

Job Title Borde Hill Estate, Borde Hill Lane, Haywards Heath, RH17 5JN (Nearest).		Date 10/09/2025
Item Drainage Strategy Statement	Job No. E9459	Report No. RE001 B



Introduction

This drainage statement has been produced by Stephen Wilson Partnership Ltd (SWP) under appointment by Alex Goddard – Arley Hill Ventures Ltd. The aim of the drainage statement is to provide a description of the surface and foul drainage proposals for the proposed development of a parcel of land within the Borde Hill Estate. which will support the planning application with Mid-Sussex District Council (MSDC).

This document should be read in conjunction with the drainage drawings 9459-SWP-ZZ-XX-DP-C-1100 - 1104. Refer to Appendix 1.0

Location

The development site is located on an area of felled woodland and an agricultural field on an area of land known as Little Bentley in Borde Hill Estate in West Sussex. The site is approximately 1.25km west of Borde Hill Lane and 3.5km north-west of central Haywards Heath and is connected to the main road (Borde Hill Lane) by an existing track.

The site is area including the access track is approximately 36,000m² or 3.6 hectares.

The figures below shows the Development in its current context.



Overall Site Location – Development Site and existing access track, in yellow



Development Site Location – Development Site located at western extent of existing access track, in red

The centre of the Development Site can be located using the National Grid Reference 531261, 127051.

Proposals

This proposal is based on the landowner's aspiration to rehabilitate the damaged ecosystem of the site while introducing four purpose-built shepherd huts and a single cabin to be used as short stay holiday accommodation.

The five dwellings will be presented to allow visitors to immerse themselves in nature and benefit from the associated wellbeing this provides. In support of this the proposal has been designed to minimise the impact on the existing natural habitat and retain the aesthetics the current landscape has to offer.



Proposed Site Layout – August 2025

Foul/ Combined Water Drainage System

The foul drainage system will be constructed using a traditional positive drainage system. Each of the five of the short stay dwelling will be served by individual treatment plant following guidance from the shepherd hut and cabin designers.

The treated foul flows will then be discharge via the stream to the west of the Site via newly constructed bagwork headwall.

The combined flows from all five treatment plants will be able to meet all the general bindings rules set by the Environment Agency (EA), which means no communications or applications with the EA are required on this occasion.

Furthermore, the foul water drainage for the site will not be offered for adoption to the statutory sewerage undertaker.

Surface Water Drainage System (SuDS)

The pre-development Site is natural greenfield and is 100% permeable. The developer has made the decision to rehabilitate the ecosystem of the Site while providing five short stay holiday lets. Each of the short stay dwellings will be raised above-ground on ground screw foundations and no further hardstanding required, this means that the area beneath each shepherd hut will remain soft and will allow natural soakage, this will not increase the overall impermeable area.

The external terraces will be open plank decking that will also allow the flow of water to drain to the natural surface below.

All pedestrian footways will either remain as grass or will be wood chip or pea gravel and will be free draining, which will not increase the overall impermeable area.

Any surfacing designed for vehicular traffic, which includes the turning head for fire tender access, passing places on the exiting access track and any necessary widening of the existing access track, will be constructed using CellPave HD (or similar) from GROUNDTRAX. This surfacing is also free draining and will mimic the natural drainage process.



Example of CellPave HD from GROUNDTRAX

Please refer to Appendix 4.0 for details of CellPave HD.

The only increase in impermeable area is limited to the roof area of the short stay accommodation.

The existing impermeable/ permeable areas can be summarised as follows:

Description	Area m²	Area Ha
Free draining access road area	4,708*	0.4708*
Natural habitat. <i>Comprised of turf, wildflower meadow, hedge planting and trees</i>	30,711	3.0711
Pond	663	0.0663
Total permeable area	36,082*	3.6082*
Total Site Area	36,082*	3.6082*
Percentage of impermeable	0%	
Percentage of permeable	100%	
* Includes full length of access road to Borde Hill Lane		

The proposed impermeable/ permeable areas can be summarised as follows:

Description	Area m²	Area Ha
<i>Permeable</i>		
Free drainage access road area	4,708*	0.4708*
Grass reinforcement system. <i>To be used for access road widening, passing bays and turning head construction.</i>	676	0.0676
Pedestrian footways <i>Free draining -wood chip or pea shingle construction</i>	606	0.0606
Raised timber deck. <i>Decking planks spaced to allow rainwater to fall to ground below</i>	114	0.0114
Retained natural habitat. Comprised of turf, wildflower meadow, hedge planting and trees	29,113	2.9113
Pond	663	0.0663
Total permeable area	35,880*	3.5880*
<i>Impermeable</i>		
Roof area. <i>Comprised of proposed shepherd's huts, holiday lodge and store.</i>	202	.0202
Total permeable area	202	0.0202
Total Site Area	36,082*	3.6082*
Percentage of impermeable	0.55%	

Percentage of permeable	99.45%
* Includes full length of access road to Borde Hill Lane	

Please refer to Appendix 2.0 for impermeable areas drawings

In summary the increase in impermeable area is will be limited to less than 1% of 3.6 hectares of well managed natural habitat.

As highlighted in the table above the increase in impermeable is limited to the roof area of the short stay accommodation only. All other areas of works will be constructed using free drainage materials to mimic the natural drainage process of the adjacent habitat.

Mid Sussex District Council (MSDC) Flood Risk & Drainage Team require surface water discharging to a watercourse should be limited to either the 1 in 1year return period or the Qbar Greenfield rate for the drained area.

Two methods of calculating greenfield runoff rate for the areas contributing to the drainage system have been implemented.

The online greenfield estimation service from HRWallingford has returned a greenfield rate of 0.02l/s for each individual short stay accommodation.

Microdrainage software provided a nil result when calculating the roofs separately. To overcome this the roof area for all buildings have been combined to calculate an overall greenfield rate, which is then divided by the number of roofs. This exercise yielded the following results.

- The combined roof area of 202m² achieves a Qbar rate of 0.1l/s.
- Dividing 0.1l/s by 6no roofs = 0.0167l/s.
-

Please refer to Appendix 3.0 for greenfield rates as described above.

Consequently, providing individual traditional surface water systems for each of the short stay accommodations has proven problematic and limiting discharge to 0.0167l/s would require a flow control device less than 8mm in diameter, which will be prone to blockages and is not a viable solution.

Taking this into account along with the landowner's desire limit the impact the development has on the existing habitat the runoff from the roof areas will be collected in a multi-use rainwater harvesting system, which will be designed as follows.

Stage 1: The harvested water will be reused to supply water to the WC facilities in each of the short stay accommodations.

Stage 2: An overflow outlet will be included on the harvesting system and will be connected to a gravity fed irrigation system. The irrigation system will be used to supply water to the saplings in the replanted woodland surrounding the short stay accommodations.

Stage 3: In the event the harvesting system is surcharged, and the Site is subject to further rainfall events, which exceed the usage of water, an additional overflow outlet will be positioned above the Stage 2 outlet. This will connect to the inspection chamber downstream of the treatment plant and into the combined drainage system.

Conclusion

- The foul drainage system will be constructed using a traditional positive drainage system.
- Each of the five of the short stay dwelling will be served by individual treatment plant in accordance with guidance from the shepherd hut and cabin designers.
- All footpaths and works to vehicle access routes will be constructed using a grass reinforcement system and will be free draining.
- The increase in impermeable area is limited to the roof areas for the new structures and has a combined area of 202m².
- Surface water runoff from the roofs will be drained via a rainwater harvesting system that will provide water for the following.
- Toilet facilities of each short stay accommodation building
- Gravity fed irrigation system for saplings in rehabilitated woodland
- In the event the rainwater harvesting system is surcharged an overflow connection to combined sewer system.
- The treated foul flows and excess surface water flows from the Site will discharge to watercourse to the west of the development via a new bagwork headwall

Prepared By		Seen By	Date
James Maddin Civil Engineer		Dean Giles Managing Director (SWP Ltd)	10/09/2025
Copy to	Mr Alex Goddard – Arley Hill Ventures Ltd Mr Tim Rodway – Rodway Planning		

Appendix 1.0

Drainage Proposals



NOTES:

1. This drawing is to be read in conjunction with all other SWP drawings, and with all relevant architect's and engineer's drawings and specification and any discrepancies found are to be reported immediately to the engineer.
2. No dimensions are to be scaled from this drawing, unless noted otherwise all dimensions are in millimeters and all levels are in metres from the site datum.
3. All dimensions to be checked on site. All details and dimensions relating to sub-contractors work must be checked and agreed between the sub-contractor or supplier and the general contractor.
4. The electronic information from this drawing can not be guaranteed as dimensionally drawn exact, figured dimensions must be used for setting out and detailing. swp logos and company information must be removed from copies if information is re-used.
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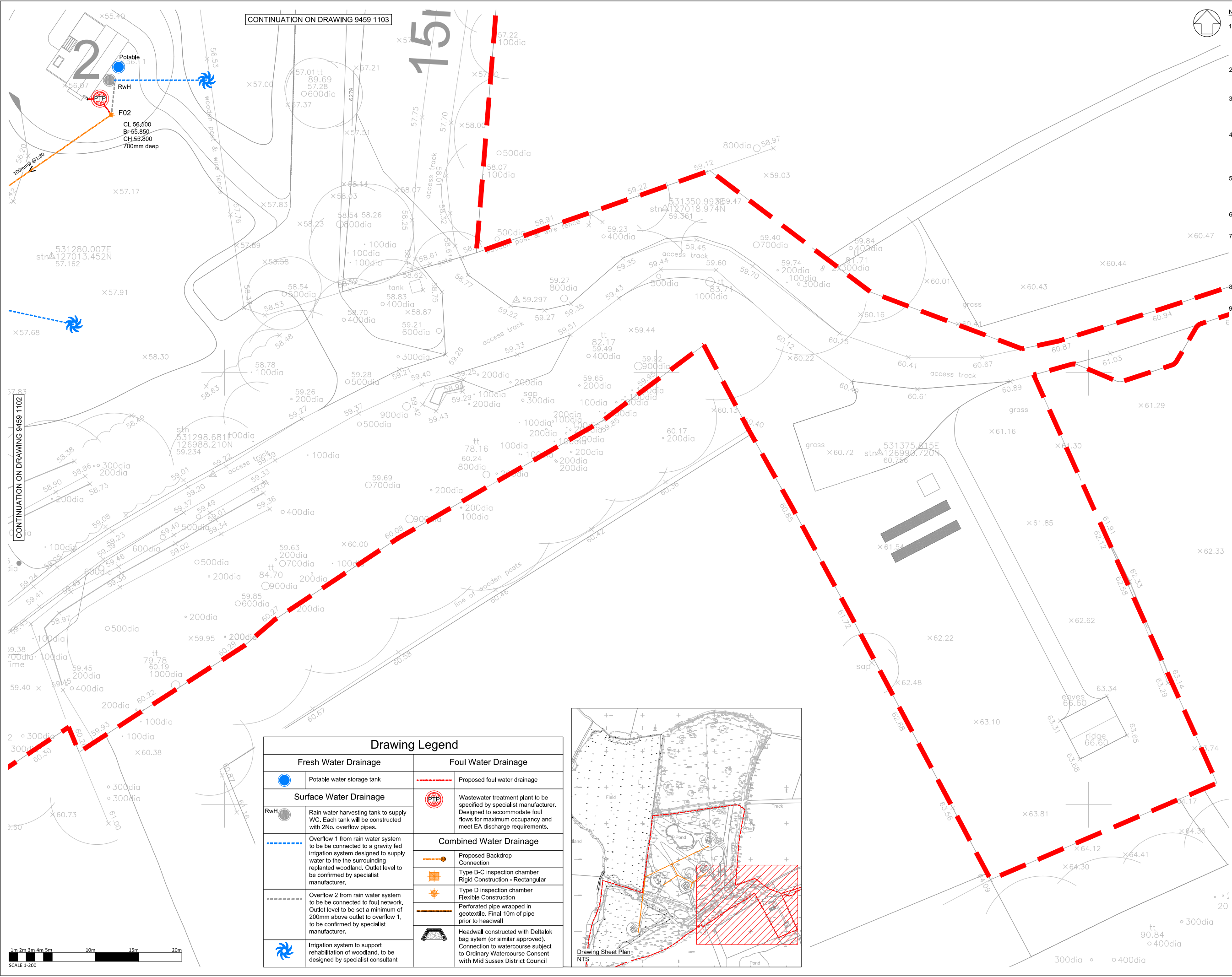
SHEET 4 OF 4
9459-SWP-ZZ-XX-DP-C-1104

SHEET 3 OF 4
9459-SWP-ZZ-XX-DP-C-1103

SHEET 1 OF 4
9459-SWP-ZZ-XX-DP-C-1101

SHEET 2 OF 4
9459-SWP-ZZ-XX-DP-C-1102

PD4	10.09.2025	DRAWING AMENDED TO SHOW COMBINED SEWERS
PD3	01.09.2025	DRAINAGE DESIGN AMENDED IN ACCORDANCE WITH EVOLVED STRATEGY
PD2	05.03.2025	TENDER ISSUE
PD1	13.12.2024	PRELIMINARY ISSUE
REV.	DATE	DESCRIPTION
TENDER		
 STEPHEN WILSON PARTNERSHIP LTD Chorlton Hall, Offshore Business Park, Offshore Road, POLYFATE, 9429 REF Telephone: 01303 412020 E-mail: info@stepwilson.co.uk • Website: www.stepwilson.co.uk		
CLIENT ALEX GODDARD		
ARCHITECT TOM DUNN ARCHITECTS LTD		
JOB TITLE BORDE HILL ESTATE HAYWARDS HEATH,		
DRAWING TITLE PRELIMINARY DRAINAGE DRAWING SHEET PLAN		
SCALE AT A1 NTS	DATE DEC '24	DRAWN JWM
	ENG. JWM	CHECKED DMG
RBA STATUS S5		
STAGE 4 - TECHNICAL DESIGN		
DRAWING STATUS S5	DRAWING SUITABILITY TENDER	REV.
JOB No. E9459	DRAWING No. PROJECT - ORIGINATOR - VOLUME - LEVEL - FORM - DESCRIPTION - NUMBER 9459-SWP-ZZ-XX-DP-C-1100	REV. P04



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All RWP and SWP numbers and locations are indicative and will be confirmed by the Architect

Groundworker responsible for recording photographic evidence of drainage installation prior to backfilling

Proposed foul and surface water connection to watercourse subject to Ordinary Watercourse Consent with Mid Sussex District Council.

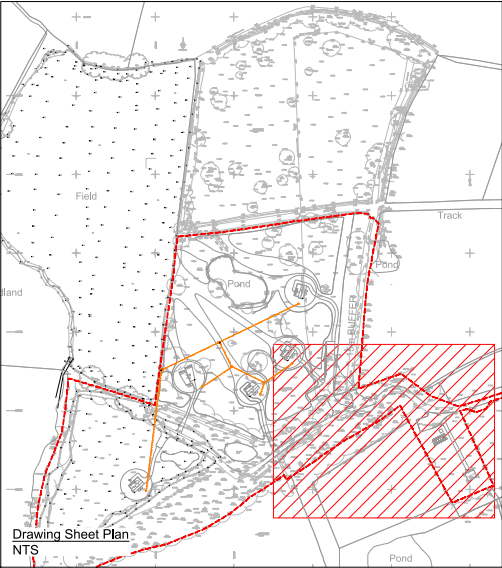
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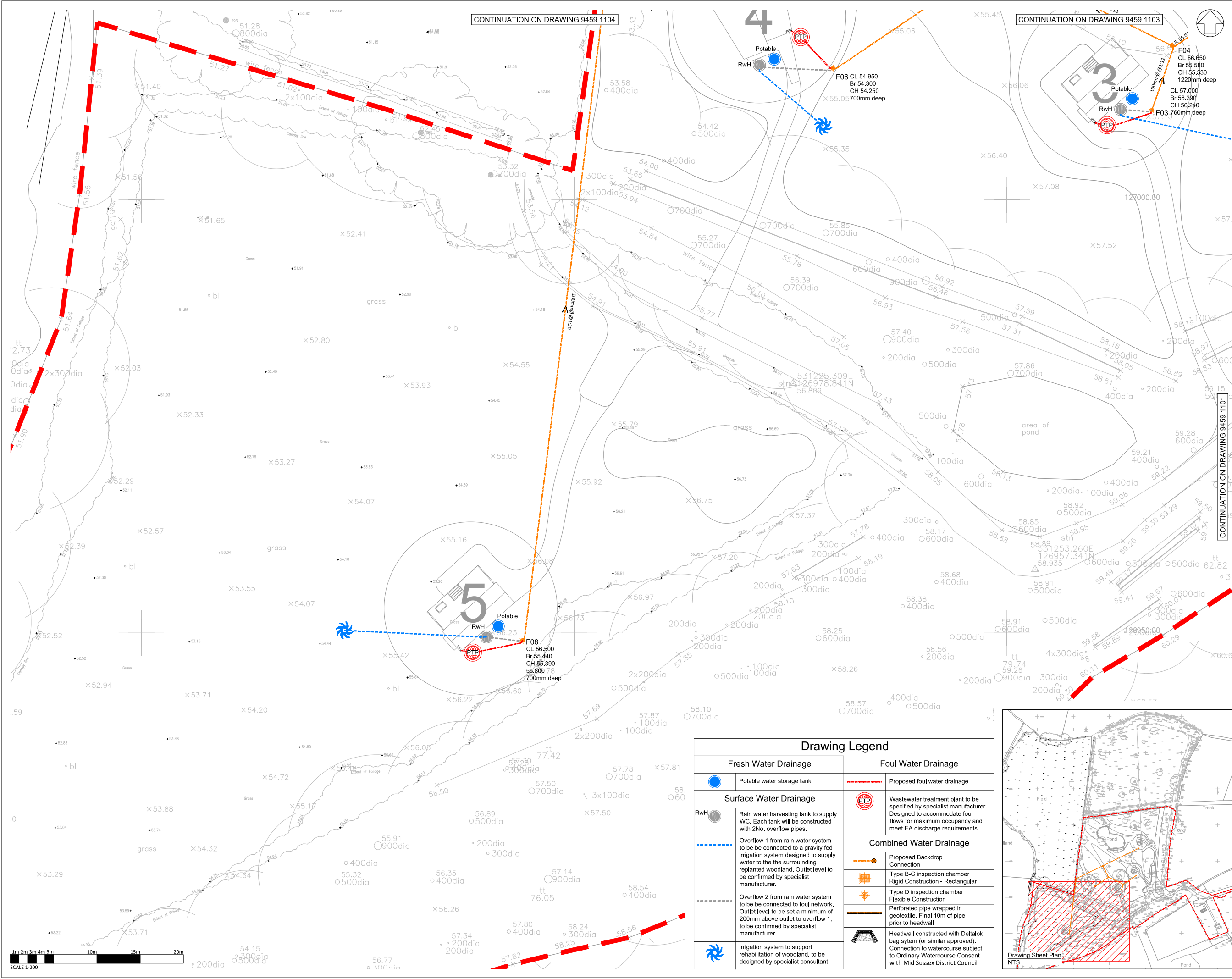
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REV.	DATE	DESCRIPTION
P04	10.09.2025	DRAWING AMENDED TO SHOW COMBINED SEWERS
P03	01.09.2025	DRAINAGE DESIGN AMENDED IN ACCORDANCE WITH EVOLVED STRATEGY
P02	05.03.2025	TENDER ISSUE - CWC NOTE ADDED & FOOTPATHS EXTENDED TO ENTRANCES
P01	13.12.2024	PRELIMINARY ISSUE

TENDER			
 STEPHEN WILSON PARTNERSHIP LTD Charlington Ham, Offshore Business Park, Offshore Road, POLYGATE, BAYN HILL, Brighton BN1 3J3 412020 E-mail: info@stephenwilson.co.uk • Website: www.stephenwilson.co.uk			
CLIENT ALEX GODDARD			
ARCHITECT TOM DUNN ARCHITECTS LTD			
JOB TITLE BORDE HILL ESTATE HAYWARDS HEATH,			
DRAWING TITLE PRELIMINARY SURFACE & FOUL DRAINAGE LAYOUT (SHEET 1 OF 4)			
SCALE AT A1 1:200	DATE DEC '24	DRAWN JWM	CHECKED DMG
RIBA STATUS S5			
DRAWING STATUS S5			
DRAWING TITLE STAGE 4 - TECHNICAL DESIGN			
DRAWING STATUS S5			
DRAWING TITLE TENDER			
JOB No. E9459	DRAWING No. 9459-SWP-ZX-ZX-DP-C-1101	REV. P04	

Drawing Legend	
Fresh Water Drainage	Foul Water Drainage
 Potable water storage tank	 Proposed foul water drainage
Surface Water Drainage	Combined Water Drainage
 Rain water harvesting tank to supply WC. Each tank will be constructed with 2No. overflow pipes.	 Wastewater treatment plant to be specified by specialist manufacturer. Designed to accommodate foul flows for maximum occupancy and meet EA discharge requirements.
 Overflow 1 from rain water system to be connected to a gravity fed irrigation system designed to supply water to the surrounding replanted woodland. Outlet level to be confirmed by specialist manufacturer.	 Proposed Backdrop Connection
 Overflow 2 from rain water system to be connected to foul network. Outlet level to be set a minimum of 200mm above outlet to overflow 1, to be confirmed by specialist manufacturer.	 Type B-C inspection chamber Rigid Construction - Rectangular
 Irrigation system to support rehabilitation of woodland, to be designed by specialist consultant	 Type D inspection chamber Flexible Construction
	 Perforated pipe wrapped in geotextile. Final 10m of pipe prior to headwall
	 Headwall constructed with Deltalok bag system (or similar approved). Connection to watercourse subject to Ordinary Watercourse Consent with Mid Sussex District Council





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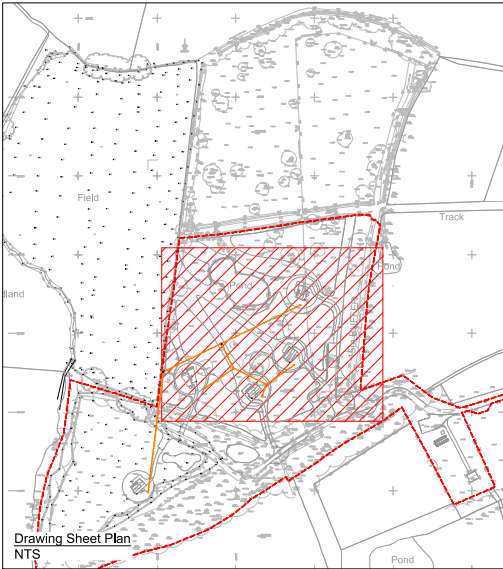
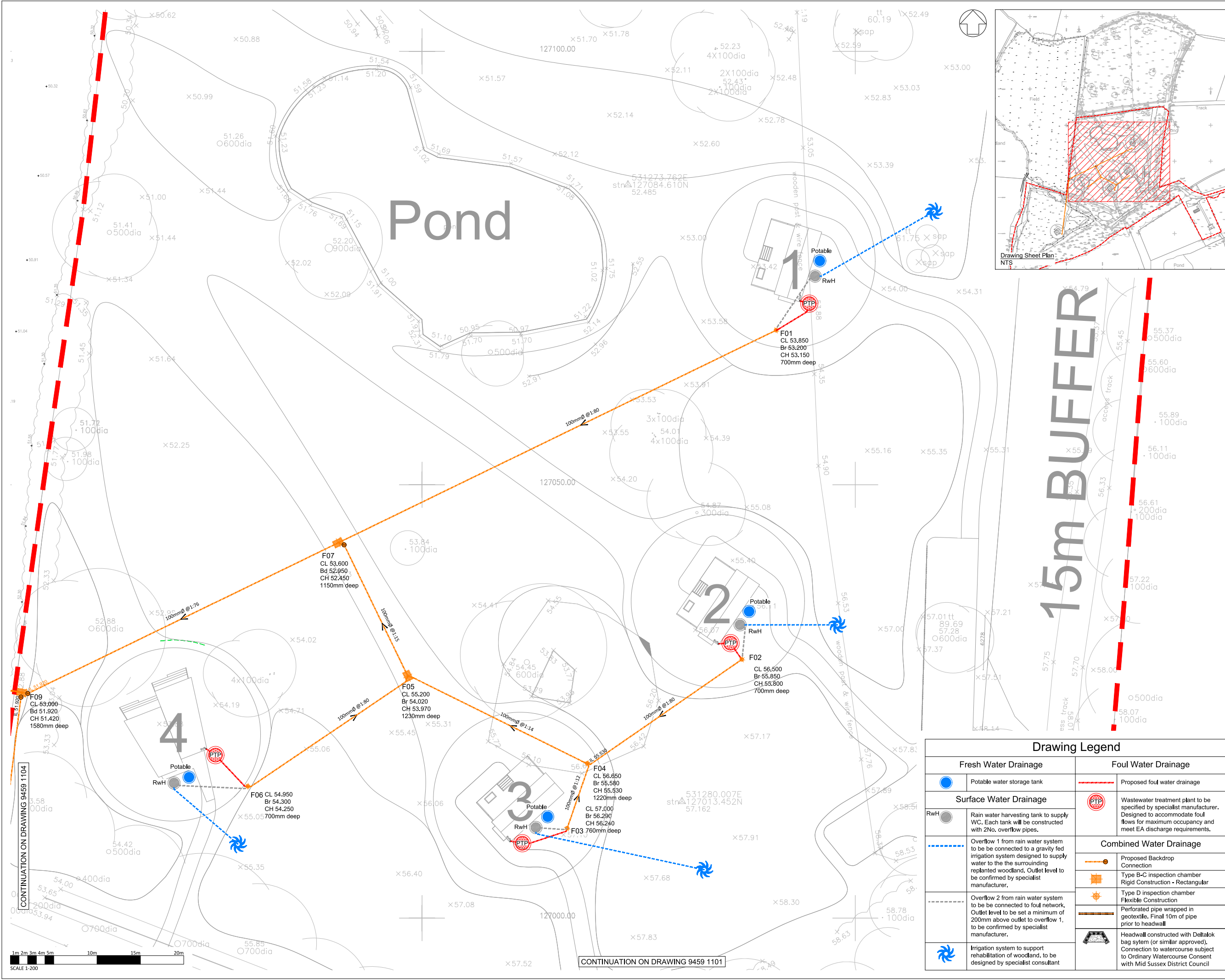
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REV.	DATE	DESCRIPTION
P04	10.09.2025	DRAWING AMENDED TO SHOW COMBINED SEWERS
P03	01.09.2025	DRAINAGE DESIGN AMENDED IN ACCORDANCE WITH EVOLVED STRATEGY
P02	06.03.2025	TENDER ISSUE - CABN No S. SWALE EXTENDED & OWC NOTE ADDED - FOOTPATHS EXTENDED TO ENTRANCES
P01	13.12.2024	PRELIMINARY ISSUE

TENDER



CLIENT		ALEX GODDARD			
ARCHITECT		TOM DUNN ARCHITECTS LTD			
JOB TITLE		BORDE HILL ESTATE HAYWARDS HEATH,			
DRAWING TITLE		PRELIMINARY SURFACE & FOUL DRAINAGE LAYOUT (SHEET 2 OF 4)			
SCALE AT A1		DATE	DEC '24	DRAWN	JWM
1:200		ENG.	JWM	CHECKED	DMG
TENDR STATUS		STAGE 4 - TECHNICAL DESIGN			
DRAWING STATUS		S5		TENDER	
JOB NO.		DRAWING NO. PROJECT - ORIGINATOR - VOLUME - FORM - DESCRIPTION - NUMBER			REV.
E9459		9459-SWP-ZZ-XX-DP-C-1102			P04



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PH4	10.09.2025	DRAWING AMENDED TO SHOW COMBINED SEWERS
PH3	01.09.2025	DRAINAGE DESIGN AMENDED IN ACCORDANCE WITH EVOLVED STRATEGY
PH2	05.03.2025	TENDER ISSUE - OWC NOTE ADDED & FOOTPATHS EXTENDED TO ENTRANCES
PH1	13.12.2024	PRELIMINARY ISSUE
REV.	DATE	DESCRIPTION

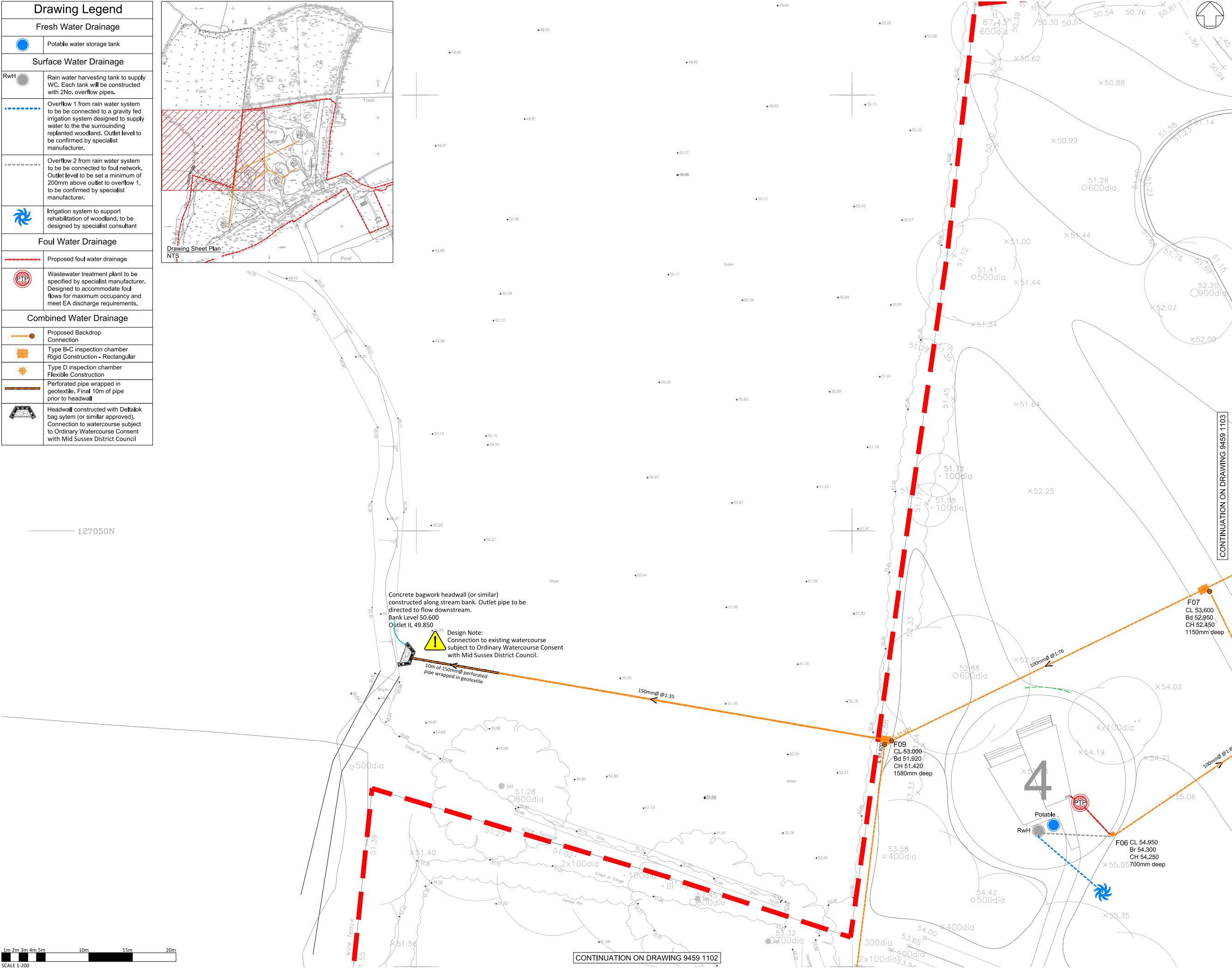
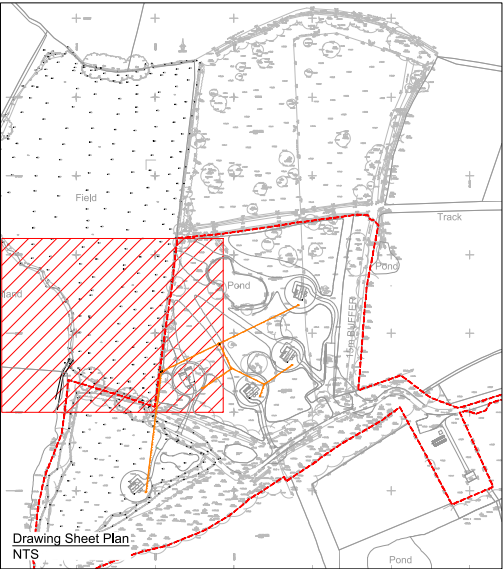
TENDER



CUSTOMER	ALEX GODDARD		
ARCHITECT	TOM DUNN ARCHITECTS LTD		
JOB TITLE	BORDE HILL ESTATE HAYWARDS HEATH,		
DRAWING TITLE	PRELIMINARY SURFACE & FOUL DRAINAGE LAYOUT (SHEET 3 OF 4)		
SCALE AT A1	DATE	DRAWN	
1:200	DEC '24	JWM	
	ENG.	CHECKED	
	JWM	DMG	
RPA STATUS	STAGE 4 - TECHNICAL DESIGN		
DRAWING STATUS	S5	DRAWING SUITABILITY	TENDER
JOB No.	DRAWING No.		REV.
E9459	9459-SWP-ZX-ZZ-DP-C-1103		P04

Drawing Legend			
Fresh Water Drainage		Foul Water Drainage	
	Potable water storage tank		Proposed foul water drainage
Surface Water Drainage			Wastewater treatment plant to be specified by specialist manufacturer. Designed to accommodate foul flows for maximum occupancy and meet EA discharge requirements.
	Overflow 1 from rain water system to be connected to a gravity fed irrigation system designed to supply water to the the surrounding replanted woodland. Outlet level to be confirmed by specialist manufacturer.	Combined Water Drainage	
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	Irrigation system to support rehabilitation of woodland, to be designed by specialist consultant		Type B-C inspection chamber Rigid Construction - Rectangular
			Type D inspection chamber Flexible Construction
			Perforated pipe wrapped in geotextile. Final 10m of pipe prior to headwall
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	Potable water storage tank
Surface Water Drainage	
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REV.	DATE	DESCRIPTION
P04	10.09.2025	DRAWING AMENDED TO SHOW COMBINED SEWERS
P03	01.09.2025	DRAINAGE DESIGN AMENDED IN ACCORDANCE WITH EVOLVED STRATEGY
P02	05.03.2025	TENDER ISSUE - OWC NOTE ADDED & FOOTPATHS EXTENDED TO ENTRANCES
P01	13.12.2024	PRELIMINARY ISSUE

TENDER



CUSTOMER: ALEX GODDARD

ARCHITECT: TOM DUNN ARCHITECTS LTD

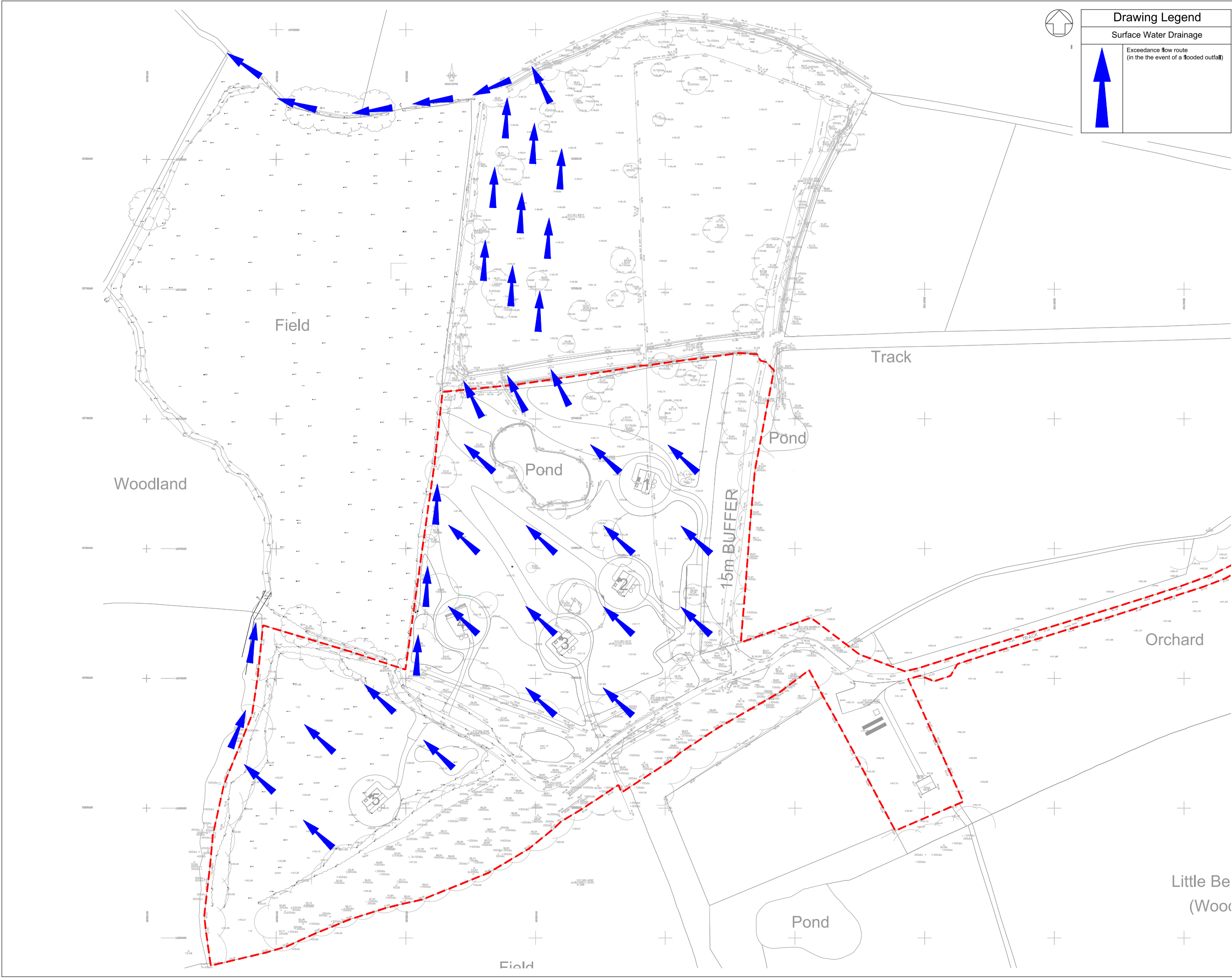
JOB TITLE: BORDE HILL ESTATE HAYWARDS HEATH,

DRAWING TITLE: PRELIMINARY SURFACE & FOUL DRAINAGE LAYOUT (SHEET 4 OF 4)

SCALE AT A1	DATE	DRAWN
5	DEC '24	JWM
	ENG.	CHECKED
	JWM	DMG

REVISION: STAGE 4 - TECHNICAL DESIGN

DRAWING STATUS	DRAWING SUITABILITY	TENDER
S3		
JOB No.	DRAWING No.	REV.
E9459	9459-SWP-ZX-XX-DP-C-1104	P04



Drawing Legend	
Surface Water Drainage	
	Exceedance flow route (in the event of a flooded outfall)

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 6. The main contractor is responsible for **all** occurrences of ground water during the construction period.
 7. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain. The main contractor is responsible for checking **all** information on site prior to work commencing and taking due care and attention whilst undertaking the works.
 8. The contractor must comply with **all** current legislation relating to health & safety.
 9. **All** products specified shall be installed in strict accordance with the manufacturers recommendations and instructions. If there are discrepancies between that information and the details on any swp drawings, the manufacturers instructions must be used.

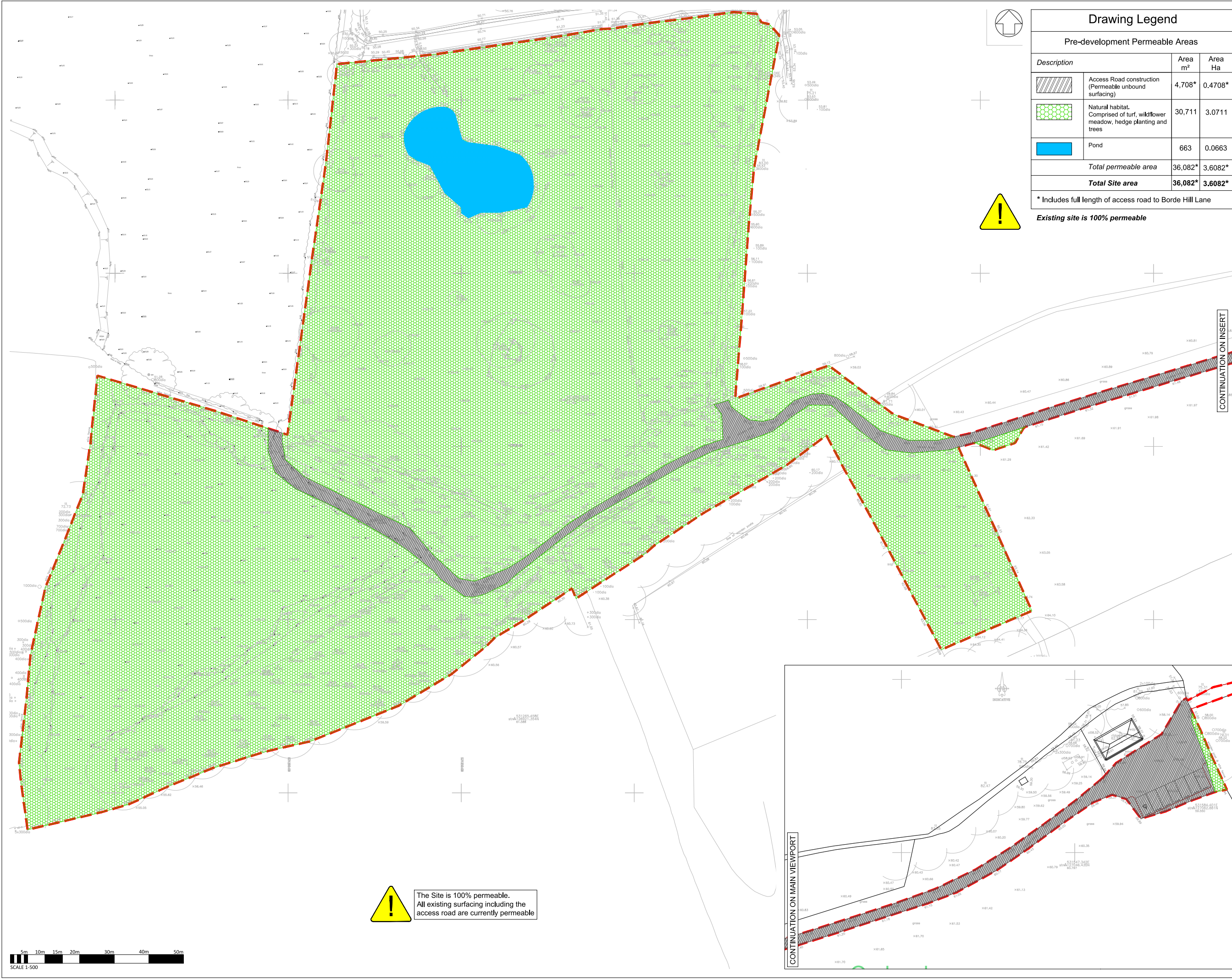
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DRAWING
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THIS STAMP IS NOT RED

PD4	10.09.2025	DRAWING AMENDED TO SHOW COMBINED SEWERS
PD3	01.09.2025	DRAINAGE DESIGN AMENDED IN ACCORDANCE WITH EVOLVED STRATEGY
PD2	05.03.2025	TENDER ISSUE
PD1	13.12.2024	PRELIMINARY ISSUE
REV.	DATE	DESCRIPTION
TENDER		
 STEPHEN WILSON PARTNERSHIP LTD Chorlton Hall, Offtop Business Park, Offtop Road, POLKATE, S426 8PP Telephone: 01303 412020 E-mail: info@stephenwilson.co.uk • Website: www.stephenwilson.co.uk		
CLIENT ALEX GODDARD		
ARCHITECT TOM DUNN ARCHITECTS LTD		
JOB TITLE BORDE HILL ESTATE HAYWARDS HEATH,		
DRAWING TITLE SURFACE WATER EXCEEDANCE FLOW ROUTE		
SCALE AT A1	DATE DEC '24	DRAWN JWM
NTS	ENG. JWM	CHECKED DMG
RBA STATUS S5 DRAWING SUITABILITY TENDER		
JOB No. E9459	DRAWING No. PROJECT - ORIGINATOR - VOLUME - LEVEL - FORM - DESCRIPTION - NUMBER 9459-SWP-ZZ-XX-DP-C-1110	REV. P04

Appendix 2.0

Pre & Post Development

Impermeable Areas



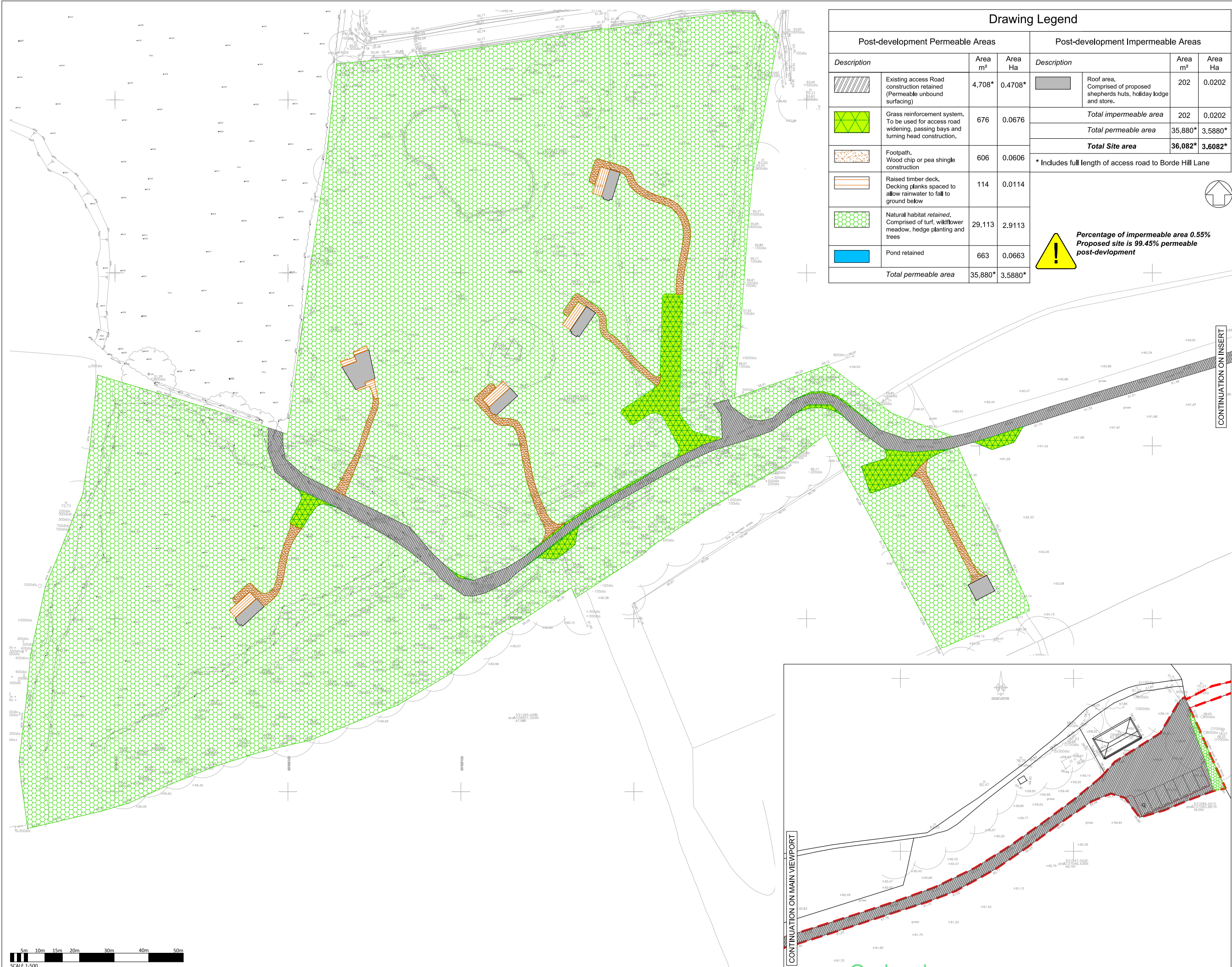
Drawing Legend			
Pre-development Permeable Areas			
Description		Area m²	Area Ha
	Access Road construction (Permeable unbound surfacing)	4,708*	0.4708*
	Natural habitat. Comprised of turf, wildflower meadow, hedge planting and trees	30,711	3.0711
	Pond	663	0.0663
Total permeable area		36,082*	3.6082*
Total Site area		36,082*	3.6082*
* Includes full length of access road to Borde Hill Lane			

Existing site is 100% permeable

- NOTES:
- This drawing is to be read in conjunction with all other SWP drawings, and with all relevant architect's and engineer's drawings and specification and any discrepancies found are to be reported immediately to the engineer.
 - No dimensions are to be scaled from this drawing, unless noted otherwise all dimensions are in millimeters and all levels are in metres from the site datum.
 - All dimensions to be checked on site. All details and dimensions relating to sub-contractors work must be checked and agreed between the sub-contractor or supplier and the general contractor.
 - The electronic information from this drawing can not be guaranteed as dimensionally drawn exact, figured dimensions must be used for setting out and detailing. swp logos and company information must be removed from copies if information is re-used.
 - The main contractor is responsible for the design of all temporary works, and is also responsible for the safe maintenance and stability of existing buildings at all times.
 - The main contractor is responsible for all occurrences of ground water during the construction period.
 - Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain. The main contractor is responsible for checking all information on site prior to work commencing and taking due care and attention whilst undertaking the works.
 - The contractor must comply with all current legislation relating to health & safety.
 - All products specified shall be installed in strict accordance with the manufacturers recommendations and instructions. If there are discrepancies between that information and the details on any swp drawings, the manufacturers instructions must be used.

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PO1	01.09.2025	PRELIMINARY ISSUE
REV.	DATE	DESCRIPTION
TENDER		
 STEPHEN WILSON PARTNERSHIP LTD Chorlington Ham, Offshore Business Park, Offshore Road, POLLEAT, S426 8PP Telephone: 01303 412020 E-mail: info@stephenwilson.co.uk • Website: www.stephenwilson.co.uk		
CLIENT ALEX GODDARD		
ARCHITECT TOM DUNN ARCHITECTS LTD		
JOB TITLE BORDE HILL ESTATE HAYWARDS HEATH,		
DRAWING TITLE IMPERMEABLE AREAS PRE-DEVELOPMENT		
SCALE AT A1 1:500	DATE AUG 2025	DRAWN JWM
	ENG. JWM	CHECKED DMG
RBA STATUS S5		
DRAWING STATUS S5		
DRAWING SUITABILITY TENDER		
JOB No. E9459	DRAWING No. PROJECT - ORIGINATOR - VOLUME - LEVEL - FORM - DESCRIPTION - NUMBER 9459-SWP-ZX-XX-DP-C-1105	REV. P01



Drawing Legend					
Post-development Permeable Areas			Post-development Impermeable Areas		
Description	Area m²	Area Ha	Description	Area m²	Area Ha
Existing access Road construction retained (Permeable unbound surfacing)	4,708*	0.4708*	Roof area, Comprised of proposed shepherds huts, holiday lodge and store.	202	0.0202
Grass reinforcement system. To be used for access road widening, passing bays and turning head construction.	676	0.0676	Total impermeable area		
Footpath, Wood chip or pea shingle construction	606	0.0606	Total permeable area		
Raised timber deck, Decking planks spaced to allow rainwater to fall to ground below	114	0.0114	Total Site area		
Natural habitat retained, Comprised of turf, wildflower meadow, hedge planting and trees	29,113	2.9113	* Includes full length of access road to Borde Hill Lane		
Pond retained	663	0.0663			
Total permeable area		35,880*	3.5880*		

Percentage of impermeable area 0.55%
Proposed site is 99.45% permeable post-development



- NOTES:
- This drawing is to be read in conjunction with all other SWP drawings, and with all relevant architect's and engineer's drawings and specification and any discrepancies found are to be reported immediately to the engineer.
 - No dimensions are to be scaled from this drawing, unless noted otherwise all dimensions are in millimeters and all levels are in metres from the site datum.
 - All dimensions to be checked on site. All details and dimensions relating to sub-contractors work must be checked and agreed between the sub-contractor or supplier and the general contractor.
 - The electronic information from this drawing can not be guaranteed as dimensionally drawn exact, figured dimensions must be used for setting out and detailing. swp logos and company information must be removed from copies if information is re-used.
 - The main contractor is responsible for the design of all temporary works, and is also responsible for the safe maintenance and stability of existing buildings at all times.
 - The main contractor is responsible for all occurrences of ground water during the construction period.
 - Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain. The main contractor is responsible for checking all information on site prior to work commencing and taking due care and attention whilst undertaking the works.
 - The contractor must comply with all current legislation relating to health & safety.
 - All products specified shall be installed in strict accordance with the manufacturers recommendations and instructions. If there are discrepancies between that information and the details on any swp drawings, the manufacturers instructions must be used.

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PO1	01.09.2025	PRELIMINARY ISSUE
REV.	DATE	DESCRIPTION
TENDER		
 STEPHEN WILSON PARTNERSHIP LTD Chorlington Ham, Offshore Business Park, Offshore Road, POL. EGATE, S426 8PP Telephone: 01303 412020 E-mail: info@stephenwilson.co.uk • Website: www.stephenwilson.co.uk		
CLIENT	ALEX GODDARD	
ARCHITECT	TOM DUNN ARCHITECTS LTD	
JOB TITLE	BORDE HILL ESTATE HAYWARDS HEATH,	
DRAWING TITLE	IMPERMEABLE AREAS POST-DEVELOPMENT	
SCALE AT A1	DATE AUG 2025	DRAWN JWM
1:500	ENG. JWM	CHECKED DMG
TBA STATUS	STAGE 4 - TECHNICAL DESIGN	
DRAWING STATUS	TENDER	
S5	DRAWING SUITABILITY	
JOB No.	DRAWING No. PROJECT-OPERATOR-PLACING-CLIENT-OR-NO-DESCRIPTION-NUMBER	REV.
E9459	9459-SWP-ZZ-XX-DP-C-1106	P01

Appendix 3.0

Greenfield Runoff Rate

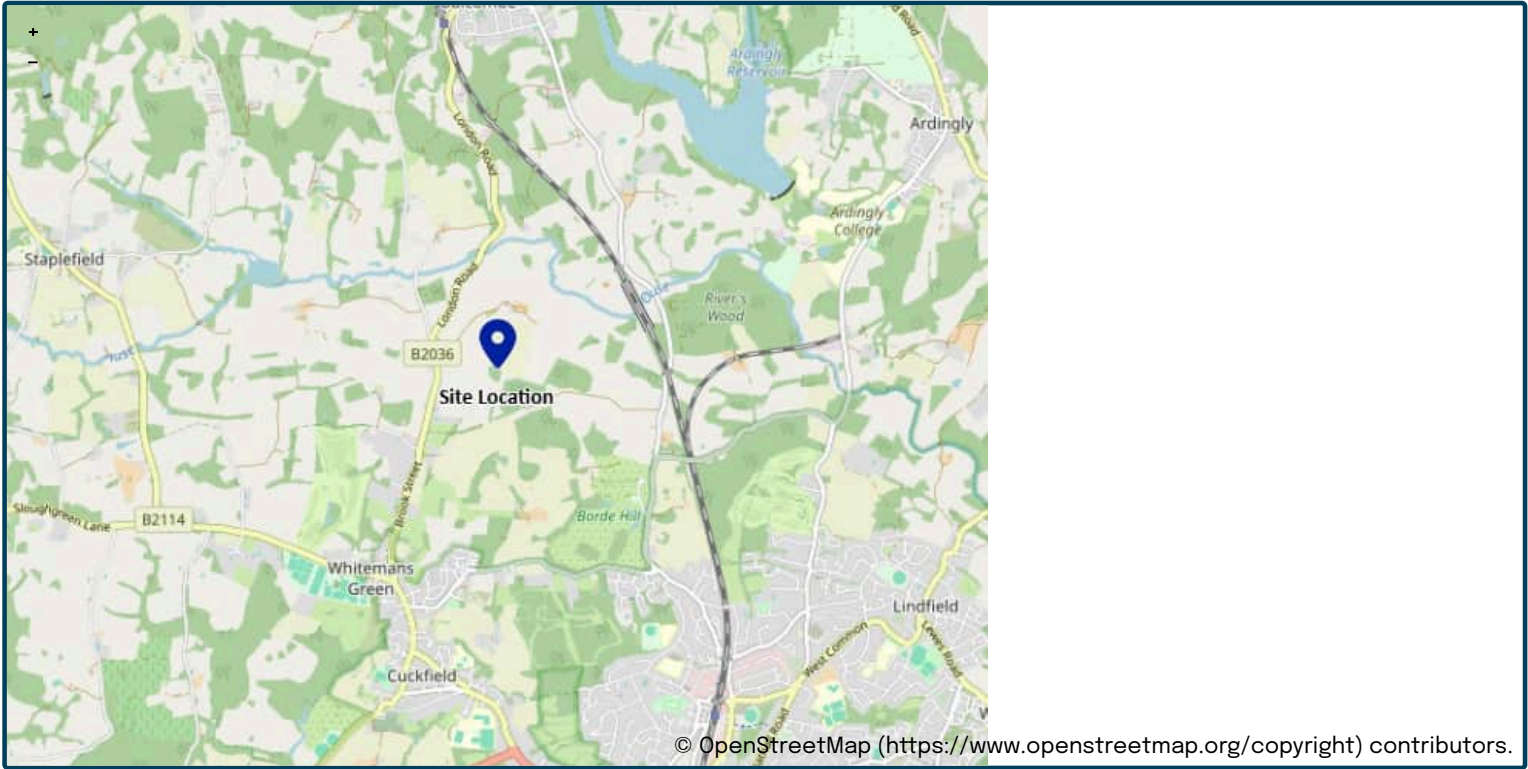
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). 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	10/09/2025
Calculated by	James Maddin
Reference	E9459
Model version	2.1.2

Location

Site name	Borde Hill
Site location	Borde Hill Lane



Site easting (British National Grid)	531173
Site northing (British National Grid)	127150

Site details

Total site area (ha)	0.02	ha
----------------------	------	----

Greenfield runoff

Method

Method	IH124
--------	-------

IH124

	<u>My value</u>		<u>Map value</u>
SAAR (mm)	840	mm	840
How should SPR be derived?	WRAP soil type		
WRAP soil type	4		4
SPR	0.47		
QBar (IH124) (l/s)	0.12	l/s	

Growth curve factors

	<u>My value</u>		<u>Map value</u>
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	IH124	
Flow rate 1 year (l/s)	0.1	l/s
Flow rate 2 year (l/s)	0.1	l/s
Flow rate 10 years (l/s)	0.2	l/s
Flow rate 30 years (l/s)	0.3	l/s
Flow rate 100 years (l/s)	0.4	l/s
Flow rate 200 years (l/s)	0.4	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 (2.1.2) developed by HR Wallingford and available at uksuds.com (<https://www.uknuts.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.uknuts.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.

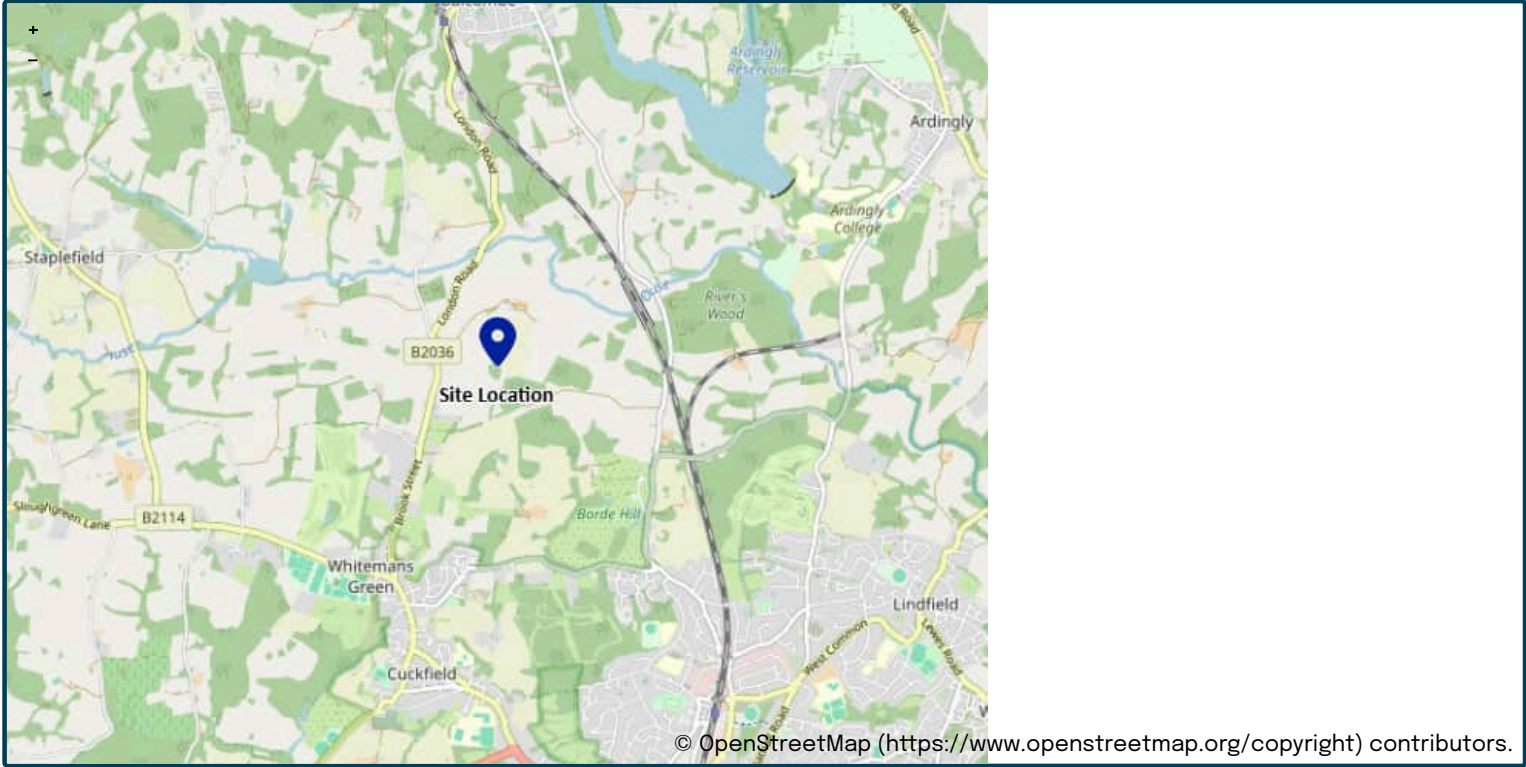
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). 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	10/09/2025
Calculated by	James Maddin
Reference	E9459
Model version	2.1.2

Location

Site name	Borde Hill
Site location	Borde Hill Lane



Site easting (British National Grid)	531173
Site northing (British National Grid)	127150

Site details

Total site area (ha)	0.003	ha
----------------------	-------	----

Greenfield runoff

Method

Method	IH124
--------	-------

IH124

	<u>My value</u>		<u>Map value</u>
SAAR (mm)	840	mm	840
How should SPR be derived?	WRAP soil type		
WRAP soil type	4		4
SPR	0.47		
QBar (IH124) (l/s)	0.02	l/s	

Growth curve factors

	<u>My value</u>		<u>Map value</u>
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	IH124	
Flow rate 1 year (l/s)	0.02	l/s
Flow rate 2 year (l/s)	0.02	l/s
Flow rate 10 years (l/s)	0.03	l/s
Flow rate 30 years (l/s)	0.04	l/s
Flow rate 100 years (l/s)	0.1	l/s
Flow rate 200 years (l/s)	0.1	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.

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Stephen Wilson Partnership Ltd		Page 1
99 South Street Eastbourne BN20 4LU	E9459 Borde Hill Haywards Heath Greenfield Rate (individual)	
Date 10/09/2025 12:05 File E9459 0.003HA SEPT 2025...	Designed by SWP Ltd Checked by SWP Ltd	
Micro Drainage		
Source Control 2020.1.3		
ICP SUDS Mean Annual Flood Input Return Period (years) 100 Soil 0.450 Area (ha) 0.003 Urban 0.000 SAAR (mm) 800 Region Number Region 7 Results 1/s QBAR Rural 0.0 QBAR Urban 0.0 Q100 years 0.0 Q1 year 0.0 Q30 years 0.0 Q100 years 0.0		
©1982-2020 Innovyze		

Stephen Wilson Partnership Ltd		Page 1
99 South Street Eastbourne BN20 4LU	E9459 Borde Hill Estate Haywards Heath Greenfield @ 0.02Ha	
Date 01/09/2025 08:54 File	Designed by SWP Ltd Checked by SWP Ltd	
Micro Drainage		Source Control 2020.1.3
<u>ICP SUDS Mean Annual Flood</u> Input Return Period (years) 100 Soil 0.450 Area (ha) 0.020 Urban 0.000 SAAR (mm) 815 Region Number Region 7 Results l/s QBAR Rural 0.1 QBAR Urban 0.1 Q100 years 0.3 Q1 year 0.1 Q30 years 0.2 Q100 years 0.3		
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Appendix 4.0

Cell Pave HD by GROUNDTRAX
Grass Reinforcement Information

**CELLPAVE™ HD**

The **ultimate** truck-grade, heavy duty cellular paving system from Groundtrax Systems Limited.

Designed from the ground up, CellPave™ HD is incredibly strong and sets a new standard in permeable paving systems.

Proudly made in the UK, CellPave™ HD is made from 100% recycled UK sourced post-industrial polymers.

Each paver is 600mm x 400mm x 75mm thickness (4.17 pavers per sq metre). Weighing 8kg each (33kg/m²) they fall well within the HSE manual handling limits and are quick and easy to install. The unique design also allows interlocking stacking on pallets, resulting in reduced shipping costs.



CellPave™ HD pavers have been designed to be installed with both gravel and grassed infills

They are particularly suitable for incorporation into a SuDS compliant system and may even negate the need for water attenuation when installed on a suitable porous substrate.

CellPave™ HD is the perfect system for use on large scale civil engineering compound areas or contractor's storage areas as they can easily be uplifted at the end of the contract and re-used if required.

CellPave™ HD can be installed for use with all forms of traffic including:

- HGV and coach parking areas
- Emergency vehicle and fire access routes
- Highway verge reinforcement (particularly where HGV overrun can occur)
- Fork lift loading areas

A key feature of CellPave™ HD is the unique channel cut-outs



TOP PROFILE



BOTTOM PROFILE



SIDE PROFILE

- 1 Enables 75% more product to be stacked on a single pallet when compared to TruckPave 80
- 2 Offset interlocked stacking ensures a very stable pallet for transportation
- 3 Prevents stagnation inside the cell when a non-porous substrate is used for installation
- 4 Aids inter-cell drainage and allows nutrients to pass between cells
- 5 Promotes a much healthier root system that allows lateral root growth
- 6 A double stacked, cross-bonded layout is also possible

Materials

100% recycled from UK sourced post-industrial polymers. We have a guaranteed, consistent material source. Durability in all climates is well proven as the same materials have been used to manufacture speed ramps for over 20 years.

Supply

Multiple press tools and continuous 24/7 production enables high volume manufacture to ensure your installation is completed on schedule.

Certification & Testing

Extensive testing has shown our paver to be virtually indestructible. We are backing up this testing with certification from both Lloyds and TUV.

Design

Our unique design incorporates substantial improvements over existing products in the marketplace.

CELLPAVE™ HD

TRUCK-GRADE, HEAVY-DUTY CELLULAR PAVING SYSTEM

GROUNDTRAX



Data Sheets, Installation & Design Guidances
and Case Studies can be downloaded from www.groundtrax.com/downloads

CELLPAVE™ HD

TRUCK-GRADE, HEAVY-DUTY CELLULAR PAVING SYSTEM

GROUNDTRAX



Dimensions:	600mm x 400mm
Thickness:	75mm <i>(from top of grip surface)</i>
Wall Thickness:	35mm
Quantity per m²:	4.17
Internal Cell Dimensions:	104mm x 104mm
Nominal Weight:	8kg per paver (33.36kg/m²)
Material:	100% Recycled Post Industrial Polymers
Colour:	Dark Grey
Pallet Dimensions:	1200mm x 900mm x 1400mm <i>(inc. pallet)</i>
Pallet Quantity:	120 pavers (28.8m²)
Pallet Weight:	980kg



For more information, contact us
or visit the dedicated website:

www.cellpave.com

GROUNDTRAX

Ground Protection and Reinforcement

Telephone: 03456 800008 | Fax: 03456 800208

E-Mail: info@groundtrax.com | Website: www.groundtrax.com

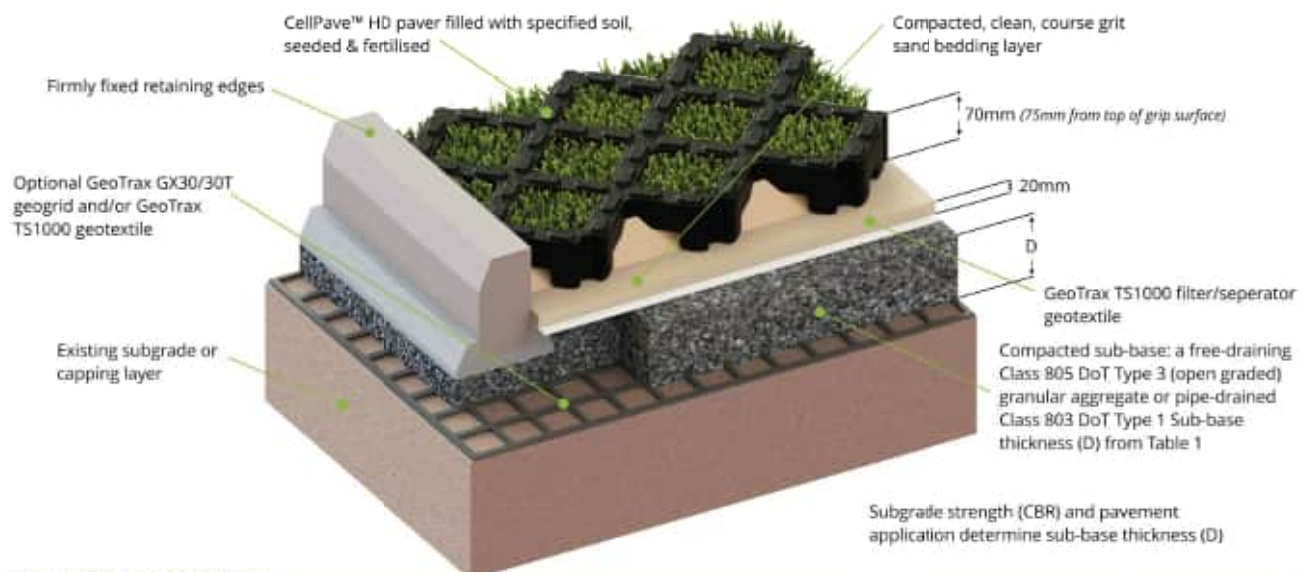
Data Sheets, Installation & Design Guidances
and Case Studies can be downloaded from www.groundtrax.com/downloads

CELLPAVE™ HD - Truck-Grade, Heavy Duty Paving System

INSTALLATION GUIDE - GRASS SURFACES

Design, installation and maintenance guidance for grass surfaces.

CellPave™ HD cellular paving is suitable for a wide range of trafficked applications and landscaped areas where a confined, free-draining grass surface is required and where high vehicle loads are expected. Typical applications include: coach and truck parks, emergency access and maintenance routes.



TECHNICAL SPECIFICATION

Paving Unit Size	600mm x 400 mm x 75mm
Coverage Rate	4.17 pavers per m ²
Weight	8kg per paver (33.36kg/m ²)
Wall Thickness	35mm
Internal Cell Dimensions	104mm x 104mm

Colour	Dark Grey
Bedding Layer Material	Clean, coarse grit sand
Bedding Layer Thickness	20mm
Sub-Base Reinforcement (optional)	GeoTrax GX/30/30T
Lower Filter/Seperator Geotextile (optional)	GeoTrax TS1000

Installation Instructions

The following generic guidance must be read in conjunction with the specific project specification within the contract documents and the design notes below.

1. Install the optional geogrid, geotextile and/or geomembrane onto the prepared subgrade formation.
2. Install the specified sub-base layer and optional drainage.
3. Install any edge restraints which may be specified. Timber, plastic or concrete kerbing are all suitable.
4. Install the filter/seperator geotextile on top of the sub-base layer.
5. Install the specified sand bedding layer to a uniform thickness.
6. Ensure an accurate right-angled CellPave™ HD laying pattern by setting-out the site using string-lines. Check the lines regularly for accuracy. Start installing the CellPave™ HD pavers. Wherever possible start laying from a right angled corner and progress across the site in rows. The pavers can be installed in a width or lengthwise orientation and cross-bonded if required or appropriate to fit the site. When installing the pavers ensure that the male/female connectors are fully located together. Use protective gloves to avoid abrasions.
7. CellPave™ HD pavers can be cut to fit around obstructions & curves using a hand or power saw. Wherever possible avoid using small cut-pieces less than one-third original size.
8. When installed, fill the paver cells loosely to the finished level (top of cells) with the specified free-draining soil. Remove excess soil from the surface of the pavers and do not overfill the cells. A single pass with a light vibrating plate machine or roller may be used to firmly bed the pavers and settle the soil, but do not compact the soil. It is preferable that the soil is left just below the top of the cells to aid quality grass growth and reduce its abrasion by traffic. The surface may be trafficked by slow moving plant during the cell-filling process, but care must be taken not to displace the open-celled grids with heavy-treaded or tracked machinery, nor compact the soil during this operation.
9. Apply the grass seed and fertiliser at the recommended rates.
10. The surface may be trafficked immediately after the cells are filled but should be avoided if at all possible. It is strongly advised that the grass is allowed to establish fully then mown 2 or 3 times prior to regular use.
11. A routine management and maintenance programme to keep the surface in good condition and free of debris and weed growth, will help to sustain the porosity, quality and longevity of the system.

Data Sheets, Installation & Design Guidances and Case Studies can be downloaded from www.groundtrax.com/downloads

CELLPAVE™ HD - Truck-Grade, Heavy Duty Paving System

INSTALLATION GUIDE - GRASSED SURFACES

Design Notes

Note 1: If the optional geogrid is omitted, the total sub-base layer thickness is typically increased by a minimum of 50%. Selecting an alternative geogrid will require a redesign of the sub-base thickness.

Note 2: Use of GeoTrax GX30/30T geogrid. If construction traffic axle loads will be greater than 60kN (approximately 6 tonnes), minimum sub-base thickness over the geogrid shall be 150mm. Maximum sub-base particle size should match minimum sub-base thickness but must not exceed 75mm diameter. For sub-base thicknesses of around 100mm, a minimum 37.5mm particle size should be adopted to allow effective installation of the geogrid.

Note 3: Sub-base attenuation utilising a geomembrane and optional geotextile protection, is typically necessary to create a water storage facility and/or a groundwater protection function.

Note 4: A permeable open-graded (reduced-fines) Sustainable Drainage System (SuDS) sub-base layer such as Dot Type 1x, Type 3 or Type 4/40, is preferred. However, where a conventional DoT Type 1 sub-base is to be installed, it is essential that a drainage system is incorporated to assist in the mitigation of issues associated with saturation. This drainage system would typically comprise of a network of perforated pipes or drainage geocomposite.

Note 5: CBR% = California Bearing Ratio: an indicative measurement of subgrade soil strength. Specialist advice should be sought from a suitably qualified person for high load or critical applications.

Note 6: The SuDS permeable sub-base must be overlaid with a GeoTrax TS1000 geotextile to provide separation, enhanced water treatment function and prevent migration of the sand bedding layer. The sand bedding must be a clean, coarse-grained sand free from silts & clays: it must not be soft building sand or silver sand.

Note 7: The paver fill material should be good quality, free-draining friable top-soil suitable for grass growth and with no contaminants or oversized debris. Amenity grass seed mixture should contain hard wearing, low fertility and/or drought tolerant species with option of a low percentage of clover content if acceptable.

Note 8: The maximum advised gradient for vehicular trafficked applications is 8% (1:12) 5°.

Note 9: When designed in accordance with the recommendations, CellPave™ HD complies with BS8300:2009 : "Design of buildings and their approaches to meet the needs of disabled people" – Code of Practice (ISBN 9780 580 57419) & Building Regulations Document 'M' Sec. 6.

The following table is for general guidance only. Please contact us for scheme specific advice.

APPLICATION/LOAD	CBR % OF SUBGRADE	SUB-BASE THICKNESS	GEOTEXTILE (A)	GEOGRID (B)
LIGHT DUTY (CARS)	OVER 6 %	150 mm	TS1000	
	4 - 6 %	200 mm	TS1000	
	2 - 4 %	230 mm	TS1000	GX20/20
	1 - 2 %	350 mm	TS1000	GX20/20
	BELOW 1 %	CONTACT US		
MEDIUM DUTY (7.5T)	OVER 6 %	150 mm	TS1000	
	4 - 6 %	200 mm	TS1000	GX20/20
	2 - 4 %	300 mm	TS1000	GX30/30
	1 - 2 %	430 mm	TS1000	GX30/30
	BELOW 1 %	CONTACT US		
HEAVY DUTY (HGV)	OVER 6 %	230 mm	TS1000	GX20/20
	4 - 6 %	310 mm	TS1000	GX30/30
	2 - 4 %	470 mm	TS1000	GX30/30
	1 - 2 %	CONTACT US		
	BELOW 1 %	CONTACT US		



For more information, contact us
or visit the dedicated website:

www.cellpave.com

GROUNDTRAX

Ground Protection and Reinforcement

Telephone: 03456 800008 | Fax: 03456 800208

E-Mail: info@groundtrax.com | Website: www.groundtrax.com