



ASTRA COTTAGE

Oare, Wiltshire

DRAINAGE STATEMENT

Project No	26-254-70
Revision No	00
Issue date	29/07/26

Control Sheet

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1 INTRODUCTION

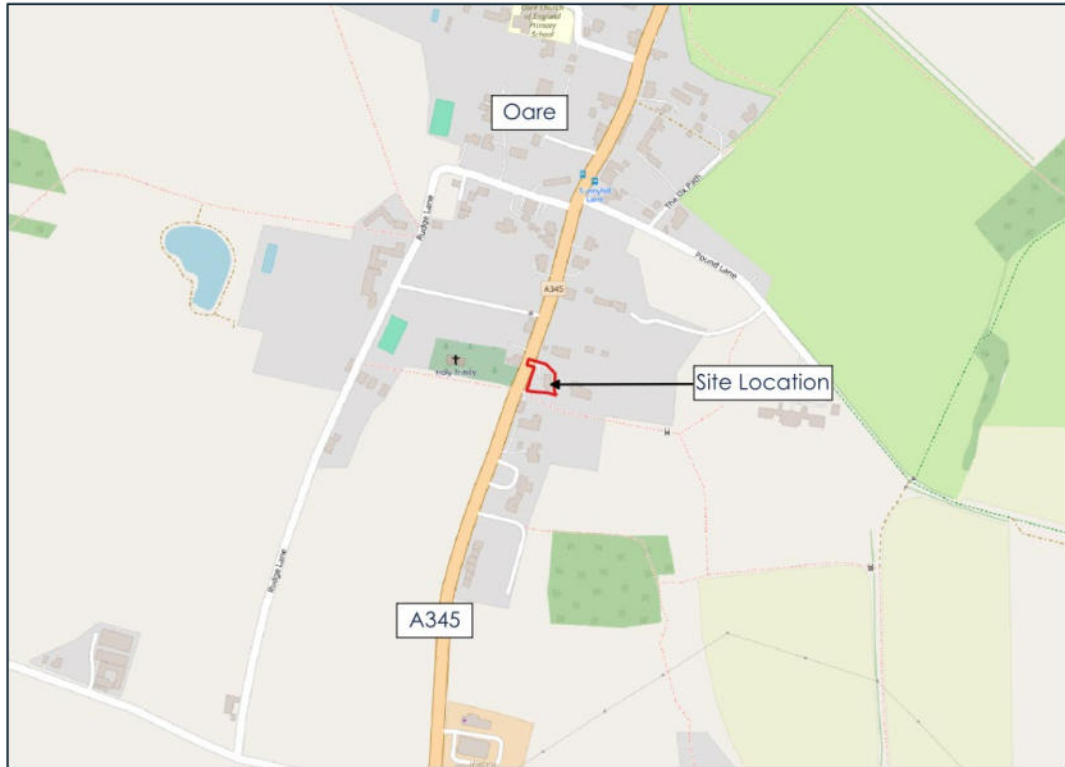
1.1 Background and Proposals

- 1.1.1 Calibro Consultants has been appointed to provide a drainage statement for a proposed replacement dwelling at Astra Cottage in Oare, Wiltshire.
- 1.1.2 This version of the statement is produced for the purposes of discharging condition 3 placed on planning application reference number PL/2026/00194, which was consented in June 2026. A copy of the decision notice is provided in Appendix A.
- 1.1.3 The proposals include demolishing the existing bungalow and associated outbuildings and the erection of a self-build replacement dwelling; with associated parking, landscaping, private amenity space and access arrangements.
- 1.1.4 The proposed dwelling will have a footprint of 150m² and will include an area of greenroof measuring approximately 20m².
- 1.1.5 Access is, and will remain, from the A345 highway adjacent to the site.
- 1.1.6 The site proposals are provided in Appendix B.

1.2 Site Location

- 1.2.1 The site is located off the A345 highway at the southern end of the hamlet of Oare in Wiltshire. The nearest postcode is SN8 4JA and approximate coordinates are 415770, 162210. The site location is shown in Figure 1-1.

Figure 1-1 Site Location



2 EXISTING SITE CONDITIONS

2.1 Hydrology and Topography

- 2.1.1 There are no known watercourses within the vicinity of the site.
- 2.1.2 There is an existing Wessex Water foul sewer that flows beneath the A345 highway before diverting east, along the northern boundary of the site. To the east of the site, the sewer journeys south, past the eastern boundary of the site. Wessex Water records are shown in Appendix C.
- 2.1.3 The surface water drainage arrangements of the existing property are unknown, but the site-specific drainage survey (Appendix C) suggests surface water discharges to the ground.
- 2.1.4 Comparison of the survey results and Wessex Water asset map demonstrates the foul drainage from the existing site discharges to the existing public sewer. As this arrangement would be replicated for the replacement dwelling, foul flows are not considered further by this report.

2.2 Geology and Soils

- 2.2.1 Regarding bedrock geology, data held by the British Geological Survey (BGS) shows that the entirety of the site and surrounding areas are underlain by '*Upper Greensand Formation*' bedrock. This is a calcareous sandstone and siltstone bedrock.
- 2.2.2 BGS mapping shows the site to fall within an area underlain by '*Head – Clay, silt, sand and gravel*' superficial deposits.
- 2.2.3 BGS mapping shows the bedrock to be a '*Moderately productive aquifer*'.
- 2.2.4 Soils mapping records the soils under the site as '*Freely draining slightly acid loamy soils*'.
- 2.2.5 Soakage testing, compliant with BRE365 specifications, has been completed in March 2026 at the site, the results of which are provided in Appendix C. The testing proceeded a wet winter and was undertaken during wet conditions on the day of the testing.
- 2.2.6 The test pits measured 0.3m wide by 1m long and 1m deep. The tests yielded three rates, $1.6 \times 10^{-5} \text{m/s}$, $6.8 \times 10^{-6} \text{m/s}$ and $6.5 \times 10^{-6} \text{m/s}$. The slowest rate of $6.8 \times 10^{-6} \text{m/s}$ will be considered by this report to ensure a conservative approach. It equates to a rate of 0.023m/hr.
- 2.2.7 Groundwater and the water table is known to be deep in the area. This is evidenced from local BGS borehole records. For example, a record from the well at Trinity

Church¹, across the A345 from the site, shows the water to be 55 feet (17m) below the ground. Other nearby records show water being stuck 22m or 25m below the ground.

¹ <https://api.bgs.ac.uk/sobi-scans/v1/borehole/scans/items/401782>

3 DRAINAGE STRATEGY

3.1 Approach

- 3.1.1 The consented drainage strategy proposes to use a soakaway beneath the rear garden.
- 3.1.2 Water from the downpipes would discharge to water butts, with their overflows discharging to raised bed SuDS planters. The final number, location and dimensions of these is subject to detailed design and site setting out. For example, they will need to remain free from access points or windows.
- 3.1.3 The key difference between the consented drainage strategy and the revised scheme introduced by this report is that the main drainage run now discharges to the soakaway via a rainwater harvesting tank.
- 3.1.4 Discharge from downpipes and/or SuDS features would be via filter drains with perforated pipes before discharge to the soakaway. The storage volume of the filter drains has been included within the calculations. The filter drains will discharge to the rainwater harvesting unit.
- 3.1.5 The soakaway itself would be constructed from Geocellular crates wrapped in permeable geotextile.
- 3.1.6 The areas contributing runoff to the soakaway would be the dwelling roof (150m²), which includes a 20m² greenroof, and the courtyard (18m²). This gives a total contributing area of 168m².
- 3.1.7 As per the consented design, the greenhouse, parking area and external patio areas are presumed to drain to ground. However, an urban creep factor of 10% has been added to the area calculations, in accordance with the National Standards for SuDS. This results in a total area of 185m².
- 3.1.8 The perforated pipes and soakaway crates would have a cover of at least 600mm.
- 3.1.9 As per the consented design, the parking and access is proposed to be formed from gravel and is therefore discounted from the drainage strategy.
- 3.1.10 MicroDrainage Source Control calculations show that soakaway crates measuring 2.4m x 3.6m with a depth of 1.2m and porosity of 0.95 would provide sufficient storage.
- 3.1.11 MicroDrainage Source Control calculations are included in Appendix E.
- 3.1.12 The resultant drainage strategy is included in Appendix F and is subject to detailed design and site setting out. For example, the type, depth and dimensions of the soakaway crates may be amended to reflect the detailed designs and procurement of the preferred crate types and manufacturer. Likewise, the greenroof details are

subject to more detailed assessment of the proposed building fabrication. The water butts and raised bed planters presence, location and dimensions are subject to visual and access considerations.

3.2 National Standards for SuDS

3.2.1 The National Standards for SuDS includes a drainage hierarchy, which requires that surface water runoff should be managed as high up the following list as practically possible:

- Priority 1 – collect for non-potable use, or then;
- Priority 2 – into the ground (infiltration), or then;
- Priority 3 – to a surface water body, or then;
- Priority 4 – to a surface water sewer, highway drain or another piped surface water drainage system, or then;
- Priority 5 – to a combined sewer.

3.2.2 To achieve Priority 1, water butts and a rainwater harvesting unit are proposed.

3.2.3 Based on the roof area likely to drain to the rainwater harvesting unit, a 5,000l capacity unit is proposed, as shown on the drainage strategy drawing in Appendix F. The location of the unit is subject to manufacturers recommendations.

3.2.4 As per the consented design, specific testing has demonstrated the ground is suitable for infiltration and this is therefore the preferred method of discharge, achieving Priority 2. Given the deep water table at the site, a significant unsaturated zone would exist beneath the infiltration device and the groundwater.

3.3 National Standard 2: Management of Everyday Rainfall

3.3.1 All runoff would be routed through the proposed filter drains, rainwater harvesting and soakaway, meaning zero piped discharge from the site in all storms, thereby achieving Standard 2.

3.3.2 It is presumed the filter drains would be impermeable lined. This would reduce the volume of water lost through the filter drains by infiltration. Although infiltration would normally be encouraged to relieve pressure on the end-of-line soakaway, in this instance losses to infiltration during low intensity events, particularly in the summer, may starve the harvesting unit, reducing its effectiveness at a time its need is greatest.

3.4 National Standard 3: Management of Extreme Rainfall and Flooding

3.4.1 The design storm event applied by the drainage strategy is the 1 in 100 year +45% event commensurate with a residential development (therefore applying the upper

end allowance for the 2070s epoch) in the Avon Hampshire Management Catchment.

- 3.4.2 As shown in the MicroDrainage calculations provided in Appendix E, the proposed filter drains and soakaway would provide sufficient storage in the design event.
- 3.4.3 The rainwater harvesting unit is located at the end of the filter drain run. The outflow from the unit would be restricted to 2l/s. Therefore, Microdrainage calculations for the filter drains have included a dummy discharge restriction to this rate, which presumes the harvesting unit is full and merely passes flow through, which is conservative.
- 3.4.4 The calculations show very minor flooding (0.4m³) in the critical duration storms. The filter drain would be overtopped by topsoil and consequently this 'flooding' would likely remain within the soil horizon and percolate to the ground. If this came to the surface, it would not cause any noticeable impacts, particularly as generally landscaped or external areas would be experiencing wet conditions.
- 3.4.5 Similarly, the soakaway may experience minor flooding (0.1m³) in the critical duration event. However, as the soakaway crest would be at least 500mm below the ground, such 'flooding' would be occupied in the soil horizon.
- 3.4.6 The soakaway capacity has been checked by applying the flow hydrograph from the critical duration event as an inflow, which is considered a proportionate approach to modelling such a multi-benefit scheme.
- 3.4.7 The calculations presume a Cv value of 1 for summer and winter storms, which is conservative as it presumes no losses which is highly unlikely.
- 3.4.8 It should be noted that the storage capacity of the harvesting unit, water butts and raised bed planters has been ignored in the calculations, meaning the system would have spare capacity to accommodate an exceedance event. The proposed dwelling drainage would also be designed to modern standards and to accommodate at least the design event, meaning the chance for exceedance flows is likely reduced when compared to the existing dwelling.
- 3.4.9 The natural slope of the site is to the east, away from the existing and proposed dwelling meaning exceedance flows would flow east, away from the dwelling.
- 3.4.10 Exceedance events would be unlikely to occur given the additional capacity in the filter drains. Such flow routes remain unchanged from the consented design and are shown in Appendix F.
- 3.4.11 As per the consented design, the revised design has been based on applying a Factor of Safety of 3, in accordance with the National Standards for SuDS. The soakage test pit was dug precisely where the soakaway will be located and at a similar depth to its proposed base. In addition, the filter drains, water butts and raised bed planters would provide additional storage capacity in repeat storms. Therefore,

there is relatively high certainty regarding the rates calculated and a lower Factor of Safety could be applied. When applying a Factor of Safety of 1.5, the half drain time is 740 minutes in the 1 in 30 year event (Appendix D).

3.5 National Standard 4: Water Quality

- 3.5.1 The proposals include filter drains, which will be wrapped in an impermeable geotextile wrap, greenroof, a soakaway and raised bed planters (bioretention features).
- 3.5.2 The SuDS Manual (CIRIA C753) states that the design of surface water drainage should consider minimising contaminants in surface water runoff discharged from the site. The level of treatment required depends on the proposed land use, according to the pollution hazard indices. To provide adequate treatment, the SuDS mitigation indices for the development must be equal to, or exceed, the pollution hazard indices.
- 3.5.3 Surface water runoff from 'residential roofs' are considered by Table 26.3 of the SuDS Manual to present a Very Low hazard to water quality (see Table 3-1).
- 3.5.4 As per the consented design, table 26.4 of the SuDS Manual provides SuDS mitigation indices for various SuDS methods discharging to the ground, as summarised in Table 3-1. This shows that the filter drains will provide sufficient mitigation of the likely pollutants expected. It should be noted that to follow a conservative approach, the greenroof, water butts and raised bed planters have been ignored from this calculation.

Table 3-1 Water Quality Indices (as per C753 The SuDS Manual)

		Pollution Hazard Level	Total suspended solids	Metals	Hydro-carbons
Land Use	Residential Roofs	Very Low	0.2	0.2	0.05
Mitigation Indices	Filter Drain	-	0.4	0.4	0.4

3.6 National Standard 5: Amenity

- 3.6.1 Given the nature and scale of the development, this standard is not entirely relevant.
- 3.6.2 The proposed greenroof, water butts, harvesting unit and raised bed SuDS planters would provide amenity value to the occupiers.

3.7 National Standard 6: Biodiversity

- 3.7.1 Given the nature and scale of the development, this standard is not entirely relevant. However, the greenroof and raised bed SuDS planters will provide biodiversity benefit

and betterment over the existing system. In addition, filter media such as permeable surfacing and filter drains can encourage the development of microbial habitats, providing supporting species for wider ecosystems.

3.8 National Standard 7: Design for Construction and Maintenance

- 3.8.1 Maintenance of the proposed drainage infrastructure is essential for their operation. The maintenance responsibility will lie with the site owner and would be subject to manufacturers requirements. The proposed maintenance activities outlined below in Table 3-2 and Table 3-3 has been sourced from the CIRIA SuDS Manual.
- 3.8.2 Maintenance of all products is subject to manufacturer's recommendations, this would include the rainwater harvesting, water butts and raised bed planters and therefore these items have not been reflected in the tables below.

Table 3-2 Filter Drain Maintenance

Maintenance Schedule	Required Action	Typical Frequency
Regular maintenance	Remove litter (including leaf litter) and debris from filter drain surface, access chambers and pre-treatment devices	Monthly (or as required)
	Inspect filter drain surface, inlet/outlet pipework and control systems for blockages, clogging, standing water and structural damage	Monthly
	Inspect pre-treatment systems, inlets and perforated pipework for silt accumulation, and establish appropriate silt removal frequencies	Six monthly
	Remove sediment from pre-treatment devices	Six monthly, or as required
Occasional maintenance	Remove or control tree roots where they are encroaching on the sides of the filter drain, using recommended methods (e.g. NJUG, 2007 or BS 3998:2010)	As required
	At locations with high pollution loads, remove surface geotextile and replace, and wash or replace the overlying filter medium	Five yearly, or as required
	Clear perforated pipework of blockages	As required

Table 3-3 Geocellular Crates Maintenance

Maintenance Schedule	Action	Frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, then annually
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
	Remove sediment from pre-treatment structures and/or internal forebays	Annually, or as required

Maintenance Schedule	Action	Frequency
Remedial Actions	Repair/rehabilitate inlets, outlets, overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment build-up and remove if necessary	Every 5 years or as required

4 SUMMARY

- 4.1.1 The proposals are for the demolition of an existing dwelling and the erection of a self-build replacement dwelling; with associated parking, landscaping, private amenity space and access arrangements.
- 4.1.2 It is understood the existing dwelling drains directly to a soakaway. Testing to BRE365 specifications demonstrates infiltration to be viable.
- 4.1.3 It is therefore proposed to discharge runoff to a soakaway beneath the rear garden.
- 4.1.4 A greenroof, rainwater harvesting unit and filter drains are proposed to provide additional storage, cleansing and slowing of flows to the soakaway. Water butts and raised bed SuDS planters would be proposed for additional cleansing, biodiversity, amenity and slowing of flows.
- 4.1.5 The various SuDS measures provide additional capacity in design or exceedance events, when compared to the existing site. This means the risk of system overload from repeat storms or exceedance is low and reduced when compared to existing.
- 4.1.6 The main changes from the design consented under planning application reference number PL/2026/00194 is the introduction of a rainwater harvesting unit. This would restrict flows from the filter drain to the soakaway, which has been reflected in revised drainage calculations for the site.
- 4.1.7 As a result of the various SuDS measures and betterment proposed, the multi-benefit drainage approach is considered to be compliant with the National Standards for SuDS.

APPENDICES

APPENDIX A

Decision Notice



The Town and Country Planning Act 1990
Approval of Full Planning Permission with Conditions
Application Reference Number: PL/2026/00194
Decision Date: 12/06/2026

Applicant:	Mr & Mrs D Gore Astra Cottage, Oare, Wiltshire, SN8 4JA
Particulars of Development:	Demolition of existing dwelling and associated outbuildings and erection of a self-build replacement dwelling; with associated outbuildings, parking, landscaping, private amenity space and access arrangements.
At:	Astra Cottage, Oare, Marlborough, SN8 4JA

In pursuance of its powers under the above Act, the Council hereby **GRANT PLANNING PERMISSION** for the above development to be carried out in accordance with the application and plans submitted (listed below).

In accordance with paragraph 39 of the National Planning Policy Framework, Wiltshire Council has worked proactively to secure this development to improve the economic, social and environmental conditions of the area.

Subject to the following conditions:

- 1 The development hereby permitted shall be begun before the expiration of three years from the date of this permission.

REASON: To comply with the provisions of Section 91 of the Town and Country Planning Act 1990 as amended by the Planning and Compulsory Purchase Act 2004.

- 2 The development hereby permitted shall be carried out in accordance with the following approved plans and documents:
 - PROPOSED - Elevations Sheet 1 *2514/3_301-P1* (Received 12/01/2026)
 - PROPOSED - Elevations Sheet 2 *2514/3_302-P2* (Received 16/04/2026)
 - PROPOSED - Street Elevation *2514/3_402-P2* (Received 14/01/2026)
 - PROPOSED - Ground Floor Plan *2514/3_201-P5* (Received 12/05/2026)
 - PROPOSED - First Floor & Roof Plan *2514/3_202-P1* (Received 12/01/2026)
 - PROPOSED - Outbuildings *2514/3_303-P1* (Received 11/05/2026)

- PROPOSED - Public Footpath Analysis Sheet 1 *2514/3_105-P1* (Received 24/02/2026)
- PROPOSED - Public Footpath Analysis Sheet 2 *2514/3_106-P1* (Received 24/02/2026)
- PROPOSED - Sections *2514/3_401-P2* (Received 14/01/2026)
- PROPOSED - Site Plan *2514/3_101-P5* (Received 11/05/2026)
- EXISTING - Site Location Plan *2514/1_001-P2* (Received 14/01/2026)
- Design Statement *3_601-P1* (Received 14/01/2026)
- Drainage Statement *26-254-60-01* (Received 01/04/2026)
- Technical Note - Astra Cottage *8849* (Received 16/04/2026)

REASON: For the avoidance of doubt and in the interests of proper planning.

- 3** Notwithstanding the submitted information no development shall commence on site until a surface water drainage strategy, complying with Wiltshire Council requirements, NPPF, PPG and the National Standards for SuDS has been submitted to and approved in writing by the Local Planning Authority.

The drainage strategy shall include:

- pre and post-development exceedance flow route plans and associated site levels to demonstrate that flows from the 1 in 100 year plus climate change event are directed away from the proposed dwelling and safely managed within the site, without increasing flood risk to neighbouring land or the adjacent highway, in accordance with National SuDS Standards (Standard 3: management of extreme rainfall and flooding).
- Revised Drainage Strategy (DS) drawing that reflects the proposed precise soakaway location.
- Cross section drawings for all proposed surface water features, including the geocellular soakaway, green roof, filter drains etc showing levels, freeboard allowances, and depths, to demonstrate that the drainage system can function hydraulically and that adequate clearances are maintained.

The development shall then be carried out in strict accordance with the approved details.

REASON: To ensure flood risk is not increased on/off site.

- 4** No development shall commence above slab level until details of the external brickwork and natural stone to be used in the exterior walling of the dwellinghouse and boundary walls have been submitted to and approved in writing by the Local Planning Authority. The development shall then be carried out in accordance with the approved details.

REASON: In the interests of visual amenity and the character and appearance of the area.

- 5 No part of the development hereby permitted shall be first occupied until the access, turning area and parking spaces have been completed in accordance with the details shown on the approved plans. The areas shall be maintained for those purposes at all times thereafter.

REASON: In the interests of highway safety.

- 6 Prior to first occupation of the development hereby permitted, the first-floor window in the east elevation and the first-floor dormer window in the north elevation shall be glazed with obscure glass only to an obscurity level of no less than level 4 and the windows shall be permanently maintained with obscure glazing for the lifetime of the development.

REASON: In the interests of residential amenity and privacy.

- 7 All soft landscaping comprised in the approved details of landscaping shall be carried out in the first planting and seeding season following the first occupation of the building(s) or the completion of the development, whichever is the sooner. All shrubs, trees and hedge planting shall be maintained free from weeds and shall be protected from damage by vermin and stock. Any trees or plants which, die, are removed, or become seriously damaged or diseased shall be replaced in the next planting season with others of a similar size and species, unless otherwise agreed in writing by the local planning authority. All hard landscaping shall also be carried out in accordance with the approved details prior to the occupation of any part of the development.

REASON: To ensure a satisfactory landscaped setting for the development and the protection of existing important landscape features.

- 8 The pedestrian gate on the southern boundary of the site shall be inward-opening and shall be retained as such for the lifetime of the development.

REASON: To prevent any blocking of the public right of way.

- 9 The development will be carried out in strict accordance with the following documents:

- Bat mitigation detailed in Technical Note by Pro Vision *8849* (Received 16/03/2026)
- Proposed Elevations Sheet 2 *2514/3_302-P2* (Received 16/01/2026)
- PROPOSED - Ground Floor Plan *2514/3_201-P5* (Received 12/05/2026)
- PROPOSED - Site Plan *2514/3_101-P5* (Received 11/05/2026)

REASON: For the avoidance of doubt and for the protection, mitigation and enhancement of biodiversity.

- 10** Notwithstanding the provisions of the Town and Country Planning (General Permitted Development) (England) Order 2015 (as amended) or any subsequent Order that revokes, re-enacts, amends (with or without modification), no windows, doors or other form of openings other than those shown on the approved plans, shall be inserted in the north and east elevations above ground floor ceiling level of the development hereby permitted.

REASON: In the interests of residential amenity and privacy

Informative

- 11** This permission shall be read in conjunction with a Unilateral Undertaking made under Section 106 of the Town and Country Planning Act, 1990 and dated the 26 May 2026.

Informative

- 12** The applicant is advised that the development hereby approved may represent chargeable development under the Community Infrastructure Levy Regulations 2010 (as amended) and Wiltshire Council's CIL Charging Schedule. If the development is determined to be liable for CIL, a Liability Notice will be issued notifying you of the amount of CIL payment due. If an Additional Information Form has not already been submitted, please submit it now so that we can determine the CIL liability. In addition, you may be able to claim exemption or relief, in which case, please submit the relevant form so that we can determine your eligibility. The CIL Commencement Notice and Assumption of Liability must be submitted to Wiltshire Council prior to commencement of development. Should development commence prior to the CIL Liability Notice being issued by the local planning authority, any CIL exemption or relief will not apply and full payment will be required in full and with immediate effect. Should you require further information or to download the CIL forms please refer to the Council's Website <https://www.wiltshire.gov.uk/dmcommunityinfrastructurelevy>.

Informative

- 13** The applicant is requested to note that this permission does not affect any private property rights and therefore does not authorise the carrying out of any work on land outside their control. If such works are required it will be necessary for the applicant to obtain the landowners consent before such works commence.

If you intend carrying out works in the vicinity of the site boundary, you are also advised that it may be expedient to seek your own advice with regard to the requirements of the Party Wall Act 1996.

Informative

- 14** All new drainage will need to comply fully with Building Regulations Part H. (they should engage with the building control department in order to ensure this).

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.

There must be no interruption to the existing surface water and/or land drainage arrangements of the surrounding land as a result of the operations on the site. Provisions must be made to ensure that all existing drainage systems continue to operate effectively.

The applicant confirms that responsibility for the maintenance of the surface water drainage system will rest with the plot owner from first occupation of the dwelling and for the lifetime of the development. A copy of the approved drainage strategy and the

associated maintenance and management regime will be included within the title deeds of the property to ensure ongoing compliance.

Informative

- 15** The effect of paragraph 13 of Schedule 7A to the Town and Country Planning Act 1990 is that planning permission granted for development of land in England is deemed to have been granted subject to the condition (biodiversity gain condition) that development may not begin unless:

- (a) a Biodiversity Gain Plan has been submitted to the planning authority, and
- (b) the planning authority has approved the plan.

The planning authority, for the purposes of determining whether to approve a Biodiversity Gain Plan, if one is required in respect of this permission would be Wiltshire Council.

There are statutory exemptions and transitional arrangements which mean that the biodiversity gain condition does not always apply. For further information on exempt developments please refer to:

<https://www.gov.uk/guidance/biodiversity-net-gain-exempt-developments>

Based on the information available this permission is considered to be one which will not require the approval of a biodiversity gain plan before development is begun because one or more of the statutory exemptions or transitional arrangements is considered to apply.

Nic Thomas - Director of Planning, Economy and Regeneration

NOTES

- 1 **Other Necessary Consents.** This document only conveys permission for the proposed development under Part III of the Town and Country Planning Act 1990 and the applicant must also comply with all the byelaws, regulations and statutory provisions in force in the area and secure such other approvals and permissions as may be necessary under other parts of the Town and Country Planning Act 1990 or other legislation.
 - 1.1 the need in appropriate cases to obtain approval under Building Regulations. **(The Building Regulations may be applicable to this proposal. Please contact the Council's Building Control team before considering work on site);**
 - 1.2 the need to obtain an appropriate order if the proposal involves the stopping up or diversion of a public right of way or other highway (including highway verge);
 - 1.3 the need to obtain a separate "Listed Building Consent" to the demolition, alteration or extension of any listed building of architectural or historic interest;
 - 1.4 the need to make any appropriate arrangements under the Highways Act 1980, in respect of any works within the limits of a highway. The address of the Highway Authority is County Hall, Trowbridge, BA14 8JD (It is the responsibility of the applicant to ascertain whether the proposed development affects any listed building or public right of way / other highway, including highway verge).
- 2 **Appeals.** If the applicant is aggrieved by the decision of the local planning authority to grant permission subject to conditions, he may appeal to the Secretary of State for the Environment in accordance with Section 78(1) of the Town and Country Planning Act 1990 within six months of the date of this decision. (Information and forms relating to the appeals process can be found at the Planning Portal - <http://www.planningportal.gov.uk/planning/appeals>).
- 3 **Climate Change.** Wiltshire Council acknowledges the climate emergency and is seeking to make the county carbon neutral. You are encouraged to include energy efficiency that exceeds building regulations and to meet residual energy demand through renewable energy and low-carbon technologies, including high levels of electric vehicle charging points. The developer is encouraged to contact the climate team to discuss this further. climate@wiltshire.gov.uk
- 4 **CIL.** The applicant is advised that the development hereby approved may represent chargeable development under the Community Infrastructure Levy Regulations 2010 (as amended) and Wiltshire Council's CIL Charging Schedule. A separate Community Infrastructure Levy Liability Notice will be issued by the Local Planning Authority. Should you require further information with regards to CIL please refer to the Council's Website [Community Infrastructure Levy \(CIL\) - Wiltshire Council](#)

APPENDIX B

Site Proposals



Revision history:

Rev	Date	Description
P1	30/06/2026	

Notes:

DRAFT

Status :

Do not scale from this drawing. If in doubt ask the Architect

m

milton architects

Old Stables Court The Parade

Marlborough Wiltshire SN8 1NE

Telephone 01672 514354

Mobile 07795 414675

Email mail@miltonarchitects.co.uk

Project :

Astra Cottage

Oare

Replacement Dwelling

Contents :

LAYOUT - Site Plan

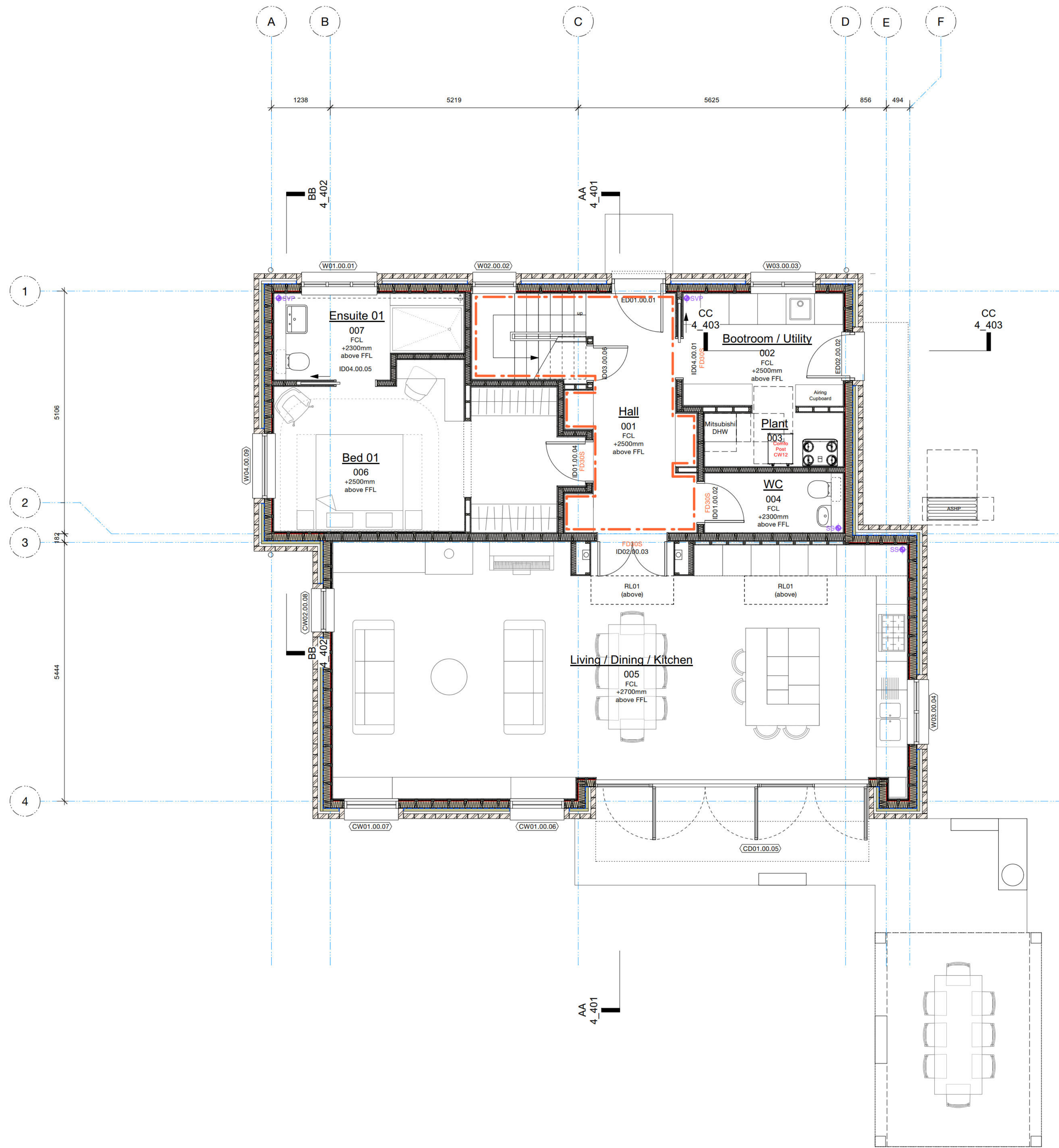
Date : June 2026

Scale : 1:100

Size : ISO A1

Drawing : 2514 / 4_101

P1



Revision history:

Rev	Date	Description
P01	30/06/2026	

Notes:

KEY

PROTECTED STAIRWAY (MINIMUM REI 30)

FD30S

30 MIN. FIRE RATED DOORS

DRAFT

Status :
Do not scale from this drawing. If in doubt ask the Architect

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milton architects

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Project :
Astra Cottage
Oare
Replacement Dwelling

Contents :
LAYOUT - Ground Floor Plan

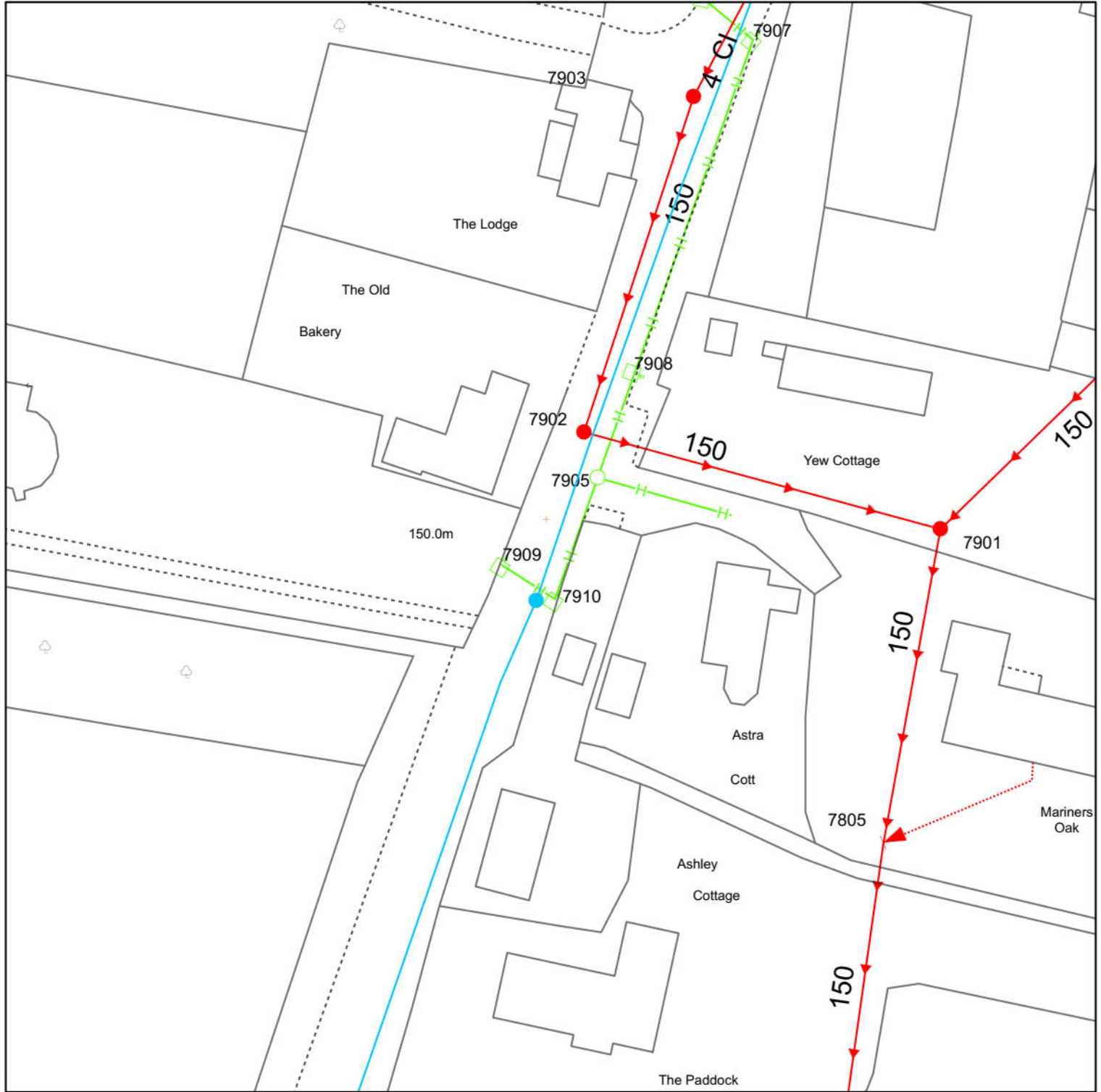
Date : June 2026	
Scale : 1:50	Size : ISO A1

Drawing : 2514 / 4_201	P01
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APPENDIX C

Drainage Records

Wessex Water Network Map



Reproduced from the Ordnance Survey map with the permission of the Controller of His Majesty's Stationery Office. © Crown copyright and database rights (2026) OS AC0000848304

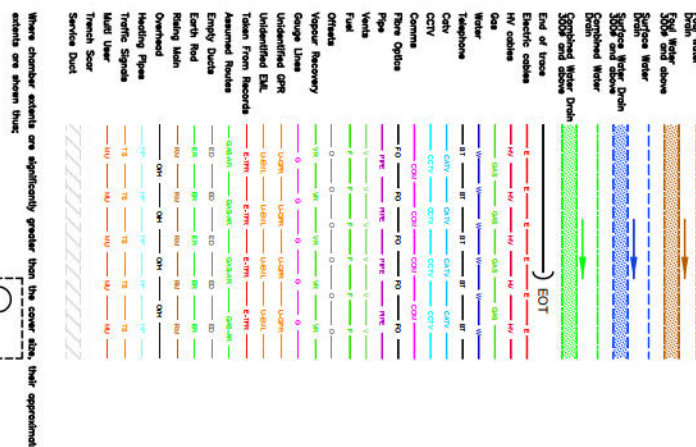
WATER MAINS		SEWERS	STRATEGIC PUBLIC	PRIVATE	SECTION 104	OTHER WESSEX PIPES	NON-WESSEX / UNKNOWN
— Distribution	— Washout	Foul	—	—	—	— Rising Mains	— Private Rising Mains
— Raw Water	— Abandoned	Surface	—	—	—	— Standby Rising Mains	— Culverted Watercourse
— Private	—	Combined	—	—	—	— EDM Effluent Disposal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

Information in this map is provided for identification purposes only. No warranty as to accuracy is given or implied. The precise route of pipe work may not exactly match that shown. Wessex Water does not accept liability for inaccuracies. Sewers and lateral drains adopted by Wessex Water under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 are to be plotted over time and may not yet be shown. In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located. If you are considering any form of building works and pipe work is shown within the boundary of your property or a property to be purchased (or very close by) a surveyor should plot its exact position prior to commencing works or purchase. If you are proposing to build over or near Wessex Water's apparatus you should contact the Developer Services Team, tel: 01225 526333 or e-mail: developer.enquiries@wessexwater.co.uk to discuss your proposals. Details of assets within Wessex Water's land ownership are unavailable through this service.

Wessex Water
YTL GROUP

Date: 27/03/2026
Centre: 415750E, 162912N
Scale: 1:625
(when printed at A4 size)

KEY FOR UNDERGROUND SERVICES



ABBREVIATION KEY



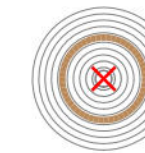
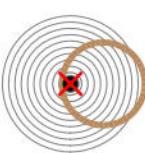
UTILITY SURVEY NOTES

ALL SURVEYS ARE TO BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BS EN 12468-1:2003 STANDARD. THE SURVEYOR SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE DATA COLLECTED AND FOR THE INTERPRETATION OF THE RESULTS. THE SURVEYOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE SURVEY AND FOR THE PROTECTION OF THE SURVEY AREA. THE SURVEYOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE SURVEY AREA. THE SURVEYOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE SURVEY AREA.

Location of Depth Positions

Sewer/Duct

Metallic Service



Inset DA 1,20d
of diameter 1,20d

Inset DA 1,20d
of diameter 1,20d

Topographical Survey Key



AMBER UTILITIES LTD

Milton Architects

SITE LOCATION

Astra Cottage,
Oare, Marlborough,
Wiltshire, SN8 4JA

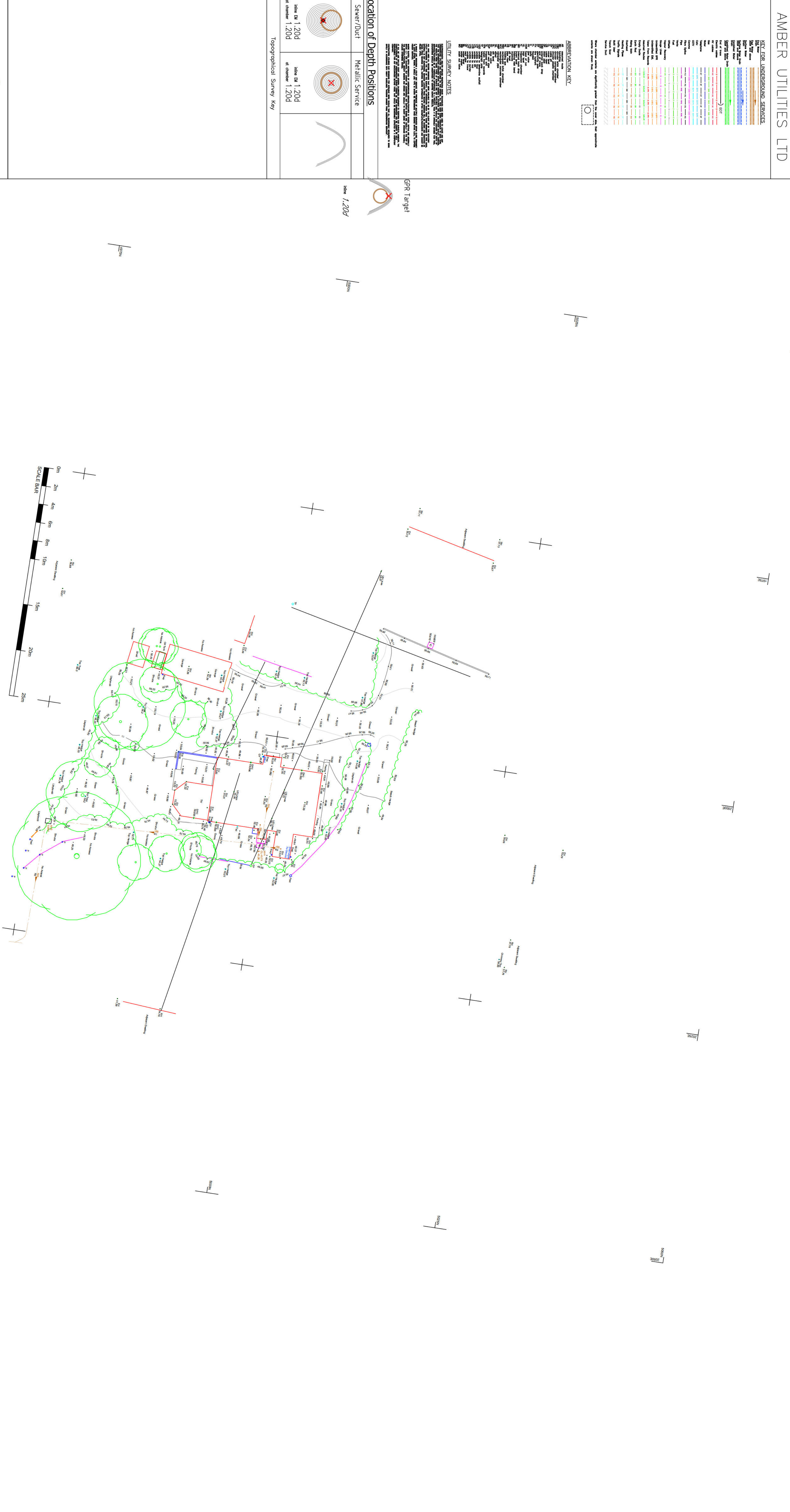
DRAWING TITLE

CCTV Survey

SUBMITTED BY: OH
DRAWN BY: OH
APPROVED BY: RM

DRAWING NO: U26-14549
SURVEY DATE: March 2026

SCALE: 1:200 @ A1
SHEET NO: 1 OF 1



APPENDIX D

Soakage Test Results

CARTY

Building Contractors Ltd

UNIT 1, IVY HOUSE FARM, FYFIELD, MARLBOROUGH, WILTSHIRE, SN8 1PU

Astra Cottage, Oare

Ground condition very wet – overnight rain.

Test No. 1 – Date 25/3/26

Minutes	Mm
0	750
5	664
10	601
15	551
20	501
25	461
30	420
35	382
40	363
45	350
50	335
55	327
60	310
65	300
70	290
75	282
80	279
85	270
90	261
95	253
98	250

CARTY

Building Contractors Ltd

UNIT 1, IVY HOUSE FARM, FYFIELD, MARLBOROUGH, WILTSHIRE, SN8 1PU

Test No. 2 – Date 25/3/26

Minutes	Mm
0	750
5	700
10	651
15	610
20	568
25	530
30	495
35	470
40	460
45	455
50	450
55	445
60	440
65	436
70	431
90	405
110	384
130	357
150	336
200	282
230	250

Test No 3. – Date 26/3/26

Minutes	Mm
0	750
10	642
20	540
60	448
120	369
180	296
210	260
240	231

Tel: 01672 861399 - Email: admin@cartybuilders.co.uk

Company Reg: 3312570 - Reg'd Office: Amelia House, Crescent Road, Worthing, BN11 1QR

Soil Infiltration Calculation
to BRE Digest 365 *Soakaway Design*



Project No: 26-254-60
Project Name: Astra Cottage, Oare
Date: 27-Mar-26

$$\text{Soil infiltration rate } f = \frac{V_{p75-25}}{a_{550} \times t_{p75-25}}$$

where:

V_{p75-25} = the effective storage volume of water in the soakage trial pit between 75% and 25% effective storage depth

a_{550} = the internal surface area of the soakage trial pit up to 50% effective storage depth and including the base area

t_{p75-25} = the time for the water level to fall from 75% to 25% effective storage depth.

Soakaway test pit: Pit 1 - Test 1

Length of test pit = 1.000 m
Width of test pit = 0.300 m
Depth of test pit from ground level = 1.000 m

Soakaway test No. 1:

Depth at start of test = 1.000 m
Datum water level (always set to zero) = 0.000 m

75% of effective depth below datum = 0.750 m Time, t_{75} = 0 mins
50% of effective depth below datum = 0.500 m
25% of effective depth below datum = 0.250 m Time, t_{25} = 98 mins

V_{p75-25} = 0.150 m³ t_{p75-25} = 98 mins
 A_{p50} = 1.600 m²

Soil infiltration rate, f = 1.6E-05 m/sec
Soil infiltration rate, f = 0.057 m/hr

Soakaway test pit: Pit 1 - Test 2

Length of test pit = 1.000 m
Width of test pit = 0.300 m
Depth of test pit from ground level = 1.000 m

Soakaway test No. 2

Depth at start of test = 1.000 m

75% of effective depth below datum = 0.750 m Time, t_{75} = 0 mins
50% of effective depth below datum = 0.500 m
25% of effective depth below datum = 0.250 m Time, t_{25} = 230 mins

V_{p75-25} = 0.150 m³ t_{p75-25} = 230 mins
 A_{p50} = 1.600 m²

Soil infiltration rate, f = 6.8E-06 m/sec
Soil infiltration rate, f = 0.024 m/hr

Soakaway test pit: Pit 1 - Test 3

Length of test pit = 1.000 m
Width of test pit = 0.300 m
Depth of test pit from ground level = 1.000 m

Soakaway test No. 3:

Depth at start of test = 1.000 m

75% of effective depth below datum = 0.750 m Time, t_{75} = 0 mins
50% of effective depth below datum = 0.500 m
25% of effective depth below datum = 0.250 m Time, t_{25} = 240 mins

V_{p75-25} = 0.150 m³ t_{p75-25} = 240 mins
 A_{p50} = 1.600 m²

Soil infiltration rate, f = 6.5E-06 m/sec
Soil infiltration rate, f = 0.023 m/hr

A345

Mariners Oak

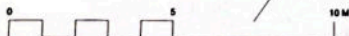
Soakaway to be 5m min. from the proposed building and 3m min. from boundaries

Proposed for Soakaway.
Size to be Confirmed
following Water
Percolation Test

8707

8626

4131



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Email mail@miltonarchitects.co.uk

milton architects

Project : Astra Cottage
Oare
Replacement Dwelling

Date : January 2026

Scale : 1:100

Size : ISO A2

Contents: PROPOSED - Ground Floor Plan

Drawing: 2514 / 3_201_1

APPENDIX E

Microdrainage Results

Calibro Consultants Ltd		Page 1
Whitefriars Bristol BS1 2NT	Astra Cottage, Oare Filter Drain 1 in 100+45%	
Date 15/07/2026 File 26-254 - filter drain.SRCX	Designed by PG Checked by CF	
XP Solutions	Source Control 2020.1	

Summary of Results for 100 year Return Period (+45%)

Half Drain Time : 43 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	0.782	0.782	0.0	1.6	1.6	5.1	Flood Risk
30 min Summer	0.957	0.957	0.0	1.8	1.8	6.3	Flood Risk
60 min Summer	1.000	1.000	0.0	1.9	1.9	7.0	FLOOD
120 min Summer	0.995	0.995	0.0	1.9	1.9	6.5	Flood Risk
180 min Summer	0.916	0.916	0.0	1.8	1.8	6.0	Flood Risk
240 min Summer	0.840	0.840	0.0	1.7	1.7	5.5	Flood Risk
360 min Summer	0.708	0.708	0.0	1.6	1.6	4.6	Flood Risk
480 min Summer	0.602	0.602	0.0	1.4	1.4	3.9	O K
600 min Summer	0.518	0.518	0.0	1.3	1.3	3.3	O K
720 min Summer	0.449	0.449	0.0	1.2	1.2	2.9	O K
960 min Summer	0.346	0.346	0.0	1.1	1.1	2.2	O K
1440 min Summer	0.226	0.226	0.0	0.9	0.9	1.3	O K
2160 min Summer	0.146	0.146	0.0	0.7	0.7	0.6	O K
2880 min Summer	0.105	0.105	0.0	0.6	0.6	0.3	O K
4320 min Summer	0.062	0.062	0.0	0.4	0.4	0.1	O K
5760 min Summer	0.045	0.045	0.0	0.3	0.3	0.0	O K
7200 min Summer	0.039	0.039	0.0	0.3	0.3	0.0	O K
8640 min Summer	0.036	0.036	0.0	0.2	0.2	0.0	O K
10080 min Summer	0.033	0.033	0.0	0.2	0.2	0.0	O K
15 min Winter	0.784	0.784	0.0	1.6	1.6	5.1	Flood Risk
30 min Winter	0.964	0.964	0.0	1.8	1.8	6.3	Flood Risk
60 min Winter	1.000	1.000	0.0	1.9	1.9	6.9	FLOOD

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	150.609	0.0	6.7	17
30 min Summer	100.948	0.0	9.0	30
60 min Summer	64.705	0.4	11.5	48
120 min Summer	38.028	0.0	13.6	82
180 min Summer	27.756	0.0	14.9	116
240 min Summer	22.156	0.0	15.8	148
360 min Summer	16.076	0.0	17.2	212
480 min Summer	12.780	0.0	18.3	276
600 min Summer	10.684	0.0	19.1	338
720 min Summer	9.222	0.0	19.8	398
960 min Summer	7.299	0.0	20.9	520
1440 min Summer	5.224	0.0	22.4	762
2160 min Summer	3.720	0.0	23.9	1108
2880 min Summer	2.925	0.0	25.0	1468
4320 min Summer	2.089	0.0	26.8	2200
5760 min Summer	1.656	0.0	28.3	2904
7200 min Summer	1.397	0.0	29.8	3624
8640 min Summer	1.224	0.0	31.3	4392
10080 min Summer	1.099	0.0	32.7	5136
15 min Winter	150.609	0.0	6.7	17
30 min Winter	100.948	0.0	9.0	30
60 min Winter	64.705	0.4	11.5	50

Calibro Consultants Ltd		Page 2
Whitefriars Bristol BS1 2NT	Astra Cottage, Oare Filter Drain 1 in 100+45%	
Date 15/07/2026	Designed by PG	
File 26-254 - filter drain.SRCX	Checked by CF	
XP Solutions	Source Control 2020.1	

Summary of Results for 100 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
120 min Winter	0.961	0.961	0.0	1.8	1.8	6.3	Flood Risk
180 min Winter	0.848	0.848	0.0	1.7	1.7	5.6	Flood Risk
240 min Winter	0.745	0.745	0.0	1.6	1.6	4.9	Flood Risk
360 min Winter	0.580	0.580	0.0	1.4	1.4	3.7	O K
480 min Winter	0.459	0.459	0.0	1.3	1.3	2.9	O K
600 min Winter	0.369	0.369	0.0	1.1	1.1	2.3	O K
720 min Winter	0.301	0.301	0.0	1.0	1.0	1.9	O K
960 min Winter	0.216	0.216	0.0	0.8	0.8	1.2	O K
1440 min Winter	0.132	0.132	0.0	0.6	0.6	0.5	O K
2160 min Winter	0.077	0.077	0.0	0.5	0.5	0.1	O K
2880 min Winter	0.054	0.054	0.0	0.4	0.4	0.1	O K
4320 min Winter	0.038	0.038	0.0	0.3	0.3	0.0	O K
5760 min Winter	0.033	0.033	0.0	0.2	0.2	0.0	O K
7200 min Winter	0.029	0.029	0.0	0.2	0.2	0.0	O K
8640 min Winter	0.027	0.027	0.0	0.2	0.2	0.0	O K
10080 min Winter	0.026	0.026	0.0	0.1	0.1	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
120 min Winter	38.028	0.0	13.6	86
180 min Winter	27.756	0.0	14.9	122
240 min Winter	22.156	0.0	15.8	156
360 min Winter	16.076	0.0	17.2	222
480 min Winter	12.780	0.0	18.3	284
600 min Winter	10.684	0.0	19.1	346
720 min Winter	9.222	0.0	19.8	408
960 min Winter	7.299	0.0	20.9	530
1440 min Winter	5.224	0.0	22.4	752
2160 min Winter	3.720	0.0	23.9	1100
2880 min Winter	2.925	0.0	25.1	1460
4320 min Winter	2.089	0.0	26.8	2128
5760 min Winter	1.656	0.0	28.3	2920
7200 min Winter	1.397	0.0	29.8	3656
8640 min Winter	1.224	0.0	31.3	4344
10080 min Winter	1.099	0.0	32.7	5048

Calibro Consultants Ltd		Page 3
Whitefriars Bristol BS1 2NT	Astra Cottage, Oare Filter Drain 1 in 100+45%	
Date 15/07/2026	Designed by PG	
File 26-254 - filter drain.SRCX	Checked by CF	
XP Solutions	Source Control 2020.1	

Rainfall Details

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	1.000
FEH Rainfall Version	2013	Cv (Winter)	1.000
Site Location	GB 415600 162905 SU 15600 62905	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+45

Green Roof

Area (m³)	20	Evaporation (mm/day)	3
Depression Storage (mm)	5	Decay Coefficient	0.050

Time (mins)	Area	Time (mins)	Area	Time (mins)	Area	Time (mins)	Area	Time (mins)	Area
From: To: (ha)	From: To: (ha)	From: To: (ha)	From: To: (ha)	From: To: (ha)	From: To: (ha)	From: To: (ha)	From: To: (ha)	From: To: (ha)	From: To: (ha)
0 4 0.000363	24 28 0.000109	48 52 0.000033	72 76 0.000010	96 100 0.000003					
4 8 0.000298	28 32 0.000090	52 56 0.000027	76 80 0.000008	100 104 0.000002					
8 12 0.000244	32 36 0.000073	56 60 0.000022	80 84 0.000007	104 108 0.000002					
12 16 0.000199	36 40 0.000060	60 64 0.000018	84 88 0.000005	108 112 0.000002					
16 20 0.000163	40 44 0.000049	64 68 0.000015	88 92 0.000004	112 116 0.000001					
20 24 0.000134	44 48 0.000040	68 72 0.000012	92 96 0.000004	116 120 0.000001					

Time Area Diagram

Total Area (ha) 0.016

Time (mins)	Area
From: To: (ha)	
0 4 0.016	

Calibro Consultants Ltd		Page 4
Whitefriars Bristol BS1 2NT	Astra Cottage, Oare Filter Drain 1 in 100+45%	
Date 15/07/2026 File 26-254 - filter drain.SRCX	Designed by PG Checked by CF	
XP Solutions	Source Control 2020.1	

Model Details

Storage is Online Cover Level (m) 1.000

Filter Drain Structure

Infiltration Coefficient Base (m/hr)	0.00000	Pipe Diameter (m)	0.150
Infiltration Coefficient Side (m/hr)	0.00000	Pipe Depth above Invert (m)	0.000
Safety Factor	3.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	0.000	Cap Infiltration Depth (m)	0.000
Trench Width (m)	0.6	Number of Pipes	1
Trench Length (m)	37.5		

Orifice Outflow Control

Diameter (m) 0.030 Discharge Coefficient 0.600 Invert Level (m) 0.000

Calibro Consultants Ltd		Page 1
Whitefriars Bristol BS1 2NT	Astra Cottage, Oare Soakaway 1 in100+45% 60min Storm Inflow	
Date 17/07/2026	Designed by PG	
File 26-254 - Soakaway_60min summer ...	Checked by CF	
XP Solutions	Source Control 2020.1	

Summary of Results for Input Hydrograph

Half Drain Time : 2011 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
Input Hydrograph	1.216	1.216	0.0	9.9	FLOOD

Storm Event	Flooded Volume (m³)	Time-Peak (mins)
Input Hydrograph	0.1	150

Calibro Consultants Ltd		Page 2
Whitefriars	Astra Cottage, Oare	
Bristol	Soakaway	
BS1 2NT	1 in100+45% 60min Storm Inflow	
Date 17/07/2026	Designed by PG	
File 26-254 - Soakaway_60min summer ...	Checked by CF	
XP Solutions	Source Control 2020.1	

Input Hydrograph

Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)
2	0.1	110	1.0	218	0.0	326	0.0	434	0.0	542	0.0	650	0.0	758	0.0
4	0.3	112	1.0	220	0.0	328	0.0	436	0.0	544	0.0	652	0.0	760	0.0
6	0.4	114	0.9	222	0.0	330	0.0	438	0.0	546	0.0	654	0.0	762	0.0
8	0.5	116	0.9	224	0.0	332	0.0	440	0.0	548	0.0	656	0.0	764	0.0
10	0.5	118	0.9	226	0.0	334	0.0	442	0.0	550	0.0	658	0.0	766	0.0
12	0.6	120	0.8	228	0.0	336	0.0	444	0.0	552	0.0	660	0.0	768	0.0
14	0.6	122	0.8	230	0.0	338	0.0	446	0.0	554	0.0	662	0.0	770	0.0
16	0.7	124	0.8	232	0.0	340	0.0	448	0.0	556	0.0	664	0.0	772	0.0
18	0.7	126	0.8	234	0.0	342	0.0	450	0.0	558	0.0	666	0.0	774	0.0
20	0.8	128	0.7	236	0.0	344	0.0	452	0.0	560	0.0	668	0.0	776	0.0
22	0.8	130	0.7	238	0.0	346	0.0	454	0.0	562	0.0	670	0.0	778	0.0
24	0.9	132	0.7	240	0.0	348	0.0	456	0.0	564	0.0	672	0.0	780	0.0
26	1.0	134	0.6	242	0.0	350	0.0	458	0.0	566	0.0	674	0.0	782	0.0
28	1.2	136	0.6	244	0.0	352	0.0	460	0.0	568	0.0	676	0.0	784	0.0
30	1.3	138	0.6	246	0.0	354	0.0	462	0.0	570	0.0	678	0.0	786	0.0
32	1.4	140	0.5	248	0.0	356	0.0	464	0.0	572	0.0	680	0.0	788	0.0
34	1.6	142	0.5	250	0.0	358	0.0	466	0.0	574	0.0	682	0.0	790	0.0
36	1.7	144	0.4	252	0.0	360	0.0	468	0.0	576	0.0	684	0.0	792	0.0
38	1.8	146	0.3	254	0.0	362	0.0	470	0.0	578	0.0	686	0.0	794	0.0
40	1.8	148	0.2	256	0.0	364	0.0	472	0.0	580	0.0	688	0.0	796	0.0
42	1.9	150	0.0	258	0.0	366	0.0	474	0.0	582	0.0	690	0.0	798	0.0
44	1.9	152	0.0	260	0.0	368	0.0	476	0.0	584	0.0	692	0.0	800	0.0
46	1.9	154	0.0	262	0.0	370	0.0	478	0.0	586	0.0	694	0.0	802	0.0
48	1.9	156	0.0	264	0.0	372	0.0	480	0.0	588	0.0	696	0.0	804	0.0
50	1.9	158	0.0	266	0.0	374	0.0	482	0.0	590	0.0	698	0.0	806	0.0
52	1.9	160	0.0	268	0.0	376	0.0	484	0.0	592	0.0	700	0.0	808	0.0
54	1.9	162	0.0	270	0.0	378	0.0	486	0.0	594	0.0	702	0.0	810	0.0
56	1.9	164	0.0	272	0.0	380	0.0	488	0.0	596	0.0	704	0.0	812	0.0
58	1.9	166	0.0	274	0.0	382	0.0	490	0.0	598	0.0	706	0.0	814	0.0
60	1.9	168	0.0	276	0.0	384	0.0	492	0.0	600	0.0	708	0.0	816	0.0
62	1.8	170	0.0	278	0.0	386	0.0	494	0.0	602	0.0	710	0.0	818	0.0
64	1.8	172	0.0	280	0.0	388	0.0	496	0.0	604	0.0	712	0.0	820	0.0
66	1.8	174	0.0	282	0.0	390	0.0	498	0.0	606	0.0	714	0.0	822	0.0
68	1.7	176	0.0	284	0.0	392	0.0	500	0.0	608	0.0	716	0.0	824	0.0
70	1.7	178	0.0	286	0.0	394	0.0	502	0.0	610	0.0	718	0.0	826	0.0
72	1.7	180	0.0	288	0.0	396	0.0	504	0.0	612	0.0	720	0.0	828	0.0
74	1.6	182	0.0	290	0.0	398	0.0	506	0.0	614	0.0	722	0.0	830	0.0
76	1.6	184	0.0	292	0.0	400	0.0	508	0.0	616	0.0	724	0.0	832	0.0
78	1.6	186	0.0	294	0.0	402	0.0	510	0.0	618	0.0	726	0.0	834	0.0
80	1.5	188	0.0	296	0.0	404	0.0	512	0.0	620	0.0	728	0.0	836	0.0
82	1.5	190	0.0	298	0.0	406	0.0	514	0.0	622	0.0	730	0.0	838	0.0
84	1.5	192	0.0	300	0.0	408	0.0	516	0.0	624	0.0	732	0.0	840	0.0
86	1.4	194	0.0	302	0.0	410	0.0	518	0.0	626	0.0	734	0.0	842	0.0
88	1.4	196	0.0	304	0.0	412	0.0	520	0.0	628	0.0	736	0.0	844	0.0
90	1.3	198	0.0	306	0.0	414	0.0	522	0.0	630	0.0	738	0.0	846	0.0
92	1.3	200	0.0	308	0.0	416	0.0	524	0.0	632	0.0	740	0.0	848	0.0
94	1.3	202	0.0	310	0.0	418	0.0	526	0.0	634	0.0	742	0.0	850	0.0
96	1.2	204	0.0	312	0.0	420	0.0	528	0.0	636	0.0	744	0.0	852	0.0
98	1.2	206	0.0	314	0.0	422	0.0	530	0.0	638	0.0	746	0.0	854	0.0
100	1.2	208	0.0	316	0.0	424	0.0	532	0.0	640	0.0	748	0.0	856	0.0
102	1.1	210	0.0	318	0.0	426	0.0	534	0.0	642	0.0	750	0.0	858	0.0
104	1.1	212	0.0	320	0.0	428	0.0	536	0.0	644	0.0	752	0.0	860	0.0
106	1.1	214	0.0	322	0.0	430	0.0	538	0.0	646	0.0	754	0.0	862	0.0
108	1.0	216	0.0	324	0.0	432	0.0	540	0.0	648	0.0	756	0.0	864	0.0

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Whitefriars Bristol BS1 2NT	Astra Cottage, Oare Soakaway 1 in100+45% 60min Storm Inflow	
Date 17/07/2026	Designed by PG	
File 26-254 - Soakaway_60min summer ...	Checked by CF	
XP Solutions	Source Control 2020.1	

Input Hydrograph

Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)
866	0.0	974	0.0	1082	0.0	1190	0.0	1298	0.0	1406	0.0	1514	0.0	1622	0.0
868	0.0	976	0.0	1084	0.0	1192	0.0	1300	0.0	1408	0.0	1516	0.0	1624	0.0
870	0.0	978	0.0	1086	0.0	1194	0.0	1302	0.0	1410	0.0	1518	0.0	1626	0.0
872	0.0	980	0.0	1088	0.0	1196	0.0	1304	0.0	1412	0.0	1520	0.0	1628	0.0
874	0.0	982	0.0	1090	0.0	1198	0.0	1306	0.0	1414	0.0	1522	0.0	1630	0.0
876	0.0	984	0.0	1092	0.0	1200	0.0	1308	0.0	1416	0.0	1524	0.0	1632	0.0
878	0.0	986	0.0	1094	0.0	1202	0.0	1310	0.0	1418	0.0	1526	0.0	1634	0.0
880	0.0	988	0.0	1096	0.0	1204	0.0	1312	0.0	1420	0.0	1528	0.0	1636	0.0
882	0.0	990	0.0	1098	0.0	1206	0.0	1314	0.0	1422	0.0	1530	0.0	1638	0.0
884	0.0	992	0.0	1100	0.0	1208	0.0	1316	0.0	1424	0.0	1532	0.0	1640	0.0
886	0.0	994	0.0	1102	0.0	1210	0.0	1318	0.0	1426	0.0	1534	0.0	1642	0.0
888	0.0	996	0.0	1104	0.0	1212	0.0	1320	0.0	1428	0.0	1536	0.0	1644	0.0
890	0.0	998	0.0	1106	0.0	1214	0.0	1322	0.0	1430	0.0	1538	0.0	1646	0.0
892	0.0	1000	0.0	1108	0.0	1216	0.0	1324	0.0	1432	0.0	1540	0.0	1648	0.0
894	0.0	1002	0.0	1110	0.0	1218	0.0	1326	0.0	1434	0.0	1542	0.0	1650	0.0
896	0.0	1004	0.0	1112	0.0	1220	0.0	1328	0.0	1436	0.0	1544	0.0	1652	0.0
898	0.0	1006	0.0	1114	0.0	1222	0.0	1330	0.0	1438	0.0	1546	0.0	1654	0.0
900	0.0	1008	0.0	1116	0.0	1224	0.0	1332	0.0	1440	0.0	1548	0.0	1656	0.0
902	0.0	1010	0.0	1118	0.0	1226	0.0	1334	0.0	1442	0.0	1550	0.0	1658	0.0
904	0.0	1012	0.0	1120	0.0	1228	0.0	1336	0.0	1444	0.0	1552	0.0	1660	0.0
906	0.0	1014	0.0	1122	0.0	1230	0.0	1338	0.0	1446	0.0	1554	0.0	1662	0.0
908	0.0	1016	0.0	1124	0.0	1232	0.0	1340	0.0	1448	0.0	1556	0.0	1664	0.0
910	0.0	1018	0.0	1126	0.0	1234	0.0	1342	0.0	1450	0.0	1558	0.0	1666	0.0
912	0.0	1020	0.0	1128	0.0	1236	0.0	1344	0.0	1452	0.0	1560	0.0	1668	0.0
914	0.0	1022	0.0	1130	0.0	1238	0.0	1346	0.0	1454	0.0	1562	0.0	1670	0.0
916	0.0	1024	0.0	1132	0.0	1240	0.0	1348	0.0	1456	0.0	1564	0.0	1672	0.0
918	0.0	1026	0.0	1134	0.0	1242	0.0	1350	0.0	1458	0.0	1566	0.0	1674	0.0
920	0.0	1028	0.0	1136	0.0	1244	0.0	1352	0.0	1460	0.0	1568	0.0	1676	0.0
922	0.0	1030	0.0	1138	0.0	1246	0.0	1354	0.0	1462	0.0	1570	0.0	1678	0.0
924	0.0	1032	0.0	1140	0.0	1248	0.0	1356	0.0	1464	0.0	1572	0.0	1680	0.0
926	0.0	1034	0.0	1142	0.0	1250	0.0	1358	0.0	1466	0.0	1574	0.0	1682	0.0
928	0.0	1036	0.0	1144	0.0	1252	0.0	1360	0.0	1468	0.0	1576	0.0	1684	0.0
930	0.0	1038	0.0	1146	0.0	1254	0.0	1362	0.0	1470	0.0	1578	0.0	1686	0.0
932	0.0	1040	0.0	1148	0.0	1256	0.0	1364	0.0	1472	0.0	1580	0.0	1688	0.0
934	0.0	1042	0.0	1150	0.0	1258	0.0	1366	0.0	1474	0.0	1582	0.0	1690	0.0
936	0.0	1044	0.0	1152	0.0	1260	0.0	1368	0.0	1476	0.0	1584	0.0	1692	0.0
938	0.0	1046	0.0	1154	0.0	1262	0.0	1370	0.0	1478	0.0	1586	0.0	1694	0.0
940	0.0	1048	0.0	1156	0.0	1264	0.0	1372	0.0	1480	0.0	1588	0.0	1696	0.0
942	0.0	1050	0.0	1158	0.0	1266	0.0	1374	0.0	1482	0.0	1590	0.0	1698	0.0
944	0.0	1052	0.0	1160	0.0	1268	0.0	1376	0.0	1484	0.0	1592	0.0	1700	0.0
946	0.0	1054	0.0	1162	0.0	1270	0.0	1378	0.0	1486	0.0	1594	0.0	1702	0.0
948	0.0	1056	0.0	1164	0.0	1272	0.0	1380	0.0	1488	0.0	1596	0.0	1704	0.0
950	0.0	1058	0.0	1166	0.0	1274	0.0	1382	0.0	1490	0.0	1598	0.0	1706	0.0
952	0.0	1060	0.0	1168	0.0	1276	0.0	1384	0.0	1492	0.0	1600	0.0	1708	0.0
954	0.0	1062	0.0	1170	0.0	1278	0.0	1386	0.0	1494	0.0	1602	0.0	1710	0.0
956	0.0	1064	0.0	1172	0.0	1280	0.0	1388	0.0	1496	0.0	1604	0.0	1712	0.0
958	0.0	1066	0.0	1174	0.0	1282	0.0	1390	0.0	1498	0.0	1606	0.0	1714	0.0
960	0.0	1068	0.0	1176	0.0	1284	0.0	1392	0.0	1500	0.0	1608	0.0	1716	0.0
962	0.0	1070	0.0	1178	0.0	1286	0.0	1394	0.0	1502	0.0	1610	0.0	1718	0.0
964	0.0	1072	0.0	1180	0.0	1288	0.0	1396	0.0	1504	0.0	1612	0.0	1720	0.0
966	0.0	1074	0.0	1182	0.0	1290	0.0	1398	0.0	1506	0.0	1614	0.0	1722	0.0
968	0.0	1076	0.0	1184	0.0	1292	0.0	1400	0.0	1508	0.0	1616	0.0	1724	0.0
970	0.0	1078	0.0	1186	0.0	1294	0.0	1402	0.0	1510	0.0	1618	0.0	1726	0.0
972	0.0	1080	0.0	1188	0.0	1296	0.0	1404	0.0	1512	0.0	1620	0.0	1728	0.0

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Whitefriars Bristol BS1 2NT	Astra Cottage, Oare Soakaway 1 in100+45% 60min Storm Inflow	
Date 17/07/2026	Designed by PG	
File 26-254 - Soakaway_60min summer ...	Checked by CF	
XP Solutions	Source Control 2020.1	

Input Hydrograph

Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)
1730	0.0	1838	0.0	1946	0.0	2054	0.0	2162	0.0	2270	0.0	2378	0.0	2486	0.0
1732	0.0	1840	0.0	1948	0.0	2056	0.0	2164	0.0	2272	0.0	2380	0.0	2488	0.0
1734	0.0	1842	0.0	1950	0.0	2058	0.0	2166	0.0	2274	0.0	2382	0.0	2490	0.0
1736	0.0	1844	0.0	1952	0.0	2060	0.0	2168	0.0	2276	0.0	2384	0.0	2492	0.0
1738	0.0	1846	0.0	1954	0.0	2062	0.0	2170	0.0	2278	0.0	2386	0.0	2494	0.0
1740	0.0	1848	0.0	1956	0.0	2064	0.0	2172	0.0	2280	0.0	2388	0.0	2496	0.0
1742	0.0	1850	0.0	1958	0.0	2066	0.0	2174	0.0	2282	0.0	2390	0.0	2498	0.0
1744	0.0	1852	0.0	1960	0.0	2068	0.0	2176	0.0	2284	0.0	2392	0.0	2500	0.0
1746	0.0	1854	0.0	1962	0.0	2070	0.0	2178	0.0	2286	0.0	2394	0.0	2502	0.0
1748	0.0	1856	0.0	1964	0.0	2072	0.0	2180	0.0	2288	0.0	2396	0.0	2504	0.0
1750	0.0	1858	0.0	1966	0.0	2074	0.0	2182	0.0	2290	0.0	2398	0.0	2506	0.0
1752	0.0	1860	0.0	1968	0.0	2076	0.0	2184	0.0	2292	0.0	2400	0.0	2508	0.0
1754	0.0	1862	0.0	1970	0.0	2078	0.0	2186	0.0	2294	0.0	2402	0.0	2510	0.0
1756	0.0	1864	0.0	1972	0.0	2080	0.0	2188	0.0	2296	0.0	2404	0.0	2512	0.0
1758	0.0	1866	0.0	1974	0.0	2082	0.0	2190	0.0	2298	0.0	2406	0.0	2514	0.0
1760	0.0	1868	0.0	1976	0.0	2084	0.0	2192	0.0	2300	0.0	2408	0.0	2516	0.0
1762	0.0	1870	0.0	1978	0.0	2086	0.0	2194	0.0	2302	0.0	2410	0.0	2518	0.0
1764	0.0	1872	0.0	1980	0.0	2088	0.0	2196	0.0	2304	0.0	2412	0.0	2520	0.0
1766	0.0	1874	0.0	1982	0.0	2090	0.0	2198	0.0	2306	0.0	2414	0.0	2522	0.0
1768	0.0	1876	0.0	1984	0.0	2092	0.0	2200	0.0	2308	0.0	2416	0.0	2524	0.0
1770	0.0	1878	0.0	1986	0.0	2094	0.0	2202	0.0	2310	0.0	2418	0.0	2526	0.0
1772	0.0	1880	0.0	1988	0.0	2096	0.0	2204	0.0	2312	0.0	2420	0.0	2528	0.0
1774	0.0	1882	0.0	1990	0.0	2098	0.0	2206	0.0	2314	0.0	2422	0.0	2530	0.0
1776	0.0	1884	0.0	1992	0.0	2100	0.0	2208	0.0	2316	0.0	2424	0.0	2532	0.0
1778	0.0	1886	0.0	1994	0.0	2102	0.0	2210	0.0	2318	0.0	2426	0.0	2534	0.0
1780	0.0	1888	0.0	1996	0.0	2104	0.0	2212	0.0	2320	0.0	2428	0.0	2536	0.0
1782	0.0	1890	0.0	1998	0.0	2106	0.0	2214	0.0	2322	0.0	2430	0.0	2538	0.0
1784	0.0	1892	0.0	2000	0.0	2108	0.0	2216	0.0	2324	0.0	2432	0.0	2540	0.0
1786	0.0	1894	0.0	2002	0.0	2110	0.0	2218	0.0	2326	0.0	2434	0.0	2542	0.0
1788	0.0	1896	0.0	2004	0.0	2112	0.0	2220	0.0	2328	0.0	2436	0.0	2544	0.0
1790	0.0	1898	0.0	2006	0.0	2114	0.0	2222	0.0	2330	0.0	2438	0.0	2546	0.0
1792	0.0	1900	0.0	2008	0.0	2116	0.0	2224	0.0	2332	0.0	2440	0.0	2548	0.0
1794	0.0	1902	0.0	2010	0.0	2118	0.0	2226	0.0	2334	0.0	2442	0.0	2550	0.0
1796	0.0	1904	0.0	2012	0.0	2120	0.0	2228	0.0	2336	0.0	2444	0.0	2552	0.0
1798	0.0	1906	0.0	2014	0.0	2122	0.0	2230	0.0	2338	0.0	2446	0.0	2554	0.0
1800	0.0	1908	0.0	2016	0.0	2124	0.0	2232	0.0	2340	0.0	2448	0.0	2556	0.0
1802	0.0	1910	0.0	2018	0.0	2126	0.0	2234	0.0	2342	0.0	2450	0.0	2558	0.0
1804	0.0	1912	0.0	2020	0.0	2128	0.0	2236	0.0	2344	0.0	2452	0.0	2560	0.0
1806	0.0	1914	0.0	2022	0.0	2130	0.0	2238	0.0	2346	0.0	2454	0.0	2562	0.0
1808	0.0	1916	0.0	2024	0.0	2132	0.0	2240	0.0	2348	0.0	2456	0.0	2564	0.0
1810	0.0	1918	0.0	2026	0.0	2134	0.0	2242	0.0	2350	0.0	2458	0.0	2566	0.0
1812	0.0	1920	0.0	2028	0.0	2136	0.0	2244	0.0	2352	0.0	2460	0.0	2568	0.0
1814	0.0	1922	0.0	2030	0.0	2138	0.0	2246	0.0	2354	0.0	2462	0.0	2570	0.0
1816	0.0	1924	0.0	2032	0.0	2140	0.0	2248	0.0	2356	0.0	2464	0.0	2572	0.0
1818	0.0	1926	0.0	2034	0.0	2142	0.0	2250	0.0	2358	0.0	2466	0.0	2574	0.0
1820	0.0	1928	0.0	2036	0.0	2144	0.0	2252	0.0	2360	0.0	2468	0.0	2576	0.0
1822	0.0	1930	0.0	2038	0.0	2146	0.0	2254	0.0	2362	0.0	2470	0.0	2578	0.0
1824	0.0	1932	0.0	2040	0.0	2148	0.0	2256	0.0	2364	0.0	2472	0.0	2580	0.0
1826	0.0	1934	0.0	2042	0.0	2150	0.0	2258	0.0	2366	0.0	2474	0.0	2582	0.0
1828	0.0	1936	0.0	2044	0.0	2152	0.0	2260	0.0	2368	0.0	2476	0.0	2584	0.0
1830	0.0	1938	0.0	2046	0.0	2154	0.0	2262	0.0	2370	0.0	2478	0.0	2586	0.0
1832	0.0	1940	0.0	2048	0.0	2156	0.0	2264	0.0	2372	0.0	2480	0.0	2588	0.0
1834	0.0	1942	0.0	2050	0.0	2158	0.0	2266	0.0	2374	0.0	2482	0.0	2590	0.0
1836	0.0	1944	0.0	2052	0.0	2160	0.0	2268	0.0	2376	0.0	2484	0.0	2592	0.0

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Whitefriars	Astra Cottage, Oare	
Bristol	Soakaway	
BS1 2NT	1 in100+45% 60min Storm Inflow	
Date 17/07/2026	Designed by PG	
File 26-254 - Soakaway_60min summer ...	Checked by CF	
XP Solutions	Source Control 2020.1	

Input Hydrograph

Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)	Time (mins)	Flow (l/s)
2594	0.0	2630	0.0	2666	0.0	2702	0.0	2738	0.0	2774	0.0	2810	0.0	2846	0.0
2596	0.0	2632	0.0	2668	0.0	2704	0.0	2740	0.0	2776	0.0	2812	0.0	2848	0.0
2598	0.0	2634	0.0	2670	0.0	2706	0.0	2742	0.0	2778	0.0	2814	0.0	2850	0.0
2600	0.0	2636	0.0	2672	0.0	2708	0.0	2744	0.0	2780	0.0	2816	0.0	2852	0.0
2602	0.0	2638	0.0	2674	0.0	2710	0.0	2746	0.0	2782	0.0	2818	0.0	2854	0.0
2604	0.0	2640	0.0	2676	0.0	2712	0.0	2748	0.0	2784	0.0	2820	0.0	2856	0.0
2606	0.0	2642	0.0	2678	0.0	2714	0.0	2750	0.0	2786	0.0	2822	0.0	2858	0.0
2608	0.0	2644	0.0	2680	0.0	2716	0.0	2752	0.0	2788	0.0	2824	0.0	2860	0.0
2610	0.0	2646	0.0	2682	0.0	2718	0.0	2754	0.0	2790	0.0	2826	0.0	2862	0.0
2612	0.0	2648	0.0	2684	0.0	2720	0.0	2756	0.0	2792	0.0	2828	0.0	2864	0.0
2614	0.0	2650	0.0	2686	0.0	2722	0.0	2758	0.0	2794	0.0	2830	0.0	2866	0.0
2616	0.0	2652	0.0	2688	0.0	2724	0.0	2760	0.0	2796	0.0	2832	0.0	2868	0.0
2618	0.0	2654	0.0	2690	0.0	2726	0.0	2762	0.0	2798	0.0	2834	0.0	2870	0.0
2620	0.0	2656	0.0	2692	0.0	2728	0.0	2764	0.0	2800	0.0	2836	0.0	2872	0.0
2622	0.0	2658	0.0	2694	0.0	2730	0.0	2766	0.0	2802	0.0	2838	0.0	2874	0.0
2624	0.0	2660	0.0	2696	0.0	2732	0.0	2768	0.0	2804	0.0	2840	0.0	2876	0.0
2626	0.0	2662	0.0	2698	0.0	2734	0.0	2770	0.0	2806	0.0	2842	0.0	2878	0.0
2628	0.0	2664	0.0	2700	0.0	2736	0.0	2772	0.0	2808	0.0	2844	0.0	2880	0.0

Calibro Consultants Ltd		Page 6
Whitefriars Bristol BS1 2NT	Astra Cottage, Oare Soakaway 1 in100+45% 60min Storm Inflow	
Date 17/07/2026	Designed by PG	
File 26-254 - Soakaway_60min summer ...	Checked by CF	
XP Solutions	Source Control 2020.1	

Model Details

Storage is Online Cover Level (m) 1.200

Cellular Storage Structure

Invert Level (m) 0.000 Safety Factor 3.0
Infiltration Coefficient Base (m/hr) 0.02300 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.02300

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	8.6	9.0	1.200	8.6	23.0

APPENDIX F

Drainage Strategy



Base drawing provided by:
MILTON ARCHITECTS

Drawing No:
2514 / 3_101 P2

Dated:
January 2026

Received:
March 2026

LEGEND

- PROPOSED FILTER DRAINS
- AREA DRAINING TO SOAKAWAY
- AREA OF GREENROOF
- RWP
- RAINWATER DOWNPIPES (RWP)
- RODDING EYE
- INSPECTION CHAMBER/CATCH PIT
- EXCEEDANCE FLOW ROUTE

NOTES:

- ALL PROPOSED DRAINAGE FEATURES, DIAMETERS AND LEVELS SUBJECT TO DETAILED DESIGN AND SITE SETTING OUT
- NOT SUITABLE FOR CONSTRUCTION
- DO NOT SCALE FROM THIS DRAWING
- PRODUCTS TO BE INSTALLED FOLLOWING MANUFACTURERS REQUIREMENTS
- FILTER DRAIN PERFORATED PIPE TO BE WRAPPED IN PERMEABLE TEXTILE
- FILTER DRAIN TRENCH TO BE WRAPPED IN IMPERMEABLE MEMBRANE TO PROTECT BUILDING FOUNDATIONS AND FEED RAINWATER HARVESTING THROUGH THE YEAR
- SUDS PLANTERS AND WATER BUTTS NOT SHOWN AS THEY ARE SUBJECT TO VISUAL AND ACCESS IMPACT ASSESSMENT BASED ON FINAL SITE DESIGN
- ALL LEVELS ARE TO mAOD BASED ON TOPO SURVEY. LEVELS ARE TO EXISTING GROUND SO SUBJECT TO CHANGE
- ALL PIPES TO BE PERFORATED 150mm Ø LAID AT 1:200 UNLESS OTHERWISE STATED

00	FIRST ISSUE	PG	CB	17/07/26
REV:	DESCRIPTION:	BY:	CHK:	DATE:

STATUS: FOR PLANNING

CLIENT: SRI & DAN GORE

SITE: ASTRA COTTAGE, OARE

TITLE: DRAINAGE STRATEGY



SCALE:	DATE:	DRAWN:	CHECKED:
NTS	17/07/26	PG	CB
PROJECT:	COMPANY:	TYPE:	DRAWING NO:
26-254	CAL	DR	70-100
SHEET NO:	REVISION:		
00	00		

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150mm Ø FILTER DRAINS
TRENCH TYPICAL DIMENSIONS
WIDTH = 600mm
DEPTH = 1000mm
TOPSOIL DEPTH = 300mm
TOTAL LENGTH (BOTH BRANCHES) = 37.5m

PERMEABLE PARKING
AREA - DISCOUNTED
FROM DRAINAGE
CONTRIBUTION AREA

DOWNPIPES TO
DISCHARGE VIA WATER
BUTTS AND/OR RAISED
BED SUDS PLANTERS
WHERE SPACE AND
VISUAL IMPACT ALLOWS

PIPE PROTECTION TO BE
CONSIDERED WHERE
COVER IS LESS THAN
600mm

FILTER DRAIN SHALLOWER
ON THE EASTERN SIDE OF
BUILDING TO ENSURE
RAINWATER HARVESTING
TANK IS AT AN
ACCEPTABLE DEPTH

GRAF AA SILENTIO PLATIN 5,000l CAPACITY
RAINWATER HARVESTING TANK
DISCHARGE TO SOAKAWAY LIMITED TO 2l/s
INLET CL = 49.90
INLET IL = 48.99
OVERFLOW IL = 48.91
INCOMING AND OUTGOING PIPES LAID TO 1:100
LOCATION OF TANK SUBJECT TO
MANUFACTURERS REQUIREMENTS

SOAKAWAY GEOCELLULAR CRATES
WAVIN AQUACELL NG OR SIMILAR APPROVED
AS SHOWN: AREA 8.6m² (2.4m x 3.6m)
DEPTH: 1.2m
MIN. COVER: 500mm
IL OF INCOMING PIPE: 48.89
PRECISE LOCATION AND DIMENSIONS SUBJECT TO
SITE SETTING OUT. TREE ROOT PROTECTION AREAS
AND RAINWATER HARVESTING TANK REQUIREMENTS

CL = 50.10
IL = 49.10

CL = 49.65
IL = 48.088

CL = 49.70
IL = 49.065

CL = 50.10
IL = 49.07

CL = 49.80
IL = 49.03

CL = 50.10
IL = 49.04

CL = 49.90
IL = 49.00

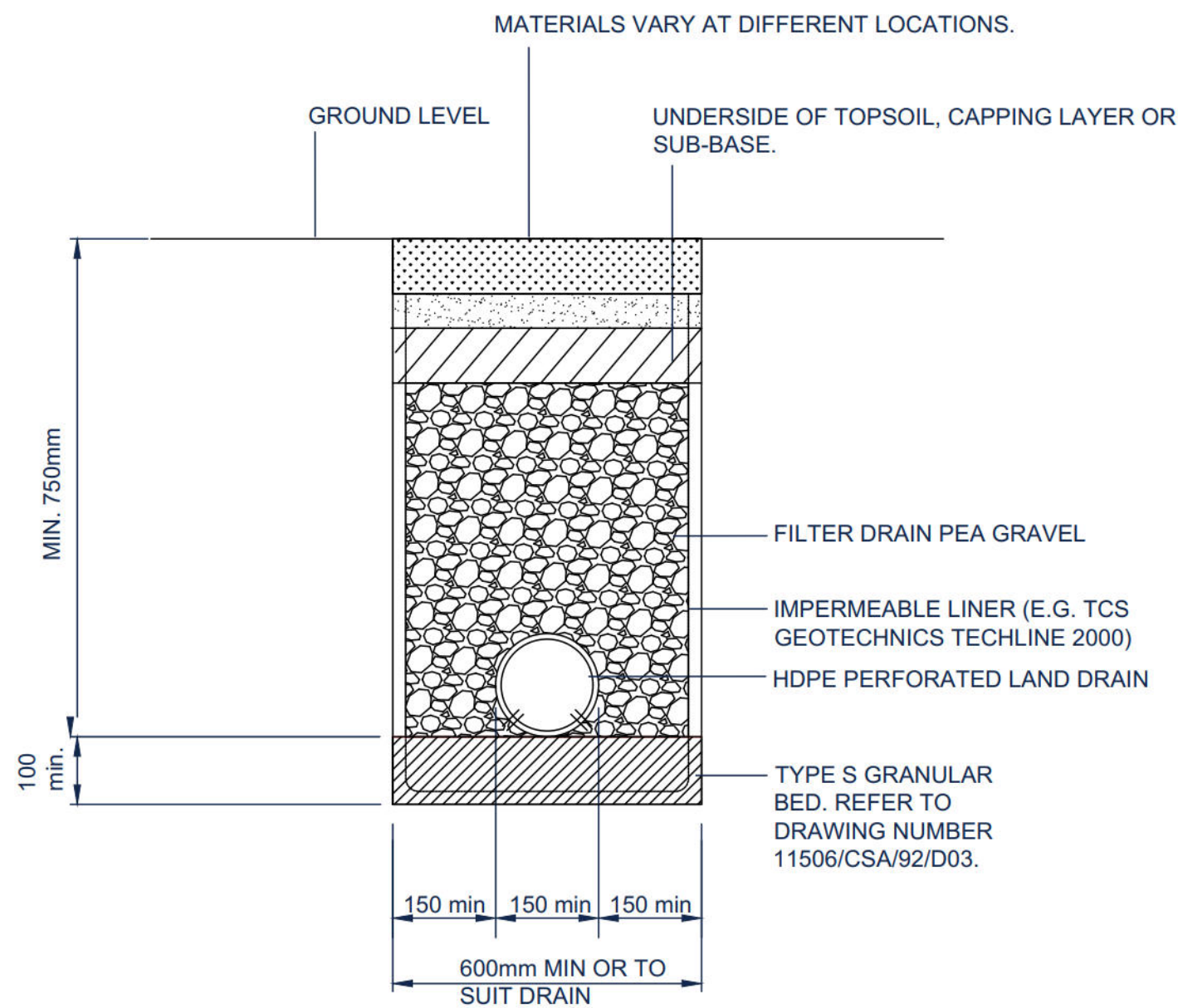
5m OFFSET FROM THE
BUILDING EDGE

3m OFFSET FROM THE SITE
BOUNDARY

0 4m 8m 20m

Metres 1:200

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FILTER DRAIN

TABLE 1

DN	Minimum trench width (OD + x)		
	Supported trench	Unsupported trench	
		# > 60°	# < 60°
less 225	OD + 400	OD + 400	OD + 400
225 to 350	OD + 500	OD + 500	OD + 400
350 to 700	OD + 700	OD + 700	OD + 400
700 to 1200	OD + 850	OD + 850	OD + 400
greater 1200	OD + 1000	OD + 1000	OD + 400

In the values OD + x, x/2 equals the minimum working space between the pipe and the trench wall or support, where:
OD is external diameter.
is angle of unsupported trench side measured to the horizontal.

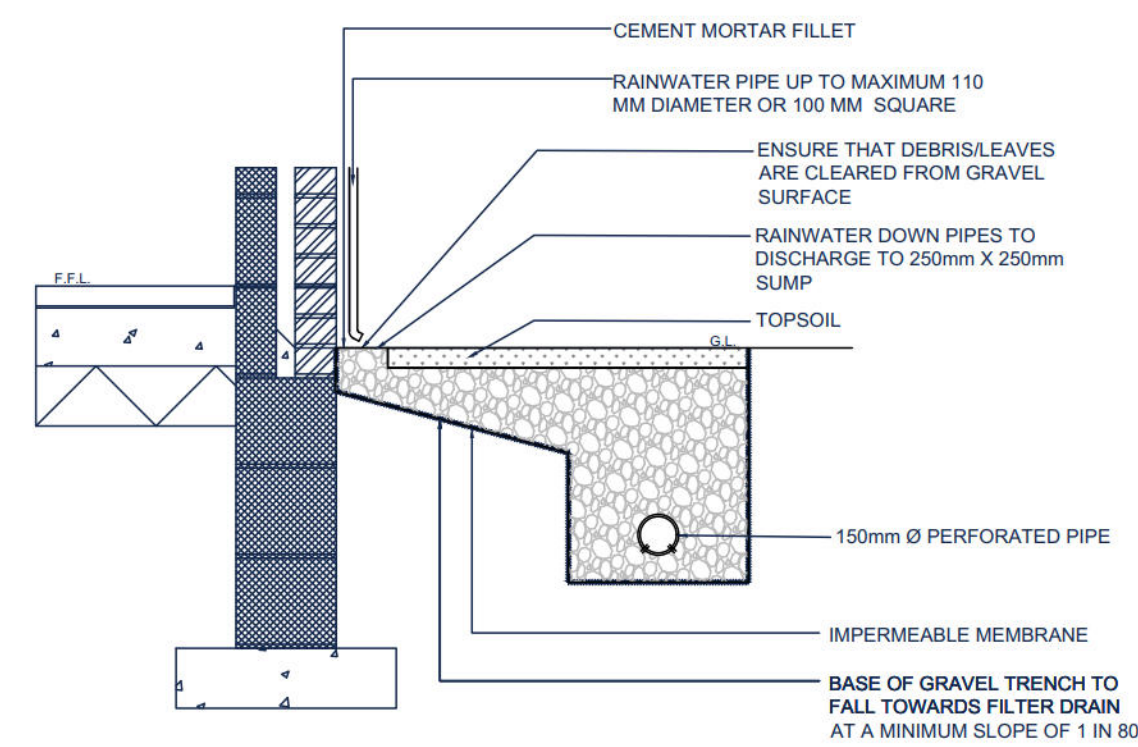
MINIMUM TRENCH WIDTH IN RELATION TO NORMAL SIZE DN

TABLE 2

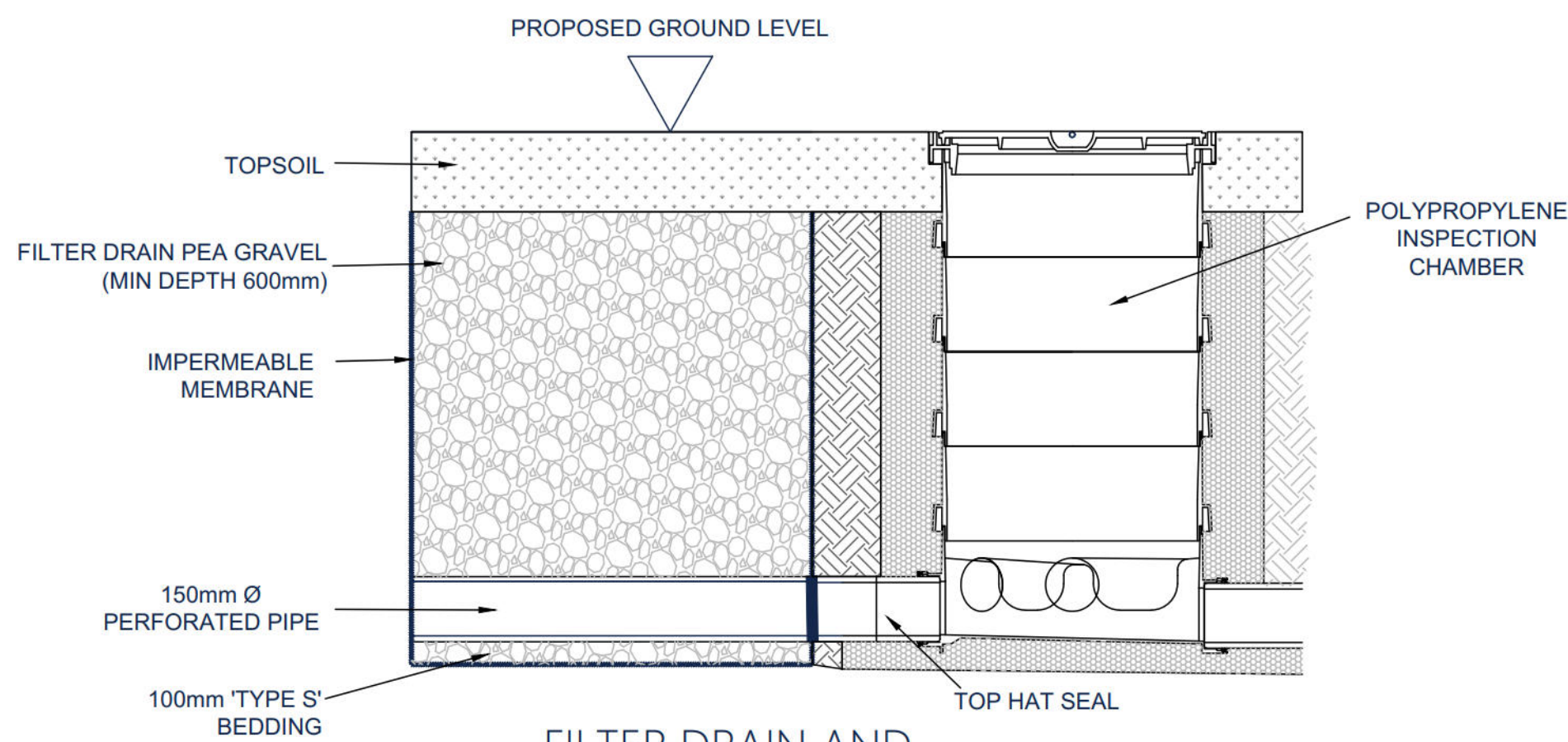
Trench depth	Minimum trench width
less 1000	No min. width required
1000 to 1750	800
1750 to 4000	900
greater 4000	1000

The minimum trench width shall be the greater of the values taken from tables 1 & 2.

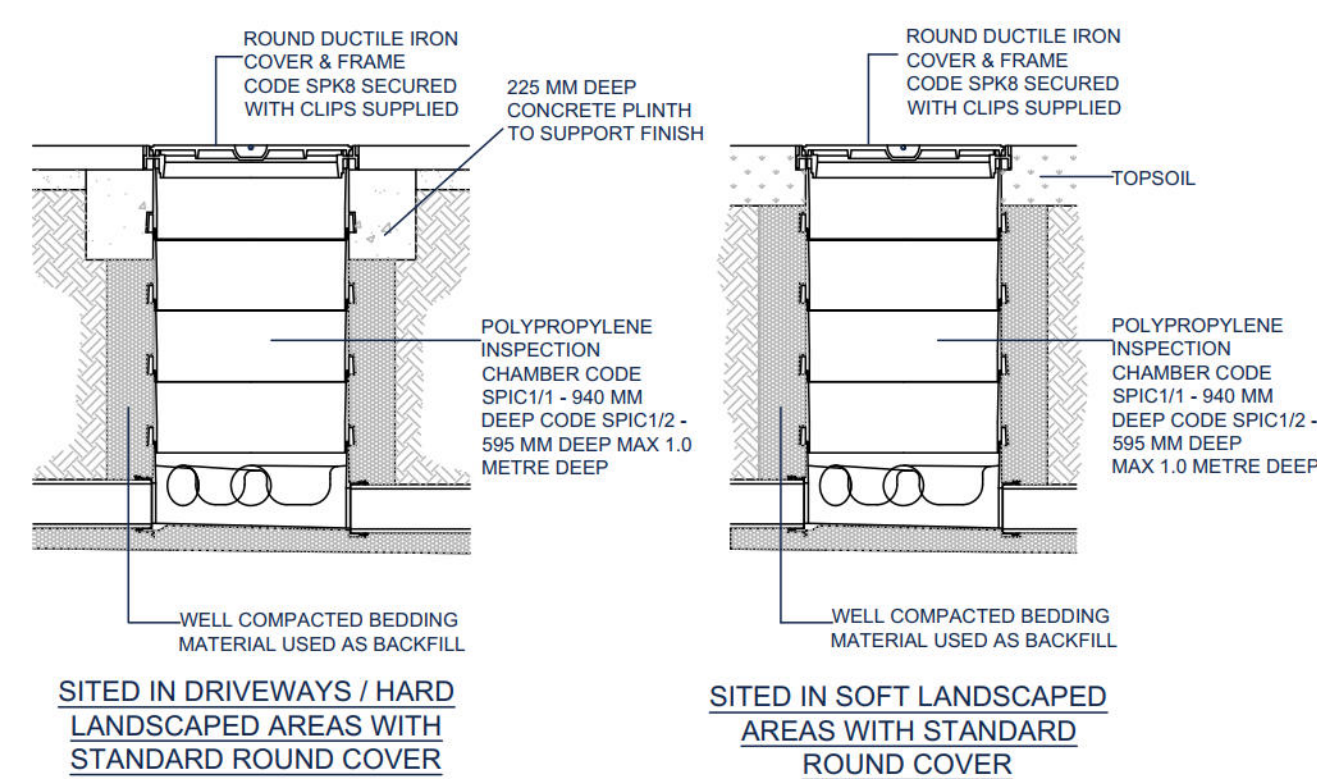
MINIMUM TRENCH WIDTH IN RELATION TO TRENCH DEPTH



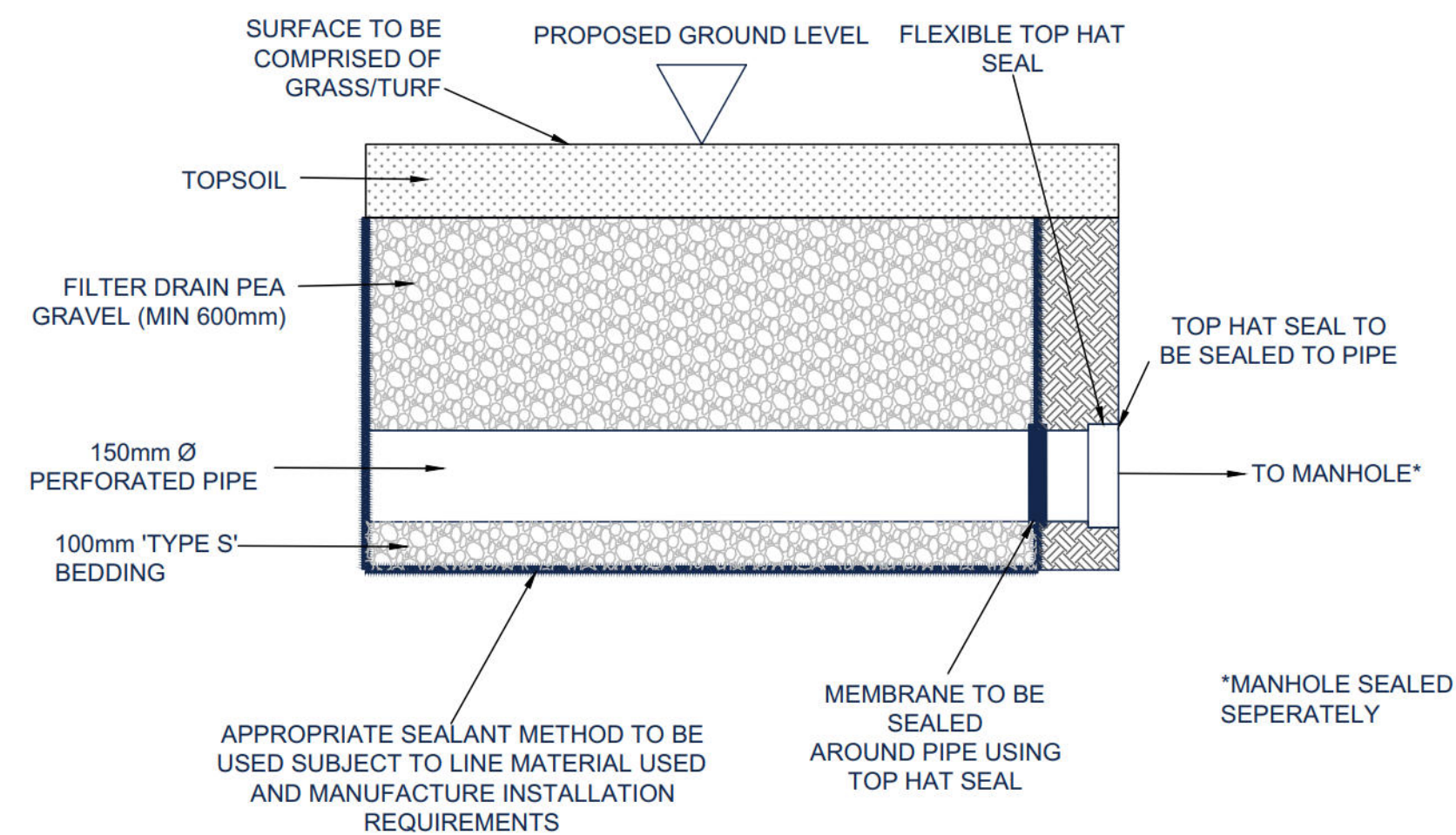
EXTERNAL R.W.P TO
FILTER DRAIN



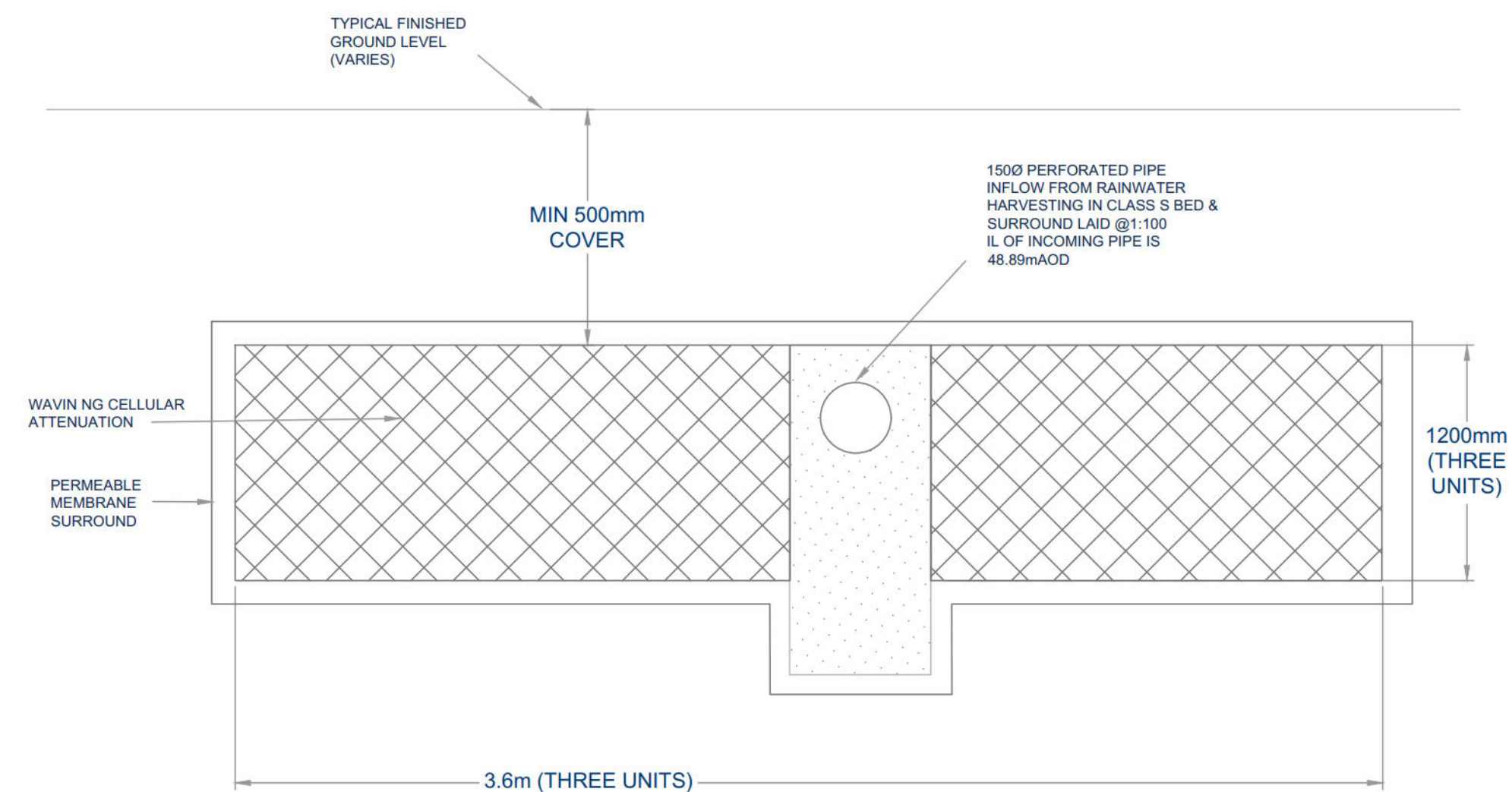
FILTER DRAIN AND
MANHOLE INTEGRATION



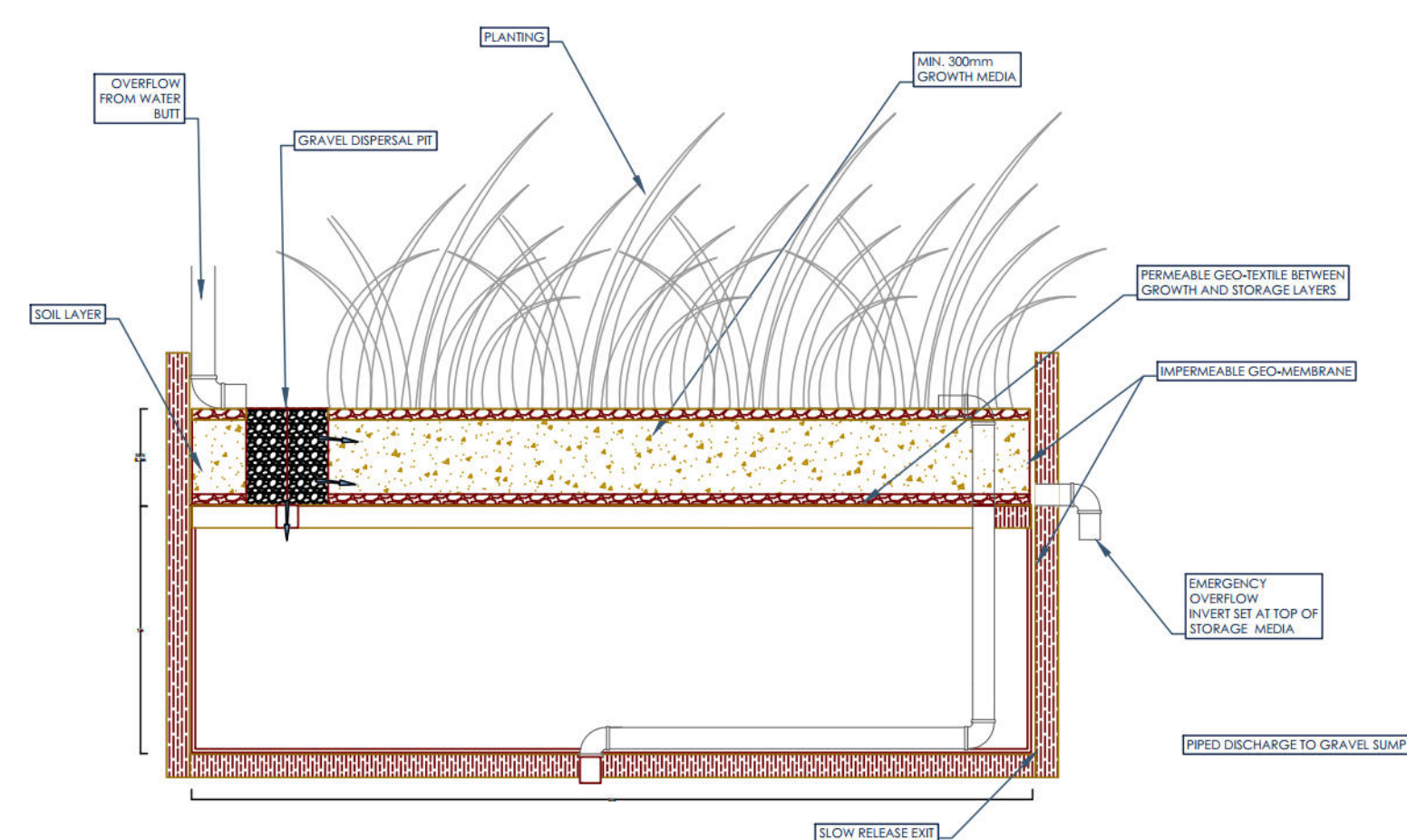
POLYPROPYLENE
INSPECTION CHAMBER
SCALE 1:10



IMPERMEABLE
GEOMEMBRANE AND TOP
HAT SEAL TYPICAL DETAIL



SOAKAWAY DETAILS:
WAVIN AQUACELL NG



SuDS PLANTER TYPICAL
DETAIL

- NOTES:**
1. RAINWATER HARVESTING TANK DESIGN AND DETAILS TO BE SUPPLIED BY MANUFACTURER
 2. DRAINAGE COMPONENTS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER GUIDANCE AND REQUIREMENTS

01	AMENDED AS PER CLIENT COMMENTS	CF	CB	13-05-26
00	FIRST ISSUE	CF	CB	27-03-26
REV:	DESCRIPTION:	BY:	CHK:	DATE:

STATUS:	FOR PLANNING
CLIENT:	SRI AND DAN GORE
SITE:	ASTRA COTTAGE, OARE
TITLE:	TYPICAL DRAINAGE DETAILS



SCALE:	DATE:	DRAWN:	CHECKED:
NTS	17/07/26	PG	CB
PROJECT:	COMPANY:	TYPE:	DRAWING NO:
26-245	CAL	DR	70-101
			SHEET NO:
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			REVISION:
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