

Appendix 1.0

Drainage Proposals



NOTES:

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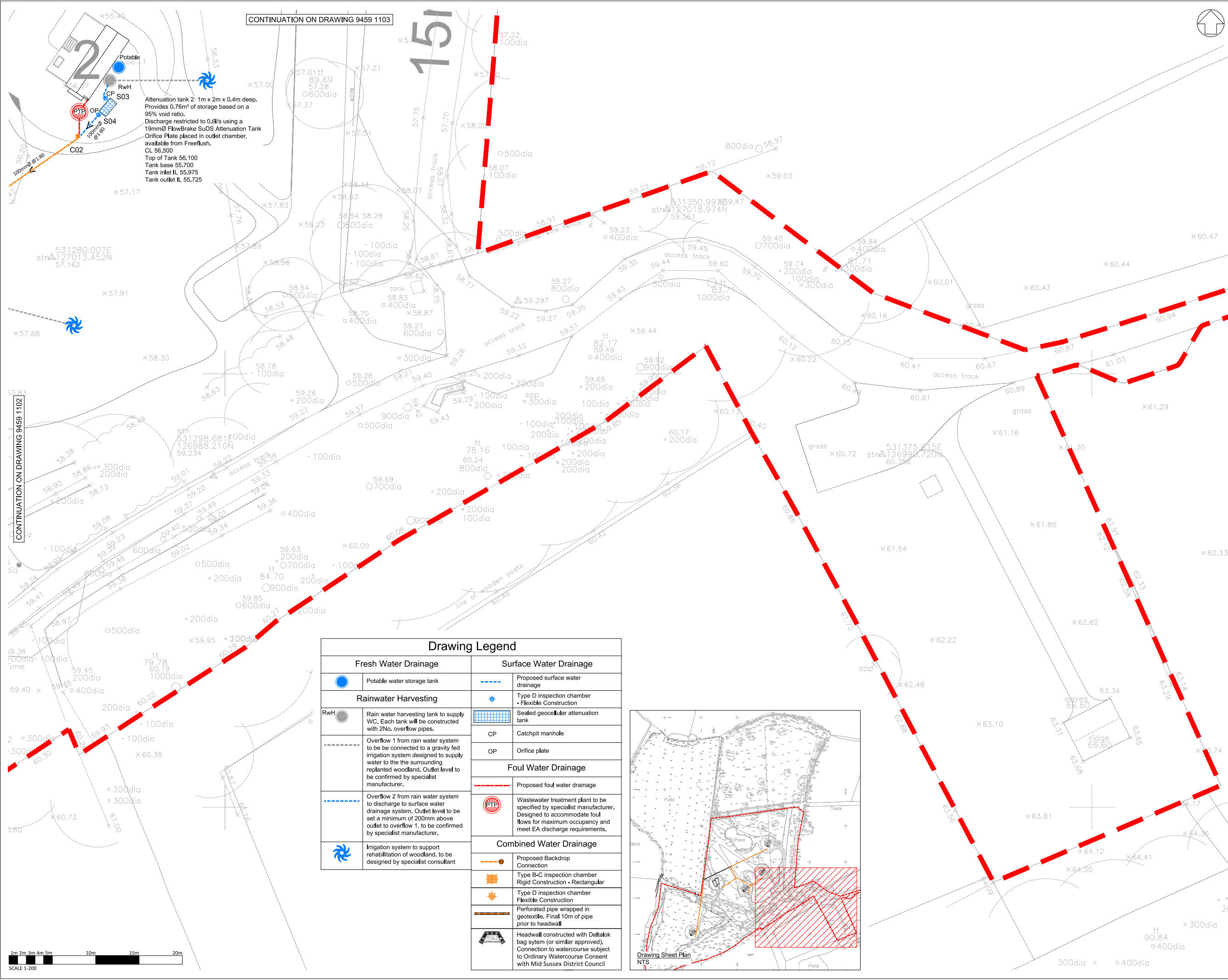
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P05	17.03.2026	SURFACE WATER ATTENUATION AND FLOW RESTRICTION ADDED
P04	10.09.2025	DRAWING AMENDED TO SHOW COMBINED SEWERS
P03	01.09.2025	DRAINAGE DESIGN AMENDED IN ACCORDANCE WITH EVOLVED STRATEGY
P02	05.03.2025	TENDER ISSUE
P01	13.12.2024	PRELIMINARY ISSUE
REV.	DATE	DESCRIPTION

TENDER



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		DATE	DEC '24	DRAWN	JWM
NTS		ENG.	JWM	CHECKED	DMG
RIBA STATUS		STAGE 4 - TECHNICAL DESIGN			
DRAWING STATUS		S5	DRAWING SUITABILITY		TENDER
JOB No.		DRAWING No.			REV.
E9459		PROJECT - ORIGINATOR - VOLUME - LEVEL - FORM - DESCRIPTION - NUMBER 9459-SWP-ZZ-XX-DP-C-1100			P05

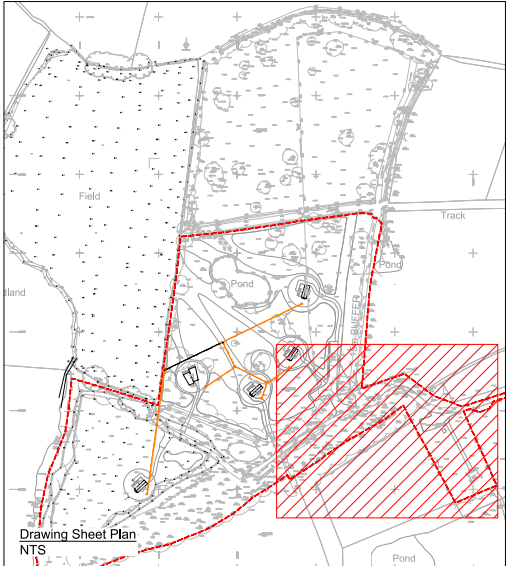


CONTINUATION ON DRAWING 9459 1103

CONTINUATION ON DRAWING 9459 1102

Attenuation tank 2: 1m x 2m x 0.4m deep. Provides 0.76m³ of storage based on a 95% void ratio. Discharge restricted to 0.6l/s using a 19mmØ FlowBrake SuDS Attenuation Tank Orifice Plate placed in outlet chamber, available from Freeflush. CL 56.500 Top of Tank 56.100 Tank base 55.700 Tank inlet IL 55.975 Tank outlet IL 55.725

Drawing Legend			
Fresh Water Drainage		Surface Water Drainage	
	Potable water storage tank		Proposed surface water drainage
Rainwater Harvesting			Type D inspection chamber - Flexible Construction
	Rain water harvesting tank to supply WC. Each tank will be constructed with 2No. overflow pipes.		Sealed geocellular attenuation tank
		CP	Catchpit manhole
		OP	Orifice plate
		Foul Water Drainage	
	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 foul water drainage
	Overflow 2 from rain water system to discharge to surface water drainage system. Outlet level to be set a minimum of 200mm above outlet to overflow 1, to be confirmed by specialist manufacturer.		Wastewater treatment plant to be specified by specialist manufacturer. Designed to accommodate foul flows for maximum occupancy and meet EA discharge requirements.
		Combined Water Drainage	
	Irrigation system to support rehabilitation of woodland, to be designed by specialist consultant		Proposed Backdrop Connection
			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
			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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All RWP and SVP numbers and locations are indicative and will be confirmed by the Architect

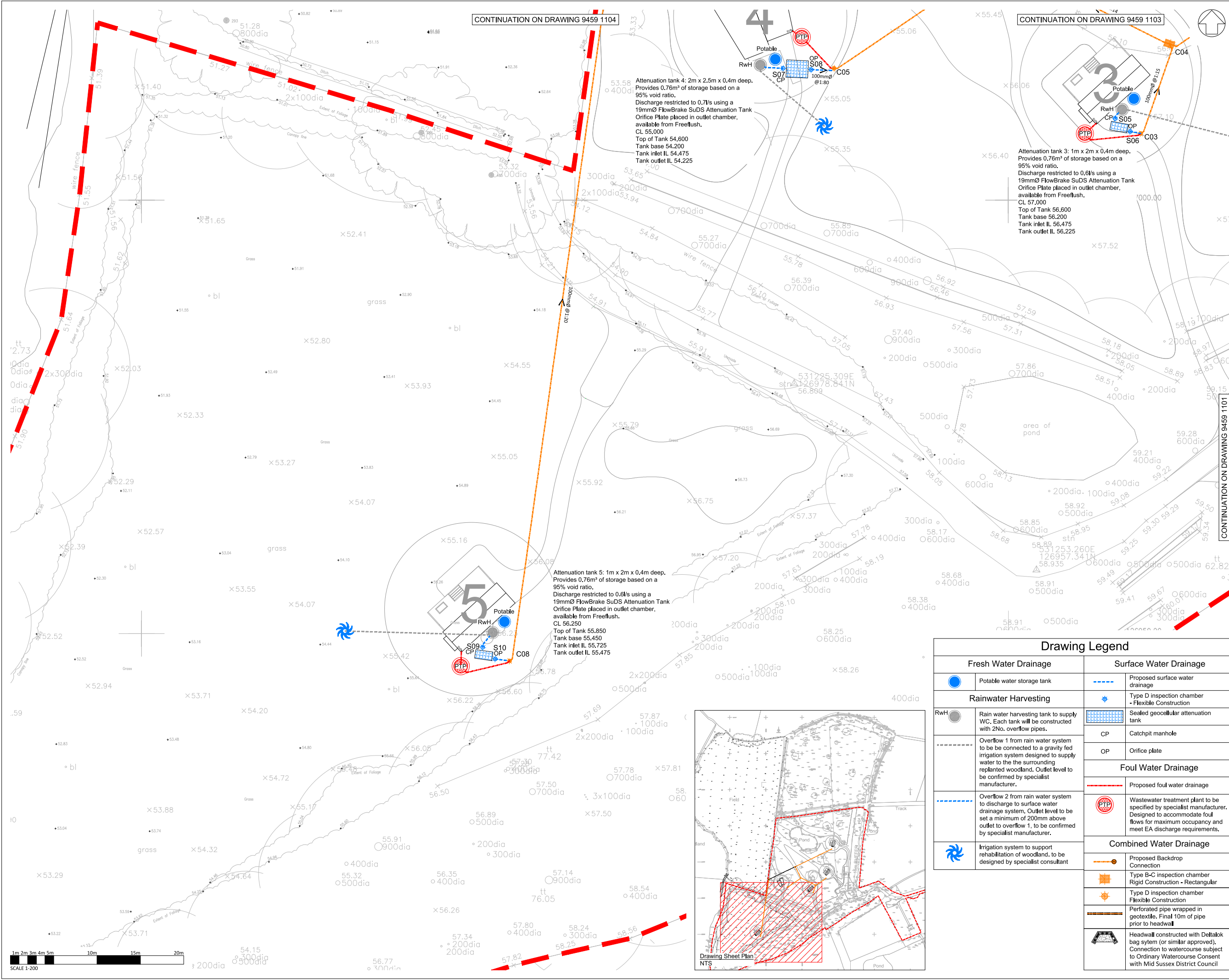
Groundworker responsible for recording photographic evidence of drainage installation prior to backfilling

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

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P05	17.03.2026	SURFACE WATER ATTENUATION AND FLOW RESTRICTION
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 - CWC NOTE ADDED & FOOTPATHS EXTENDED TO ENTRANCES
P01	13.12.2024	PRELIMINARY ISSUE
REV.	DATE	DESCRIPTION
TENDER		
 STEPHEN WILSON PARTNERSHIP LTD Chorlington Park, Offtons Business Park, Offtons Road, POL. EGATE, RA26 6HY, Telfordham: 01323 412020 E-mail: info@stephenwilson.co.uk • Website: www.stephenwilson.co.uk		
CUSTOMER	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	DATE	DRAWN
1:200	DEC '24	JWM
STATUS	ENG.	CHECKED
S5	JWM	DMG
REVISION	STAGE 4 - TECHNICAL DESIGN	
DRAWING STATUS	TENDER	
JOB No.	DRAWING No.	REV.
E9459	9459-SWP-ZX-XX-DP-C-1101	P05



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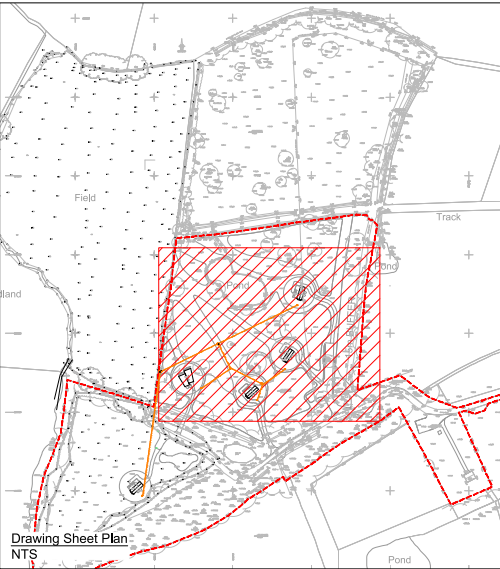
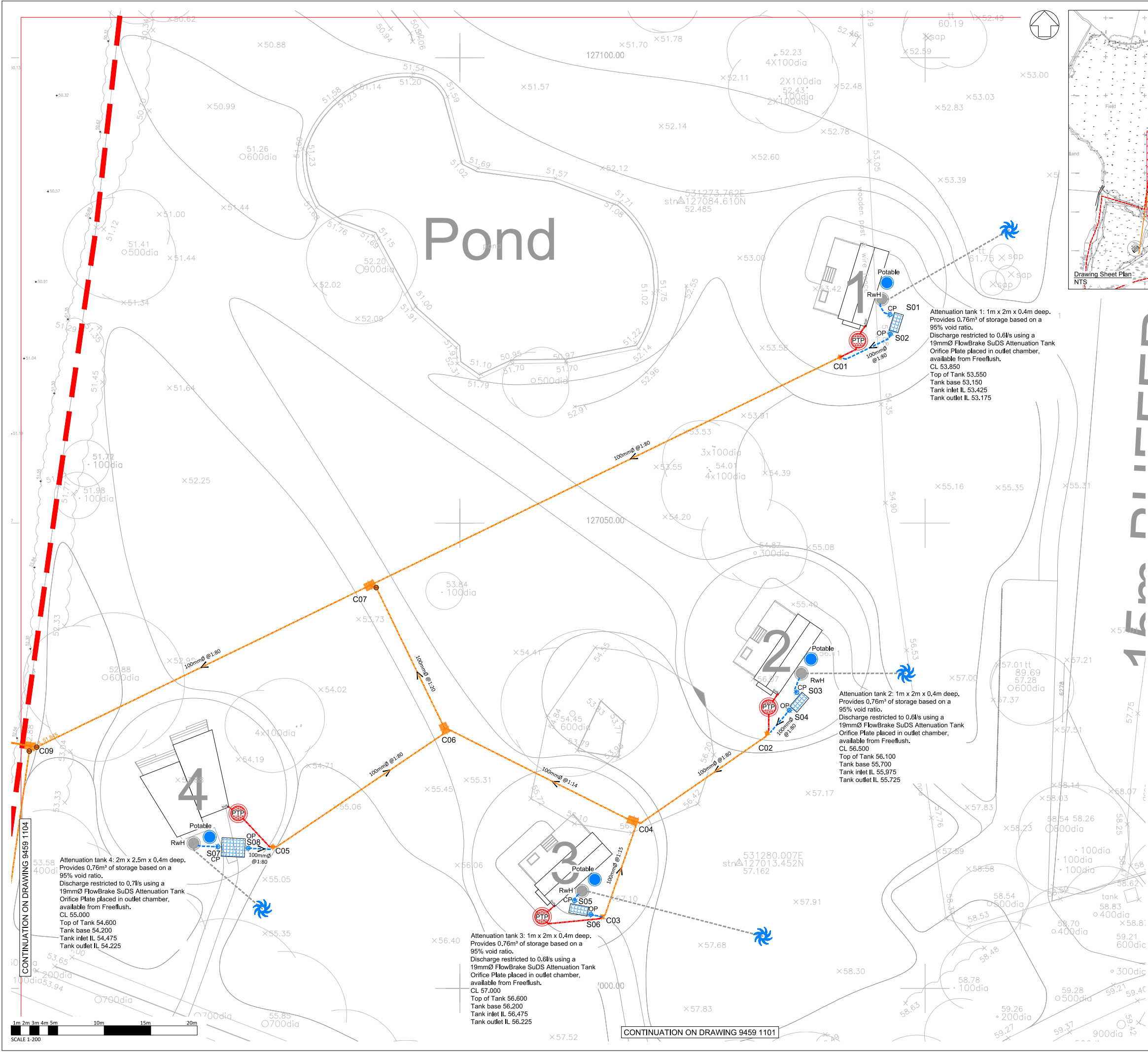
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Drawing Legend	
Fresh Water Drainage	
	Potable water storage tank
Rainwater Harvesting	
	Rain water harvesting tank to supply WC. Each tank will be constructed with 2No. overflow pipes.
	Overflow 1 from rain water system to be connected to a gravity fed irrigation system designed to supply water to the surrounding replanted woodland. Outlet level to be confirmed by specialist manufacturer.
	Overflow 2 from rain water system to discharge to surface water drainage system. Outlet level to be set a minimum of 200mm above outlet to overflow 1, to be confirmed by specialist manufacturer.
	Irrigation system to support rehabilitation of woodland, to be designed by specialist consultant
Surface Water Drainage	
	Proposed surface water drainage
	Type D inspection chamber - Flexible Construction
	Sealed geocellular attenuation tank
CP	Catchpit manhole
OP	Orifice plate
Foul Water Drainage	
	Proposed foul water drainage
	Wastewater treatment plant to be specified by specialist manufacturer. Designed to accommodate foul flows for maximum occupancy and meet EA discharge requirements.
Combined Water Drainage	
	Proposed Backdrop Connection
	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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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 5, SWALE EXTENDED & OWC NOTE ADDED - FOOTPATHS EXTENDED TO ENTRANCES
P01	13.12.2024	PRELIMINARY ISSUE
REV.	DATE	DESCRIPTION
TENDER		
ALEX GODDARD		
TOM DUNN ARCHITECTS LTD		
BORDE HILL ESTATE HAYWARDS HEATH,		
PRELIMINARY SURFACE & FOUL DRAINAGE LAYOUT (SHEET 2 OF 4)		
SCALE AT A1	DATE	DRAWN
1:200	DEC '24	JWM
ENG.	JWM	CHECKED
DMG		
STAGE 4 - TECHNICAL DESIGN		
STATUS	DRAWING	TENDER
S5	SUITABILITY	
JOB No.	DRAWING No.	REV.
E9459	9459-SWP-ZX-XX-DP-C-1102	P05



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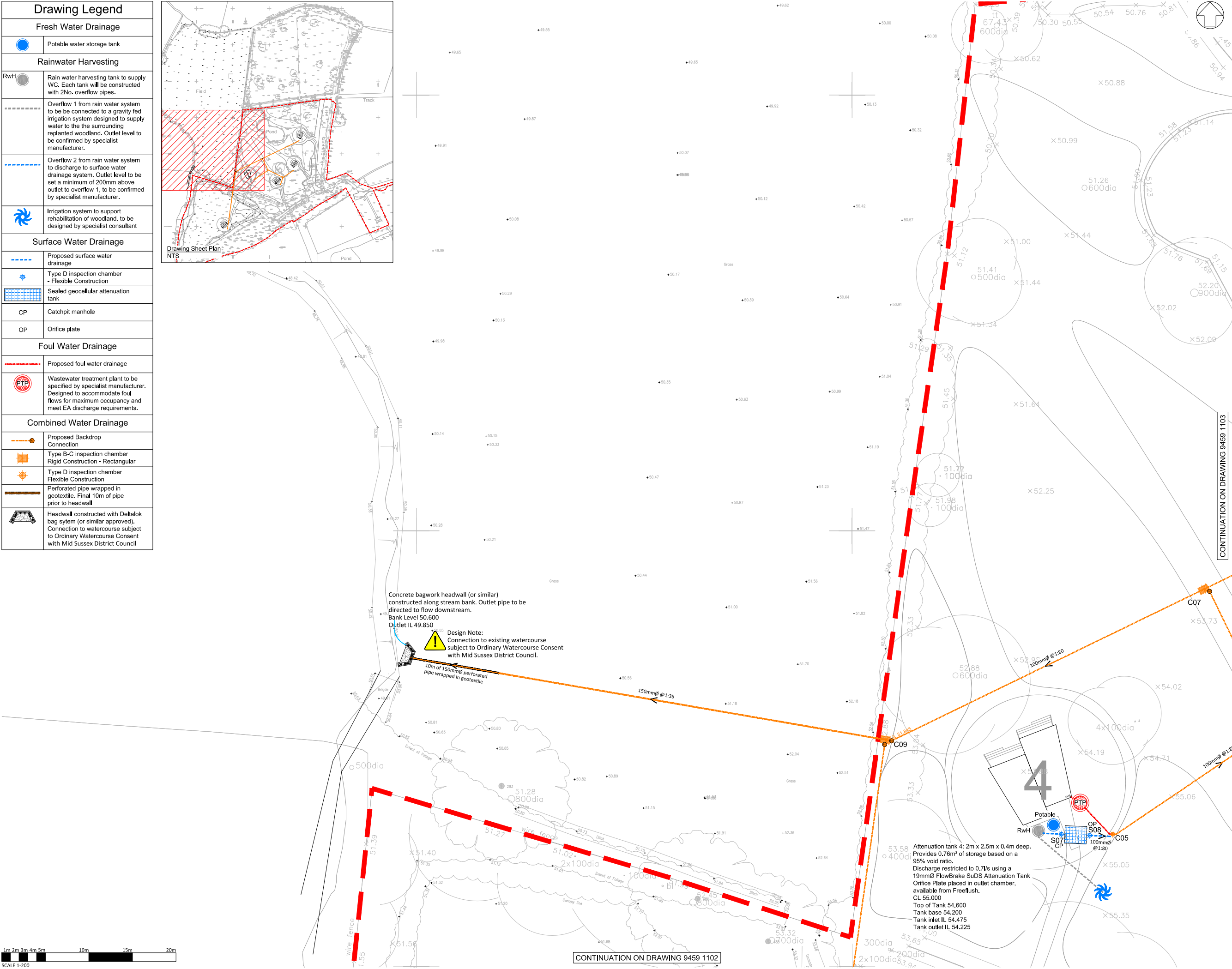
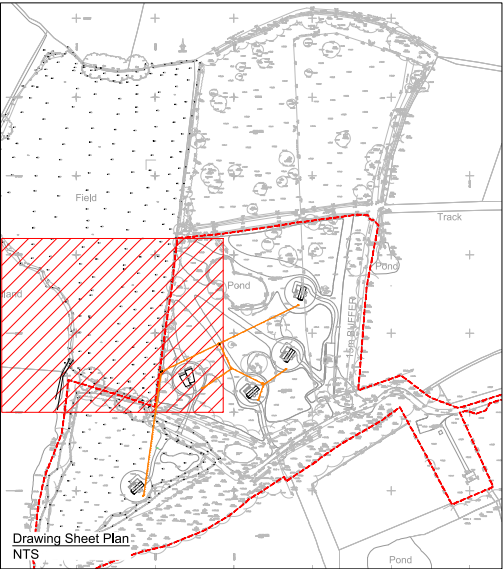
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	RwH
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REV.	DATE	DESCRIPTION
TENDER		
CLIENT		
ALEX GODDARD		
ARCHITECT		
TOM DUNN ARCHITECTS LTD		
JOB TITLE		
BORDE HILL ESTATE HAYWARDS HEATH,		
DRAWING TITLE		
PRELIMINARY SURFACE & FOUL DRAINAGE LAYOUT (SHEET 3 OF 4)		
SCALE AT A1		DATE
1:200		DEC '24
ENG.		DRAWN
JWM		JWM
CHECKED		DMG
RIBA STATUS		
STAGE 4 - TECHNICAL DESIGN		
DRAWING STATUS		
S5 TENDER		
JOB No.		
PROJECT - ORIGINATOR - VOLUME - LEVEL - FORM - DESCRIPTION - NUMBER		
E9459 9459-SWP-ZX-XX-DP-C-1103		
DRAWING No.		REV.
P05		P05

Drawing Legend	
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P05	17.03.2026	SURFACE WATER ATTENUATION AND FLOW RESTRICTION ADDED
P04	10.09.2025	DRAWING AMENDED TO SHOW COMBINED SEWERS
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P02	05.03.2025	TENDER ISSUE - OWC NOTE ADDED & FOOTPATHS EXTENDED TO ENTRANCES
P01	13.12.2024	PRELIMINARY ISSUE

TENDER

SWP
STEPHEN WILSON PARTNERSHIP LTD
Chorlington Park, Offtons Business Park, Offtons Road,
POLEGATE, BA26 6HY Dorsetshire. 01323 412020
E-mail: info@stepwilton.co.uk • Website: www.stepwilton.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 4 OF 4)**

SCALE AT A1	DATE	DRAWN
1:200	DEC '24	JWM
ENG.	CHECKED	
JWM	DMG	

RIBA STATUS **STAGE 4 - TECHNICAL DESIGN**

DRAWING STATUS **S3** DRAWING SUITABILITY **TENDER**

JOB No.	DRAWING No.	REV.
E9459	9459-SWP-ZX-ZZ-DP-C-1104	P05

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Combined Water Manhole Schedule											
Manhole Ref	Cover Level	Depth to Invert (M)	Depth to Soffit (M)	Pipe Out Dia (mm)	Pipe Out Invert Level	Pipe In Dia (mm)	Pipe In Invert Level	Manhole Type	Manhole Size (mm)	Cover Grade	Notes
C01	53.850	0.800	0.700	100	53.050	100	53.050	PPIC	450	B125	Connection from PTP
						100	53.150				SW connection from tank
C02	56.500	0.865	0.765	100	55.635	100	55.635	PPIC	450	B125	Connection from PTP
						100	55.685				SW connection from tank
C03	57.000	0.840	0.740	100	56.160	100	56.160	PPIC	450	B125	Connection from PTP
						100	56.210				SW connection from tank
C04	56.650	1.230	1.130	100	55.420	100	55.420	PC	1000x675	B125	
						100	55.420				
C05	54.950	0.805	0.705	100	54.145	100	54.145	PPIC	450	B125	Connection from PTP
						100	54.195				SW connection from tank
C06	55.200	1.340	1.240	100	53.860	100	53.860	PC	1000x675	B125	
						100	53.860				
C07	53.600	1.250	1.150	100	52.350	100	52.350	PC	1000x675	B125	
						100	52.985				Backdrop connection
C08	56.500	1.095	0.995	100	55.405	100	55.405	PPIC	600	B125	Connection from PTP
						100	55.455				SW connection from tank
C09	53.000	1.600	1.450	150	51.400	100	51.845	PC	1000x675	B125	Backdrop connection - connects downstream to headwall
						100	51.845				Backdrop connection
Surface Water Manhole Shedule											
Manhole Ref	Cover Level	Depth to Invert (M)	Depth to Soffit (M)	Pipe Out Dia (mm)	Pipe Out Invert Level	Pipe In Dia (mm)	Pipe In Invert Level	Manhole Type	Manhole Size (mm)	Cover Grade	Notes
S01	53.850	0.425	0.325	100	53.425	100	53.425	PPIC	450	B125	Catchpit manhole 300mm sump
S02	53.850	0.675	0.525	150	53.175	100	53.175	PPIC	450	B125	Connection from tank - 19mm flow restriction*
S03	56.500	0.525	0.425	100	55.975	100	55.975	PPIC	450	B125	Catchpit manhole 300mm sump
S04	56.500	0.775	0.675	100	55.725	100	55.725	PPIC	450	B125	Connection from tank - 19mm flow restriction*
S05	57.000	0.525	0.425	100	56.475	100	56.475	PPIC	450	B125	Catchpit manhole 300mm sump
S06	57.000	0.775	0.675	100	56.225	100	56.225	PPIC	450	B125	Connection from tank - 19mm flow restriction*
S07	55.000	0.525	0.425	100	54.475	100	54.475	PPIC	450	B125	Catchpit manhole 300mm sump
S08	55.000	0.775	0.675	100	54.225	100	54.225	PPIC	450	B125	Connection from tank - 19mm flow restriction*
S09	56.250	0.525	0.425	100	55.725	100	55.725	PPIC	450	B125	Catchpit manhole 300mm sump
S10	56.250	0.775	0.675	100	55.475	100	55.475	PPIC	450	B125	Connection from tank - 19mm flow restriction*
* Denotes Bespoke FlowBrake SuDS Attenuation Tank Orifice Plate: available at https://www.freeflush.co.uk/products/flowbrake-suds-attenuation-tank-orifice-plate?variant=40628437680215											

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P01	17.03.2026	PRELIMINARY ISSUE
REV.	DATE	DESCRIPTION
TENDER		
 STEPHEN WILSON PARTNERSHIP LTD Cherwellington Barn, Offshore Business Park, Offshore Road, POLYFATE, BA29 8PP Telephone: 01323 412020 E-mail: info@swp.co.uk • Website: www.swp.co.uk		
CLIENT	ALEX GODDARD	
ARCHITECT	TOM DUNN ARCHITECTS LTD	
JOB TITLE	BORDE HILL ESTATE HAYWARDS HEATH,	
DRAWING TITLE	SURFACE & FOUL WATER MANHOLE SCHEDULE	
SCALE AT A1	DATE	DRAWN
NTS	MAR' 26	JWM
	ENG.	CHECKED
	JWM	DMG
RIBA STATUS	STAGE 4 - TECHNICAL DESIGN	
DRAWING STATUS	DRAWING SUITABILITY	TENDER
JOB No.	DRAWING No.	REV.
E9459	9459-SWP-ZZ-XX-SH-C-1108	P01



Drawing Legend

Surface Water Drainage



Exceedance flow route
(in the event of a flooded outfall)

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.
5. 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.
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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P05	17.03.2025	SURFACE WATER ATTENUATION AND FLOW RESTRICTION ADDED
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
P01	13.12.2024	PRELIMINARY ISSUE
REV.	DATE	DESCRIPTION

TENDER

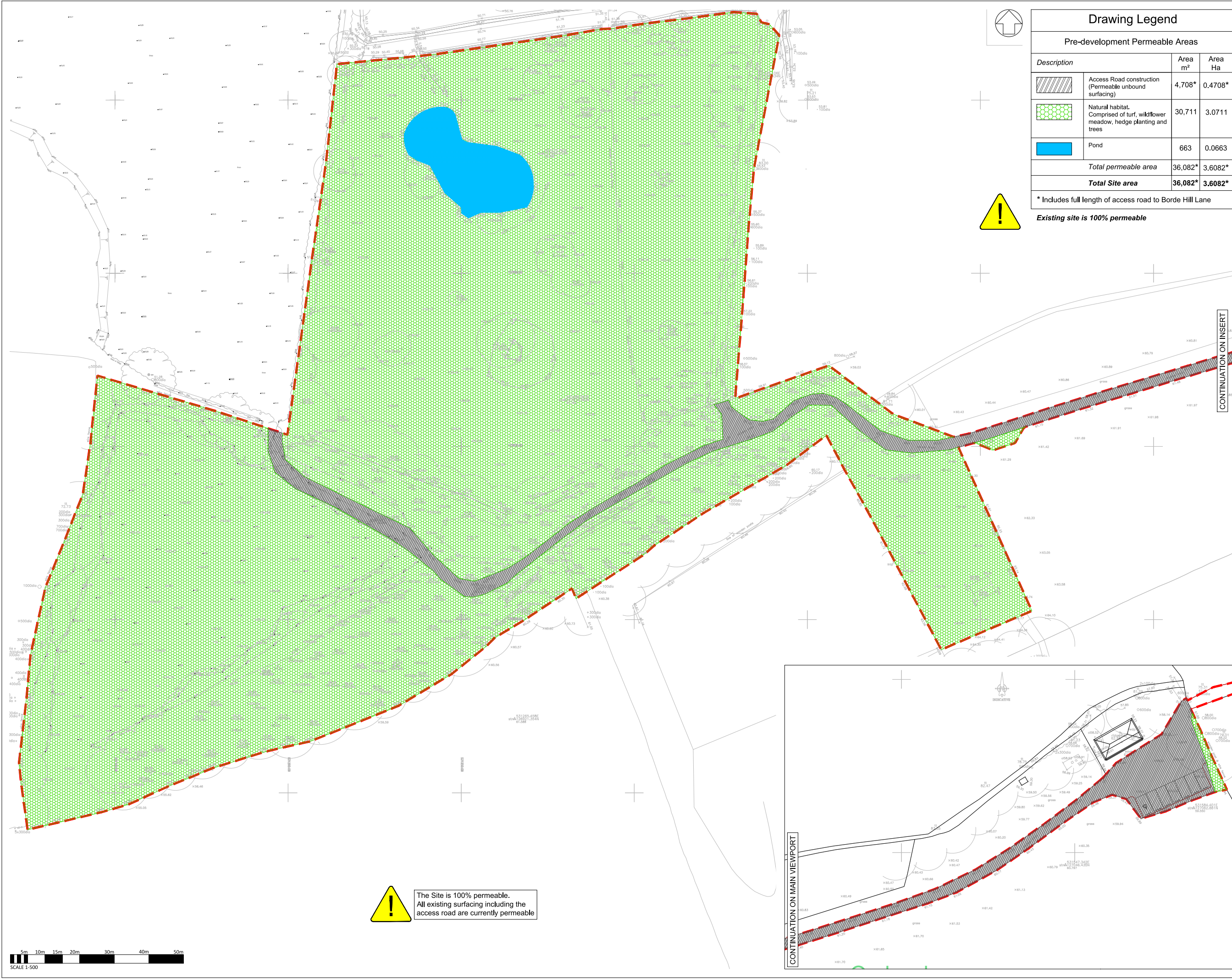


ALEX GODDARD		
ARCHITECT		
TOM DUNN ARCHITECTS LTD		
JOB TITLE		
BORDE HILL ESTATE HAYWARDS HEATH,		
DRAWING TITLE		
SURFACE WATER EXCEEDANCE FLOW ROUTE		
SCALE AT A1	DATE DEC '24	DRAWN JWM
NTS	ENG. JWM	CHECKED DMG
RIBA STATUS	STAGE 4 - TECHNICAL DESIGN	
DRAWING STATUS	S5	DRAWING SUITABILITY TENDER
JOB No.	DRAWING No. PROJECT - ORIGINATOR - VOLUME - LEVEL - FORM - DESCRIPTION - NUMBER	REV.
E9459	9459-SWP-ZZ-XX-DP-C-1110	P0

Appendix 2.0

Pre & Post Development

Impermeable Areas



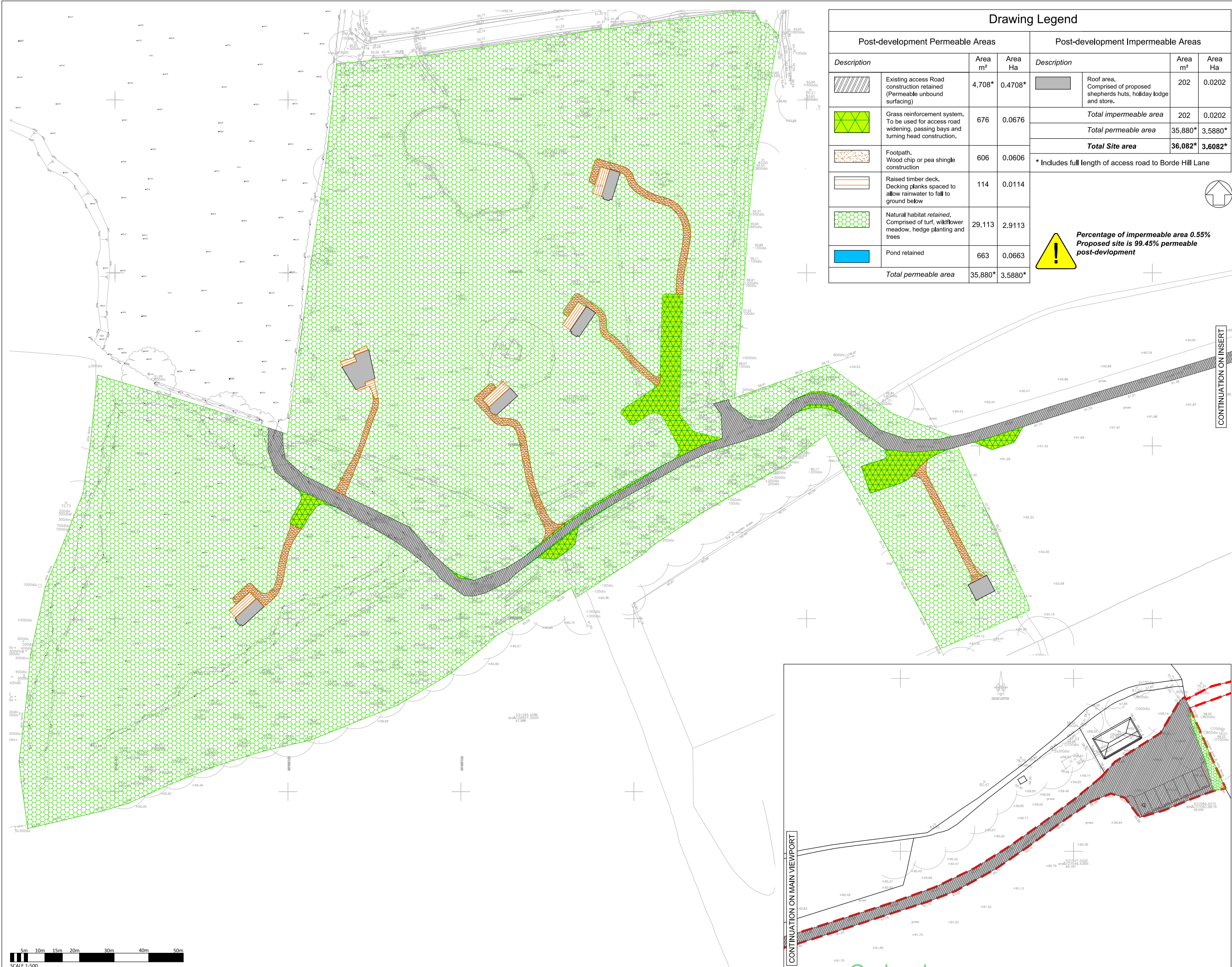
Drawing Legend			
Pre-development Permeable Areas			
Description		Area m²	Area Ha
	Access Road construction (Permeable unbound surfacing)	4,708*	0.4708*
	Natural habitat. Comprised of turf, wildflower meadow, hedge planting and trees	30,711	3.0711
	Pond	663	0.0663
Total permeable area		36,082*	3.6082*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

Existing site is 100% permeable

- NOTES:
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 - 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, POLYFATE, 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 m ²	Area Ha	Description	Area m ²	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	202	0.0202
 Footpath, Wood chip or pea shingle construction	606	0.0606	Total permeable area	35,880*	3.5880*
 Raised timber deck, Decking planks spaced to allow rainwater to fall to ground below	114	0.0114	Total Site area	36,082*	3.6082*
 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	 Percentage of impermeable area 0.55% Proposed site is 99.45% permeable post-development 		
Total permeable area	35,880*	3.5880*			



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



NOTES:

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PO1	01.09.2025	PRELIMINARY ISSUE
REV.	DATE	DESCRIPTION
TENDER		
STEPHEN WILSON PARTNERSHIP LTD Cheriton Ham, Offham Business Park, Offham Road, POL EGATE, RA29 8PP Telephone: 01323 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	DRAWN
1:500	AUG 2025	JWM
	ENG.	CHECKED
	JWM	DMG
RBA STATUS	STAGE 4 - TECHNICAL DESIGN	
DRAWING STATUS	S5	
DRAWING SUITABILITY	TENDER	
JOB No.	DRAWING No.	REV.
E9459	9459-SWP-ZX-XX-DP-C-1106	P01

Appendix 3.0

Greenfield Runoff Rate

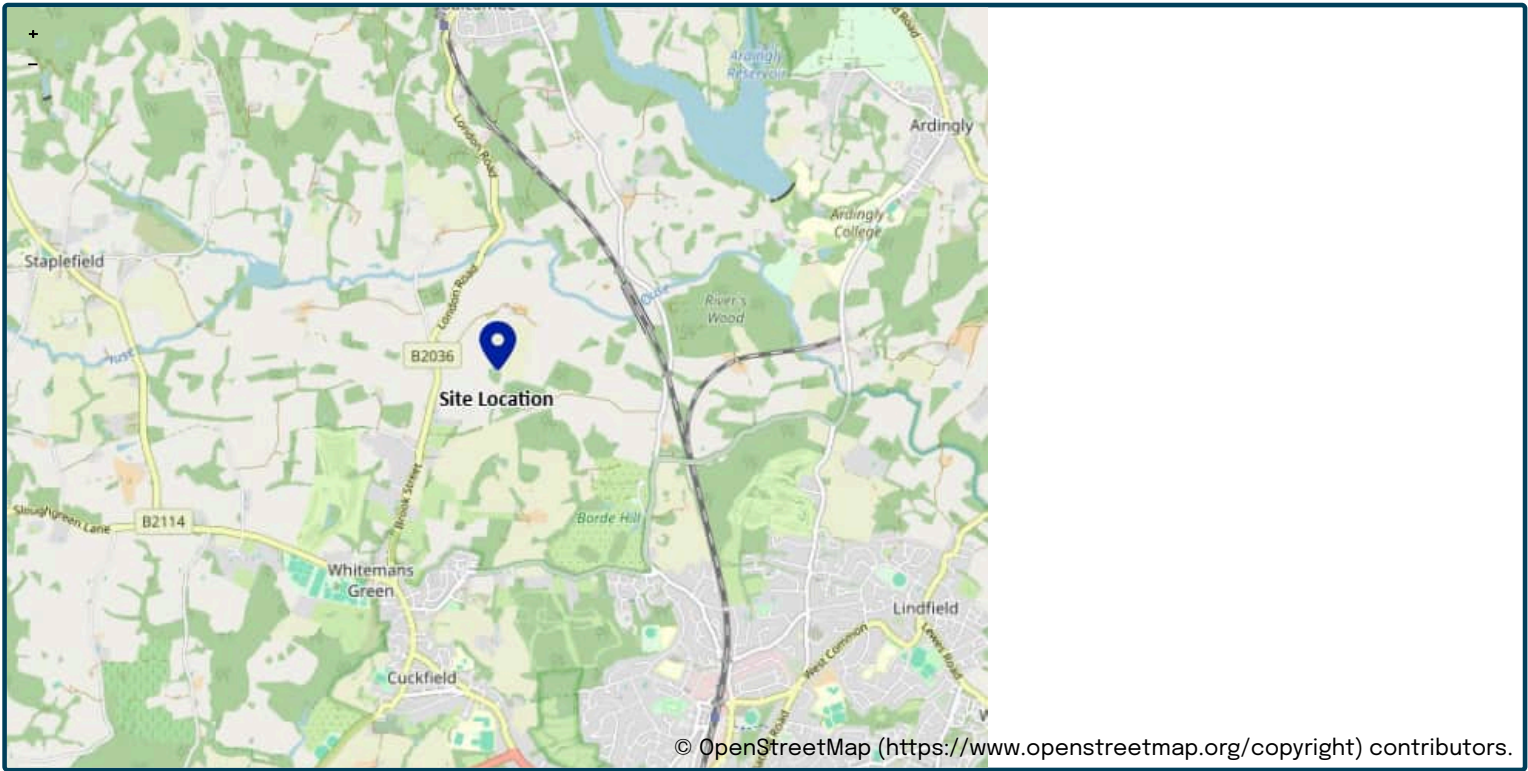
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). 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.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) (<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.

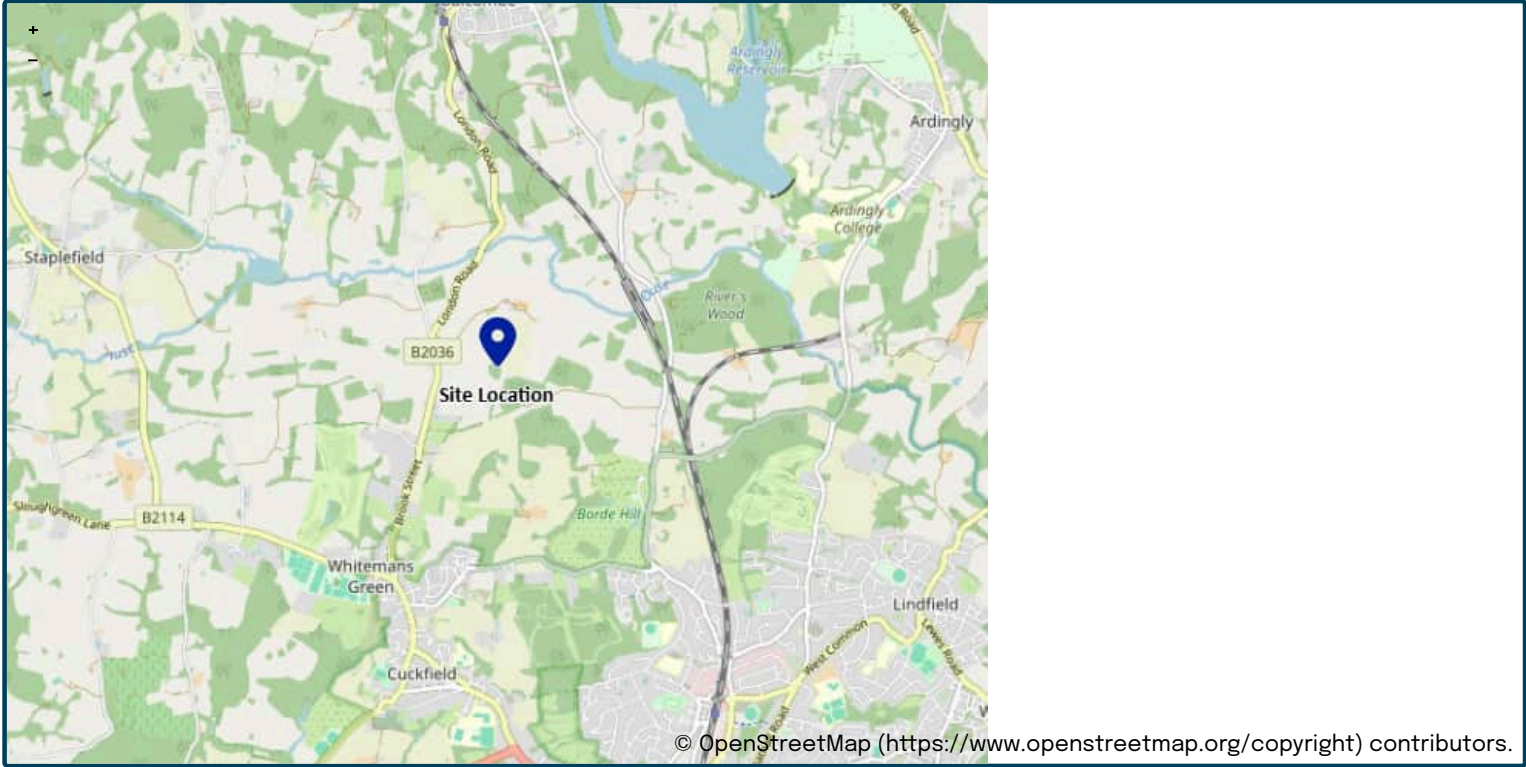
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). 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 l/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

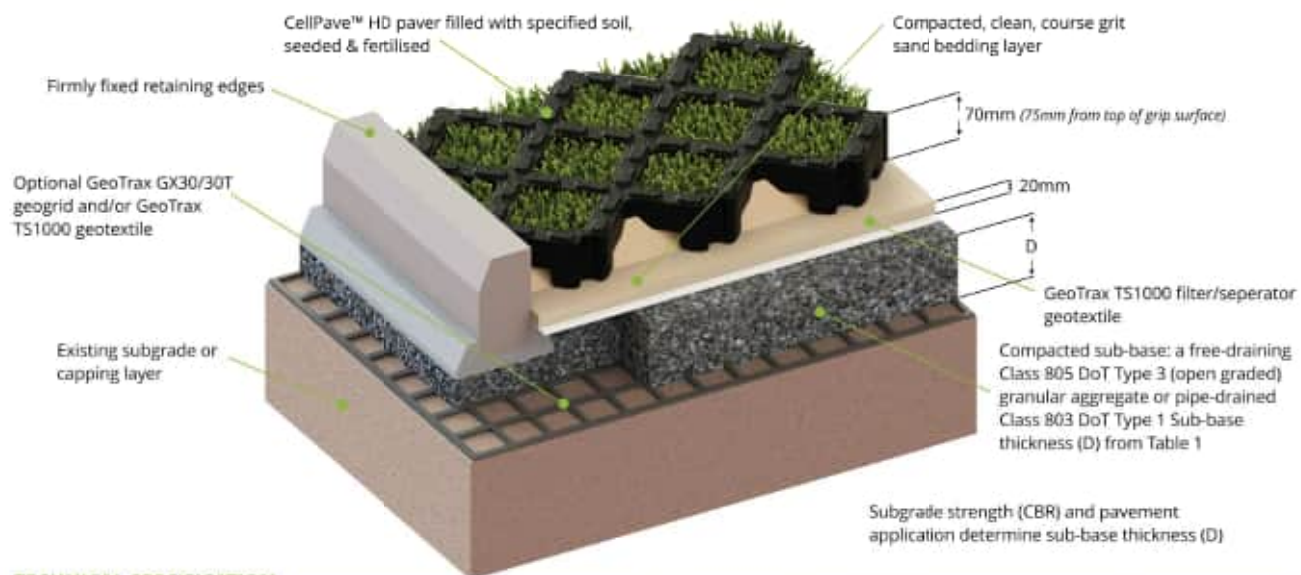
Data Sheets, Installation & Design Guidances
and Case Studies can be downloaded from www.groundtrax.com/downloads

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/separator 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.

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