

DRAINAGE STRATEGY

at

Ingfield Manor School

Five Oaks, Billingshurst RH14 9AX

for

Elmcroft Construction

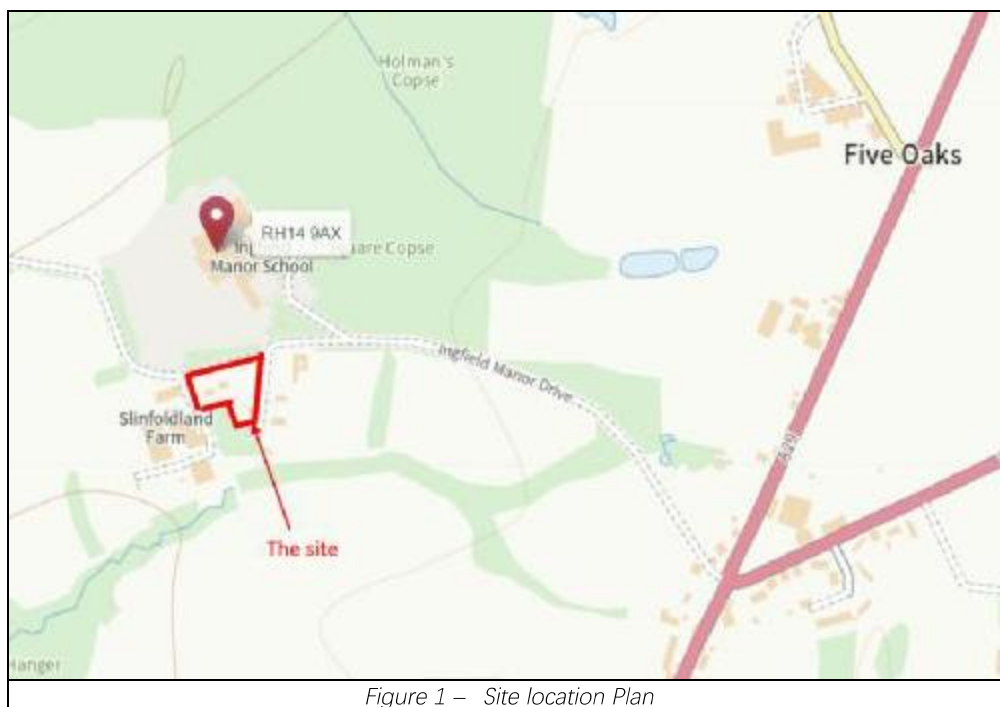
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Job No : 2933
 Revision No : C
 Written by : RJ Croot
 Date : 21st July 2026

1.0 Introduction

- 1.1 Build Warranty Technical Services have been appointed by Elmcroft Construction to prepare a surface and foul water drainage strategy to support a planning application to Horsham District Council for new school facility.
- 1.2 The site is located to the south of Ingfield Manor Drive, to the west of the A29 Stane Street at Five Oaks is centred on a National Grid Reference (NGR) 509187E, 128678N with a site area of approximately 0.750 hectares (Ha).



- 1.3 The development will incorporate the demolition of the existing buildings and the construction of four school buildings with associated hard/soft play areas and car parking facilities. The site will be developed in a single phase.
- 1.4 This report has been prepared by Build Warranty Technical Services to consider design of the foul and surface water drainage system and the impact on local infrastructure.
- 1.5 Mr R J Croot, the author of this report, is BEng CEng & MStructE qualified and has over 25 years' experience of the civil and structural engineering design and construction of SUDS drainage facilities.

2.0 Existing Ground Conditions

- 2.1 With reference to the British Geological Society Geology Viewer, the site is underlain with Weald Clay Formation Mudstone, with no superficial deposits over as shown in figure 2 below.

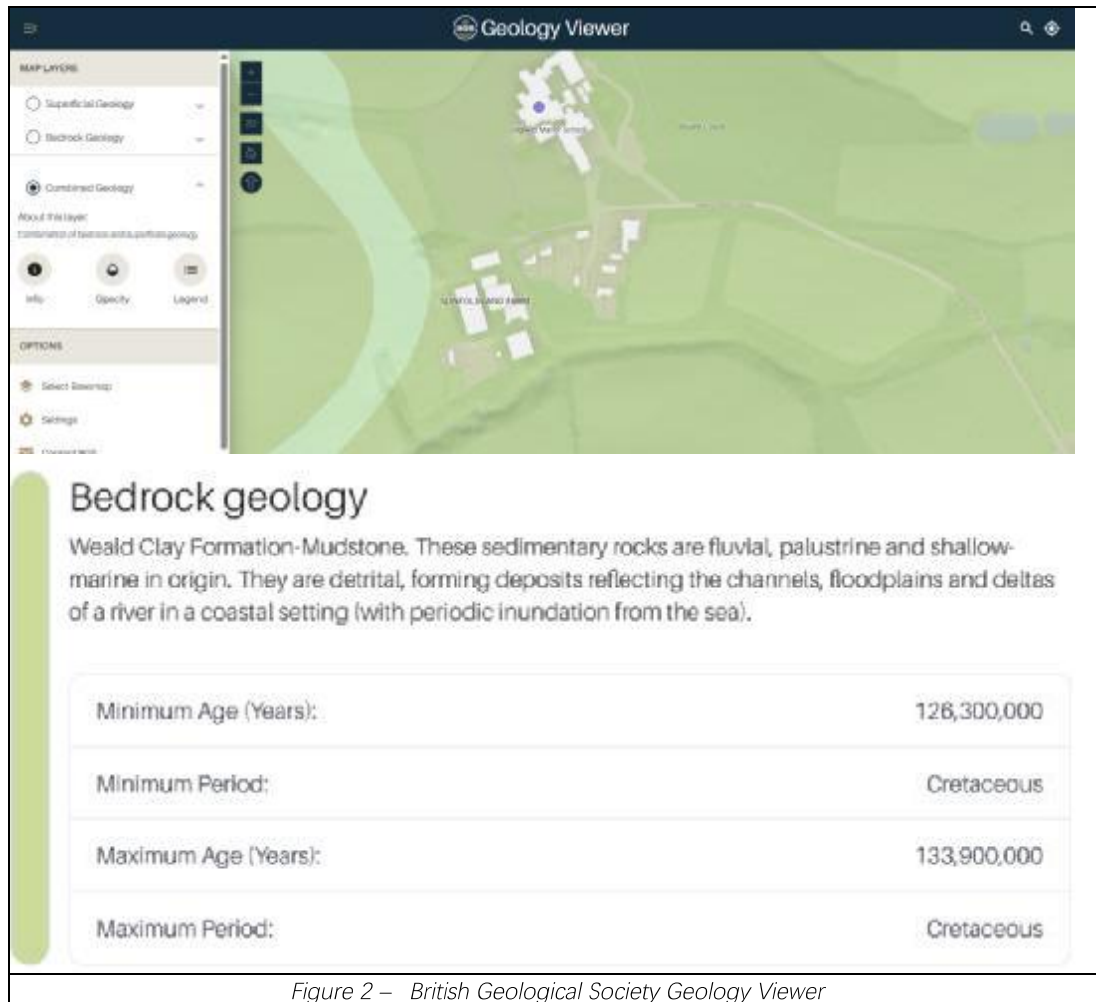


Figure 2 – British Geological Society Geology Viewer

- 2.2 From a review of the ENZ GeoEng Ltd site investigation report ref 2561-25 dated 15.09.26 contained within appendix B, a layer of made ground overlaid the Weald clay mudstone formation to a maximum depth of 0.70m.
- 2.3 The water table was not encountered to a depth of 5.00m BGL.
- 2.4 Three on-site percolation testing was undertaken as part of the above site investigation. It was concluded that the site is not suitable for soakaways due to the low infiltration rates.

3.0 Flood Risk

3.1 A review has been undertaken using the gov.uk mapping tools to identify any risk of flooding from the following elements:

3.2 The site is located within flood zone 1.

3.3 The site is not at risk from flooding from rivers or sea as shown in figure 3 below:

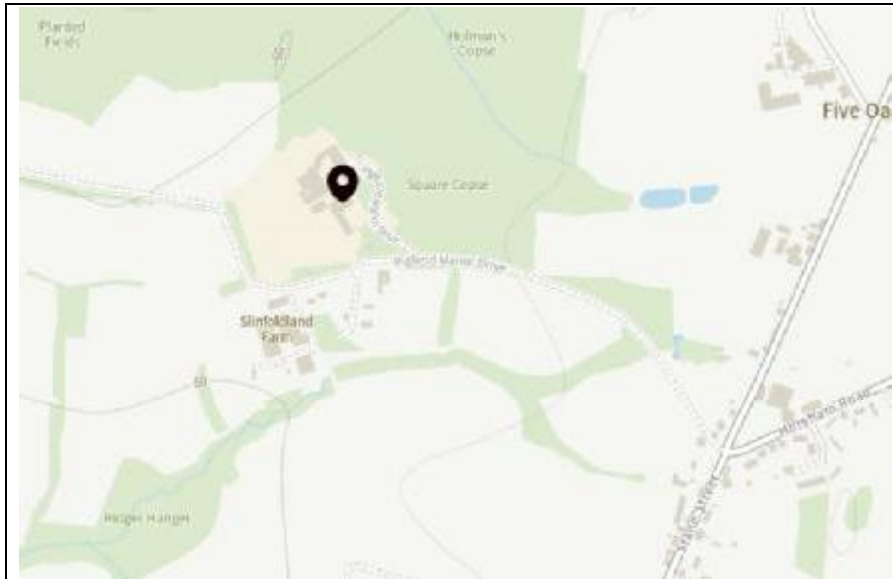


Figure 3 – Extent of Flooding from Rivers and Sea

3.4 The site is not at risk from flooding from reservoirs as shown in figure 4 below:

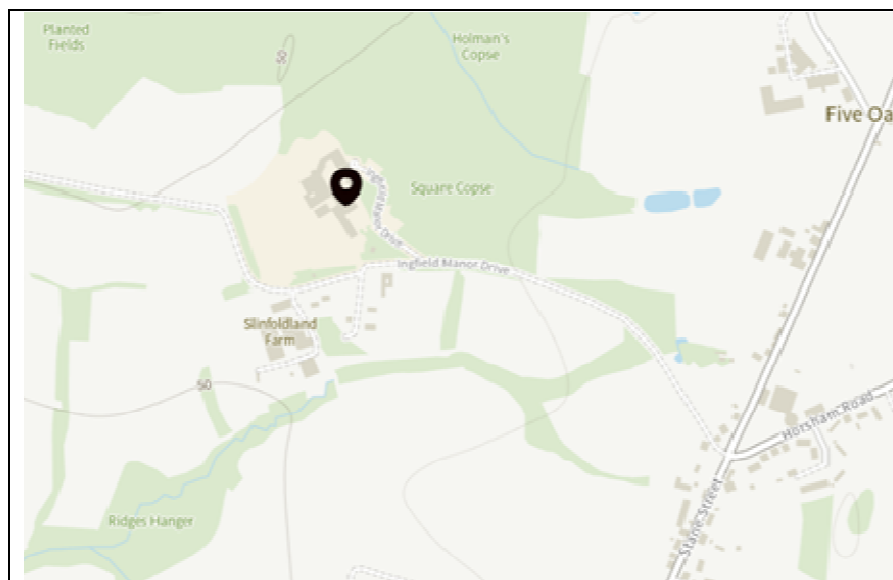


Figure 4 – Extent of Flooding from Reservoirs

3.5 The site is not at risk from flooding from surface water as shown in figure 5 below:



Figure 5 – Extent of Risk Flooding from Surface Water

4.0 Foul Water Drainage Design

- 4.1 There are no foul sewers within the immediate vicinity of the site.
- 4.2 There is an un-named watercourse to the south of the site which connects to the River Arun to the West. There is a local ditch running north to south inside the western boundary which connects to this watercourse as shown brown and the 150mm piped connection to the existing watercourse is shown brown dotted in figure 6 below.



Figure 6 – Surface Water Ditches shown Green

- 4.3 It is therefore proposed to discharge the foul water via a package treatment plant to the existing un-named watercourse.
- 4.4 The total population for the site is as follows:
- | | |
|---|-----------|
| 5 classrooms of 12 children & 4 adult staff | 80 |
| Admin/senior leadership adult staff | <u>15</u> |
| Total | 95 total |
- 4.5 A Kingspan Klargest BG Biodisc package treatment plant will be provided, a copy of the manufacturer's details are contained within appendix H.
- 4.6 The maximum outflow from the treatment plant will be 10l/min (0.167l/s).

- 4.7 The maximum daily flow when being used at capacity would be 14m³/Day. Therefore an Environment Agency permit will be applied for.

5.0 Surface Water Drainage Design

- 5.1 Due to the prevailing ground conditions as highlighted in section 2.0, soakaways will not be suitable at this location.
- 5.2 The greenfield run off rate for the site, $Q_{bar}=6.70l/s$ for the 1 year event as shown in appendix C.
- 5.3 The access road will be of Type C permeable construction (with no infiltration) and will therefore require attenuation and be discharged to the surface water ditch.

Due to the gradient of the access road, it is proposed to design the depth of coarse graded aggregate to suit structural requirements only for the fall, with internal concrete dams to restrict the flows within the sub-base segments.

The total impermeable road area to be positively drained is as follows:

Access Road	913
Parking Spaces	667
Total Paved Area	1,580 m²

The road will be designed for traffic category 4 '*car parks used by light commercial vehicles, emergency vehicles, and maintenance vehicles.*' Based on an assumed CBR=5.0% (to be confirmed by on site testing, the road will comprise of 150mm porous asphalt on 300mm coarse graded aggregate sub-base.

- 5.4 The road has a maximum fall of 1:30 therefore internal concrete dams will be provided at 9.0m centres.
- 5.5 The access road and carpark will discharge to an open attenuation basin located on the western boundary. This will discharge via a SUDS Enviro Rhino Flow Control Chamber with simple orifice flow restrictor prior to connection to the existing surface water ditch as shown in appendix E.

5.6 The total impermeable roof & hard landscaping area to be positively drained are as follows:

Roof building 1	665
Roof building 2	395
Roof building 3	318
Roof building 4	478
Total impermeable Area	1,856 m2

Playground	375
Footpaths	1,010
Informal play area	545
Total impermeable Area	1,930 m2

5.7 It is proposed to provide attenuation and discharge to the existing surface water ditch at a total restricted outflow of $Q_{bar}=6.70\text{l/s}$. Due to the level of the informal play area, it will be necessary to provide a separate attenuation tank to this area.

This therefore needs to be split pro-rata as follows:

- Foul water discharge 0.50l/s
- Road area 1.50l/s
- Roof & hard landscaping area 4.70l/s

5.8 An estimation of the surface water attenuation volume will be based on the following criteria:

- 1:100 year storm return period
- 45% climate change allowance
- 0% for urban creep

The UKSuDS Storage Volume Estimation calculates an estimated storage volumes as contained within appendix D.

- Road area 149m³
- Roof & hard landscaping area 334m³

5.9 A SUDS Enviro Rhino Flow Control Chamber with simple orifice flow restrictor will be provided prior to connection to the existing surface water ditch as shown in appendix E.

- 5.10 Full hydraulic modelling of the surface water network has been undertaken giving manhole details, inverts, pipe diameters and gradients and confirming attenuation storage volumes is contained within appendix J.

It should be noted that the open attenuation basin has been modelled as an attenuation tank for simplicity.

- 5.11 A hydraulic model of the surface water network with a surcharged outfall has been considered in appendix K. The level of surcharge has been taken as the top of the existing ditch.
- 5.12 Green roofs have not been considered viable due to the nature of the modular building units.
- 5.13 The proposed surface water drainage layout is shown on drawing 2933-100 '*Drainage Layout*' contained within appendix A.

6.0 **Surface Water Quality Treatment Plan**

- 6.1 In accordance with the Ciria SuDS Manual, a simple index approach will be adopted for the water quality risk management.
- 6.2 The pollution hazard index has been determined as 'very low' for runoff from commercial/industrial (inert materials) roofing and 'low' for non-residential parking.
- 6.3 It is proposed to provide SUDS planters to downpipes to treat water from the roof downpipes wherever possible.
- 6.4 However, since will not be possible to direct all rainwater downpipes to SUDS planters, it is therefore proposed to provide a Turtle Stormshark SSK1000M advanced hydrodynamic vortex separator to provide water quality treatment to all roof areas fed directly to the attenuation tank.
- 6.5 The permeable pavement construction will provide water quality treatment to the road, parking, footpath and hard/soft play areas together with the open attenuation basin.
- 6.6 A copy of the manufacturer's literature for the Turtle Stormshark SSK1000M is contained within appendix F.
- 6.7 The Water quality assessment for SuDS developments online pollution index tool has been used to determine the pollution hazard index and indicative SuDS mitigation indices as contained within appendix G.
- 6.8 The final number and location of the SUDS planters will be confirmed once roof drainage design has been completed. An indicative layout is currently shown.

7.0 **Biodiversity**

- 7.1 Biodiversity will be provided by the SuDS Planters provided to selected downpipes and the open attenuation basin provided to the access road.
- 7.2 Bees, butterflies, and various insects benefit from the diverse planting and habitats provided. In addition, amphibians such as frogs, toads, and newts may find suitable habitats in and around the planters

8.0 **Amenity**

- 8.1 Visual amenity will be provided by the SuDS planters and the open attenuation basin. Refer to landscape architects plans for planting schedule.
- 8.2 In addition, an extensive landscaping & tree planting scheme will be implemented across the whole development.

9.0 Surface Water SUDS Design Considerations

9.1 In accordance with the SUDS Design Manual, SuDS design should, as much as possible, be based on the following:

- *Using surface water as a resource*

Surface water is used for watering SUDS planters wherever possible

- *Managing rainwater close to where it falls*

All rainwater is collected close to where it falls either by permeable pavement construction or gutters to roof areas.

- *Managing runoff on the surface*

All surface water runoff is managed by the proposed solution

- *Allowing rainwater to soak to the ground*

Due to the prevailing ground conditions, it is not possible to infiltrate to the ground.

- *Promoting evapotranspiration*

Evapotranspiration is promoted by the use of permeable pavement construction and the use of rain gardens.

- *Slowing and storing runoff to mimic natural runoff characteristics*

Greenfield runoff rates have been adopted.

- *Reducing contamination of runoff through pollution prevention and controlling runoff at source*

Pollution control provided by a combination of SUDS planters, proprietary treatment manhole and permeable paving.

- *Treating runoff to reduce the risk of urban contaminants causing environmental pollution*

Pollution control provided by a combination of SUDS planters, proprietary treatment manhole and permeable paving.

10.0 **Exceedance Flows**

10.1 In the event that the design storm event is exceeded, it is possible that surface water will remain on the surface of the hard and soft landscaped area and flow across the sodden ground following the prevailing ground profile of the site.

10.2 The site has a gentle fall from the north-eastern boundary down to the south-western boundary adjacent to the drainage ditch of about 2.6m.

Therefore, any exceedance flows will generally flow westwards towards the existing surface water drainage ditch as per the existing conditions.

10.3 A ramped level access will be provided locally to the doors of the buildings with cut off channel drains to the thresholds.

10.4 Drawing 2933-120 'Exceedance Surface Water Flows' is contained within appendix A and shows the likely flow path of any excessive surface water across the site.

11.0 Protection During Construction

11.1 During construction it will be necessary to ensure the SUDS solutions are not damaged or contaminated which will affect their long-term performance upon completion of the development.

11.2 All rainwater pipes to the properties should be connected to the attenuation tank as soon as practicably possible to prevent excessive water ponding locally around the property.

11.3 All surface and foul water pipes to be laid at depths suitable for construction traffic over without risk of collapse or deformation.

All pipe strength classes to be suitable for their location and anticipated loading.

11.4 To prevent the contamination of the coarse aggregate sub-base to the permeable pavements, regular road sweeping should be undertaken during the construction phase to remove all surface debris from the DBM construction layer. This should be undertaken twice weekly as a minimum, with increased frequency during inclement weather.

11.5 To prevent the infiltration of soil into the coarse aggregate sub-base beneath the road, a visual inspection should be undertaken on a fortnightly basis to ensure the sub-base has not become exposed allowing debris to infiltrate directly into the sub-base.

11.6 Construction works should be programmed so that once the DBM construction layer has been laid on the road, no further services are trenched through the road thus preventing exposure and contamination of the coarse graded aggregate sub-base.

Appendix A

Drawing 2933-100 rev D	<i>'Drainage Layout'</i>
Drawing 2933-110 rev A	<i>'Drainage Trench, Permeable Paving, Rain Garden & Attenuation Tank Details'</i>
Drawing 2933-111 rev A	<i>'Demarcation & Access Chamber Details'</i>
Drawing 2933-120 rev A	<i>'Exceedance Surface Water Flows'</i>



Surface Water Manhole Schedule											
Manhole	FFL	Type	CL	IL	D	Diameter	Material	Outflow #	Cover Grade	Cover Opening	Notes
SWMH01	N/A	Type 5	57.00	56.40	0.60	450mmØ	Plastic	150mmØ	D400	300Ø	Catchpit
SWMH02	N/A	Type 5	56.90	56.25	0.65	450mmØ	Plastic	150mmØ	D400	300Ø	
SWMH03	N/A	Type 5	56.80	56.05	0.75	450mmØ	Plastic	150mmØ	D400	300Ø	
SWMH04	N/A	Type 5	56.00	55.40	0.60	450mmØ	Plastic	225mmØ	D400	300Ø	
SWMH05	N/A	Type 5	54.40	53.55	0.85	450mmØ	Plastic	225mmØ	D400	300Ø	
SWMH06	N/A	Type 5	54.40	53.80	0.60	450mmØ	Plastic	150mmØ	D400	300Ø	
SWMH10	56.50	Type 6	56.48	55.88	0.60	450mmØ	Plastic	225mmØ	A15	300Ø	Turtle Stormshark SSK1000M
SWMH11	56.50	Type 6	56.48	55.48	1.00	450mmØ	Plastic	225mmØ	A15	300Ø	
SWMH12	56.50	Type 6	56.48	55.18	1.30	450mmØ	Plastic	225mmØ	A15	300Ø	
SWMH13	56.50	Type 6	56.48	54.73	1.75	450mmØ	Plastic	225mmØ	A15	300Ø	
SWMH14	56.50	Type 6	56.48	54.48	2.00	450mmØ	Plastic	225mmØ	A15	300Ø	
SWMH20	57.20	Type 6	57.18	56.58	0.60	450mmØ	Plastic	150mmØ	A15	300Ø	
SWMH21	57.20	Type 6	57.18	56.13	1.05	450mmØ	Plastic	150mmØ	A15	300Ø	
SWMH22	57.20	Type 6	57.18	55.78	1.40	450mmØ	Plastic	225mmØ	A15	300Ø	
SWMH23	56.50	Type 6	56.48	55.53	0.95	450mmØ	Plastic	225mmØ	A15	300Ø	
SWMH24	56.50	Type 6	56.48	55.13	1.35	450mmØ	Plastic	225mmØ	A15	300Ø	
SWMH30	57.20	Type 6	57.18	56.58	0.60	450mmØ	Plastic	150mmØ	A15	300Ø	
SWMH40	57.20	Type 6	56.48	56.58	0.60	450mmØ	Plastic	150mmØ	A15	300Ø	
SWMH41	57.20	Type 6	56.48	55.63	0.85	450mmØ	Plastic	150mmØ	A15	300Ø	
SWMH50	N/A	Type 5	53.50	52.20	1.40	1200mmØ	Plastic	300mmØ	A15	600x600	

1. All drainage works are to be constructed in accordance with Sewer Side Guidance Appendix C 'Design & Construction' V2 2020.
2. All pipes are to be constructed by the Contractor and to have suitable strength for the service conditions.
3. All pipes are to be suitable for main road traffic unless stated otherwise.
4. The bedding shown are the minimum requirements. The Contractor must ensure the bedding provided is suitable for the selected pipes and loading conditions.
5. 150mm concrete bed and surround to be provided where depth of cover is less than 900mm below finished standing level, or 600mm in soft landscaped areas.
6. Flexes to be included at all joints as recommended by the manufacturer.
7. All catchpit manholes to have minimum 300 clear void beneath invert of pipe to base of manhole.
8. Pipe and/or catchpit manholes are to be installed with soffits at the same level.
9. The first manhole upstream from the connection to the existing public sewer should, when constructed, be fitted with a screen in order to prevent debris entering the sewer. A screen should be removed immediately prior to the occupation of the premises to be served by the sewer.
10. Cover levels shown are approximate, finished level to match proposed surface.
11. All foul water pipes to be 100mm Ø laid at 1:80 min gradient unless noted otherwise.
12. All 150mm Ø foul water pipes to be laid at 1:80 min gradient unless noted otherwise.
13. All 225mm Ø foul water pipes to be 100mm Ø laid at 1:80 min gradient unless noted otherwise.
14. All pipes to be unplasticised PVC pipes, joints and fittings in accordance with BS 4646 and BS EN 14011-1.
15. All manholes to be constructed using standard demarcation chambers shall comply with BS 7158 or BS EN 13598-1.

D	21.07.26	Attenuation basin added to road. Catchment areas added. FW drainage updated. SW manhole schedule added. Easement strip added.	RC
C	14.05.26	Indicative pipe sizes added.	RC
B	25.03.26	Phase 1 FW drainage added.	RC
A	23.02.26	New Drawing – First Issue.	RC
rev.	date	description	chk.

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job title:

Ingfield Manor School
Billinghurst

drawing title:

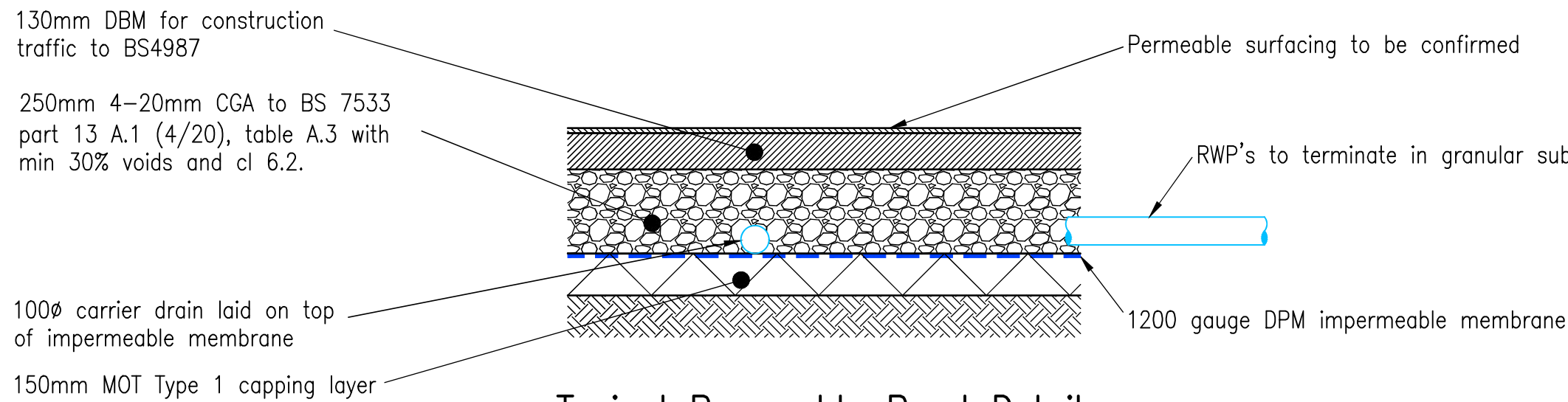
Drainage Layout

scale and sheet size

job number: 2933	drawing number: 100	revision: D
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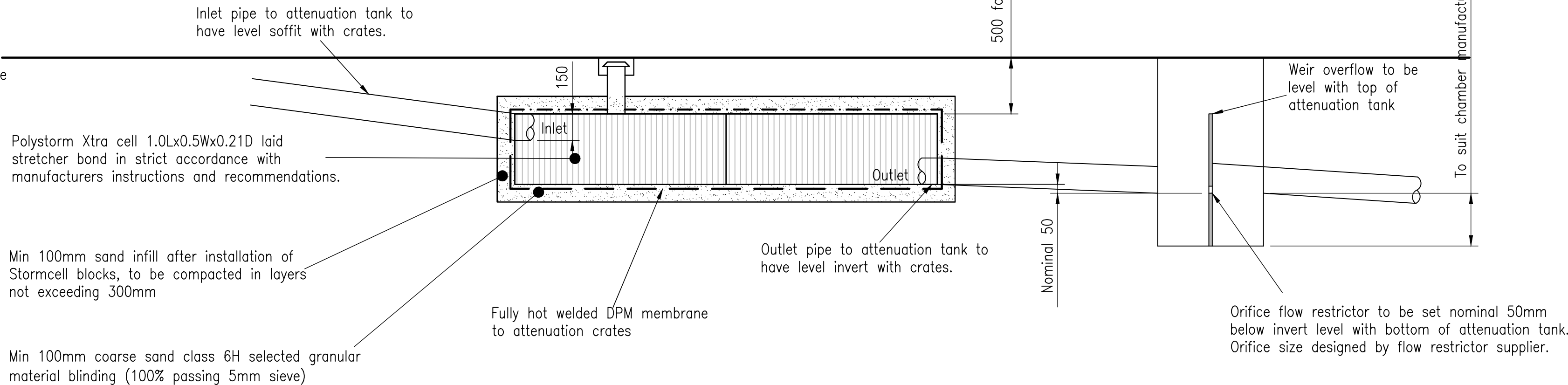
Notes:

1. Prior to the laying of the surface and binder courses, it will be necessary to drill 50mm diameter drain holes in DBM at approximately 2m centres and filled with pea gravel. The drain holes will be covered with geotextile material extending a minimum 200mm either side
2. Assumed CBR=>5%.



Typical Permeable Road Detail

(Scale 1:20)

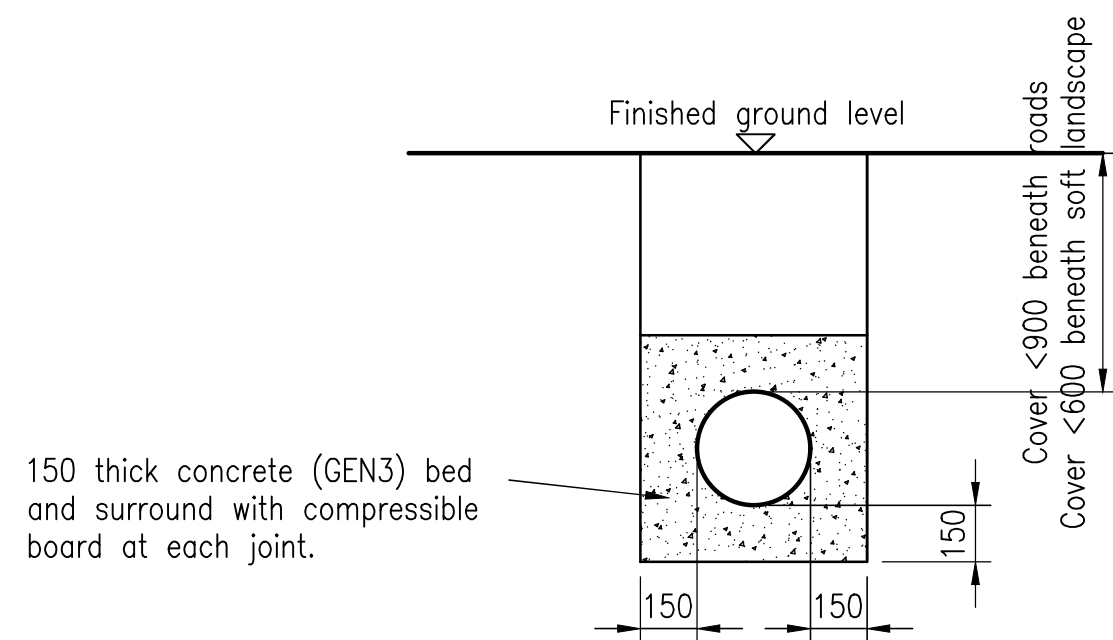


Typical Attenuation Tank Section

(Scale 1:20)

Typical Flow Restrictor Details

(Scale 1:20)

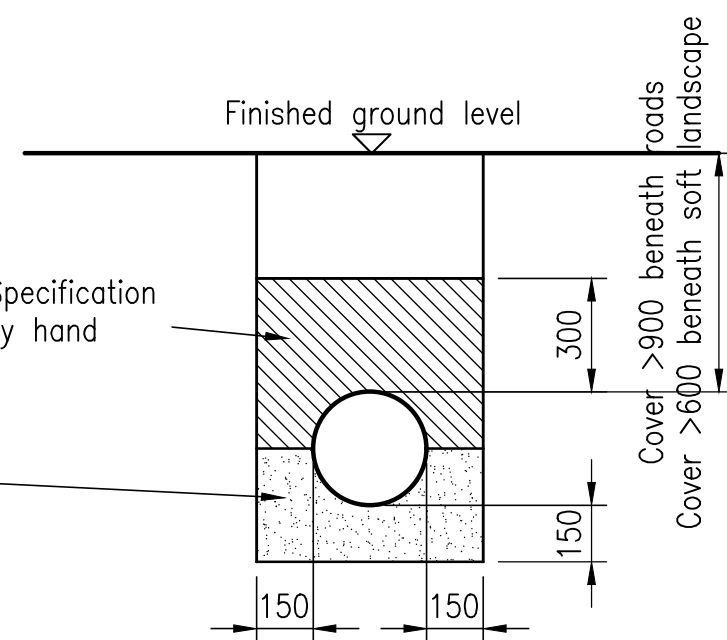


Pipe Bedding Type Z

(Scale 1:20)

Class 8 granular fill material to DoT Specification for Highway Works to be compacted by hand layers not exceeding 100mm

Bedding to be minimum 150mm single size aggregate to BS882



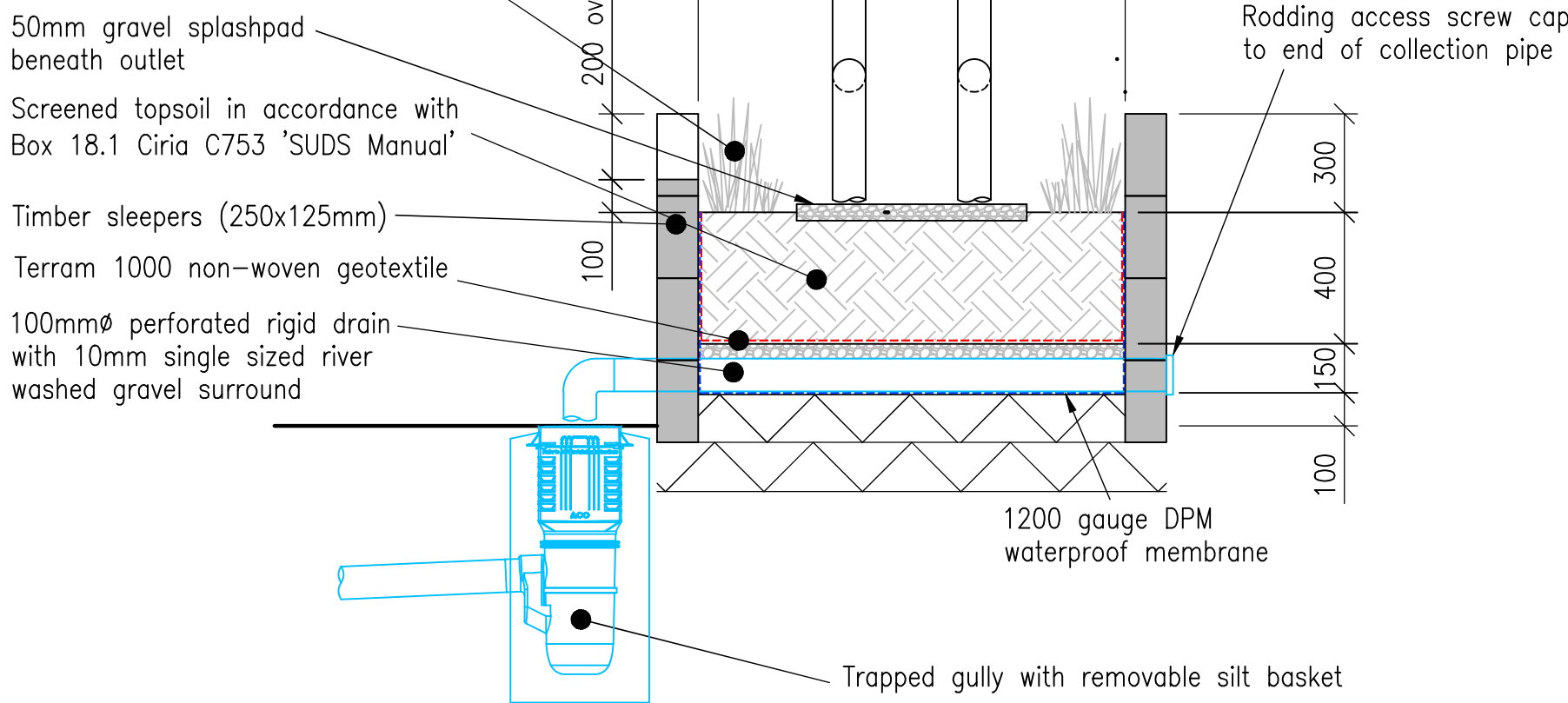
Pipe Bedding Type B

(Scale 1:20)

Notes:

1. All drainage works are to be constructed in accordance with Sewer Sector Guidance Appendix C 'Design & Construction' V2 2020.
2. All pipes are to be selected by the Contractor and to have suitable strength for the service conditions.
3. All pipes are to be suitable for main road traffic unless stated otherwise.
4. The beddings shown are the minimum requirements. The Contractor must ensure the bedding provided is suitable for the selected pipes and loading conditions.
5. 150mm concrete bed and surround to be provided where depth of cover is less than 900mm below finished hardstanding level, or 600mm in soft landscaped areas.
6. Flexcell to be included at all joints as recommended by the manufacturer.
7. All catchpit manholes to have minimum 300 clear void beneath invert of pipe to base of manhole.
8. Pipes of different diameters entering manholes are to be installed with soffits at the same level.
9. The first manhole upstream from the connection to the existing public sewer should, when constructed, be fitted with a screen in order to prevent debris entering the sewer. The screen should be removed immediately prior to the occupation of the premises to be served by the sewer.
10. Cover levels shown are approximate, finished level to match proposed external level
11. All 100mm ø foul water pipes to be laid at 1:80 min gradient unless noted otherwise.
12. All 150mm ø foul water pipes to be laid at 1:150 min gradient unless noted otherwise.
13. All surface water pipes to be 100mm ø laid at 1:80 min gradient unless noted otherwise.
13. All land drain pipes to be 100mm ø laid at 1:200 min gradient unless noted otherwise.
14. All pipes to be unplasticised PVC pipes, joints and fittings in accordance with BS 4660 and BS EN 1401-1.
15. Plastic chambers and rings, including demarcation chambers, shall comply with BS 7158 or BS EN 13598-1.

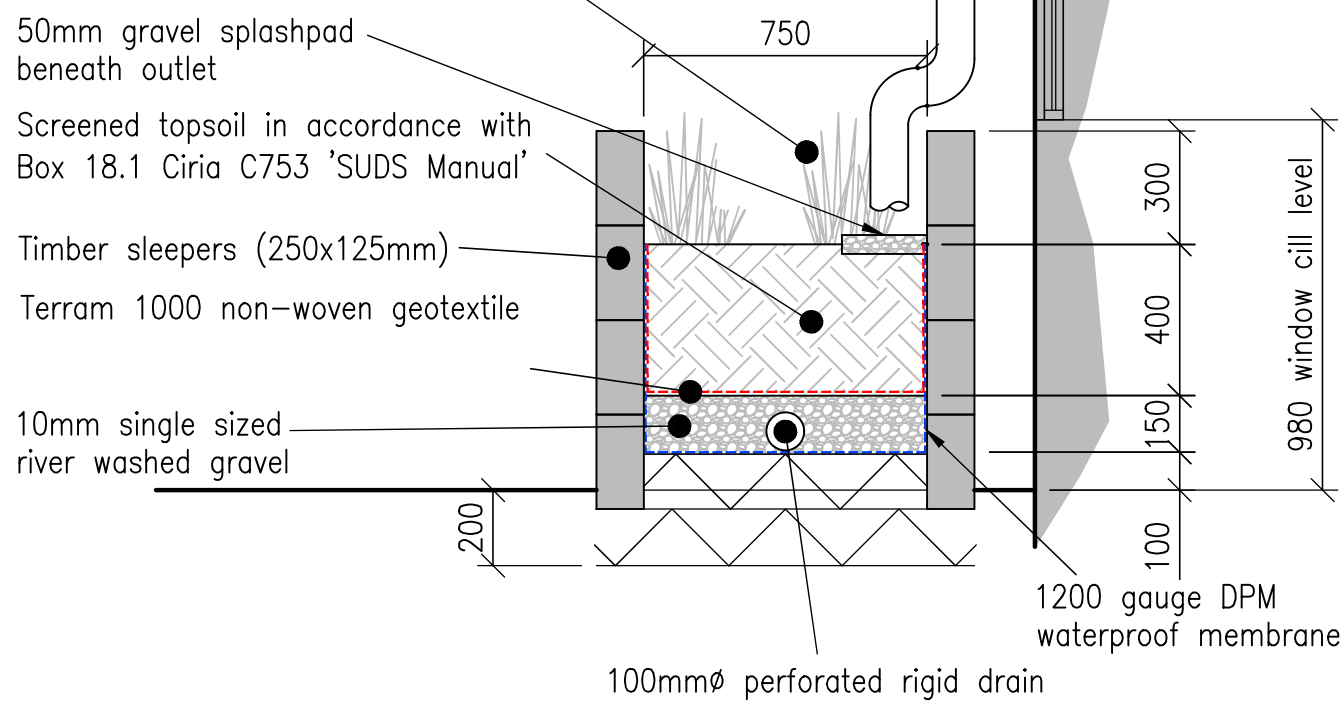
Refer to Sculptered Earth drawing 16763-SEL-XX-XX-DR-L-0001 rev 00 for planting schedule



Planter Long Section

(Scale 1:20)

Refer to Sculptered Earth drawing 16763-SEL-XX-XX-DR-L-0001 rev 00 for planting schedule

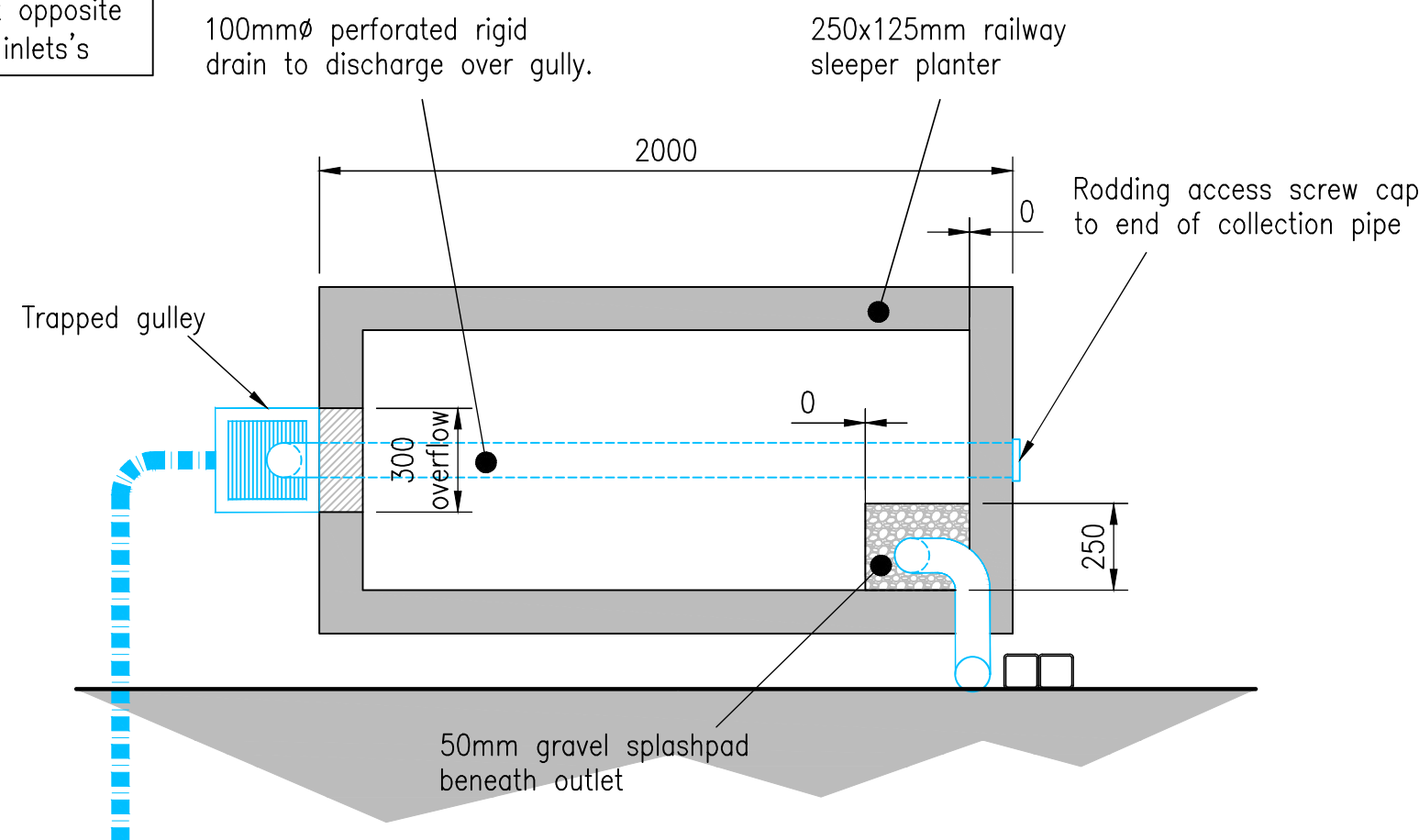


Planter Cross Section

(Scale 1:20)

Note:

Gullies to be located at opposite end planter to of RWP inlets's



SUDS Planter Plan

(Scale 20)

A	23.02.26	New Drawing – First Issue.	RC
rev.	date	description	chk.
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client:

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job title:

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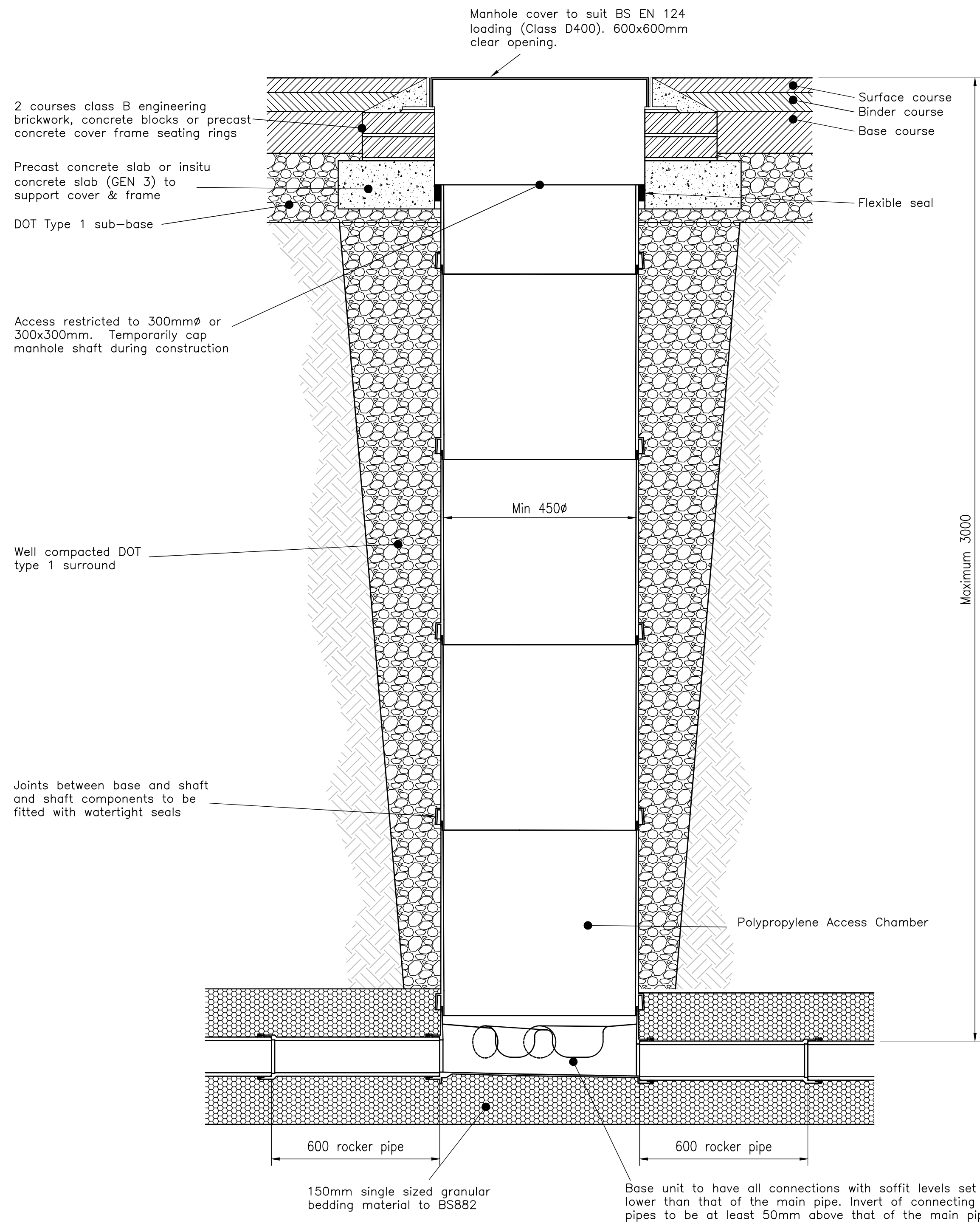
drawing title:

Drainage Trench, Permeable
Paving, SUDS Planter &
Attenuation Tank Details

scale and sheet size

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job number:	drawing number:	revision:
2933	110	A



Typical Access Chamber Type 3

Maximum depth from cover level to soffit of pipe in areas subject to vehicle loading 3m, Non-Entry
(Scale 1:20)

Flexible inlets/outlet and/or bend. Maximum 45 degrees

Joint to be as close as possible to face of chamber to permit satisfactory joint and subsequent movement

Flexible inlets/outlet and/or bend. Maximum 45 degrees

Joint to be as close as possible to face of chamber to permit satisfactory joint and subsequent movement

Unused inlets to be sealed and watertight

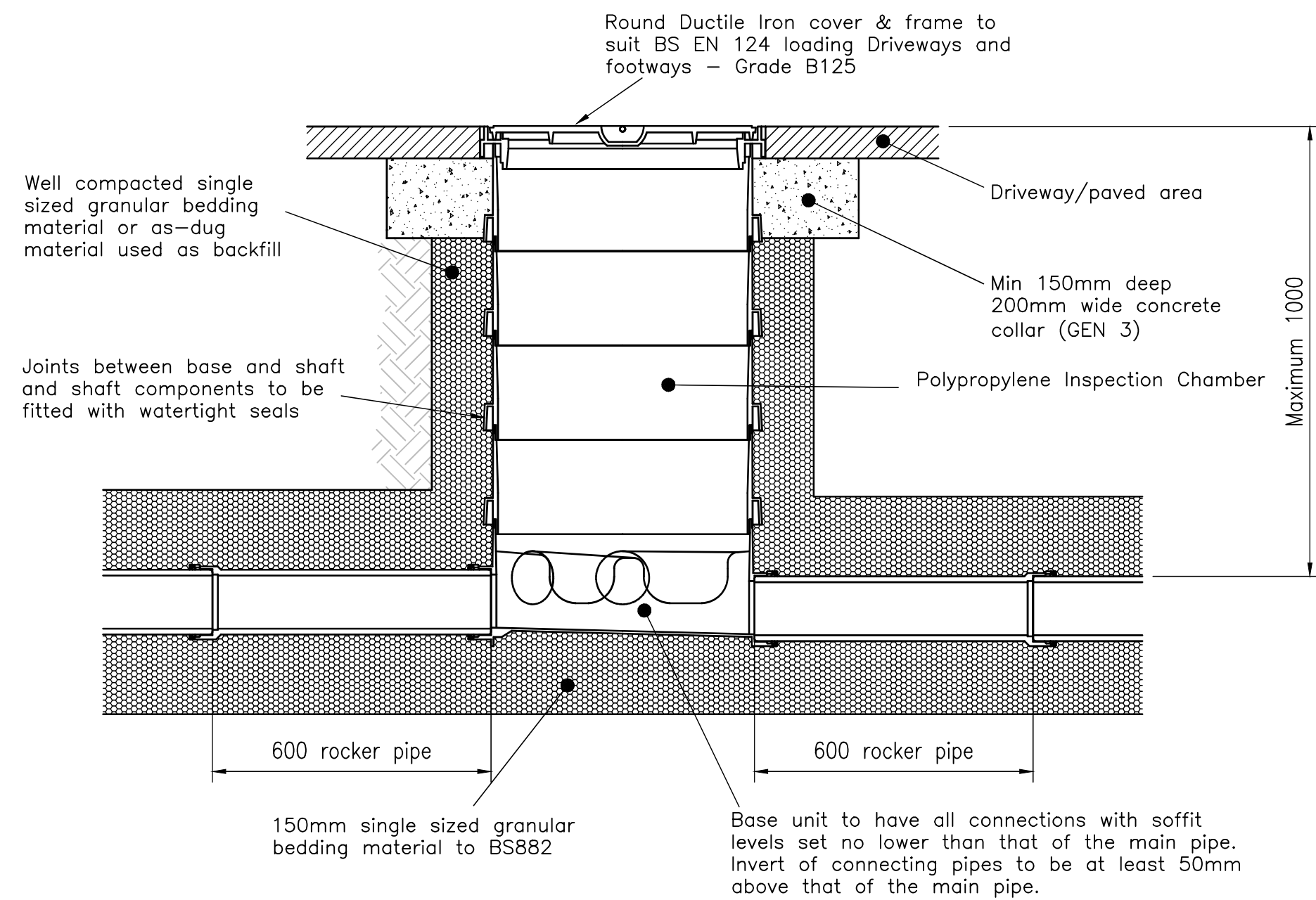
Unused inlets to be sealed and watertight

Typical Access Chamber Types 3 Base Detail

(Not to scale)

Typical Access Chamber Types 5 & 6 Base Detail

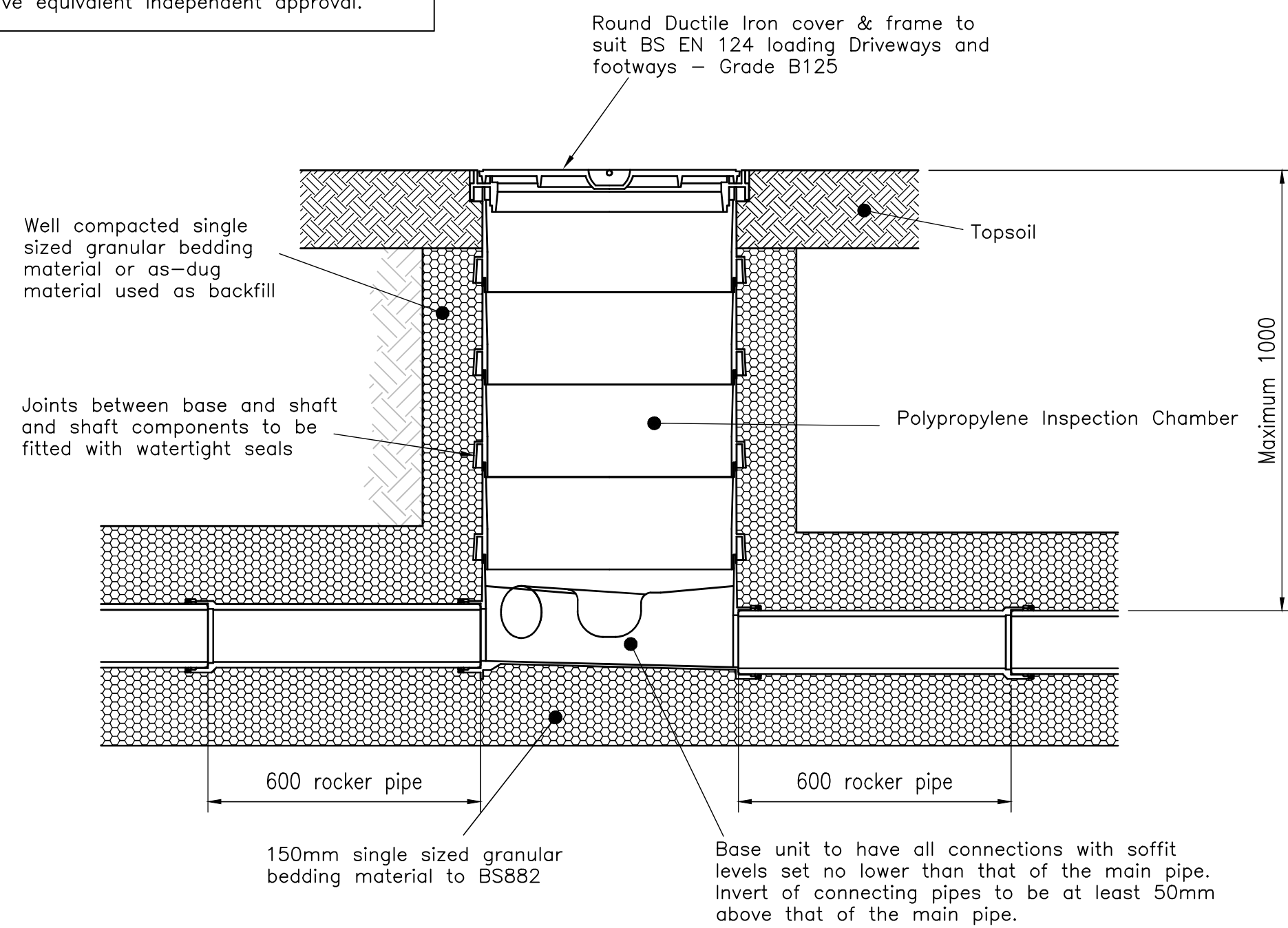
(Not to scale)



Typical Access Chamber Type 5 in Driveway/Paved Areas

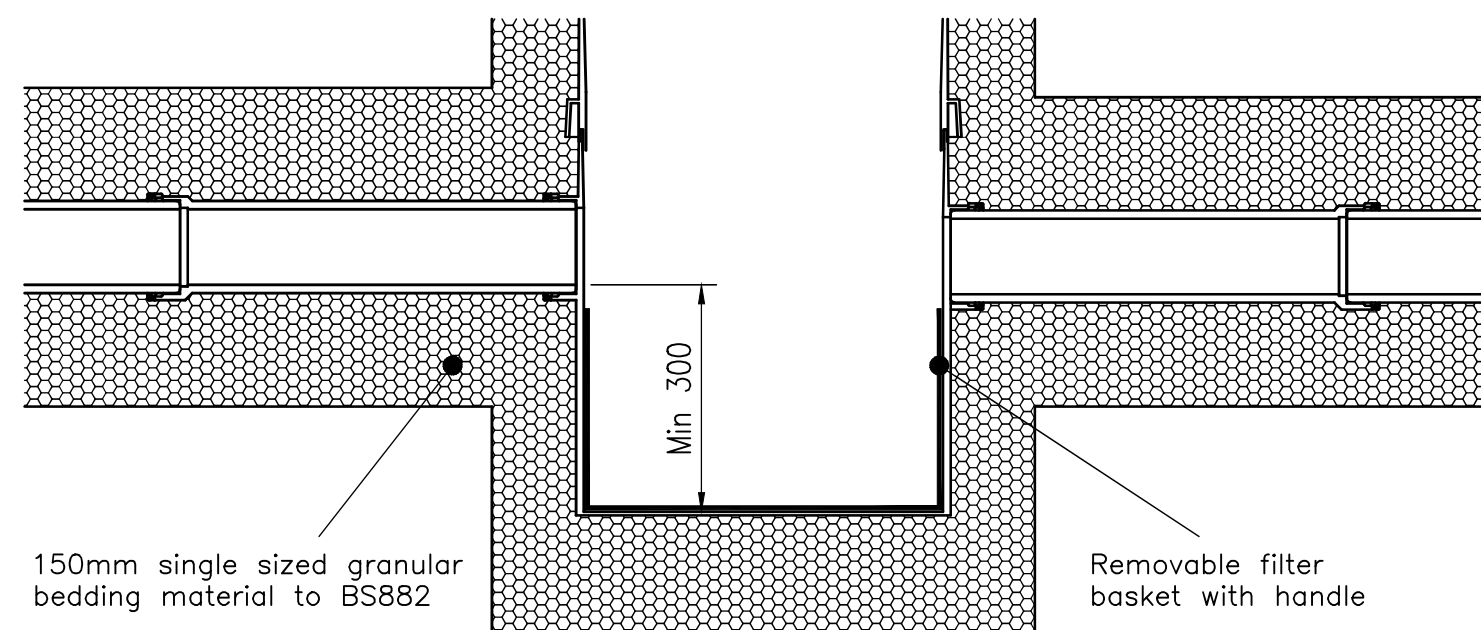
Maximum depth from cover level to soffit of pipe 1m, Non-Entry
(Scale 1:10)

Plastic chambers and rings to comply with BS EN 13598-1 and BS EN 13598-2 or have equivalent independent approval.

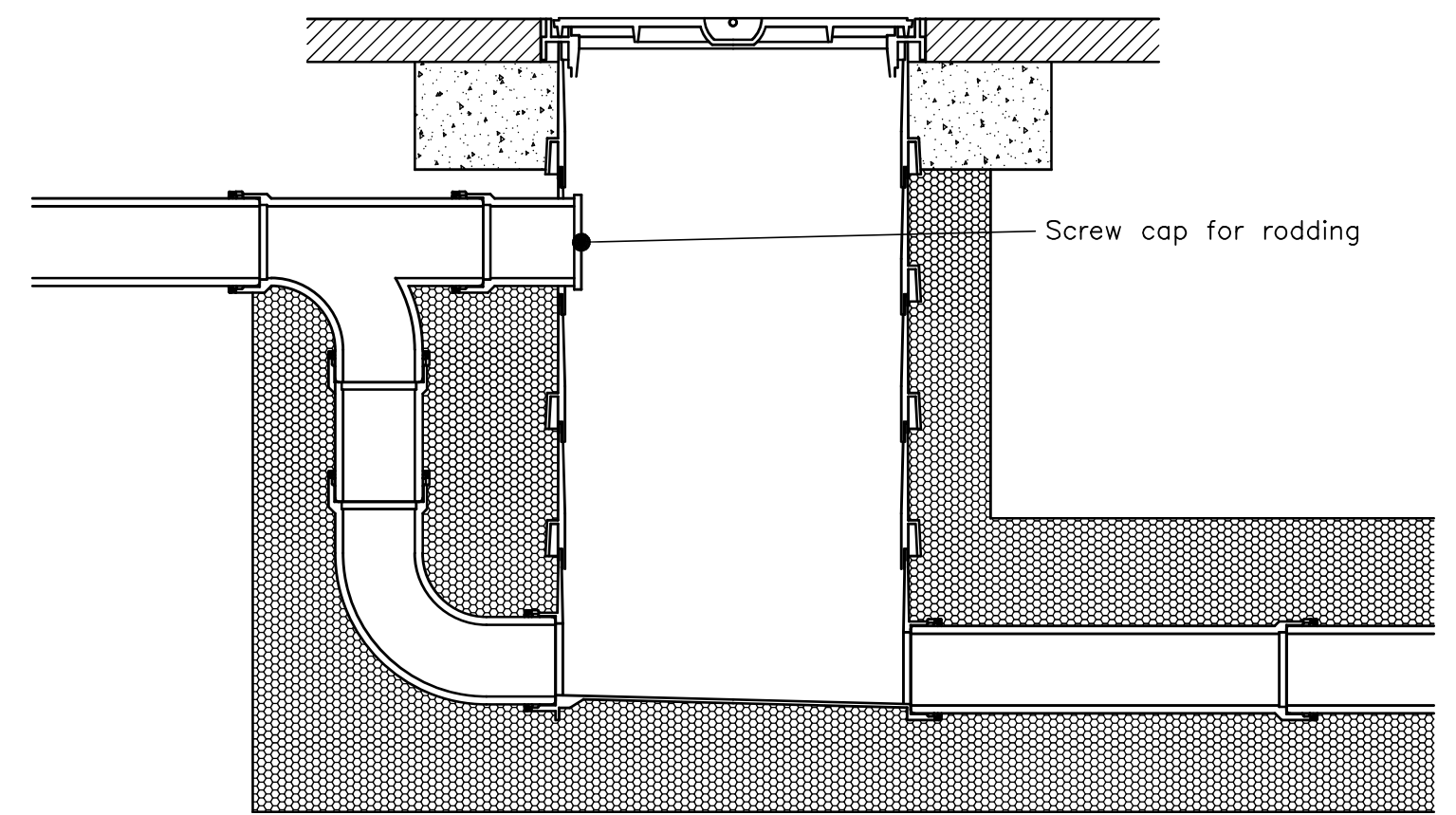


Typical Access Chamber Type 6 in Soft Landscape

Maximum depth from cover level to soffit of pipe 1m, Non-Entry
(Scale 1:10)



Typical Catchpit Manhole



Typical Backdrop Detail

(Scale 1:10)

A	23.02.26	New Drawing - First Issue.	RC
rev.	date	description	chk.
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drawing title:

Access Chamber Details

scale and sheet size

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Exceedance Surface Water Flows

Table and sheet size

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job number:	drawing number:	revision:
2933	120	A

Appendix B

ENZ GeoEng Ltd site investigation report ref 2561-25 dated 15.09.26



***Woodview School, Ingfield Manor School,
Five Oaks, Billingshurst, RH14 9AX***

Salutem LD Bidco IV Ltd

GEOTECHNICAL GROUND INVESTIGATION REPORT

Project No. 2561-25



August, 2025

Document Control		
Revision	Issue Date	Reason for Revision
Draft	8 th September	For revision and comments
Original	15 th September	
A		
B		
C		
D		

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APPENDIX A Borehole Logs

APPENDIX B Geotechnical Test Results

Your ref:
Our ref: SKZ_2561/25

Salutem LD Bidco IV Ltd
Minton Place, Victoria Street,
Windsor, United Kingdom,
SL4 1EG

REPORT ON GEOTECHNICAL GROUND INVESTIGATION AT WOODVIEW SCHOOL, INGFIELD MANOR SCHOOL, FIVE OAKS, BILLINGSHURST, RH14 9AX.

1. INTRODUCTION

AVZGeoEng Limited have been commissioned by Salutem LD Bidco IV Ltd ('the Client') to carry out a Geotechnical Investigation in regards to the proposed redevelopment at the above site as indicated by the client and in accordance with the AVZGeoEng quotation ref: SKZ_2561/25.

As we understood, the proposal is for erection of new SEN school and sports hall on the grounds to the South of the existing school, currently occupied by derelict former residential buildings.

2. THE SITE

The site, which may be found by approximate National Grid reference OS Grid Ref: E: 509197, N: 128820, is situated to the land with derelict buildings to the south of Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX.

An extract of the Ordnance Survey map showing the location of the site is included in **Figure 1**.

The published 1:50,000 scale geological map of the area indicates that the site is underlain by Weald Clay Formation - Mudstone as bedrock geology. Superficial Deposits are not indicated on the published Geological maps and records of the area.

Weald Clay Formation - Mudstone containing clay, dark grey thinly bedded mudstones (shales) and mudstones with subordinate siltstones, fine to medium grained sandstones, including calcareous sandstone (e.g. Horsham Stone Member), shelly limestones (the so called "Paludina Limestones") and clay ironstones.

The highest part of the Wealden, the Weald Clay Group, up to 400 m thick, probably formed at a time when the London-Brabant Massif was at its lowest. It contains a number of marine horizons, which record short lived breaching of the Weald mud-plains by the Boreal Sea (Gale, 2000). Detailed heavy

mineral provenance studies have shown that most of the detritus was derived from the Jurassic and to a lesser extent Palaeozoic rocks of the London Platform to the north. However, in the upper part of the Hastings Group, detritus originating from Cornubia spilled over from the Wessex Basin. The general abundance of detritus derived from the west, which includes material from the Iberian Peninsula, points to doming on the continental margin west of the UK during Early Cretaceous times.

The overlying Weald Clay has also been proved cyclic in nature, predominantly comprising grey shales and mudstones with intervening clastic rich layers representing periods of higher energy. The Weald Clay mudstones are characteristically bioturbated-laminated clays. There is common cyclicity throughout the clays. The fresh colour of the clays is characteristically a dark-medium green grey, and when weathered these changes to an orange ochre-brown type colour. There are bands of red mudstones associated with sandstone horizons and rootlet beds, diagnostic of periods of uplift to the surface.

The cyclicity and lithology changes outlined above may be attributed to environmental changes. The arenaceous formations, including sand and pebbly units is believed to have been deposited during periods of progradation of alluvial fans

The existing topography and history of development of the site suggest that in addition to these natural strata some made ground may be present on the site.

3. LIMITATIONS

Any opinions and interpretations expressed in this report are based on the ground conditions encountered during the site work and on the results of tests made in the field, together with AVZGeoEng conjectural interpretation between exploratory holes. There may, however, be other conditions prevailing at the site which have not been revealed by the investigation and which have therefore not been taken into account in this report. While the report may offer opinions on the possible configuration of strata, both between the excavations and below the maximum depth achieved by the investigation, these comments are for guidance only. It should also be noted that groundwater levels vary due to seasonal or other effects and may at times differ to those measured during the investigation. For investigations, which include environmental issues, the data obtained relate to the conditions which are relevant at the time of the investigation.

This report is not an engineering design and the figures and calculations enclosed to the report should be used by the Structural Engineer taking note that variations may apply depending on design loading, in techniques used, and in site conditions. Our recommendations should therefore not supersede the Engineer's design.

This report has been prepared by AVZGeoEng limited. No individual is personally liable in connection with the preparation of this report. By receiving this report and acting on it, the client or any other person accepts that no individual is personally liable whether in contract, tort, for breach of statutory duty or otherwise.

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expenses (including any consequential damages) resulting from the use of this Report or any information contained in this Report by a third party.

4. GROUND INVESTIGATION

The site work was carried out between 29th July and 7th August 2025, aimed to obtain geotechnical parameters in regards to the proposed development. The investigation and soil descriptions were carried out in general accordance with BS5930:2015 – Code of Practice for Site Investigations.

The ground investigation comprised the following works:

- 6No. boreholes advanced by drive-in sampler technique to a max 5.0m depth;
- 3No. rotary boreholes advanced by rotary rig to a max 15.3m depth;
- 3No. Ø35mm standpipes installed for future groundwater/gas monitoring;
- 6No. CBR tests using Dynamic Cone Penetration method
- 3No. soakaway tests following the procedure of the BRE 365;
- In situ testing and logging.

The borehole locations were determined approximately by reference to physical features present on the site at the time of investigation and the ground level at the borehole locations was not determined.

The locations of the exploratory holes are presented on **Figure 2**, the exploratory hole logs and the geotechnical testing results are presented in the **Appendix A** and **Appendix B**, respectively.

5. GEOTECHNICAL TESTING

The programme of geotechnical tests undertaken on samples obtained from the intrusive investigation is presented in **Table 1**, the main purpose of which was to classify the ground beneath the site and assist in determining its physical and mechanical properties. Where appropriate, testing was undertaken in accordance with BS 1377:1990 & EN ISO 14688-2 2004+A1:2013 Method of Tests for Soils for Civil Engineering Purposes and was carried out by the AVZGeoEng Ltd in house laboratory.

Tests carried out in order to classify the concrete class required on site have been undertaken following the procedures within BRE SD1:2005 by a UKAS accredited laboratory (Chemtech Environmental).

Table 1 – Summary of Geotechnical Testing Programme

Strata	Tests undertaken	No of Tests
Made Ground	pH & Water Soluble Sulphates	1
Weald Clay Formation - Mudstone	Natural Moisture Content	10
	Plasticity Index	10

Strata	Tests undertaken	No of Tests
	pH & Water Soluble Sulphates	9

6. GROUND CONDITIONS

The exploratory holes revealed that the site is underlain by a thin layer of Made Ground, over Weald Clay Formation – Mudstone, as bedrock geology. This appears to generally confirm the stratigraphical succession suggested by the published geological records.

The ground conditions are summarised in **Table 2** below.

Table 2 - General succession of strata encountered

Brief Description	Depth to top of stratum m.bgl	Thickness (m)
Made Ground	G.L.	0.20 to 0.7
Weald Clay Formation - Mudstone	0.2 to 0.7	Not proven

The Made Ground was found variable with limited thickness, consisting of sandy silt and clay or silty sand and gravel, with occasional to frequent roots, brick, coal ash, tarmac, mudstone and brick, concrete and glass fragments. More precise image of the made ground composition is presented in the borehole logs (**Appendix A**).

The Weald Clay Formation – Mudstone comprised firm to hard, slightly sandy clay or silty clay with occasional sandy laminas, with sublayers of very weak thinly laminated mudstone and siltstone. With depth the formation was turning into weathered thinly bedded extremely weak to weak siltstone and mudstone, with occasional thin limestone sublayers. The borehole logs (**Appendix A**) show a general image of the lithological composition of the encountered materials.

The measured and inferred soil parameters for the stratum are listed in **Table 3** below.

Table 3 – Summary of Soil Parameters for the Weald Clay Formation - Mudstone

Soil Parameters	Range	Results
Liquid Limit (%)	45 to 69	Appendix B
Plastic Limit (%)	22 to 28	Appendix B
Plastic Index (%)	23 to 46	Appendix B
Modified Plasticity Index (%)	23 to 46	Appendix B
Plasticity Term	Intermediate to high	
Volume Change Potential (NHBC)	Medium to high	
Moisture Content (%)	18.2 to 35.2	Appendix B
SPT 'N' Values	4 to >100	Appendix A, Figure 3

Soil Parameters	Range	Results
Undrained Shear Strength (kN/m ²) inferred by SPT ⁽¹⁾	17 to 429	Figure 4
Strength Term	Very soft to hard	

⁽¹⁾ SPT – Standard Penetration Tests

7. GROUNDWATER CONDITIONS

All boreholes remained dry during site works. Standpipes were installed in three of the boreholes for future groundwater or gas monitoring if required.

8. FOUNDATIONS

The ground conditions appear feasible for the design and construction of conventical spread foundations for the proposed development. Alternatively piled foundations could be adopted, particularly for any moderate to heavy or sensitive foundation loads.

The recommendations for the design and construction of spread and strip foundations in relation to ground conditions are set out in **Table 4**.

Table 4 – Design and construction of spread and strip foundations

Design/construction considerations	Design/construction recommendations						
Founding stratum	Weald Clay Formation - Mudstone						
Depth	Foundations should be taken to a minimum depth of 1.0 m below finished ground level and at least 0.1m into the founding stratum below any overlying made ground or to any greater depth required in respect of the special design considerations given below.						
Special design considerations	Due to the presence of shrinkable soils foundations should be designed taking into account all the normal precautions, including minimum depths, to minimise the risk of future foundation movements in accordance with NHBC Standards, or similar. The findings of the ground investigation indicate that foundations should be designed for shrinkable soils of high volume change potential.						
Bearing pressures for range of strip footings and square bases founded in the Weald Clay Formation	Net allowable bearing pressure kN/m²						
		Strip Footings			Square bases		
	Width	0.5m	0.75m	1.0m	1m	1.25m	1.5m
	Depth						
	1.0m	113	114	114	133	133	133
	1.5m	148	149	149	174	174	174
	2.0m	174	175	176	205	205	205

Design/construction considerations	Design/construction recommendations
Basis of allowable bearing pressures	Each allowable bearing pressure includes an overall factor of safety of 3 against bearing capacity failure and with total settlements associated with the bearing pressure estimated to be less than 25mm.
Stability of excavations	Generally, the foundation excavations should remain stable in the short term. In the event that excavations are to remain open for longer periods, consideration should be given to the use of trench support systems.
Construction considerations	All foundation excavations should be inspected and any made ground, soft, organic or otherwise unsuitable materials removed and replaced with mass concrete. The proposed founding stratum is a relatively silt-rich soil, hence susceptible to rapid softening once exposed. Hence all foundation excavations should immediately be blinded with concrete or the full foundation constructed.

9. PILED FOUNDATIONS

The recommendations for the design and construction of piled foundations in relation to the ground conditions are set out in **Table 5**

Table 5 – Design and Construction of Piled Foundations

Design/construction considerations	Design/construction recommendations	
Pile type	The construction of bored or driven piles is considered technically feasible at this site.	
Possible constraints on choice of pile type	Driven piles may not be acceptable due to ground vibration and noise related problems.	
Temporary casing where groundwater is present	Bored piles may require temporary casing throughout their depth where presence of groundwater is possible. Use of CFA piles may overcome the issue.	
Man-made obstructions	The presence of buried sub-structures or other obstructions within made ground (expected some remains of the former structures,) may lead to some difficulty during piling, therefore it is recommended the pile contractor should take that in consideration when quoting the job. Where buried obstructions are encountered, it will be necessary to either relocate the pile(s) or make allowance for removing the obstruction.	
Hard strata	An allowance should be made for chiselling 'rock' bands (mudstone, siltstone or limestone) within the Weald Clay Formation.	
Soil and pile design parameters for Weald Clay	Adhesion Factor (α)	0.5/0.6
	Bearing Capacity Factor (N_c)	9

Design/construction considerations	Design/construction recommendations	
Formation - bored piles (cohesive soils)	Undrained Shear Strength (c_u)	70@1m + 15z kN/m ² where z = depth into clay
	Global Safety Factor	3.0/2.5
	Limiting Shaft Friction	140 kN/m ²
	Limiting Concrete Stress	7.5N/mm ²
Special Design Consideration	For piles in high volume change potential clay, the initial 3mbgl will need to be sleeved, or alternatively the design will need to allow for appropriate reinforcement for the full length of the pile able to withstand the tension forces that would occur due to the ground movements in the top stratum.	

10. RADON

Indicative Atlas of Radon in the UK indicates that the property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level and no radon protective measures are necessary. However, it should be noted that radon need to be considered in relation to any development with a basement regardless of the location.

Additional information about Radon Affected Areas could be obtained from the publication 'Radon - Guidance on protective measures for new buildings BRE211 (BRE and HPA, 2007)' and the "Indicative Atlas of Radon in England and Wels" published by the Health Protection Agency and British Geological Survey, see www.ukradon.org for more details.

11. ROADS AND HARDSTANDING

In the initial meter below the proposed finished ground level the exploratory holes have revealed a soil profile comprising sandy silt and clay, silty sand and gravel or silty clay, with occasional sandy laminas.

In road/pavement design terms, the groundwater conditions are anticipated to comprise a low water table at least 1m below the pavement formation level.

The tests start from the current ground level and the results of in situ DCP testing are summarised in **Table 6**. The CBR values at and below the proposed formation level could be determined from the test diagrams presented in **Figure 5**.

Table 6 Summary of CBR values derived from in situ DCP tests

Test Location	Material Type	Minimum CBR value determined at or just below anticipated formation level
DCP1	Made Ground/Natural strata	3% (generally > 8%)
DCP2	Made Ground/Natural strata	4% (generally > 10%)

Test Location	Material Type	Minimum CBR value determined at or just below anticipated formation level
DCP3	Made Ground/Natural strata	3% (generally > 6%)
DCP4	Made Ground/Natural strata	6% (generally > 10%)
DCP5	Made Ground/Natural strata	3% (generally > 5%)
DCP6	Made Ground/Natural strata	2%

* Topsoil in a landscape area, hence starting values were ignored.

The cohesive sub-grade soils may not be susceptible to improvement by rolling with conventional compaction plant.

It should be noted that in-situ CBR readings can vary significantly depending on a number of factors, including the moisture content of the soil, and this can in turn vary depending on the weather conditions leading up to and during testing.

Therefore, the above results and recommendations should be used as preliminary for the design purposes and confirmed during the construction phase of the project.

12. SOAKAWAYS

Soakaways are used to store the immediate surface water run-off from hard surfaced areas, such as roofs or car parks, and allow for infiltration into the adjacent soil. They need to provide the necessary capacity to receive run-off from a subsequent storm. The time taken for discharge depends upon the soakaway shape and size, and the surrounding soil's infiltration characteristics. Soakaway may not be an appropriate solution in areas of ground that have low permeability and where the maximum seasonal water table may be at or above the base of the proposed soakaway.

3No. soakaway tests were carried out in trial pit at locations advised by the engineer as potentially suitable for the proposed soakaway, following the analogy and recommendations given in the BRE 365. For the purpose of the test, trial pits were excavated by machine and backfilled with arisings on completion.

Due to low infiltration rates, the water level in the trial pits failed to drain below the 25% level within the time available for the test, results are presented in the **Figure 6**.

The extremely low permeability recorded is considered to be a function of the typically high fines (clay and silt) contents of the sub-soils, hence the location is considered unsuitable for traditional shallow pit soakaways.

13. CHEMICAL ANALYSIS OF SOIL SAMPLES

The client requested preliminary contamination assessment by means of collecting limited number of samples and laboratory screening tests for presence of most common contaminants.

This report and scope of work carried out is intended to provide preliminary information for existence of contamination in the shallow ground around the site and this investigation was not designed to satisfy the

full requirements as defined by BS 10175:2001 “Code of Practice for the Investigation of Potentially Contaminated Sites”.

An asbestos survey of existing structures and infrastructure (as defined under Section 5(a) of the Control of Asbestos Regulations 2012) was beyond the brief of this report. The risk assessment has been undertaken on the basis that should asbestos be identified within buildings or infrastructure, these materials will be removed appropriately by licensed contractors and asbestos materials disposed of in accordance with legal requirements prior to demolition or other works in order to avoid contaminating soils at the site.

Visual/olfactory evidence of contamination was not encountered during the site work into any of the trial pits or boreholes.

The programme of chemical tests was undertaken on samples obtained from the intrusive investigation as presented in **Table 7**. Testing was undertaken by a UKAS accredited laboratory (Chemtech Environmental), MCERTS accredited test methods were specified where applicable.

Table 7 – Summary of Chemical Testing Programme

Test Suite	Number of Samples	Soil Tested
Metals Suite - As, Ba, Be, WSB, Cd, Cr, Cu, Pb, Hg, Ni, Se, V & Zn	5	Made Ground
Asbestos Screening	5	
TPH CWG with BTEX (Soil)	5	
Speciated PAH EPA16 by GC-MS	5	
Total organic carbon	5	

Chemical analyses have been performed on a total of 5No. soil samples, from the made ground, down to a maximum depth of 0.6m below existing ground level. In addition to the chemical analyses, a total of 5No. samples were screened in the laboratory for the presence of asbestos fibres.

The visual inspection at the laboratory identified no materials suspected of potentially containing asbestos and the scheduled laboratory screening for asbestos found no detectable asbestos fibres within the sample.

The full chemical results are presented within **Appendix B**. The results have been assessed with respect to Human Health Risk Assessment conducted on the results of the laboratory tests on soils sampled from the site were evaluated by the Atkins ATRISK^{soil} SSVs derived using CLEA v1.071 software and up to date exposure assumptions based on the principles of minimal toxicological risk at 1% and 6% soil organic matter. Given the proposed end use, the site was treated as commercial.

In conclusion, the findings of this limited investigation and testing have provided no evidence of significant ground contamination on site with regards to its proposed end-use. It is recommended that imported topsoil/subsoil to be used in any landscaped areas should be clean and suitably tested.

Adequate health and safety measures may be required during groundworks. In respect of the risk posed to the construction workers who will come into contact with the made ground during the development works, protection measures including regular use of standard PPE equipment (gloves, hard hats, safety boots etc.) and maintenance of self-hygiene should be sufficient to overcome this issue.

Water supply infrastructure should be considered the most sensitive receptor with respect to buried services. It is recommended that the results of this investigation be presented to the water utility company as soon as reasonably practicable in order to confirm the pipe material. As a matter of good practice, and to maximize the protection to utilities, it is recommended that clean, granular backfill is used in service runs and that marker tapes are used for all buried services.

It is possible however, that groundwork may encounter different conditions from those revealed by the site investigation. It is therefore recommended that the groundworks be monitored for previously undetected suspect materials and if found appropriate additional testing and advice is sought.

It is recommended that this report is referenced in the site Health and Safety Plan and that normal good hygiene practice is observed during the works and subsequent building and grounds maintenance

14. WASTE CLASSIFICATION OF SOIL SAMPLES

The client requested Waste Acceptance Criteria (WAC) assessment of the site by means of collecting limited number of samples and laboratory tests.

Chemical WAC test analyses have been performed on single soil sample from the made ground & natural soil down to a maximum depth of 1.0m below existing ground level.

Testing was undertaken by a UKAS accredited laboratory (Chemtech Environmental), MCERTS accredited test methods were specified where applicable. The full WAC test results are presented within **Appendix C**. All soil samples scheduled for laboratory testing are also inspected visually on receipt at the laboratory for the presence of materials potentially containing asbestos, e.g. fragments of asbestos-cement products.

The Laboratory WAC tests indicated all results were found to be below the threshold for inert and is likely therefore to be classified as Inert waste, and as such may either be disposed of to a suitable landfill site or re-use on another project where inert fill material is required.

It is important to note that the assessment given in this report is for guidance only and it is always necessary to confirm the actual classification with prospective landfill operators prior to disposal.

15. CHEMICAL ATTACK ON BURIED CONCRETE

The results of chemical tests carried out on soil samples from the made ground and natural soil indicate 2:1 water soil extract sulphate with max content of 2040 mg/l with generally alkaline pH values.

These results indicate that, in accordance with BRE Special Digest 1:2005 Concrete in aggressive ground, the Aggressive Chemical Environment for Concrete (ACEC) Classification is **AC-2** with a Design Sulphate Class for the site of **DS-3**.

This assumes nominally static groundwater conditions and that no significantly disturbed clay comes into contact with concrete foundations or structures. This would apply for designing the concrete class for shallow foundations and concrete elements.

16. RECOMMENDATION IN RELATION TO FOUNDATIONS

From the results of site investigation, the following recommendations are given in respect to ground engineering and foundation design of the underlying soils:

- The site investigation consisted of 6 (six) drive-in sampler boreholes up to 5.0mbgl and 3 (three) rotary boreholes up to 15.3mbgl, aimed to confirm the ground profile below the site and recover samples for laboratory testing. The boreholes remained dry during site works.
- The investigation found that site is underlain by a thin layer of Made Ground, over Weald Clay Formation - Mudstone as bedrock geology. From geotechnical point of view the investigation revealed ground conditions appear suitable for the design and construction of conventional spread foundations for the proposed development subject to appropriate design. Alternatively piled foundations could be adopted, particularly for any moderate to heavy or sensitive foundation loads.
- Allowable bearing Capacity or pressure is a preliminary estimate of the ultimate bearing resistance of the ground, selected on the basis of the soil description and in situ tests, in addition taking a presumed degree of settlement into account. It has traditionally been used to check simple foundation designs. The use of this method is acceptable under BS EN 1997-116 as prescriptive method with allowable bearing pressures termed 'presumed bearing resistance'.
- Foundations should be taken to a minimum depth of 1.0m below finished ground level and at least 0.1m into the founding stratum below any overlying made ground or to any greater depth required in respect of the special design considerations given below. Depends on the depth and shape of the proposed footings, spread foundations should be designed using a net presumed bearings resistance of between 113kN/m² to 205kN/m², as advised in the **Table 4** of this Report.
- The presumed bearing resistance depends on the proposed depth of foundations, width of the footings and its tolerance to settlements. The preliminary presumed bearing resistance assuming a stated depth and width of foundation and assumes that settlements of up to 25mm can be tolerated by the structure. For alternative foundation depths and dimensions of the footings, or if the proposed structure has different short or long term movement requirements then the above assessment should be re-evaluated.
- Special Design Consideration:
 1. Due to the presence of shrinkable soils foundations should be designed taking into account all the normal precautions, including minimum depths, to minimise the risk of future foundation movements in accordance with NHBC Standards, or similar. The findings of the ground investigation indicate that foundations should be designed for shrinkable soils of high volume change potential.
- Advice on design and construction of piled foundations is included in **Table 4** of this Report, which includes advice for pile design based on SPT tests results in soil. In rock piles could also be designed using rock socket method. It should be stressed that these parameters are suitable to be

used for preliminary design purposes, the detailed design should be provided by the specialist piling contractor and would depend of the type of piles adopted for the project.

- The water-soluble soil extract sulphate contents tests indicate that, in accordance with BRE Special Digest 1:2005 Concrete in aggressive ground, the Aggressive Chemical Environment for Concrete (ACEC) Classification is **AC-2** with a Design Sulphate Class for the site of **DS-3**.
- All foundation excavations should be taken to depth reaching the competent foundation stratum, inspected and approved by a competent person before casting the concrete. Any made ground, soft, organic or otherwise unsuitable materials removed and replaced with mass concrete.

We trust that the above meets with your requirements, however, if should wish to discuss any of the matters further, please do not hesitate to contact us.

Yours Sincerely,
For AVZGeoEng Ltd

Author:

BSc (Hons) Silvanka Kadieva-Zarkovska
Senior Geotechnical Engineer

Approved:

Dipl. Ing. Boban Zarkovski CEng MICE

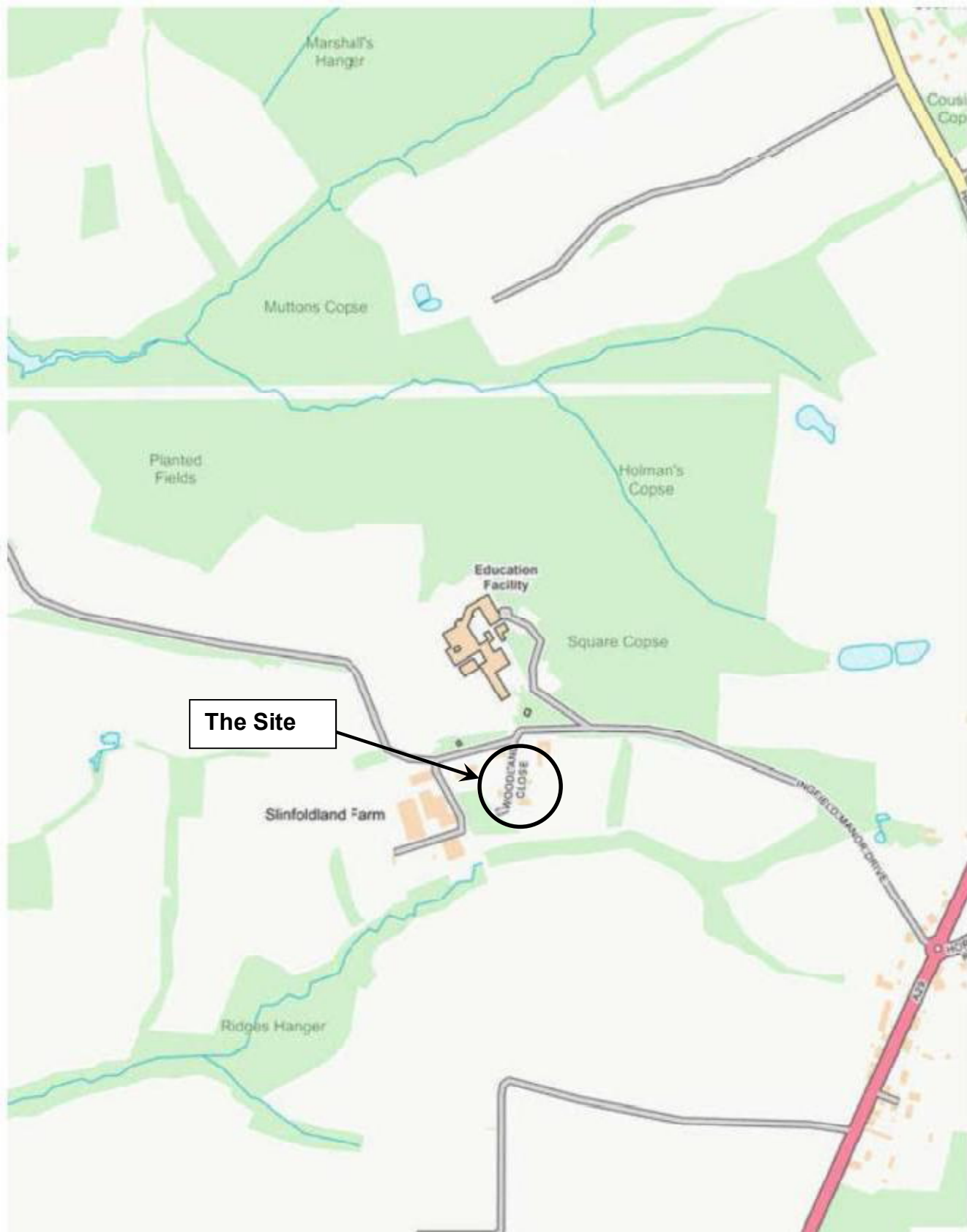


Woodview School, Ingfield Manor School,
Five Oaks, Billingshurst, RH14 9AX
Ref: SKZ_2561/25_August 2025

FIGURES



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Client: Salutem LD Bidco IV Ltd

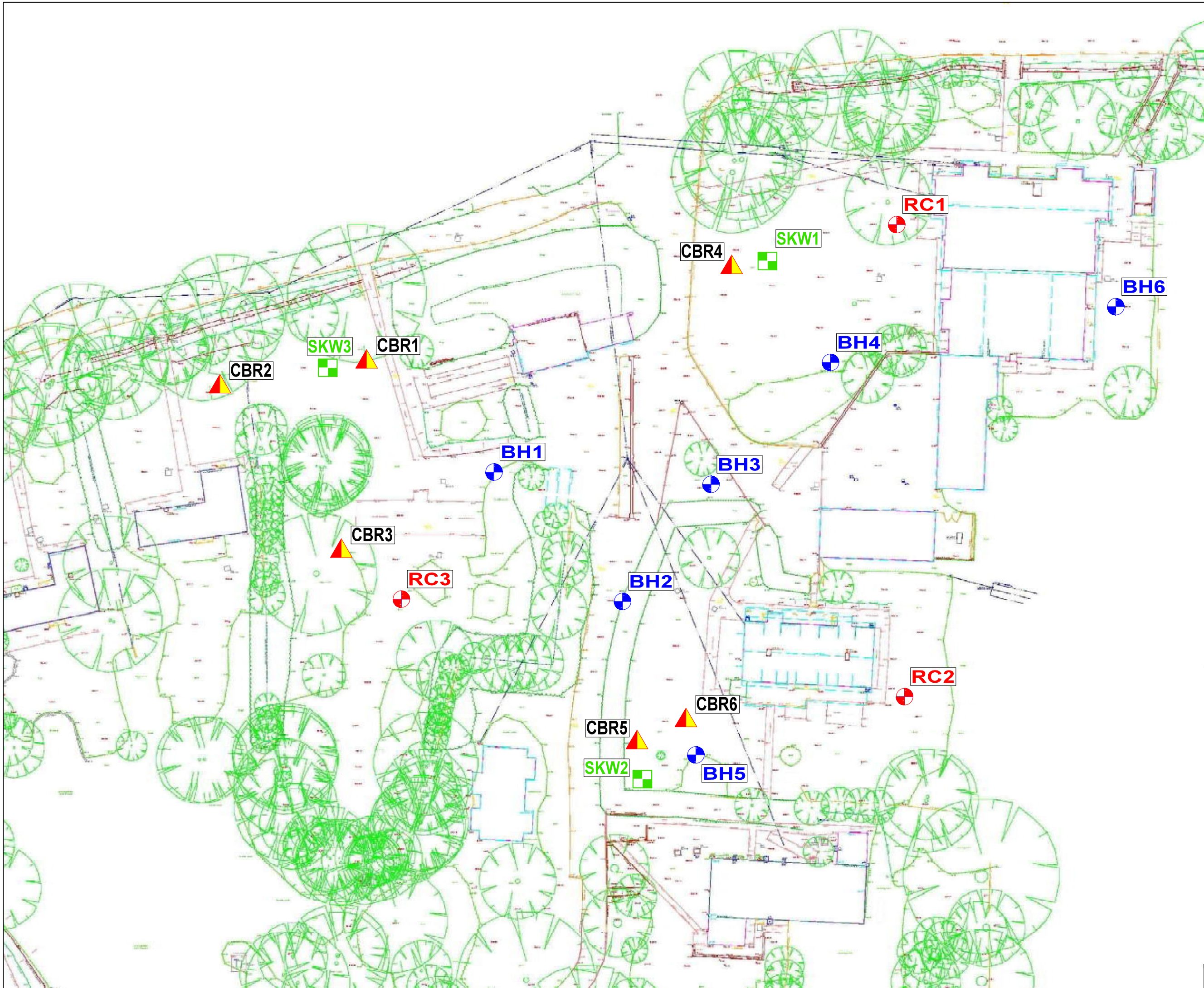
Scale: NTS

Site: Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX

SITE LOCATION PLAN

Job No: 2561/25

Figure No: 1



- LEGEND:
- BH - Drive-in borehole
 - RC - Rotary boreholes
 - SKW - Soakaway test
 - ▲ CBR - California bearing ratio



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Client

Salutem LD Bidco IV Ltd

Project Title

Woodview School, Ingfield Manor
School, Five Oaks, Billingshurst,
RH14 9AX

Drawing Title

Layout Investigation
Points Plan

Drawn	Date	Checked	Date	Approved	Date
SKZ	20/08/2025	BZ	20/08/2025	BZ	20/08/2025
Scale	Orig Size			Dimensions	
NTS				M	
Project No.			Drawing File		
2561/25					
Drawing No.				Rev.	
FIGURE_2					



Site

Woodview School, Ingfield
Manor School, Five Oaks,
Billingshurst, RH14 9AX

SPT N60 Vs Depth Profile

Client:

Salutem LD Bidco IV Ltd

Job Number

2561/25

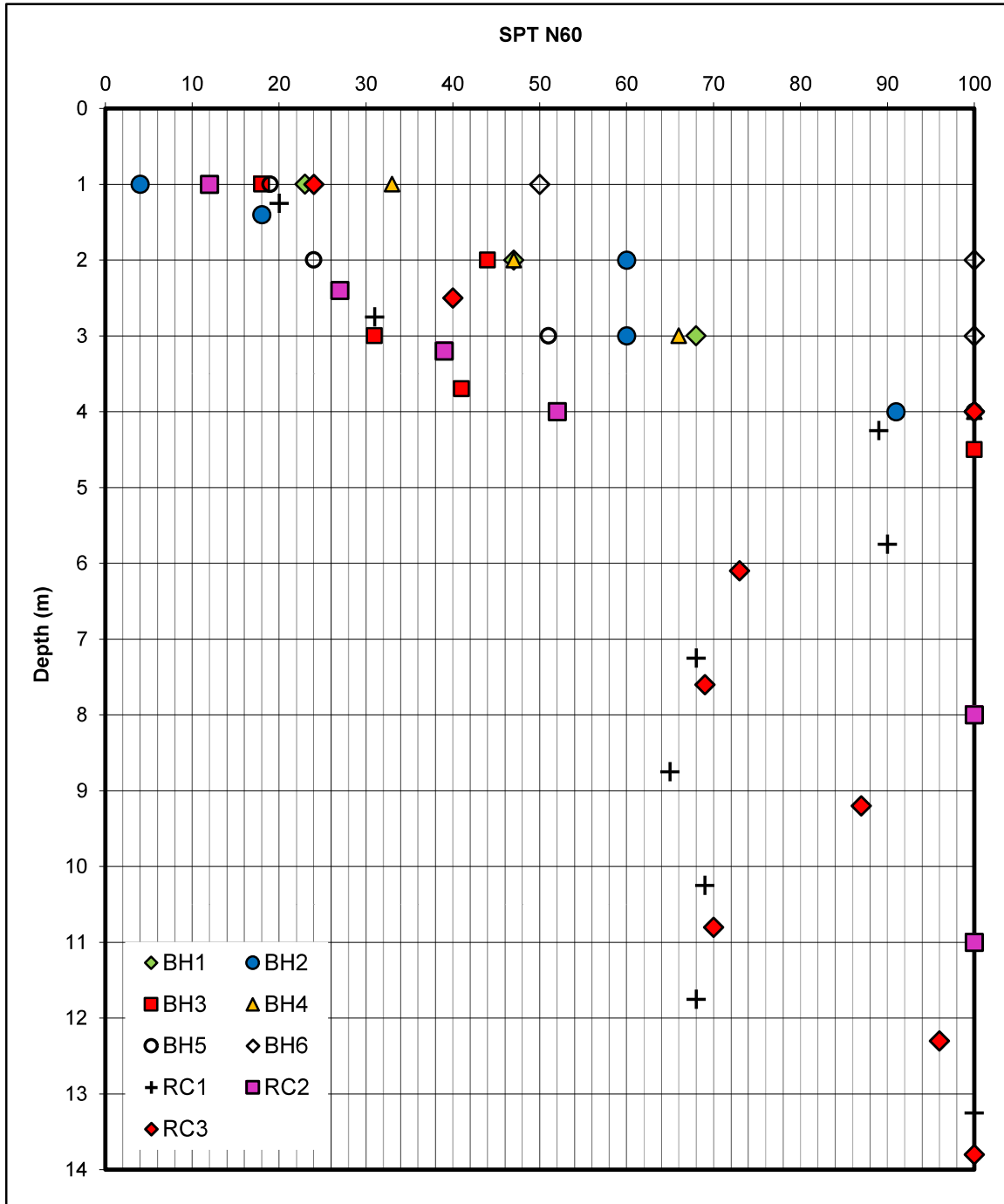


Figure 3

	Site	c_u Vs Depth Profile	
	Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX	Client: Salutem LD Bidco IV Ltd	Job Number 2561/25

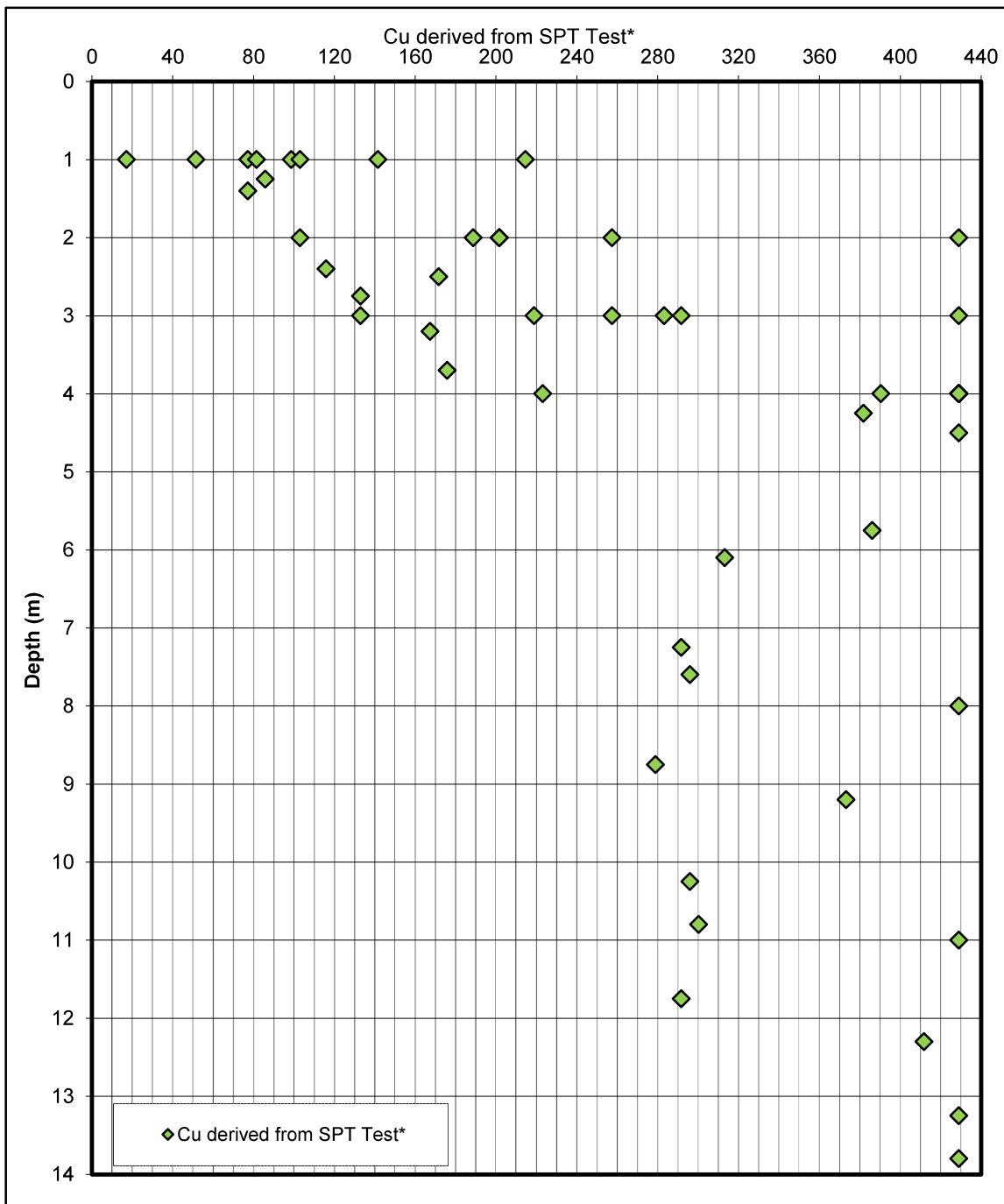


Figure 4



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IN SITU DCP TEST

DCP1

Site:

Woodview School, Ingfield Manor School, Five Oaks,
Billingshurst, RH14 9AX

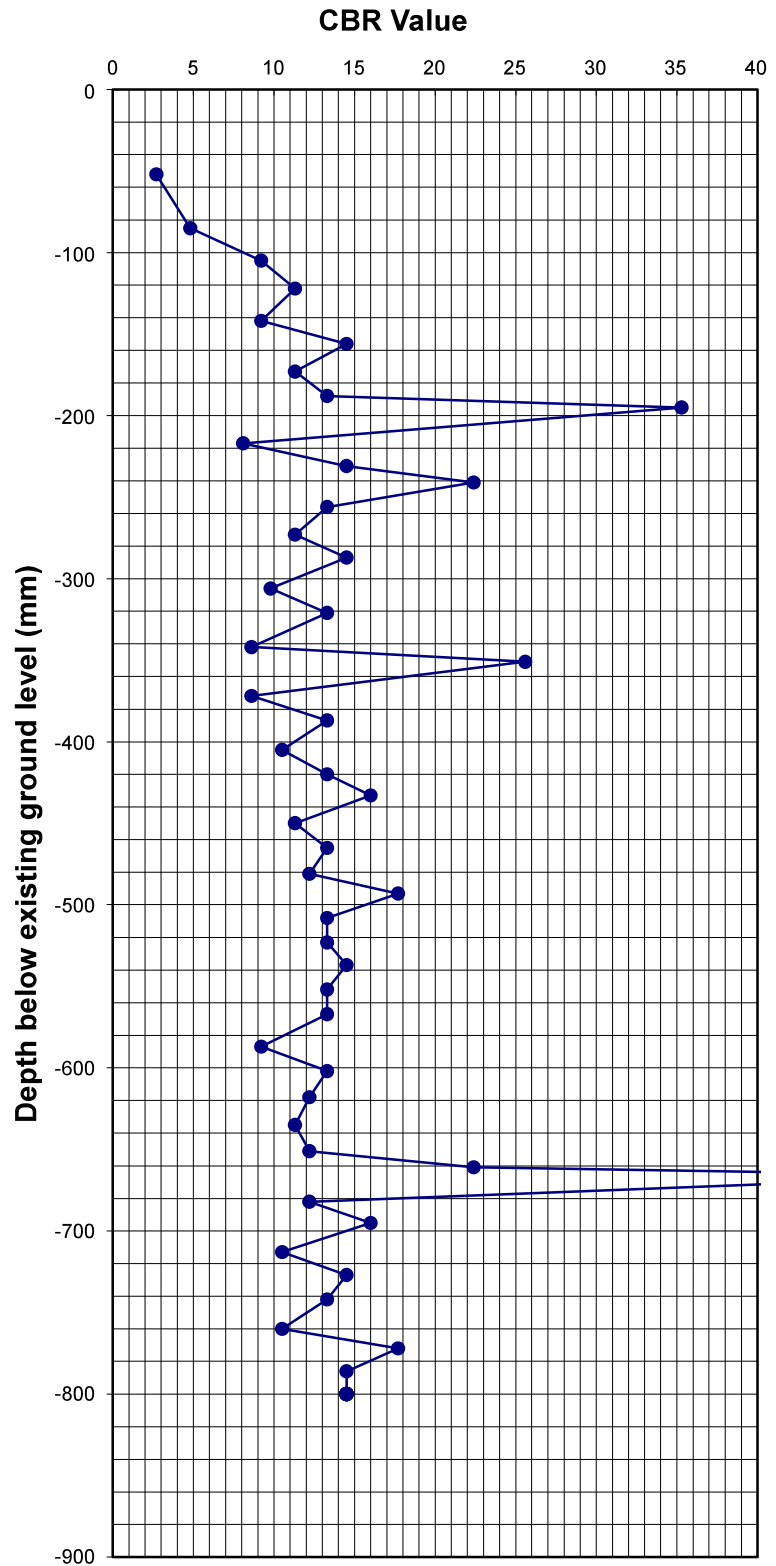
Client:

Salutem LD Bidco IV Ltd

Depth (mm)

GL

Number of blows	Reading (mm)	Pen/ blow (mm)	Depth (mm)	CBR
0	110	0	0	
1	162	52	-52	3
2	195	33	-85	5
3	215	20	-105	9
4	232	17	-122	11
5	252	20	-142	9
6	266	14	-156	15
7	283	17	-173	11
8	298	15	-188	13
9	305	7	-195	35
10	327	22	-217	8
11	341	14	-231	15
12	351	10	-241	22
13	366	15	-256	13
14	383	17	-273	11
15	397	14	-287	15
16	416	19	-306	10
17	431	15	-321	13
18	452	21	-342	9
19	461	9	-351	26
20	482	21	-372	9
21	497	15	-387	13
22	515	18	-405	11
23	530	15	-420	13
24	543	13	-433	16
25	560	17	-450	11
26	575	15	-465	13
27	591	16	-481	12
28	603	12	-493	18
29	618	15	-508	13
30	633	15	-523	13
31	647	14	-537	15
32	662	15	-552	13
33	677	15	-567	13
34	697	20	-587	9
35	712	15	-602	13
36	728	16	-618	12
37	745	17	-635	11
38	761	16	-651	12
39	771	10	-661	22
40	776	5	-666	54
41	792	16	-682	12
42	805	13	-695	16
43	823	18	-713	11
44	837	14	-727	15
45	852	15	-742	13
46	870	18	-760	11
47	882	12	-772	18
48	896	14	-786	15
49	910	14	-800	15



Comments: DCP Test Started from GL

Job Number: 2561/25

Figure: 5_1



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IN SITU DCP TEST

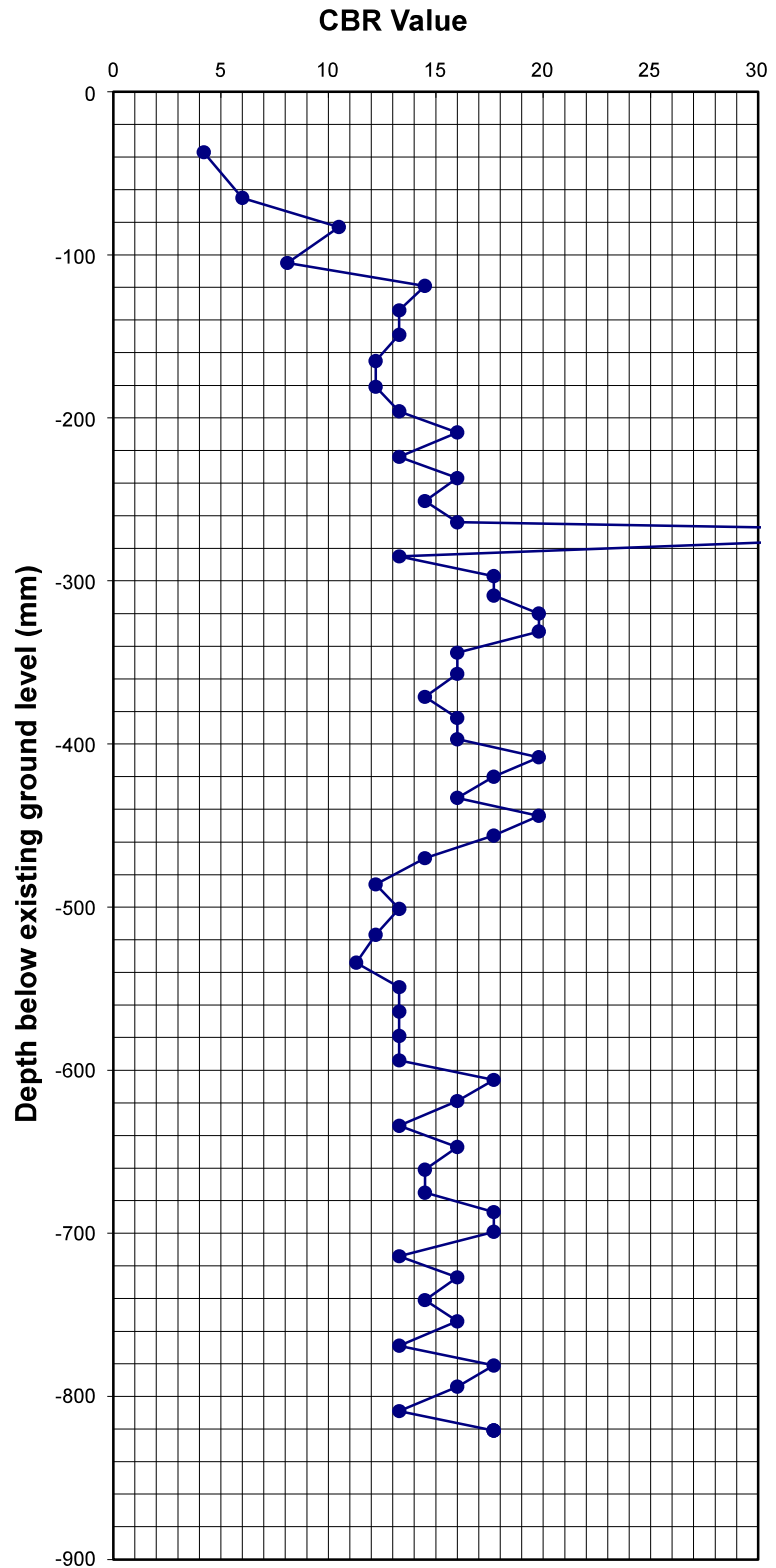
DCP2

Site:
Woodview School, Ingfield Manor School, Five Oaks,
Billingshurst, RH14 9AX

Client:
Salutem LD Bidco IV Ltd

Depth (mm)
GL

Number of blows	Reading (mm)	Pen/ blow (mm)	Depth (mm)	CBR
0	111	0	0	
1	148	37	-37	4
2	176	28	-65	6
3	194	18	-83	11
4	216	22	-105	8
5	230	14	-119	15
6	245	15	-134	13
7	260	15	-149	13
8	276	16	-165	12
9	292	16	-181	12
10	307	15	-196	13
11	320	13	-209	16
12	335	15	-224	13
13	348	13	-237	16
14	362	14	-251	15
15	375	13	-264	16
16	381	6	-270	43
17	396	15	-285	13
18	408	12	-297	18
19	420	12	-309	18
20	431	11	-320	20
21	442	11	-331	20
22	455	13	-344	16
23	468	13	-357	16
24	482	14	-371	15
25	495	13	-384	16
26	508	13	-397	16
27	519	11	-408	20
28	531	12	-420	18
29	544	13	-433	16
30	555	11	-444	20
31	567	12	-456	18
32	581	14	-470	15
33	597	16	-486	12
34	612	15	-501	13
35	628	16	-517	12
36	645	17	-534	11
37	660	15	-549	13
38	675	15	-564	13
39	690	15	-579	13
40	705	15	-594	13
41	717	12	-606	18
42	730	13	-619	16
43	745	15	-634	13
44	758	13	-647	16
45	772	14	-661	15
46	786	14	-675	15
47	798	12	-687	18
48	810	12	-699	18
49	825	15	-714	13
50	838	13	-727	16
51	852	14	-741	15
52	865	13	-754	16
53	880	15	-769	13
54	892	12	-781	18
55	905	13	-794	16
56	920	15	-809	13
57	932	12	-821	18



Comments: DCP Test Started from GL

Job Number: 2561/25

Figure: 5_2



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IN SITU DCP TEST

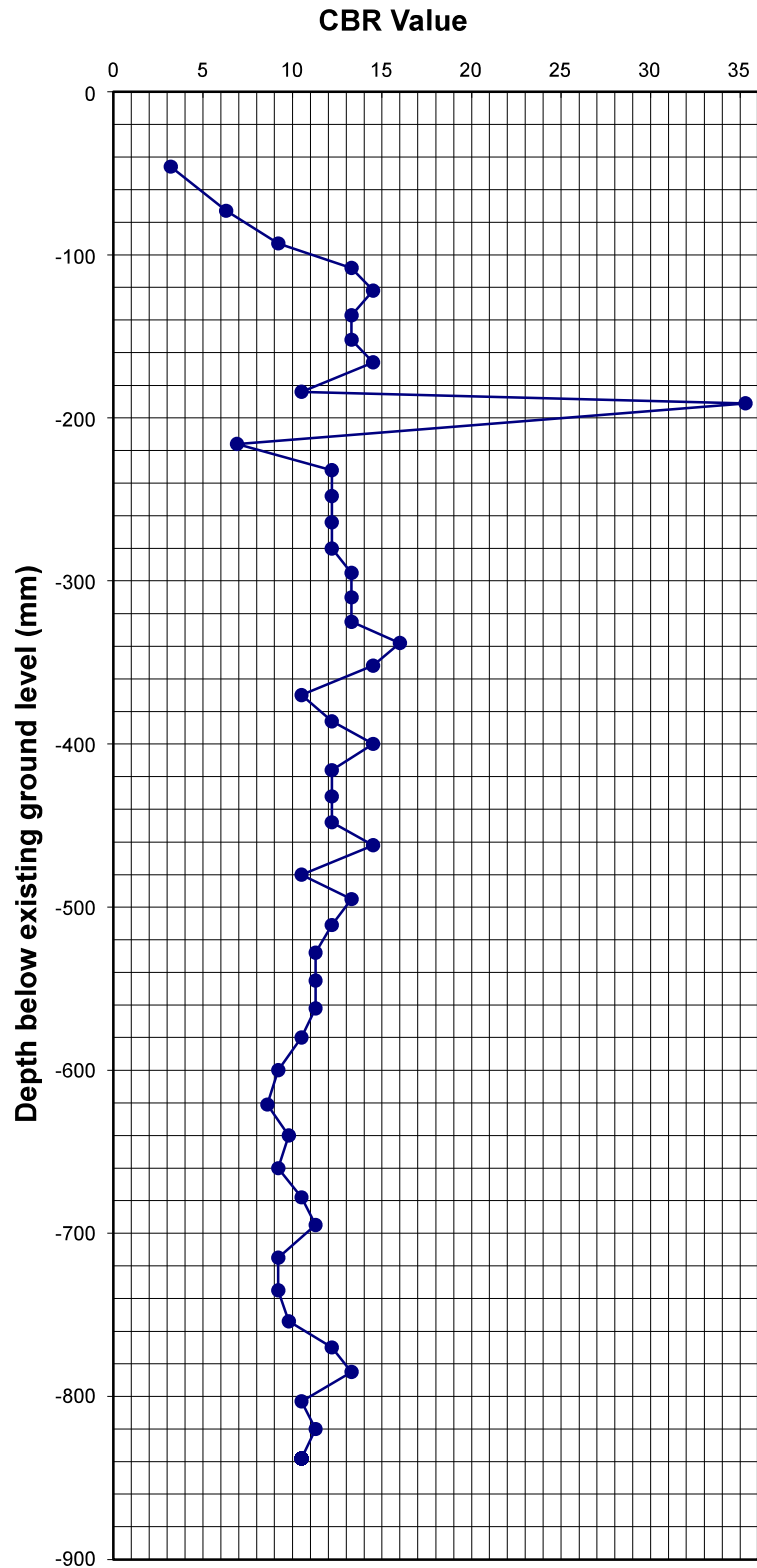
DCP3

Site:
Woodview School, Ingfield Manor School, Five Oaks,
Billingshurst, RH14 9AX

Client:
Salutem LD Bidco IV Ltd

Depth (mm)
GL

Number of blows	Reading (mm)	Pen/ blow (mm)	Depth (mm)	CBR
0	110	0	0	
1	156	46	-46	3
2	183	27	-73	6
3	203	20	-93	9
4	218	15	-108	13
5	232	14	-122	15
6	247	15	-137	13
7	262	15	-152	13
8	276	14	-166	15
9	294	18	-184	11
10	301	7	-191	35
11	326	25	-216	7
12	342	16	-232	12
13	358	16	-248	12
14	374	16	-264	12
15	390	16	-280	12
16	405	15	-295	13
17	420	15	-310	13
18	435	15	-325	13
19	448	13	-338	16
20	462	14	-352	15
21	480	18	-370	11
22	496	16	-386	12
23	510	14	-400	15
24	526	16	-416	12
25	542	16	-432	12
26	558	16	-448	12
27	572	14	-462	15
28	590	18	-480	11
29	605	15	-495	13
30	621	16	-511	12
31	638	17	-528	11
32	655	17	-545	11
33	672	17	-562	11
34	690	18	-580	11
35	710	20	-600	9
36	731	21	-621	9
37	750	19	-640	10
38	770	20	-660	9
39	788	18	-678	11
40	805	17	-695	11
41	825	20	-715	9
42	845	20	-735	9
43	864	19	-754	10
44	880	16	-770	12
45	895	15	-785	13
46	913	18	-803	11
47	930	17	-820	11
48	948	18	-838	11



Comments: DCP Test Started from GL

Job Number: 2561/25

Figure: 5_3



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IN SITU DCP TEST

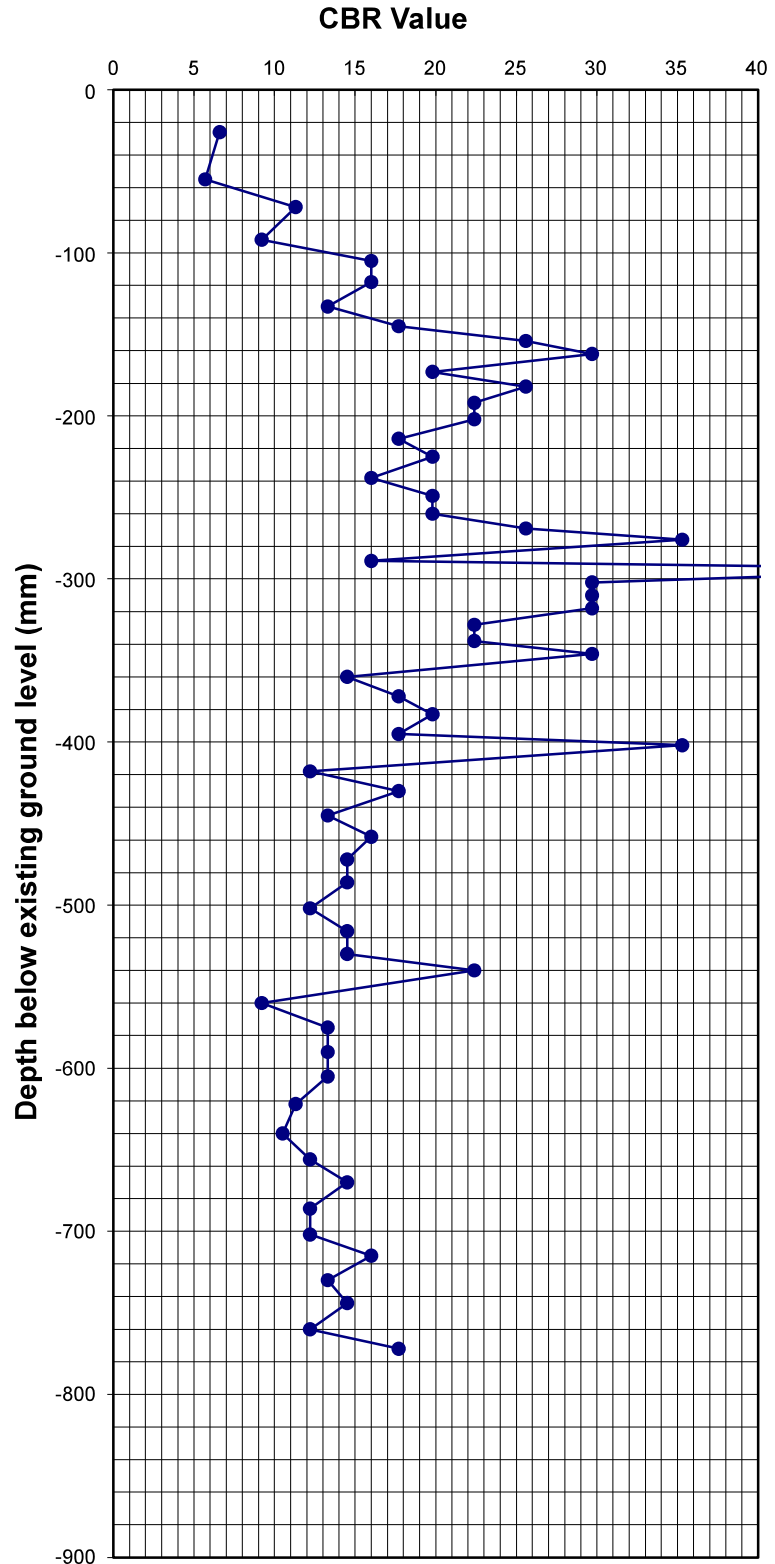
DCP4

Site:
Woodview School, Ingfield Manor School, Five Oaks,
Billingshurst, RH14 9AX

Client:
Salutem LD Bidco IV Ltd

Depth (mm)
GL

Number of blows	Reading (mm)	Pen/ blow (mm)	Depth (mm)	CBR
0	110	0	0	
1	136	26	-26	7
2	165	29	-55	6
3	182	17	-72	11
4	202	20	-92	9
5	215	13	-105	16
6	228	13	-118	16
7	243	15	-133	13
8	255	12	-145	18
9	264	9	-154	26
10	272	8	-162	30
11	283	11	-173	20
12	292	9	-182	26
13	302	10	-192	22
14	312	10	-202	22
15	324	12	-214	18
16	335	11	-225	20
17	348	13	-238	16
18	359	11	-249	20
19	370	11	-260	20
20	379	9	-269	26
21	386	7	-276	35
22	399	13	-289	16
23	404	5	-294	54
24	412	8	-302	30
25	420	8	-310	30
26	428	8	-318	30
27	438	10	-328	22
28	448	10	-338	22
29	456	8	-346	30
30	470	14	-360	15
31	482	12	-372	18
32	493	11	-383	20
33	505	12	-395	18
34	512	7	-402	35
35	528	16	-418	12
36	540	12	-430	18
37	555	15	-445	13
38	568	13	-458	16
39	582	14	-472	15
40	596	14	-486	15
41	612	16	-502	12
42	626	14	-516	15
43	640	14	-530	15
44	650	10	-540	22
45	670	20	-560	9
46	685	15	-575	13
47	700	15	-590	13
48	715	15	-605	13
49	732	17	-622	11
50	750	18	-640	11
51	766	16	-656	12
52	780	14	-670	15
53	796	16	-686	12
54	812	16	-702	12
55	825	13	-715	16
56	840	15	-730	13
57	854	14	-744	15
58	870	16	-760	12
59	882	12	-772	18



Comments: DCP Test Started from GL

Job Number: 2561/25

Figure: 5_4



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IN SITU DCP TEST

DCP5

Site:

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Billingshurst, RH14 9AX

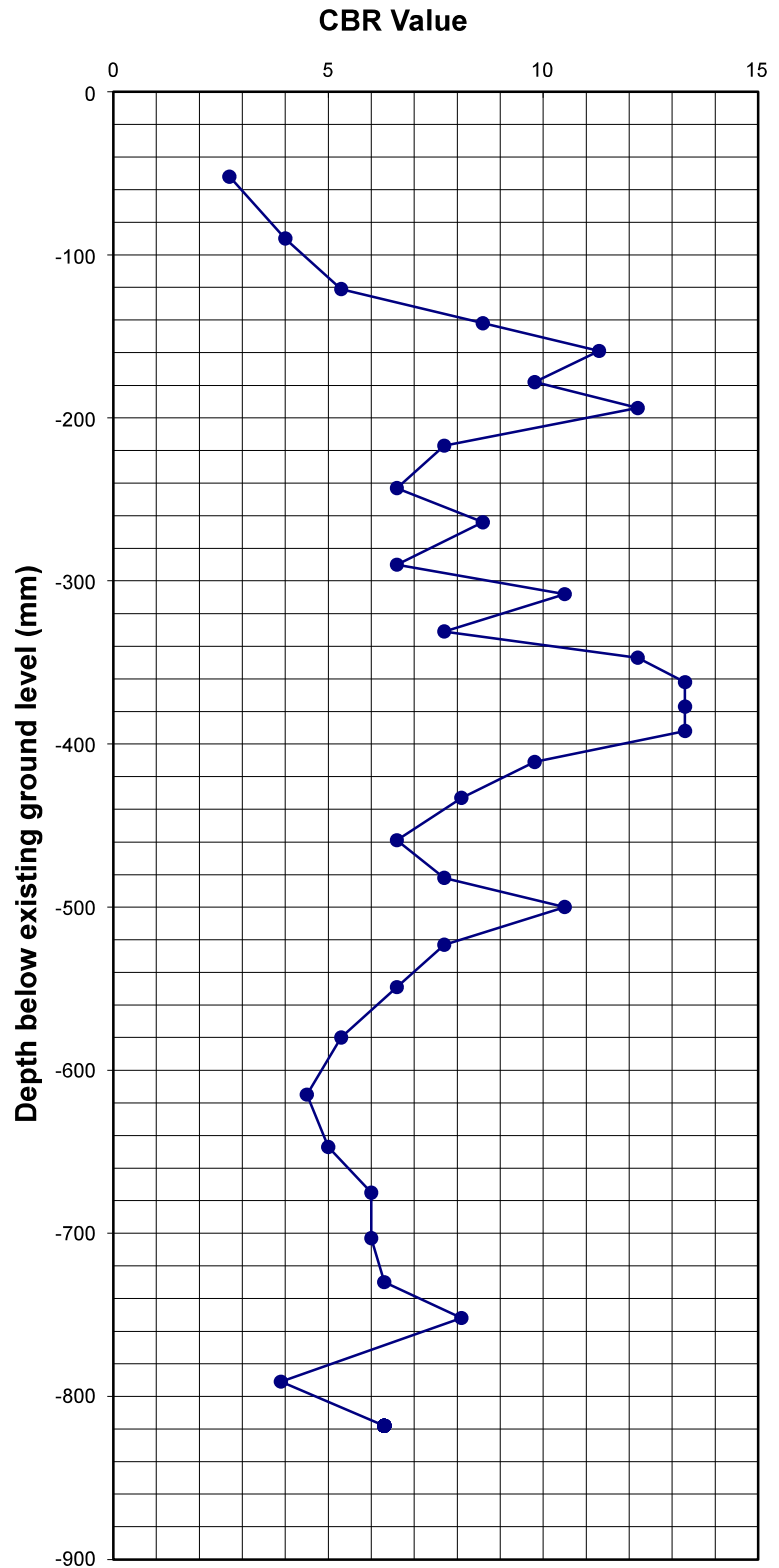
Client:

Salutem LD Bidco IV Ltd

Depth (mm)

GL

Number of blows	Reading (mm)	Pen/ blow (mm)	Depth (mm)	CBR
0	150	0	0	
1	202	52	-52	3
2	240	38	-90	4
3	271	31	-121	5
4	292	21	-142	9
5	309	17	-159	11
6	328	19	-178	10
7	344	16	-194	12
8	367	23	-217	8
9	393	26	-243	7
10	414	21	-264	9
11	440	26	-290	7
12	458	18	-308	11
13	481	23	-331	8
14	497	16	-347	12
15	512	15	-362	13
16	527	15	-377	13
17	542	15	-392	13
18	561	19	-411	10
19	583	22	-433	8
20	609	26	-459	7
21	632	23	-482	8
22	650	18	-500	11
23	673	23	-523	8
24	699	26	-549	7
25	730	31	-580	5
26	765	35	-615	5
27	797	32	-647	5
28	825	28	-675	6
29	853	28	-703	6
30	880	27	-730	6
31	902	22	-752	8
32	941	39	-791	4
33	968	27	-818	6



Comments: DCP Test Started from GL

Job Number: 2561/25

Figure: 5_5



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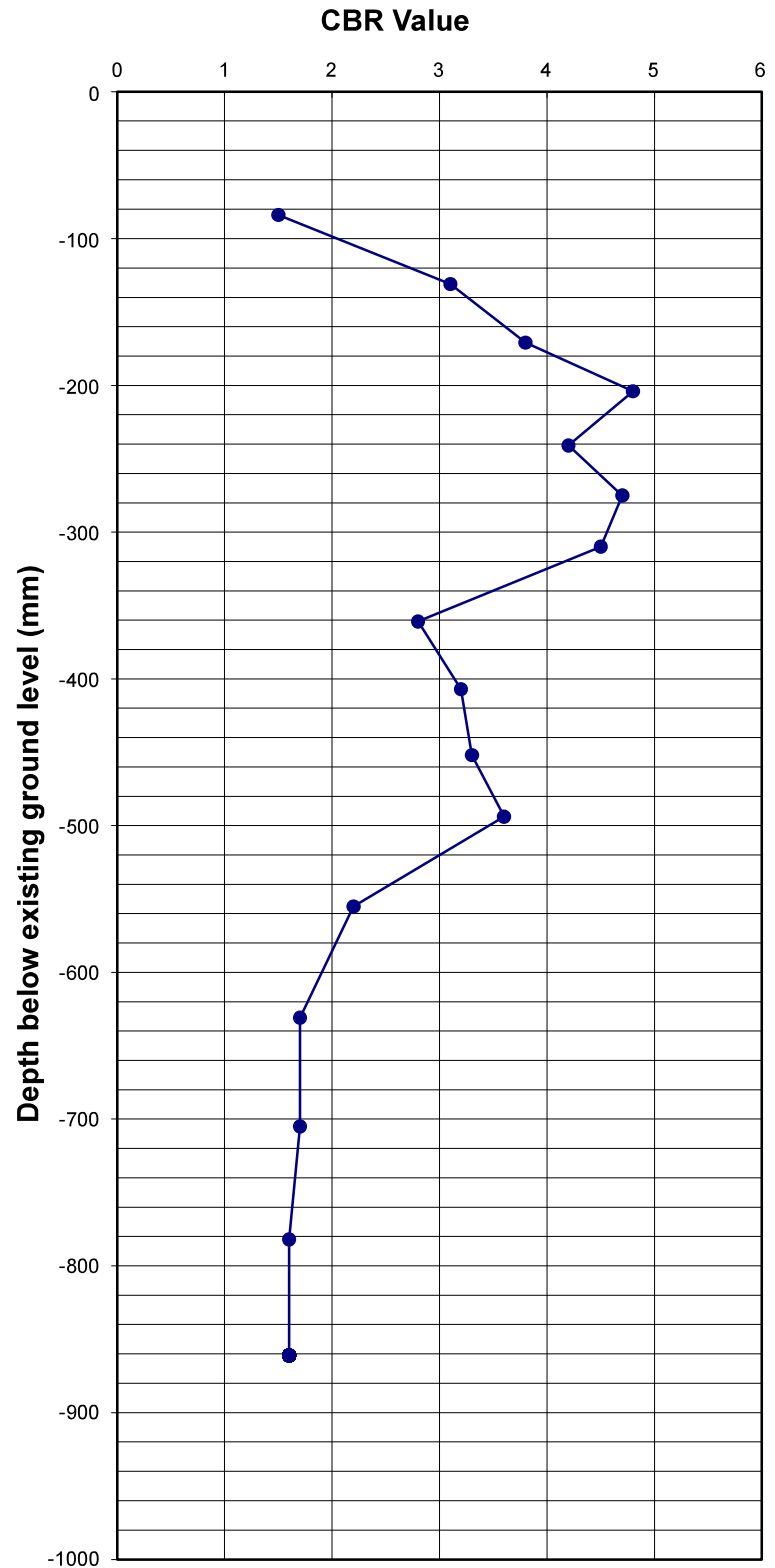
DCP6

Site:
Woodview School, Ingfield Manor School, Five Oaks,
Billingshurst, RH14 9AX

Client:
Salutem LD Bidco IV Ltd

Depth (mm)
GL

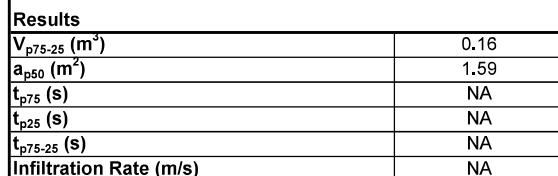
Number of blows	Reading (mm)	Pen/ blow (mm)	Depth (mm)	CBR
0	129	0	0	
1	213	84	-84	2
2	260	47	-131	3
3	300	40	-171	4
4	333	33	-204	5
5	370	37	-241	4
6	404	34	-275	5
7	439	35	-310	5
8	490	51	-361	3
9	536	46	-407	3
10	581	45	-452	3
11	623	42	-494	4
12	684	61	-555	2
13	760	76	-631	2
14	834	74	-705	2
15	911	77	-782	2
16	990	79	-861	2



Comments: DCP Test Started from GL

Job Number: 2561/25

Figure: 5_6

[illegible]

Values determined from graph

Figure
6_2

		Factual Report on Ground Investigation		PHOTOGRAPHIC LOG	
Client: Salutem LD Bidco IV Ltd		Site: Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX			Job No: 2561/25
Photo No.1	Figure 7				
Description: Terrier Rig Performing Drilling at the location					

Photo No.2	Figure 7	
Description: Core Recovered From BH1		

Figure 7

Photo No.3	Figure 7	
Description: Core Recovered From BH2		

Photo No.4	Figure 7	
Description: Core Recovered From BH3		

Figure 7

Photo No.5	Figure 7	
Description: Core Recovered From BH4		

Photo No.6	Figure 7	
Description: Core Recovered From BH5		

Figure 7

Photo No.7	Figure 7	
Description: Core Recovered From BH6		

Photo No.8	Figure 7	
Description: Comacchio 305 Rotary Rig Performing Drilling at the location		

Figure 7

Photo No.9	Figure 7	
Description: Core Recovered From RC1		

Photo No.10	Figure 7	
Description: Core Recovered From RC2		

Figure 7

Photo No.11	Figure 7
	
Description: Core Recovered From RC3	

Photo No.12	Figure 7
	
Description: Soakaway test SKW1	

Figure 7

Photo No.13	Figure 7	
Description: Soakaway test SKW1		

Photo No.14	Figure 7	
Description: Soakaway test SKW2		

Figure 7

Photo No.15	Figure 7	
Description: Soakaway test SKW2		

Photo No.16	Figure 7	
Description: Soakaway test SKW3		

Figure 7

Photo No.17	Figure 7	
Description: Soakaway test SKW3		

Photo No.18	Figure 7	
Description: DCP Test		

Figure 7



Woodview School, Ingfield Manor School,
Five Oaks, Billingshurst, RH14 9AX
Ref: SKZ_2561/25_August 2025

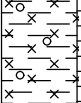
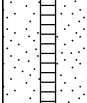
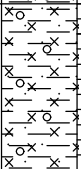
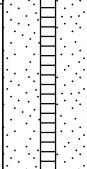
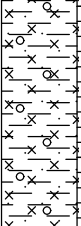
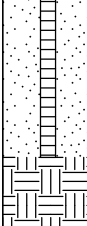
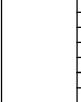
APPENDIX A



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Registered in England No. 7824020
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BOREHOLE LOG

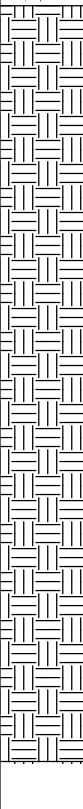
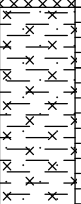
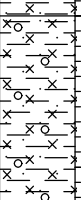
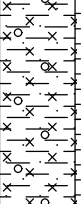
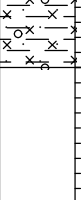
Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No BH1	
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 1 of 1	

SAMPLES & TESTS			Water				STRATA	Geology	Instrument/ Backfill	
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION			
1.00-1.45 1.00	SPT1	N19				(0.60) 0.60	MADE GROUND: Brown grey, sandy silt and clay, with occasional gravel, roots, brick fragments and coal ash.			
						(0.40) 1.00	Light grey to light brown, slightly sandy CLAY and silt. (Weald CLAY Formation)			
						(0.80) 1.80	Firm, brown reddish and grey mottled, silty CLAY with occasional sandy laminas. (Weald CLAY Formation)			
2.00-2.45 2.00	SPT2	N47					Stiff to hard, brown grey occasionally sandy CLAY and silt, with sublayers of very weak thinly laminated mudstone and siltstone. (Weald CLAY Formation)			
3.00-3.45 3.00	SPT3	N68				(2.70) 4.50				
4.00-4.45 4.00	SPT4	N98								

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
											The location was CAT scanned and inspection pit excavated by hand prior the commencement of the drilling. A 35mm standpipe was installed on completion of the work to allow for future monitoring. Borehole remained dry
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant Used Terrier Drive in Sampling					Logged By B Žarkovski

BOREHOLE LOG

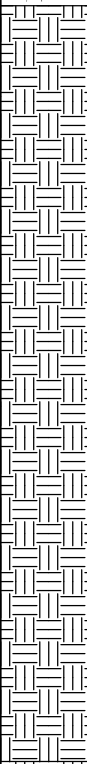
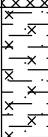
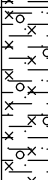
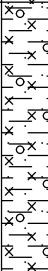
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Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 1 of 1	

SAMPLES & TESTS			Water				STRATA		Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION			
1.00-1.45 1.00 1.40-1.85 1.40 2.00-2.45 2.00 3.00-3.45 3.00 4.00-4.45 4.00	SPT1	N3			0.10	MADE GROUND: Tarmac				
					(0.50)	MADE GROUND: Brown grey and reddish, silty sand and gravel, frequent brick and brick fragments, occasional tarmac.				
	SPT2	N15			(1.40)	Firm, brown reddish and grey mottled, silty CLAY with occasional sandy laminas. (Weald CLAY Formation)				
	SPT3	N51			2.00	Stiff to hard, brown grey occasionally sandy CLAY and silt, with sublayers of very weak thinly laminated mudstone and siltstone. (Weald CLAY Formation)				
	SPT4	N51			(3.00)					
	SPT5	N77			5.00					

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
											The location was CAT scanned and inspection pit excavated by hand prior the commencement of the drilling. The borehole was backfilled with arisings on completion. Borehole remained dry
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant Used Terrier Drive in Sampling			Logged By B Žarkovski		

BOREHOLE LOG

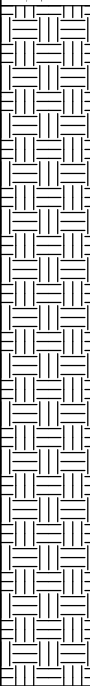
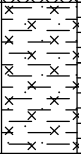
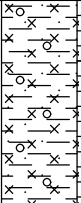
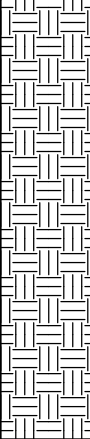
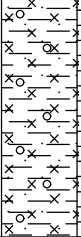
Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No BH3	
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 1 of 1	

SAMPLES & TESTS			Water				STRATA	Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
1.00-1.45 1.00	SPT1	N15			(0.60) 0.60	MADE GROUND: Brown slightly grey, sandy silt and clay, with occasional mudstone and brick fragments.			
					(0.90) 1.50	Firm, brown reddish and grey mottled, silty CLAY with occasional sandy laminas. (Weald CLAY Formation)			
2.00-2.45 2.00	SPT2	N37			(1.15) 2.65	Stiff to very stiff, brown grey occasionally sandy SILT and clay, occasional mudstone fragments. (Weald CLAY Formation)			
3.00-3.45 3.00	SPT3	N26			(2.35) 5.00	Stiff to hard, brown grey occasionally sandy CLAY and silt, with sublayers of very weak thinly laminated mudstone and siltstone. (Weald CLAY Formation)			
3.70-4.15 3.70	SPT4	N35							
4.50-4.95 4.50	SPT5	N108							

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
											The location was CAT scanned and inspection pit excavated by hand prior the commencement of the drilling. The borehole was backfilled with arisings on completion. Borehole remained dry
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant Used Terrier Drive in Sampling				Logged By B Žarkovski	

BOREHOLE LOG

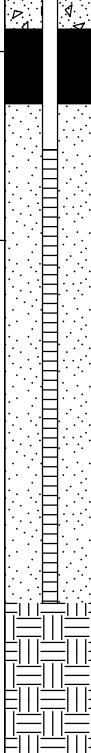
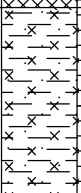
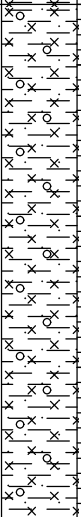
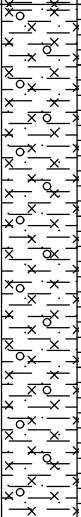
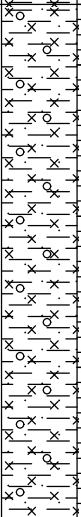
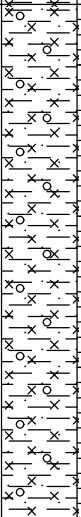
Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No BH4	
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 1 of 1	

SAMPLES & TESTS			Water				STRATA	Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		
1.00-1.45 1.00	SPT1	N28				(0.60) 0.60	MADE GROUND: Light brown and light grey, sandy silt and clay, with occasional mudstone and brick fragments.		
						(1.00) 1.60	Firm, brown reddish and grey mottled, silty CLAY with occasional sandy laminas. (Weald CLAY Formation)		
2.00-2.45 2.00	SPT2	N40			(2.90)	Stiff to hard, brown grey occasionally sandy CLAY and silt, with sublayers of very weak thinly laminated mudstone and siltstone. (Weald CLAY Formation)			
3.00-3.45 3.00	SPT3	N56							
4.00-4.45 4.00	SPT4	N111							4.50

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
											The location was CAT scanned and inspection pit excavated by hand prior the commencement of the drilling. The borehole was backfilled with arisings on completion. Borehole remained dry
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant Used Terrier Drive in Sampling				Logged By B Žarkovski	

BOREHOLE LOG

Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No BH5	
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 1 of 1	

SAMPLES & TESTS			Water				STRATA	Geology	Instrument/ Backfill			
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION					
1.00-1.45 1.00	SPT1	N16				0.35	MADE GROUND: Brown grey mottled, sandy clay and silt with occasional roots.					
						(1.25)	Firm, brown reddish and grey mottled, silty CLAY with occasional sandy laminas. (Weald CLAY Formation)					
						1.60	Stiff to hard, brown grey occasionally sandy CLAY and silt, with sublayers of very weak thinly laminated mudstone and siltstone. (Weald CLAY Formation)					
2.00-2.45 2.00	SPT2	N20						(3.40)				
3.00-3.45 3.00	SPT3	N43										
4.00-4.45 4.00	SPT4	N87										
						5.00						

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
											The location was CAT scanned and inspection pit excavated by hand prior the commencement of the drilling. A 35mm standpipe was installed on completion of the work to allow for future monitoring. Borehole remained dry
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant Used Terrier Drive in Sampling					Logged By B Žarkovski

BOREHOLE LOG

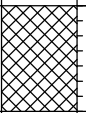
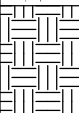
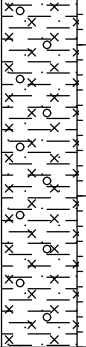
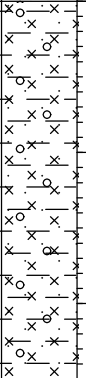
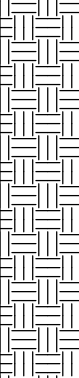
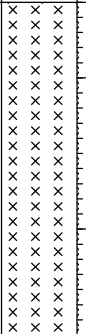
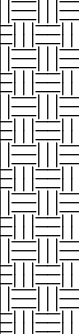
Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No BH6	
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 1 of 1	

SAMPLES & TESTS			Water				STRATA	Geology	Instrument/ Backfill	
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION			
1.00-1.45 1.00	SPT1	N42				(0.50) 0.50	MADE GROUND: Brown slightly grey and orange, sandy silt and clay.			
						(1.30) 1.80	Firm to stiff, brown reddish and grey mottled, silty CLAY with occasional sandy laminas. (Weald CLAY Formation)			
						(3.20) 5.00	Stiff to hard, brown grey occasionally sandy CLAY and silt, with sublayers of very weak thinly laminated mudstone and siltstone. (Weald CLAY Formation)			
2.00-2.45 2.00	SPT2	N108								
3.00-3.45 3.00	SPT3	N107								
4.00-4.45 4.00	SPT4	N115								
										
										
										
										
										
										
										
										
										
										

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
											The location was CAT scanned and inspection pit excavated by hand prior to the commencement of the drilling. A 35mm standpipe was installed on completion of the work to allow for future monitoring. Borehole remained dry
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant Used Terrier Drive in Sampling			Logged By B Žarkovski		

BOREHOLE LOG

Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No RC1	
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 1 of 2	

SAMPLES & TESTS			Water				STRATA	Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		
1.25-1.70 1.25	SPT1	N17			(0.70) 0.70	MADE GROUND: Grey brown, silt sand and occasional gravel with frequent bricks and brick rubble, occasional glass and concrete fragments.			
					(2.30) 3.00	Firm, brown grey to grey brown slightly reddish, CLAY and silt, with occasional sand and mudstone fragments. (Weald CLAY Formation)			
2.75-3.20 2.75	SPT2	N26			(2.50) 5.50	Stiff to hard, grey occasionally brown and reddish, sandy SILT, clay and very weak thinly bedded siltstone and mudstone. (Weald CLAY Formation)			
4.25-4.70 4.25	SPT3	N75			(2.20) 7.70	Brown grey, slightly weathered thinly bedded SILTSTONE and mudstone, occasionally iron stained on bedding plains. (Weald CLAY Formation)			
5.75-6.20 5.75	SPT4	N76							
7.25-7.70 7.25	SPT5	N57							

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
						Legend: PPT - Pocket Penetrometer Test (mPa) SPT - Standard Penetration Test					The location was CAT scanned and inspection pit excavated by hand prior the commencement of the drilling. The borehole was backfilled with arisings on completion. Borehole remained dry.
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant Used Comacchio 305 Rotary rig				Logged By B Žarkovski	



BOREHOLE LOG

Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No RC1
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)	
Contractor AVZGeoEng Ltd				Sheet 2 of 2

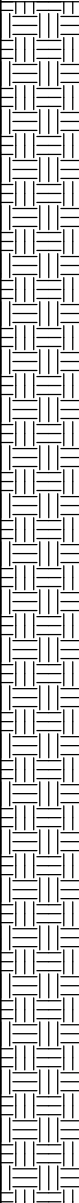
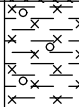
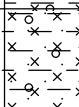
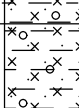
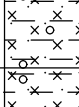
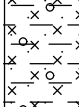
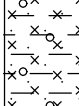
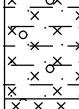
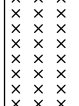
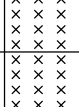
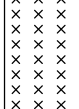
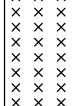
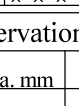
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Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
						Legend: PPT - Pocket Penetrometer Test (mPa) SPT - Standard Penetration Test					
All dimensions in metres Scale 1:50		Client		Salutem LD Bidco IV Ltd		Method/ Plant Used		Comacchio 305 Rotary rig		Logged By B Žarkovski	

Report ID: AGS4 UK BH || Project: GINT STD AGS 4 0.GPJ || Library: GINT STD AGS 4 0.GLB || Date: 13 August 2025

BOREHOLE LOG

Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No RC2	
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 1 of 2	

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill	
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION			
1.00-1.45 1.00	SPT1	N10				0.25	MADE GROUND: Dark brown silty sand with occasional roots.			
						(0.75)	Light grey light brow mottled, silty CLAY with occasional siltstone fragments. (Weald CLAY Formation)			
						1.00				
		(0.80)		Firm, brown reddish and grey mottled, silty CLAY with occasional sandy laminas. (Weald CLAY Formation)						
		1.80								
		(1.00)		Stiff, Brown grey occasionally sandy SILT and clay, occasional mudstone fragments. (Weald CLAY Formation)						
2.40-2.85 2.40 2.50	SPT2 PPT1	N23 0.45					2.80	Stiff to hard, grey occasionally brown and reddish, sandy SILT, clay and very weak thinly bedded siltstone and mudstone. (Weald CLAY Formation)		
		(2.30)								
3.20-3.65 3.20 3.50	SPT3 PPT2	N33 0.55				5.10				
		(1.10)								
4.00-4.45 4.00	SPT4	N44			6.20	Grey greenish brown mottled, weathered thinly bedded very weak SILTSTONE and mudstone. (Weald CLAY Formation)				
4.50	PPT3	0.82				Grey to dark grey occasionally brown mottled, very weak MUDSTONE and siltstone. (Weald CLAY Formation)				
7.00	PPT4	0.72								

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
						Legend: PPT - Pocket Penetrometer Test (mPa) SPT - Standard Penetration Test					The location was CAT scanned and inspection pit excavated by hand prior the commencement of the drilling. The borehole was backfilled with arisings on completion. Borehole remained dry.
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant UsedComacchio 305 Rotary rig					
											Logged By B Žarkovski

BOREHOLE LOG

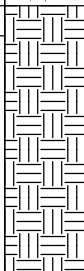
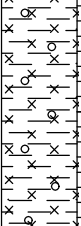
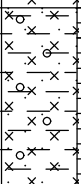
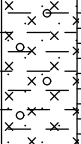
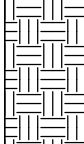
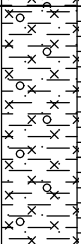
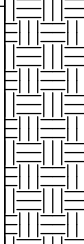
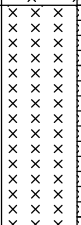
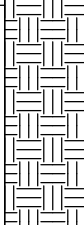
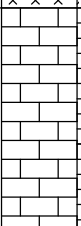
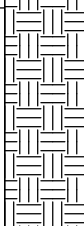
Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No RC2	
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 2 of 2	

SAMPLES & TESTS			Water				STRATA		Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION			
8.00-8.45 8.00	SPT5	N88			x 					

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS	
Depth	Date	Time	Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To		
						Legend: PPT - Pocket Penetrometer Test (mPa) SPT - Standard Penetration Test					The location was CAT scanned and inspection pit excavated by hand prior the commencement of the drilling. The borehole was backfilled with arisings on completion. Borehole remained dry.	
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant UsedComacchio 305 Rotary rig					Logged By B Žarkovski	

BOREHOLE LOG

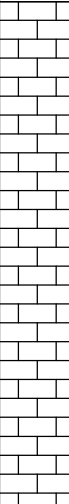
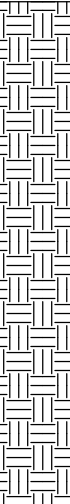
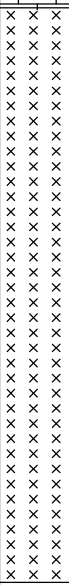
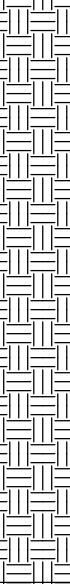
Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No RC3	
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 1 of 2	

SAMPLES & TESTS			Water				STRATA		Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION			
1.00-1.45 1.00	SPT1	N20			0.20	MADE GROUND: Brown slightly grey clay, silt and sand with frequent roots.				
					(1.60)	Firm, brown reddish and grey mottled, silty CLAY with occasional sandy laminas. (Weald CLAY Formation)				
					1.80					
2.40 2.50-2.95 2.50	PPT1 SPT2	0.65 N34			(1.20)	Stiff to very stiff, brown grey occasionally sandy SILT and clay, occasional mudstone fragments. (Weald CLAY Formation)				
3.30	PPT2	1.00			(1.60)	Stiff to very stiff, brown grey occasionally sandy CLAY and silt, occasional mudstone fragments. (Weald CLAY Formation)				
4.00-4.45 4.00	SPT3	N93			4.60	Grey greenish brown mottled, weathered thinly bedded very weak SILTSTONE and mudstone. (Weald CLAY Formation)				
5.50	PPT3	0.46			(1.50)	Grey slightly brown, slightly weathered to weathered, thinly bedded very weak to weak MUDSTONE and siltstone. Occasionally iron stained on joints and bedding planes. (Weald CLAY Formation)				
6.10-6.55 6.10	SPT4	N62								
7.50 7.60-8.05 7.60	PPT4 SPT5	0.75 N58								

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS	
Depth	Date	Time	Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To		
						Legend: PPT - Pocket Penetrometer Test (mPa) SPT - Standard Penetration Test					The location was CAT scanned and inspection pit excavated by hand prior the commencement of the drilling. The borehole was backfilled with arisings on completion. Borehole remained dry.	
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant UsedComacchio 305 Rotary rig					Logged By B Žarkovski	

BOREHOLE LOG

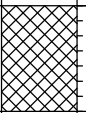
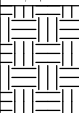
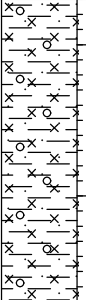
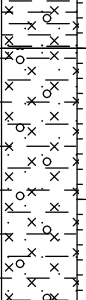
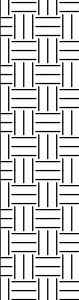
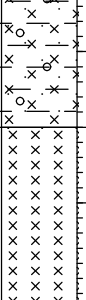
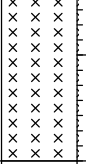
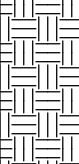
Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No RC3	
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 2 of 2	

SAMPLES & TESTS			Water				STRATA	Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		
8.60	PPT5	0.44			(5.30)	Grey light grey mottled, weak to moderately strong LIMESTONE and interbedded siltstone. (Weald CLAY Formation) <i>(continued)</i>			
9.20-9.65 9.20	SPT6	N73							
10.50	PPT6	1.00							
10.80-11.25 10.80	SPT7	N59							
12.00	PPT7	1.70			(3.80)	Grey blue, slightly weathered to weathered, thinly bedded very weak to weak SILTSTONE and mudstone. (Weald CLAY Formation)			
12.30-12.75 12.30	SPT8	N81							
13.80-14.08 13.80	SPT9	N62/ 125 mm							

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS	
Depth	Date	Time	Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To		
						Legend: PPT - Pocket Penetrometer Test (mPa) SPT - Standard Penetration Test					The location was CAT scanned and inspection pit excavated by hand prior the commencement of the drilling. The borehole was backfilled with arisings on completion. Borehole remained dry.	
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant UsedComacchio 305 Rotary rig					Logged By B Žarkovski	

BOREHOLE LOG

Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No RC1	
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 1 of 2	

SAMPLES & TESTS			Water				STRATA	Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		
1.25-1.70 1.25	SPT1	N17			(0.70) 0.70	MADE GROUND: Grey brown, silt sand and occasional gravel with frequent bricks and brick rubble, occasional glass and concrete fragments.			
					(2.30) 3.00	Firm, brown grey to grey brown slightly reddish, CLAY and silt, with occasional sand and mudstone fragments. (Weald CLAY Formation)			
2.75-3.20 2.75	SPT2	N26			(2.50) 5.50	Stiff to hard, grey occasionally brown and reddish, sandy SILT, clay and very weak thinly bedded siltstone and mudstone. (Weald CLAY Formation)			
4.25-4.70 4.25	SPT3	N75			(2.20) 7.70	Brown grey, slightly weathered thinly bedded SILTSTONE and mudstone, occasionally iron stained on bedding plains. (Weald CLAY Formation)			
5.75-6.20 5.75	SPT4	N76							
7.25-7.70 7.25	SPT5	N57							

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
											The location was CAT scanned and inspection pit excavated by hand prior the commencement of the drilling. The borehole was backfilled with arisings on completion. Borehole remained dry.
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant Used Comacchio 305 Rotary rig			Logged By B Žarkovski		



BOREHOLE LOG

Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No RC1
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)	
Contractor AVZGeoEng Ltd				Sheet 2 of 2

[illegible]

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant UsedComacchio 305 Rotary rig					Logged By B Žarkovski

Report ID: AGS4 UK BH || Project: GINT STD AGS 4 0.GPJ || Library: GINT STD AGS 4 0.GLB || Date: 09 September 2025

BOREHOLE LOG

Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No RC2	
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 1 of 2	

SAMPLES & TESTS			Water				STRATA		Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION			
1.00-1.45 1.00	SPT1	N10				0.25	MADE GROUND: Dark brown silty sand with occasional roots.			
						(0.75)	Light grey light brow mottled, silty CLAY with occasional siltstone fragments. (Weald CLAY Formation)			
						1.00	Firm, brown reddish and grey mottled, silty CLAY with occasional sandy laminas. (Weald CLAY Formation)			
						(0.80)				
2.40-2.85 2.40 2.50	SPT2	N23				1.80	Stiff, Brown grey occasionally sandy SILT and clay, occasional mudstone fragments. (Weald CLAY Formation)			
	PPT1	0.45				(1.00)				
3.20-3.65 3.20 3.50	SPT3	N33				2.80	Stiff to hard, grey occasionally brown and reddish, sandy SILT, clay and very weak thinly bedded siltstone and mudstone. (Weald CLAY Formation)			
	PPT2	0.55				(2.30)				
4.00-4.45 4.00	SPT4	N44				5.10	Grey greenish brown mottled, weathered thinly bedded very weak SILTSTONE and mudstone. (Weald CLAY Formation)			
	PPT3	0.82				(1.10)				
4.50 										

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
											The location was CAT scanned and inspection pit excavated by hand prior the commencement of the drilling. The borehole was backfilled with arisings on completion. Borehole remained dry.
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant Used Comacchio 305 Rotary rig			Logged By B Žarkovski		

BOREHOLE LOG

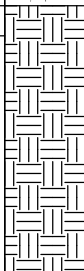
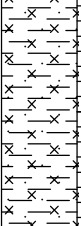
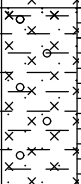
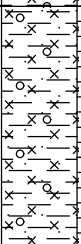
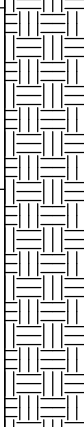
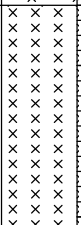
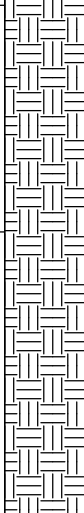
Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No RC2	
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 2 of 2	

SAMPLES & TESTS			Water				STRATA		Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION			
8.00-8.45 8.00	SPT5	N88				(4.80)	Grey to dark grey occasionally brown mottled, very weak MUDSTONE and siltstone. (Weald CLAY Formation) <i>(continued)</i>			
8.50	PPT5	1.75								
11.00- 11.20 11.00	SPT6	N28/ 50 mm				11.00	Grey light grey mottled, weak to moderately strong LIMESTONE and interbedded siltstone. (Weald CLAY Formation) Grey blue, slightly weathered to weathered, thinly bedded very weak to weak SILTSTONE and mudstone. (Weald CLAY Formation)			
						11.20				
						(4.10)				
						15.30				

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
											The location was CAT scanned and inspection pit excavated by hand prior the commencement of the drilling. The borehole was backfilled with arisings on completion. Borehole remained dry.
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant Used Comacchio 305 Rotary rig			Logged By B Žarkovski		

BOREHOLE LOG

Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No RC3	
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 1 of 2	

SAMPLES & TESTS			Water				STRATA		Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION			
1.00-1.45 1.00	SPT1	N20			0.20	MADE GROUND: Brown slightly grey clay, silt and sand with frequent roots.				
					(1.60)	Firm, brown reddish and grey mottled, silty CLAY with occasional sandy laminas. (Weald CLAY Formation)				
					1.80					
2.40 2.50-2.95 2.50	PPT1 SPT2	0.65 N34			(1.20) 3.00	Stiff to very stiff, brown grey occasionally sandy SILT and clay, occasional mudstone fragments. (Weald CLAY Formation)				
3.30	PPT2	1.00			(1.60)	Stiff to very stiff, brown grey occasionally sandy CLAY and silt, occasional mudstone fragments. (Weald CLAY Formation)				
4.00-4.45 4.00	SPT3	N93			4.60					
5.50	PPT3	0.46			(1.50) 6.10	Grey greenish brown mottled, weathered thinly bedded very weak SILTSTONE and mudstone. (Weald CLAY Formation)				
6.10-6.55 6.10	SPT4	N62				Grey slightly brown, slightly weathered to weathered, thinly bedded very weak to weak MUDSTONE and siltstone. Occasionally iron stained on joints and bedding planes. (Weald CLAY Formation)				
7.50 7.60-8.05 7.60	PPT4 SPT5	0.75 N58								

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
											The location was CAT scanned and inspection pit excavated by hand prior the commencement of the drilling. The borehole was backfilled with arisings on completion. Borehole remained dry.
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant Used Comacchio 305 Rotary rig			Logged By B Žarkovski		



BOREHOLE LOG

Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No RC3
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)	
Contractor AVZGeoEng Ltd				Sheet 2 of 2

[illegible]

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
											The location was CAT scanned and inspection pit excavated by hand prior the commencement of the drilling. The borehole was backfilled with arisings on completion. Borehole remained dry.

All dimensions in metres Scale 1:50	Client Salutem LD Bidco IV Ltd	Method/ Plant Used Comacchio 305 Rotary rig	Logged By B Zarkovski
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Report ID: AGS4 UK BH || Project: GINT STD AGS 4 0.GPJ || Library: GINT STD AGS 4 0.GLB || Date: 09 September 2025



BOREHOLE LOG

Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No SKW1
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)	
Contractor AVZGeoEng Ltd				Sheet 1 of 1

[illegible]

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
All dimensions in metres Scale 1:50		Client		Salutem LD Bidco IV Ltd		Method/ Plant Used		Mini JCB digger			Logged By B Zarkovski

Report ID: AGS4 UK BH || Project: GINT STD AGS 4 0.GPJ || Library: GINT STD AGS 4 0.GLB || Date: 13 August 2025

BOREHOLE LOG

Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No SKW2	
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)		
Contractor AVZGeoEng Ltd				Sheet 1 of 1	

SAMPLES & TESTS			Water				STRATA	Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		
						0.30	MADE GROUND: Brown to dark brown, clayey silt and sand with occasional claystone fragments and roots.		
						0.60	MADE GROUND: Brown to dark brown, clayey silt and sand with occasional claystone fragments and frequent roots.		
						(0.80)	Light brown, light grey mottled silty CLAY.		
						1.40	@ ceramic pipe land drains noted at around 0.7mbgl.		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
											The location was CAT scanned and Soakaway pit excavated by mini JCB digger. The SKW was backfilled with arisings on completion.
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant Used Mini JCB digger			Logged By B Žarkovski		



BOREHOLE LOG

Project Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX				BOREHOLE No SKW3
Job No SKZ_2561/25	Date 29-07-25 07-08-25	Ground Level (m)	Co-Ordinates (Local)	
Contractor AVZGeoEng Ltd				Sheet 1 of 1

[illegible]

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
											The location was CAT scanned and Soakaway pit excavated by mini JCB digger. The SKW was backfilled with arisings on completion.
All dimensions in metres Scale 1:50			Client Salutem LD Bidco IV Ltd			Method/ Plant Used Mini JCB digger					Logged By B Žarkovski

Report ID: AGS4 UK BH || Project: GINT STD AGS 4 0.GPJ || Library: GINT STD AGS 4 0.GLB || Date: 13 August 2025



Woodview School, Ingfield Manor School,
Five Oaks, Billingshurst, RH14 9AX
Ref: SKZ_2561/25_August 2025

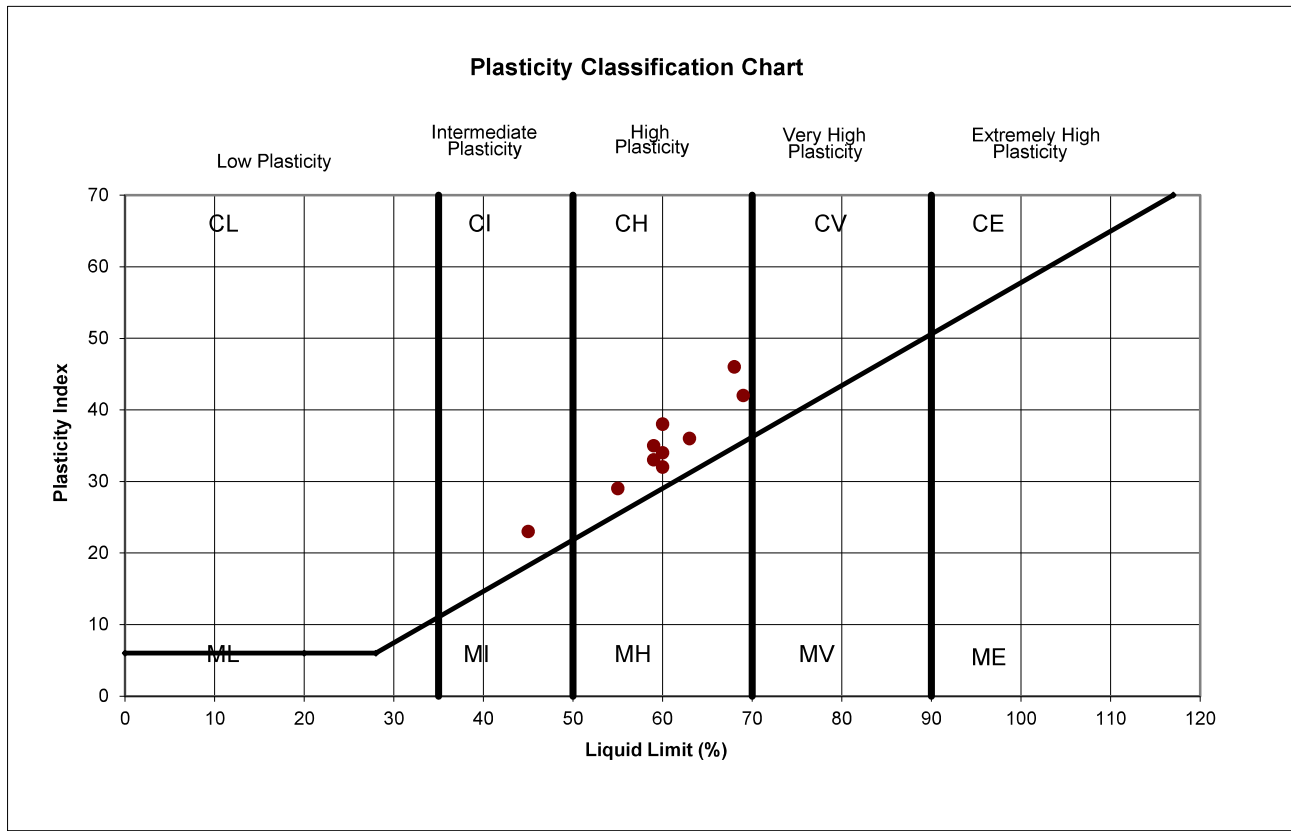
APPENDIX B



AVZGeoEng Ltd
Registered office
70 Cophorne Road • East Grinstead • West Sussex • RH19 2NU • UK
Registered in England No. 7824020
www.avzgeoeng.co.uk

PLASTICITY SHART - PI Vs LL

In accordance with BS5930:2015
Testing in accordance with BS1377-2 (BS EN ISO 17892-12)



Liquid Limit - LL (%)

Sample Identification			BS Test Method #	Preparation Method +	MC (%)	LL(%)	PL (%)	PI (%)	PI' (%)	<425 (%)
Exploratory Position ID	Sample	Depth (m)								
BH2	D	0.6-2.0	3.2/4.3/5.3/5.4	4.2.3	26.6	59	24	35	35	99.3
BH5	D	0.6-1.6	3.2/4.3/5.3/5.4	4.2.3	27.0	68	22	46	46	100.0
RC1	D	3.0-5.5	3.2/4.3/5.3/5.4	4.2.3	18.2	60	22	38	37	97.0
RC2	D	0.25-1.0	3.2/4.3/5.3/5.4	4.2.3	35.2	60	26	34	33	96.3
RC2	D	1.0-1.8	3.2/4.3/5.3/5.4	4.2.3	28.6	69	27	42	41	96.6
RC2	D	1.8-2.8	3.2/4.3/5.3/5.4	4.2.3	26.2	55	26	29	28	98.3
RC3	D	0.2-1.8	3.2/4.3/5.3/5.4	4.2.3	18.5	60	28	32	32	98.0
RC3	D	1.8-3.0	3.2/4.3/5.3/5.4	4.2.3	19.5	63	27	36	36	98.9
RC3	D	3.0-4.6	3.2/4.3/5.3/5.4	4.2.3	19.6	59	26	33	32	97.9
RC3	D	4.7-6.1	3.2/4.3/5.3/5.4	4.2.3	22.3	45	22	23	23	99.3

Tested in accordance with the following clauses of BS1377-2:1990.

3.2 - Moisture Content
4.3 - Cone Penetrometer Method
4.4 - One Point Cone Penetrometer Method
4.6 - Three Point Casagrande Method
5.3 - Plastic Limit Method
5.4 - Plasticity Index

Key: * = Non standard test,
NP = Non Plastic

Tested in accordance with the following clauses of BS1377-2:1990.

4.2.3 - Natural State
4.2.4 - Wet Sieved

Client: Salutem LD Bidco IV Ltd

Site: Woodview School, Ingfield Manor School, Five Oaks, Billingshurst, RH14 9AX



AVZGeoEng Ltd
Registered office
Birch Grove 70 Copthorne Road Felbridge Surrey RH19 2NU
Registered in England No. 7824020
Email: info@avzgeoeng.co.uk
Web: www.avzgeoeng.co.uk
Mob: 07885977732
Tel: 01342457117

Date: 8/11/2025
Completed by: SKZ
Project No: SKZ_ 2561/25



ANALYTICAL TEST REPORT

Report Number 25-07842, issue number 1

Contract name: Ingfield Manor School Five Oaks Billingshurst RH14-9AX

Client reference: Not Supplied

Clients name: AVZ GeoEng Ltd

Clients address: AVZ GeoEng Ltd
Birch Grove
70 Copthorne Road
Surrey
RH19 2NU

Samples received: 11/08/2025

Analysis started: 12/08/2025

Analysis completed: 20/08/2025

Report issued: 20/08/2025

Key

U	UKAS accredited test
M	MCERTS & UKAS accredited test
(B)	Analysis performed at Southampton Site
I/S	Insufficient sample to carry out test
U/S	Sample not suitable for testing
NAD	No Asbestos Detected

Approved by: 
Georgia Hunter
Senior Reporting Administrator

Unit 6 Parkhead, Greencroft Industrial Park, Stanley, County Durham, DH9 7YB

Telephone: (01207) 528578, Email supportsquad@chemtech-env.co.uk

SAMPLE INFORMATION

MCERTS (Soils):
Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
% Moisture reported as MCERTS drying at 30°C

Lab ref	Sample ID	Depth (m)	Sample description	Material removed	% Removed	% Moisture
62328	BH1	0.0 - 0.60	Brown Sandy Clay with Gravel and Vegetation.	-	-	12.4
62329	BH1	0.0 - 1.0	Brown Sandy Clay with Gravel and Vegetation.	-	-	12.8
62330	BH2	0.10 - 0.60	Brown Sand with Gravel and Vegetation.	-	-	9.2
62331	BH3	0.0 - 0.60	Brown Sandy Clay with Gravel and Vegetation.	-	-	8.8
62332	BH4	0.0 - 0.60	Brown Sandy Clay with Gravel and Vegetation.	-	-	8.1
62333	BH3/BH4	0.0 - 1.0	Brown Sandy Clay with Gravel and Vegetation.	-	-	10.1
62334	BH6	0.0 - 0.60	Brown Sandy Clay with Gravel and Vegetation.	-	-	7.4
62335	RC1	3.0 - 5.0	Grey Clay with Gravel.	-	-	16.3
62336	RC1	7.7 - 10.0	Grey Clay.	-	-	15.0
62337	RC1	10.0 - 15.0	Grey Clay.	-	-	12.1
62338	RC2	0.25 - 1.00	Brown Clay.	-	-	21.7
62339	RC2	1.0 - 1.8	Brown Clay.	-	-	18.2
62340	RC2	1.8 - 2.8	Brown Clay.	-	-	17.5
62341	RC3	0.20 - 1.6	Brown Clay.	-	-	11.6
62342	RC3	1.6 - 3.0	Brown Clay.	-	-	12.4
62343	RC3	4.7 - 6.6	Brown Clay.	-	-	14.5

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

- a Sampling date not provided
- b Sampling time not provided (waters only)
- c Sample not received in appropriate containers
- d Storage Temperature
- e Headspace present in sample container
- f Sample exceeded sampling to receipt
- g Sample exceeded holding time(s)

Lab ref	Sample ID	Depth (m)	Deviating	Tests (Reason for deviation)
62328	BH1	0.0 - 0.60	N	
62329	BH1	0.0 - 1.0	N	
62330	BH2	0.10 - 0.60	N	
62331	BH3	0.0 - 0.60	N	
62332	BH4	0.0 - 0.60	N	
62333	BH3/BH4	0.0 - 1.0	N	
62334	BH6	0.0 - 0.60	N	
62335	RC1	3.0 - 5.0	N	
62336	RC1	7.7 - 10.0	N	
62337	RC1	10.0 - 15.0	N	
62338	RC2	0.25 - 1.00	N	
62339	RC2	1.0 - 1.8	N	
62340	RC2	1.8 - 2.8	N	
62341	RC3	0.20 - 1.6	N	
62342	RC3	1.6 - 3.0	N	
62343	RC3	4.7 - 6.6	N	

SOILS

Lab Number					62328	62329	62330	62331	62332
Client Reference					SOIL	SOIL	SOIL	SOIL	SOIL
Sample ID					BH1	BH1	BH2	BH3	BH4
Depth (m)					0.0 - 0.60	0.0 - 1.0	0.10 - 0.60	0.0 - 0.60	0.0 - 0.60
Sampling Date					07/08/2025	07/08/2025	07/08/2025	07/08/2025	07/08/2025
Test	Method	Accred	LoD	Units					
Asbestos									
Asbestos Identification	SUBCO N	SU	0	-	NAD	n/t	NAD	NAD	NAD
Metals									
Water Soluble Sulphate	CE061	M	0.01	g/l	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	CE063	N	0.5	mg/kg	0.73	n/t	< 0.50	< 0.50	< 0.50
Antimony	CE264	N	5	mg/kg	n/t	524	n/t	n/t	n/t
Arsenic	CE264	U	1.8	mg/kg	13.8	15.0	12.0	16.3	18.9
Barium	CE264	U	1.9	mg/kg	114	112	173	147	111
Beryllium	CE264	M	0.2	mg/kg	0.8	n/t	0.6	1.0	0.9
Cadmium	CE264	M	1.6	mg/kg	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6
Chromium	CE264	U	2	mg/kg	23.6	27.9	17.8	28.2	29.7
Copper	CE264	M	1.6	mg/kg	19.2	18.7	12.3	22.8	19.0
Lead	CE264	U	2.3	mg/kg	50.2	48.0	159	96.4	61.7
Mercury	CE264	U	0.7	mg/kg	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Molybdenum	CE264	U	1.6	mg/kg	n/t	< 1.6	n/t	n/t	n/t
Nickel	CE264	M	2.1	mg/kg	12.6	12.1	10.2	14.9	16.9
Selenium	CE264	U	3	mg/kg	3.2	< 3.0	< 3.0	3.4	< 3.0
Vanadium	CE264	N	1.8	mg/kg	49.2	n/t	46.1	60.4	65.2
Zinc	CE264	M	4	mg/kg	69.0	64.9	55.1	76.5	63.5
PCB (ICES 7 congeners)									
Total PCBs (7 congeners)	CE137	M	0.035	mg/kg	n/t	< 0.035	n/t	n/t	n/t
PCB 101	CE137	M	0.015	mg/kg	n/t	< 0.015	n/t	n/t	n/t
PCB 118	CE137	M	0.015	mg/kg	n/t	< 0.015	n/t	n/t	n/t
PCB 138	CE137	M	0.015	mg/kg	n/t	< 0.015	n/t	n/t	n/t
PCB 153	CE137	M	0.01	mg/kg	n/t	< 0.010	n/t	n/t	n/t
PCB 180	CE137	M	0.01	mg/kg	n/t	< 0.010	n/t	n/t	n/t
PCB 28	CE137	M	0.015	mg/kg	n/t	< 0.015	n/t	n/t	n/t
PCB 52	CE137	M	0.01	mg/kg	n/t	< 0.010	n/t	n/t	n/t
Combustion									
Moisture Content	CE001	N	0.1	%	12.4	12.8	9.2	8.8	8.1
Total Organic Carbon	CE197	M	0.1	%	n/t	1.36	n/t	n/t	n/t

SOILS

Lab Number					62328	62329	62330	62331	62332
Client Reference					SOIL	SOIL	SOIL	SOIL	SOIL
Sample ID					BH1	BH1	BH2	BH3	BH4
Depth (m)					0.0 - 0.60	0.0 - 1.0	0.10 - 0.60	0.0 - 0.60	0.0 - 0.60
Sampling Date					07/08/2025	07/08/2025	07/08/2025	07/08/2025	07/08/2025
Test	Method	Accred	LoD	Units					
Loss on Ignition	CE006	U	0.1	%	n/t	5.18	n/t	n/t	n/t
Soil Organic Matter	CE192	N	0.1	%	3.09	n/t	2.47	4.38	2.28
Polyaromatic hydrocarbons									
Naphthalene	CE087	M	0.016	mg/kg	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
Acenaphthylene	CE087	M	0.015	mg/kg	< 0.015	< 0.015	0.083	< 0.015	< 0.015
Acenaphthene	CE087	M	0.013	mg/kg	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013
Fluorene	CE087	U	0.013	mg/kg	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013
Phenanthrene	CE087	M	0.014	mg/kg	< 0.014	< 0.014	0.102	0.023	0.069
Anthracene	CE087	U	0.017	mg/kg	< 0.017	< 0.017	0.076	< 0.017	0.018
Fluoranthene	CE087	M	0.017	mg/kg	0.033	0.036	0.885	0.073	0.230
Pyrene	CE087	M	0.016	mg/kg	0.030	0.034	0.929	0.067	0.200
Benzo(a)anthracene	CE087	U	0.012	mg/kg	0.031	0.032	0.670	0.048	0.117
Chrysene	CE087	M	0.028	mg/kg	< 0.028	< 0.028	0.622	0.043	0.111
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	0.032	0.041	1.74	0.077	0.149
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	< 0.025	< 0.025	0.598	0.028	0.063
Benzo(a)pyrene	CE087	U	0.019	mg/kg	0.028	0.035	1.46	0.058	0.130
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	0.029	0.040	1.44	0.056	0.104
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	< 0.017	< 0.017	0.314	< 0.017	0.020
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	0.025	0.036	1.22	0.051	0.093
Coronene	CE087	N	0.02	mg/kg	n/t	< 0.020	n/t	n/t	n/t
Total PAH(16)	CE087	N	0.28	mg/kg	< 0.280	n/t	10.1	0.524	1.30
Total PAH(17)	CE087	N	0.3	mg/kg	n/t	< 0.300	n/t	n/t	n/t
BTEX									
Benzene	CE267	U	0.001	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	CE267	U	0.001	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	CE267	U	0.001	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes	CE267	N	0.004	mg/kg	n/t	< 0.004	n/t	n/t	n/t
MTBE	CE267	N	0.002	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Total BTEX	CE267	N	0.007	mg/kg	n/t	< 0.007	n/t	n/t	n/t
m,p-Xylene	CE267	U	0.002	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
oXylenes	CE267	U	0.002	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002



SOILS

Lab Number					62328	62329	62330	62331	62332
Client Reference					SOIL	SOIL	SOIL	SOIL	SOIL
Sample ID					BH1	BH1	BH2	BH3	BH4
Depth (m)					0.0 - 0.60	0.0 - 1.0	0.10 - 0.60	0.0 - 0.60	0.0 - 0.60
Sampling Date					07/08/2025	07/08/2025	07/08/2025	07/08/2025	07/08/2025
Test	Method	Accred	LoD	Units					
Total Petroleum Hydrocarbons									
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	n/t	< 0.10	< 0.10	< 0.10
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	n/t	< 0.10	< 0.10	< 0.10
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	n/t	< 0.10	< 0.10	< 0.10
>C10-C12 Aliphatic (EH_2D_AL)	CE250	N	1	mg/kg	1.7	n/t	1.6	2.6	2.1
>C12-C16 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	0.9	n/t	0.9	1.4	1.3
>C16-C21 Aliphatic (EH_2D_AL)	CE250	N	0.7	mg/kg	< 0.7	n/t	< 0.7	< 0.7	< 0.7
>C21-C35 Aliphatic (EH_2D_AL)	CE250	N	4	mg/kg	6.8	n/t	5.9	12.2	10.9
>C35-C44 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	< 0.5	n/t	< 0.5	< 0.5	< 0.5
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	n/t	< 0.010	< 0.010	< 0.010
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	n/t	< 0.010	< 0.010	< 0.010
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	n/t	< 0.010	< 0.010	< 0.010
>C10-C12 Aromatic (EH_2D_AR)	CE250	N	0.6	mg/kg	1.4	n/t	< 0.6	1.3	1.6
>C12-C16 Aromatic (EH_2D_AR)	CE250	N	1	mg/kg	2.7	n/t	2.6	4.0	4.8
>C16-C21 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	< 2.0	n/t	< 2.0	< 2.0	2.1
>C21-C35 Aromatic (EH_2D_AR)	CE250	N	4.5	mg/kg	7.7	n/t	9.8	13.5	14.9
>C35-C44 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	< 2.0	n/t	< 2.0	3.3	3.3
Mineral Oil (>C10-C40 Total) (EH_CU_1D_Total)	CE162	N	19	mg/kg	n/t	19	n/t	n/t	n/t
Wet Chem									
pH	CE004	M	0.1	pH units	n/t	7.7	n/t	n/t	n/t
Acid Neutralisation Capacity pH4	CE083	N	0.02	mol/kg	n/t	0.060	n/t	n/t	n/t
Acid Neutralisation Capacity pH7	CE083	N	0.02	mol/kg	n/t	< 0.020	n/t	n/t	n/t

SOILS

Lab Number					62333	62334	62335	62336	62337
Client Reference					SOIL	SOIL	SOIL	SOIL	SOIL
Sample ID					BH3/BH4	BH6	RC1	RC1	RC1
Depth (m)					0.0 - 1.0	0.0 - 0.60	3.0 - 5.0	7.7 - 10.0	10.0 - 15.0
Sampling Date					07/08/2025	07/08/2025	07/08/2025	07/08/2025	07/08/2025
Test	Method	Accred	LoD	Units					
Asbestos									
Asbestos Identification	SUBCO N	SU	0	-	n/t	NAD	n/t	n/t	n/t
Metals									
Water Soluble Sulphate	CE061	M	0.01	g/l	n/t	0.017	2.04	1.43	1.04
Water Soluble Boron	CE063	N	0.5	mg/kg	n/t	< 0.50	n/t	n/t	n/t
Antimony	CE264	N	5	mg/kg	579	n/t	n/t	n/t	n/t
Arsenic	CE264	U	1.8	mg/kg	13.8	16.4	n/t	n/t	n/t
Barium	CE264	U	1.9	mg/kg	117	55.4	n/t	n/t	n/t
Beryllium	CE264	M	0.2	mg/kg	n/t	0.6	n/t	n/t	n/t
Cadmium	CE264	M	1.6	mg/kg	< 1.6	< 1.6	n/t	n/t	n/t
Chromium	CE264	U	2	mg/kg	34.8	27.2	n/t	n/t	n/t
Copper	CE264	M	1.6	mg/kg	19.3	13.3	n/t	n/t	n/t
Lead	CE264	U	2.3	mg/kg	38.2	22.9	n/t	n/t	n/t
Mercury	CE264	U	0.7	mg/kg	< 0.7	< 0.7	n/t	n/t	n/t
Molybdenum	CE264	U	1.6	mg/kg	< 1.6	n/t	n/t	n/t	n/t
Nickel	CE264	M	2.1	mg/kg	18.8	8.8	n/t	n/t	n/t
Selenium	CE264	U	3	mg/kg	< 3.0	< 3.0	n/t	n/t	n/t
Vanadium	CE264	N	1.8	mg/kg	n/t	55.8	n/t	n/t	n/t
Zinc	CE264	M	4	mg/kg	66.0	51.4	n/t	n/t	n/t
PCB (ICES 7 congeners)									
Total PCBs (7 congeners)	CE137	M	0.035	mg/kg	< 0.035	n/t	n/t	n/t	n/t
PCB 101	CE137	M	0.015	mg/kg	< 0.015	n/t	n/t	n/t	n/t
PCB 118	CE137	M	0.015	mg/kg	< 0.015	n/t	n/t	n/t	n/t
PCB 138	CE137	M	0.015	mg/kg	< 0.015	n/t	n/t	n/t	n/t
PCB 153	CE137	M	0.01	mg/kg	< 0.010	n/t	n/t	n/t	n/t
PCB 180	CE137	M	0.01	mg/kg	< 0.010	n/t	n/t	n/t	n/t
PCB 28	CE137	M	0.015	mg/kg	< 0.015	n/t	n/t	n/t	n/t
PCB 52	CE137	M	0.01	mg/kg	< 0.010	n/t	n/t	n/t	n/t
Combustion									
Moisture Content	CE001	N	0.1	%	10.1	7.4	16.3	15.0	12.1
Total Organic Carbon	CE197	M	0.1	%	0.81	n/t	n/t	n/t	n/t

SOILS

Lab Number					62333	62334	62335	62336	62337
Client Reference					SOIL	SOIL	SOIL	SOIL	SOIL
Sample ID					BH3/BH4	BH6	RC1	RC1	RC1
Depth (m)					0.0 - 1.0	0.0 - 0.60	3.0 - 5.0	7.7 - 10.0	10.0 - 15.0
Sampling Date					07/08/2025	07/08/2025	07/08/2025	07/08/2025	07/08/2025
Test	Method	Accred	LoD	Units					
Loss on Ignition	CE006	U	0.1	%	6.07	n/t	n/t	n/t	n/t
Soil Organic Matter	CE192	N	0.1	%	n/t	1.02	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	CE087	M	0.016	mg/kg	< 0.016	< 0.016	n/t	n/t	n/t
Acenaphthylene	CE087	M	0.015	mg/kg	< 0.015	< 0.015	n/t	n/t	n/t
Acenaphthene	CE087	M	0.013	mg/kg	< 0.013	< 0.013	n/t	n/t	n/t
Fluorene	CE087	U	0.013	mg/kg	< 0.013	< 0.013	n/t	n/t	n/t
Phenanthrene	CE087	M	0.014	mg/kg	< 0.014	< 0.014	n/t	n/t	n/t
Anthracene	CE087	U	0.017	mg/kg	< 0.017	< 0.017	n/t	n/t	n/t
Fluoranthene	CE087	M	0.017	mg/kg	0.047	< 0.017	n/t	n/t	n/t
Pyrene	CE087	M	0.016	mg/kg	0.044	< 0.016	n/t	n/t	n/t
Benzo(a)anthracene	CE087	U	0.012	mg/kg	0.033	< 0.012	n/t	n/t	n/t
Chrysene	CE087	M	0.028	mg/kg	0.031	< 0.028	n/t	n/t	n/t
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	0.044	< 0.020	n/t	n/t	n/t
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	< 0.025	< 0.025	n/t	n/t	n/t
Benzo(a)pyrene	CE087	U	0.019	mg/kg	0.033	< 0.019	n/t	n/t	n/t
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	0.033	< 0.019	n/t	n/t	n/t
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	< 0.017	< 0.017	n/t	n/t	n/t
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	0.027	< 0.019	n/t	n/t	n/t
Coronene	CE087	N	0.02	mg/kg	< 0.020	n/t	n/t	n/t	n/t
Total PAH(16)	CE087	N	0.28	mg/kg	n/t	< 0.280	n/t	n/t	n/t
Total PAH(17)	CE087	N	0.3	mg/kg	< 0.300	n/t	n/t	n/t	n/t
BTEX									
Benzene	CE267	U	0.001	mg/kg	< 0.001	< 0.001	n/t	n/t	n/t
Toluene	CE267	U	0.001	mg/kg	< 0.001	< 0.001	n/t	n/t	n/t
Ethylbenzene	CE267	U	0.001	mg/kg	< 0.001	< 0.001	n/t	n/t	n/t
Xylenes	CE267	N	0.004	mg/kg	< 0.004	n/t	n/t	n/t	n/t
MTBE	CE267	N	0.002	mg/kg	< 0.002	< 0.002	n/t	n/t	n/t
Total BTEX	CE267	N	0.007	mg/kg	< 0.007	n/t	n/t	n/t	n/t
m,p-Xylene	CE267	U	0.002	mg/kg	< 0.002	< 0.002	n/t	n/t	n/t
oXylenes	CE267	U	0.002	mg/kg	< 0.002	< 0.002	n/t	n/t	n/t



SOILS

Lab Number					62333	62334	62335	62336	62337
Client Reference					SOIL	SOIL	SOIL	SOIL	SOIL
Sample ID					BH3/BH4	BH6	RC1	RC1	RC1
Depth (m)					0.0 - 1.0	0.0 - 0.60	3.0 - 5.0	7.7 - 10.0	10.0 - 15.0
Sampling Date					07/08/2025	07/08/2025	07/08/2025	07/08/2025	07/08/2025
Test	Method	Accred	LoD	Units					
Total Petroleum Hydrocarbons									
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t	< 0.10	n/t	n/t	n/t
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t	< 0.10	n/t	n/t	n/t
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t	< 0.10	n/t	n/t	n/t
>C10-C12 Aliphatic (EH_2D_AL)	CE250	N	1	mg/kg	n/t	2.0	n/t	n/t	n/t
>C12-C16 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	n/t	1.1	n/t	n/t	n/t
>C16-C21 Aliphatic (EH_2D_AL)	CE250	N	0.7	mg/kg	n/t	< 0.7	n/t	n/t	n/t
>C21-C35 Aliphatic (EH_2D_AL)	CE250	N	4	mg/kg	n/t	7.5	n/t	n/t	n/t
>C35-C44 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	n/t	< 0.5	n/t	n/t	n/t
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t	< 0.010	n/t	n/t	n/t
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t	< 0.010	n/t	n/t	n/t
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t	< 0.010	n/t	n/t	n/t
>C10-C12 Aromatic (EH_2D_AR)	CE250	N	0.6	mg/kg	n/t	1.1	n/t	n/t	n/t
>C12-C16 Aromatic (EH_2D_AR)	CE250	N	1	mg/kg	n/t	3.2	n/t	n/t	n/t
>C16-C21 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	n/t	< 2.0	n/t	n/t	n/t
>C21-C35 Aromatic (EH_2D_AR)	CE250	N	4.5	mg/kg	n/t	6.8	n/t	n/t	n/t
>C35-C44 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	n/t	< 2.0	n/t	n/t	n/t
Mineral Oil (>C10-C40 Total) (EH_CU_1D_Total)	CE162	N	19	mg/kg	19	n/t	n/t	n/t	n/t
Wet Chem									
pH	CE004	M	0.1	pH units	7.7	6.8	7.6	8.0	8.7
Acid Neutralisation Capacity pH4	CE083	N	0.02	mol/kg	0.080	n/t	n/t	n/t	n/t
Acid Neutralisation Capacity pH7	CE083	N	0.02	mol/kg	< 0.020	n/t	n/t	n/t	n/t

SOILS

Lab Number					62338	62339	62340	62341	62342
Client Reference					SOIL	SOIL	SOIL	SOIL	SOIL
Sample ID					RC2	RC2	RC2	RC3	RC3
Depth (m)					0.25 - 1.00	1.0 - 1.8	1.8 - 2.8	0.20 - 1.6	1.6 - 3.0
Sampling Date					07/08/2025	07/08/2025	07/08/2025	07/08/2025	07/08/2025
Test	Method	Accred	LoD	Units					
Asbestos									
Asbestos Identification	SUBCO N	SU	0	-	n/t	n/t	n/t	n/t	n/t
Metals									
Water Soluble Sulphate	CE061	M	0.01	g/l	0.120	0.128	0.062	0.160	0.191
Water Soluble Boron	CE063	N	0.5	mg/kg	n/t	n/t	n/t	n/t	n/t
Antimony	CE264	N	5	mg/kg	n/t	n/t	n/t	n/t	n/t
Arsenic	CE264	U	1.8	mg/kg	n/t	n/t	n/t	n/t	n/t
Barium	CE264	U	1.9	mg/kg	n/t	n/t	n/t	n/t	n/t
Beryllium	CE264	M	0.2	mg/kg	n/t	n/t	n/t	n/t	n/t
Cadmium	CE264	M	1.6	mg/kg	n/t	n/t	n/t	n/t	n/t
Chromium	CE264	U	2	mg/kg	n/t	n/t	n/t	n/t	n/t
Copper	CE264	M	1.6	mg/kg	n/t	n/t	n/t	n/t	n/t
Lead	CE264	U	2.3	mg/kg	n/t	n/t	n/t	n/t	n/t
Mercury	CE264	U	0.7	mg/kg	n/t	n/t	n/t	n/t	n/t
Molybdenum	CE264	U	1.6	mg/kg	n/t	n/t	n/t	n/t	n/t
Nickel	CE264	M	2.1	mg/kg	n/t	n/t	n/t	n/t	n/t
Selenium	CE264	U	3	mg/kg	n/t	n/t	n/t	n/t	n/t
Vanadium	CE264	N	1.8	mg/kg	n/t	n/t	n/t	n/t	n/t
Zinc	CE264	M	4	mg/kg	n/t	n/t	n/t	n/t	n/t
PCB (ICES 7 congeners)									
Total PCBs (7 congeners)	CE137	M	0.035	mg/kg	n/t	n/t	n/t	n/t	n/t
PCB 101	CE137	M	0.015	mg/kg	n/t	n/t	n/t	n/t	n/t
PCB 118	CE137	M	0.015	mg/kg	n/t	n/t	n/t	n/t	n/t
PCB 138	CE137	M	0.015	mg/kg	n/t	n/t	n/t	n/t	n/t
PCB 153	CE137	M	0.01	mg/kg	n/t	n/t	n/t	n/t	n/t
PCB 180	CE137	M	0.01	mg/kg	n/t	n/t	n/t	n/t	n/t
PCB 28	CE137	M	0.015	mg/kg	n/t	n/t	n/t	n/t	n/t
PCB 52	CE137	M	0.01	mg/kg	n/t	n/t	n/t	n/t	n/t
Combustion									
Moisture Content	CE001	N	0.1	%	21.7	18.2	17.5	11.6	12.4
Total Organic Carbon	CE197	M	0.1	%	n/t	n/t	n/t	n/t	n/t

SOILS

Lab Number					62338	62339	62340	62341	62342
Client Reference					SOIL	SOIL	SOIL	SOIL	SOIL
Sample ID					RC2	RC2	RC2	RC3	RC3
Depth (m)					0.25 - 1.00	1.0 - 1.8	1.8 - 2.8	0.20 - 1.6	1.6 - 3.0
Sampling Date					07/08/2025	07/08/2025	07/08/2025	07/08/2025	07/08/2025
Test	Method	Accred	LoD	Units					
Loss on Ignition	CE006	U	0.1	%	n/t	n/t	n/t	n/t	n/t
Soil Organic Matter	CE192	N	0.1	%	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	CE087	M	0.016	mg/kg	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	CE087	M	0.015	mg/kg	n/t	n/t	n/t	n/t	n/t
Acenaphthene	CE087	M	0.013	mg/kg	n/t	n/t	n/t	n/t	n/t
Fluorene	CE087	U	0.013	mg/kg	n/t	n/t	n/t	n/t	n/t
Phenanthrene	CE087	M	0.014	mg/kg	n/t	n/t	n/t	n/t	n/t
Anthracene	CE087	U	0.017	mg/kg	n/t	n/t	n/t	n/t	n/t
Fluoranthene	CE087	M	0.017	mg/kg	n/t	n/t	n/t	n/t	n/t
Pyrene	CE087	M	0.016	mg/kg	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	CE087	U	0.012	mg/kg	n/t	n/t	n/t	n/t	n/t
Chrysene	CE087	M	0.028	mg/kg	n/t	n/t	n/t	n/t	n/t
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	n/t	n/t	n/t	n/t	n/t
Benzo(a)pyrene	CE087	U	0.019	mg/kg	n/t	n/t	n/t	n/t	n/t
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	n/t	n/t	n/t	n/t	n/t
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	n/t	n/t	n/t	n/t	n/t
Coronene	CE087	N	0.02	mg/kg	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	CE087	N	0.28	mg/kg	n/t	n/t	n/t	n/t	n/t
Total PAH(17)	CE087	N	0.3	mg/kg	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	CE267	U	0.001	mg/kg	n/t	n/t	n/t	n/t	n/t
Toluene	CE267	U	0.001	mg/kg	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	CE267	U	0.001	mg/kg	n/t	n/t	n/t	n/t	n/t
Xylenes	CE267	N	0.004	mg/kg	n/t	n/t	n/t	n/t	n/t
MTBE	CE267	N	0.002	mg/kg	n/t	n/t	n/t	n/t	n/t
Total BTEX	CE267	N	0.007	mg/kg	n/t	n/t	n/t	n/t	n/t
m,p-Xylene	CE267	U	0.002	mg/kg	n/t	n/t	n/t	n/t	n/t
oXylenes	CE267	U	0.002	mg/kg	n/t	n/t	n/t	n/t	n/t



SOILS

Lab Number					62338	62339	62340	62341	62342
Client Reference					SOIL	SOIL	SOIL	SOIL	SOIL
Sample ID					RC2	RC2	RC2	RC3	RC3
Depth (m)					0.25 - 1.00	1.0 - 1.8	1.8 - 2.8	0.20 - 1.6	1.6 - 3.0
Sampling Date					07/08/2025	07/08/2025	07/08/2025	07/08/2025	07/08/2025
Test	Method	Accred	LoD	Units					
Total Petroleum Hydrocarbons									
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic (EH_2D_AL)	CE250	N	1	mg/kg	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic (EH_2D_AL)	CE250	N	0.7	mg/kg	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic (EH_2D_AL)	CE250	N	4	mg/kg	n/t	n/t	n/t	n/t	n/t
>C35-C44 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic (EH_2D_AR)	CE250	N	0.6	mg/kg	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic (EH_2D_AR)	CE250	N	1	mg/kg	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic (EH_2D_AR)	CE250	N	4.5	mg/kg	n/t	n/t	n/t	n/t	n/t
>C35-C44 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	n/t	n/t	n/t	n/t	n/t
Mineral Oil (>C10-C40 Total) (EH_CU_1D_Total)	CE162	N	19	mg/kg	n/t	n/t	n/t	n/t	n/t
Wet Chem									
pH	CE004	M	0.1	pH units	7.2	8.1	8.2	8.1	8.0
Acid Neutralisation Capacity pH4	CE083	N	0.02	mol/kg	n/t	n/t	n/t	n/t	n/t
Acid Neutralisation Capacity pH7	CE083	N	0.02	mol/kg	n/t	n/t	n/t	n/t	n/t



SOILS

Lab Number					62343
Client Reference					SOIL
Sample ID					RC3
Depth (m)					4.7 - 6.6
Sampling Date					07/08/2025
Test	Method	Accred	LoD	Units	
Asbestos					
Asbestos Identification	SUBCO N	SU	0	-	n/t
Metals					
Water Soluble Sulphate	CE061	M	0.01	g/l	0.298
Water Soluble Boron	CE063	N	0.5	mg/kg	n/t
Antimony	CE264	N	5	mg/kg	n/t
Arsenic	CE264	U	1.8	mg/kg	n/t
Barium	CE264	U	1.9	mg/kg	n/t
Beryllium	CE264	M	0.2	mg/kg	n/t
Cadmium	CE264	M	1.6	mg/kg	n/t
Chromium	CE264	U	2	mg/kg	n/t
Copper	CE264	M	1.6	mg/kg	n/t
Lead	CE264	U	2.3	mg/kg	n/t
Mercury	CE264	U	0.7	mg/kg	n/t
Molybdenum	CE264	U	1.6	mg/kg	n/t
Nickel	CE264	M	2.1	mg/kg	n/t
Selenium	CE264	U	3	mg/kg	n/t
Vanadium	CE264	N	1.8	mg/kg	n/t
Zinc	CE264	M	4	mg/kg	n/t
PCB (ICES 7 congeners)					
Total PCBs (7 congeners)	CE137	M	0.035	mg/kg	n/t
PCB 101	CE137	M	0.015	mg/kg	n/t
PCB 118	CE137	M	0.015	mg/kg	n/t
PCB 138	CE137	M	0.015	mg/kg	n/t
PCB 153	CE137	M	0.01	mg/kg	n/t
PCB 180	CE137	M	0.01	mg/kg	n/t
PCB 28	CE137	M	0.015	mg/kg	n/t
PCB 52	CE137	M	0.01	mg/kg	n/t
Combustion					
Moisture Content	CE001	N	0.1	%	14.5
Total Organic Carbon	CE197	M	0.1	%	n/t

SOILS

Lab Number					62343
Client Reference					SOIL
Sample ID					RC3
Depth (m)					4.7 - 6.6
Sampling Date					07/08/2025
Test	Method	Accred	LoD	Units	
Loss on Ignition	CE006	U	0.1	%	n/t
Soil Organic Matter	CE192	N	0.1	%	n/t
Polyaromatic hydrocarbons					
Naphthalene	CE087	M	0.016	mg/kg	n/t
Acenaphthylene	CE087	M	0.015	mg/kg	n/t
Acenaphthene	CE087	M	0.013	mg/kg	n/t
Fluorene	CE087	U	0.013	mg/kg	n/t
Phenanthrene	CE087	M	0.014	mg/kg	n/t
Anthracene	CE087	U	0.017	mg/kg	n/t
Fluoranthene	CE087	M	0.017	mg/kg	n/t
Pyrene	CE087	M	0.016	mg/kg	n/t
Benzo(a)anthracene	CE087	U	0.012	mg/kg	n/t
Chrysene	CE087	M	0.028	mg/kg	n/t
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	n/t
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	n/t
Benzo(a)pyrene	CE087	U	0.019	mg/kg	n/t
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	n/t
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	n/t
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	n/t
Coronene	CE087	N	0.02	mg/kg	n/t
Total PAH(16)	CE087	N	0.28	mg/kg	n/t
Total PAH(17)	CE087	N	0.3	mg/kg	n/t
BTEX					
Benzene	CE267	U	0.001	mg/kg	n/t
Toluene	CE267	U	0.001	mg/kg	n/t
Ethylbenzene	CE267	U	0.001	mg/kg	n/t
Xylenes	CE267	N	0.004	mg/kg	n/t
MTBE	CE267	N	0.002	mg/kg	n/t
Total BTEX	CE267	N	0.007	mg/kg	n/t
m,p-Xylene	CE267	U	0.002	mg/kg	n/t
oXylenes	CE267	U	0.002	mg/kg	n/t



SOILS

Lab Number					62343
Client Reference					SOIL
Sample ID					RC3
Depth (m)					4.7 - 6.6
Sampling Date					07/08/2025
Test	Method	Accred	LoD	Units	
Total Petroleum Hydrocarbons					
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t
>C10-C12 Aliphatic (EH_2D_AL)	CE250	N	1	mg/kg	n/t
>C12-C16 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	n/t
>C16-C21 Aliphatic (EH_2D_AL)	CE250	N	0.7	mg/kg	n/t
>C21-C35 Aliphatic (EH_2D_AL)	CE250	N	4	mg/kg	n/t
>C35-C44 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	n/t
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t
>C10-C12 Aromatic (EH_2D_AR)	CE250	N	0.6	mg/kg	n/t
>C12-C16 Aromatic (EH_2D_AR)	CE250	N	1	mg/kg	n/t
>C16-C21 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	n/t
>C21-C35 Aromatic (EH_2D_AR)	CE250	N	4.5	mg/kg	n/t
>C35-C44 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	n/t
Mineral Oil (>C10-C40 Total) (EH_CU_1D_Total)	CE162	N	19	mg/kg	n/t
Wet Chem					
pH	CE004	M	0.1	pH units	8.5
Acid Neutralisation Capacity pH4	CE083	N	0.02	mol/kg	n/t
Acid Neutralisation Capacity pH7	CE083	N	0.02	mol/kg	n/t

LEACHATE

Lab Number					62329	62333
Client Reference					SOIL	SOIL
Sample ID					BH1	BH3/BH4
Depth (m)					0.0 - 1.0	0.0 - 1.0
Sampling Date					07/08/2025	07/08/2025
Test	Method	Accred	LoD	Units		
Metals						
Arsenic 10:1	CE265	N	0.1	µg/l	0.940	0.309
Barium 10:1	CE265	N	0.9	µg/l	4.95	6.78
Cadmium 10:1	CE265	N	0.1	µg/l	< 0.100	< 0.100
Chromium 10:1	CE265	N	0.5	µg/l	0.921	< 0.500
Copper 10:1	CE265	N	0.6	µg/l	2.54	1.31
Mercury 10:1	CE265	N	0.05	µg/l	< 0.050	< 0.050
Molybdenum 10:1	CE265	N	0.9	µg/l	1.02	< 0.900
Nickel 10:1	CE265	N	0.4	µg/l	< 0.400	< 0.400
Lead 10:1	CE265	N	0.6	µg/l	1.03	< 0.600
Antimony 10:1	CE265	N	0.8	µg/l	< 0.800	< 0.800
Selenium 10:1	CE265	N	1.1	µg/l	< 1.10	< 1.10
Zinc 10:1	CE265	N	3	µg/l	< 3.00	< 3.00
Arsenic 10:1	CE265	N	0.001	mg/kg	0.009	0.003
Barium 10:1	CE265	N	0.009	mg/kg	0.049	0.068
Cadmium 10:1	CE265	N	0.001	mg/kg	< 0.001	< 0.001
Chromium 10:1	CE265	N	0.005	mg/kg	0.009	< 0.005
Copper 10:1	CE265	N	0.006	mg/kg	0.025	0.013
Mercury 10:1	CE265	N	0.0005	mg/kg	< 0.0005	< 0.0005
Molybdenum 10:1	CE265	N	0.009	mg/kg	0.010	< 0.009
Nickel 10:1	CE265	N	0.004	mg/kg	< 0.004	< 0.004
Lead 10:1	CE265	N	0.006	mg/kg	0.010	< 0.006
Antimony 10:1	CE265	N	0.008	mg/kg	< 0.008	< 0.008
Selenium 10:1	CE265	N	0.011	mg/kg	< 0.011	< 0.011
Zinc 10:1	CE265	N	0.03	mg/kg	< 0.03	< 0.03
Colourimetric						
Chloride 10:1	CE257	N	0.4	mg/l	< 0.40	< 0.40
Fluoride 10:1	CE257	N	0.08	mg/l	0.600	0.600
Sulphate 10:1	CE257	N	0.3	mg/l	< 0.30	< 0.30
Phenol Index 10:1	CE148	N	0.01	mg/l	< 0.01	< 0.01
Chloride 10:1	CE257	N	4	mg/kg	< 4.0	< 4.0

LEACHATE

Lab Number					62329	62333
Client Reference					SOIL	SOIL
Sample ID					BH1	BH3/BH4
Depth (m)					0.0 - 1.0	0.0 - 1.0
Sampling Date					07/08/2025	07/08/2025
Test	Method	Accred	LoD	Units		
Fluoride 10:1	CE257	N	0.8	mg/kg	6.00	6.00
Sulphate 10:1	CE257	N	3	mg/kg	< 3.0	< 3.0
Phenol Index 10:1	CE148	N	0.1	mg/kg	< 0.10	< 0.10
Combustion						
Total Dissolved Solids 10:1	CE039	N	10	mg/l	79.8	126
Dissolved Organic Carbon 10:1	CE247	N	0.85	mg/l	2.53	1.90
Total Dissolved Solids 10:1	CE039	N	100	mg/kg	798	1260
Dissolved Organic Carbon 10:1	CE247	N	8.5	mg/kg	25.3	19.0
Wet Chem						
Temperature 10:1	CE002	N	0	°C	20	20
Moisture Content 10:1	CE001	N	0.1	%	14.6	11.2
pH 10:1	CE213	N	0	pH units	8.0	8.2
Conductivity 10:1	CE214	N	50	µS/cm	105	166
Dry mass of test portion	CE002	N	0	kg	0.090	0.090
Wet Sample Mass Taken (Actual)	CE002	N	0	kg	0.103	0.100
Dry Matter 10:1	CE002	N	0.1	%	87.2	89.9
Eluent Volume	CE002	N	0	l	0.886	0.889

WAC Analysis

Lab Ref:	62329			Landfill Waste Acceptance Criteria Limits		
Job Number:	25-07842			Inert Waste Landfill	Stable Non-reactive Hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample Date:	07/08/2025					
Sample ID:	BH1					
Depth (m)	0.0 - 1.0					
Site:	Ingfield Manor School Five Oaks Billingshurst RH14-9AX					
Determinand	Code	Units				
Total Organic Carbon	M	%	1.36	3	5	6
Loss on Ignition	U	%	5.18	--	--	10
Total BTEX	N	mg/kg	< 0.007	6	--	--
Total PCBs (7 congeners)	M	mg/kg	< 0.035	1	--	--
Mineral Oil (>C10-C40 Aliphatic) (EH_CU_1D_AL)	N	mg/kg	19	500	--	--
Total (of 17) PAHs	N	mg/kg	< 0.300	100	--	--
pH	M	pH Units	7.7	--	>6	--
Acid Neutralisation Capacity (pH4)	N	mol/kg	0.06	--	To be evaluated	
Acid Neutralisation Capacity (pH7)	N	mol/kg	< 0.020	--	To be evaluated	
Eluate Analysis		Conc in Eluate	10:1	Council Decision 2003/33/EC		
		10:1	mg/kg	Limit Values mg/kg at L:S 10:1		
Arsenic (µg/l)	N	0.94	0.009	0.5	2	25
Barium (µg/l)	N	4.95	0.049	20	100	300
Cadmium (µg/l)	N	< 0.100	< 0.001	0.04	1	5
Chromium (µg/l)	N	0.921	0.009	0.5	10	70
Copper (µg/l)	N	2.54	0.025	2	50	100
Mercury (µg/l)	N	< 0.050	< 0.0005	0.01	0.2	2
Molybdenum (µg/l)	N	1.02	0.01	0.5	10	30
Nickel (µg/l)	N	< 0.400	< 0.004	0.4	10	40
Lead (µg/l)	N	1.03	0.01	0.5	10	50
Antimony (µg/l)	N	< 0.800	< 0.008	0.06	0.7	5
Selenium (µg/l)	N	< 1.10	< 0.011	0.1	0.5	7
Zinc (µg/l)	N	< 3.00	< 0.03	4	50	200
Chloride (mg/l)	N	< 0.40	< 4.0	800	15000	25000
Fluoride (mg/l)	N	0.6	6	10	150	500
Sulphate (mg/l)	N	< 0.30	< 3.0	1000	20000	50000
Total Dissolved Solids (mg/l)	N	79.8	798	4000	60000	100000
Phenol Index (mg/l)	N	< 0.01	< 0.10	1	-	-
Dissolved Organic Carbon (mg/l)	N	2.53	25.3	500	800	1000

Leach Test Information

pH	N	8
Conductivity (uS/cm)	N	105
Temperature (°C)	N	20
Mass of dried test portion (kg)	N	0.09
Mass of wet test portion (kg)	N	0.103
Dry Matter (%)	N	87.2
Moisture (%)	N	14.6
Material Removed (%)		
Eluent Volume (l)	N	0.886

Disclaimer: The Landfill Waste Acceptance Criteria limits in this report are provided for guidance only and values are transcribed from the Council Decision annex 2003/33/EC

Chemtech Environmental Ltd does not take responsibility for any errors or omissions in the transcription, and all data should be verified by the end user. Results will be colour flagged to the lowest threshold value breached. Any assessments made are based on the published results from the Laboratory and make no assessment of uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. Interpretation/assessment is outside the scope of the laboratory's UKAS accreditation. Moisture Content Calculated on Wet Weight Basis

WAC Analysis

Lab Ref:	62333			Landfill Waste Acceptance Criteria Limits		
Job Number:	25-07842			Inert Waste Landfill	Stable Non-reactive Hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample Date:	07/08/2025					
Sample ID:	BH3/BH4					
Depth (m)	0.0 - 1.0					
Site:	Ingfield Manor School Five Oaks Billingshurst RH14-9AX					
Determinand	Code	Units				
Total Organic Carbon	M	%	0.81	3	5	6
Loss on Ignition	U	%	6.07	--	--	10
Total BTEX	N	mg/kg	< 0.007	6	--	--
Total PCBs (7 congeners)	M	mg/kg	< 0.035	1	--	--
Mineral Oil (>C10-C40 Aliphatic) (EH_CU_1D_AL)	N	mg/kg	19	500	--	--
Total (of 17) PAHs	N	mg/kg	< 0.300	100	--	--
pH	M	pH Units	7.7	--	>6	--
Acid Neutralisation Capacity (pH4)	N	mol/kg	0.08	--	To be evaluated	
Acid Neutralisation Capacity (pH7)	N	mol/kg	< 0.020	--	To be evaluated	
Eluate Analysis		Conc in Eluate	10:1	Council Decision 2003/33/EC		
		10:1	mg/kg	Limit Values mg/kg at L:S 10:1		
Arsenic (µg/l)	N	0.309	0.003	0.5	2	25
Barium (µg/l)	N	6.78	0.068	20	100	300
Cadmium (µg/l)	N	< 0.100	< 0.001	0.04	1	5
Chromium (µg/l)	N	< 0.500	< 0.005	0.5	10	70
Copper (µg/l)	N	1.31	0.013	2	50	100
Mercury (µg/l)	N	< 0.050	< 0.0005	0.01	0.2	2
Molybdenum (µg/l)	N	< 0.900	< 0.009	0.5	10	30
Nickel (µg/l)	N	< 0.400	< 0.004	0.4	10	40
Lead (µg/l)	N	< 0.600	< 0.006	0.5	10	50
Antimony (µg/l)	N	< 0.800	< 0.008	0.06	0.7	5
Selenium (µg/l)	N	< 1.10	< 0.011	0.1	0.5	7
Zinc (µg/l)	N	< 3.00	< 0.03	4	50	200
Chloride (mg/l)	N	< 0.40	< 4.0	800	15000	25000
Fluoride (mg/l)	N	0.6	6	10	150	500
Sulphate (mg/l)	N	< 0.30	< 3.0	1000	20000	50000
Total Dissolved Solids (mg/l)	N	126	1260	4000	60000	100000
Phenol Index (mg/l)	N	< 0.01	< 0.10	1	-	-
Dissolved Organic Carbon (mg/l)	N	1.9	19	500	800	1000

Leach Test Information

pH	N	8.2
Conductivity (uS/cm)	N	166
Temperature (°C)	N	20
Mass of dried test portion (kg)	N	0.09
Mass of wet test portion (kg)	N	0.1
Dry Matter (%)	N	89.9
Moisture (%)	N	11.2
Material Removed (%)		
Eluent Volume (l)	N	0.889

Disclaimer: The Landfill Waste Acceptance Criteria limits in this report are provided for guidance only and values are transcribed from the Council Decision annex 2003/33/EC

Chemtech Environmental Ltd does not take responsibility for any errors or omissions in the transcription, and all data should be verified by the end user. Results will be colour flagged to the lowest threshold value breached. Any assessments made are based on the published results from the Laboratory and make no assessment of uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. Interpretation/assessment is outside the scope of the laboratory's UKAS accreditation. Moisture Content Calculated on Wet Weight Basis

METHOD DETAILS

METHOD	TESTNAME	METHOD SUMMARY	ANALYSIS BASIS
CE267	VPH in Soil	HS-GCFID	As submitted sample
CE250	GCXGC in Soil	DCM Extraction and GCxGC-FID	As submitted sample
SUBCON	Asbestos Soil	HSG248	Air Dried Sample
CE061	W. Sol Metals	ICPOES	Air dried sample
CE001	WAC in leachates 10:1 single stage	BS12457-2	As submitted sample
CE083	Acid Neutralisation Capacity	Titration	Air dried sample
CE002	WAC moistures	Gravimetric	As submitted sample
CE063	Water soluble boron	ICPOES	Air dried sample
CE137	PCB's in Soil	DCM Extraction and GCMS	As submitted sample
CE264	Metals by ICP in Soil	ICPOES	Air dried sample
CE267	BTEX in Soils	Analysis by HSGCFID	As submitted sample
CE087	PAH in Soil	DCM Extraction and GCMS	As submitted sample
CE197	Primacs in Soil	Primacs	Air dried sample
CE006	Loss on ignition at 440 deg C	Gravimetric	Air dried sample
CE162	Mineral Oil in Soil	Acetone:Hexane extract, Floriil clean up and GCFID	As submitted sample

REPORT INFORMATION

Report No.:25-07842, issue number 1

Key	
U	ISO17025 Accredited Result
M	ISO17025 and MCERTS Accredited Result
N	Do not currently hold accreditation
^	MCERTS accreditation not applicable for sample matrix
*	ISO17025 accreditation not applicable for sample matrix
S	Subcontracted
I/S	Insufficient Sample
U/S	Unsuitable sample
N/T	Not tested
<	Means "less than"
>	Means "greater than"

LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.

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Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

The results relate only to the sample received.

Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

Moisture Content Calculated on a Wet Weight basis (at 30°C)

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

Sampling was undertaken by Chemtech Environmental Limited and is outside the UKAS accreditation scope.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

BTEX compounds are identified by retention time only and may include interference from co-eluting compounds.

For soils and solids, all results are reported on a dry basis (30°C). Samples dried at no more than 30°C in a drying cabinet.

For soils and solids, analytical results are inclusive of stones, where applicable.

'Client Reference', 'Sample ID', 'Sample Location', 'Sample Type', 'Depth', 'Sample Date' and 'Sample Time' information is provided by the customer

Sample Retention and Disposal

All soil samples will be retained for a period of 4 weeks from the point of receipt

All water samples will be retained for a period of 2 weeks from the point of Reporting

Charges may apply to extended sample storage

TPH Classification - HWOL Acronym System

HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
2D	GC-GC - Double coil gas chromatography
#1	EH_Total but with humics mathematically subtracted
#2	EH_Total but with fatty acids mathematically subtracted
-	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry

Unless specifically identified (noted as "(B)" in analyte name) all internal analysis performed at Durham site

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Statement of Conformity

Statement of Conformity

Where Chemtech reports a statement of conformity to a specification, the decision rules applied are derived from the Ilac document ILAC G8:09/2019.

Acceptance limits (AL), applied are derived from the tolerance limits (TL) by you the client or applicable standard (e.g. 2003.33.EC Council Decision, BS3882, BS8601)

Agreed and reported Decision Rule:

"PASS" if the result < TL, and the bias / precision values for the process meet the targets defined within the methodology and/or applied accreditation.

Reported Decisions:

Result < TL for determinands: PASS

Result > TL for determinands: FAIL

Definitions Used:

Acceptance limit (AL) Specified upper or lower bounds of permissible measured quantity values.

Tolerance limit (TL) Specified upper or lower bound of permissible values of a property.

Accreditation of WAC/BS3882/BS8601

Accreditation in Soil to MCERTS is only applicable for specific matrix types identified as soil (Sand/Loam/Clay) during the sample assessment

If the sample is classified as not soil, not accreditation is conveyed

Appendix C

Greenfield Runoff Rate Estimation

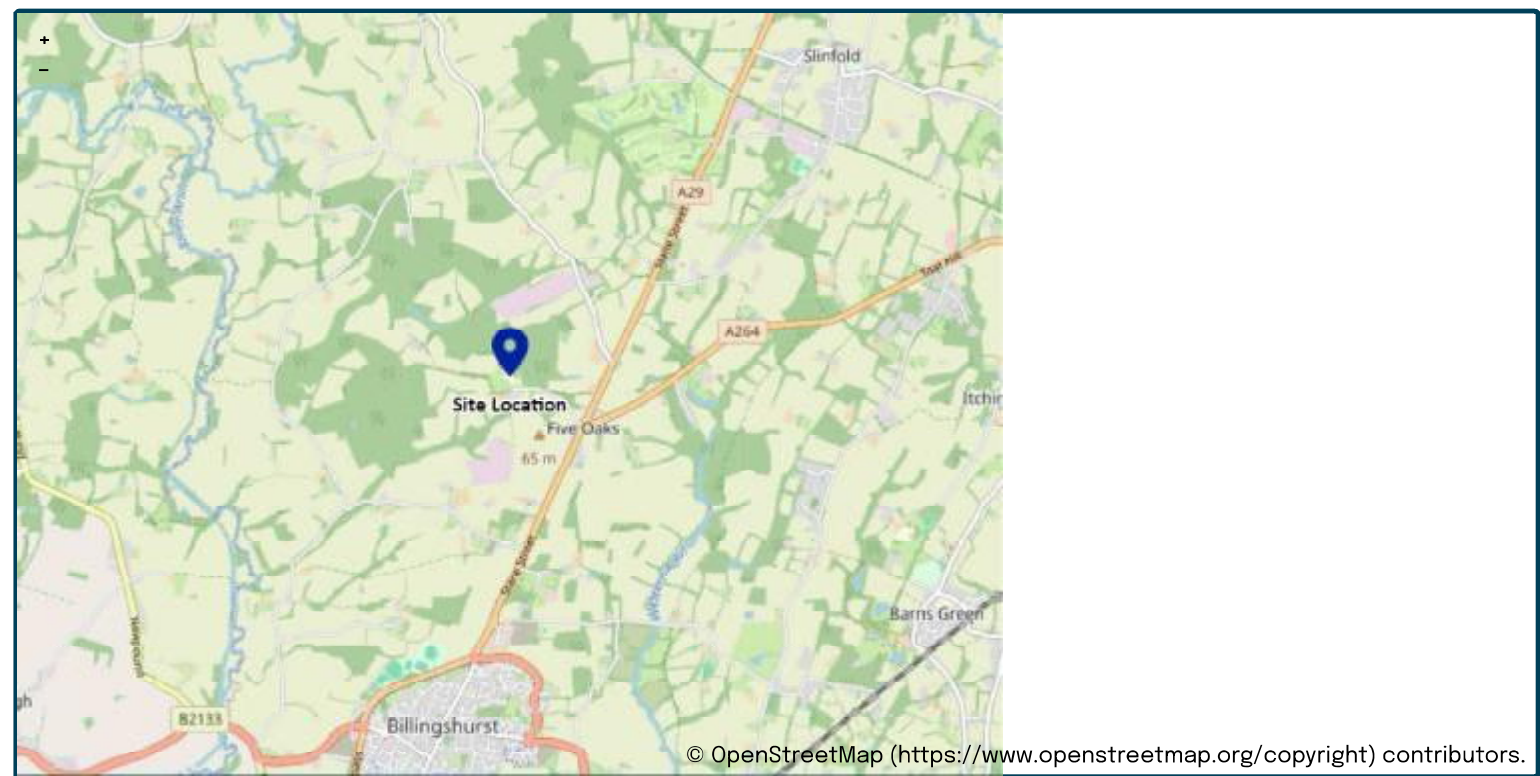
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	23/02/2026
Calculated by	RJC
Reference	2933
Model version	2.2.2

Location

Site name	Ingfields Manor School
Site location	Billingshurst



Site easting (British National Grid)	509183
Site northing (British National Grid)	128652

Site details

Total site area (ha)	.75 ha
----------------------	------------------------------

Greenfield runoff

Method

Method	FEH statistical (2025)
--------	------------------------

FEH statistical (2025)

	My value		Map value
SAAR9120 (mm)	840	mm	
BFIHOST19scaled	.247		
QMed-QBar conversion	1.136	☐	1.136
QMed (l/s)	5.9	l/s	
QBar (FEH statistical 2025) (l/s)	6.7	l/s	

Growth curve factors

	My value		Map value
Hydrological region	7	☐	7
1 year growth factor	0.85		
2 year growth factor	0.88		
10 year growth factor	1.62		
30 year growth factor	2.3		
100 year growth factor	3.19		
200 year growth factor	3.74		

Results

Method	FEH statistical (2025)	
Flow rate 1 year (l/s)	5.7	l/s
Flow rate 2 year (l/s)	5.9	l/s
Flow rate 10 years (l/s)	10.9	l/s
Flow rate 30 years (l/s)	15.4	l/s
Flow rate 100 years (l/s)	21.4	l/s
Flow rate 200 years (l/s)	25.1	l/s

Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent ‘zero’ figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.2.2) developed by HR Wallingford and available at uksuds.com (<https://www.uksuds.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Appendix D

UKSuDS Surface water storage volume estimation

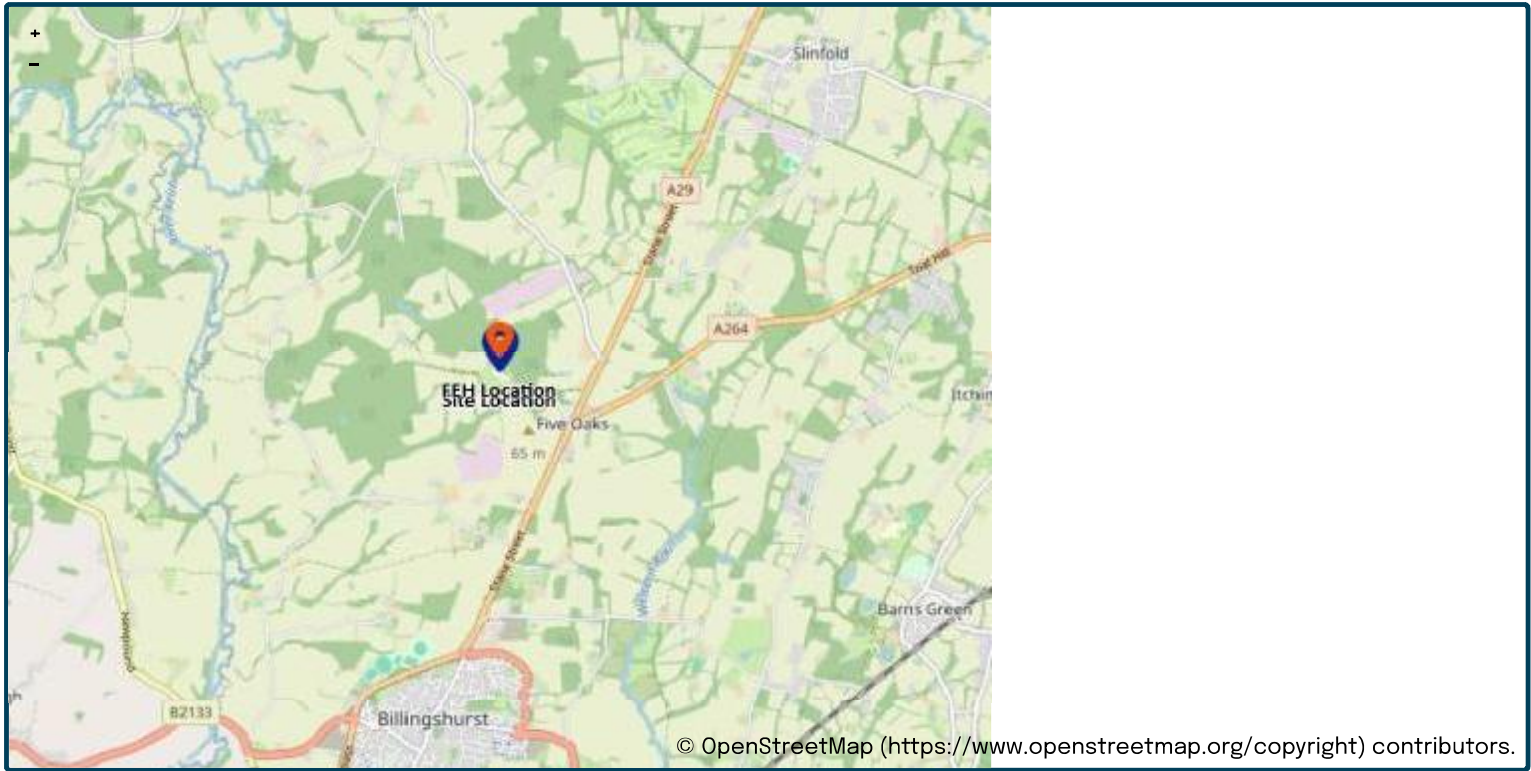
This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is recommended that the total storage volume for the site is distributed across the site using multiple SuDS and that hydraulic modelling software is used to undertake and finalise the detailed design of the drainage system.

Project details

Date	21/07/2026
Calculated by	RJC
Reference	Inglefields
Model version	2.2.3

Location

Site name	Inglefield Manor
Site location	Billinghurst



Site easting (British National Grid)	509187
Site northing (British National Grid)	128653

Site areas

Total site area (ha)	.75 ha
----------------------	--

Roof area

Total roof area (ha)	ha
Contributing roof area (ha)	ha
Non-contributing roof area (ha)	0 ha

Paved area

Total paved area (ha)	.158 ha
Contributing paved area (ha)	.158 ha
Non-contributing paved area (ha)	0 ha

Grass / vegetated area

Total grass / vegetated area (ha)	ha
Contributing grass / vegetated area (ha)	ha
Non-contributing grass / vegetated area (ha)	0 ha

Total area

Total contributing area (ha)	0.158 ha
------------------------------	--

Contributing areas with urban creep allowance

Urban creep allowance factor	+0% (no creep)
------------------------------	--------------------------------------

Storage design parameters

Storage base shape	Rectangular / square
Storage base length to width ratio	3:1
Storage design depth (m)	1.2 m
Storage side slope (1 in x)	Vertical sided
Storage voids ratio (%)	100% (all voids)
Storage volume design return period (years)	1:100 years

Discharge flow rate from the site

Method

Type of site	Greenfield
Specify the method	User specified

User specified discharge

Flow rate (user specified) (l/s)	1.5	l/s
----------------------------------	----------------	----------------

Final discharge rate

Runoff calculation method	User specified	
Design flow rate (l/s)	1.5	l/s

Blockage risk

Specify the method	Orifice diameter		
Minimum orifice diameter to prevent blockage (mm)	25	mm	
	<u>My value</u>	<u>Calculated value</u>	
Design orifice diameter (mm)	25	mm	☐ 25
Flow rate of orifice (l/s)	1.42	l/s	

Rainfall and runoff

Rainfall input type	FEH22 CSV file	
	FEH_Point_Rainfall_FEH22_AM_509186_128671.csv	
Distance from FEH location to site (km)	0	km
Climate change allowance factor	145%	

Model results

- **Maximum discharge flow rate:** 1.4 (l/s)
- **Outflow orifice diameter:** 25 (mm)
- **Storage base length:** 19 (m)
- **Storage base width:** 6.4 (m)
- **Storage base area:** 124 (m²)
- **Storage total volume:** 149 (m³)
- **Storage total water volume:** 149 (m³)
- **Storm return periods run:** 1, 2, 10, 30, 100, 200 (years)
- **Storm durations run:** 15, 30, 60, 120, 180, 240, 360, 540, 720, 900, 1080, 1440, 1800, 2160, 2880, 3600, 4320, 5040, 5760 (minutes)

Return Period (years)	Critical Duration (minutes)	Peak Flow Rate (l/s)	Max Depth (m)	Max water volume (m ³)	Max storage volume (m ³)
1	720	0.8	0.36	44	44
2	720	0.8	0.43	53	53
10	540	1.1	0.73	90	90
30	720	1.3	0.93	116	116
<u>100</u>	<u>720</u>	<u>1.4</u>	<u>1.20</u>	<u>149</u>	<u>149</u>
200	900	1.5	1.39	172	172

Please note runoff estimation and storage volume estimation are subject to uncertainty. Storage volume results are therefore reported to the nearest 1 m³ value, unless storage volumes are less than 10 m³, in which case, storage volumes are provided to 1 decimal place.

Disclaimer

This report was produced using the surface water storage volume design tool (2.2.3) developed by HR Wallingford and available at uksuds.com (<https://www.uksuds.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate surface water storage volumes for the whole site based on a limiting discharge rate from the site. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

HR Wallingford are not responsible for any rainfall data shared that is subject to licensing terms imposed by UK Centre for Ecology & Hydrology's Flood Estimation Handbook web service (<https://fehweb.ceh.ac.uk/Home/Terms> (<https://fehweb.ceh.ac.uk/Home/Terms>)).

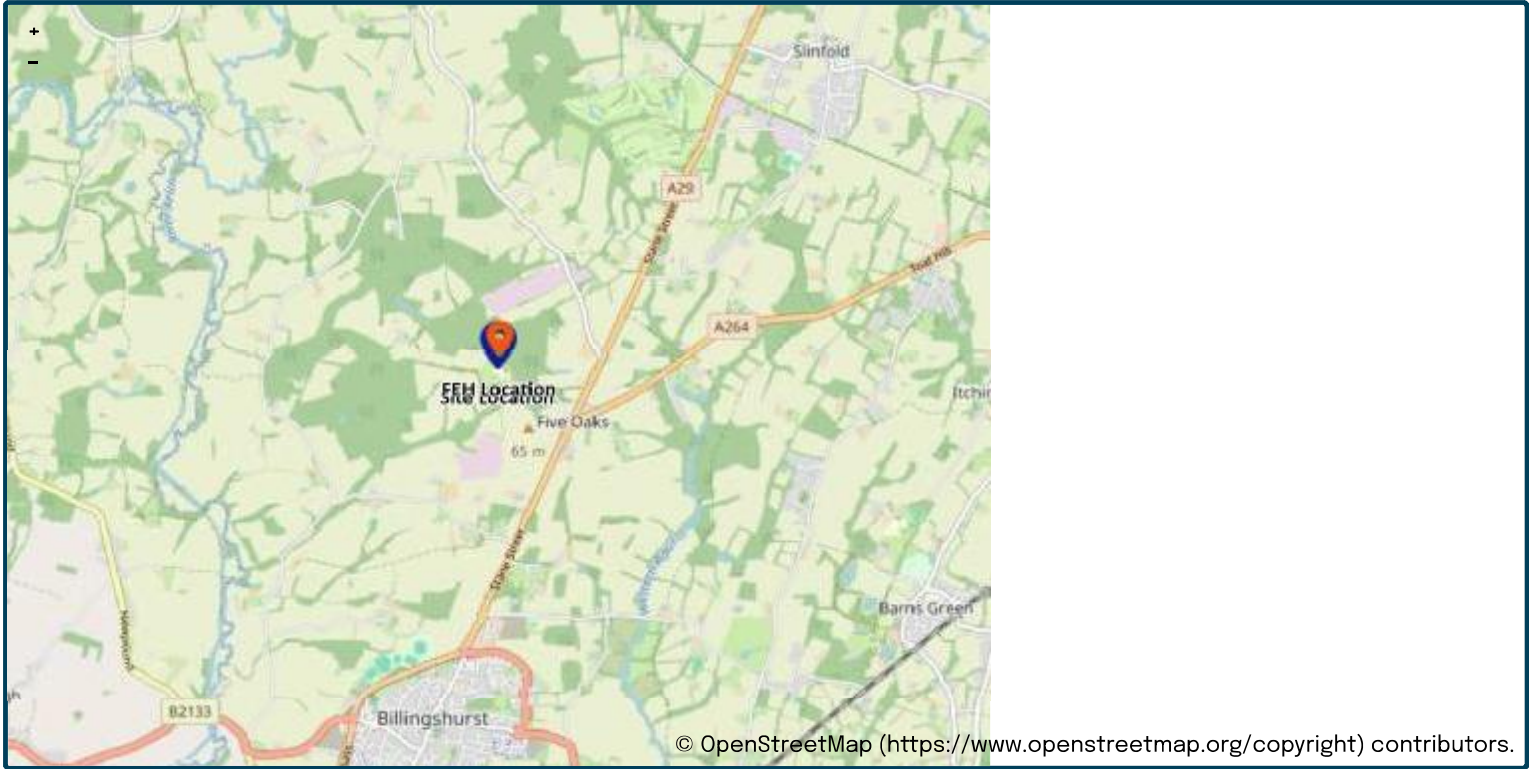
This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is recommended that the total storage volume for the site is distributed across the site using multiple SuDS and that hydraulic modelling software is used to undertake and finalise the detailed design of the drainage system.

Project details

Date	21/07/2026
Calculated by	RJC
Reference	Inglefields
Model version	2.2.3

Location

Site name	Inglefield Manor
Site location	Billinghurst



Site easting (British National Grid)	509170
Site northing (British National Grid)	128665

Site areas

Total site area (ha)	.75 ha
----------------------	--

Roof area

Total roof area (ha)	.1856 ha
Contributing roof area (ha)	.1856 ha
Non-contributing roof area (ha)	0 ha

Paved area

Total paved area (ha)	.193 ha
Contributing paved area (ha)	.193 ha
Non-contributing paved area (ha)	0 ha

Grass / vegetated area

Total grass / vegetated area (ha)	ha
Contributing grass / vegetated area (ha)	ha
Non-contributing grass / vegetated area (ha)	0 ha

Total area

Total contributing area (ha)	0.3786 ha
------------------------------	---

Contributing areas with urban creep allowance

Urban creep allowance factor	+0% (no creep)
------------------------------	--------------------------------------

Storage design parameters

Storage base shape	Rectangular / square
Storage base length to width ratio	3:1
Storage design depth (m)	1.2 m
Storage side slope (1 in x)	Vertical sided
Storage voids ratio (%)	100% (all voids)
Storage volume design return period (years)	1:100 years

Discharge flow rate from the site

Method

Type of site	Greenfield
Specify the method	User specified

User specified discharge

Flow rate (user specified) (l/s)	4.7	l/s
----------------------------------	----------------	----------------

Final discharge rate

Runoff calculation method	User specified	
Design flow rate (l/s)	4.7	l/s

Blockage risk

Specify the method	Orifice diameter		
Minimum orifice diameter to prevent blockage (mm)	45	mm	
Design orifice diameter (mm)	45	mm	My value Calculated value
Flow rate of orifice (l/s)	4.59	l/s	45

Rainfall and runoff

Rainfall input type	FEH22 CSV file	
	FEH_Point_Rainfall_FEH22_AM_509186_128671.csv	
Distance from FEH location to site (km)	0	km
Climate change allowance factor	145%	

Model results

- **Maximum discharge flow rate:** 4.6 (l/s)
- **Outflow orifice diameter:** 45 (mm)
- **Storage base length:** 29 (m)
- **Storage base width:** 9.6 (m)
- **Storage base area:** 279 (m²)
- **Storage total volume:** 334 (m³)
- **Storage total water volume:** 334 (m³)
- **Storm return periods run:** 1, 2, 10, 30, 100, 200 (years)
- **Storm durations run:** 15, 30, 60, 120, 180, 240, 360, 540, 720, 900, 1080, 1440, 1800, 2160, 2880, 3600, 4320, 5040, 5760 (minutes)

Return Period (years)	Critical Duration (minutes)	Peak Flow Rate (l/s)	Max Depth (m)	Max water volume (m ³)	Max storage volume (m ³)
1	540	2.4	0.35	98	98
2	540	2.7	0.43	118	118
10	540	3.6	0.73	203	203
30	540	4.0	0.94	260	260
<u>100</u>	<u>540</u>	<u>4.6</u>	<u>1.20</u>	<u>334</u>	<u>334</u>
200	540	4.9	1.38	386	386

Please note runoff estimation and storage volume estimation are subject to uncertainty. Storage volume results are therefore reported to the nearest 1 m³ value, unless storage volumes are less than 10 m³, in which case, storage volumes are provided to 1 decimal place.

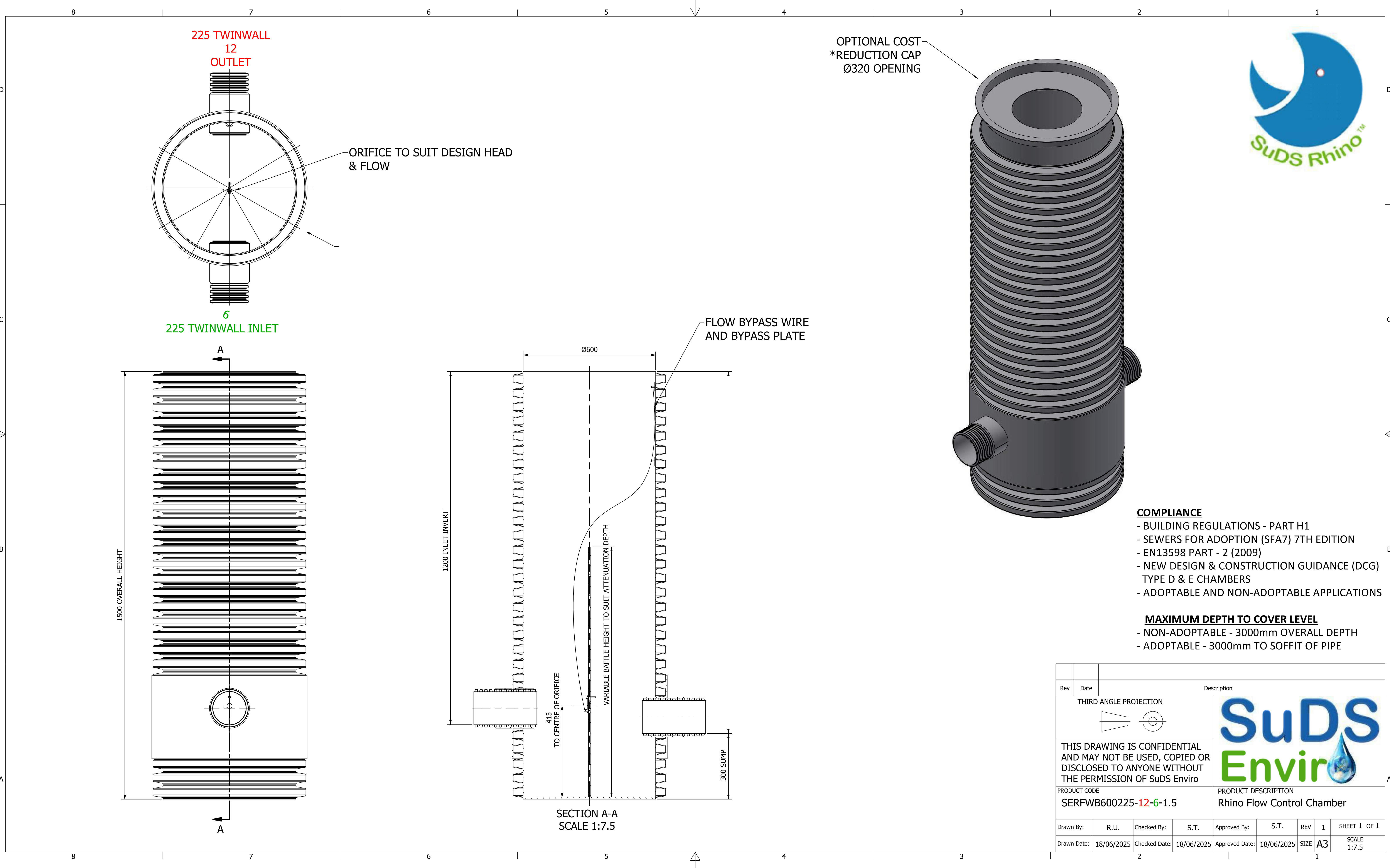
Disclaimer

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Appendix E

SUDS Enviro Rhino Flow Control Chamber details



Appendix F

Turtle Stormshark SSK1000M manufacturers literature

Model: SSK1000M

INTRODUCTION

The STORMSHARK is a cutting-edge hydrodynamic vortex separator that sets the standard in the industry with its unique patented design and exceptional performance. Engineered specifically for Sustainable Drainage Systems (SuDS) treatment trains, the STORMSHARK delivers outstanding water quality treatment while significantly enhancing amenity and bio diversity downstream. It serves as a powerful guardian, effectively protecting controlled waters from harmful sediment-bound pollutants.

Manufactured in Germany for the global stormwater management market, every model in the STORMSHARK range not only meets but exceeds the most stringent German Stormwater Treatment standards, including DWA M153 D24 and D25. Furthermore, the STORMSHARK has undergone rigorous testing in the United States, fully complying with the guidelines established by the New Jersey Department of Environmental Protection (NJDEP).

The STORMSHARK's remarkable flexibility allows it to operate both online and offline, seamlessly integrating with or without an external bypass unit. This adaptability positions it as the definitive solution for a wide range of multi-treatment water purification processes.

DESIGN CERTIFICATION & TESTING

- NJDEP 2021
- NRW Trennerlass (Independent German Lab & field test)
- DIBt

PERFORMANCE

The STORMSHARK removes sediment bound contaminants. Available in differing sizes to suit site flows and conditions. The STORMSHARK removes over 50% of fine TSS (0–200 microns, median size 75 microns) at design flows and up to 99% of TDS 0.1 to 0.4mm (coarse).

MITIGATION	TSS Total Suspended Solids	TOTAL METALS	TOTAL HYDROCARBONS
TSS Coarse	0.99	0.75	0.79
NJDEP*1	0.5	0	0
Turtle Enviro*2	0.5	0.4	0.45
British Water Code of Practice*3	0.8	0.6	0.96*3

*1 NJDEP protocol

*2 "Best advice" (in part as NJDEP only covers TSS)

*3 The British Water Code of Practice (Assessment of Manufactured Treatment Devices, Designed to Treat Surface Water Runoff) using DIBt and EN858 data.

PLASTICS

NRW Tested	Polyethylene	Polystyrene
% Retained	0.6224	0.7541

The STORMSHARK hydraulic flow rates have larger pipe connection sizes, ideal for sites where higher peak flows are anticipated or required. The STORMSHARK also affords ease of connection to twinwall and other structural wall drainage pipes commonly used in the UK storm water drainage market.

***Adjustable feet are fitted to this model, so the levels can be adjusted, if fitted into pre cast concrete chamber.**

INSTALLATION:

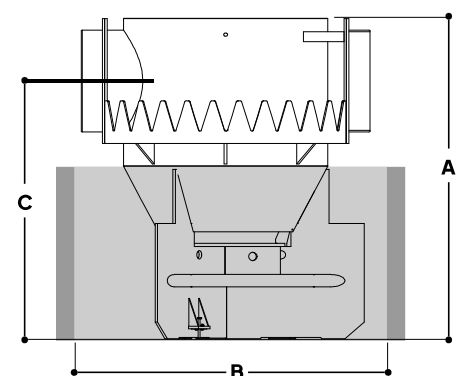
The installation design should consider traffic loadings, ground conditions and variable ground water elevations. If in any doubt consult your schemes' Designer/Engineer. A suitably qualified professional is required to sign off the installation.

***To view installation instructions click here.**



FEATURES

- Supplied as a single piece unit with machine pre-fitted into a PE twinwall chamber
- Pipework connections pre installed
- Can also be installed into PCC chambers
- Patented design that has been tested
- No head loss; the level inverts remain stable
- Cannot become air locked
- Inlet deflector plate creates a vortex
- Retains floatable materials and liquids
- Prevents re-suspension of settled solids
- Upward flow provides a uniform flow pathway, even at high design flows
- Shark toothed weir ensures balanced, optimised flow
- Simple maintenance required
- 25 year warranty



SPECIFICATION

Overall Height A :	1950mm
Minimum Ø chamber required B :	1050mm
Height to Inlet centre C :	1587mm
Standard Pipework Connection:	225mm
Sediment Storage Capacity:	0.46m³
Oil/Debris Storage Capacity:	200 litres
Machine Weight:	70kg
(Chamber weight not included)	

Appendix G

Water Quality Pollution Simple Index Assessment

- Residential roof areas
- Residential parking areas

SIMPLE INDEX APPROACH: TOOL



HRW shall not be liable for any direct or indirect damage claim, loss, cost, expense or liability howsoever arising out of the use or impossibility to use the tools, even when HRW has been informed of the possibility of the same. The user hereby indemnifies HRW from and against any damage claim, loss, expense or liability resulting from any action taken against HRW that is related in any way to the use of the tool or any reliance made in respect of the output of such use by any person whatsoever. HRW does not guarantee that the tool's functions meet the requirements of any person, nor that the tool is free from errors.

1. The steps set out in the tool should be applied for each inflow or 'runoff area' (ie each impermeable surface area separately discharging to a SuDS component).
2. The supporting 'Design Conditions' stated by the tool must be fully considered and implemented in all cases.
3. Relevant design examples are included in the SuDS Manual Appendix C.
4. Each of the steps below are part of the process set out in the flowchart on Sheet 3.
5. Sheet 4 summarises the selections made below and indicates the acceptability of the proposed SuDS components.

DROP DOWN LIST RELEVANT INPUTS NEED TO BE SELECTED FROM THESE LISTS, FOR EACH STEP

USER ENTRY USER ENTRY CELLS ARE ONLY REQUIRED WHERE INDICATED BY THE TOOL

STEP 1: Determine the Pollution Hazard Index for the runoff area discharging to the proposed SuDS scheme

This step requires the user to select the appropriate land use type for the area from which the runoff is occurring

If the land use varies across the 'runoff area', either:

- use the land use type with the highest Pollution Hazard Index

- apply the approach for each of the land use types to determine whether the proposed SuDS design is sufficient for all. If it is not, consider collecting more hazardous runoff separately and providing additional treatment.

If the generic land use types suggested are not applicable, select 'Other' and enter a description of the land use of the runoff area and agreed user defined indices in the row below the drop down lists.

Select land use type from the drop down list (or 'Other' if none applicable) →

If the generic land use types in the drop down list above are not applicable, select 'Other' and enter a description of the land use of the runoff area and agreed user defined indices in this row:

Runoff Area Land Use Description	Pollution Hazard	Pollution Hazard Indices Total	Metals	Hydrocarbons
Commercial/Industrial roofing, inert materials	Very low	0.3	0.2	0.05
Landuse Pollution Hazard Index	Very low	0.3	0.2	0.05

DESIGN CONDITIONS			
1	2		

STEP 2A: Determine the Pollution Mitigation Index for the proposed SuDS components

This step requires the user to select the proposed SuDS components that will be used to treat runoff - before it is discharged to a receiving surface waterbody or downstream infiltration component

If the runoff is discharged directly to an infiltration component, without upstream treatment, select 'None' for each of the 3 SuDS components and move to Step 2B

This step should be applied to evaluate the water quality protection provided by proposed SuDS components for discharges to receiving surface waters or downstream infiltration components (note: in England and Wales this will include components that allow any amount of infiltration, however small, even where infiltration is not specifically accounted for in the design).

If you have fewer than 3 components, select 'None' for the components that are not required

If the proposed component is bespoke and/or a proprietary treatment product and not generically described by the suggested components, then 'Proprietary treatment system' or 'User defined indices' should be selected and a description of the component and agreed user defined indices should be entered in the rows below the drop down lists

Select SuDS Component 1 (i.e. the upstream SuDS component) from the drop down list: →

Select SuDS Component 2 (i.e. the second SuDS component in a series) from the drop down list: →

Select SuDS Component 3 (i.e. the third SuDS component in a series) from the drop down list: →

If the proposed SuDS components are bespoke/proprietary and/or the generic indices above are not considered appropriate, select 'Proprietary treatment system' or 'User defined indices' and enter component descriptions and agreed user defined indices in these rows:

SuDS Component Description	Pollution Mitigation Indices		
	Total Suspended	Metals	Hydrocarbons
None			
None			
None			
Aggregated Surface Water Pollution Mitigation Index	0	0	0

DESIGN CONDITIONS			
1	2	3	

Note: If the total aggregated mitigation index is > 1 (which is not a realistic outcome), then the outcome is fixed at "<0.95". In this scenario, the proposed components are likely to have a very high mitigation potential for reducing pollutant levels in the runoff and should be sufficient for any proposed land use (note: where risk assessment is required, this outcome would need more detailed verification).

Is the runoff now discharged to an infiltration component?

Yes ? Go to Step 2B
No ? Go to Step 3C

STEP 2B: Determine the Pollution Mitigation Index for the proposed Groundwater Protection

This step requires the user to select the type of groundwater protection that is either part of the SuDS component or that lies between the component and the groundwater

This step should be applied where a SuDS component is specifically designed to infiltrate runoff (note: in England and Wales this will include components that allow any amount of infiltration, however small, even where infiltration is not specifically accounted for in the design).

'Groundwater protection' describes the proposed depth of soil or other material through which runoff will flow between the runoff surface and the underlying groundwater.

Where the discharge is to surface waters and risks to groundwater need not be considered, select 'None'

If the proposed groundwater protection is bespoke and/or a proprietary product and not generically described by the suggested measures, then a description of the protection and agreed user defined indices should be entered in the row below the drop down list

Select type of groundwater protection from the drop down list: →

If the proposed groundwater protection is bespoke/proprietary and/or the generic indices above are not considered appropriate, select 'Proprietary product' or 'User defined indices' and enter a description of the protection and agreed user defined indices in this row:

	Pollution Mitigation Indices		
	Total Suspended Solids	Metals	Hydrocarbons
Proprietary product			
Enter User Defined Indices in row below			
Groundwater Protection Pollution Mitigation Index	0.5	0.4	0.45

DESIGN CONDITIONS			
1	2	3	4
Detailed assessment of performance of designed component in reducing below concentrations of each pollutant type required as evidence of adapted indices. Enter indices approved by the environmental regulator in appropriate 'User Defined Indices' row below	All designs must include a minimum of 1 m unsaturated depth of subsoil or aquifer material between the infiltration surface and the maximum likely groundwater level. Infiltration components should always be preceded by upstream components (that traps) silt, or designed specifically to retain sediment in a separate lined zone, easily accessible for maintenance, such that the sediment will not be re-suspended in subsequent events.	SEPA only considers proprietary treatment systems as appropriate in exceptional circumstances where other types of SuDS component are not practicable. Proprietary treatment systems may also be considered appropriate for existing sites that are causing pollution where there is a requirement to retrofit treatment. WAT-FRM-08 (SEPA, 2014) also provides a flow chart with a summary of checks on suitability of a proprietary system	See Chapter 15 Proprietary treatment systems for approaches to demonstrate product performance. Note: a British Water/Environment Agency assessment Code of Practice is currently under development that will allow manufacturers to complete an agreed test protocol for systems intended to treat contaminated surface water runoff. Full details can be found at https://www.britishtreatmentproductsassociation.co.uk/practice.aspx

STEP 2C: Determine the Combined Pollution Mitigation Indices for the Runoff Area

This is an automatic step which combines the proposed SuDS Pollution Mitigation Indices with any Groundwater Protection Pollution Mitigation Indices

Combined Pollution Mitigation Indices			
	Total Suspended	Metals	Hydrocarbons
Combined Pollution Mitigation Indices for the Runoff Area	0.5	0.4	0.45

Note: If the total aggregated mitigation index is > 1 (which is not a realistic outcome), then the outcome is fixed at "<0.95". In this scenario, the proposed components are likely to have a very high mitigation potential for reducing pollutant levels in the runoff and should be sufficient for any proposed land use (note: where risk assessment is required, this outcome would need more detailed verification).

STEP 2D: Determine Sufficiency of Pollution Mitigation Indices for Selected SuDS Components

This is an automatic step which compares the Combined Pollution Mitigation Indices with the Land Use Hazard Indices, to determine whether the proposed components are sufficient to manage each pollutant category type

When the combined mitigation index exceeds the land use pollution hazard index, then the proposed components are considered sufficient in providing pollution risk mitigation.

In England and Wales, where the discharge is to protected surface waters or groundwater, an additional treatment component (ie over and above that required for standard discharges), or other equivalent protection, is required that provides environmental protection in the event of an unexpected pollution event or poor system performance. Protected surface waters are those designated for drinking water abstraction. In England and Wales, protected groundwater resources are defined as Source Protection Zone 1. In Northern Ireland, a more precautionary approach may be required and this should be checked with the environmental regulator on a site by site basis.

Sufficiency of Pollution Mitigation Indices			
	Total Suspended	Metals	Hydrocarbons
Sufficient	Sufficient	Sufficient	Sufficient

DESIGN CONDITIONS

1

Reference to local planning documents should also be made to identify any additional protection required for sites due to habitat conservation (see Chapter 7 The SuDS design process). The implications of developments on or within close proximity to an area with an environmental designation, such as a Site of Special Scientific Interest (SSSI), should be considered via consultation with relevant conservation bodies such as Natural England

SIMPLE INDEX APPROACH: TOOL



HRW shall not be liable for any direct or indirect damage claim, loss, cost, expense or liability howsoever arising out of the use or impossibility to use the tools, even when HRW has been informed of the possibility of the same. The user hereby indemnifies HRW from and against any damage claim, loss, expense or liability resulting from any action taken against HRW that is related in any way to the use of the tool or any reliance made in respect of the output of such use by any person whatsoever. HRW does not guarantee that the tool's functions meet the requirements of any person, nor that the tool is free from errors.

1. The steps set out in the tool should be applied for each inflow or 'runoff area' (ie each impermeable surface area separately discharging to a SuDS component).
2. The supporting 'Design Conditions' stated by the tool must be fully considered and implemented in all cases.
3. Relevant design examples are included in the SuDS Manual Appendix C.
4. Each of the steps below are part of the process set out in the flowchart on Sheet 3.

5. Sheet 4 summarises the selections made below and indicates the acceptability of the proposed SuDS components.

DROP DOWN LIST

RELEVANT INPUTS NEED TO BE SELECTED FROM THESE LISTS, FOR EACH STEP

USER ENTRY

USER ENTRY CELLS ARE ONLY REQUIRED WHERE INDICATED BY THE TOOL

STEP 1: Determine the Pollution Hazard Index for the runoff area discharging to the proposed SuDS scheme

This step requires the user to select the appropriate land use type for the area from which the runoff is occurring

If the land use varies across the 'runoff area', either:

- use the land use type with the highest Pollution Hazard Index
- apply the approach for each of the land use types to determine whether the proposed SuDS design is sufficient for all. If it is not, consider collecting more hazardous runoff separately and providing additional treatment.

If the generic land use types suggested are not applicable, select 'Other' and enter a description of the land use of the runoff area and agreed user defined indices in the row below the drop down lists.

Select land use type from the drop down list (or 'Other' if none applicable):

If the generic land use types in the drop down list above are not applicable, select 'Other' and enter a description of the land use of the runoff area and agreed user defined indices in this row:

Runoff Area Land Use Description	Pollution Hazard	Total Suspended Solids	Metals	Hydrocarbons
Residential parking	Low	0.5	0.4	0.4
Landuse Pollution Hazard Index	Low	0.5	0.4	0.4

DESIGN CONDITIONS	
1	2

STEP 2A: Determine the Pollution Mitigation Index for the proposed SuDS components

This step requires the user to select the proposed SuDS components that will be used to treat runoff - before it is discharged to a receiving surface water body or downstream infiltration component

If the runoff is discharged directly to an infiltration component, without upstream treatment, select 'None' for each of the 3 SuDS components and move to Step 2B

This step should be applied to evaluate the water quality protection provided by proposed SuDS components for discharges to receiving surface waters or downstream infiltration components (note: in England and Wales this will include components that allow any amount of infiltration, however small, even where infiltration is not specifically accounted for in the design).

If you have fewer than 3 components, select 'None' for the components that are not required

If the proposed component is bespoke and/or a proprietary treatment product and not generically described by the suggested components, then 'Proprietary treatment system' or 'User defined indices' should be selected and a description of the component and agreed user defined indices should be entered in the rows below the drop down lists

Select SuDS Component 1 (i.e. the upstream SuDS component) from the drop down list:

Select SuDS Component 2 (i.e. the second SuDS component in a series) from the drop down list:

Select SuDS Component 3 (i.e. the third SuDS component in a series) from the drop down list:

If the proposed SuDS components are bespoke/proprietary and/or the generic indices above are not considered appropriate, select 'Proprietary treatment system' or 'User defined indices' and enter component descriptions and agreed user defined indices in these rows:

SuDS Component Description	Total Suspended Solids	Metals	Hydrocarbons
Permeable pavement (where the pavement is not designed as an infiltration component)	0.7	0.6	0.7
None			
None			
Aggregated Surface Water Pollution Mitigation Index	0.7	0.6	0.7

DESIGN CONDITIONS		
1	2	3
SuDS components can only be assumed to deliver these indices if they follow design guidance with respect to hydraulics and treatment set out in the relevant technical component chapters of the SuDS Manual. See also checklists in Appendix B		

Note: If the total aggregated mitigation index is > 1 (which is not a realistic outcome), then the outcome is fixed at >0.95". In this scenario, the proposed components are likely to have a very high mitigation potential for reducing pollutant levels in the runoff and should be sufficient for any proposed land use (note: where risk assessment is required, this outcome would need more detailed verification).

Is the runoff now discharged to an infiltration component?

Yes ? [Go to Step 2B](#)

No ? [Go to Step 2C](#)

STEP 2B: Determine the Pollution Mitigation Index for the proposed Groundwater Protection

This step requires the user to select the type of groundwater protection that is either part of the SuDS component or that lies between the component and the groundwater

This step should be applied where a SuDS component is specifically designed to infiltrate runoff (note: in England and Wales this will include components that allow any amount of infiltration, however small, even where infiltration is not specifically accounted for in the design).

'Groundwater protection' describes the proposed depth of soil or other material through which runoff will flow between the runoff surface and the underlying groundwater.

Where the discharge is to surface waters and risks to groundwater need not be considered, select 'None'

If the proposed groundwater protection is bespoke/proprietary and/or a proprietary product and not generically described by the suggested measures, then a description of the protection and agreed user defined indices should be entered in the row below the drop down list

Select type of groundwater protection from the drop down list:

If the proposed groundwater protection is bespoke/proprietary and/or the generic indices above are not considered appropriate, select 'Proprietary product' or 'User defined indices' and enter a description of the protection and agreed user defined indices in this row:

	Total Suspended Solids	Metals	Hydrocarbons
Proprietary product			
Stormwater SSK1000M	0.5	0.4	0.45
Groundwater Protection Pollution Mitigation Index	0.5	0.4	0.45

DESIGN CONDITIONS			
1	2	3	4
Detailed assessment of performance of designed component in reducing inflow concentrations of each pollutant type required as evidence of adopted indices. Enter indices approved by the environmental regulator in appropriate 'User Defined Indices' row below	All designs must include a minimum of 1 m unsaturated depth of subsoil or equivalent material between the infiltration surface and the maximum likely groundwater level. Infiltration components should always be preceded by upstream component(s) that trap(s) silt, or designed specifically to retain sediment in a separate lined zone, easily accessible for maintenance, such that the sediment will not be re-suspended in subsequent events	SEPA only considers proprietary treatment systems as appropriate in exceptional circumstances where other types of SuDS component are not practicable. Proprietary treatment systems may also be considered appropriate for existing sites that are causing pollution where there is a requirement to retrofit treatment. WAT-RM-08 (SEPA, 2014) also provides a flow chart with a summary of checks on suitability of a proprietary system	See Chapter 15 Proprietary treatment systems for approaches to demonstrate product performance. Note: a British Water/Environment Agency assessment Code of Practice is currently under development that will allow manufacturers to complete an agreed test protocol for systems intended to treat contaminated surface water runoff. Full details can be found at: http://www.britishwater.co.uk/Publications/code-of-practice.aspx .

STEP 2C: Determine the Combined Pollution Mitigation Indices for the Runoff Area

This is an automatic step which combines the proposed SuDS Pollution Mitigation Indices with any Groundwater Protection Pollution Mitigation Indices

	Total Suspended Solids	Metals	Hydrocarbons
Combined Pollution Mitigation Indices for the Runoff Area	0.95	0.8	0.925

Note: If the total aggregated mitigation index is > 1 (which is not a realistic outcome), then the outcome is fixed at >0.95". In this scenario, the proposed components are likely to have a very high mitigation potential for reducing pollutant levels in the runoff and should be sufficient for any proposed land use (note: where risk assessment is required, this outcome would need more detailed verification).

STEP 2D: Determine Sufficiency of Pollution Mitigation Indices for Selected SuDS Components

This is an automatic step which compares the Combined Pollution Mitigation Indices with the Land Use Hazard Indices, to determine whether the proposed components are sufficient to manage each pollutant category type

When the combined mitigation index exceeds the land use pollution hazard index, then the proposed components are considered sufficient in providing pollution risk mitigation.

In England and Wales, where the discharge is to protected surface waters or groundwater, an additional treatment component (ie over and above that required for standard discharges), or other equivalent protection, is required that provides environmental protection in the event of an unexpected pollution event or poor system performance. Protected surface waters are those designated for drinking water abstraction. In England and Wales, protected groundwater resources are defined as Source Protection Zone 1. In Northern Ireland, a more precautionary approach may be required and this should be checked with the environmental regulator on a site by site basis.

Sufficiency of Pollution Mitigation Indices		
Total Suspended Solids	Metals	Hydrocarbons
Sufficient	Sufficient	Sufficient

1

Reference to local planning documents should also be made to identify any additional protection required for sites due to habitat conservation (see Chapter 7 The SuDS design process). The implications of developments on or within close proximity to an area with an environmental designation, such as a Site of Special Scientific Interest (SSSI), should be considered via consultation with relevant conservation bodies such as Natural England

Appendix H

Kingspan Klargester BG Biodisc manufacturers literature

Kingspan *Klargester*

BIODISC®

HIGH PERFORMANCE SEWAGE
TREATMENT PLANTS FOR
RESIDENTIAL, BUSINESS
& LEISURE APPLICATIONS



Let us help!

Free professional
site visit with friendly
support and advice.

helpingyou@klargester.com

to make the right decision
or call **01296 633033**


Kingspan
Environmental

BioDisc®

HIGH PERFORMANCE SEWAGE TREATMENT PLANTS FOR RESIDENTIAL, BUSINESS & LEISURE APPLICATIONS

The Klargester BioDisc® utilises proven rotating biological contactor (RBC) technology, and this range of larger BioDisc® treatment plants enables Klargester to offer solutions against a much wider range of applications.

All Klargester treatment plants are delivered direct to site and ready to install. The process is self-establishing, and does not require the addition of cultures or chemicals.

Improving environmental standards, more stringent controls, new European guidelines and the introduction of new Building Regulations have placed greater responsibility on specifiers and users to ensure they select the correct treatment system for their application.

Klargester BioDisc® treatment plants have been designed to provide an engineered package solution to meet a wide range of applications and discharge qualities.

ASSURED PERFORMANCE

Klargester's unique patented Managed Flow System has been specifically designed to maintain optimum performance despite shock organic loadings and hydraulic surges. The detrimental effects of modern disinfectants and cleaning materials are minimised by the managed flow system.



COMMERCIAL APPLICATIONS

Certain commercial applications, such as pubs, clubs, hotels and industrial units, place additional stresses on the wastewater treatment process.

The sewage strength from the cocktail of detergents, cleaners, and chemicals demands a greater treatment capacity than a purely residential application. In such instances Klargester can advise on the best possible treatment and BioDisc® can meet your requirements efficiently and cost-effectively.

PROCESS DESIGN

BioDisc® uniquely provides four separate treatment zones within a single vessel.

Primary Settlement Section ① :

Wastewater enters the primary chamber. Solids and heavy particles, including non-biodegradable items, settle and consolidate into a sludge which requires periodic removal. Liquid still containing some solid particles rises upwards into the

Primary Biozone ② : Discs in this area, rotating at approximately two revolutions per minute, allow oxygen to be absorbed into the developing biofilm as naturally occurring bacteria attach to the discs. These discs provide a highly beneficial pre-treatment area.

Get in touch for a **FREE** professional site visit and a representative will contact you within 5 working days to arrange a visit.
helpingyou@klargester.com to make the right decision or call **01296 633033**

Flow Management Device ③ : Forward flow is controlled by a baling device attached to the rotor assembly and a pre-determined volume of partially treated waste is transferred into the secondary disc zone. Incoming flows in excess of the baling device capacity stay in the primary area and it is this that creates hydraulic balancing within the plant. Zones 1 and 2 (as above) between them have a balancing capacity equal to approximately 25% of the design flow of the plant and it is this feature that can allow the plant to retain six hours flow in the event of a power failure.

This is now a requirement under the latest Building Regulations Part H2.

Secondary Disc Zone ④ : Flows entering this zone are exposed to a second and separate bank of discs on which grow a further matrix of bacteria. Protected from flow variation and harmful contaminants, the bacteria efficiently use the nutrients in the effluent as a food source.

The rotation of the discs creates a gentle flow path within both disc zones that moves wastewater along the zone and rotation also sloughs ageing or surplus bacteria from the discs creating space for new bacteria to develop.

A key benefit of BioDisc® is that the whole surface area is continually regenerated with new biological growth and that there is constant replenishment as all spent bacteria are flushed into the final settlement zone.

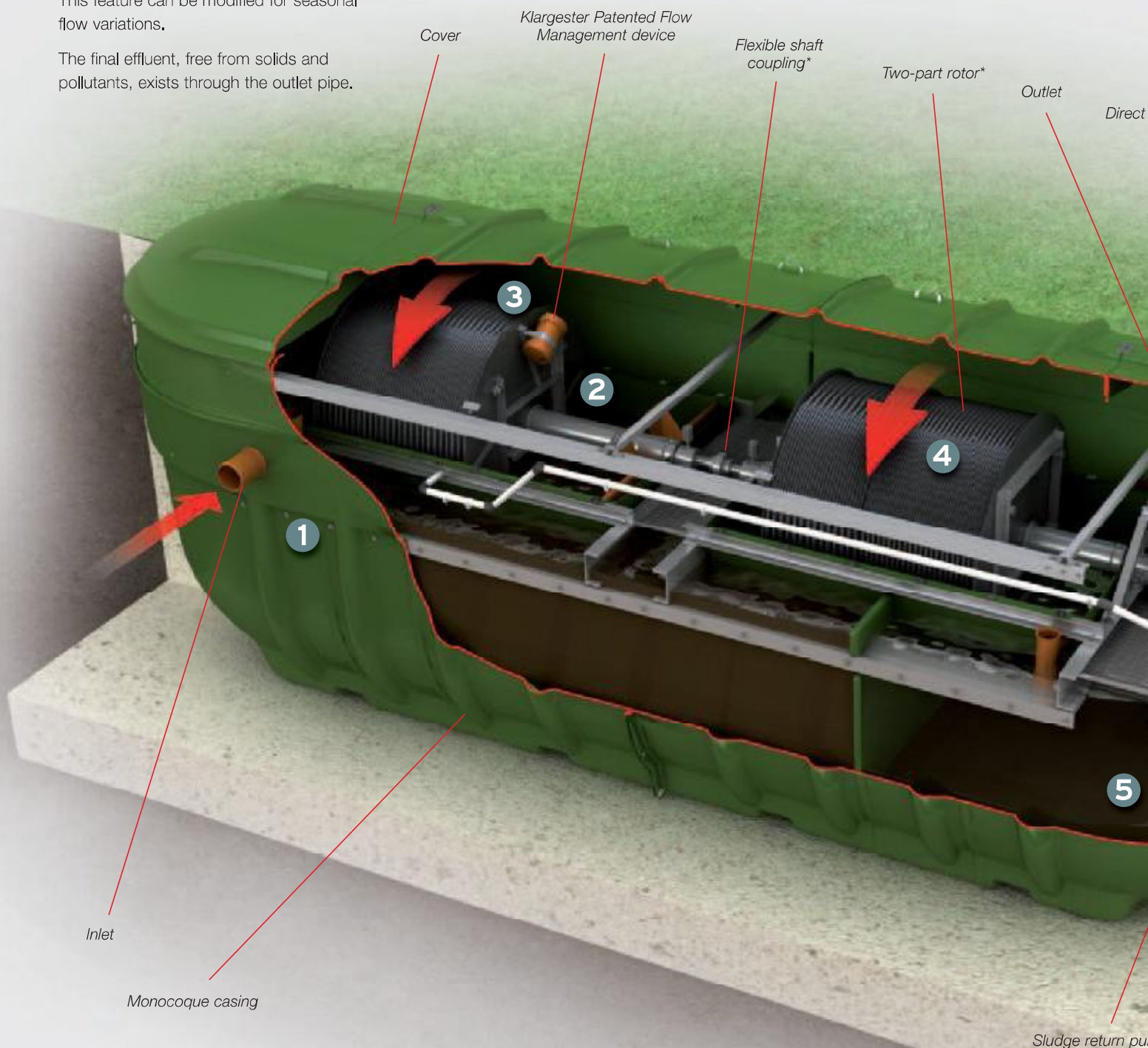
It is often the case with submerged or fixed media treatment processes, that the biological zones become clogged with dead or excessive biological growth, inhibiting treatment and demanding expensive and dirty maintenance.

Final Settlement Zone 5: The almost fully treated effluent, is displaced from the disc area into the final settlement zone. The final settlement zone is fitted with a simple sludge return pump that transfers the settled material from the base of this zone into the primary settlement zone. This improves process performance by protecting the outlet and returning dilute and active biomass into the primary tank. This feature can be modified for seasonal flow variations.

The final effluent, free from solids and pollutants, exists through the outlet pipe.

PROCESS FEATURES

- Klargest Patent Flow Management (KPFM)
- No process maintenance required
- Simple mechanics
- Self generating bacteriological process
- KPFM provides the capability to adjust plant performance
- Compliance with BS EN 12566-3 (BioDisc® BE-BF units only), BS 6297 and Building Regulations Part H2
- Sludge return pump in final settlement tank to enhance performance. Sludge return can be configured to help overcome seasonal flow variations
- No odour or environmental nuisance
- Silent in operation



* BioDisc® BH-BL only.

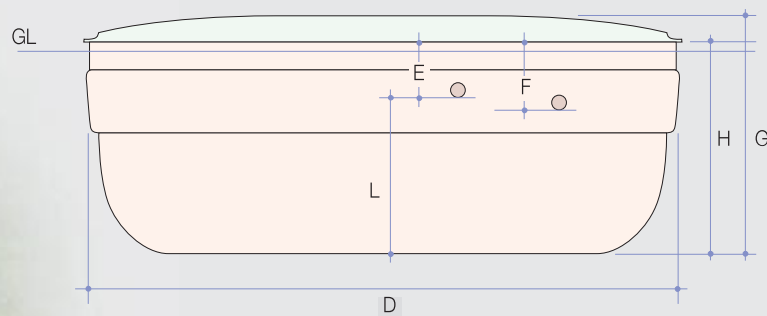


Consistent Effluent Quality

These plant are designed to achieve an effluent quality of 20mg/l BOD, 30mg/l Suspended Solids and 20mg/l Ammonia on a 95% basis. These BioDisc® can also be configured to produce better standards of effluent quality with Ammonia levels as low as 5mg/l being achievable. Contact Klargester for design support and further information.

- The systems are designed to deal with flows up to 3xDWF.
- Applications where commercial catering takes place will generate significant volumes of grease which should not be allowed to enter any treatment system.
- Klargester manufacture a wide range of grease traps and their specialist advice should be sought in these types of applications.
- The treatment of sewage from applications other than domestic housing can often demand special precautions, therefore specialist advice should be sought from Klargester.

STANDARD BIODISC® SINGLE PIECE SYSTEM



Note: Illustration is a schematic, do not use for installation. Refer to customer drawings for true pipework orientation.

The loadings given in the chart below are representative of typical domestic housing applications. The sizing of sewage treatment plant requires specialised knowledge and experience. Please consult Klargester for an assessment of your application.

G.L. = Ground Level

UNIT SIZE	BD	BE	BF	BG	BH	BJ	BK	BL
MAXIMUM DAILY BOD (kg)	1.5	2.1	3.0	4.2	4.5	6.0	7.5	9.0
MAXIMUM DAILY FLOW (m ³)	5	7	10	14	15	20	25	30
D LENGTH (mm)	3,340	3,340	4,345	5,235	7,755	7,755	7,755	7,755
WIDTH (mm)	2,450	2,450	2,450	2,450	2,455	2,455	2,455	2,455
E INLET INVERT DEPTH (mm)	600*	600	600	600	600	600	600	600
L DEPTH BELOW INLET INVERT (mm)	1,820	1,825	1,820	1,820	1,790	1,790	1,790	1,790
F OUTLET INVERT DEPTH (mm)	685	685	700	700	750	750	750	750
G OVERALL HEIGHT (mm)	2,825	2,825	2,825	2,875	2,830	2,830	2,830	2,830
H HEIGHT TO RIM OF COVER (mm)	2,485	2,485	2,485	2,485	2,500	2,500	2,500	2,500
EMPTY WEIGHT (kg)	1,100	1,200	1,315	1,660	3,000	3,100	3,200	3,300
STANDARD POWER SUPPLY	1 PHASE	1 PHASE	1 PHASE	1 PHASE	3 PHASE	3 PHASE	3 PHASE	3 PHASE
OPTIONAL POWER SUPPLY	3 PHASE	3 PHASE	3 PHASE	3 PHASE	1 PHASE	1 PHASE	1 PHASE	1 PHASE
MOTOR RATING: 1 PHASE/3 PHASE (watts)	75/60	75/60	120	180	250	250	370	370
FULL LOAD CURRENT 1 PHASE (amps)	1.10	1.10	1.26	1.70	1.95	1.95	2.35	2.35
FULL LOAD CURRENT 3 PHASE (amps)	.035	0.35	0.42	0.63	0.88	0.88	1.35	1.35
SLUDGE RETURN PUMP RATING (watts)	-	-	-	250	480	480	480	480

*Optional invert depth of 1,100mm is available.

Please refer to Klargester for specialist advice for applications where primary settlement tanks or pump stations may be required.

CONTROL PANEL



SAMPLE CHAMBERS



EFFLUENT PUMPSETS

A septic tank or treatment system pumpset can be used to disperse settled effluent when a site has a high water table or adverse invert levels. Installed after the treatment system and pumping settled effluent up to an inspection chamber, flow to the drainage system then takes place by gravity in the normal way.

SAMPLE CHAMBERS

When a treatment plant discharges, it is a regulatory requirement to have a sampling point so that the effluent quality can be periodically checked by regulatory bodies.

Available to suit all outlet depths of our standard ranges, a Klargester sample chamber provides the solution, enabling both quick installation and easy access for accurate and convenient effluent testing.

SAFETY FEATURES

- Low profile lockable covers
- Fully removable covers to ease maintenance, simplify de-sludging and provide a safe working environment without the need for restricted access provision, a requirement of the Confined Spaces Regulations 1997
- Full platform access to motor and bearings
- Secure lockable control panel
- Integrated loss of rotation alarm (optional on BD-BG, standard on BH-BL)

CONTROL PANEL

The plant are supplied with either a single phase or a three phase direct drive motor and come complete with a control panel and feature:

- inversion device included within the panel*
- single phase power supply to the panel converted within the panel to three phase prior to connection to the drive motor

LOW OPERATING COST

BioDisc® has proven track record for high quality performance, reliability and low operational costs and the new range incorporates features that further enhance that reputation:

- designed to run from either a single phase or 3 phase power source
- require 60 to 370 watt motors, offering the lowest running costs of any plant in their class

DIRECT DRIVE

The disc assembly rotates through the sewage effluent and supports the growth of a biological matrix. When fully loaded with saturated bacteria the disc assembly becomes heavy, therefore both drive and rotor design are critical. Klargester have many years experience in this field and these new products provide a number of new features:

- direct drive motor which is fixed directly to the disc shaft*
- no requirement for chain or belt drive**
- reduced and simplified maintenance

TWO-PART SHAFT

A two-part shaft has been incorporated to simplify maintenance and reduce bearing wear. The new Klargester two-part shaft assembly:

- supports the rotor in four places rather than two
- significantly reduces the load and wear on the shaft and bearings
- features bearings selected for long life
- features bearings fitted with automatic grease capsules that only require annual replacement
- simplifies installation by reducing potential drive alignment and bearing wear problems sometimes associated with long single shaft motors

ROTOR DESIGN

New range includes the well established Klargester rotor design which:

- is compact and structurally sound
- is designed and built for long life without the need for rotor maintenance often associated with sectional bolted rotor assemblies

MONOCOQUE CASING

All BioDisc® in this range utilise the same casing, providing:

- lightweight, yet robust and structurally strong GRP construction for easy on-site handling
- steel cradle integrated into the casing provides stable platform for mechanical components
- factory pre-engineered to exacting Klargester standards, ensuring consistent high quality and eliminating on-site assembly
- full length ports providing quick and easy access for desludging
- 600mm invert depth, with only 150mm head loss through the plant
- variable desludging/emptying cycles

* BioDisc® BH-BL only.

**BioDisc® BH-BL only.

Chain drive on BioDisc® BD-BG.

PROFESSIONAL INSTALLERS

Klargester Accredited Installers

Experience shows that correct installation is a prerequisite for the long-lasting and successful operation of any wastewater treatment product. This is why using an installer with the experience and expertise to install your product is highly recommended.



Services include :

- Site survey to establish ground conditions and soil types
- Advice on system design and product selection
- Assistance on gaining environmental consents and building approvals
- Tank and drainage system installation
- Connection to discharge point and electrical networks
- Waste emptying and disposal

Discover more about the Accredited Installers and locate your local expert online.

www.klargester.com/installers



CARE & MAINTENANCE

Kingspan Environmental Services

Who better to look after your treatment plant than the people who designed and built it?



Kingspan Environmental have a dedicated service division providing maintenance for wastewater products.

Factory trained engineers are available for site visits as part of a planned maintenance contract or on a one-off call out basis.

To find out more about protecting your investment and ensuring peace of mind, call us on:

0844 846 0500

or visit us online:

www.kingspanenvservice.com



COMMERCIAL WASTEWATER SOLUTIONS

- **BIODISC®, BIOTEC™ & ENVIROSAFE**
HIGH PERFORMANCE SEWAGE TREATMENT SYSTEMS
- **HILLMASTER** PACKAGE PUMP STATIONS
- **PUMPSTOR24** PUMPING SYSTEMS
- STORMWATER ATTENUATION SYSTEMS
- OIL/WATER SEPARATORS
- BELOW GROUND STORAGE TANKS
- GREASE & SILT TRAPS



NEW BUILD & RETROFIT SOLUTIONS

- BELOW GROUND RAINWATER HARVESTING SYSTEMS
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Klargester

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Certificate No. FM 563603



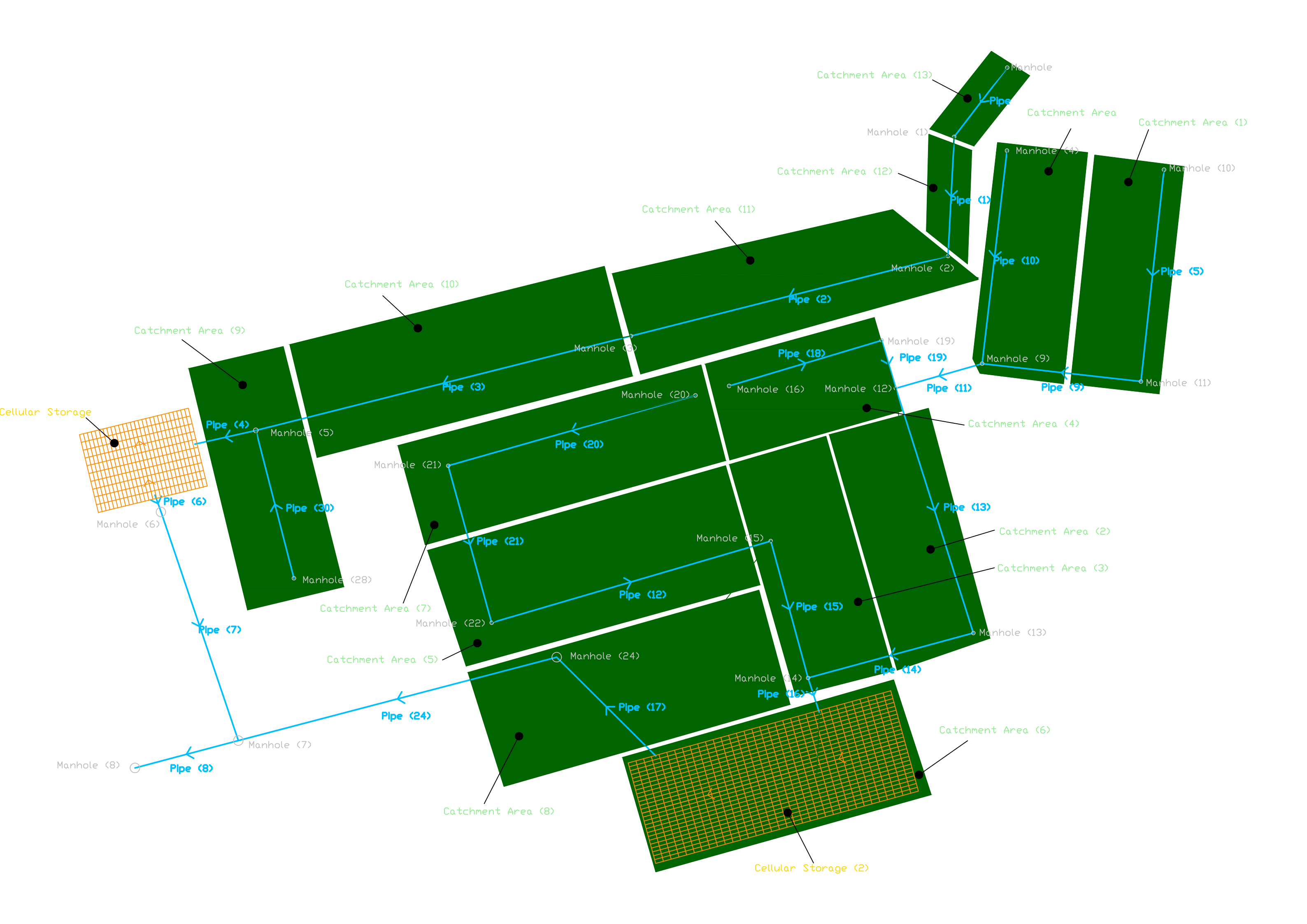
Certificate No. OHS 563604



In keeping with Company policy of continuing research and development and in order to offer our clients the most advanced products, Kingspan Environmental reserves the right to alter specifications and drawings without prior notice.

Appendix J

Infodrainage hydraulic network model



Project: Elmcroft Construction Inglefield Manor Billinghurst		Date: 16/06/2026			
Report Details: Type: Junctions Storm Phase: Phase		Designed by: Rob Croot	Checked by:		Approved By:
		Company Address:			

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
Manhole (3)	Manhole	208570.525	601516.730	56.000	0.600	55.400	Circular	0.450
Manhole (2)	Manhole	208610.099	601526.715	56.800	0.750	56.050	Circular	0.450
Manhole (1)	Manhole	208610.861	601541.579	56.900	0.650	56.250	Circular	0.450
Manhole (4)	Manhole	208617.451	601539.857	57.180	0.600	56.580	Circular	0.450
Manhole (5)	Manhole	208523.719	601504.941	54.400	0.850	53.550	Circular	0.600
Manhole	Manhole	208617.487	601550.236	57.000	0.600	56.400	Circular	0.450
Manhole (6)	Manhole	208511.877	601494.765	54.400	1.900	52.500	Circular	1.200
Manhole (7)	Manhole	208521.536	601466.236	53.500	1.400	52.100	Circular	1.200
Manhole (8)	Manhole	208508.624	601462.827	52.600	0.700	51.900	Circular	1.200
Manhole (9)	Manhole	208614.356	601513.293	57.180	1.400	55.780	Circular	0.450
Manhole (10)	Manhole	208637.054	601537.477	57.180	0.600	56.580	Circular	0.450
Manhole (11)	Manhole	208634.155	601511.064	57.180	1.050	56.130	Circular	0.450
Manhole (12)	Manhole	208603.586	601510.220	56.480	0.950	55.530	Circular	0.450
Manhole (13)	Manhole	208613.252	601479.671	56.480	1.350	55.130	Circular	0.450
Manhole (14)	Manhole	208592.618	601474.069	56.480	2.000	54.480	Circular	0.450
Manhole (15)	Manhole	208587.965	601491.146	56.480	1.750	54.730	Circular	0.450
Manhole (19)	Manhole	208601.828	601516.198	56.480	0.850	55.630	Circular	0.450
Manhole (20)	Manhole	208578.577	601509.326	56.480	0.600	55.880	Circular	0.450
Manhole (21)	Manhole	208547.712	601500.528	56.480	1.000	55.480	Circular	0.450
Manhole (22)	Manhole	208553.154	601480.949	56.480	1.300	55.180	Circular	0.450
Manhole (24)	Manhole	208561.270	601476.659	56.150	3.020	53.130	Circular	1.200
Manhole (16)	Manhole	208582.774	601510.510	56.480	0.600	55.880	Circular	0.450
Manhole (28)	Manhole	208528.472	601486.496	54.400	0.600	53.800	Circular	0.450

Name	Lock
Manhole (3)	None
Manhole (2)	None
Manhole (1)	None
Manhole (4)	None
Manhole (5)	None
Manhole	None
Manhole (6)	None
Manhole (7)	None
Manhole (8)	None
Manhole (9)	None
Manhole (10)	None
Manhole (11)	None
Manhole (12)	None
Manhole (13)	None
Manhole (14)	None
Manhole (15)	None
Manhole (19)	None
Manhole (20)	None
Manhole (21)	None
Manhole (22)	None
Manhole (24)	None
Manhole (16)	None
Manhole (28)	None

Project: Elmcroft Construction Inglefield Manor Billinghurst		Date: 16/06/2026			
Report Details: Type: Junctions Storm Phase: Phase		Designed by: Rob Croot	Checked by:		Approved By:
		Company Address:			

Inlets

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
Manhole (3)	Inlet (3)	Pipe (2) Catchment Area (10)	(None)	No Restriction
Manhole (2)	Inlet	Pipe (1)	(None)	No Restriction
	Inlet (1)	Catchment Area (11)	(None)	No Restriction
Manhole (1)	Inlet	Pipe	(None)	No Restriction
	Inlet (1)	Catchment Area (12)	(None)	No Restriction
Manhole (4)	Inlet	Catchment Area	(None)	No Restriction
Manhole (5)	Inlet	Pipe (3) Pipe (30)	(None)	No Restriction
	Inlet (1)	Catchment Area (9)	(None)	No Restriction
Manhole	Inlet	Catchment Area (13)	(None)	No Restriction
Manhole (6)	Inlet (1)	Pipe (6)	(None)	No Restriction
Manhole (7)	Inlet	Pipe (7)	(None)	No Restriction
	Inlet (1)	Pipe (24)	(None)	No Restriction
Manhole (8)	Inlet	Pipe (8)	(None)	No Restriction
Manhole (9)	Inlet	Pipe (9)	(None)	No Restriction
	Inlet (1)	Pipe (10)	(None)	No Restriction
Manhole (10)	Inlet	Catchment Area (1)	(None)	No Restriction
Manhole (11)	Inlet	Pipe (5)	(None)	No Restriction
	Inlet	Pipe (11)	(None)	No Restriction
Manhole (12)	Inlet (2)	Catchment Area (2) Pipe (19)	(None)	No Restriction
Manhole (13)	Inlet	Pipe (13)	(None)	No Restriction
Manhole (14)	Inlet	Pipe (14)	(None)	No Restriction
	Inlet (1)	Pipe (15)	(None)	No Restriction
Manhole (15)	Inlet	Catchment Area (3) Catchment Area (8)	(None)	No Restriction
	Inlet (1)	Pipe (12)	(None)	No Restriction
Manhole (19)	Inlet	Pipe (18)	(None)	No Restriction
Manhole (20)	Inlet (1)	Catchment Area (7)	(None)	No Restriction
Manhole (21)	Inlet	Pipe (20)	(None)	No Restriction
Manhole (22)	Inlet (1)	Pipe (21) Catchment Area (5)	(None)	No Restriction
Manhole (24)	Inlet	Pipe (17)	(None)	No Restriction
Manhole (16)	Inlet	Catchment Area (4)	(None)	No Restriction

Project: Elmcroft Construction Inglefield Manor Billinghurst		Date: 16/06/2026			
Report Details: Type: Junctions Storm Phase: Phase		Designed by: Rob Croot	Checked by:		Approved By:
		Company Address:			

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
Manhole (3)	Outlet	Pipe (3)	Free Discharge
Manhole (2)	Outlet	Pipe (2)	Free Discharge
Manhole (1)	Outlet	Pipe (1)	Free Discharge
Manhole (4)	Outlet	Pipe (10)	Free Discharge
Manhole (5)	Outlet	Pipe (4)	Free Discharge
Manhole	Outlet	Pipe	Free Discharge
Manhole (6)	Outlet	Pipe (7)	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
	Invert Level (m)	52.500	
Manhole (7)	Outlet	Pipe (8)	Free Discharge
Manhole (9)	Outlet	Pipe (11)	Free Discharge
Manhole (10)	Outlet	Pipe (5)	Free Discharge
Manhole (11)	Outlet	Pipe (9)	Free Discharge
Manhole (12)	Outlet	Pipe (13)	Free Discharge
Manhole (13)	Outlet	Pipe (14)	Free Discharge
Manhole (14)	Outlet	Pipe (16)	Free Discharge
Manhole (15)	Outlet	Pipe (15)	Free Discharge
Manhole (19)	Outlet	Pipe (19)	Free Discharge
Manhole (20)	Outlet	Pipe (20)	Free Discharge
Manhole (21)	Outlet	Pipe (21)	Free Discharge
Manhole (22)	Outlet	Pipe (12)	Free Discharge
Manhole (24)	Outlet	Pipe (24)	Orifice
	Diameter (m)	0.045	
	Coefficient of Discharge	0.600	
	Invert Level (m)	53.130	
Manhole (16)	Outlet	Pipe (18)	Free Discharge
Manhole (28)	Outlet	Pipe (30)	Free Discharge

Project: Elmcroft Construction Ingfield Manor Billinghurst	Date: 16/06/2026			
Report Details: Type: Stormwater Controls Storm Phase: Phase	Designed by: Rob Croot		Checked by:	Approved By:
Company Address:				



Cellular Storage

Type : Cellular Storage

Dimensions

Exceedance Level (m)	54.400
Depth (m)	0.800
Base Level (m)	52.600
Number of Crates Long	10
Number of Crates Wide	28
Number of Crates High	2
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	107.400

Inlets

Inlet (2)

Inlet Type	Point Inflow
Incoming Item(s)	Pipe (4)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (6)
Outlet Type	Free Discharge

Project: Elmcroft Construction Inglesfield Manor Billinghurst	Date: 16/06/2026			
Report Details: Type: Stormwater Controls Storm Phase: Phase	Designed by: Rob Croot		Checked by:	Approved By:
Company Address:				



Cellular Storage (2)

Type : Cellular Storage

Dimensions

Exceedance Level (m)	54.780
Depth (m)	1.200
Base Level (m)	53.380
Number of Crates Long	34
Number of Crates Wide	26
Number of Crates High	3
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	504.080

Inlets

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	Pipe (16)
Bypass Destination	Catchment Area (6)
Capacity Type	(None)
	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (17)
Outlet Type	Free Discharge

Project: Elmcroft Construction Inglefield Manor Billinghurst		Date: 16/06/2026			
Report Details: Type: Inflow Summary Storm Phase: Phase		Designed by: Rob Croot	Checked by:		Approved By:
		Company Address:			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	Manhole (4)		Time of Concentration	0.033	100	0	100	0.033
Catchment Area (1)	Manhole (10)		Time of Concentration	0.032	100	0	100	0.032
Catchment Area (2)	Manhole (12)		Time of Concentration	0.038	100	0	100	0.038
Catchment Area (3)	Manhole (15)		Time of Concentration	0.038	100	0	100	0.038
Catchment Area (4)	Manhole (16)		Time of Concentration	0.027	100	0	100	0.027
Catchment Area (5)	Manhole (22)		Time of Concentration	0.059	100	0	100	0.059
Catchment Area (6)	Cellular Storage (2)		Time of Concentration	0.053	100	0	100	0.053
Catchment Area (7)	Manhole (20)		Time of Concentration	0.049	100	0	100	0.049
Catchment Area (8)	Manhole (15)		Time of Concentration	0.056	100	0	100	0.056
Catchment Area (9)	Manhole (5)		Time of Concentration	0.038	100	0	100	0.038
Catchment Area (10)	Manhole (3)		Time of Concentration	0.058	100	0	100	0.058
Catchment Area (11)	Manhole (2)		Time of Concentration	0.048	100	0	100	0.048
Catchment Area (12)	Manhole (1)		Time of Concentration	0.007	100	0	100	0.007
Catchment Area (13)	Manhole		Time of Concentration	0.007	100	0	100	0.007
TOTAL		0.0		0.541				0.541

Project: Elmcroft Construction Inglesfield Manor Billinghurst	Date: 16/06/2026			
Report Title: Rainfall Analysis Criteria	Designed by: Rob Croot		Checked by:	Approved By:
Company Address:				

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Project: Elmcroft Construction Inglefield Manor Billinghurst		Date: 16/06/2026			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: Rob Croot	Checked by:		Approved By:
		Company Address:			



Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
Manhole (3)	FEH: 100 years: +45 %: 15 mins: Winter	56.00 0	55.40 0	55.546	0.146	72.2	0.023	0.000	70.9	40.122	OK
Manhole (2)	FEH: 100 years: +45 %: 15 mins: Winter	56.80 0	56.05 0	56.753	0.703	34.8	0.112	0.000	30.1	20.741	Flood Risk
Manhole (1)	FEH: 100 years: +45 %: 15 mins: Winter	56.90 0	56.25 0	56.754	0.504	7.4	0.080	0.000	12.7	4.638	Flood Risk
Manhole (4)	FEH: 100 years: +45 %: 15 mins: Winter	57.18 0	56.58 0	56.681	0.101	24.0	0.016	0.000	23.7	11.039	OK
Manhole (5)	FEH: 100 years: +45 %: 360 mins: Winter	54.40 0	53.55 0	54.401	0.851	16.0	1.464	1.223	16.0	139.811	Flood
Manhole	FEH: 100 years: +45 %: 15 mins: Winter	57.00 0	56.40 0	56.758	0.358	5.7	0.057	0.000	6.0	2.263	Flood Risk
Manhole (6)	FEH: 100 years: +45 %: 360 mins: Winter	54.40 0	52.50 0	54.401	1.901	4.2	3.139	0.990	1.8	49.781	Flood
Manhole (7)	FEH: 100 years: +45 %: 360 mins: Winter	53.50 0	52.10 0	52.143	0.043	5.7	0.049	0.000	5.7	190.078	OK
Manhole (8)	FEH: 100 years: +45 %: 360 mins: Winter	52.60 0	51.90 0	51.942	0.042	5.7	0.000	0.000	5.7	190.078	OK
Manhole (9)	FEH: 100 years: +45 %: 15 mins: Winter	57.18 0	55.78 0	56.125	0.345	41.2	0.055	0.000	36.8	21.747	Surcharged
Manhole (10)	FEH: 100 years: +45 %: 15 mins: Winter	57.18 0	56.58 0	56.714	0.134	23.2	0.021	0.000	21.4	10.697	OK
Manhole (11)	FEH: 100 years: +45 %: 15 mins: Winter	57.18 0	56.13 0	56.341	0.211	21.4	0.034	0.000	17.4	10.689	Surcharged
Manhole (12)	FEH: 100 years: +45 %: 15 mins: Winter	56.48 0	55.53 0	56.052	0.522	76.8	0.083	0.000	72.0	43.451	Surcharged
Manhole (13)	FEH: 100 years: +45 %: 15 mins: Winter	56.48 0	55.13 0	55.293	0.163	72.0	0.026	0.000	71.2	43.435	OK
Manhole (14)	FEH: 100 years: +45 %: 15 mins: Winter	56.48 0	54.48 0	54.694	0.214	187.4	0.034	0.000	185.3	110.963	OK
Manhole (15)	FEH: 100 years: +45 %: 15 mins: Winter	56.48 0	54.73 0	55.802	1.072	121.9	0.171	0.000	116.3	67.560	Surcharged
Manhole (19)	FEH: 100 years: +45 %: 15 mins: Winter	56.48 0	55.63 0	56.060	0.430	17.0	0.068	0.000	12.7	9.083	Surcharged
Manhole (20)	FEH: 100 years: +45 %: 15 mins: Winter	56.48 0	55.88 0	56.367	0.487	35.6	0.078	0.000	27.9	16.462	Flood Risk
Manhole (21)	FEH: 100 years: +45 %: 15 mins: Winter	56.48 0	55.48 0	56.261	0.781	27.9	0.124	0.000	24.8	16.499	Flood Risk
Manhole (22)	FEH: 100 years: +45 %: 15 mins: Winter	56.48 0	55.18 0	56.225	1.045	62.5	0.166	0.000	54.1	36.200	Flood Risk

Project: Elmcroft Construction Ingfield Manor Billinghurst		Date: 16/06/2026				
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: Rob Croot	Checked by:	Approved By:		
		Company Address:				

Manhole (24)	FEH: 100 years: +45 %: 360 mins: Winter	56.15 0	53.13 0	54.029	0.899	3.9	1.016	0.000	3.9	141.055	Surcharged
Manhole (16)	FEH: 100 years: +45 %: 15 mins: Winter	56.48 0	55.88 0	56.094	0.214	19.6	0.034	0.000	17.0	9.084	OK
Manhole (28)	FEH: 100 years: +45 %: 360 mins: Winter	54.40 0	53.80 0	54.401	0.601	0.8	1.365	1.269	1.1	2.078	Flood

Project: Elmcroft Construction Ingfield Manor Billinghurst		Date: 16/06/2026			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: Rob Croot	Checked by:		Approved By:
		Company Address:			



Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Cellular Storage	FEH: 100 years: +45 %: 360 mins: Winter	54.401	54.401	1.801	1.801	16.0	107.458	0.060	0.000	4.2	42.430	-0.054	Flood
Cellular Storage (2)	FEH: 100 years: +45 %: 360 mins: Winter	54.030	54.030	0.650	0.650	39.1	272.939	0.000	0.000	3.9	142.346	45.854	OK

Project: Elmcroft Construction Inglefield Manor Billinghurst		Date: 16/06/2026			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: Rob Croot	Checked by:		Approved By:
		Company Address:			



Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe (1)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (1)	Manhole (2)	56.900	56.754	0.150	4.577	0.7	0.62	12.7	Flood Risk
Pipe	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole	Manhole (1)	57.000	56.758	0.150	2.226	0.5	0.29	6.0	Flood Risk
Pipe (2)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (2)	Manhole (3)	56.800	56.753	0.150	20.717	1.7	1.34	30.1	Flood Risk
Pipe (4)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (5)	Cellular Storage	54.400	53.685	0.206	52.791	4.5	0.53	96.8	OK
Pipe (5)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	Manhole (10)	Manhole (11)	57.180	56.704	0.128	9.554	1.3	0.93	21.6	OK
Pipe (6)	FEH: 100 years: +45 %: 180 mins: Winter	Pipe	Cellular Storage	Manhole (6)	54.400	53.713	0.225	17.746	0.3	0.04	4.8	Surcharged
Pipe (7)	FEH: 100 years: +45 %: 360 mins: Winter	Pipe	Manhole (6)	Manhole (7)	54.400	54.401	0.035	49.345	0.5	0.03	1.8	Flood
Pipe (8)	FEH: 100 years: +45 %: 360 mins: Winter	Pipe	Manhole (7)	Manhole (8)	53.500	52.143	0.042	190.078	0.9	0.04	5.7	OK
Pipe (3)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (3)	Manhole (5)	56.000	55.546	0.140	40.122	2.7	0.69	70.9	OK
Pipe (9)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (11)	Manhole (9)	57.180	56.341	0.150	10.689	1.1	0.74	17.4	Surcharged
Pipe (10)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (4)	Manhole (9)	57.180	56.681	0.150	11.039	1.3	0.77	23.7	OK
Pipe (11)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	Manhole (9)	Manhole (12)	57.180	56.072	0.225	19.421	0.9	0.48	37.2	Surcharged
Pipe (13)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (12)	Manhole (13)	56.480	56.052	0.225	43.451	1.8	1.24	72.0	Surcharged
Pipe (14)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (13)	Manhole (14)	56.480	55.293	0.188	43.435	2.1	0.78	71.2	OK

Project: Elmcroft Construction Ingfield Manor Billinghurst		Date: 16/06/2026		
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: Rob Croot	Checked by:	Approved By:
		Company Address:		



Pipe (12)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (22)	Manhole (15)	56.480	56.225	0.225	36.200	1.4	0.93	54.1	Flood Risk
Pipe (18)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (16)	Manhole (19)	56.480	56.094	0.225	9.084	0.9	0.29	17.0	OK
Pipe (20)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (20)	Manhole (21)	56.480	56.367	0.225	16.462	1.1	0.48	27.9	Flood Risk
Pipe (21)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (21)	Manhole (22)	56.480	56.261	0.225	16.499	0.8	0.39	24.8	Flood Risk
Pipe (15)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (15)	Manhole (14)	56.480	55.802	0.225	67.560	2.9	1.88	116.3	Surcharged
Pipe (24)	FEH: 100 years: +45 %: 360 mins: Winter	Pipe	Manhole (24)	Manhole (7)	56.150	54.029	0.038	140.969	0.9	0.05	3.9	Surcharged
Pipe (19)	FEH: 100 years: +45 %: 30 mins: Winter	Pipe	Manhole (19)	Manhole (12)	56.480	55.826	0.225	12.152	0.4	0.2	13.0	OK
Pipe (17)	FEH: 30 years: +35 %: 15 mins: Winter	Pipe	Cellular Storage (2)	Manhole (24)	54.780	53.597	0.225	4.638	0.5	0.12	7.8	OK
Pipe (16)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (14)	Cellular Storage (2)	56.480	54.694	0.198	110.963	7.3	0.72	185.3	OK
Pipe (30)	FEH: 100 years: +45 %: 240 mins: Winter	Pipe	Manhole (28)	Manhole (5)	54.400	54.400	0.150	0.056	0.1	0.08	1.5	Flood

Appendix K

Infodrainage hydraulic network model with surcharged outlet

Project: Elmcroft Construction Inglefield Manor Billinghurst		Date: 16/06/2026			
Report Details: Type: Junctions Storm Phase: Phase		Designed by: Rob Croot	Checked by:		Approved By:
		Company Address:			

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
Manhole (3)	Manhole	208570.525	601516.730	56.000	0.600	55.400	Circular	0.450
Manhole (2)	Manhole	208610.099	601526.715	56.800	0.750	56.050	Circular	0.450
Manhole (1)	Manhole	208610.861	601541.579	56.900	0.650	56.250	Circular	0.450
Manhole (4)	Manhole	208617.451	601539.857	57.180	0.600	56.580	Circular	0.450
Manhole (5)	Manhole	208523.719	601504.941	54.400	0.850	53.550	Circular	0.600
Manhole	Manhole	208617.487	601550.236	57.000	0.600	56.400	Circular	0.450
Manhole (6)	Manhole	208511.877	601494.765	54.400	1.900	52.500	Circular	1.200
Manhole (7)	Manhole	208521.536	601466.236	53.500	1.400	52.100	Circular	1.200
Manhole (8)	Manhole	208508.624	601462.827	52.600	0.700	51.900	Circular	1.200
Manhole (9)	Manhole	208614.356	601513.293	57.180	1.400	55.780	Circular	0.450
Manhole (10)	Manhole	208637.054	601537.477	57.180	0.600	56.580	Circular	0.450
Manhole (11)	Manhole	208634.155	601511.064	57.180	1.050	56.130	Circular	0.450
Manhole (12)	Manhole	208603.586	601510.220	56.480	0.950	55.530	Circular	0.450
Manhole (13)	Manhole	208613.252	601479.671	56.480	1.350	55.130	Circular	0.450
Manhole (14)	Manhole	208592.618	601474.069	56.480	2.000	54.480	Circular	0.450
Manhole (15)	Manhole	208587.965	601491.146	56.480	1.750	54.730	Circular	0.450
Manhole (19)	Manhole	208601.828	601516.198	56.480	0.850	55.630	Circular	0.450
Manhole (20)	Manhole	208578.577	601509.326	56.480	0.600	55.880	Circular	0.450
Manhole (21)	Manhole	208547.712	601500.528	56.480	1.000	55.480	Circular	0.450
Manhole (22)	Manhole	208553.154	601480.949	56.480	1.300	55.180	Circular	0.450
Manhole (24)	Manhole	208561.270	601476.659	56.150	3.020	53.130	Circular	1.200
Manhole (16)	Manhole	208582.774	601510.510	56.480	0.600	55.880	Circular	0.450
Manhole (28)	Manhole	208528.472	601486.496	54.400	0.600	53.800	Circular	0.450

Name	Lock
Manhole (3)	None
Manhole (2)	None
Manhole (1)	None
Manhole (4)	None
Manhole (5)	None
Manhole	None
Manhole (6)	None
Manhole (7)	None
Manhole (8)	None
Manhole (9)	None
Manhole (10)	None
Manhole (11)	None
Manhole (12)	None
Manhole (13)	None
Manhole (14)	None
Manhole (15)	None
Manhole (19)	None
Manhole (20)	None
Manhole (21)	None
Manhole (22)	None
Manhole (24)	None
Manhole (16)	None
Manhole (28)	None

Project: Elmcroft Construction Ingfield Manor Billinghurst		Date: 16/06/2026			
Report Details: Type: Junctions Storm Phase: Phase		Designed by: Rob Croot	Checked by:		Approved By:
		Company Address:			

Inlets

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
Manhole (3)	Inlet (3)	Pipe (2) Catchment Area (10)	(None)	No Restriction
Manhole (2)	Inlet	Pipe (1)	(None)	No Restriction
	Inlet (1)	Catchment Area (11)	(None)	No Restriction
Manhole (1)	Inlet	Pipe	(None)	No Restriction
	Inlet (1)	Catchment Area (12)	(None)	No Restriction
Manhole (4)	Inlet	Catchment Area	(None)	No Restriction
Manhole (5)	Inlet	Pipe (3) Pipe (30)	(None)	No Restriction
	Inlet (1)	Catchment Area (9)	(None)	No Restriction
Manhole	Inlet	Catchment Area (13)	(None)	No Restriction
Manhole (6)	Inlet (1)	Pipe (6)	(None)	No Restriction
Manhole (7)	Inlet	Pipe (7)	(None)	No Restriction
	Inlet (1)	Pipe (24)	(None)	No Restriction
Manhole (8)	Inlet	Pipe (8)	(None)	No Restriction
Manhole (9)	Inlet	Pipe (9)	(None)	No Restriction
	Inlet (1)	Pipe (10)	(None)	No Restriction
Manhole (10)	Inlet	Catchment Area (1)	(None)	No Restriction
Manhole (11)	Inlet	Pipe (5)	(None)	No Restriction
	Inlet	Pipe (11)	(None)	No Restriction
Manhole (12)	Inlet (2)	Catchment Area (2) Pipe (19)	(None)	No Restriction
Manhole (13)	Inlet	Pipe (13)	(None)	No Restriction
Manhole (14)	Inlet	Pipe (14)	(None)	No Restriction
	Inlet (1)	Pipe (15)	(None)	No Restriction
Manhole (15)	Inlet	Catchment Area (3) Catchment Area (8)	(None)	No Restriction
	Inlet (1)	Pipe (12)	(None)	No Restriction
Manhole (19)	Inlet	Pipe (18)	(None)	No Restriction
Manhole (20)	Inlet (1)	Catchment Area (7)	(None)	No Restriction
Manhole (21)	Inlet	Pipe (20)	(None)	No Restriction
Manhole (22)	Inlet (1)	Pipe (21) Catchment Area (5)	(None)	No Restriction
Manhole (24)	Inlet	Pipe (17)	(None)	No Restriction
Manhole (16)	Inlet	Catchment Area (4)	(None)	No Restriction

Project: Elmcroft Construction Inglefield Manor Billinghurst		Date: 16/06/2026			
Report Details: Type: Junctions Storm Phase: Phase		Designed by: Rob Croot	Checked by:		Approved By:
		Company Address:			

Outlets			
Junction	Outlet Name	Outgoing Connection	Outlet Type
Manhole (3)	Outlet	Pipe (3)	Free Discharge
Manhole (2)	Outlet	Pipe (2)	Free Discharge
Manhole (1)	Outlet	Pipe (1)	Free Discharge
Manhole (4)	Outlet	Pipe (10)	Free Discharge
Manhole (5)	Outlet	Pipe (4)	Free Discharge
Manhole	Outlet	Pipe	Free Discharge
Manhole (6)	Outlet	Pipe (7)	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
	Invert Level (m)	52.500	
Manhole (7)	Outlet	Pipe (8)	Free Discharge
Manhole (9)	Outlet	Pipe (11)	Free Discharge
Manhole (10)	Outlet	Pipe (5)	Free Discharge
Manhole (11)	Outlet	Pipe (9)	Free Discharge
Manhole (12)	Outlet	Pipe (13)	Free Discharge
Manhole (13)	Outlet	Pipe (14)	Free Discharge
Manhole (14)	Outlet	Pipe (16)	Free Discharge
Manhole (15)	Outlet	Pipe (15)	Free Discharge
Manhole (19)	Outlet	Pipe (19)	Free Discharge
Manhole (20)	Outlet	Pipe (20)	Free Discharge
Manhole (21)	Outlet	Pipe (21)	Free Discharge
Manhole (22)	Outlet	Pipe (12)	Free Discharge
Manhole (24)	Outlet	Pipe (24)	Orifice
	Diameter (m)	0.045	
	Coefficient of Discharge	0.600	
	Invert Level (m)	53.130	
Manhole (16)	Outlet	Pipe (18)	Free Discharge
Manhole (28)	Outlet	Pipe (30)	Free Discharge

Project: Elmcroft Construction Ingfield Manor Billinghurst	Date: 16/06/2026			
Report Details: Type: Stormwater Controls Storm Phase: Phase	Designed by: Rob Croot	Checked by:	Approved By:	
Company Address:				



Cellular Storage

Type : Cellular Storage

Dimensions

Exceedance Level (m)	54.400
Depth (m)	0.800
Base Level (m)	52.600
Number of Crates Long	10
Number of Crates Wide	28
Number of Crates High	2
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	107.400

Inlets

Inlet (2)

Inlet Type	Point Inflow
Incoming Item(s)	Pipe (4)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (6)
Outlet Type	Free Discharge

Project: Elmcroft Construction Inglefield Manor Billinghurst	Date: 16/06/2026			
Report Details: Type: Stormwater Controls Storm Phase: Phase	Designed by: Rob Croot	Checked by:	Approved By:	
Company Address:				



Cellular Storage (2)

Type : Cellular Storage

Dimensions

Exceedance Level (m)	54.780
Depth (m)	1.200
Base Level (m)	53.380
Number of Crates Long	34
Number of Crates Wide	26
Number of Crates High	3
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	504.080

Inlets

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	Pipe (16)
Bypass Destination	Catchment Area (6)
Capacity Type	(None)
	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (17)
Outlet Type	Free Discharge

Project: Elmcroft Construction Inglefield Manor Billinghurst		Date: 16/06/2026			
Report Details: Type: Inflow Summary Storm Phase: Phase		Designed by: Rob Croot	Checked by:		Approved By:
		Company Address:			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	Manhole (4)		Time of Concentration	0.033	100	0	100	0.033
Catchment Area (1)	Manhole (10)		Time of Concentration	0.032	100	0	100	0.032
Catchment Area (2)	Manhole (12)		Time of Concentration	0.038	100	0	100	0.038
Catchment Area (3)	Manhole (15)		Time of Concentration	0.038	100	0	100	0.038
Catchment Area (4)	Manhole (16)		Time of Concentration	0.027	100	0	100	0.027
Catchment Area (5)	Manhole (22)		Time of Concentration	0.059	100	0	100	0.059
Catchment Area (6)	Cellular Storage (2)		Time of Concentration	0.053	100	0	100	0.053
Catchment Area (7)	Manhole (20)		Time of Concentration	0.049	100	0	100	0.049
Catchment Area (8)	Manhole (15)		Time of Concentration	0.056	100	0	100	0.056
Catchment Area (9)	Manhole (5)		Time of Concentration	0.038	100	0	100	0.038
Catchment Area (10)	Manhole (3)		Time of Concentration	0.058	100	0	100	0.058
Catchment Area (11)	Manhole (2)		Time of Concentration	0.048	100	0	100	0.048
Catchment Area (12)	Manhole (1)		Time of Concentration	0.007	100	0	100	0.007
Catchment Area (13)	Manhole		Time of Concentration	0.007	100	0	100	0.007
TOTAL		0.0		0.541				0.541

Project: Elmcroft Construction Inglefield Manor Billinghurst	Date: 16/06/2026			
Report Details: Type: Outfall Details Storm Phase: Phase	Designed by: Rob Croot	Checked by:	Approved By:	
Company Address:				

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
Manhole (8)	Fixed Surcharged Level	☐	52.800	
FEH : 2 years: +0 %: 15 mins: Summer			52.800	
FEH : 2 years: +0 %: 15 mins: Winter			52.800	
FEH : 30 years: +35 %: 15 mins: Summer			52.800	
FEH : 30 years: +35 %: 15 mins: Winter			52.800	
FEH : 100 years: +45 %: 15 mins: Summer			52.800	
FEH : 100 years: +45 %: 15 mins: Winter			52.800	
FEH : 2 years: +0 %: 30 mins: Summer			52.800	
FEH : 2 years: +0 %: 30 mins: Winter			52.800	
FEH : 30 years: +35 %: 30 mins: Summer			52.800	
FEH : 30 years: +35 %: 30 mins: Winter			52.800	
FEH : 100 years: +45 %: 30 mins: Summer			52.800	
FEH : 100 years: +45 %: 30 mins: Winter			52.800	
FEH : 2 years: +0 %: 60 mins: Summer			52.800	
FEH : 2 years: +0 %: 60 mins: Winter			52.800	
FEH : 30 years: +35 %: 60 mins: Summer			52.800	
FEH : 30 years: +35 %: 60 mins: Winter			52.800	
FEH : 100 years: +45 %: 60 mins: Summer			52.800	
FEH : 100 years: +45 %: 60 mins: Winter			52.800	
FEH : 2 years: +0 %: 120 mins: Summer			52.800	
FEH : 2 years: +0 %: 120 mins: Winter			52.800	
FEH : 30 years: +35 %: 120 mins: Summer			52.800	
FEH : 30 years: +35 %: 120 mins: Winter			52.800	
FEH : 100 years: +45 %: 120 mins: Summer			52.800	
FEH : 100 years: +45 %: 120 mins: Winter			52.800	
FEH : 2 years: +0 %: 180 mins: Summer			52.800	
FEH : 2 years: +0 %: 180 mins: Winter			52.800	
FEH : 30 years: +35 %: 180 mins: Summer			52.800	
FEH : 30 years: +35 %: 180 mins: Winter			52.800	
FEH : 100 years: +45 %: 180 mins: Summer			52.800	
FEH : 100 years: +45 %: 180 mins: Winter			52.800	
FEH : 2 years: +0 %: 240 mins: Summer			52.800	
FEH : 2 years: +0 %: 240 mins: Winter			52.800	

Project: Elmcroft Construction Inglefield Manor Billinghurst		Date: 16/06/2026			
Report Details: Type: Outfall Details Storm Phase: Phase		Designed by: Rob Croot	Checked by:		Approved By:
		Company Address:			

FEH : 30 years: +35 %: 240 mins: Summer			52.800	
FEH : 30 years: +35 %: 240 mins: Winter			52.800	
FEH : 100 years: +45 %: 240 mins: Summer			52.800	
FEH : 100 years: +45 %: 240 mins: Winter			52.800	
FEH : 2 years: +0 %: 360 mins: Summer			52.800	
FEH : 2 years: +0 %: 360 mins: Winter			52.800	
FEH : 30 years: +35 %: 360 mins: Summer			52.800	
FEH : 30 years: +35 %: 360 mins: Winter			52.800	
FEH : 100 years: +45 %: 360 mins: Summer			52.800	
FEH : 100 years: +45 %: 360 mins: Winter			52.800	

Project:	Date:			
Elmcroft Construction	16/06/2026			
Inglefield Manor	Designed by:	Checked by:	Approved By:	
Billinghurst	Rob Croot			
Report Title:	Company Address:			
Rainfall Analysis Criteria				

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Project: Elmcroft Construction Inglefield Manor Billinghurst		Date: 16/06/2026			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: Rob Croot	Checked by:		Approved By:
		Company Address:			



Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
Manhole (3)	FEH: 100 years: +45 %: 15 mins: Winter	56.000	55.400	55.546	0.146	72.2	0.023	0.000	70.9	40.122	OK
Manhole (2)	FEH: 100 years: +45 %: 15 mins: Winter	56.800	56.050	56.753	0.703	34.8	0.112	0.000	30.1	20.741	Flood Risk
Manhole (1)	FEH: 100 years: +45 %: 15 mins: Winter	56.900	56.250	56.754	0.504	7.4	0.080	0.000	12.7	4.638	Flood Risk
Manhole (4)	FEH: 100 years: +45 %: 15 mins: Winter	57.180	56.580	56.681	0.101	24.0	0.016	0.000	23.7	11.039	OK
Manhole (5)	FEH: 100 years: +45 %: 240 mins: Winter	54.400	53.550	54.402	0.852	22.0	2.219	1.978	22.0	128.552	Flood
Manhole	FEH: 100 years: +45 %: 15 mins: Winter	57.000	56.400	56.758	0.358	5.7	0.057	0.000	6.0	2.263	Flood Risk
Manhole (6)	FEH: 100 years: +45 %: 240 mins: Winter	54.400	52.500	54.402	1.902	2.7	3.882	1.733	1.7	30.231	Flood
Manhole (7)	FEH: 100 years: +45 %: 15 mins: Winter	53.500	52.100	52.804	0.704	4.0	0.796	0.000	3.7	6.946	Surcharged
Manhole (8)	FEH: 2 years: +0 %: 15 mins: Summer	52.600	51.900	52.800	0.900	2.2	0.000	0.000	2.3	7.228	Flood
Manhole (9)	FEH: 100 years: +45 %: 15 mins: Winter	57.180	55.780	56.125	0.345	41.2	0.055	0.000	36.8	21.748	Surcharged
Manhole (10)	FEH: 100 years: +45 %: 15 mins: Winter	57.180	56.580	56.714	0.134	23.2	0.021	0.000	21.4	10.697	OK
Manhole (11)	FEH: 100 years: +45 %: 15 mins: Winter	57.180	56.130	56.341	0.211	21.4	0.034	0.000	17.4	10.689	Surcharged
Manhole (12)	FEH: 100 years: +45 %: 15 mins: Winter	56.480	55.530	56.052	0.522	76.8	0.083	0.000	72.0	43.452	Surcharged
Manhole (13)	FEH: 100 years: +45 %: 15 mins: Winter	56.480	55.130	55.293	0.163	72.0	0.026	0.000	71.2	43.436	OK
Manhole (14)	FEH: 100 years: +45 %: 15 mins: Winter	56.480	54.480	54.694	0.214	187.4	0.034	0.000	185.3	110.956	OK
Manhole (15)	FEH: 100 years: +45 %: 15 mins: Winter	56.480	54.730	55.802	1.072	121.9	0.171	0.000	116.3	67.552	Surcharged
Manhole (19)	FEH: 100 years: +45 %: 15 mins: Winter	56.480	55.630	56.060	0.430	17.0	0.068	0.000	12.7	9.083	Surcharged
Manhole (20)	FEH: 100 years: +45 %: 15 mins: Winter	56.480	55.880	56.367	0.487	35.6	0.078	0.000	27.9	16.454	Flood Risk
Manhole (21)	FEH: 100 years: +45 %: 15 mins: Winter	56.480	55.480	56.261	0.781	27.9	0.124	0.000	24.7	16.491	Flood Risk
Manhole (22)	FEH: 100 years: +45 %: 15 mins: Winter	56.480	55.180	56.225	1.045	62.5	0.166	0.000	54.1	36.192	Flood Risk

Project: Elmcroft Construction Inglefield Manor Billinghurst		Date: 16/06/2026				
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: Rob Croot	Checked by:	Approved By:		
		Company Address:				

Manhole (24)	FEH: 100 years: +45 %: 360 mins: Winter	56.15 0	53.13 0	54.029	0.899	3.9	1.016	0.000	3.9	141.159	Surcharged
Manhole (16)	FEH: 100 years: +45 %: 15 mins: Winter	56.48 0	55.88 0	56.094	0.214	19.6	0.034	0.000	17.0	9.084	OK
Manhole (28)	FEH: 100 years: +45 %: 240 mins: Winter	54.40 0	53.80 0	54.402	0.602	1.4	1.986	1.890	3.1	2.765	Flood

Project: Elmcroft Construction Ingfield Manor Billinghurst		Date: 16/06/2026			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: Rob Croot	Checked by:		Approved By:
		Company Address:			



Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Cellular Storage	FEH: 100 years: +45 %: 240 mins: Winter	54.402	54.402	1.802	1.802	22.0	107.552	0.155	0.000	2.7	25.009	-0.142	Flood
Cellular Storage (2)	FEH: 100 years: +45 %: 360 mins: Winter	54.030	54.030	0.650	0.650	39.1	272.910	0.000	0.000	3.9	142.450	45.860	OK

Project: Elmcroft Construction Inglefield Manor Billinghurst		Date: 16/06/2026			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: Rob Croot	Checked by:		Approved By:
		Company Address:			



Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe (1)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (1)	Manhole (2)	56.900	56.754	0.150	4.577	0.7	0.62	12.7	Flood Risk
Pipe	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole	Manhole (1)	57.000	56.758	0.150	2.226	0.5	0.29	6.0	Flood Risk
Pipe (2)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (2)	Manhole (3)	56.800	56.753	0.150	20.717	1.7	1.34	30.1	Flood Risk
Pipe (4)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (5)	Cellular Storage	54.400	53.685	0.208	52.789	4.5	0.53	96.8	OK
Pipe (5)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	Manhole (10)	Manhole (11)	57.180	56.704	0.128	9.555	1.3	0.93	21.6	OK
Pipe (6)	FEH: 100 years: +45 %: 30 mins: Summer	Pipe	Cellular Storage	Manhole (6)	54.400	53.083	0.225	0.805	0.4	0.14	15.6	Surcharged
Pipe (7)	FEH: 100 years: +45 %: 240 mins: Winter	Pipe	Manhole (6)	Manhole (7)	54.400	54.402	0.225	25.013	0.0	0.03	1.7	Flood
Pipe (8)	FEH: 100 years: +45 %: 240 mins: Winter	Pipe	Manhole (7)	Manhole (8)	53.500	52.801	0.300	116.434	0.1	0.04	5.7	Surcharged
Pipe (3)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (3)	Manhole (5)	56.000	55.546	0.140	40.122	2.7	0.69	70.9	OK
Pipe (9)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (11)	Manhole (9)	57.180	56.341	0.150	10.689	1.1	0.74	17.4	Surcharged
Pipe (10)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (4)	Manhole (9)	57.180	56.681	0.150	11.039	1.3	0.77	23.7	OK
Pipe (11)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	Manhole (9)	Manhole (12)	57.180	56.072	0.225	19.422	0.9	0.48	37.2	Surcharged
Pipe (13)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (12)	Manhole (13)	56.480	56.052	0.225	43.452	1.8	1.24	72.0	Surcharged
Pipe (14)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (13)	Manhole (14)	56.480	55.293	0.188	43.436	2.1	0.78	71.2	OK

Project: Elmcroft Construction Inglesfield Manor Billinghurst				Date: 16/06/2026											
Report Details: Type: Connections Summary Storm Phase: Phase				Designed by: Rob Croot						Checked by:			Approved By:		
				Company Address:											

Pipe (12)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (22)	Manhole (15)	56.480	56.225	0.225	36.192	1.4	0.93	54.1	Flood Risk
Pipe (18)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (16)	Manhole (19)	56.480	56.094	0.225	9.084	0.9	0.29	17.0	OK
Pipe (20)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (20)	Manhole (21)	56.480	56.367	0.225	16.454	1.1	0.48	27.9	Flood Risk
Pipe (21)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (21)	Manhole (22)	56.480	56.261	0.225	16.491	0.8	0.39	24.7	Flood Risk
Pipe (15)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (15)	Manhole (14)	56.480	55.802	0.225	67.552	2.9	1.88	116.3	Surcharged
Pipe (24)	FEH: 100 years: +45 %: 360 mins: Winter	Pipe	Manhole (24)	Manhole (7)	56.150	54.029	0.225	141.112	0.1	0.05	3.9	Surcharged
Pipe (19)	FEH: 100 years: +45 %: 30 mins: Winter	Pipe	Manhole (19)	Manhole (12)	56.480	55.826	0.225	12.152	0.4	0.2	13.0	OK
Pipe (17)	FEH: 30 years: +35 %: 15 mins: Winter	Pipe	Cellular Storage (2)	Manhole (24)	54.780	53.597	0.225	4.642	0.5	0.12	7.7	OK
Pipe (16)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (14)	Cellular Storage (2)	56.480	54.694	0.198	110.956	7.3	0.72	185.3	OK
Pipe (30)	FEH: 100 years: +45 %: 240 mins: Winter	Pipe	Manhole (28)	Manhole (5)	54.400	54.402	0.150	0.086	0.2	0.15	3.1	Flood