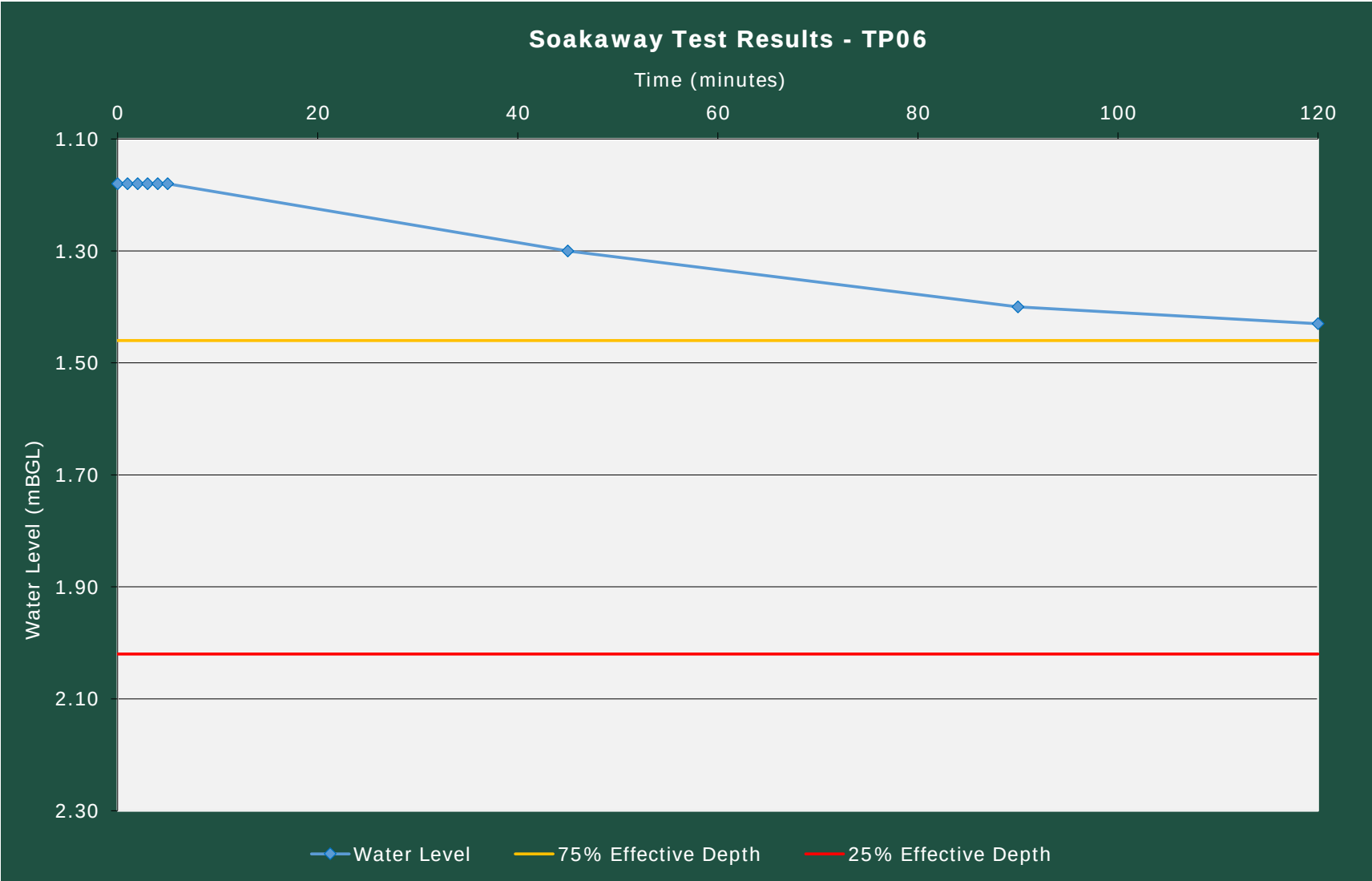
Depth (m):	2.30
------------	------

Start Water Level (m):	1.18
------------------------	------

Total Depth of Test	1.12
---------------------	------

Field Results

[illegible]





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WINDOWLESS SAMPLE BOREHOLE LOG

Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				BOREHOLE No WS01
Job No 24385	Date 17-12-24	Ground Level (mAOD) 85.9	Co-Ordinates (BNG) E 400466 N 153259	
Contractor SWWS	Method/ Plant Terrier			Sheet 1 of 1

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
0.50	ES	N13		85.60		(0.30) 0.30	TOPSOIL: Dark brown slightly sandy silty clay.	
						(1.20)	Firm greenish brown sandy silty CLAY. (Upper Greensand Formation).	
1.00	SPT			84.40		1.50	(Medium dense) silty SAND. (Upper Greensand Formation).	
				84.00		(0.40) 1.90		
2.00	SPT	N50/ 0.255		83.51		(0.49) 2.39	Weak to medium strong greenish grey SANDSTONE. (Upper Greensand Formation).	

Boring Progress and Water Observations						Chiselling			GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	
									1. Borehole terminated at 2.39m due to refusal. 2. No groundwater encountered. 3. Groundwater monitoring well installed to 2.00m. 4. Ground level estimated from topographic survey.

All dimensions in metres Scale 1:37.5	Client: C G Fry and Son Ltd	Logged By SR
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WINDOWLESS SAMPLE BH LOG - 24385 - LAND NORTHWEST OF WHITE STREET - WEST LAVINGTON, DEVIZES, WILTSHIRE GPU AGS 3 - 1.GDT 2/3/25



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WINDOWLESS SAMPLE BOREHOLE LOG

Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				BOREHOLE No WS02
Job No 24385	Date 17-12-24	Ground Level (mAOD) 87.6	Co-Ordinates (BNG) E 400415 N 153180	
Contractor SWWS	Method/ Plant Terrier			Sheet 1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill	
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		
0.10	ES	N50/ 0.275		87.40		0.20	TOPSOIL: Dark brown slightly sandy silty clay.		
							(0.50)	Firm greenish brown sandy silty CLAY. (Upper Greensand Formation).	
						86.90		0.70	
							(0.50)	(Medium dense to dense) greenish grey clayey/ silty SAND. (Upper Greensand Formation).	
1.00	SPT					86.40		1.20	
						86.18		1.42	Weak to medium strong greenish grey SANDSTONE. (Upper Greensand Formation).

Boring Progress and Water Observations						Chiselling			GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	
									1. Borehole terminated at 1.42m due to refusal. 2. No groundwater encountered. 3. Ground level estimated from topographic survey.

All dimensions in metres Scale 1:37.5	Client: C G Fry and Son Ltd	Logged By SR
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WINDOWLESS SAMPLE BH LOG 24385 - LAND NORTHWEST OF WHITE STREET - WEST LAVINGTON, DEVIZES, WILTSHIRE GPU AGS 3, 1 GDT 2/3/25



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WINDOWLESS SAMPLE BOREHOLE LOG

Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				BOREHOLE No WS03
Job No 24385	Date 17-12-24	Ground Level (mAOD) 87.8	Co-Ordinates (BNG) E 400402 N 153232	
Contractor SWWS	Method/ Plant Terrier			Sheet 1 of 1

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
0.75 1.00	ES SPT	N50/ 0.275		87.50		(0.30) 0.30	TOPSOIL: Dark brown slightly sandy silty clay.	
						(0.60)	Firm greenish brown sandy silty CLAY. (Upper Greensand Formation).	
				86.90		0.90		
				86.60		(0.30) 1.20	Dense greenish grey clayey/ silty SAND. (Upper Greensand Formation).	
				86.38		1.42	Weak to medium strong greenish grey SANDSTONE. (Upper Greensand Formation).	

Boring Progress and Water Observations						Chiselling			GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	
									1. Borehole terminated at 1.42m due to refusal. 2. No groundwater encountered. 3. Ground level estimated from topographic survey.

All dimensions in metres Scale 1:37.5	Client: C G Fry and Son Ltd	Logged By SR
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WINDOWLESS SAMPLE BH LOG 24385 - LAND NORTHWEST OF WHITE STREET - WEST LAVINGTON, DEVIZES, WILTSHIRE GPU AGS 3 - 1.GDT 2/3/25



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WINDOWLESS SAMPLE BOREHOLE LOG

Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				BOREHOLE No WS05
Job No 24385	Date 17-12-24	Ground Level (mAOD) 87.5	Co-Ordinates (BNG) E 400400 N 153290	
Contractor SWWS	Method/ Plant Terrier			Sheet 1 of 1

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
1.00	ES/ SPT	N10		87.30		0.20	TOPSOIL: Dark brown slightly sandy silty clay.	
						(1.40)	Firm greenish brown sandy silty CLAY. (Upper Greensand Formation).	
1.80	SPT	N50/ 0.11		85.90		1.60		
				85.80		1.70	(Medium dense) green clayey/ silty SAND. (Upper Greensand Formation).	
				85.53		1.97	Weak greenish grey SANDSTONE. (Upper Greensand Formation).	

Boring Progress and Water Observations						Chiselling			GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	
									1. Borehole terminated at 1.97m due to refusal. 2. No groundwater encountered. 3. Groundwater monitoring well installed to 1.80m. 4. Ground level estimated from topographic survey.

All dimensions in metres Scale 1:37.5	Client: C G Fry and Son Ltd	Logged By SR
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WINDOWLESS SAMPLE BH LOG 24385 - LAND NORTHWEST OF WHITE STREET, WEST LAVINGTON, DEVIZES, WILTSHIRE GPU AGS 3, 1 GDT 2/3/25



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WINDOWLESS SAMPLE BOREHOLE LOG

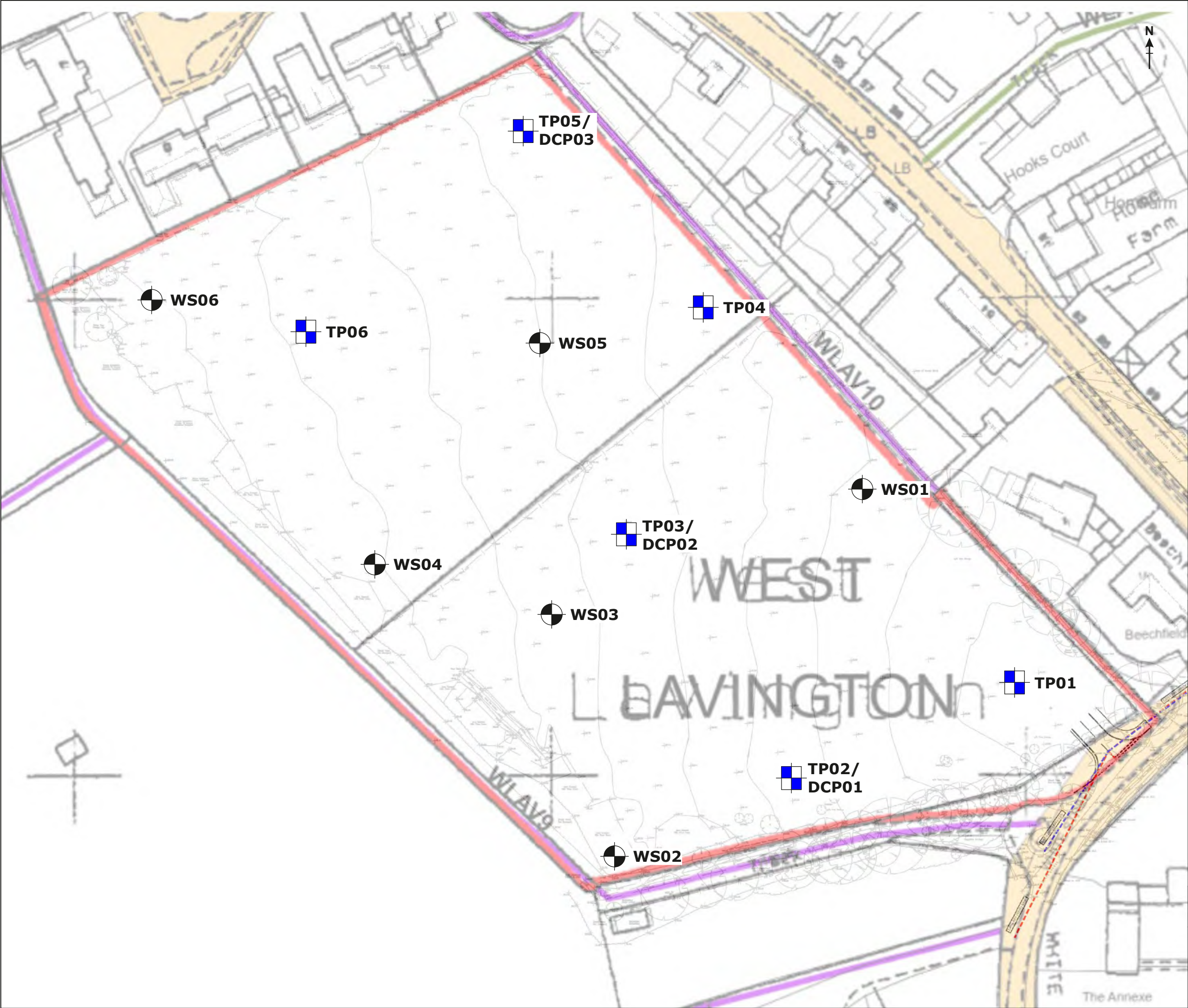
Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				BOREHOLE No WS06
Job No 24385	Date 17-12-24	Ground Level (mAOD) 89.0	Co-Ordinates (BNG) E 400320 N 153299	
Contractor SWWS	Method/ Plant Terrier			Sheet 1 of 1

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
0.20	ES			88.70		(0.30) 0.30	TOPSOIL: Dark brown slightly sandy silty clay with occasional fine gravel of brick and coal.	
				88.20		(0.50) 0.80	Firm greenish brown mottled orangish brown sandy silty CLAY. (Upper Greensand Formation).	
1.00	SPT	N35				(0.90) 1.70	Medium dense to dense greenish grey clayey/ silty SAND. (Upper Greensand Formation).	
1.70	SPT	N50/ 0.225		87.30		1.70		
				86.92		(0.38) 2.08	Very dense greenish grey SAND. (Upper Greensand Formation).	

Boring Progress and Water Observations						Chiselling			GENERAL REMARKS
Date	Time	Depth	Casing Depth	Dia. mm	Water Dpt	From	To	Hours	
									1. Borehole terminated at 2.08m due to refusal. 2. No groundwater encountered. 3. Groundwater monitoring well installed to 1.70m. 4. Ground level estimated from topographic survey.

All dimensions in metres Scale 1:37.5	Client: C G Fry and Son Ltd	Logged By SR
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WINDOWLESS SAMPLE BH LOG 24385 - LAND NORTHWEST OF WHITE STREET, WEST LAVINGTON, DEVIZES, WILTSHIRE GPU AGS 3, 1 GDT 2/3/25



- LEGEND:**
-  Windowless Sample Borehole
 -  Trial Pit/ Soakaway Test/
Dynamic Cone Penetrometer

NOTES:
Drawn on plan supplied by client

Job Title:	Land to the Northwest of White Street West Lavington Devizes
Drawing Title:	Exploratory Hole Location Plan
Client:	C G Fry and Son Ltd
 Ruddlesden geotechnical The Stables 65 Langaton Lane Pinhoe Exeter EX1 3SP www.ruddlesden.co.uk	
Dwg. No:	24385/02
Date:	December 2024
Scale:	NTS



Soakaway Test Report



Land to the Northwest of White Street,
West Lavington, Devizes, Wiltshire

C G Fry and Son Ltd

November 2025

CM/SR/24385/STR/01

REPORT CONTROL SHEET

Site Address	Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire
Client	C G Fry and Son Ltd
Report Title	Soakaway Test Report
Issue Date	19 November 2025
Report No.	CM/SR/24385/STR/01

Prepared by	Callum Masters
Signature	
Position	Engineering Geologist
Qualifications	BSc (Hons). FGS.

Checked by	Simon Ruddlesden
Signature	
Position	Director
Qualifications	BSc (Hons). MSc. DIC. CGeol. FGS. EurGeol.

Approved by	Simon Ruddlesden
Signature	
Position	Director
Qualifications	BSc (Hons). MSc. DIC. CGeol. FGS. EurGeol.

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1 INTRODUCTION

1.1 General

In late October 2025, a soakaway test investigation was undertaken by Ruddlesden geotechnical on behalf of C G Fry and Son at land to the northwest of White Street, West Lavington, Devizes, Wiltshire.

The investigation comprised the formation of three in-situ soakaway tests in accordance with BRE Digest 365.

1.2 Development Proposals

It is proposed to develop the site for residential purposes, with the construction of approximately 50 houses with associated infrastructure. The proposed layout is shown on the Exploratory Hole Location Plan (Dwg. No. 24385/03A, Appendix D).

1.3 Objectives

The investigation was undertaken to determine the permeability of the ground, to assess the suitability of the ground for soakaway/ infiltration drainage and to provide a soil infiltration rates for design.

1.4 Scope of Investigation

The investigation covers aspects relating to soakaway/ infiltration drainage design. The scope of investigation comprised the following:

- undertake in-situ soakaway testing in accordance with BRE Digest 365;
- assess the suitability of the ground for soakaway/ infiltration drainage;
- if suitable, use data to provide soil infiltration rates;
- undertake boreholes; and
- install boreholes with dataloggers to facilitate long-term groundwater level monitoring.

1.5 Structure of Report

The report is presented as a description of the procedures employed and the data obtained. This is followed by a description of the ground conditions and soakaway test results. The final part of the report comprises a discussion of the results together with recommendations for soakaway/ infiltration drainage design.



2 THE SITE

2.1 Site Location

The site is located to the northwest of White Street, West Lavington, Devizes, Wiltshire. The British National Grid Reference of the site is 400414, 153262, and the (nearest) postcode is SN10 4LW.

The site is located within a semi-rural/ semi-residential area, in the village of West Lavington, approximately 6 miles to the south of the town of Devizes. The surrounding area is gently undulating, and the site is situated on the side of a south-facing slope.

Access to the site is gained via a gateway in the southeast of the site, off White Street.

2.2 Site Description

Photographs of the site are presented in Appendix B of the previous Geotechnical Investigation and Contamination Assessment Report (referenced in Section 3 of this report).

The site is broadly rectangular in shape, measuring approximately 195m x 120m (maximum extents) (2.24 hectares), and slopes gently to moderately down to the east, falling from a level of approximately 92mAOD, in the west, to a level of approximately 84mAOD, in the east of the site.

The site comprises a grassed field that is divided into two by a post and wire fence, which runs southwest-northeast across the site.

The hedgerow that borders the southwest is overgrown, extending up to 5m-10m into the site, and includes immature plum trees. An overgrown soil bank (<1m high) and dumpy bags full of gravel chippings are also present in this area.

At the time of the soakaway testing, multiple areas of disturbed ground were present across the site, presumed to have been recent excavations/ trenching (probably for archaeological investigations).

The site is bordered to the northeast by a footpath before housing, to the northwest by residential properties, to the southwest by a mixed deciduous hedgerow and footpath, before fields, to the south and southeast by mixed deciduous trees before White Street and a footpath. Mature deciduous trees are also present adjacent to the eastern corner (off-site).

2.3 Site Geology

The British Geological Survey (BGS) map of the area indicates the site to be underlain by Cretaceous Upper Greensand Formation, which is described as fine-grained silty sand and sandstone.



3 PREVIOUS INVESTIGATION

The site was the subject of a Phase 2: Geotechnical Investigation and Contamination Assessment Report (ref: CM/SR/24385/P2GICAR/01; dated February 2025). The reader is referred to this report for further information; however, the salient points to this current investigation are provided below.

Six windowless sample boreholes and six trial pits typically encountered ground conditions of:

- TOPSOIL, to depths of between 0.20m and 0.40m, underlain by...
- Firm greenish brown (locally gravelly) sandy silty CLAY (Upper Greensand Formation), to depths of between 0.50m and 1.60m, generally underlain by...
- Medium dense to dense greenish grey (clayey/ silty) SAND (Upper Greensand Formation), to depths of between 1.10m and 2.20m, underlain by...
- Weak to medium strong greenish grey or grey SANDSTONE (Upper Greensand Formation), to depths of between 1.10m and 2.20m.
- No groundwater was encountered within any of the exploratory holes.

In-situ soakaway testing was undertaken at six locations across the site.

In TPs 03, 04, and 06, water level falls of 0.21m, 0.01m and 0.25m, respectively, were recorded over the course of the day. In TP01 and TP05, no discernible water level fall was recorded. All of these tests failed to reach 25% of the effective depth, and so no soil infiltration calculations were possible.

These results indicated that at five of the six locations tested, the ground is insufficient permeable for soakaway/ infiltration drainage.

In TP02, only one trial was completed during the day, producing a soil infiltration of 1.28×10^{-5} m/s. However, it was noted that for the testing to be in accordance with BRE 365, it needs to be carried out three times, which would take at least three days to complete, and typically produces a lower soil infiltration rate. It was recommended that the soil infiltration rate obtained at TP02 should therefore be used for preliminary design only.

It was concluded that while some infiltration drainage may be locally achievable, these results indicate that overall the ground has a relatively low permeability and is generally not suitable for the use of soakaway drainage.

On-site attenuation combined with off-site discharge was considered likely to be the most suitable drainage solution at this site.



4 FIELDWORK

4.1 General

All fieldwork was undertaken on 28, 29 & 30 October 2025.

Three in-situ soakaway tests were undertaken in general accordance with BRE Digest 365: Soakaway Design. The siting of the soakaway tests was determined by AWP, Engineering Consultants; the current soakaway tests were positioned adjacent to the more successful previous soakaway testing. The setting out of all the trial pits was the responsibility of Ruddlesden geotechnical.

Co-ordinates provided on logs were obtained using a hand-held GPS device, typically accurate to 4m.

4.2 Soakaway Testing

The trial pits were excavated to a depth deemed sufficient to represent a section of the design soakaway. The vertical sides were trimmed square. A 1500-gallon water bowser was used to supply the large volumes of water required at a quick rate.

The pits were filled with water and allowed to drain. The fall in water level was recorded with time.

Where the rates of infiltration allowed, the test was carried out three times to simulate the ground conditions once the soakaway becomes active.

Trial pit logs and photographs, showing the ground conditions encountered, are presented in Appendix A and Appendix B, respectively, the soakaway testing results with soil infiltration rate calculations are presented in Appendix C, and a plan showing the soakaway test locations is presented in Appendix D.

4.3 Groundwater Monitoring

In addition, two boreholes were formed to depths of 5.80m and 5.70m below ground level using conventional rotary open hole drilling techniques.

Details of the ground conditions encountered and monitoring well installations are provided on the logs appended to this report (Appendix A). The borehole locations are shown on the Exploratory Hole Location Plan (Dwg. No. 24385/02, Appendix D).

A 50mm-diameter HDPE tube was installed into each of the boreholes. The tubing was slotted from the base of the borehole to a level of 1.00m below ground level. The slotted section was surrounded by pea gravel and the upper 1.00m was surrounded by a bentonite seal. A lockable metal cover was cemented into place on each of the installations to facilitate long-term groundwater monitoring. Water level dataloggers were installed into both of the boreholes.

A water level datalogger is an instrument that automatically and continuously records fluctuations in water level, by using a pressure sensor to measure water pressure above the water level datalogger zero measurement point. Atmospheric pressure is also recorded, to allow the water level data to be barometrically compensated.

Water level data logs are stored in the datalogger's memory and are downloaded periodically. The water levels are currently scheduled to be downloaded in November/ December 2025 and May/ June 2026.



4.4 Limitations of Investigation

Due to slow rates of infiltration, only one test was undertaken in TP03A and TP06A.



5 RESULTS OF THE INVESTIGATION

5.1 General

The following sections provide a summary of ground conditions encountered and soakaway testing results. Further details are provided in the appendices of this report.

5.2 Ground Conditions Encountered

5.2.1 Topsoil

Black and dark brown slightly gravelly silty clay was typically encountered to depths of 0.30m below existing ground levels.

5.2.2 Natural Geology

Upper Greensand Formation

Beneath the topsoil, greenish brown (locally slightly gravelly) sandy silty clay was encountered to depths of between 0.70m and 1.60m.

Beneath the clay, greenish grey or bluish grey (clayey/ silty) sand was encountered to depths of between 1.80m and 2.20m.

5.3 Groundwater

No groundwater was encountered in any of the trial pits or boreholes during the investigation.

Groundwater levels were also recorded in the two boreholes formed as part of this current investigation and three of the boreholes installed as part of the previous investigation

Table 4.1: Recorded Groundwater Levels (27/10/25)

Hole ID	Installation Depth (mBGL)	Water Level (mBGL)
BH01	5.78	Dry
BH02	5.65	Dry
WS01	2.00	Dry
WS05	1.80	Dry
WS06	1.70	Dry



5.4 Soakaway Test Results

Full details of the soakaway testing results are provided in Appendix C of this report and are summarised in the table below:

Table 4.2: Summary of Soakaway Test Results

Test No.	Base Depth of Soakaway Test (mBGL)	Total Recorded Water Level Fall (m)	Duration of Test (minutes)	Soil Infiltration Rate (m/s)
TP02A	2.20	0.64	900	3.69×10^{-6}
TP03A	1.80	0.29	409	*
TP06A	2.20	0.29	367	*

* Test failed to reach 25% of the effective depth. No soil infiltration rate calculation possible.



6 DISCUSSION OF RESULTS AND RECOMMENDATIONS

Soakaway/ infiltration drainage are proposed as a means of surface water drainage for the residential development of land to the northwest of White Street, West Lavington. The proposed location of the drainage pond is shown on the Exploratory Hole Location Plan (Appendix D of this report).

In TP03A and TP06A, water level falls of 0.29m were recorded over the course of the day. Both of these tests failed to reach 25% of the effective depth, and so no soil infiltration rate calculations are possible. These results indicate that the ground is insufficiently permeable for the use of soakaway/ infiltration drainage at these locations and depths. Conservative extrapolation of these results indicates that the test would take around between 1,000 minutes (16 hours) and 1,600 minutes (26 hours) to reach 25% of the effective depth and that this would produce a soil infiltration in the order of 1×10^{-6} m/s, which while unsuitable for soakaway drainage design, may be used for interception drainage design.

In the location and depth of TP02A, soil infiltration rate of 3.69×10^{-6} m/s has been produced. This value should be used for infiltration drainage design at this location and depth. Note that the final reading had to be conservatively extrapolated for calculations to be undertaken, but this is considered to be acceptable given the consistency of the results.

Contamination testing has been undertaken as part of a previous investigation and no elevated levels of contamination were recorded. It is therefore considered soakaway drainage will not cause mobilisation of contaminants. However, all soakaways should be built beneath any made ground, which could potentially be generically contaminated.

From an assessment of the site's topography, i.e. gently sloping, it is considered soakaway drainage will not cause slope instability.

No groundwater was encountered in any of the trial pits or boreholes undertaken as part of this or the previous investigation (maximum depth 5.80m). Long-term groundwater monitoring is currently being undertaken to confirm the seasonal high groundwater table.



APPENDIX A

EXPLORTAORY HOLE RECORDS



KEY TO TRIAL PIT AND BOREHOLE LOGS AND FIELD DESCRIPTORS



Key to Trial Pit and Borehole Logs (Common Symbols)

Strata legend



Made Ground

Topsoil

Clay

Silt

Sand

Gravel

Peat

Composite soil types will be signified by combined symbols, e.g. silty sand



Chalk

Limestone

Coal

Mudstone

Siltstone

Sandstone

Fine grained igneous rock (e.g. basalt)

Medium grained igneous rock (e.g. granite)

Fine grained metamorphic rock (e.g. slate)

Groundwater



Groundwater strike



Standing groundwater level

Installations



Cement seal

Bentonite seal

Filter pack (slotted pipe)

Samples

D	Small disturbed sample
ES	Environmental sample (contamination)
B	Disturbed bulk sample
U100	Undisturbed sample (100mm diameter)
W	Water sample

Rotary drilling

TCR	Total core recovery (%)
SCR	Solid core recovery (%)
RQD	Rock quality designation (%)
FI	Fracture index (fractures/m)
NI	Non-intact

In-situ testing

SPT	Standard Penetration Test (split spoon sampler)
SPT(C)	Standard Penetration Test (solid cone)
V	Shear vane test
CBR	California Bearing Ratio

SPT results (examples)

30	N-Value (blows recorded for 300mm penetration, following 150mm seating drive)
50/125	50 blows for 125mm penetration



TRIAL PIT LOGS

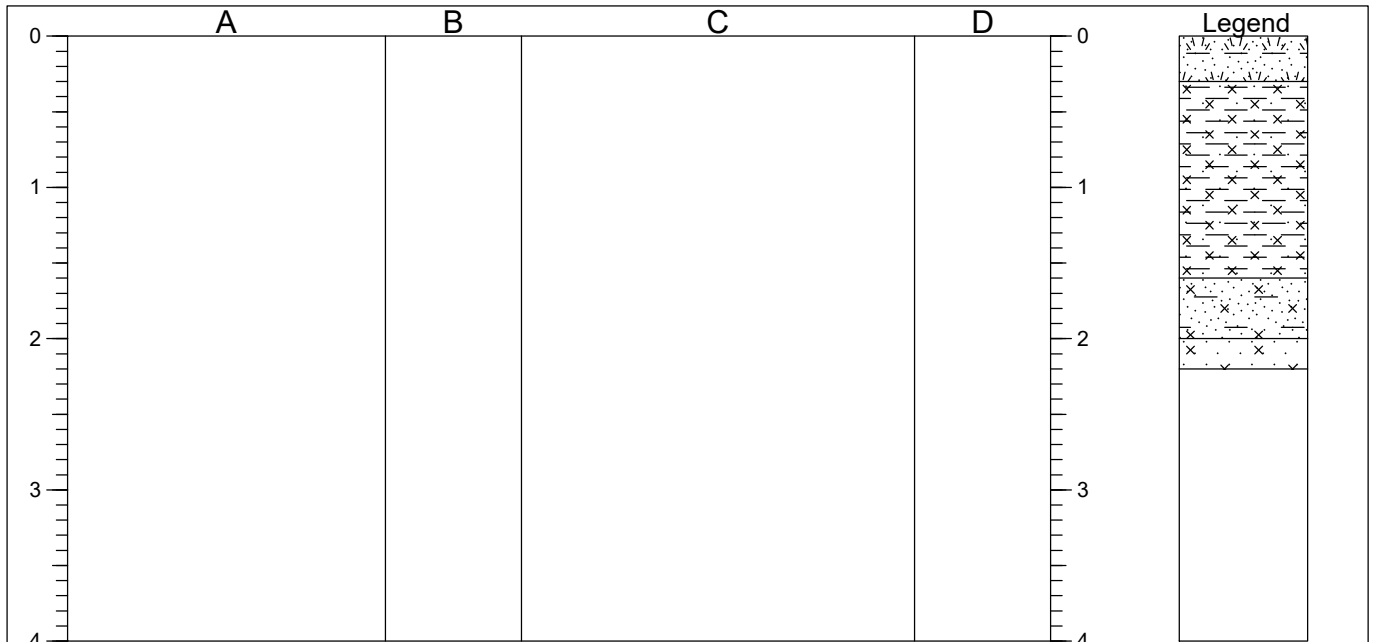




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TRIAL PIT LOG

Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				Trial Pit No TP02A
Job No 24385	Date 28-10-25	Ground Level (mAOD) 86.3	Co-Ordinates (BNG) E 400456 N 153203	
Contractor	Method/ Plant JCB 4CX			Sheet 1 of 1



STRATA				SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	Type	Remarks/Tests	
0.00-0.30		TOPSOIL: Black and dark brown slightly gravelly silty clay with frequent rootlets.				
0.30-1.60		Greenish brown very sandy silty CLAY. (Upper Greensand Formation).				
1.60-2.00		Greenish grey very clayey/ silty SAND. (Upper Greensand Formation).				
2.00-2.20		Grey silty SAND. (Upper Greensand Formation).				

Shoring/Support: None. Stability: Stable. Groundwater: None encountered.		GENERAL REMARKS 1. Trial pit terminated at 2.20m due to difficult excavation. 2. Soakaway test undertaken. 3. Ground level estimated from topographic survey.	

All dimensions in metres Scale 1:50	Client: C G Fry and Son Ltd	Logged By CM
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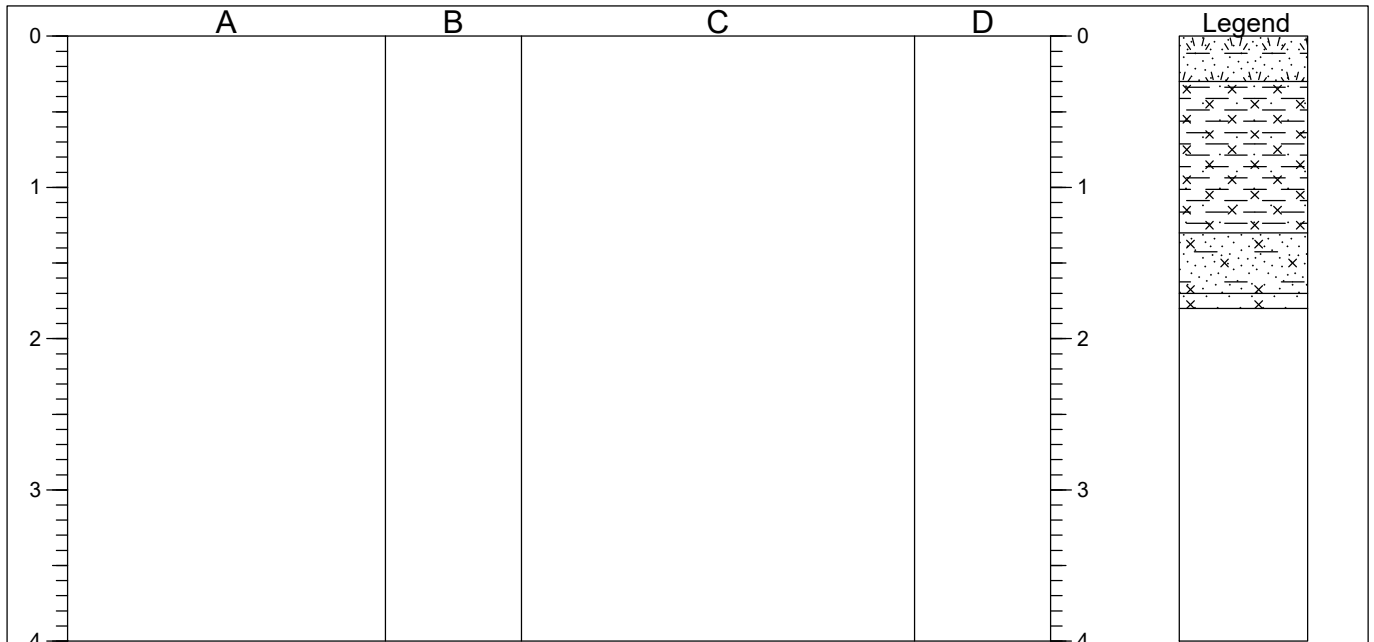
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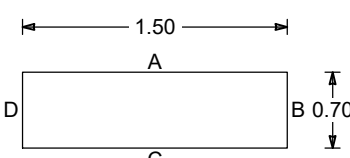
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TRIAL PIT LOG

Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				Trial Pit No TP03A
Job No 24385	Date 28-10-25	Ground Level (mAOD) 87.2	Co-Ordinates (BNG) E 400422 N 153252	
Contractor	Method/ Plant JCB 4CX			Sheet 1 of 1



STRATA				SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	Type	Remarks/Tests	
0.00-0.30		TOPSOIL: Black and dark brown slightly gravelly silty clay with frequent rootlets.				
0.30-1.30		Greenish brown very sandy silty CLAY. (Upper Greensand Formation).				
1.30-1.70		Greenish grey very clayey/ silty SAND. (Upper Greensand Formation).				
1.70-1.80		Grey silty SAND. (Upper Greensand Formation).				

Shoring/Support: None. Stability: Stable. Groundwater: None encountered. 		GENERAL REMARKS 1. Trial pit terminated at 1.80m due to difficult excavation. 2. Soakaway test undertaken. 3. Ground level estimated from topographic survey.	
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All dimensions in metres Scale 1:50	Client: C G Fry and Son Ltd	Logged By CM
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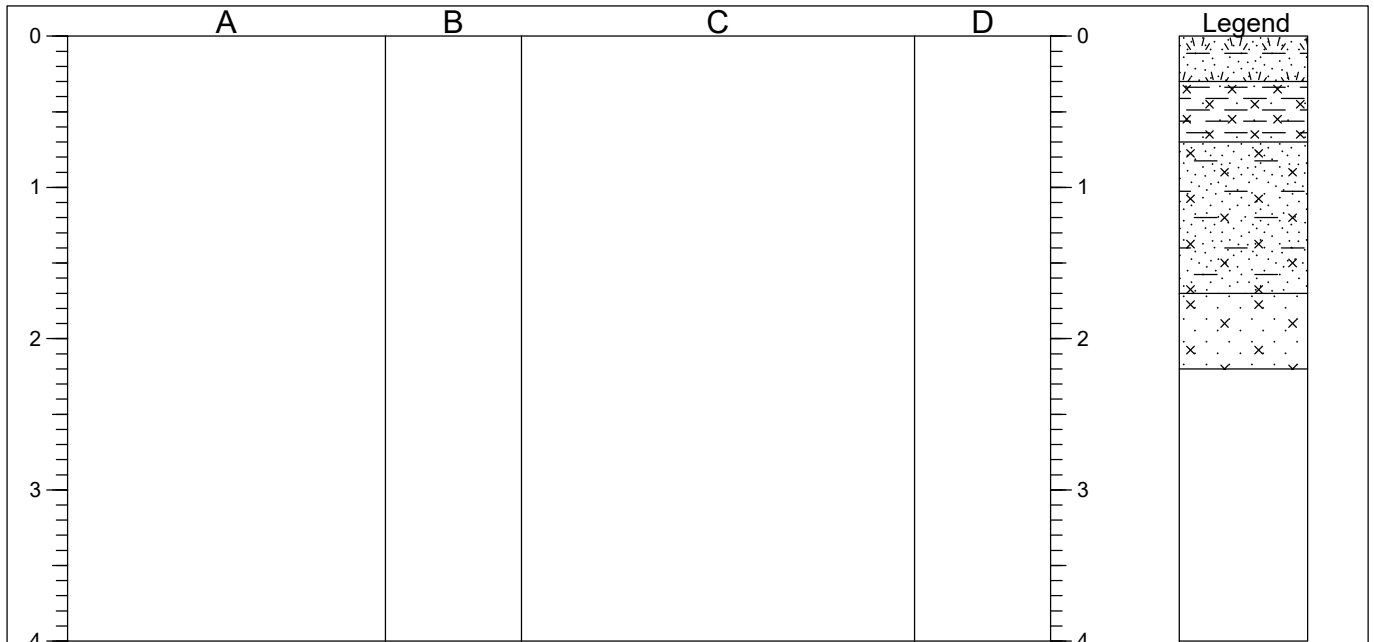
AGS3 UK TP 24385 - LAND NORTHWEST OF WHITE STREET, WEST LAVINGTON, DEVIZES, WILTSHIRE.GPJ AGS 3_1.GDT 11/10/25



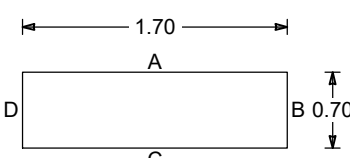
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TRIAL PIT LOG

Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				Trial Pit No TP06A
Job No 24385	Date 28-10-25	Ground Level (mAOD) 88.4	Co-Ordinates (BNG) E 400348 N 153293	
Contractor	Method/ Plant JCB 4CX			Sheet 1 of 1



STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	Type	Remarks/Tests
0.00-0.30		TOPSOIL: Black and dark brown slightly gravelly silty clay with frequent rootlets.			
0.30-0.70		Greenish brown very sandy silty CLAY. (Upper Greensand Formation).			
0.70-1.70		Greenish grey very clayey/ silty SAND. (Upper Greensand Formation).			
1.70-2.20		Bluish grey and green silty SAND. (Upper Greensand Formation).			

Shoring/Support: None. Stability: Stable. Groundwater: None encountered. 		GENERAL REMARKS 1. Trial pit terminated at 2.20m due to difficult excavation. 2. Soakaway test undertaken. 3. Ground level estimated from topographic survey.	
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All dimensions in metres Scale 1:50	Client: C G Fry and Son Ltd	Logged By CM
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AGS3 UK TP 24385 - LAND NORTHWEST OF WHITE STREET, WEST LAVINGTON, DEVIZES, WILTSHIRE.GPJ AGS 3_1.GDT 11/10/25

BOREHOLE LOGS





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ROTARY OPEN HOLE BOREHOLE LOG

Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				BOREHOLE No BH01
Job No 24385	Date 27-10-25	Ground Level (mAOD) 86.00	Co-Ordinates (BNG) E 400461 N 153206	
Contractor Geologic Coreholes	Method/ Plant Comacchio 305			Sheet 1 of 1

RUN DETAILS						STRATA			Instrument/ Backfill
Depth Date	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thick- ness)	DESCRIPTION			
						Discontinuities	Details	Main	
			85.70		0.30		TOPSOIL: Brown clay.		
							Greenish grey clayey SAND.		
									
			80.20		5.80				

Drilling Progress and Water Observations							GENERAL REMARKS
Date	Time	Depth	Casing	Water Depth	Strike	Water Standing	
							1. Strata descriptions based on observations from arisings. 2. No groundwater encountered. 3. Groundwater monitoring well installed. 4. Ground level estimated from topographic survey.

All dimensions in metres Scale 1:50	Client: C G Fry and Son Ltd	Logged By CM
--	--------------------------------	-----------------

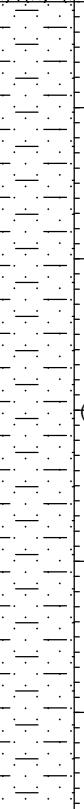
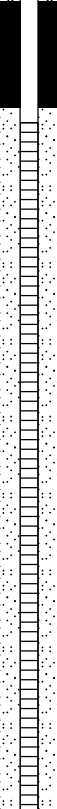
ROTARY OPEN HOLE LOG 24385 - LAND NORTHWEST OF WHITE STREET, WEST LAVINGTON, DEVIZES, WILTSHIRE.GPJ AGS 3_1.GDT 11/10/25



Ruddlesden geotechnical
65 Langaton Lane
Pinhoe, Exeter, EX1 3SP
01392 678082
mail@ruddlesden.co.uk

ROTARY OPEN HOLE BOREHOLE LOG

Project Land to the Northwest of White Street, West Lavington, Devizes, Wiltshire				BOREHOLE No BH02
Job No 24385	Date 27-10-25	Ground Level (mAOD) 87.20	Co-Ordinates (BNG) E 400425 N 153243	
Contractor Geologic Coreholes	Method/ Plant Comacchio 305			Sheet 1 of 1

RUN DETAILS						STRATA			Instrument/ Backfill
Depth Date	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thick- ness)	DESCRIPTION			
						Discontinuities	Details	Main	
			86.90		0.30			TOPSOIL: Brown clay.	
					(5.40)			Greenish grey and grey clayey SAND.	
			81.50		5.70				

Drilling Progress and Water Observations							GENERAL REMARKS
Date	Time	Depth	Casing	Water Depth	Strike	Water Standing	
							1. Strata descriptions based on observations from arisings. 2. No groundwater encountered. 3. Groundwater monitoring well installed. 4. Ground level estimated from topographic survey.

All dimensions in metres Scale 1:50	Client: C G Fry and Son Ltd	Logged By CM
--	--------------------------------	-----------------

ROTARY OPEN HOLE LOG 24385 - LAND NORTHWEST OF WHITE STREET, WEST LAVINGTON, DEVIZES, WILTSHIRE.GPJ AGS 3_1.GDT 11/10/25

APPENDIX C

SOAKAWAY TEST RESULTS



Trial observations

Site Ref No : TP02A
 Site Address : White Street, West Lavington

Total excavated depth of soakaway : 2.20 m
 Ground level to invert of inflow pipe : 1.36 m

Impermeable surface area (A) : 100.00 m²
 Soil infiltration rate (f) : 3.69E-06 m/s

Rainfall ratio : 0.3
 Aggregate void : 30%

Trial No. 1		Trial No. 2		Trial No. 3	
Interval (mins)	Depth (m)	Interval (mins)	Depth (m)	Interval (mins)	Depth (m)
000	1.39	000	1.39	000	1.36
001	1.39	001	1.39	001	1.37
002	1.39	002	1.39	002	1.38
003	1.39	003	1.40	003	1.38
004	1.39	004	1.40	004	1.38
005	1.40	005	1.40	005	1.39
075	1.51	009	1.41	029	1.43
115	1.55	028	1.45	060	1.47
191	1.62	067	1.52	124	1.54
251	1.68	092	1.55	183	1.59
346	1.75	180	1.66	245	1.65
442	1.82	254	1.73	300	1.70
750	2.00	309	1.82	366	1.75
		365	1.84	420	1.78
		422	1.88	900	2.00
		650	2.00		
Rate (f) = 4.44E-06 m/s		Rate (f) = 5.07E-06 m/s		Rate (f) = 3.69E-06 m/s	

NOTE: Depth is from ground level to water level

Soakaway Test Results

In Accordance with BRE 365 "Soakaway Design"

Job Title: Land to the Northwest of White Street, West Lavington, Devizes

Job No.: 24385

Client: C G Fry and Son Ltd

Date: Oct-25

Test No. TP03A

Trial Pit Dimensions

Length (m): 1.50

Width (m):	0.70
------------	------

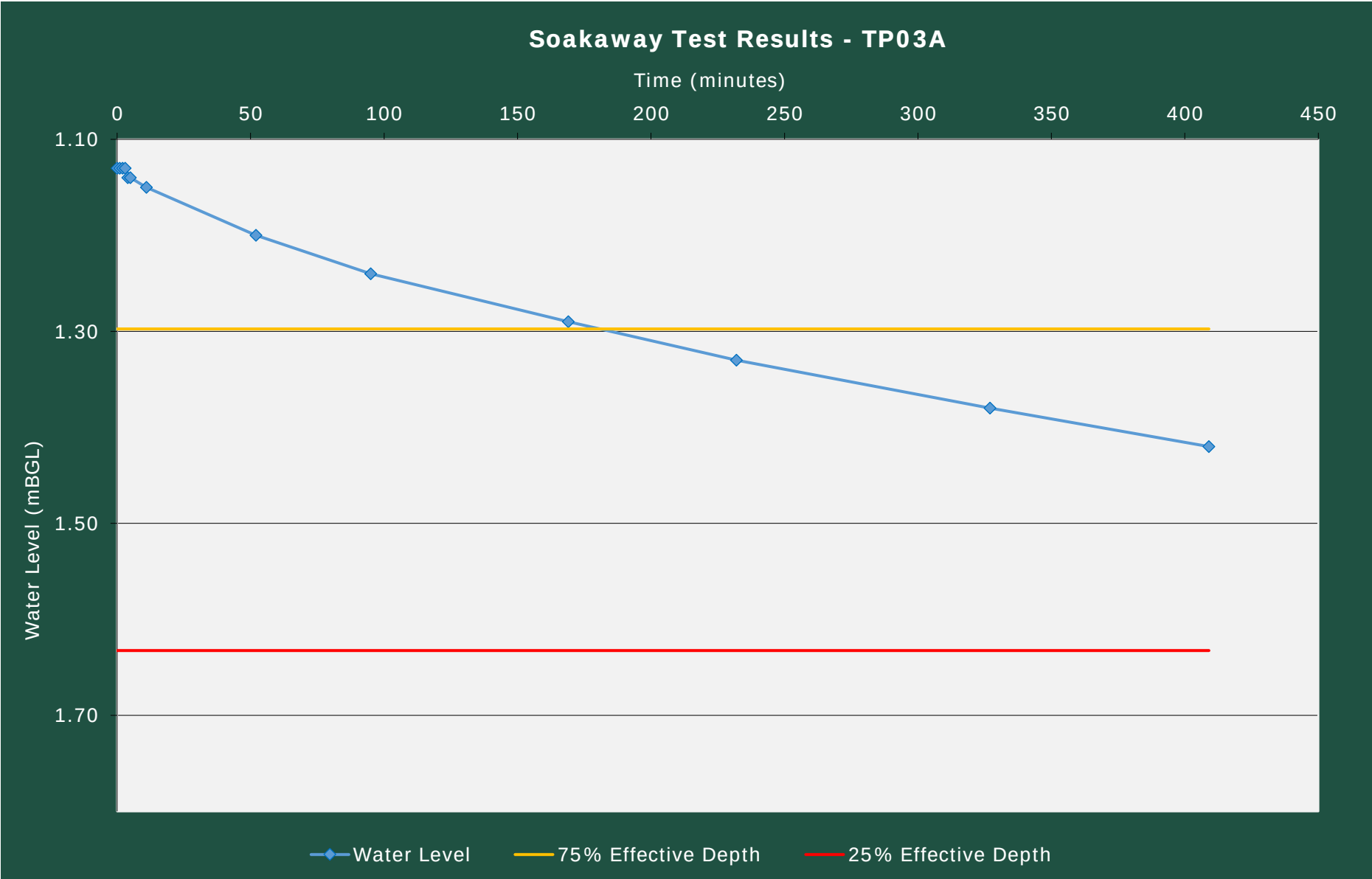
Depth (m):	1.80
------------	------

Start Water Level (m):	1.13
------------------------	------

Total Depth of Test	0.67
---------------------	------

Field Results

[illegible]



In Accordance with BRE 365 "Soakaway Design"

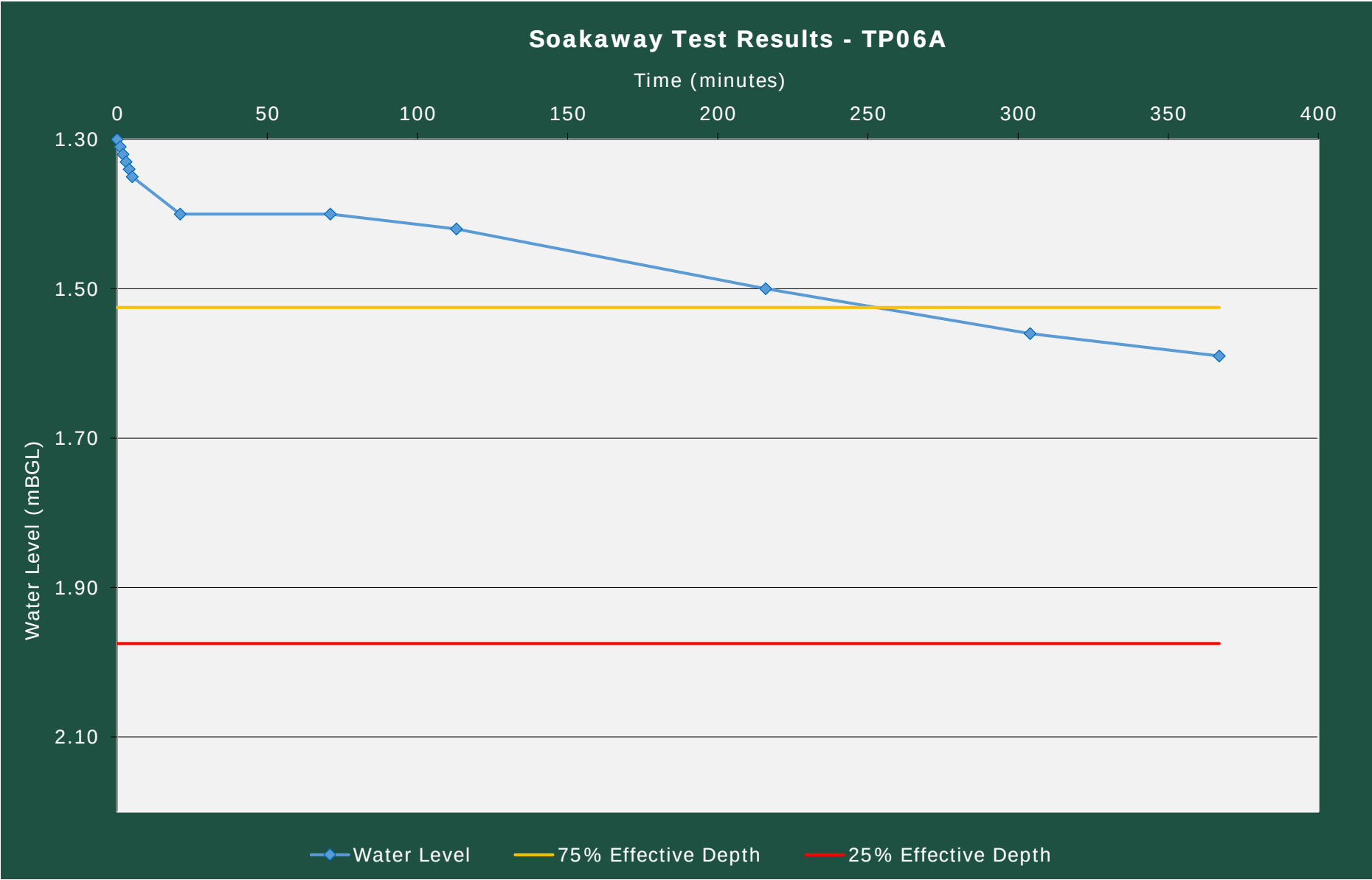
Test No. TP06A

Length (m):	1.70
Width (m):	0.70
Depth (m):	2.20
Start Water Level (m):	1.30
Total Depth of Test	0.90

[illegible]

Soakaway Test Report
Report Ref: CM/SR/24385/STR/01

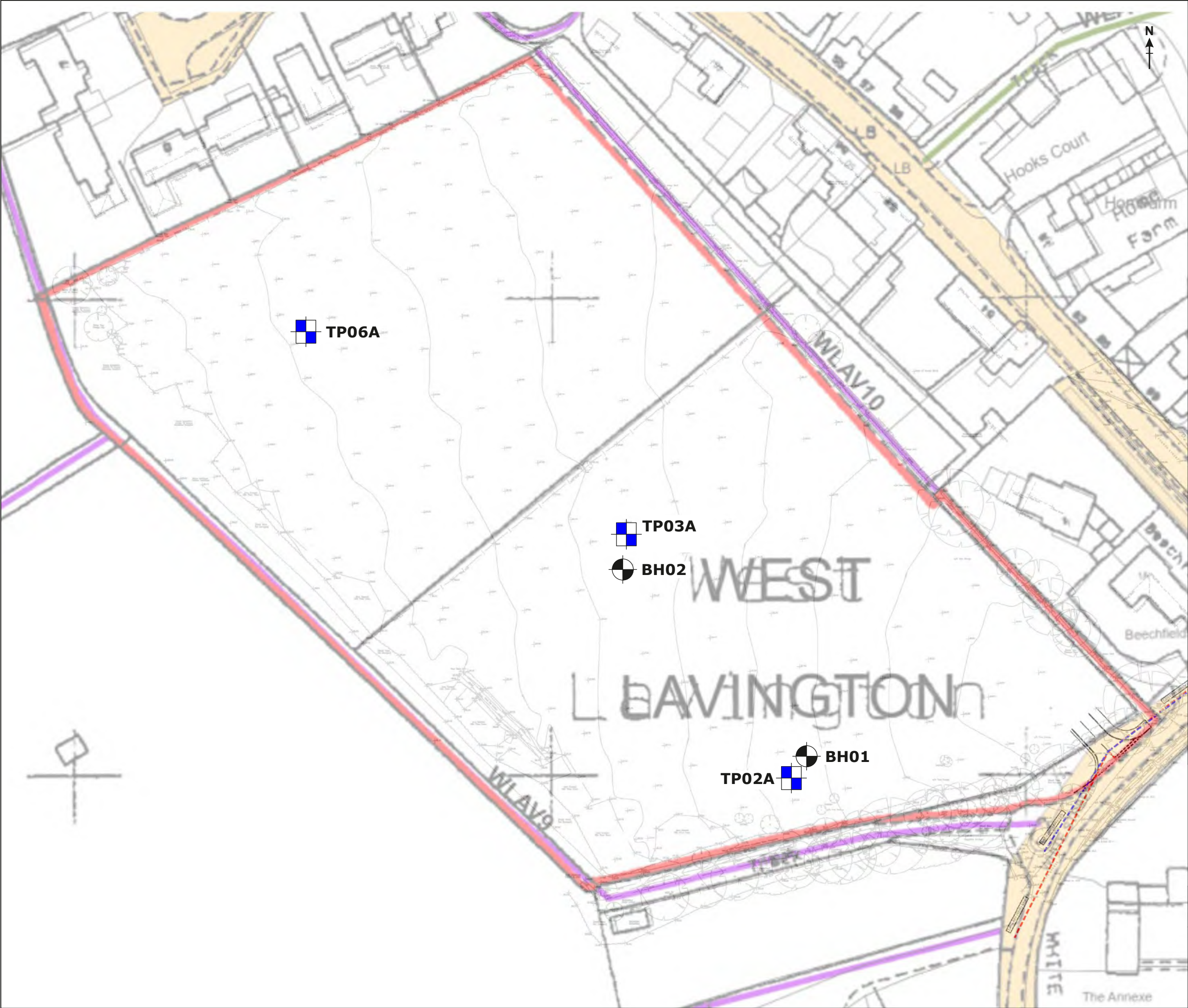




APPENDIX D

EXPLORATORY HOLE LOCATION PLAN





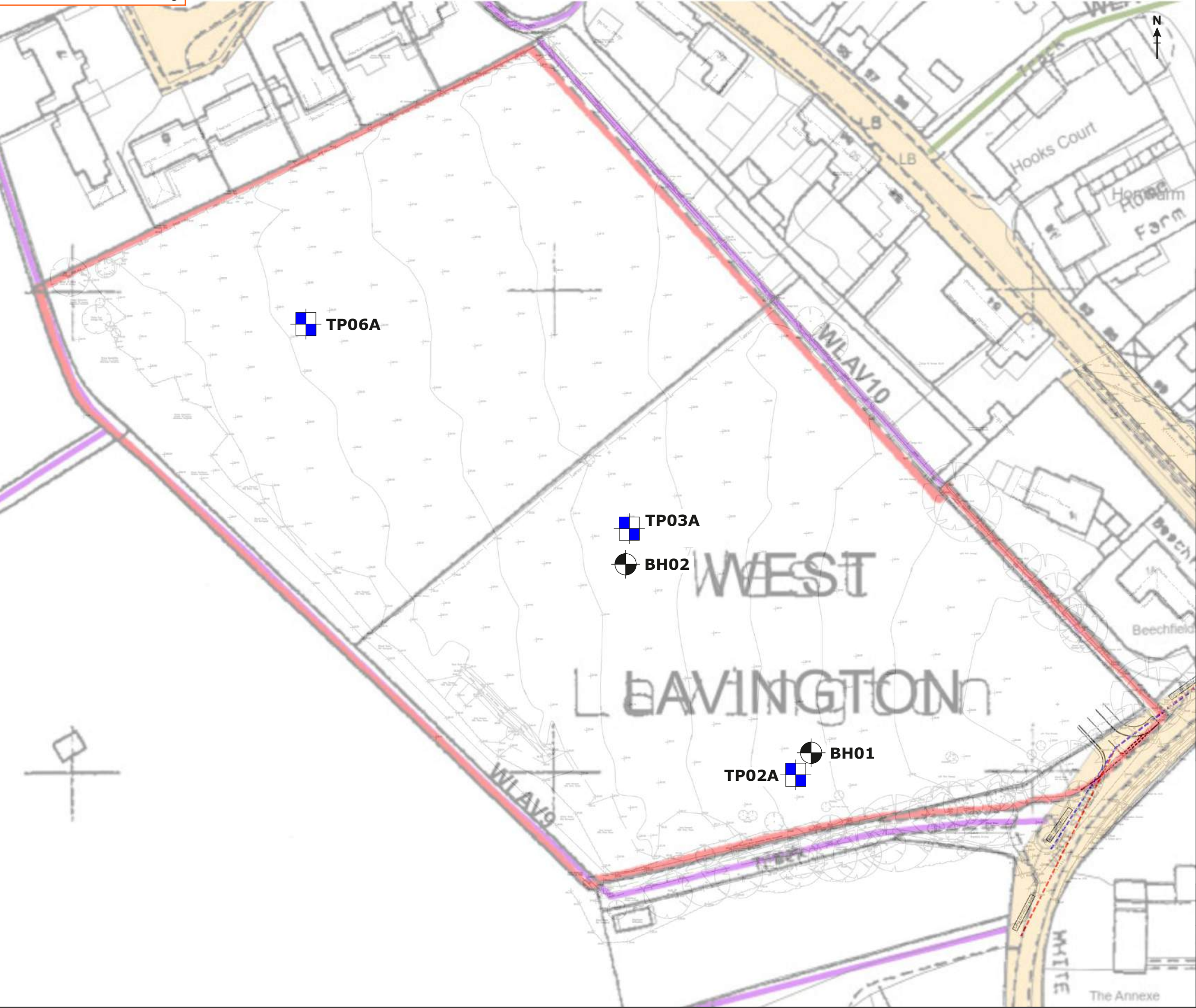
LEGEND:

-  Windowless Sample Borehole
-  Trial Pit/ Soakaway Test/
Dynamic Cone Penetrometer

NOTES:

Drawn on plan supplied by client

Job Title:	Land to the Northwest of White Street West Lavington Devizes
Drawing Title:	Exploratory Hole Location Plan
Client:	C G Fry and Son Ltd
 Ruddlesden geotechnical The Stables 65 Langaton Lane Pinhoe Exeter EX1 3SP www.ruddlesden.co.uk	
Dwg. No:	24385/03A
Date:	November 2025
Scale:	NTS



LEGEND:

-  Windowless Sample Borehole
-  Trial Pit/ Soakaway Test/
Dynamic Cone Penetrometer

NOTES:

Drawn on plan supplied by client

Job Title:	Land to the Northwest of White Street West Lavington Devizes
Drawing Title:	Exploratory Hole Location Plan
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 Ruddlesden geotechnical The Stables 65 Langaton Lane Pinhoe Exeter EX1 3SP www.ruddlesden.co.uk	
Dwg. No:	24385/03A
Date:	November 2025
Scale:	NTS

Groundwater Monitoring Results

Job Title: Land Northwest of White Street, West Lavington
Job No.: 24385
Client: C G Fry and Son
Monitoring Period: Oct 25 to Dec-25

Datalogger Information		
	BH01	BH02
Depth to Sensor Tip	5.00	5.00
Date of Peak Reading	N/A	N/A
Peak Water Level	DRY	DRY

Manual Readings		
	BH01	BH02
Installation Depth	5.78	5.65
27/10/2025	DRY	DRY
08/12/2025	DRY	DRY

Note: All measurements are in mBGL.



Land Northwest of White Street, West Lavington Groundwater Levels BH01 (Datalogger Results)

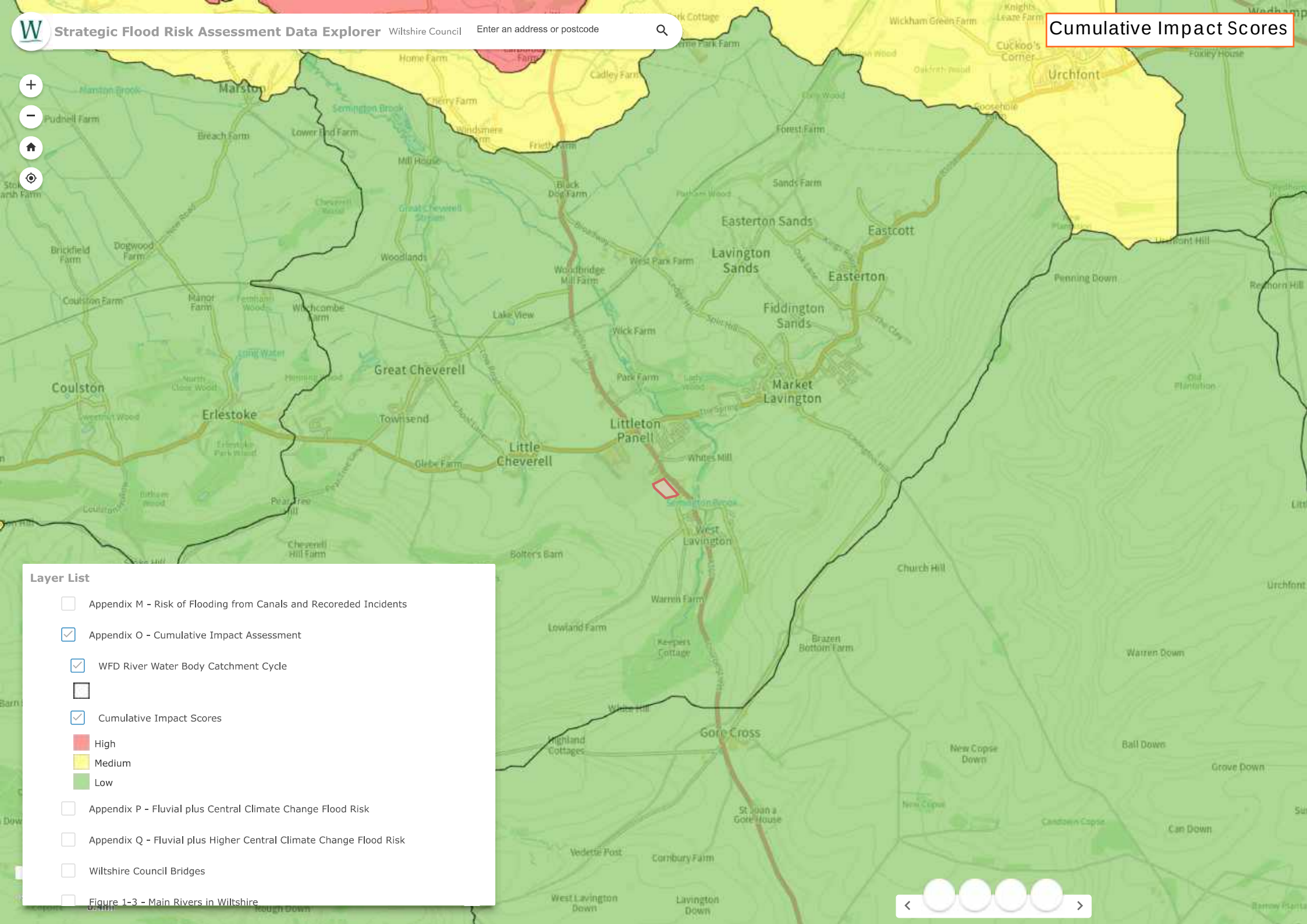


Land Northwest of White Street, West Lavington Groundwater Levels BH02 (Datalogger Results)





Appendix E Strategic Flood Risk Assessment Extracts



Layer List

- ☐ Appendix M - Risk of Flooding from Canals and Recorded Incidents
- ☒ Appendix O - Cumulative Impact Assessment
 - ☒ WFD River Water Body Catchment Cycle
 - ☐ Cumulative Impact Scores
 - High
 - Medium
 - Low
- ☐ Appendix P - Fluvial plus Central Climate Change Flood Risk
- ☐ Appendix Q - Fluvial plus Higher Central Climate Change Flood Risk
- ☐ Wiltshire Council Bridges
- ☐ Figure 1-3 - Main Rivers in Wiltshire





Legend

Flood Warning Areas (EA)



Flood Alert Areas (EA)



loading...

100m
300ft





Layer List

☐ Appendix F - Impact of Climate Change on RoFSW

☒ Appendix G - Groundwater Emergence

☒ Groundwater Emergence

 This zone is deemed as having a negligible risk from groundwater flooding due to the nature of the local geological deposits.

 Flooding from groundwater is not likely.

 There is a risk of flooding to subsurface assets but surface manifestation of groundwater is unlikely.

 Within this zone there is a risk of groundwater flooding to surface and subsurface assets.

 There is the possibility of groundwater emerging at the surface locally.

 Within this zone there is a risk of groundwater flooding to both surface and subsurface assets.

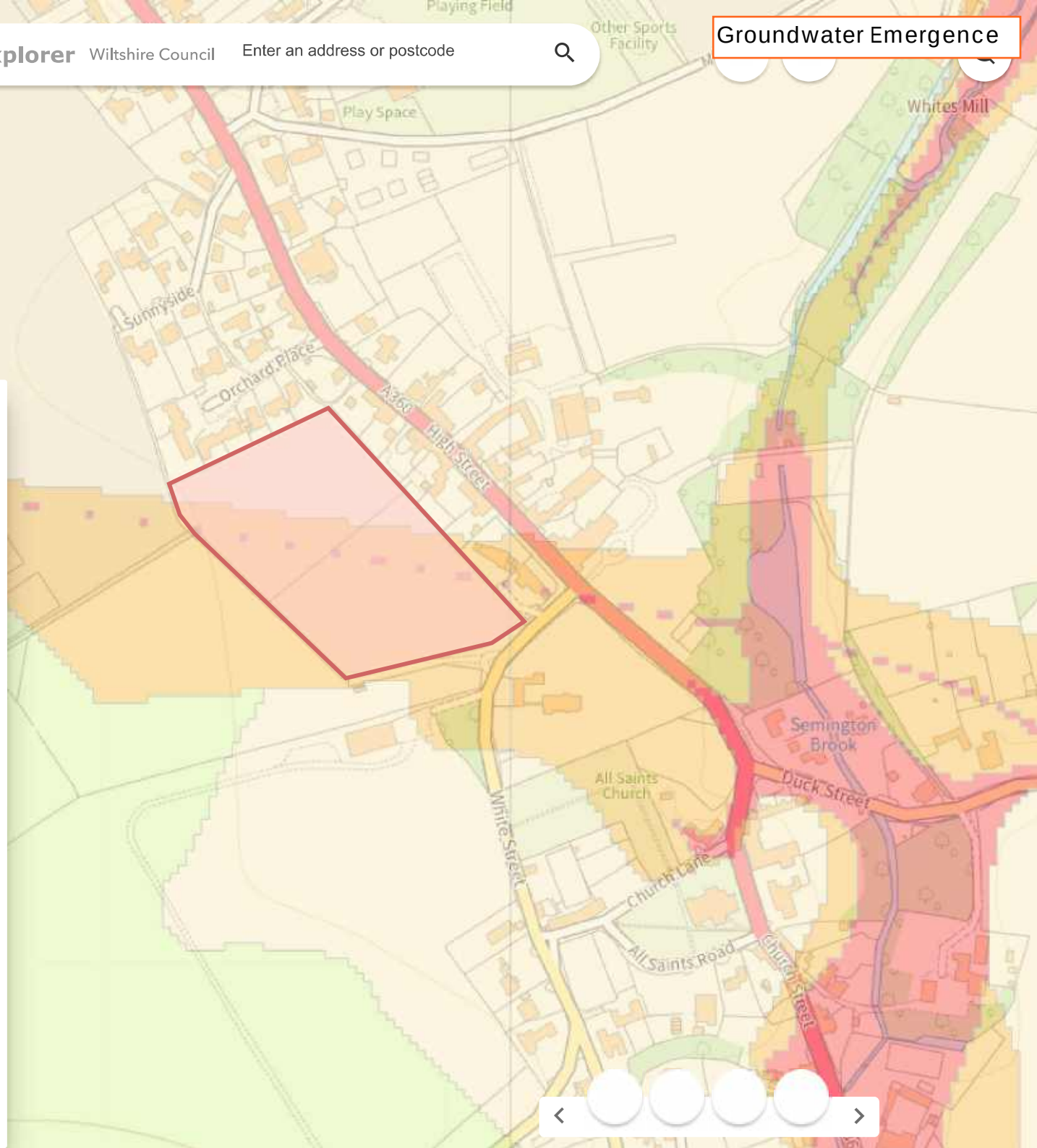
 Groundwater may emerge at significant rates and has the capacity to flow overland and/or pond within any topographic low spots.

☐ Appendix H - Risk of Flooding from Reservoirs

☐ Appendix I - Risk of Flooding from Sewers

☐ Appendix J - Recorded Flood History

☐ Appendix K - Flood Alert and Warning Areas





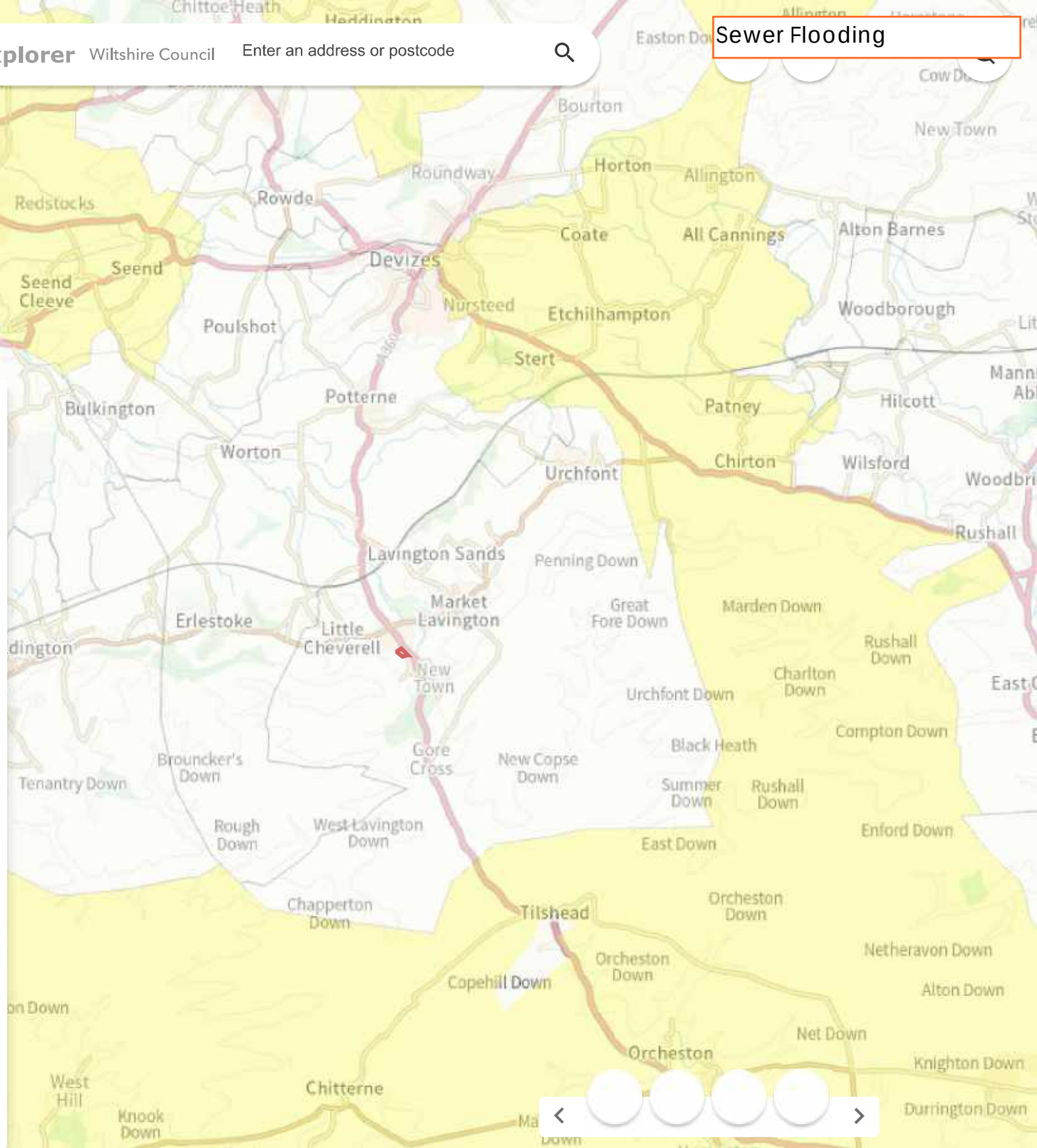
Layer List

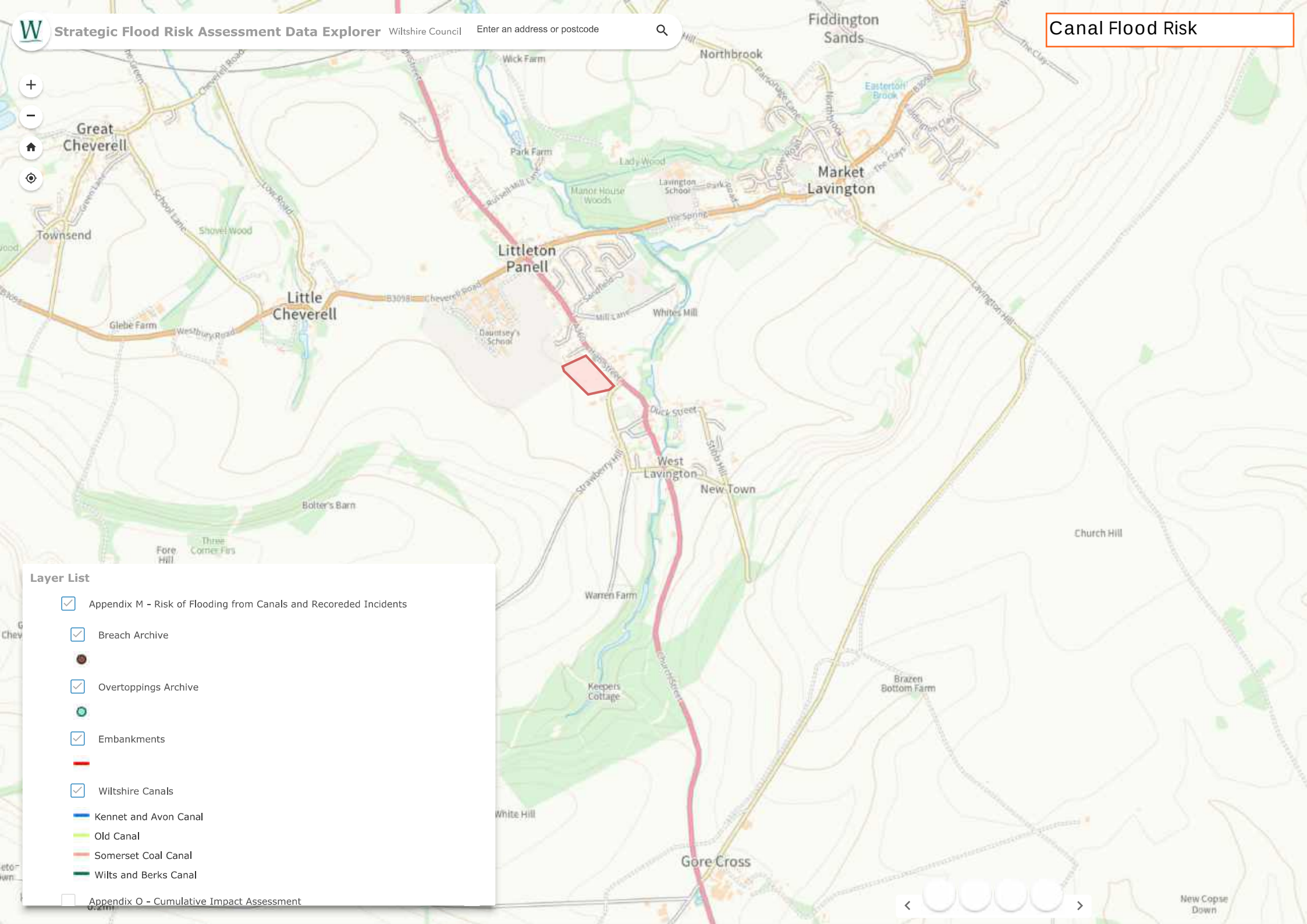
- ☐ Appendix F - Impact of Climate Change on RoFSW
- ☐ Appendix G - Groundwater Emergence
- ☐ Appendix H - Risk of Flooding from Reservoirs
- ☒ Appendix I - Risk of Flooding from Sewers

☒ Sewer Flood Incidents

- ☐ 0
- ☐ 1 - 10
- ☐ 11 - 20
- ☐ 20 - 50
- ☐ 100 - 130
- ☐ >200

- ☐ Appendix J - Recorded Flood History
- ☐ Appendix K - Flood Alert and Warning Areas
- ☐ Appendix L1 - Type of Flood Defences
- ☐ Appendix L2 - Flood Defences Standard of Protection
- ☐ Appendix L3 - Condition of Flood Defences





Layer List

☒ Appendix M - Risk of Flooding from Canals and Recorded Incidents

☒ Breach Archive



☒ Overtoppings Archive



☒ Embankments



☒ Wiltshire Canals

☒ Kennet and Avon Canal

☒ Old Canal

☒ Somerset Coal Canal

☒ Wilts and Berks Canal

☐ Appendix O - Cumulative Impact Assessment



New Copse Down



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100m
300ft

LLFA Recorded Flood Incidents: A360 Church St jtn with Church Lane

Comments	RIS attended and partially cleared. Signs erected, Div to investigate and recover signs
Date	12/4/2010, 12:00 AM
DESCRIPTIO	Large puddle around gully
Div_Office	Central
No_of_Prop	0
Road_Name	A360 Church St jtn with Church Lane
Source_of	Flooding
Storm_Retu	
Time	07:27
Town_or_Vi	West Lavington
Type of FI	Highway
Zoom to	



loading...

100m

300ft

(3 of 3)

LLFA Recorded Flood Incidents: SN10 4LG

Comments Inadequate Hydraulic Capacity
Storm Period Return 41
MetOffice SRP Exercise

Date 1/4/2014, 12:00 AM

DESCRPTIO Public - Flooding External -
Outside Boundary Total
Boundary Area Flooding 1
Total Depth of Flooding 10
Job D

Div_Office Central

No_of_Prop 0

Road_Name SN10 4LG

Source_of Sewer

Storm_Retu 41

Time 14.51

[Zoom to](#)





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100m
300ft

(1 of 2)

LLFA Recorded Flood Incidents: SN10 4LG

Comments	Inadequate Capacity
Date	1/14/2014, 12:00 AM
DESCRIPTIO	Public - Backing Up Job A
Div_Office	Central
No_of_Prop	0
Road_Name	SN10 4LG
Source_of	SPS
Storm_Retu	
Time	09.26
Town_or_Vi	West Lavington
Type_of_FI	Property
Weather	
Year	2014

[Zoom to](#)





loading...

100m
300ft



(1 of 3)

LLFA Recorded Flood Incidents: SN10 4LG

Comments	Inadequate Hydraulic Capacity Storm Period Return 100 Winter 2013/14
Date	2/7/2014, 12:00 AM
DESCRPTIO	Public - Flooding External - Outside Boundary Total Boundary Area Flooding 12 Total Depth of Flooding 1 Job D
Div_Office	Central
No_of_Prop	0
Road_Name	SN10 4LG
Source_of	Sewer
Storm_Retu	100
Time	15.42

[Zoom to](#)





loading...

100m
300ft

LLFA Recorded Flood Incidents: SN10 4LG

Comments	Inadequate Hydraulic Capacity
Date	2/25/2014, 12:00 AM
DESCRIPTION	Public - Backing Up Job A
Div_Office	Central
No_of_Prop	0
Road_Name	SN10 4LG
Source_of	Sewer
Storm_Retu	
Time	17.57
Town_or_Vi	West Lavington
Type_of_FI	Property
Weather	
Year	2014

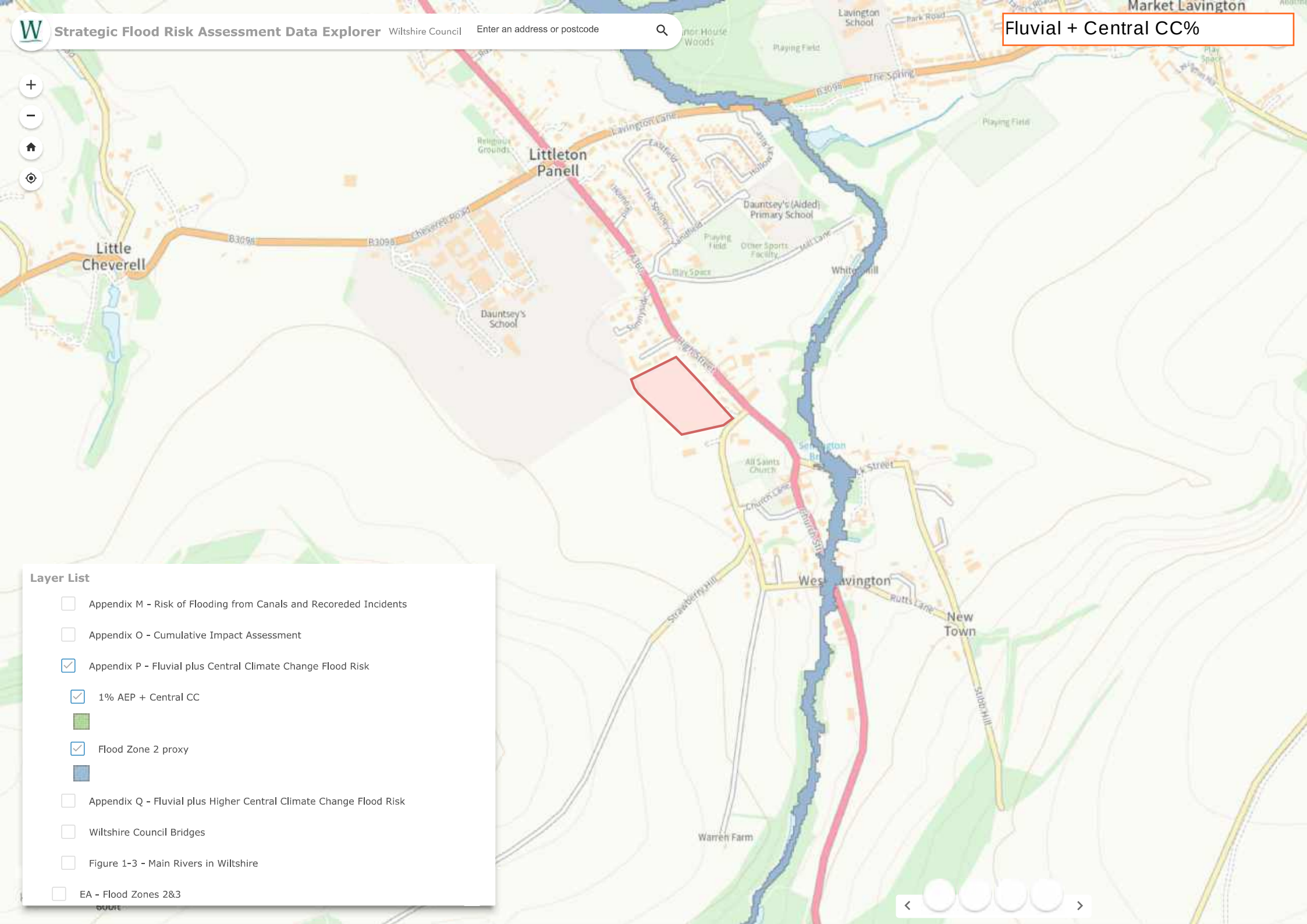
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Layer List

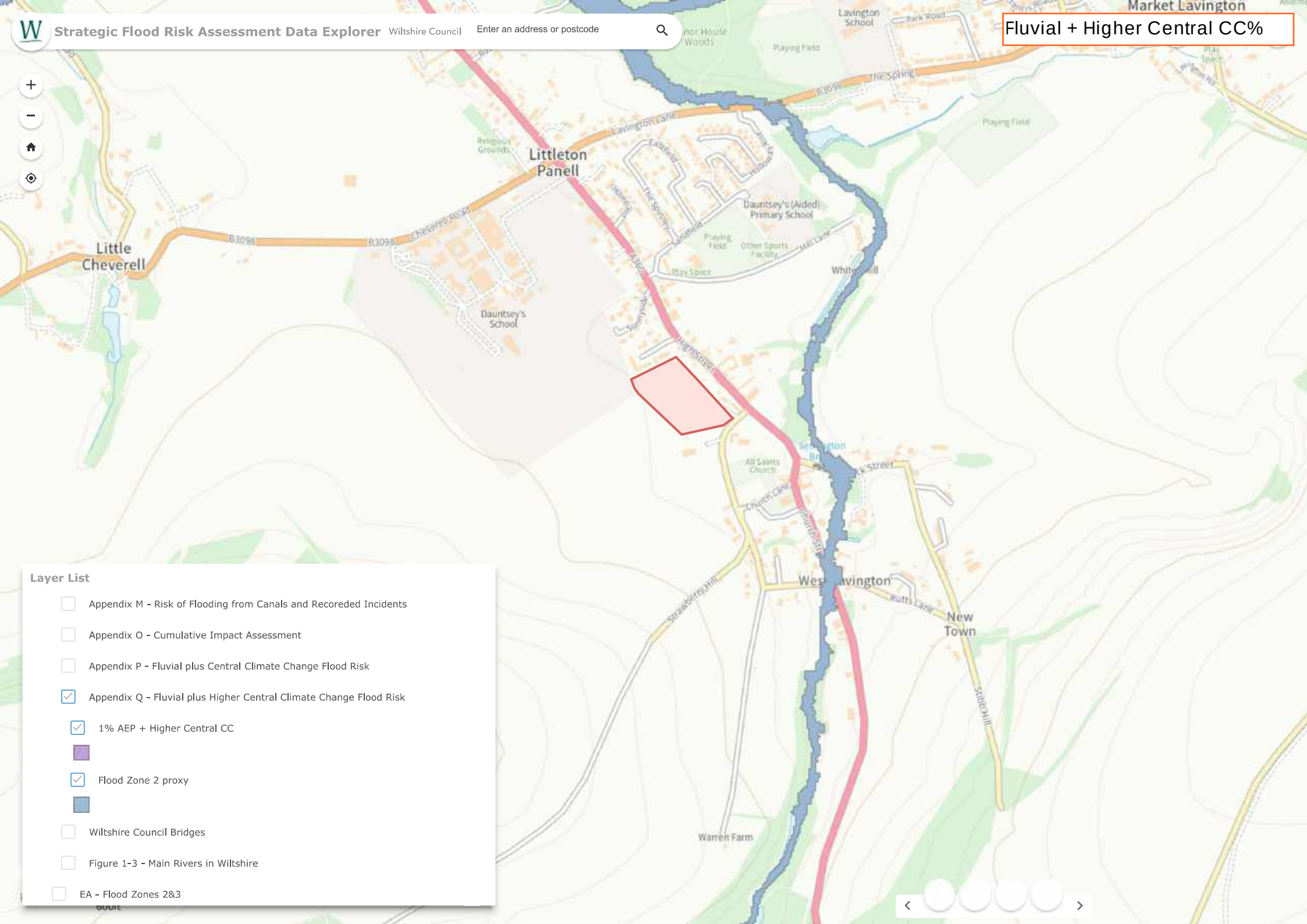
- ☐ Appendix M - Risk of Flooding from Canals and Recorded Incidents
- ☐ Appendix O - Cumulative Impact Assessment
- ☒ Appendix P - Fluvial plus Central Climate Change Flood Risk
 - ☒ 1% AEP + Central CC
 - ☒ Flood Zone 2 proxy
- ☐ Appendix Q - Fluvial plus Higher Central Climate Change Flood Risk
- ☐ Wiltshire Council Bridges
- ☐ Figure 1-3 - Main Rivers in Wiltshire
- ☐ EA - Flood Zones 2&3





Layer List

- ☐ Appendix M - Risk of Flooding from Canals and Recorded Incidents
- ☐ Appendix O - Cumulative Impact Assessment
- ☐ Appendix P - Fluvial plus Central Climate Change Flood Risk
- ☒ Appendix Q - Fluvial plus Higher Central Climate Change Flood Risk
 - ☒ 1% AEP + Higher Central CC
- ☒ Flood Zone 2 proxy
- ☐ Wiltshire Council Bridges
- ☐ Figure 1-3 - Main Rivers in Wiltshire
- ☐ EA - Flood Zones 2&3





Layer List

☒ ROFRS + Climate Change (EA) click to expand

☐ rofrs_cc01_4band_1_2m_depth

☐ rofrs_cc01_4band_0_9m_depth

☐ rofrs_cc01_4band_0_6m_depth

☐ rofrs_cc01_4band_0_3m_depth

☐ rofrs_cc01_4band_0_2m_depth

☒ rofrs_cc01_4band

☒ High
☒ Medium
☒ Low
☒ Very low
☒ Unavailable

☐ Flood Alert Areas (EA)

loading...

200m
600ft

