

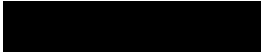
SuDS and Drainage Report

Nesltd, Land to south of The Black Horse Pub, Binstead Farm, Binstead Lane,
Walberton BN18 0LP

Rev: 3

Ref: C3944

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Document Control

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Author	Luke Honeywill	Signature	

Revision History

Date	Revision	Author	Approved
26/03/2026	1	LH	CS
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1 Introduction

- 1.1.1 CGS Civils Ltd has been appointed to undertake a drainage strategy report for a proposed development at Nestled, Land to the south of The Black Horse Pub, Walberton.
- 1.1.2 The proposed development will consist of the construction of 6 No. glamping pods with associated access, car parking and landscaping. The proposed development is located as OS Grid Reference SU 98105 06329 and has the post code BN18 0LP.
- 1.1.3 The purpose of this drainage scheme is to demonstrate how the proposed development can be satisfactorily drained without increasing flood risk onsite and where appropriate, providing betterment over the existing site to reduce flood risk in the region.
- 1.1.4 This document has been prepared with reference to:
- National Planning Policy Framework (NPPF)
 - DEFRA: Sustainable Drainage Systems: Non-Statutory technical standards for sustainable drainage systems
 - DEFRA: National Standards for Sustainable Drainage Systems (SuDS)
 - The SuDS Manual (C753)
 - Building Regulations Document H
 - West Sussex County Council Local Flood Risk Management Strategy

2 The Site

- 2.1.1 The site is comprised of an undeveloped parcel of that that is to be developed as a glamping site with 6 No. glamping units that is sat on a parcel of land that encompasses 6742m² of land located to the south of The Black Horse Pub. The development will result in a total of 630m² of impermeable area.
- 2.1.2 The topography of the site is noted to fall towards the south where an existing drainage ditch is located that is understood to discharge into an existing stream on the opposite side of the adjacent golf course. The fall in topography across the site allows for the inclusion of open SuDS features which will provide additional benefits over just being a storage feature, such as bio-diversity and amenity benefits.

Fig 1. Site Location



3 Executive Summary:

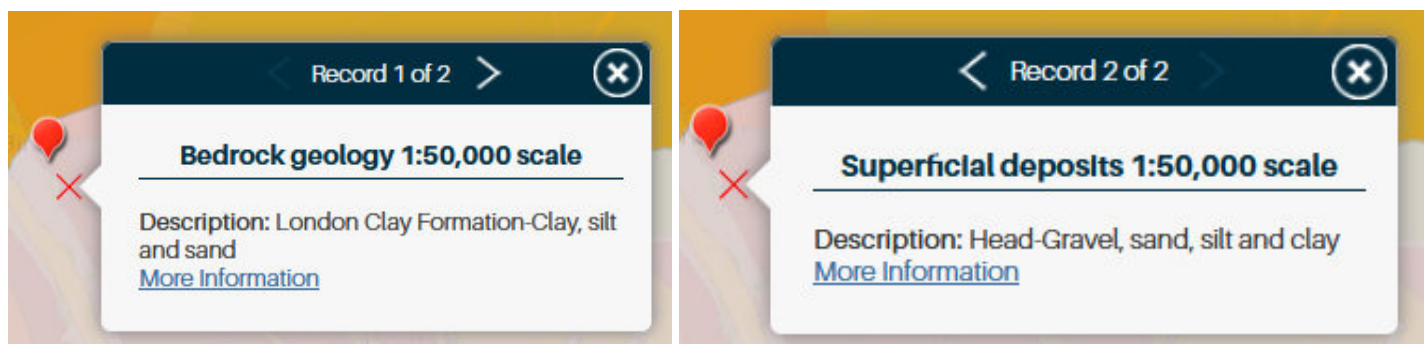
- 3.1.1 The proposed site consists of the construction of 6 No. glamping units with associated access, car parking and landscaping.
- 3.1.2 The underlying geology is noted to be London Clay Formation which is comprised of Clay, Silt and Sand. Infiltration testing was carried out on site which recorded a worst-case infiltration rate of $1.09 \times 10^{-5} \text{m/s}$ which is considered a fair rate.
- 3.1.3 In addition to the infiltration testing, winter groundwater monitoring was conducted between November 2025 and March 2026. During this period, the highest recorded groundwater level was 1.0mbgl, which rules out the use of infiltration features as per the latest National Standards for SuDS.
- 3.1.4 It is therefore proposed that all surface water runoff is to be discharged into an existing watercourse located to the south of the site. The discharge rate is to be restricted to 0.5l/s which is the recorded greenfield runoff rate. The surface water network will make use of a detention basin in order to cater for the 1 in 100-year +45% storm. The proposed parking area is to be constructed from an impermeable surface; runoff is to discharge into an adjacent filter strip which will capture the runoff and discharge into the rest of the surface water network. The filter strip will also provide water quality benefits.

4 Site Geology

4.1 British Geological Survey information

- 4.1.1 The British Geological Survey confirms the bedrock geology to be made up of London Clay Formation, which is comprised of Clay, Silt and Sand. The BGS website confirms the superficial deposits on site to be made up of Head formation which is comprised of Gravel, Sand, Silt and Clay.
- 4.1.2 The British Geological survey also holds records of historical boreholes near the site which give some insight into the ground geology.
- Borehole SU90NE42 (Located on site) – Clayey Gravel, Silty Sandy Clay and Clay.

Fig 2. British Geological Survey



4.2 Geological Assessment

- 4.2.1 Infiltration testing was carried out within a shallow trial pit which recorded a worst-case infiltration rate of 1.09×10^{-5} m/s which is considered a fair rate.
- 4.2.2 A groundwater monitoring well was installed on site by E3S Consulting Ltd in November 2025. During excavation of the well it was noted that the underlying geology is comprised of gravelly clay to a depth of 1.2mbgl followed by Clay to the bottom of the well at 4.0mbgl.
- 4.2.3 Subsequent groundwater monitoring visits were conducted by CGS Civils with the highest groundwater level being recorded at 1.0mbgl. As per the latest national SuDS standards, the use of infiltration features are confirmed to not be viable and an alternative means of surface water disposal is to be sought.

5 Existing Drainage

- 5.1.1 As the existing site is comprised as an undeveloped parcel of land, it is understood that there is no drainage infrastructure present. It is noted that an existing drainage ditch is present along the southern border of the site which discharges towards the existing stream within the adjacent golf course.
- 5.1.2 It is understood that the drainage ditch is culverted below the golf course. Ditch clearance works were recently undertaken and a positive outfall from the ditch was discovered in the direction of the stream located within the adjacent golf course.

Fig 3. Existing Drainage Ditch







6 Proposed Drainage Strategy

6.1 SuDS Hierarchy

- 6.1.1 All options for the destination of run-off generated on site have been assessed in line with the SuDS hierarchy as set out in Building Regulations Part H document and DEFRA's Draft National Standards for SuDS.

Table 1. SuDS Hierarchy

Discharge Destination	
Rainwater Harvesting	Yes rainwater harvesting tanks are to be provided. One tank per unit – the harvesting tanks are to be used for external areas which will allow for any watering plants, wash down etc.
Interception Features	Rainwater harvesting tanks are interception features which will capture the first 5mm of rainfall that falls on the site. The detention basin is to be planted which will allow it to act as an interception feature.
Discharge to Ground	No – Despite a favourable infiltration rate, the winter groundwater level rules out use of infiltration features.
Discharge to Watercourse	Yes – Proposed discharge to existing watercourse within southern corner of the site. Discharge rate to be restricted to 0.5l/s which is the calculated greenfield runoff rate.
Discharge to Surface Water Sewer	N/A due to above
Discharge to Other Sewer	N/A due to above

6.2 Proposed Hydraulic Calculation Specifications:

Table 2. SuDS Hierarchy

Hydraulic Calculations Settings:	
Rainfall Methodology	FEH-22
Volumetric Run-off Coefficient Cv	1
CV Winter and Summer	1
Additional Storage (m ³ / ha)	0.0
Maximum Rainfall (mm/hr)	75
Detention basin design	Base Coefficient (m/hr): 0.00000
	Side Coefficient (m/hr): 0.00000
	Factor of Safety: 2
	Porosity: 100%
	Time to Half Empty (mins): -

6.3 Surface Water Drainage

- 6.3.1 Despite the favourable infiltration rate recorded, the use of infiltration features are not viable due to the recorded groundwater level. Therefore, it is proposed that all surface water runoff is to be discharged into an existing drainage ditch located at the southern boundary of the site.
- 6.3.2 The surface water runoff from the glamping units is to be captured into a positive drainage network which will discharge into the existing drainage ditch to the south of the site. The proposed discharge rate is to be restricted to the site's recorded Q_{BAR} which is 0.5/s. The proposed drainage network will make use of a detention basin which has been designed to cater for the 1 in 100-year storm +45% CCA +10% urban creep.
- 6.3.3 The detention basin is to be planted with storm-resistant plants which will allow it to not only act as a storage feature but will also provide water quality, bio-diversity and amenity benefits whilst also adding a degree of interception for the first 5mm of rainfall on site.
- 6.3.4 The proposed parking area is to be constructed from an impermeable surface; runoff is to discharge into an adjacent filter strip which will capture the runoff and discharge into the rest of the surface water network. The filter strip will also provide water quality benefits.
- 6.3.5 Each glamping pod will also utilise rainwater harvesting for external re-use, this can include watering of any planted features and wash-down of pods and decking.
- 6.3.6 Hydraulic and greenfield runoff calculations have been carried out which can be found at Appendix C.

Table 3. Greenfield Runoff Calculations

Greenfield Runoff Calculations			
Storm period	Greenfield runoff rate (l/s)	Proposed Discharge Rate (l/s)	Difference (l/s)
Q_{BAR}	0.3	0.5	+ 0.2
1	0.3	0.5	+ 0.2
2	0.3	0.5	+ 0.2
10	0.5	0.5	+ 0.0
30	0.8	0.5	- 0.3
100	1.1	0.5	- 0.6

7 Compliance with National SuDS Standards and Principles

7.1.1 The current national SuDS standards comprise 7 standards supported by 11 design principles. The tables below summarise how the proposed drainage strategy for Nestled in Walberton responds to these requirements.

Standard	Requirement	Project response
1	Runoff destinations	Rainwater harvesting has been included. The use of infiltration features has been ruled out due to recorded peak groundwater levels. An existing drainage ditch is noted to be present along the southern boundary of the site which is a viable discharge location.
2	Management of everyday rainfall	Rainfall is managed close to source by rainwater harvesting, reducing routine runoff from the site. The proposed detention basin will provide a degree of interception due to planted features.
3	Management of extreme rainfall and flooding	Roof drainage is directed to the proposed detention basin which has been sized for the 1 in 100-year +45% climate change storm with 10% urban creep. The restricted discharge rate of 0.5l/s avoids increasing flood risk elsewhere. Any exceedance routes are directed safely away from habitable areas and towards the drainage ditch.
4	Water quality	Runoff from roofs and parking areas is treated through the SuDS management train. Filter strips and detention basin provides pollutant mitigation in accordance with the simple index approach.
5	Amenity	Rainwater harvesting supports irrigation and green landscapes and the detention basin manages runoff whilst doubling as an attractive habitat spaces, enhancing both function and visual amenity.
6	Biodiversity	A detention basin improves biodiversity by creating a temporary wet habitat that supports a range of plants and wildlife. Wetland vegetation provides food and shelter for insects, birds and amphibians.
7	Construction, operation, maintenance and structural integrity	The proposed SuDS components are conventional, buildable and maintainable. Long-term maintenance is addressed within the maintenance schedule and the design respects monitored groundwater levels.

Compliance Table A. Summary of compliance with the 7 national SuDS standards

The proposed drainage design also follows the 11 underpinning principles of the national standards as summarised below.

Principle	Summary	Project response
1	Natural approach to managing water	Surface water is managed on site at source as much as possible through the use of interception features such as rainwater harvesting, and detention basin. Runoff is discharged to existing drainage ditch.
2	Management train close to source	Varying SuDS features are used together, with re-use to remove runoff close to source in addition to bio-retention retaining runoff prior to discharge to drainage ditch.
3	SuDS approach	The strategy manages runoff quantity, water quality and long-term maintenance in an integrated manner.
4	Early and integrated design	Drainage has been considered alongside site levels, layout and groundwater conditions.
5	Site layout informed by drainage	The site drainage has been designed to reflect recorded groundwater levels and site topography. Site wide drainage designed together.
6	Follow natural drainage routes	The layout allows runoff to be managed in accordance with site topography.
7	Take account of local policy and flood evidence	The design is based on BRE 365 testing, BGS data and current national and local SuDS standards. Peak winter groundwater levels rule out the use of infiltration features and SuDS hierarchy followed with proposed discharge to drainage ditch.
8	Early engagement with the authority	The report format and supporting evidence are intended to support planning application.
9	Demonstrate compliance from concept stage	Compliance with the national standards is addressed within this planning-stage drainage strategy rather than deferred entirely to later stages.
10	Show how the standards are met in site design	The report sets out the hierarchy, testing, hydraulic basis, water quality approach in one coordinated document.
11	Consider phasing where relevant	The development is small and not expected to be phased; however, the strategy is capable of being delivered in a single coordinated phase.

Compliance Table B. Summary of compliance with the 11 SuDS design principles

7.2 Water Quality

- 7.2.1 A key requirement of any SuDS system is that it protects the receiving water body from the risk of pollution.
- 7.2.2 Frequent and short duration rainfall events are those that are most loaded with potential contaminants (silts, fines, heavy metals, and various organic and inorganic contaminants) Therefore the first 5-10mm of rainfall should be adequately treated with SuDS.
- 7.2.3 The new SuDS Manual (Ciria C753, November 2015) introduces slightly different approach compared to the previous version for the water quality management of surface water. The Manual describes risks posed by the surface water runoff to the receiving environment as a function of:
- The pollution hazard at a particular site (i.e., the pollution source)
 - The effectiveness of SuDS treatment components in reducing levels of pollutants to environmentally acceptable levels
 - The sensitivity of the receiving environment
- 7.2.4 The recommended approaches for water quality risk management are given in the SuDS Manual Table 26.1.

Table 26.1 from SuDS manual. Approaches to Water Quality Risk Management

Table 26.1 Approaches to Water Quality Risk Management			
Design method	Hazard Characterisation	Risk Reduction	
		For Surface Water	For Groundwater
Simple Index Approach	Simple pollution hazard indices based on land use (Table 26.2)	Simple SuDS hazard mitigation indices (Table 26.3)	Simple SuDS hazard mitigation indices (Table 26.4)
Risk Screening	Factors characterising traffic density and extent of infiltration likely to occur (Table 26.5)	N/A	Factors characterising unsaturated soil depth and type, and predominant flow type through the soils (Table 26.5)
Detailed Risk Assessment	Site specific information used to define likely pollutants and their significance	More detailed, component specific performance information used to demonstrate that the proposed SuDS components reduce the hazard to acceptable levels	
Process-based treatment modelling	Time series rainfall used with generic pollution characteristics to determine statistical distributions of likely concentrations and loadings in the runoff	Models that represent the treatment processes in the proposed SuDS components give estimates of reductions in even mean discharge concentrations and total annual load reductions delivered by the system	

- 7.2.5 As per Table 26.1 Simple Index approach will be used as a design method for this site.
- 7.2.6 Table 26.2 will provide hazard classification of different land uses. The land uses for the surface water drainage for this site are.
- Other Roofs
 - Individual Property driveways and residential car parks
- 7.2.7 To deliver adequate treatment, the selected SuDS components should have a total pollution mitigation index for each contaminant type that equals or exceeds the pollution hazard index for each contaminant type. Therefore, the following must be achieved for the surface running off the site.

Total SuDS mitigation index $\geq$ pollution hazard index

7.2.8 Pollution Hazard Indices are given for different land uses in Table 26.2 of the SuDS manual;

Table 26.2 from SuDS manual. Pollution Hazard Indices for Different Land Use Classifications

Table 26.2 Pollution hazard indices for different land use classifications				
Land Use	Pollution Hazard Level	Total Suspended solids (TSS)	Metals	Hydro-Carbons
Residential roofs	Very Low	0.2	0.2	0.05
Other roofs (Typically commercial/industrial roofs)	Low	0.3	0.2 (up to 0.8 where there is potential for metals to leach from the roof)	0.05
Individual property driveways, residential car parks, low traffic roads (e.g., cul-de-sacs, homezones and general access roads) and non-residential car parking with infrequent change (e.g., schools, offices) i.e., < 300 traffic movements/day	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (e.g., hospitals, retail), all roads except low traffic roads and trunk roads/motorways	Medium	0.7	0.6	0.7
Sites with heavy pollution (e.g., haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites), sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured; industrial sites; trunk roads and motorways	High	0.8	0.8	0.9

7.2.9 From Table 26.2 the following information is tabulated in Table 1

Table 3: Pollution hazard index and destination of runoff for the proposed site

Table 3: Pollution Hazard Index and Destination of runoff for the proposed Site						
Land Use	Destination of Runoff	Pollution Level	Hazard	Total Suspended Solids	Metals	Hydrocarbons
Other Roof	Surface Water	Low		0.3	0.2	0.05
Individual driveways, residential car parks and low traffic roads	Surface water	Low		0.5	0.4	0.4

7.2.10 The SuDS mitigation index will be obtained from Table 26.4 (for groundwater) of the SuDS manual.

Table 26.4 from SuDS manual. Indicative SuDS Mitigation Indices for discharges to ground waters.

7.2.11 SuDS mitigation index are tabulated in Table 5 as followed.

Table 26.4 Indicative SuDS mitigation indices for discharges to surface waters			
Type of SuDS Components	Mitigation Indices		
	TSS	Metals	Hydrocarbons
Filter Strip	0.4	0.4	0.5
Filter Drain	0.4	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention System	0.8	0.8	0.8
Permeable Pavement	0.7	0.6	0.7
Detention Basin	0.5	0.5	0.6
Pond	0.7	0.7	0.5
Wetland	0.8	0.8	0.8
Proprietary treatment systems	These must demonstrate that they can address each of the contaminant types to acceptable levels for inflow concentrations relevant to the contributing drainage area		

Table 4: SuDS mitigation index

Table 4 Mitigation Indices						
Runoff Source	Destination of Runoff	Mitigation Index Source	Type of SuDS Component	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Other Roofs	Surface Water	Table 26.3	Detention basin	0.5	0.5	0.6
Individual driveways, residential car parks and low traffic roads	Surface water	Table 26.3	Filter Strip	0.4	0.4	0.5

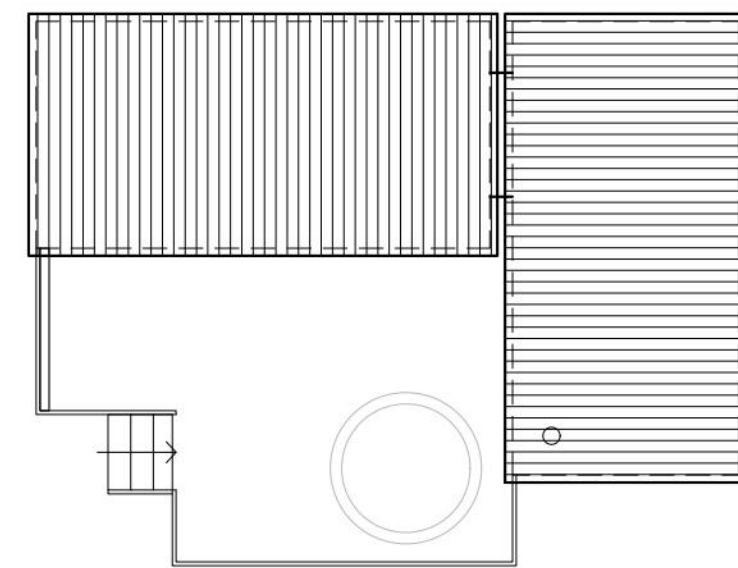
7.2.12 The above analysis demonstrates that the SuDS devices within the design will mitigate any pollution present within the surface water system.

8 Summary and Conclusions

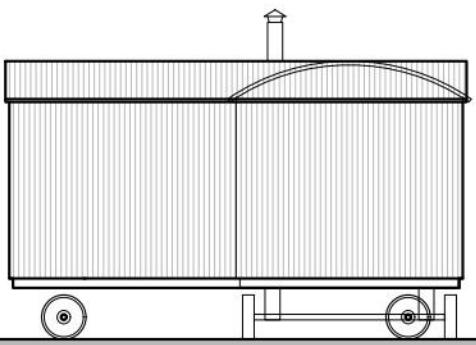
- 8.1.1 CGS Civils has been instructed to produce a Drainage statement under National Planning Policy Framework (NPPF) to support the Planning Application for the construction of 6 No. glamping pods, car parking and landscaping.
- 8.1.2 It is therefore proposed that all surface water runoff is to be discharged into an existing drainage ditch located to the south of the site. The discharge rate is to be restricted to 0.5l/s which is the recorded greenfield runoff rate. The surface water network will make use of a detention basin in order to cater for the 1 in 100-year +45% storm.
- 8.1.3 The proposed parking area is to be constructed from an impermeable surface; runoff is to discharge into an adjacent filter strip which will capture the runoff and discharge into the rest of the surface water network. The filter strip will also provide water quality benefits.
- 8.1.4 The report has demonstrated that the proposed drainage measures ensure that suitable means of surface water drainage can be achieved for the proposed development.

9 Appendices

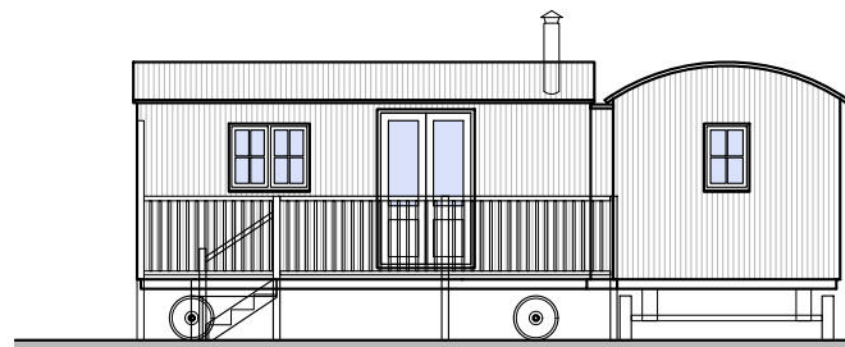
9.1 Appendix A – Site Plan



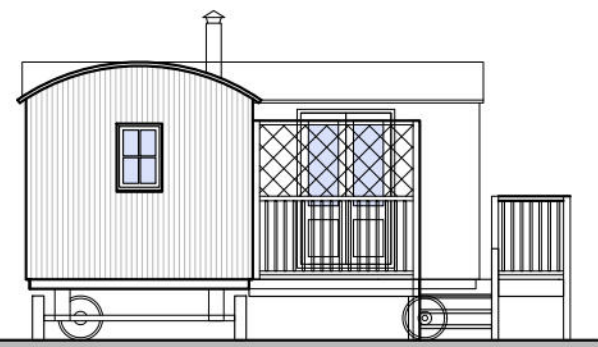
Front Elevation
(Facing Binsted Lane)



Side Elevation



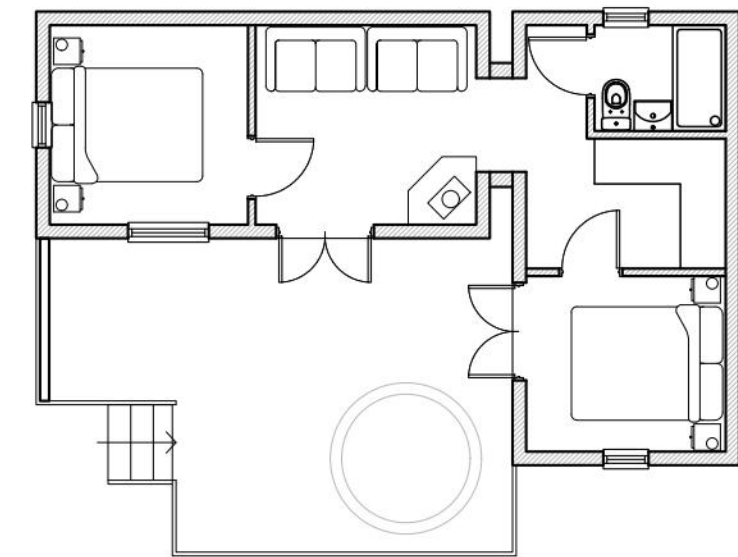
Rear Elevation
(Facing Golf Course)



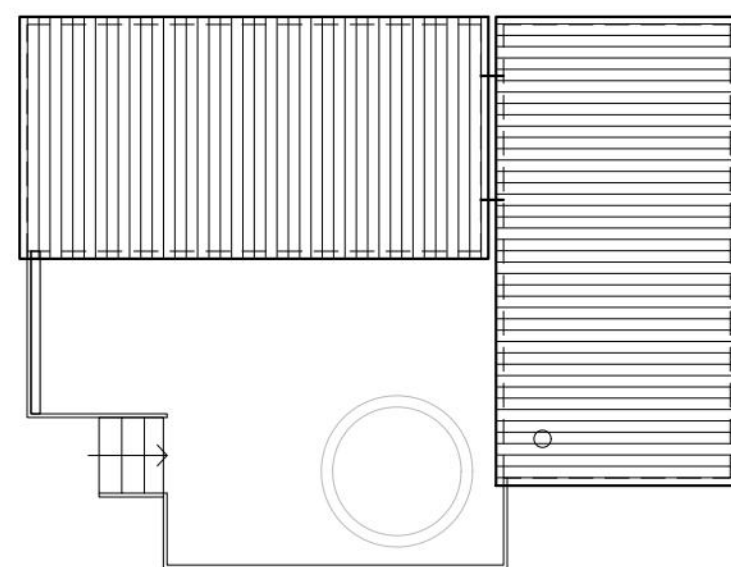
Side Elevation

2bed 5 person
Shepherd's Hut

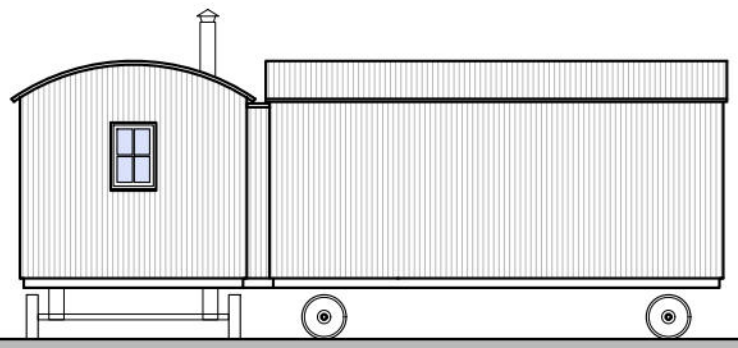
Unit 1, 5 & 6



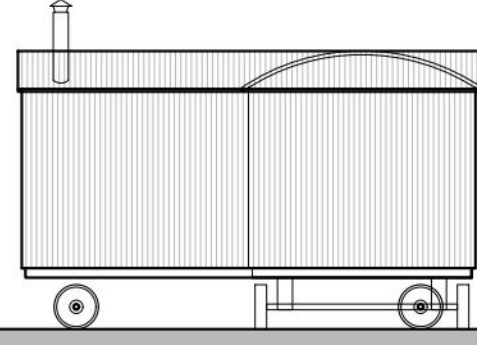
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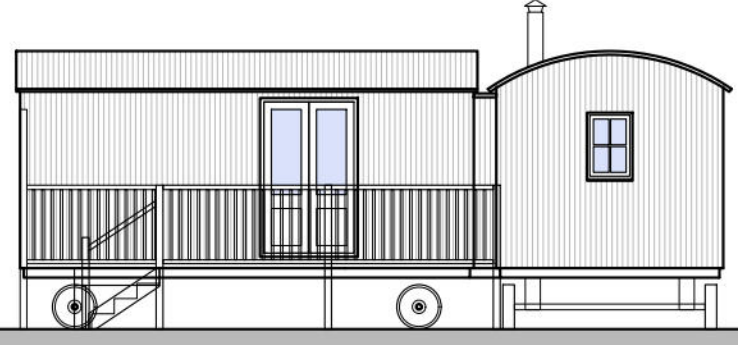
Side Elevation



Front Elevation
(Facing Binsted Lane)



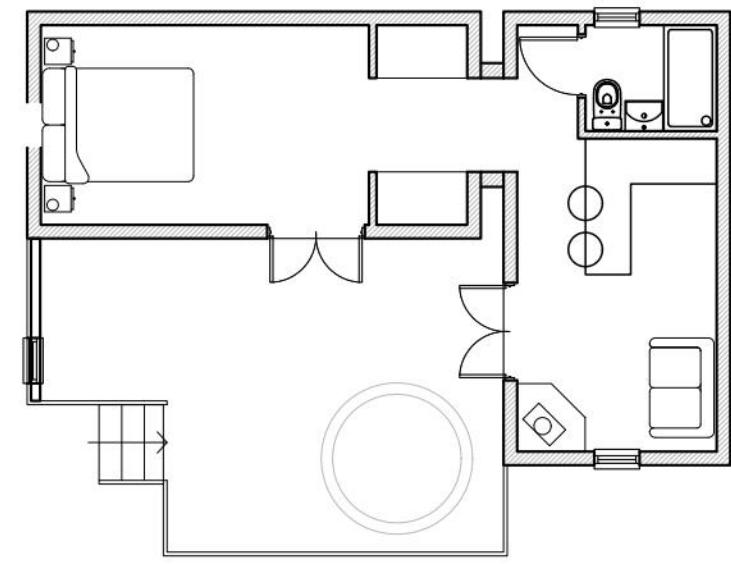
Side Elevation



Rear Elevation
(Facing Golf Course)

Units, 2,3 & 4

1bed 3 person
Shepherd's Hut



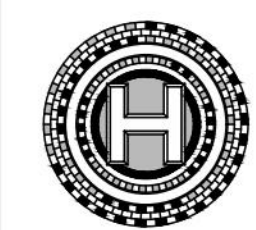
0 1 2 3 4 5
Scale Bar 1:100

This drawing is to be read in conjunction with all other relevant drawings and specifications.
Do not scale from this drawing (unless for planning purposes). Use figure dimensions only.
All levels and dimensions shall be checked at all stages in accordance with the specification.
All dimensional discrepancies are to be brought to the immediate attention of the originator. Responsibility cannot be accepted for alteration and/or deviation from the design without prior knowledge.
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It is the responsibility of the Client to check Legal Boundaries are correctly indicated and that relevant Party Wall Notices (usually served via a Surveyor) where required have been served to adjoining neighbours prior to any commencement of works. No responsibility will be held by Simon Harvey Designs Ltd for any failure in the above.

B - New Hedging length confirmed. Pedestrian access gate added for surface water / flood egress. Re-issued for Planning - 07.05.2025

A - Issued for Planning - 21.03.2025

Revision



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Client: Binstead Farms Ltd

Project: Proposed glamping site to field west of Church Farm

Address: Binstead Lane,
Binstead,
Nr Arundel,
West Sussex.
BN18 0LN

Drawing Title: PROPOSED ARRANGEMENT

Drawing Number: 148_02

Date: February 2025

Scale: 1:500 / 1:100 @ A1

PLANNING

9.2 **Appendix B – Drainage Layout**

DESIGN SUBJECT TO THE APPROVAL OF:
PLANNING AUTHORITY
BUILDING CONTROL
WATER AUTHORITY

DESIGN SUBJECT TO THE CONFIRMATION OF:
EXTERNAL LEVELS DESIGN
ORDINARY WATERCOURSE APPROVAL
LOCATION AND DEPTH OF EXISTING UTILITIES



- STANDARD DRAINAGE NOTES
- DO NOT SCALE FROM THIS DRAWING. REFER TO FIGURED DIMENSIONS ONLY. THE CONTRACTOR SHOULD CHECK ALL DIMENSIONS ON SITE.
 - ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS ARE IN METERS UNLESS NOTED OTHERWISE.
 - THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECT AND ENGINEERING DETAILS, DRAWINGS AND SPECIFICATIONS.
 - ANY DISCREPANCIES SHOULD BE REPORTED TO THE ARCHITECT AND/OR ENGINEER IMMEDIATELY, SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO THE COMMENCEMENT OF WORK.
 - BEFORE COMMENCING CONSTRUCTION THE CONTRACTOR MUST CHECK THE INVERT LEVELS OF EXISTING SEWERS TO WHICH CONNECTIONS ARE MADE. IN ADDITION THE CONTRACTOR MUST LOCATE AND DETERMINE INVERT LEVELS OF THE EXISTING SPURS TO WHICH CONNECTIONS ARE PROPOSED. ANY DISCREPANCIES ARE TO BE NOTIFIED TO THE ENGINEER IMMEDIATELY, PRIOR TO CONSTRUCTION.
 - ALL DRAINAGE WORKS SHOULD COMMENCE AT THE PROPOSED DOWNSTREAM CONNECTION POINT. THE WORKS CONTINUING UPSTREAM FOLLOWING CONFIRMATION OF THE TIE-IN INVERT LEVELS TO THE ENGINEER. CONNECTIONS TO MANHOLES OR LARGER SIZED PIPES ETC. SHOULD BE SOFFIT TO SOFFIT UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER, IF THIS IS NOT POSSIBLE INFORM THE ENGINEER IMMEDIATELY.
 - COVER LEVELS SHOWN ARE APPROXIMATE. COVERS AND FRAMES SHALL BE SET TO FINISHED GROUND LEVELS AND FALLS.
 - ALL UN-REFERENCED PIPES ARE TO BE 100mm DIA.
 - ALL PIPES TO BE ADOPTEED, OR CONNECTING TO ADOPTEED SEWERS, TO BE VITRIFIED CLAY TO BS EN 295 AND BS65 (SWS ONLY), OR CONCRETE PIPES TO BE EN 1916 AND BS5911:PART 1.
 - ROAD GULLY OUTLET PIPES ARE TO BE 150mm DIA. WITH CONCRETE SURROUND AND FLEXIBLE JOINTS. ALL GULLIES SHALL BE FITTED WITH GRADE D400 GRATINGS AND FRAMES TO BS EN124, UNLESS OTHERWISE STATED.
 - ALL ADAPTABLE SEWERS SHALL BE CONSTRUCTED TO THE STANDARDS AND SPECIFICATION LAID DOWN IN 'SEWERS FOR ADOPTION' 6th EDITION, WITH A VIEW TO ADOPTION UPON COMPLETION OF WORKS.
 - ALL PRIVATE DRAINAGE TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS APPROVED DOCUMENT PART-H, AND TO THE SATISFACTION OF THE BUILDING CONTROL INSPECTOR.
 - THE CONTRACTOR IS TO KEEP A RECORD OF ANY VARIATIONS MADE ON SITE, INCLUDING THE RELOCATION OF SEWERS OR DRAINAGE, SO THAT AN AS CONSTRUCTED DRAWING CAN BE PREPARED UPON COMPLETION OF THE PROJECT.
 - STUB CONNECTIONS TO ADAPTABLE MANHOLES SHALL BE MADE FROM VITRIFIED CLAY AND CONSIST OF TWO ROCKER PIPES LAID AT THE SAME GRADIENT AS THE UP OR DOWNSTREAM PIPE.
 - IF ANY SUB SOIL DRAINAGE SYSTEMS ARE UNCOVERED DURING THE WORKS CONTACT THE ENGINEER FOR INSTRUCTIONS. SUB SOIL DRAINAGE ARE TO BE DIVERTED AROUND NEW WORKS AND CONNECTED INTO THE SURFACE WATER.
 - NO PRIVATE AREAS ARE TO DRAIN ONTO ADAPTABLE AREAS AND VICE VERSA.
 - ALL EXISTING MANHOLE COVERS, GULLIES, ETC. ARE TO BE RAISED/LOWERED TO SUIT NEW LEVELS.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONFIRM THE LOCATION AND DEPTH OF ALL EXISTING SERVICES AND UTILITIES THAT MAY BE PRESENT.
 - UPON COMPLETION BUT PRIOR TO HANDOVER, CONTRACTOR TO CARRY OUT FULL CCTV SURVEY OF DRAINAGE SYSTEM WHICH IS TO BE REVIEWED BY ENGINEER TO ENSURE SATISFACTORY INSTALLATION.
 - PROPRIETARY PRODUCTS TO BE INSTALLED IN FULL ACCORDANCE WITH MANUFACTURER'S GUIDANCE.
 - MANHOLE AND CHAMBER COVER GRADES:
 - 'A15' IN ALL LANDSCAPED AREAS AND ON FOOTPATHS
 - 'B125' IN ALL DRIVEWAYS
 - 'C250' IN PRIVATE PARKING AREAS
 - 'D400' IN CARRIAGEWAY/ACCESS ROAD

DRAINAGE LEGEND

PROPOSED FEATURES

- SWD Surface Water Drainage
- Storm water access chamber (3000)
 - Storm water inspection chamber (4500)
 - Storm water catchpit chamber (4500)
 - Storm water orifice flow control chamber (5000)

00.000

1000 4.5m 1:100
Z BED

ABBREVIATIONS

- MH - MANHOLE
IC - INSPECTION CHAMBER
AC - ACCESS CHAMBER
CP - CATCHPIT
BC - BRAKE CHAMBER
RE - RODDING EYE
IL - INVERT LEVEL
SL - SUMP LEVEL
RA - RESTRICTED ACCESS COVER
CL - COVER LEVEL
TL - TOP OF CELLULAR SA
BL - BASE OF CELLULAR SA
FL - FORMATION LEVEL

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R = RECORD	Record of actual completed work

3	15.07.28	REMOVED PERMEABLE PARKING AREA AND INCLUDED FILTER STRIP	LH	CS	CS
2	24.06.26	REVISED TO SUIT TOPO SURVEY	LH	CS	CS
P-	30.03.26	PRELIMINARY ISSUE	LH	CS	CS
REV	DATE	DESCRIPTION	BY	CHK	APP



CLIENT	BINSTEAD FARMS LTD				
ARCHITECT	SIMON HARVEY DESIGNS LTD				
JOB TITLE	NESTLED, LAND ADJ BINSTEAD LANE BINSTEAD, ARUNDEL				
DRAWING TITLE	DRAINAGE DESIGN				
DRAWN	LH	ENGINEER	C SLADE	CHECKED	CS
DATE	JAN 2026		SCALE @ A1	1:200	
JOB No.	C3944	STATUS	DRAWING No.	101	REV.
		PL			3

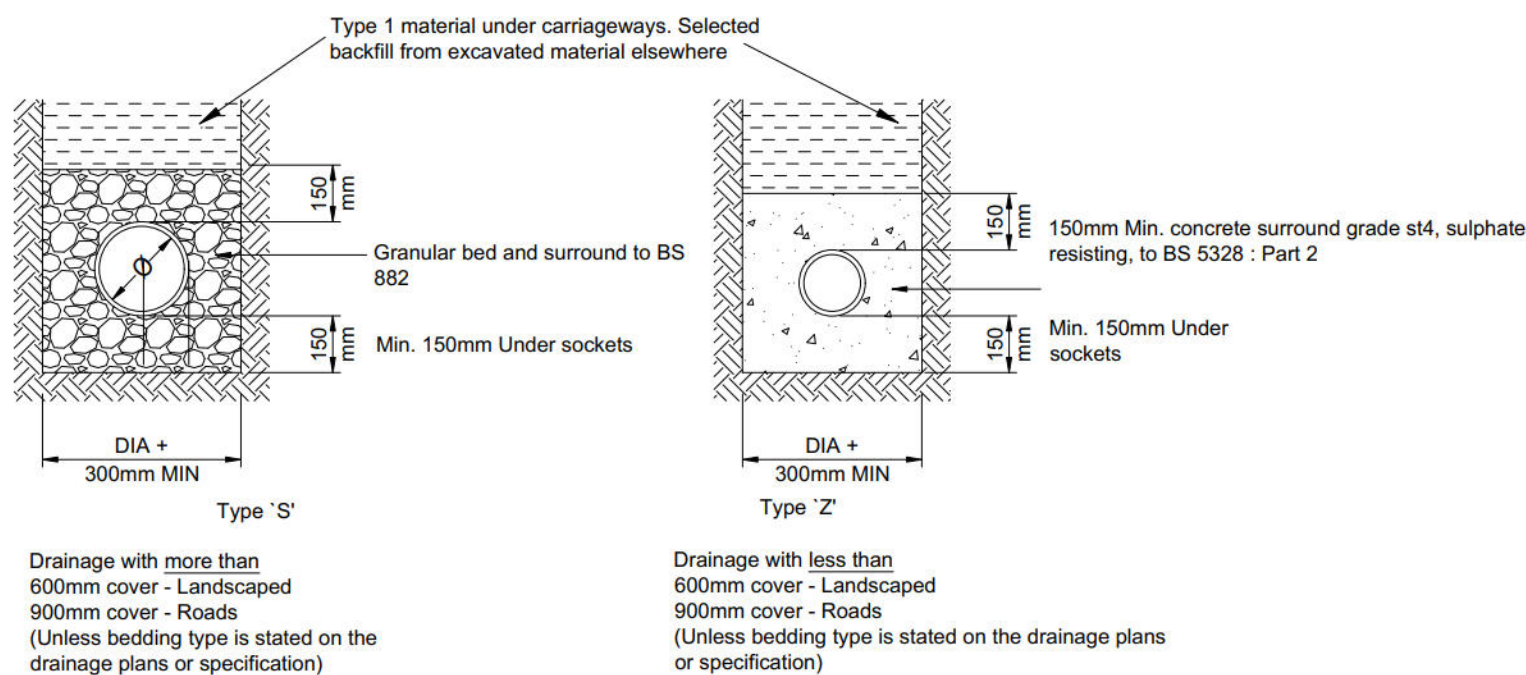
FOR PLANNING ONLY

- Site Specific Notes
- The proposed scheme consists of the construction of 6 No. glamping pods with associated access, car parking and landscaping.
 - The underlying geology is noted to be comprised of gravelly clay to a depth of 1.2mbgl followed by clay. Infiltration testing was conducted on site which recorded a worst case infiltration rate of 1.09x10⁻³m/s which is considered a fair rate.
 - In addition to the infiltration testing, winter groundwater monitoring was carried out and a groundwater level of 1.0mbgl was recorded which rules out the use of infiltration features.
 - It is therefore proposed that all surface water runoff is to be discharged into an existing drainage ditch to the south of the site. The discharge rate is to be restricted to 0.5 l/s, which is the recorded greenfield runoff rate.
 - The car park is to be constructed from an impermeable surface and surface water runoff will discharge into an adjacent filter strip which connects into the rest of the drainage network.
 - The site will make use of a detention basin in order to cater for the 1 in 100-year +45% storm.
 - Each glamping unit will utilise a rainwater harvesting tank to allow for re-use within external areas.

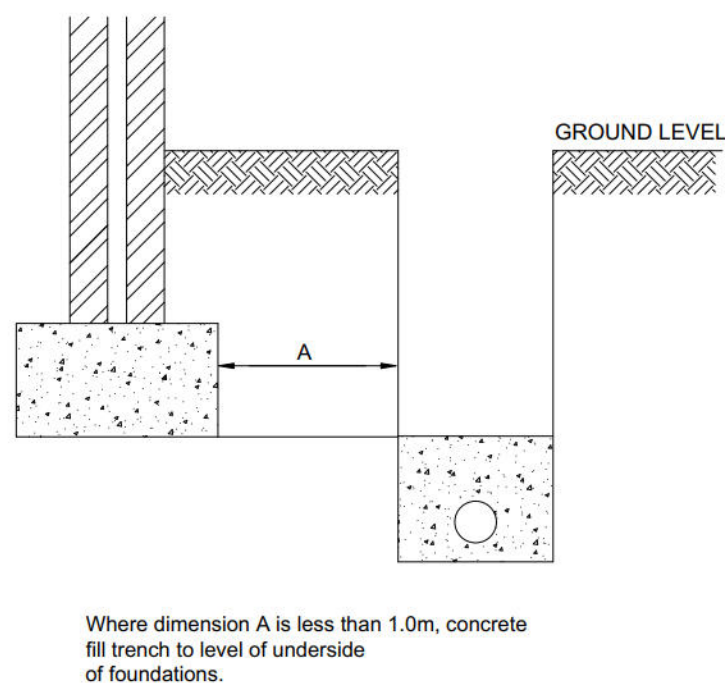
Detention Basin
Top of banking: 18.600
Inlet pipes 1500 IL: 17.850
Basin base Level: 17.850
Depth 0.750m
A storage volume of 56.36 m³ is provided to accommodate the Designed to 1 in 100-year storm event, including a 45% allowance for climate change

Proposed SWD to break through existing headwall to discharge to existing ditch

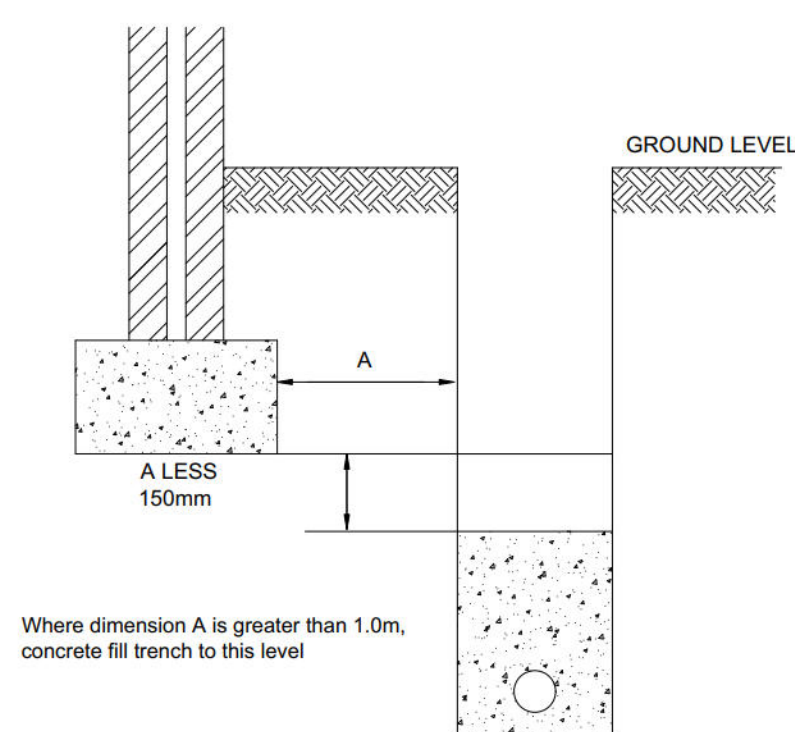
All Underground garden rainwater harvesting system tank to be:
Graf Platin Tank 1500 litre
1.250m x 2.100m x 1.015m
Fitted with Non-return valves
Subject to manufacturer details.
Final location and size subject to clients' requirements.
For Garden use only



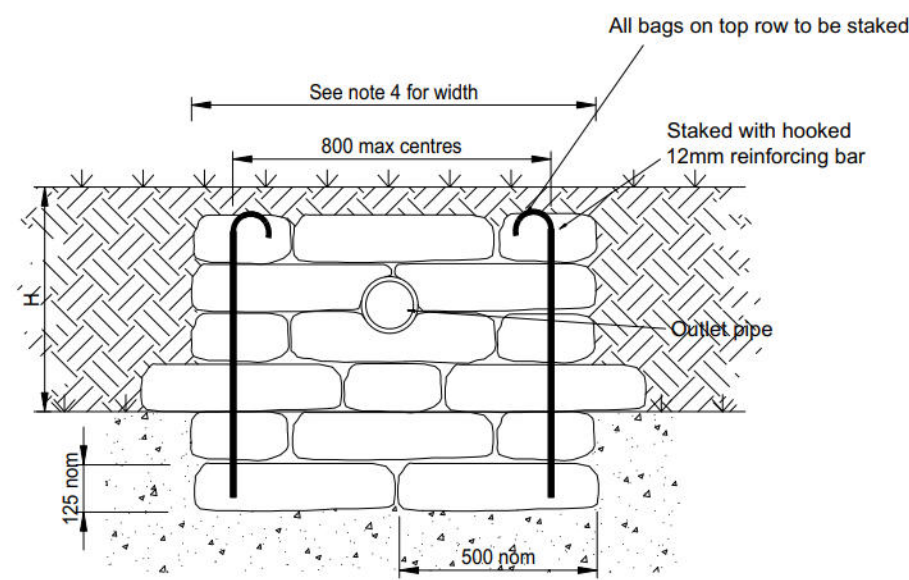
Pipe bedding details in private Areas



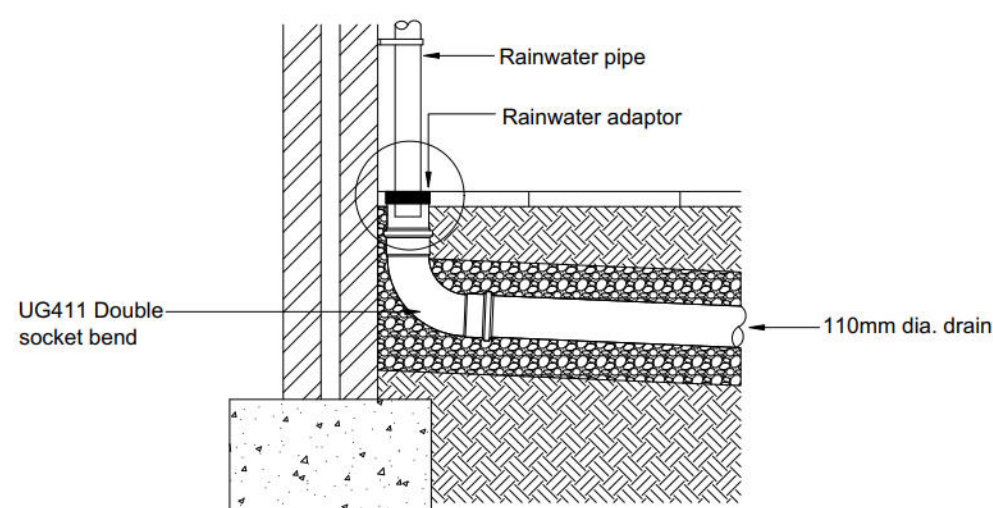
Pipes near buildings



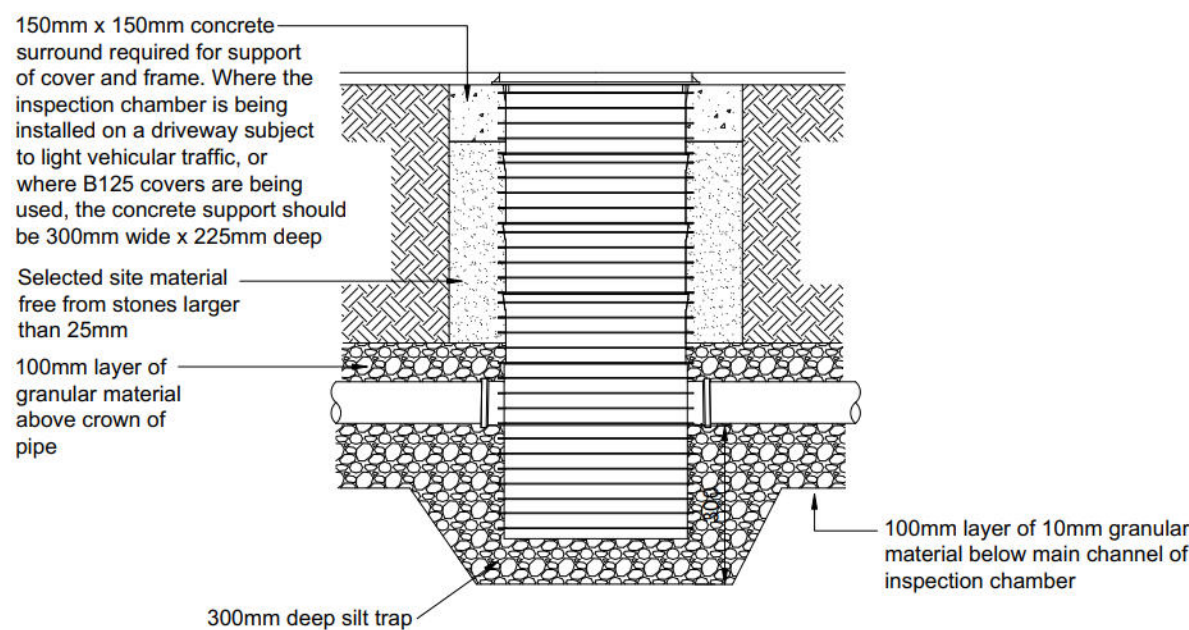
Pipes near buildings



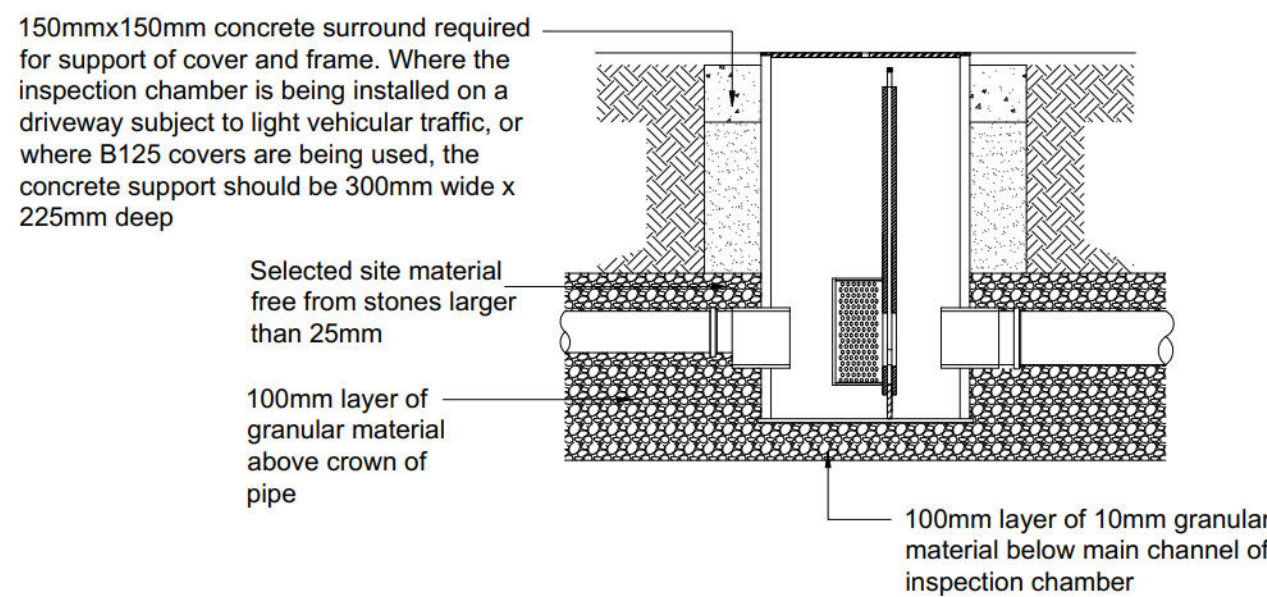
Elevation of headwall
Outfall to pond / side of ditch



Rainwater pipe connection

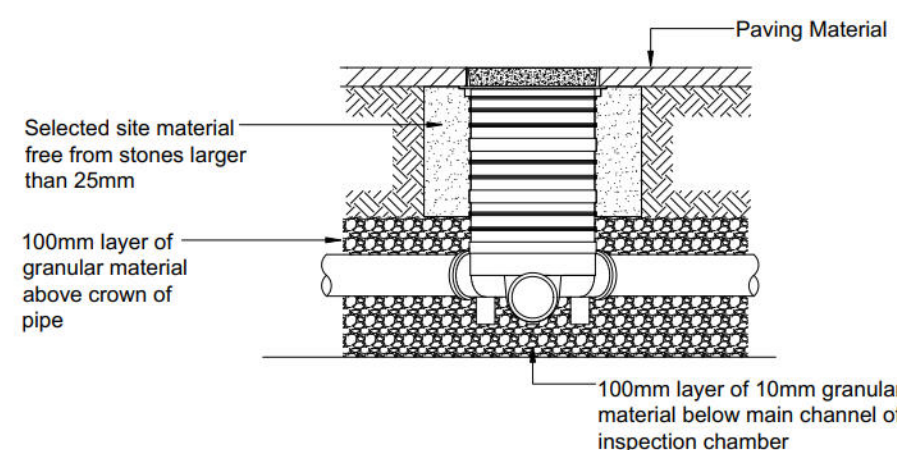


460mmØ POLYPIPE BASIC
SILT TRAP DETAIL

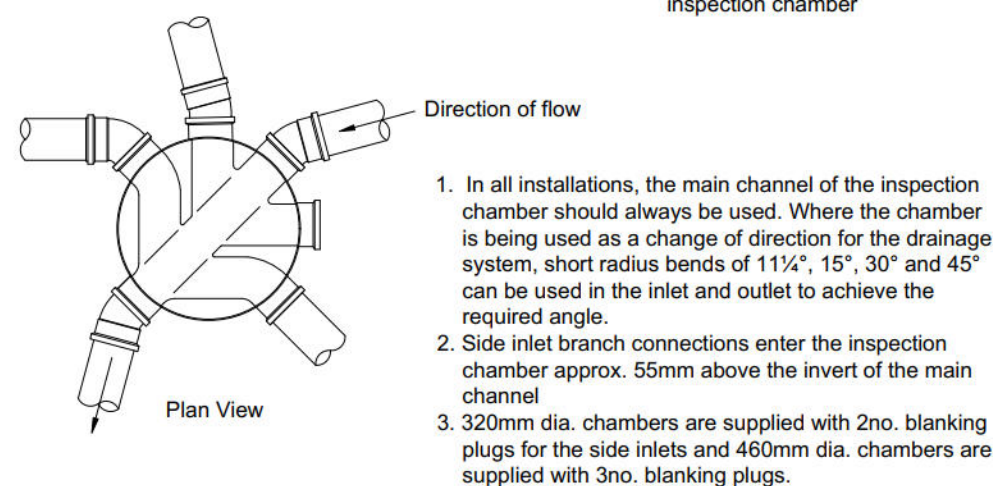
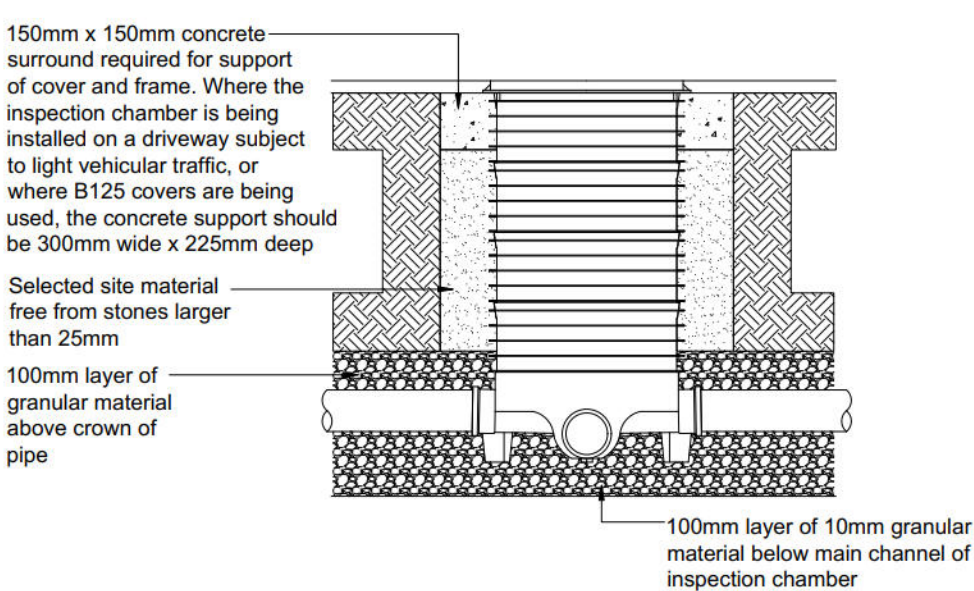
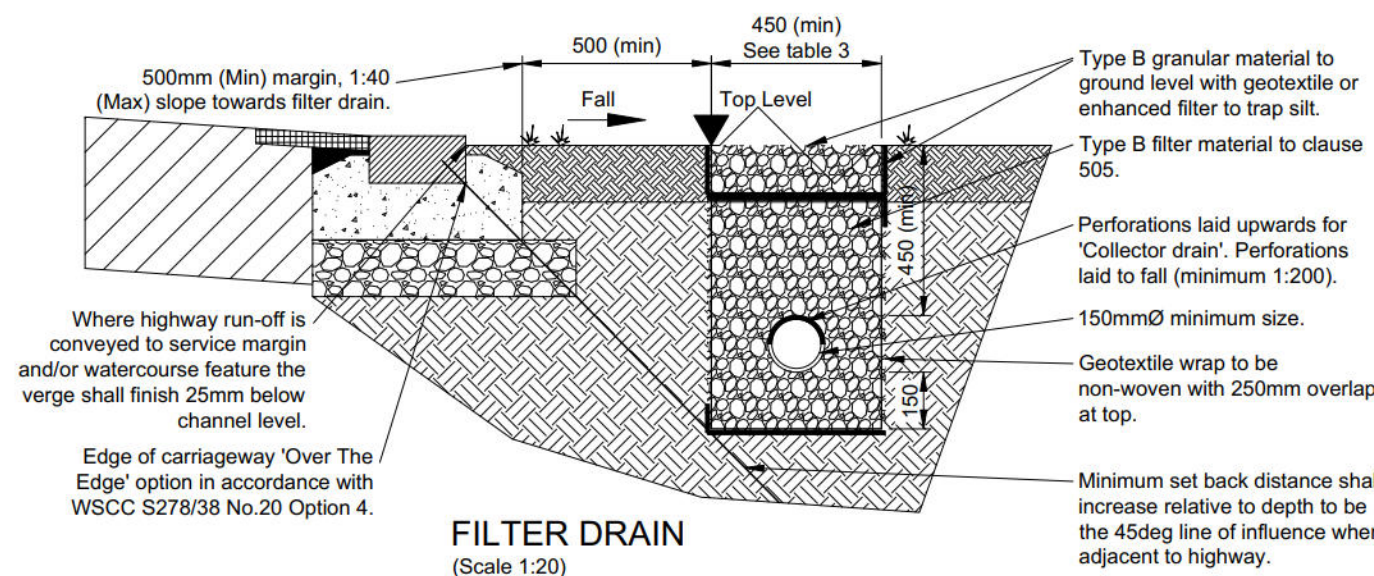


SEL CONTROFLOW 500
ORIFICE CHAMBER

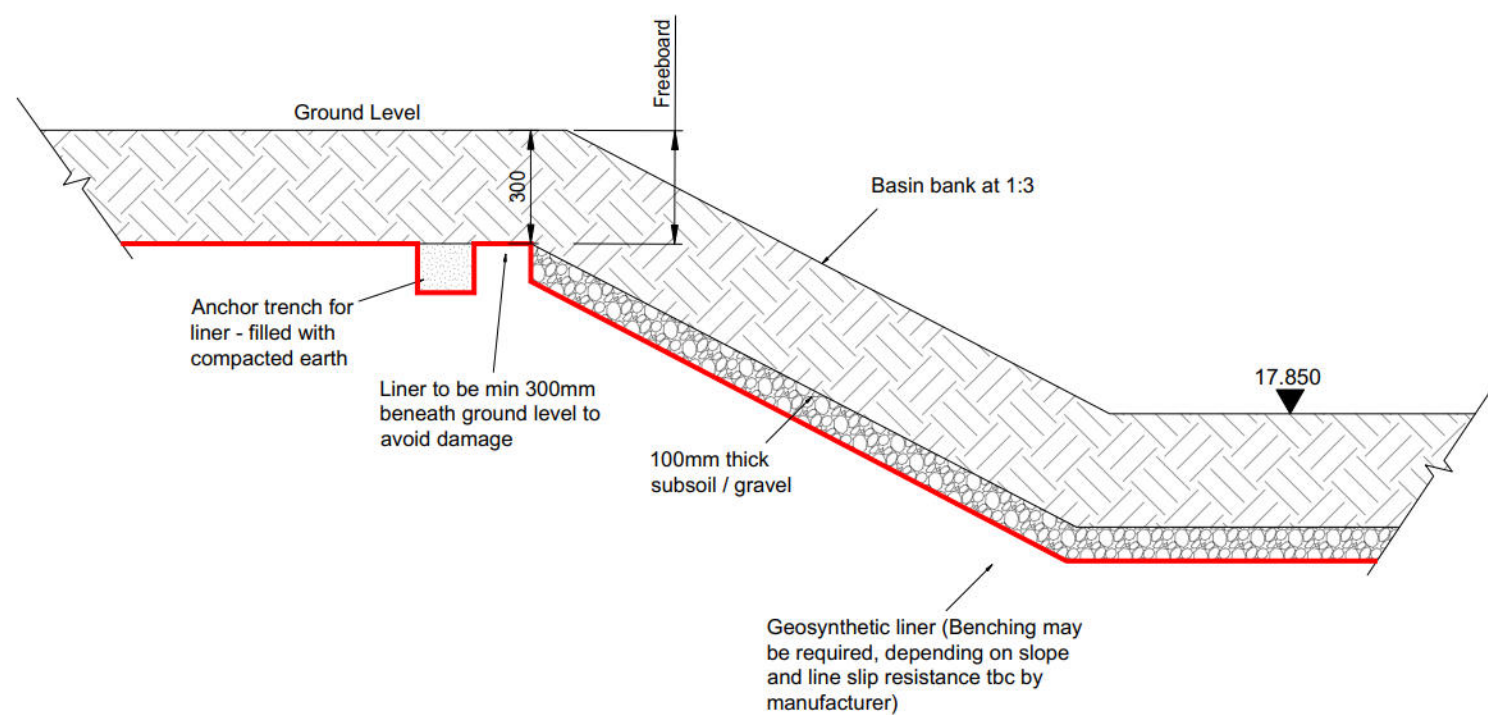
SEL Environmental LTD
Phone: 01254 589987
Email: sales@selenvironmental.com



300mmØ SHALLOW
INSPECTION CHAMBER DETAIL



460mmØ INSPECTION
CHAMBER DETAIL



TYPICAL DETENTION
BASIN CROSS SECTION

Prefix to drawing numbers shall signify the following:-	
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REV	DATE	DESCRIPTION	BY	CHK	APP
2	15.07.26	INCLUDED FILTER DRAIN DETAIL	LH	CS	CS
1	24.06.26	PRELIMINARY ISSUE	LH	CS	CS

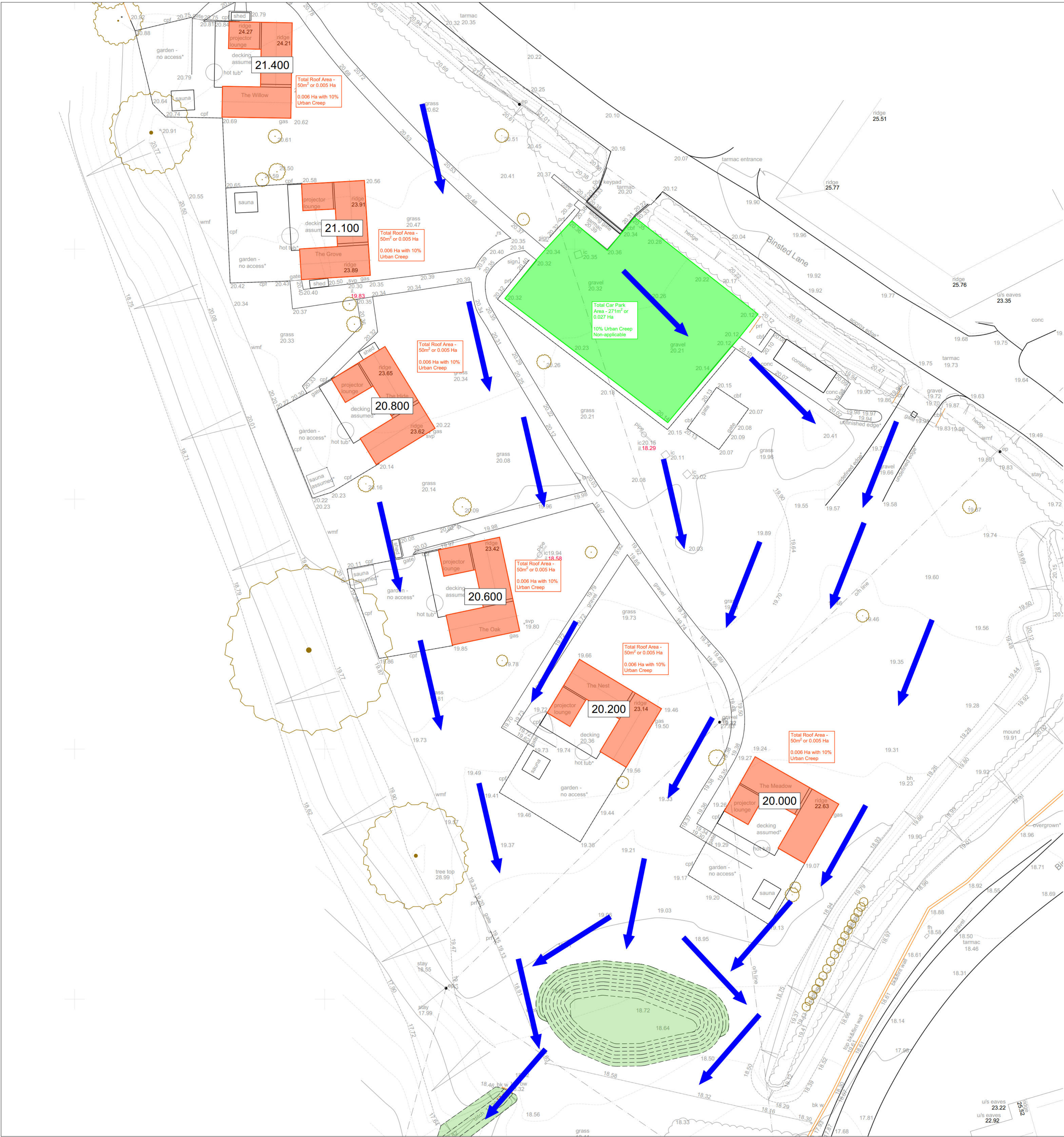
 Consulting Civil Engineers			
CLIENT			
BINSTEAD FARMS LTD			
ARCHITECT			
SIMON HARVEY DESIGNS LTD			
JOB TITLE			
NESTLED, LAND ADJ BINSTEAD LANE BINSTEAD, ARUNDEL			
DRAWING TITLE			
CONSTRUCTION DETAILS			
DRAWN	ENGINEER	CHECKED	APPROVED
LH	C SLADE	CS	CS
DATE	SCALE @ A1		
JUNE 2026	1:20		
JOB No.	STATUS	DRAWING No.	REV.
C3944	PL	301	2

FOR PLANNING ONLY



BLUE ARROWS SHOW ROUTE OF EXCEEDANCE FLOWS FROM PROJECTED POINTS OF EMERGENCE TOWARDS DIRECTION OF FALL.

ALL STRUCTURES DESIGNED TO ACCOMMODATE THE CRITICAL 1 IN 100 YEAR STORM EVENT PLUS 45%. EXCEEDANCE WOULD ONLY OCCUR IN STORMS OF GREATER INTENSITY THAN THIS.



Prefixed to drawing numbers shall signify the following:-

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P = PRELIMINARY	Shall not be used for contract or construction purposes
T = TENDER	Shall not be used for construction purposes
C = CONSTRUCTION	These are the only drawings that shall be used for construction purposes
R = RECORD	Record of actual completed work

2	24.06.26	REVISED TO SUIT TOPO SURVEY	LH	CS	CS
P-	30.03.26	PRELIMINARY ISSUE	LH	CS	CS
REV	DATE	DESCRIPTION	BY	CHK	APP

 Consulting Civil Engineers					
CLIENT BINSTEAD FARMS LTD					
ARCHITECT SIMON HARVEY DESIGNS LTD					
JOB TITLE NESTLED, LAND ADJ BINSTEAD LANE BINSTEAD, ARUNDEL					
DRAWING TITLE IMPERMEABLE AREAS AND OVERLAND FLOW ROUTE PLAN					
DRAWN	ENGINEER	CHECKED	APPROVED		
LH	C SLADE	CS	CS		
DATE	JAN 2026	SCALE @ A1	1:200		
JOB No.	C3944	STATUS	PL	DRAWING No.	401
				REV.	2

FOR PLANNING ONLY

9.3 **Appendix C – Surface Water Calculations**

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	1.000	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	75.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
S9	0.042	5.00	19.860	Manhole	Adoptable	450	498077.253	106310.114	0.940	18.920
S27	0.021	5.00	19.020	Manhole	Adoptable	450	498089.331	106281.062	0.938	18.082
BASIN			18.630	Manhole	Adoptable	150	498095.270	106274.798	0.780	17.850
S28			18.630	Manhole	Adoptable	450	498091.683	106271.225	0.815	17.815

Links (Input)

Name	US Node	DS Node	Length (m)	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)
1.000	S9	S27	31.463	18.920	18.082	0.838	37.5	225
1.001	S27	BASIN	8.632	18.082	17.850	0.232	37.2	225
1.002	BASIN	S28	5.063	17.850	17.815	0.035	144.7	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
S9	498077.253	106310.114	19.860	0.940	450	Adoptable		0	1.000	18.920	225	Circular
S27	498089.331	106281.062	19.020	0.938	450	Adoptable		1	1.000	18.082	225	Circular
BASIN	498095.270	106274.798	18.630	0.780	150	Adoptable		1	1.001	18.082	225	Circular
								0	1.002	17.850	225	Circular
S28	498091.683	106271.225	18.630	0.815	450	Adoptable		1	1.002	17.815	225	Circular
								1	1.002	17.815	225	Circular

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	17.600
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	1.000	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	1.000	Additional Storage (m³/ha)	0.0		

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
2	0	0	0
10	0	0	0
30	45	0	0
100	45	0	0

Node S28 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.815	Discharge Coefficient	0.650
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	17.815	Diameter (m)	0.015		

Node BASIN Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	17.850
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	42.7	42.7	0.750	110.7	114.4

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.13%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S9	10	18.957	0.037	5.2	0.0060	0.0000	OK
15 minute summer	S27	10	18.134	0.052	7.8	0.0082	0.0000	OK
720 minute winter	BASIN	555	18.036	0.186	0.9	9.5230	0.0000	OK
720 minute winter	S28	555	18.036	0.221	0.2	0.0352	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S9	1.000	S27	5.2	0.955	0.061	0.1759	
15 minute summer	S27	1.001	BASIN	7.9	1.700	0.092	0.0507	
720 minute winter	BASIN	1.002	S28	0.2	0.092	0.005	0.1892	
720 minute winter	S28	Orifice		0.2				10.2

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.29%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S9	10	18.966	0.046	7.9	0.0073	0.0000	OK
15 minute summer	S27	9	18.144	0.062	11.8	0.0099	0.0000	OK
600 minute winter	BASIN	555	18.096	0.246	1.4	13.2716	0.0000	SURCHARGED
600 minute winter	S28	555	18.096	0.281	0.3	0.0447	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S9	1.000	S27	7.8	1.096	0.092	0.2323	
15 minute summer	S27	1.001	BASIN	11.9	1.783	0.140	0.0804	
600 minute winter	BASIN	1.002	S28	0.3	0.102	0.006	0.2014	
600 minute winter	S28	Orifice		0.3				10.3

Results for 10 year Critical Storm Duration. Lowest mass balance: 99.16%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S9	10	18.984	0.064	15.4	0.0102	0.0000	OK
480 minute winter	S27	464	18.225	0.143	2.6	0.0227	0.0000	OK
480 minute winter	BASIN	464	18.225	0.375	2.6	22.3814	0.0000	SURCHARGED
480 minute winter	S28	464	18.225	0.410	0.3	0.0652	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S9	1.000	S27	15.3	1.317	0.180	0.3688	
480 minute winter	S27	1.001	BASIN	2.6	0.773	0.030	0.2863	
480 minute winter	BASIN	1.002	S28	0.3	0.120	0.008	0.2014	
480 minute winter	S28	Orifice		0.3				10.9

Results for 30 year +45% CC Critical Storm Duration. Lowest mass balance: 98.78%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S9	10	19.010	0.090	29.1	0.0143	0.0000	OK
480 minute winter	S27	472	18.471	0.389	4.7	0.0618	0.0000	SURCHARGED
480 minute winter	BASIN	472	18.471	0.621	4.5	43.9756	0.0000	FLOOD RISK
480 minute winter	S28	472	18.471	0.656	0.4	0.1042	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S9	1.000	S27	29.0	1.503	0.341	0.6074	
480 minute winter	S27	1.001	BASIN	4.5	0.904	0.052	0.3433	
480 minute winter	BASIN	1.002	S28	0.4	0.152	0.010	0.2014	
480 minute winter	S28	Orifice		0.4				13.9

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 98.56%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S9	10	19.022	0.102	36.4	0.0162	0.0000	OK
600 minute winter	S27	585	18.589	0.507	4.8	0.0807	0.0000	SURCHARGED
600 minute winter	BASIN	585	18.589	0.739	4.7	56.3510	0.0000	FLOOD RISK
600 minute winter	S28	585	18.589	0.774	0.4	0.1231	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S9	1.000	S27	36.3	1.557	0.426	0.7381	
600 minute winter	S27	1.001	BASIN	4.7	0.823	0.055	0.3433	
600 minute winter	BASIN	1.002	S28	0.4	0.149	0.010	0.2014	
600 minute winter	S28	Orifice		0.4				17.3

9.4 **Appendix D – Borehole Logs**



SU 90 NE 42 9806 0638

Church Farm, Binstead

Surface level +20.4 m
Water struck at +19.9 m
October 1981

Block G

Waste 1.6 m
Bedrock 7.4 m+

LOG

Geological classification

Lithology

Thickness
m Depth
m

Head Gravel	Soil with pebbles	0.9	0.9
	'Very clayey' gravel Gravel: coarse and fine; flint Sand: coarse with fine and medium Fines: silt and clay	0.7	1.6
London Clay	Clay, silty, sandy, mottled brown and grey near top, grey below	3.4	5.0
	Clay, very sandy, glauconitic; rare lignite fragments	2.0	7.0
	Clay, hard, olive brown	1.1	8.1
	Clay, crumbly, grey, mottled brown and red, with glauconite and some lignite fragments	0.1	8.2
Woolwich and Reading Beds	Clay, stiff, mottled purple and grey	0.8+	9.0

GRADING

Mean for deposit percentages			Depth below surface (m)	Percentages						
Fines	Sand	Gravel		Fines	Sand		Gravel			
				- $\frac{1}{2}$	+ $\frac{1}{2}$ - $\frac{1}{2}$	+ $\frac{1}{2}$ -1	+1 -4	+4 -16	+16 -64	+64 mm
25	29	46	0.9-1.6	25	9	7	13	22	24	0

9.5 **Appendix E – Soakage Test Results and Groundwater monitoring**

Percolation Test Report – Shepherds Hut Area

1. Introduction

Percolation testing was undertaken to assess the suitability of the ground adjacent to the proposed shepherds hut locations for a foul drainage infiltration system. Testing was carried out in accordance with standard percolation test methodology, observing the rate at which water infiltrates through the soil between predetermined depth markers.

2. Test Methodology

Three trial pits were excavated close to the proposed foul drainage field positions.

Each pit was formed to the following approximate dimensions:

- 1.0 m long
- 0.30 m wide
- 0.65 m deep

Each pit was filled rapidly with clean water to approximately 75% depth (≈ 490 mm). The time taken for the water level to fall to 25% depth (≈ 160 mm) was recorded. This represents a measured water drop of 330 mm.

The test was repeated in each pit to ensure consistent results and to account for local soil variations.

3. Results

The recorded times for the 330 mm water-level drop were approximately:

- 2 hours 10 minutes (7,800 seconds)

Percolation calculation:

$V_p = \text{time (seconds)} \div \text{depth drop (mm)}$

$V_p = 7,800 \div 330 \approx 24 \text{ s/mm}$

Corresponding infiltration rate:

- $\approx 4.2 \times 10^{-3} \text{ m/s}$
- $\approx 150 \text{ mm/hr}$

4. Interpretation

Guidance for foul drainage fields generally considers:

- 15–100 s/mm → suitable
- <15 s/mm → too permeable
- >100 s/mm → too impermeable

The measured value of 24 s/mm is well within the acceptable range.

5. Conclusion

Based on the results obtained, the ground conditions in the shepherds hut area are suitable for foul effluent infiltration, subject to detailed design and regulatory compliance.

Project:	Nestled Walberton	GW1
Project No:	C3944	
Client:	Binstead Farms Ltd	

9.6 **Appendix F – Previous Application Comments and Responses:**

1. General

- 1.1 The submitted information does not demonstrate that the 7 Standards have been complied with for the reasons set out under 1 to 7 below.
- 1.2 The proposed drainage layout does not include existing levels and the information provided regarding proposed levels is limited. It is not possible to assess if the proposed drainage system is suitable for the existing topography. – [Topographical survey included.](#)
- 1.3 No information regarding the size of the existing watercourse has been provided nor have the proposed connection details. – [Photos of existing ditch included in addition to survey as far as possible. Ditch was cleared up until the culvert. Photos included within Section 5.](#)
- 1.4 Sections through the proposed SuDS features and the outfall have not been provided and it is unclear how the proposed permeable paving will connect to the piped section of the proposed drainage system. [Parking area no longer permeable. Runoff will discharge into a filter strip](#)
- 1.5 The site layout conflicts with the proposed drainage strategy as it refers to soakaways and a gravel car park, neither of which feature in the surface water drainage strategy. Similarly, point 3.3.3 in the Supplementary Statement also conflicts with the drainage strategy. It is understood that the soakaways are for the disposal of wastewater from the proposed hot tubs. As there is potential for this to cause contamination of groundwater and soil, it is recommended that the Environment Agency are consulted to determine if this method of disposal is appropriate. [The architectural site layout should not be relied upon for drainage. Only the CGS Drainage Design should be considered. Surface water drainage to discharge to ditch. The EA have been consulted regarding the foul discharge and as discharge adheres to General Binding Rules and they are satisfied with our proposals. Both the foul water discharge and the architects sit layout should have no affect on the conditional discharge for surface water runoff.](#)
- 1.6 It is noted that the drainage strategy is subject to root protection areas. These should be established to confirm that they do not affect the proposed drainage routes. [There are no root protection areas.](#)
- 1.7 CGS Drawing 401 refers to an infiltration basin, this conflicts with the drainage strategy. [Adjusted to suit.](#)

2. Runoff destination

- 2.1 It is noted that groundwater is too shallow to provide 1m freeboard to permit infiltration methods to be used.
- 2.2 It is likely that the proposed method of disposal is acceptable in principle subject to the following: Information regarding natural flow paths has not been provided, it is suggested that this should be demonstrating using a topographic survey. [Topographic survey included.](#)
- 2.3 No existing ground levels have been provided so it is unclear if the site can drain by gravity to the existing watercourse. [Included.](#)
- 2.4 It is unclear if the applicant has the right to make a connection to the existing watercourse, it is described as being located at the southern boundary of the site and it outside of the red line boundary. [Existing headwall is located within the clients ownership. Installing a new pipe within the existing headwall will not change the profile of the drainage ditch and as such, would not require OWC approval under WSCC guidance.](#)
- 2.5 It should be demonstrated that the existing watercourse is a viable receptor in terms of its condition and routing (it appears to be culverted for at least some of its length). [Full extent of drainage ditch has been confirmed. The ditch has been cleared as much as possible until it becomes a culvert near the golf course. Please refer to section 5 of this report.](#)
- 2.6 Rainwater harvesting is proposed but details relating to the sizing are not included and the intended use for the harvested water is not clear. The drawing refers to “garden rainwater harvesting system” and the report states “for use within the units”. It should be demonstrated that the volume of water that is collected is appropriate for the intended use, bearing in mind the seasonal use of the development. [References revised to suit. Clearer explanation of usage included.](#)

3. Interception drainage

- 3.1 No information has been submitted to demonstrate that interception drainage has been considered. [Interception drainage assessment included within report. Please refer to Table 1 and Section 7 – Standard 2.](#)

4. Extreme rainfall and flooding

- 4.1 The proposed discharge rate is based on the greenfield runoff calculation. The area used in this calculation is 0.6817Ha and the calculations give a QBar of 1.91/s. The drained area of the development, which is what the proposed discharge rate should be based on, appears to be 0.068 Ha. [Greenfield runoff calculations have been updated to the total site are of 0.63 Ha \(area reduced due to small car parking area\). The QBAR is now 0.3 l/s, however, a minimum practical discharge rate of 0.5l/s has been used which is the greenfield runoff rate for the 1 in 10-year storm. See Table 3 for further information.](#)
- 4.2 It is noted that the orifice flow control has a diameter of 31mm. Whilst this will need to be reviewed once the correct discharge rate has been established, the risk of a blockage of the flow control must be considered and mitigated. [Risk of blockage is negligible. Inclusion of filters within the rainwater harvesting tanks, silt traps and the detention basin will reduce risk of blockages within the orifice chamber. The orifice chamber itself also has a trash screen built in. Regular maintenance will ensure that the system remains free of debris that may cause blockages.](#)

- 4.3 The exceedance flow routing appears to pass over the area where the proposed basin is located. Information should be provided demonstrating that exceedance flows (including from elsewhere) are conveyed safely around or through the site without compromising the SuDS system. [Bunding has been included along the northern boundary of the detention basin to divert exceedance flows away. This is indicated within drawing C3944_401.](#)
- 4.4 The calculations do not include any allowance for surcharging of the outfall. [Adjusted to suit](#)
- 4.5 The submitted calculations do not include 50%AEP. [Included](#)
- 4.6 The FEH Point descriptor file should be emailed to land.drainage@arun.gov.uk [This will be emailed across.](#)

5. Water quality

- 5.1 A water quality assessment has not been submitted, it is usually appropriate for a simple index based assessment to be undertaken as set out in the SuDS Manual. [This is now included within section 7.2 of this report.](#)

6. Amenity

- 6.1 No information has been submitted to demonstrate how the proposed drainage system provides amenity benefits [This is now included within section 6.3.3 of this report in addition to Section 7 – standard 5.](#)

7. Biodiversity

- 7.1. No information has been submitted to demonstrate how the proposed drainage system provides biodiversity benefits [This is now included within section 6.3.3 of this report in addition to Section 7 – Standard 6.](#)

8. Construction, operation, maintenance, decommissioning and structural integrity

- 8.1. No information has been provided for this Standard. [Maintenance schedule included.](#)