Drainage Technical Note

Penland Farm

Client

Brixter Construction

Ref: 13985
Date: December 2025

Consulting Engineers

GTA Civils & Transport Limited
Maple House
192-198 London Road
Burgess Hill
West Sussex
RH15 9RD
Tel: 01444 871444

Index

Schedule of Appendices

Issue	Issue date	Compiled	Checked
First Draft Issue	01/12/2025	AW	FVV
First Issue	09/12/2025	AW	FVV

1 Introduction

1.1 This report has been prepared for the Client in relation to the proposed development at Penland Farm. No responsibility is accepted to any third party for all or part of this study in connection with this or any other development.

1.2 GTA Civils & Transport Limited was appointed by Brixter Construction to prepare a drainage technical report as required by the Mid Sussex District Council in order to support the reserved matters application at Penland Farm.

2 Existing Site & Existing Drainage

2.1 The application site lies within a small suburban area approximately 2km northwest of the centre of Haywards Heath. This area is administered by Mid Sussex District Council. The site area is approximately 0.175ha, and it comprises of Penland Farmhouse along with a driveway and landscaping A site location map and aerial view are shown in Appendix A.

2.2 Hydrology: The site lies approximately 100m east of a small ditch running north to south, which a further 500m downstream connects to the Scrase Stream.

2.3 Topography: There is a steady north to south gradient across the site, approximately 1 in 15 slope. For further topographical information, see the topographical survey Appendix B.

2.4 Geology: The BGS's online geology map shows the site comprises bedrock of Upper Tunbridge Wells Sands. Superficial deposits are not record across the site.

2.5 Soil soakage testing was carried out on site in accordance with BRE Digest 365 on 10th October 2025. Infiltration testing was carried out three times in a 1.2m deep trial pit. All three tests demonstrated that the drainage characteristics within the soil were poor and therefore was determined as a result of these tests that the use of shallow soakaways is not suitable for this site. Excerpts from the test report are shown in Appendix C. The full report is available upon request.

2.6 The greenfield runoff rates per hectare were calculated using the HR Wallingford online application. The rates for the 4 main storm return periods have been tabulated as follows (see Appendix F for calculations):

Event	Flow Rate (l/s/ha)
Qbar	6.6
1 in 1 yr	5.6
1 in 2 yr	5.8
1 in 30 yrs	15.1
1 in 100 yrs	20.9

Table 1: Runoff Rates

2.7 Public Sewers Infrastructure: There are no public sewers mapped in the vicinity of the site. The nearest public sewers to the site are under Penland Road, approximately 350m east of the site according to Southern Water records. The sewer records are included in

Appendix D.

2.8 A CCTV drainage survey was carried out on 5th November 2025, to locate any private surface water and/or foul water sewers on the site.

2.9 The survey uncovered a series of surface water drains leading from the existing farmhouse to a historical well (soakaway) in the south of the site.

2.10 The survey also located a combined sewer network, taking SVPs and RWGs from the existing farmhouse, and taking them towards a manhole southeast of the farmhouse. This manhole (MH4) then appears to feed into a possible septic tank (now redundant), before going south into MH1. This is the most downstream manhole mapped on site. The survey was attempted downstream of MH1 but was abandoned 14m along due to loss of vision.

2.11 It is understood at present that this connects into the existing sewer, as recently installed as part of the neighbouring development. It is recommended that this is jetted clean prior to start of works.

2.12 Whilst the sewer records do not show the foul and surface water networks that were installed to serve the recent residential development, available S104 drainage drawings (dated August 2020) were reviewed. These show surface water and foul water networks under Timbergate Drive (see Appendix D). It is unclear at this time whether these networks have been fully adopted yet and whether it falls under the responsibility of Southern Water or another NAV operator.

3 Proposed SuDS & Foul Water Drainage Strategy

3.1 The SuDS hierarchy: The NSS hierarchy sets the priority as collecting runoff for non-potable use. Water butts are to be provided for each plot, as shown on the drainage strategy. Unless supersized storage tanks are provided in excess of the demand sizing, it must be assumed that any RwH systems are full and quickly overflowing at the time of an extreme storm event. Onward discharge must therefore be considered.

3.2 The 2nd priority for surface water discharge is via infiltration to the ground as per the SuDS hierarchy. However, the soil infiltration report, as previously mentioned in Section 2.5, concluded that the site is not suitable for the use of soakaways. It is contended that the soakaways found during the CCTV survey are likely historical and not to today's standards.

3.3 The 3rd priority as per the hierarchy is to discharge into an above ground surface water body. There are no above ground surface water bodies within the vicinity of the site, and therefore this is deemed not possible.

3.4 The 4th priority as per the hierarchy is to discharge into a surface water sewer. There are no existing surface water sewers within the vicinity of the site, as shown on the sewer records map in Appendix D, and therefore this is deemed not possible.

3.5 The final priority is to discharge into an existing combined sewer. There is an existing combined sewer on site, and so it has been proposed that both the surface water and foul water be discharged into existing manhole MH1 as per the CCTV records, shown in Appendix D.

3.6 The NSS guidance sets out that the peak allowable discharge rate from the development should be limited to the 1 in 2 (50%) AEP greenfield runoff rate, or 3 l/s/ha, whichever is the greater. As shown in Section 3 above, the 1 in 2 AEP greenfield runoff rate for the site is 5.8 l/s/ha (see Appendix F). The peak allowable discharge rate for the development would have been therefore 0.537 l/s, when applied to the proposed impermeable areas, however as per the national standards, 1l/s is the minimum peak discharge rate allowed in order to prevent blockages in the system. Therefore, the peak allowable discharge rate for the development is 1l/s.

3.7 This rate is lower than the existing runoff rates from the existing gullies currently connecting to the combined sewer. The overall load on the sewer will therefore be

reduced as a result of the development.

3.8 Discharge will be limited to the applicable rate by means of flow controls with attenuation storage provided within permeable paving and a cellular storage tank. A non-return valve has been included on the most downstream manhole of the proposed surface water network, in order to prevent foul flows from flowing back up into the surface water sewer, before both connect into the existing manhole MH1. The location, levels and capacity of each component are shown on the strategy plan in Appendix E. Flow network calculations are included in Appendix F to demonstrate that sufficient storage volume has been provided to cater for the 1 in 100 AEP +45% storm events. The calculations include a 10% urban creep allowance on proposed roof areas.

3.9 The foul drainage strategy proposes that the plot drainage from each proposed dwelling exits via the front of the house, and taken east, towards the existing manhole (marked as MH1 on the CCTV survey), which is the proposed outfall.

3.10 This proposed outfall manhole for both the surface and foul strategies is shown on the previously mentioned S104 drawings as manhole FW29B, which is shown to connect into the foul network of the adjacent development. Since there are separate surface and foul water networks shown on these drawings, it could be possible that a separate surface water connection to SWMH 6101 could be made (see Appendix D). However this is shown to drain to a dedicated attenuation pond, and connecting into this would require further discussions with the system owner to confirm capacity.

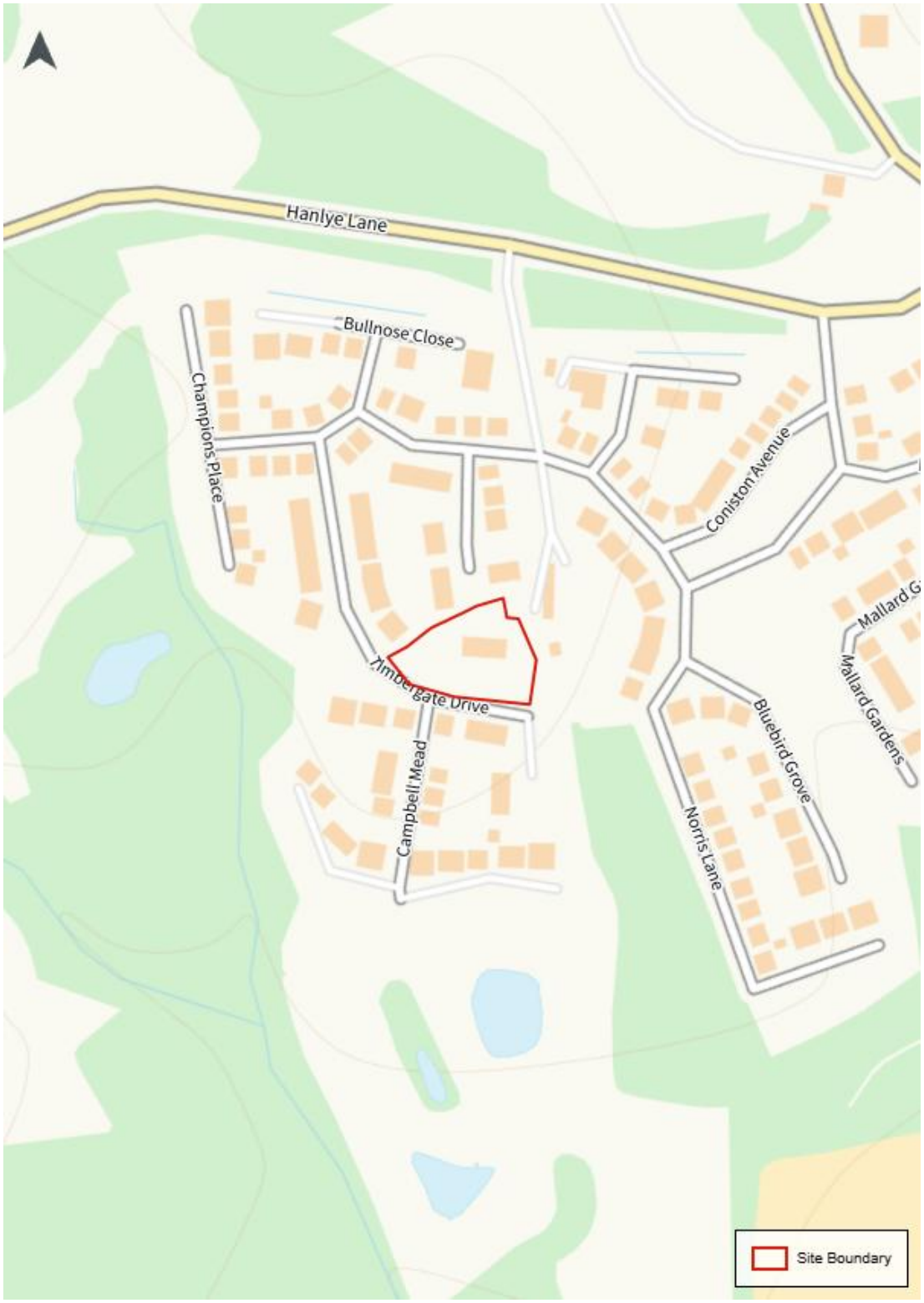
3.11 Drainage Maintenance: See Appendix G for the draft drainage maintenance plan.

3.12 Conclusion: The drainage strategy for this development complies fully with the 2025 National Planning Policy Framework and current Planning Practice Guidance (PPG).

- End of Report -

Appendix A

Location Plan



Aerial Photo

Appendix B

Topographic Survey

SHEET LAYOUT

NOTES

DISCLAIMER

ABBREVIATIONS

AV	AIR VALVE	LP	LAMP POST	Stl	STRUCTURE TOP LEVEL
BB	BELISHA BEACON	LV	LOW VOLTAGE	Stp	STUMP (TREE)
Bdl	BED LEVEL	MgP	MOORING POST	StP	STAND PIPE
BH	BOREHOLE	mH	METERS HIGH	StPo	STAY POST
BHch	BASEMENT HATCH COVER	Mhcy	MACHINERY	StW	STAY WIRE
Bin	LITTER / GRIT SALT BIN	MH	MANHOLE	SV	STOP VALVE
BL	BASEMENT LIGHT	Mkr	MARKER POST	SVP	SOIL VENT PIPE
Bol	BOLLARD	MkrE	MARKER POST (ELECTRIC)	TBM	TEMPORARY BENCH MARK
BP	BOUNDARY POST	MkrG	MARKER POST (GAS)	TCB	TELEPHONE CALL BOX
BS	BUS STOP	MkrR	MARKER POST (RAILWAY)	TEL	TELECOM CHAMBER COVER
BTIC	BRITISH TELECOM CHAMBER	MkrT	MARKER POST (TELECOM)	Thl	THRESHOLD LEVEL
CatL	CATENARY LEVEL	MkrW	MARKER POST (WATER)	TL	TRAFFIC LIGHT
CATV	CABLE TV COVER	MP	MILE POST	TP	TELEGRAPH POLE
CB	CONTROL BOX	MS	MILE STONE	Tpt	TRIAL PIT
CBlt	CONVEYOR BELT	NL	NOT LOCATED	Tr	TROUGH
CC	COAL CHUTE	NP	NAME PLATE	VC	VITREOUS CLAY
CGrd	CATTLE GRID	OSBM	O.S BENCH MARK	VP	VENT PIPE
ChL	CHANNEL LEVEL	OGP	OVERGROUND PIPE	VR	VAPOUR RECOVERY
Chy	CHIMNEY	OHCu	O/H CABLE (UNIDENTIFIED)	VS	VENTILATION SHAFT
CI	CAST IRON	OHE	OVERHEAD CABLE (ELECTRIC)	VW	VALVE / SLUICE WHEEL
CL	COVER LEVEL	OHG	OVERHEAD GANTRY	WB	WEIGHBRIDGE
CO	CONCRETE	OHP	OVERHEAD PIPE	WL	WATER LEVEL
CP	CABLE PIT	OHT	OVERHEAD CABLE (TELECOM)	WM	WATER METER
CpL	COPING LEVEL	OP	OUTLET PIPE	WO	WASH OUT VALVE
Cpsn	CAPSTAN	P	POST	Wr	WEIR
Cpst	CAMERA POST	Pb	PARK BENCH	WrL	WEIR LEVEL
CR	CABLE RISER	PB	POST BOX	WrPl	WEIR PLATE (TOP)
CrL	CROWN LEVEL	PCsg	PEDESTRIAN CROSSING	WWP	WASTE WATER PIPE
CWM	CABLE WINDING MACHINERY	PE	POLYETHALINE		FENCE TYPES:
d	DEPTH	PF	PITCH FIBER		
Dia.	DIAMETER	PI	PILE	AMF	ARMCO
DS	DIRECTION SIGN	Pir	MOVEMENT DETECTOR	BWF	BARBED WIRE
EIC	ELECTRIC INSPECTION COVER	Pmd	PLANT MOTOR DRIVE	CBF	CLOSE BOARDED
EoC	EDGE OF CANOPY	PP	PETROL / DIESEL PUMP	CIF	CORRUGATED IRON
EP	ELECTRICITY POLE	PR	PIPE RISER	CLF	CHAIN LINK
ER	EARTH ROD	Psk	PENSTOCK	CPF	CHESTNUT PALING
EShwr	EMERGENCY SHOWER	PU	PUMP	IRF	IRON RAILING
ESP	ELECTRICITY SUPPLY POINT	PV	PIPE (VERTICAL)	IWF	INTERWOVEN
Esw	ELECTRICAL SWITCH	PVC	POLYVINYL CHLORIDE	PCF	POST & CHAIN
FB	FOOTBRIDGE	Pyl	PYLON	PIF	POST & IRON RAIL
FH	FIRE HYDRANT	Pz	PIEZOMETER	PRF	POST & RAIL
FL	FLOOR LEVEL	RE	RODDING EYE	PWF	POST & WIRE
FS	FLAG STAFF / POLE	RG	RAIN GAUGE	SPF	STEEL PALLISADE
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GP	GUIDE POST	RSP	RAILWAY SIGNAL POST		
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JN	JUNCTION	SP	SIGN POST		
KO	KERB OUTLET	SPil	SHEET PILING		
Lby	LIFEBOUY	Spr	SPRING		
Lck	LOCK GATE	SPt	SAMPLING POINT		
Ldr	LADDER	ST	STOP TAP		
LH	LAMP HOLE	Sti	STILE		

REV.	DETAILS	BY	DATE

SURVEY CO-ORDINATE SCHEDULE

STATION	EASTING	NORTHING	HEIGHT	STATION	EASTING	NORTHING	HEIGHT
P01	532291.250	125520.900	84.586				
P02	532295.276	125561.329	85.320				

LAND SURVEY INFORMATION

GRID: LOCAL PLANE METRIC RELATED TO O.S NATIONAL GRID

VERTICAL DATUM: STATION P01 84.586m.AOD
HEIGHT ESTABLISHED VIA 'TRIMBLE'S VRS NETWORK'
COMMERCIAL RTK GPS CORRECTION SERVICE

LOCAL SCALE FACTOR: NOT APPLIED

SURVEYED BY: SK	DRAWN BY: SK	APPROVED BY: SK
SCALE: 1:200@A1	SURVEY DATE: 17.12.2018	
DRAWING NUMBER: 595 - Penland Farm, Haywards Heath	SHEET NUMBER: 1 of 1	
DRAWING STATUS: Final		REV: 1.0

CLIENT:

Discovery Surveys Ltd
The Winning Post Centre
Doncaster
DN8 4PB

DRAWING NAME :

Penland Farm
Hanlye Lane
Haywards Heath

Appendix C

Soil Soakage Test Report

Infiltration Testing

During the soakaway tests the water failed to achieve a fall from 75% to 25% of the effective depth of the storage volume in the pit. The results obtained from the soakaway tests are summarised below:

TP and Test Number	Dimensions (m)	Depth (m bgl)	Infiltration Rate (m/sec)	Drainage Characteristics
TP01 Test 1	1.50 x 1.30	1.20	N/A	Poor
TP01 Test 2	1.50 x 1.30	1.20	N/A	Poor
TP01 Test 3	1.50 x 1.30	1.20	N/A	Poor

Conclusion

The shallow soils encountered beneath the site were found to be sandy Clay. The soakage rates obtained during the investigation were found to be poor. Given the data from the test, it is considered that the use of shallow soakaways is not suitable for this site.

The detailed soil infiltration test results can be reviewed within Appendix E.

Appendix D

Sewer Records

(c) Crown copyright and database rights 2025 Ordnance Survey AC0000808122 | Date: 18/09/25 | Scale: 1:1250 | Map Centre: 532253,125545 | Data updated: 21/08/25 | Our Ref: 1883245 - 1

Wastewater Plan A2
Powered by digdat

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2025 Ordnance Survey AC0000808122 .This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement.

Foul Gravity Sewer
Combined Gravity Sewer
Culverted Water Course or Treated Effluent
Surface Water Gravity Sewer
Rising Main, Vacuum or Syphon
Combined Outfall
Surface Water Outfall
Foul Outfall
Surface Water Inlet
Combined Pumping Station
Surface Water Pumping Station
Foul Pumping Station
Water Treatment Works
Section 104 Area
Building Over Agreement Area
Foul Manhole
Combined Manhole
Surface Water Manhole
Side Entry Manhole, Demarcation Chamber, Dummy Manhole or Surface Water Soakaway

cfagan@gtacivils.co.uk

13895 - Penland Farm

WATER for LIFE
from Southern Water

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
6602	F	75.60	74.08	
5450	S	72.10	70.69	
5550	S	75.68	72.66	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Eyes On Drainage Services Ltd
Bines Green, Horsham
Tel. 01403 710971
info@eyesondrainage.co.uk

Project

Project Name:	Penland Farm
Project Description:	CCTV Survey, Trace & Plot
Project Status:	Complete
Project Date:	05/11/2025
Inspection Standard:	MSCC5 Sewers & Drainage GB (SRM5 Scoring)

EYES ON DRAINAGE

CCTV-Trace-Plot-Map-Repair

Eyes On Drainage Services Ltd
Bines Green, Horsham
Tel. 01403 710971
info@eyesondrainage.co.uk

Table of Contents

Project Name	Project Number	Project Date
Penland Farm		05/11/2025

Eyes On Drainage Services Ltd
Bines Green, Horsham
Tel. 01403 710971
info@eyesondrainage.co.uk

Table of Contents

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Eyes On Drainage Services Ltd
Bines Green, Horsham
Tel. 01403 710971
info@eyesondrainage.co.uk

Project Information

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Penland Farm		05/11/2025

Client

Company: gta Civils & Transport
Department: Maple House
Street: 192-198 London Road
Town or City: Burgess Hill
County: West Sussex
Post Code: RH15 9RD
Phone: 01444 871444

Site

Department: Penland Farm
Street: Hanlye Lane
Town or City: Haywards Heath
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Post Code: RH17 5HR

Contractor

Company: Eyes On Drainage Services Ltd
Department: Merrion House
Street: Bines Green
Town or City: Horsham
County: West Sussex
Post Code: RH13 8EH
Phone: 01403 710971
Mobile: 077111 84951
Email: info@eyesondrainage.co.uk

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SCALE: 1:200@A1 | SURVEY DATE: 17.12.2018

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DRAWING STATUS: Final | REV: 1.0

CLIENT:
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The Winning Post Centre
Doncaster
DN8 4PB

DRAWING NAME :
Penland Farm
Hanlye Lane
Haywards Heath

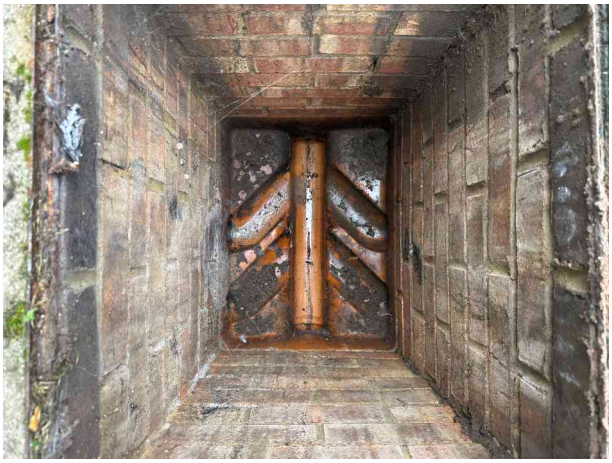
Eyes On Drainage Services Ltd
Bines Green, Horsham
Tel. 01403 710971
info@eyesondrainage.co.uk

Project Pictures

Project Name	Project Number	Project Date
Penland Farm		05/11/2025

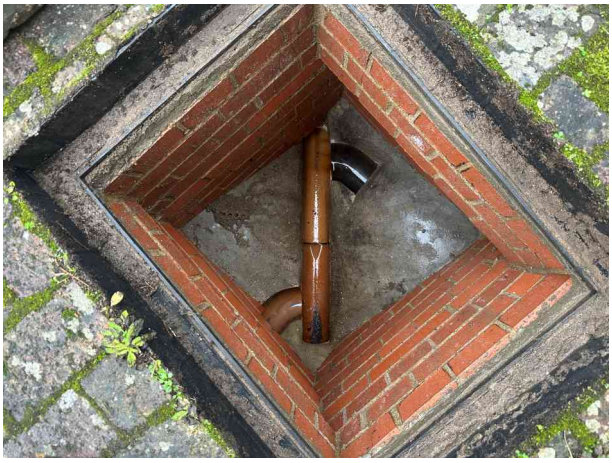
MH1

MH2



MH3

MH4



MH5

MH6

Eyes On Drainage Services Ltd
Bines Green, Horsham
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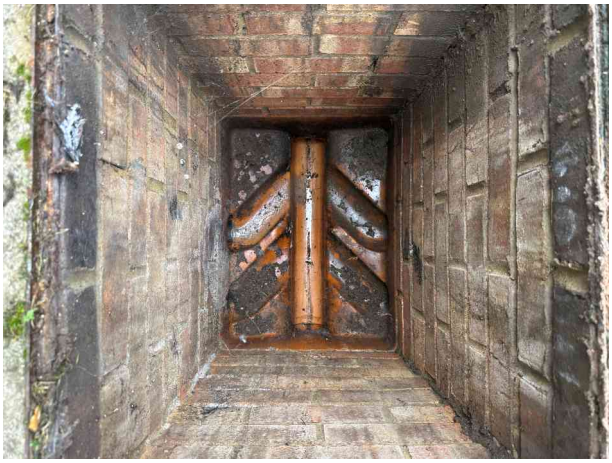
Project Pictures

Project Name	Project Number	Project Date
Penland Farm		05/11/2025

MH7

MH8



MH9

SW1

SW2 (no visible outlet)

DRAWING No.
PB5314-501-07

DO NOT SCALE

FOR CONSTRUCTION

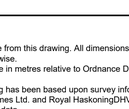
NOTES

1. Do not scale from this drawing. All dimensions are in metres unless noted otherwise.
2. All levels are in metres relative to Ordnance Datum Newlyn unless noted otherwise.
3. This drawing has been based upon survey information supplied by Redrow Homes Ltd. and Royal HaskoningDHV cannot guarantee the accuracy of data.
4. Sewers,manholes and any associated works to be in compliance with Sewers for Adoption 7th edition and Manual of contract Documents for Highway works.
5. All chamber covers to be accordance with BS EN 124.
6. Flow control manholes shall be in accordance with Southern Water Construction Details. Please refer to Royal Haskoning DHV standard detail SD 05/46 on drawing PB5314-710-10.
7. Gullies
   a. Where new gullies replace existing gullies, the existing gully connections are to be located and extended or truncated, as may be necessary, to suit new gully positions.
   b. Exact gully positions are to be confirmed on site.
   c. All gully gratings to be Class D400 to BS EN 124
   d. Gully pots to be trapped.
   e. All gully connections to be 150mm diameter and must have bedding type z.
   f. Abandoned gully pots to be filled with concrete type ST1.
5. Carrier drains and sewers shall have pipe bedding and surround Type S.

KEY

- NON-ADOPTABLE SURFACE WATER / FOUL WATER INSPECTION CHAMBER AND DRAIN
- ADOPTABLE SURFACE WATER LATERAL DRAIN
- ADOPTABLE FOUL WATER LATERAL DRAIN
- NON-ADOPTABLE SURFACE WATER MAIN DRAINAGE OR HIGHWAY DRAIN
- ADOPTABLE SURFACE WATER SEWER
- ADOPTABLE FOUL WATER SEWER
- RODDING EYE (SEE TO DETAIL SD/05/34 ON DRAWING PB5314-710-02)
- PROPOSED GULLY (SEE WSCC STANDARD DETAIL DRAWING S278/38/11A)
- PROPOSED GULLY CONNECTION (HIGHWAY) (150mmØ PIPE)
- EXISTING DITCH
- PROPOSED MAJOR CONTOUR (0.25m INTERVAL)
- PROPOSED MINOR CONTOUR (0.05m INTERVAL)
- PROPOSED RISING MAIN
- PROPOSED CRATED UNDERGROUND ATTENUATION TANK (SIZE VARIES)
- LAND EASEMENT
- SITE BOUNDARY
- BOWTOP FENCE 1.2m HIGH
- SURFACE WATER(SW) AND FOUL WATER (FW) DEMARCATION CHAMBERS (REFER TO DEMARCATION CHAMBER SCHEDULES AND DETAILS SD/05/54,SD/05/55,SD/05/57,SD/05/58, SD/05/59 ON DRAWINGS PB5314-710-11 AND PB5314-710-12)

SHEET LOCATION PLAN



REV	DATE	DESCRIPTION	BY	CHK	APP
C13	24.08.20	Amended to include pond and platform layout.	NKS	KA	PJ
C12	01.07.20	Amended to include Platform Re-design	AH	KA	PJ
C11	26.03.20	Amended to include Pond Re-design	AH	KA	PJ
C10	22.11.19	Amended to include Pond Re-design	AH	KA	PJ
C9	16/10/19	FW38 and F39 Cover Levels amended to suit contours	NKS	KA	KA
C8	12/09/19	SWM 1112 and 1113 ILS ADJUSTED	NKS	KA	KA
C7	29/05/19	Gully relocated to interface between adoptable to private.	MUD	KA	JM
C6	04/05/19	PS amended in line with Willow Pumps layout details	MUD	KA	JM
C5	20/04/18	Amended in-line with Southern Water comments	MUD	KA	JM
C4	02/03/18	Plot drainage colouring revised.Headwall Easement added	RMV	KA	JM

REVISIONS

CLIENT

REDROW

PROJECT

PENLAND FARM,
HAYWARDS HEATH

TITLE

S104 DRAINAGE
SHEET 7 OF 9

Enterprise House,
Delta Way, Egham,
Surrey. TW20 8RX
Tel +44(0)1932 565566
www.royalhaskoningdhv.com

Royal HaskoningDHV
Enhancing Society Together

DRAWN	CHECKED	APPROVED
NKS	KA	JM

DATE	SCALE AT A1	AUTOCAD REF.
MAR '17	1:250	PB5314-501-S104.DWG

DRAWING No.	REVISION
PB5314-501-07	C13

Safety, Health and Environment Information

Notes below are additional to hazards/risks normally associated with this type of work:

Construction
C01. Working on sloping site and working adjacent to steep sloped areas.

Operation
No significant/unusual residual hazards identified at this stage.

Maintenance
No significant/unusual residual hazards identified at this stage.

Dismantling/Demolition (Future)
No significant/unusual residual hazards identified at this stage.

These notes are based on the use of experienced and competent contractors carrying out the work using an approved safe method of working.

5m 0 5 10 15m
SCALE IN METRES
1:250

SHEET 4
SHEET 7
SHEET 7
SHEET 8
SHEET 7
SHEET 9
SHEET 7
SHEET 9

PLAY AREA 4
LAP / LEAP

West Pumping station

FOR PUMP STATION SEE PUMPING STATION SUPPLIERS DRAWINGS

FW35 CL:78.200 IL:77.050
SWMH 6000 CL:78.250 IL:76.950
SWMH 6001 CL:78.000 IL:76.650
FW35A CL:77.925 IL:76.492
SWMH 6002 CL:78.000 IL:76.585
FW36 CL:77.950 IL:76.328
SWMH 6003 CL:78.400 IL:76.404
FW37 CL:78.747 IL:75.631
SWMH 1111 CL:80.850 IL:79.200
FW31 CL:80.667 IL:77.015
SWMH 1112 CL:79.250 IL:77.400
FW32 CL:79.293 IL:76.150
SWMH 1113 CL:78.800 IL(A):76.358 IL(B&C):76.058
SWMH 1114 CL:78.450 IL:75.968
SWMH 1901 CL:78.450 IL:76.625
FW38 CL:77.250 IL:75.473
FW39 CL:76.150 IL:74.269
FW28 CL:79.500 IL:77.252
FW28A CL:79.450 IL:77.490
SWMH 6200 CL:78.300 IL:77.000
SWMH 6201 CL:78.550 IL:76.843
SWMH 6104 CL:78.300 IL:76.875
SWMH 6105 CL:77.800 IL:76.070
SWMH 6106 CL:76.200 IL:74.775
SWMH 6107 CL:74.500 IL:73.400
SWMH 1115 CL:74.650 IL:73.450
HEADWALL 1116 IL :73.000
HEADWALL 6108 IL :73.000
HEADWALL WITH STILLING BASIN AND BAFFLE BLOCKS REFER TO DETAIL SD/05/52
HEADWALL 1117 IL: 72.000
POND 1
MAXIMUM WATER LEVEL
PERMANENT WATER LEVEL
BASE OF POND

DRAWING No.
PB5314-501-04

DO NOT SCALE

PHASE 2

FOR CONSTRUCTION

FLOW CONTROL ORIFICE
DISCHARGE RATE (l/s) = 1.5
DESIGN HEAD (m) = 0.6

SHEET 1
SHEET 4
SHEET 5
SHEET 7

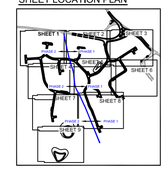
NOTES

1. Do not scale from this drawing. All dimensions are in metres unless noted otherwise.
2. All levels are in metres relative to Ordnance Datum Newlyn unless noted otherwise.
3. This drawing has been based upon survey information supplied by Redrow Homes Ltd. and Royal HaskoningDHV cannot guarantee the accuracy of data.
4. Sewers,manholes and any associated works to be in compliance with Sewers for Adoption 7th edition and Manual of Contract Documents for Highway works.
5. All chamber covers to be accordance with BS EN 124.
6. Gullies
   a. Where new gullies replace existing gullies, the existing gully connections are to be located and extended or truncated, as may be necessary, to suit new gully positions.
   b. Exact gully positions are to be confirmed on site.
   c. All gully gratings to be Class D400 to BS EN 124
   d. Gully pots to be trapped.
   e. All gully connections to be 150mm diameter and must have bedding type z.
   f. Abandoned gully pots to be filled with concrete type ST1.
5. Carrier drains and sewers shall have pipe bedding and surround Type S.

KEY

- NON-ADOPTABLE SURFACE WATER / FOUL WATER INSPECTION CHAMBER AND DRAIN
- ADOPTABLE SURFACE WATER LATERAL DRAIN
- ADOPTABLE FOUL WATER LATERAL DRAIN
- NON-ADOPTABLE SURFACE WATER MAIN DRAINAGE OR HIGHWAY DRAIN
- ADOPTABLE SURFACE WATER SEWER
- ADOPTABLE FOUL WATER SEWER
- RODDING EYE (SEE TO DETAIL SD/05/34 ON DRAWING PB5314-710-02)
- PROPOSED GULLY (SEE WSCC STANDARD DETAIL DRAWING S278/38/11A)
- PROPOSED GULLY CONNECTION (HIGHWAY) (150mmØ PIPE)
- EXISTING DITCH
- PROPOSED MAJOR CONTOUR (0.25m INTERVAL)
- PROPOSED MINOR CONTOUR (0.05m INTERVAL)
- PROPOSED RISING MAIN
- PROPOSED CRATED UNDERGROUND ATTENUATION TANK (SIZE VARIES)
- LAND EASEMENT
- SITE BOUNDARY
- SHDC / FHDC: SURFACE WATER(SW) AND FOUL WATER (FW) DEMARCATION CHAMBERS (REFER TO DEMARCATION CHAMBER SCHEDULES AND DETAILS SD/05/54,SD/05/55,SD/05/57,SD/05/58, SD/05/59 ON DRAWINGS PB5314-710-11 AND PB5314-710-12)

SHEET LOCATION PLAN



C8	05.09.19	GULLY ADDED TO ROAD OUTSIDE PLOT 136	NKS	KA	PJ
C7	06.08.19	PARKING BAYS REDESIGN CHANGES	NKS	KA	PJ
C6	25/03/19	FW manhole added to divert foul from farmhouse	NS	KA	KA
C5	20/04/18	Amended in-line with Southern Water comments	MUD	KA	JM
C4	02/03/18	Plot drainage colouring revised.	RMV	KA	JM
C3	19/01/18	Amended in-line with Southern Water comments	RMV	KA	JM
C2	30/06/17	Architect Layout Changes	SAR	RAS	JM
REV	DATE	DESCRIPTION	BY	CHK	APP

REVISIONS

CLIENT

REDROW

PROJECT

PENLAND FARM,
HAYWARDS HEATH

TITLE

S104 DRAINAGE
SHEET 4 OF 9

Royal HaskoningDHV
Enhancing Society Together

Enterprise House,
Delta Way, Egham,
Surrey, TW20 8RX
Tel +44(0)1932 569566
www.royalhaskoningdhv.com

DRAWN	CHECKED	APPROVED
NKS	KA	JM

DATE	SCALE AT A1	AUTOCAD REF.
MAR '17	1:250	PB5314-501-S104.DWG

DRAWING No. PB5314-501-04 — REVISION C8

Safety, Health and Environment Information

Notes below are additional to hazards/risks normally associated with this type of work:

Construction
C01. Working on sloping site and working adjacent to steep sloped areas.

Operation
No significant/unusual residual hazards identified at this stage.

Maintenance
No significant/unusual residual hazards identified at this stage.

Dismantling/Demolition (Future)
No significant/unusual residual hazards identified at this stage.

These notes are based on the use of experienced and competent contractors carrying out the work using an approved safe method of working.

5m 0 5 10 15m
SCALE IN METRES
1:250

Appendix E

Scheme Drawings

N

RP
CL: 86.412
IL: 84.250

RWP
CL: 84.70
IL: 84.30

SWD 1000 9.27m 1:87

RP
CL: 86.131
IL: 84.200

RWP
CL: 84.70
IL: 84.20

RP
CL: 84.790
IL: 84.212

RWP
CL: 84.625
IL: 84.225

PS12
CL: 84.85
IL: 84.225

SWD 1000 12.08m 1:89

Ex MH8
Ex RWG
Ex A
Ex FWG
Ex SVP2
Ex RWG
Ex MH7
Ex WC
Ex SVP
Ex RWG
Ex SVP
RWP
CL: 84.633
IL: 84.233
Ex MH6

SWD 1000 11.79m 1:99

RP
CL: 85.863
IL: 84.350

RWP
CL: 84.85
IL: 84.35

SWD 1000 12.66m 1:94

Ex YG2
Ex YG1
Ex RWG
Ex SW1

PPCP
PPIC Catchpit
CL: 84.811
IL: 84.090
SL: 83.790

PF5
CL: 84.917
IL: 84.417

FWD 1000 7.81m 1:33

PPCP
PPIC Catchpit
CL: 84.688
IL: 84.062
SL: 83.762

Ex A
Ex MH5
Ex RWG

PF6
CL: 84.679
IL: 84.178

PPCP
PPIC Catchpit
CL: 84.406
IL: 84.095
SL: 83.795

RP
CL: 85.586
IL: 84.350

RWP
CL: 84.85
IL: 84.35

SWD 1000 9.92m 1:99

PF4
CL: 84.960
IL: 84.454

SWD 1000 5.31m 1:63

DT
IL: 84.00

SWD 1000 5.19m 1:96

DT
IL: 84.000

PF8
CL: 85.068
IL: 84.236

FWD 1000 5.44m 1:79

FWD 1000 13.06m 1:82

FWD 1000 14.43m 1:80

SWD 1000 8.19m 1:99

Ex MH4
Ex TANK
Ex MH9

PF1
CL: 84.952
IL: 84.452

FWD 1000 8.43m 1:80

PF7
CL: 85.088
IL: 84.347

FWD 1000 8.88m 1:80

DT
IL: 84.000

PS3
CL: 85.145
IL: 84.25

PS4
CL: 85.000
IL: 84.225

SWD 1000 10.81m 1:86

WELL

IL: 83.600

PF2
CL: 84.290
IL: 83.999

SWD 1000 7.62m 1:92

PPCP
PPIC Catchpit
CL: 84.829
IL: 84.100
SL: 83.800

DT
IL: 84.00

PPCP
PPIC Catchpit
CL: 84.147
IL: 83.578
SL: 83.278

SWD 1500 3.34m 1:150

SWD 1500 3.3m 1:150

FWD 1000 6.67m 1:15

NON RETURN VALVE TO BE
PROVIDED PRIOR TO CONNECTION
TO FOUL NETWORK.

CW1
CL: 83.999
IL: 83.556

CWD 1000 4.4m 1:100

ExMH1
CL: 84.247
IL: 83.618

CWD 1000mm

CELLULAR TANK (NODE PS7)
MIN CL: 84.400
TOP OF TANK: 84.000
BOTTOM OF TANK: 83.600
DEPTH: 0.4m
AREA: 135m²
POROSITY: 95%

PERMEABLE PAVING (NODE PS7)
MIN CL: 84.400
IL: 84.000
DEPTH: 0.4m
AREA: 400m²
POROSITY: 30%

FLOW CONTROL
HYDROBRAKE: CTL-SHE-0054-1000-0500-1000
DESIGN FLOW: 1l/s

OUTFALL INTO EXISTING COMBINED SEWER @
1l/s AS PER NATIONAL STANDARDS.
SEWER TO BE JETTED CLEAN AND SURVEYED
FULLY TO OUTFALL, WITH INVERT LEVEL TO BE
CONFIRMED.

0 1m 2m 3m 4m 5m 10m

GENERAL NOTES

1. The location, size, depth and identification of existing services that may be shown or referred to on this drawing have been assessed from non intrusive observations , record drawings or the like. The contractor shall safely carry out intrusive investigations, trial holes or soundings prior to commencing work to satisfy himself that it is safe to proceed and that the assessments are accurate. any discrepancies shall be notified to gta prior to works commencing.

2. Tender or billing drawings shall not be used for construction or the ordering of materials.

3. Do not scale. All dimensions and levels to be site confirmed.

4. This drawing shall be read in conjunction with all relevant architects, consultants drawings and specifications, together with H&S plan requirements.

5. Copyright : This drawing must not be copied, amended nor reproduced without the prior written agreement of gta.

6. All drawings specifications and recommendations made by gta are subject to Local Authority and other relevant Statutory Authorities approval. Any works or services made abortive due to the client proceeding prior to these approvals is considered wholly at the Clients risk. gta hold no responsibility for resulting abortive works or costs.

DESIGN NOTES

1. SURFACE WATER DISCHARGE RATES AND REQUIRED STORAGE CALCULATED BASED ON A 1 IN 100YR + 45% CC STORM EVENT.
2. PROPOSED SURFACE WATER DISCHARGE RATE CALCULATED AS 1l/s BASED ON 0.09ha PROPOSED IMPERMEABLE AREA. THIS IS THE MINIMUM ALLOWABLE DISCHARGE RATE AS PER NATIONAL STANDARDS.
3. ALL EXISTING DRAINS SHOWN BASED ON CCTV SURVEY BY 'EYES ON DRAINAGE' ON 05/11/25
4. ALL DRAIN POINTS SUBJECT TO CONFIRMATION BY ARCHITECT

KEY

- Private Surface Water Drain & Manhole
- RWP — Proposed Rainwater Pipe connection to Rainwater Harvesting Tank
- Private Foul Water Drain & Manhole
- Proposed Combined Sewer & Manhole
- Existing Surface Water Drain & Manhole
- Existing Foul Water Drain & Manhole
- Existing Combined Sewer & Manhole
- Existing Sewer/Manhole to be removed
- Permeable Paving
- Permeable Paving Baffle
- Cellular Attenuation Tank
- Flow Control
- Direction of Flow
- DT — Distribution tank

Rev	Amendments	Date	Dsn	Chk
P1	Initial Issue	01.12.25	AW	FVV

Status: PRELIMINARY

Client: BRIXTER CONSTRUCTION

Architect:

Project: PENLAND FARM
HANLYE LANE, CUCKFIELD

Title: PROPOSED DRAINAGE STRATEGY PLAN

Date: NOVEMBER 2025 | Scale @ A1: 1:100

Clients Ref. | Project Ref.: 13985

gta Civils & Transport
Gloucester House, 66a Church Walk,
Burgess Hill, West Sussex, RH15 9AS
Tel.01444 871444 Web: www.gtacivils.co.uk

Drawing Number: 13985_1600 | Rev.: P1

Appendix F

Calculations

Greenfield runoff rate estimation tool

www.uksuds.com | Greenfield runoff rate estimation tool (https://www.uksuds.com/)

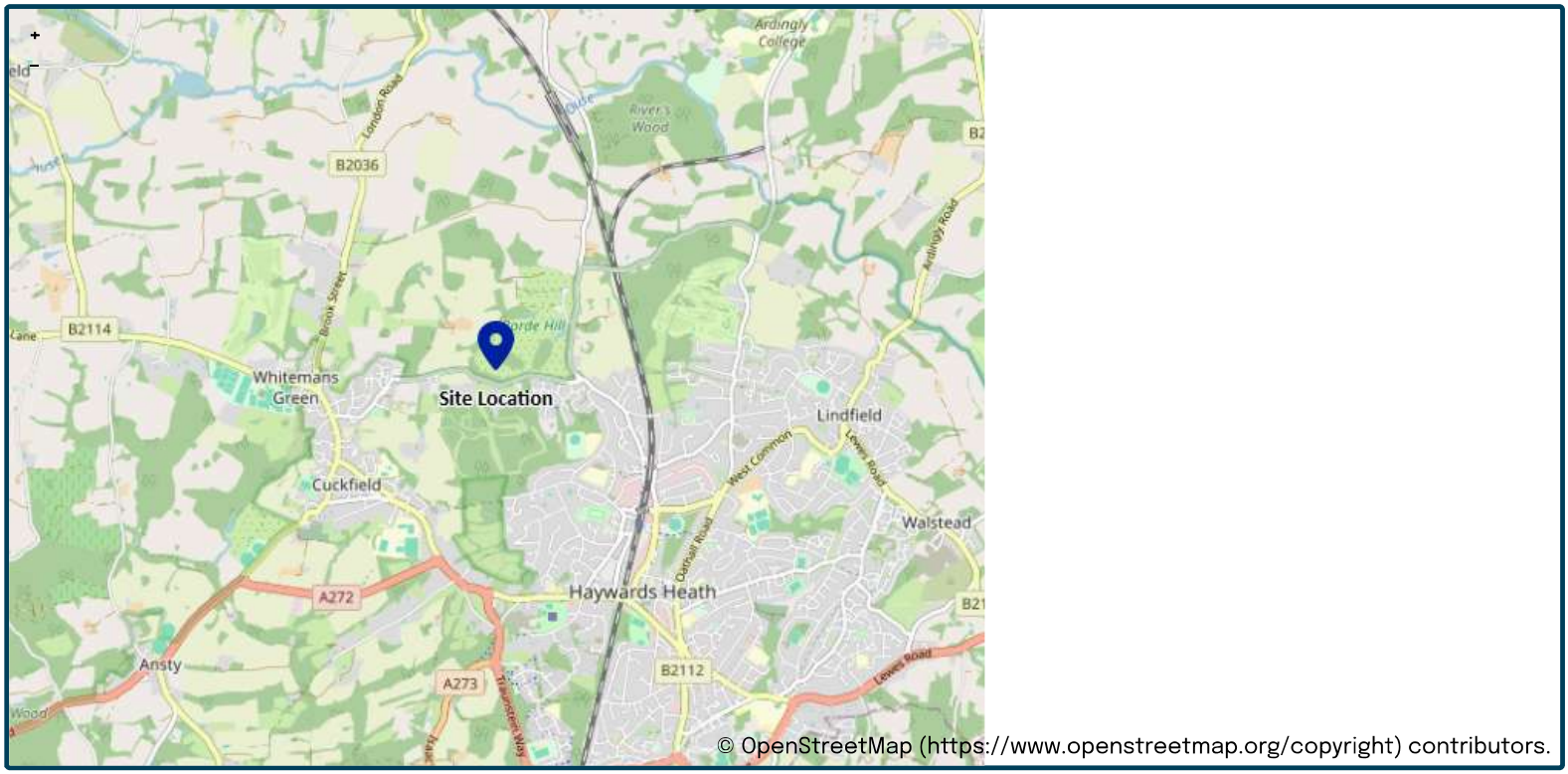
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). 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	28/11/2025
Calculated by	Abbie Webb
Reference	13985
Model version	2.2.2

Location

Site name	Penland Farm
Site location	Penland Farms, Cuckfield



Site easting (British National Grid)	531828
Site northing (British National Grid)	125600

Site details

Total site area (ha)	1 ha

Greenfield runoff

Method

Method	FEH statistical (2025)

FEH statistical (2025)

	My value		Map value
SAAR9120 (mm)	915 mm		
BFIHOST19scaled	0.447		
QMed-QBar conversion	1.136		1.136
QMed (l/s)	5.8 l/s		
QBar (FEH statistical 2025) (l/s)	6.6 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)	5.6	l/s
Flow rate 2 year (l/s)	5.8	l/s
Flow rate 10 years (l/s)	10.6	l/s
Flow rate 30 years (l/s)	15.1	l/s
Flow rate 100 years (l/s)	20.9	l/s
Flow rate 200 years (l/s)	24.5	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

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	100	Connection Type	Level Soffits
Additional Flow (%)	45	Minimum Backdrop Height (m)	1.000
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	x
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
PS2		5.00	85.586	180	532246.912	125514.370	1.236	84.350
PS3			85.145	180	532243.100	125505.214	0.895	84.250
PS4			85.000	180	532244.016	125503.096	0.775	84.225
PS5			84.829	180	532253.885	125498.681	0.729	84.100
PS6	0.011	5.00	85.049	180	532262.986	125497.700	1.049	84.000
PS11		5.00	85.863	180	532249.972	125518.231	1.513	84.350
PS12			84.850	180	532258.972	125524.815	0.625	84.225
PS13			84.811	180	532266.351	125514.530	0.721	84.090
PS25	0.011	5.00	85.079	180	532267.767	125509.040	1.079	84.000
PS18		5.00	86.133	180	532276.698	125527.840	1.933	84.200
PS26			84.688	180	532277.168	125513.962	0.626	84.062
PS19	0.011	5.00	84.920	180	532276.418	125508.031	0.920	84.000
PS22		5.00	84.790	180	532288.320	125524.361	0.578	84.212
PS27			84.406	180	532288.956	125512.809	0.311	84.095
PS23	0.011	5.00	84.414	180	532288.373	125503.402	0.414	84.000
PS7	0.047	5.00	84.322	180	532286.422	125499.430	0.722	83.600
PS8			84.147	1200	532287.324	125496.244	0.569	83.578
PS9			83.999	180	532288.505	125493.165	0.443	83.556

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	PS2	PS3	9.917	0.600	84.350	84.250	0.100	99.2	100	5.21	50.0
1.001	PS3	PS4	2.308	0.600	84.250	84.225	0.025	92.3	100	5.26	50.0
1.002	PS4	PS5	10.811	0.600	84.225	84.100	0.125	86.5	100	5.48	50.0
1.003	PS5	PS6	9.154	0.600	84.100	84.000	0.100	91.5	100	5.67	50.0
1.004	PS6	PS7	23.500	0.600	84.000	83.650	0.350	67.1	100	6.09	50.0
2.000	PS11	PS12	11.151	0.600	84.350	84.225	0.125	89.2	100	5.23	50.0
2.001	PS12	PS13	12.659	0.600	84.225	84.090	0.135	93.8	100	5.49	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	0.772	6.1	0.0	1.136	0.795	0.000	0.0	0	0.000
1.001	0.801	6.3	0.0	0.795	0.675	0.000	0.0	0	0.000
1.002	0.827	6.5	0.0	0.675	0.629	0.000	0.0	0	0.000
1.003	0.804	6.3	0.0	0.629	0.949	0.000	0.0	0	0.000
1.004	0.941	7.4	2.2	0.949	0.572	0.011	0.0	38	0.826
2.000	0.815	6.4	0.0	1.413	0.525	0.000	0.0	0	0.000
2.001	0.794	6.2	0.0	0.525	0.621	0.000	0.0	0	0.000

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
2.002	PS13	PS25	5.670	0.600	84.090	84.000	0.090	63.0	100	5.59	50.0
2.003	PS25	PS7	20.985	0.600	84.000	83.650	0.350	60.0	100	5.94	50.0
3.000	PS18	PS26	13.885	0.600	84.200	84.062	0.138	100.6	100	5.30	50.0
3.001	PS26	PS19	5.978	0.600	84.062	84.000	0.062	96.4	100	5.43	50.0
3.002	PS19	PS7	13.194	0.600	84.000	83.650	0.350	37.7	100	5.60	50.0
4.000	PS22	PS27	11.569	0.600	84.212	84.095	0.117	98.9	100	5.25	50.0
4.001	PS27	PS23	9.426	0.600	84.095	84.000	0.095	99.2	100	5.45	50.0
4.002	PS23	PS7	4.425	0.600	84.000	83.650	0.350	12.6	100	5.49	50.0
1.005	PS7	PS8	3.311	0.600	83.600	83.578	0.022	150.5	150	6.15	50.0
1.006	PS8	PS9	3.298	0.600	83.578	83.556	0.022	149.9	150	6.22	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
2.002	0.972	7.6	0.0	0.621	0.979	0.000	0.0	0	0.000
2.003	0.996	7.8	2.2	0.979	0.572	0.011	0.0	36	0.856
3.000	0.766	6.0	0.0	1.833	0.526	0.000	0.0	0	0.000
3.001	0.783	6.2	0.0	0.526	0.820	0.000	0.0	0	0.000
3.002	1.260	9.9	2.2	0.820	0.572	0.011	0.0	32	1.020
4.000	0.773	6.1	0.0	0.478	0.211	0.000	0.0	0	0.000
4.001	0.772	6.1	0.0	0.211	0.314	0.000	0.0	0	0.000
4.002	2.185	17.2	2.2	0.314	0.572	0.011	0.0	25	1.516
1.005	0.817	14.4	18.2	0.572	0.419	0.093	0.0	150	0.832
1.006	0.818	14.5	18.2	0.419	0.293	0.093	0.0	150	0.834

Simulation Settings

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

Storm Durations

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

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

Node PS8 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	83.578	Product Number	CTL-SHE-0054-1000-0500-1000
Design Depth (m)	0.500	Min Outlet Diameter (m)	0.075
Design Flow (l/s)	1.0	Min Node Diameter (mm)	1200

Node PS7 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	84.000	Slope (1:X)	70.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.400
Safety Factor	2.0	Width (m)	20.000	Inf Depth (m)	
Porosity	0.30	Length (m)	20.000		

Node PS7 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	83.600
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	135.0	0.0	0.400	135.0	0.0

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	PS2	1	84.350	0.000	0.0	0.0000	0.0000	OK
15 minute summer	PS3	1	84.250	0.000	0.0	0.0000	0.0000	OK
15 minute summer	PS4	1	84.225	0.000	0.0	0.0000	0.0000	OK
15 minute summer	PS5	12	84.223	0.123	0.7	0.0031	0.0000	SURCHARGED
15 minute summer	PS6	12	84.222	0.222	9.7	0.0055	0.0000	SURCHARGED
15 minute summer	PS11	1	84.350	0.000	0.0	0.0000	0.0000	OK
15 minute summer	PS12	1	84.225	0.000	0.0	0.0000	0.0000	OK
15 minute summer	PS13	12	84.194	0.104	0.7	0.0026	0.0000	SURCHARGED
15 minute summer	PS25	12	84.193	0.193	9.7	0.0048	0.0000	SURCHARGED
15 minute summer	PS18	1	84.200	0.000	0.0	0.0000	0.0000	OK
600 minute winter	PS26	570	84.145	0.083	0.0	0.0021	0.0000	OK
600 minute winter	PS19	570	84.144	0.144	0.9	0.0036	0.0000	SURCHARGED
15 minute summer	PS22	1	84.212	0.000	0.0	0.0000	0.0000	OK
600 minute winter	PS27	570	84.145	0.050	0.0	0.0012	0.0000	OK
600 minute winter	PS23	570	84.145	0.145	0.9	0.0036	0.0000	FLOOD RISK
600 minute winter	PS7	570	84.145	0.545	7.3	74.2434	0.0000	FLOOD RISK
600 minute winter	PS8	570	84.144	0.566	1.0	0.6405	0.0000	FLOOD RISK
600 minute winter	PS9	570	83.583	0.027	1.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	PS2	1.000	PS3	0.0	0.000	0.000	0.0000	
15 minute summer	PS3	1.001	PS4	0.0	0.000	0.000	0.0000	
15 minute summer	PS4	1.002	PS5	0.0	0.000	0.000	0.0423	
15 minute summer	PS5	1.003	PS6	1.1	0.140	0.174	0.0716	
15 minute summer	PS6	1.004	PS7	8.0	1.028	1.079	0.1839	
15 minute summer	PS11	2.000	PS12	0.0	0.000	0.000	0.0000	
15 minute summer	PS12	2.001	PS13	0.0	0.000	0.000	0.0495	
15 minute summer	PS13	2.002	PS25	1.2	0.162	0.154	0.0444	
15 minute summer	PS25	2.003	PS7	8.2	1.082	1.045	0.1642	
15 minute summer	PS18	3.000	PS26	0.0	0.000	0.000	0.0099	
600 minute winter	PS26	3.001	PS19	0.0	0.009	0.004	0.0441	
600 minute winter	PS19	3.002	PS7	0.9	0.498	0.091	0.1032	
15 minute summer	PS22	4.000	PS27	0.0	0.000	0.000	0.0000	
600 minute winter	PS27	4.001	PS23	0.0	-0.005	-0.004	0.0551	
600 minute winter	PS23	4.002	PS7	0.9	0.724	0.052	0.0346	
600 minute winter	PS7	1.005	PS8	1.0	0.121	0.072	0.0583	
600 minute winter	PS8	1.006	PS9	1.0	0.460	0.071	0.0074	43.3

Appendix G

Draft Drainage Maintenance Plan

DRAFT

Drainage Maintenance Plan

Penland Farm, Cuckfield

Contents

Issue	Issue date	Compiled	Checked
First Draft Issue	01.12.2025	AW	FVV

1 Introduction

1.1 This report has been prepared by GTA Civils & Transport Ltd for Brixter Construction in relation to the proposed development at Penland Farm. No responsibility is accepted to any third party for all or part of this study in connection with this or any other development.

1.2 This Draft Drainage Maintenance Plan (DMP) has been prepared for inclusion as an Appendix to the drainage technical report to support the reserved matters application at Penland Farm.

1.3 The Draft DMP sets out the framework for the management of the proposed sustainable drainage systems (SuDS) at the development. The document will be updated with further information through the next stage of detailed design and coordination. At this stage, what is set out herein is intended to be sufficient to demonstrate the viability of the proposed SuDS maintenance regime for planning purposes.

2 Ownership & Maintenance Responsibilities

2.1 Responsibility for the maintenance of the drainage system will be apportioned generally as follows:

- Individual property drainage will be cared for by the property owner.
- Adopted sewers and qualifying SuDS components will be the responsibility of Southern Water, or will be vested in a sewerage company under a NAV agreement. The final arrangements will be confirmed at the next stage.
- The remaining drainage features will be cared for by the Estate Management Company which will be set up by the developer to administer the site-wide infrastructure.
- The developer will be responsible for maintaining completed SuDS components in advance of transfer to / adoption by the relevant party.

2.2 The following sections set out schedules detailing the maintenance requirements for each of the main drainage items likely to be used within the scheme. The Estate Management Company will undertake the inspections and maintenance activities in accordance with these schedules. Public bodies will maintain adopted features in line with their established procedures.

2.3 The Estate Management Company will seek financial contributions (in the form of service charges), at regular intervals, from the leaseholders/owners of the development to include for the regular costs of the maintenance of the site drainage. A separate sinking fund will be maintained to provide for the anticipated replacement cost of the major components at the end of the manufacturer's design life. These funds are to be held in bank client accounts kept separate from the bank account of the Estate Management Company.

2.4 Additional reference should be made to currently established best practice and guidance documents such as The SuDS Manual (CIRIA C753, 2015) and other resources available at the susdrain website (www.susdrain.org).

2.5 This DMP should be considered a live document. The frequency of maintenance intervals may need to be increased or decreased based on the observed performance of the drainage systems over time. Changes should be agreed with the drainage authority and recorded and dated in the DMP.

2.6 Important safety information is set out in the next section.

3 Health and Safety

3.1 All those responsible for and involved in the maintenance of the site drainage systems should be safety-conscious and comply with the relevant health and safety legislation. This includes:

- The Health and Safety at Work etc Act 1974
- The Management of Health and Safety at Work Regulations 1999
- The Workplace (Health, Safety and Welfare) Regulations 1992

3.2 The Estate Management Company is responsible for suitable risk assessment and management to ensure safe working conditions and practices. Measures to protect potential visitors also need to be considered.

3.3 Specialist contractors used should work to industry guidelines and be able to demonstrate safe working practices.

3.4 Employers have a duty to employees to inform them about the risks of their work environment and to decrease the risk as far as reasonably practicable. Appropriate personal protective equipment (PPE) should be provided and policies implemented based on risk assessment.

3.5 Operatives should be trained for working near water. Risks of contaminated water should be considered. Checking for open cuts and using nitrile gloves, waterproof plasters etc is advised.

3.6 Entry of pipes, chambers, tanks and culverts should be avoided. Work should be carried out from the surface using appropriate equipment. In the event that entry cannot be avoided to perform a critical task, the required safety training, protection measures and precautions must be implemented prior to entry. Lone working should never be attempted.

3.7 For further information refer to Section 36 of The SuDS Manual (CIRIA C753).

4 Schedule A – Sewers, Manholes, Gullies, and Control Chambers

4.1 Regular inspection and maintenance is required to ensure the effective long-term operation of private drains, manholes, gullies & channel drains.

4.2 Prior to construction: a CCTV survey to be carried out on all receiving existing public sewer systems prior to connection with adopted sewers.

4.3 Post Completion: a CCTV survey to be carried out on all new and retained existing drainage systems and any downstream receiving systems, prior to connection with adopted sewers.

4.4 The report will be used to prove the integrity of the as-built drainage system prior to issue of practical completion certificate and will be handed over to the Client & Management Company for future reference.

4.5 Ongoing maintenance responsibility for all adopted sewers is by the sewerage authority and for adoptable highway drainage is by East Sussex County Council. All other private gullies and drainage are to be maintained by the Estate Management Company in shared areas and the homeowner within conveyed land. Operation and maintenance requirements for all sewers, manholes, gullies and channel drains are described in the following table:

Schedule	Action	Frequency
Regular Maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action. Common yard & car park & other hard standing areas to be swept clear of debris, to prevent possibility of blockages to the receiving drainage systems. Debris removal from gullies & channel drains (where may cause risks to performance). Lift and inspect receiving manholes to check for any blockages.	6 Monthly intervals. Monthly. 6 Monthly intervals, after autumn leaf fall, or as required based on specific observations. Monthly.
Remedial Actions	Repair any damaged gully or channel drain gratings. Replace / fix any loose channel drain covers.	As required. As required.
Monitoring	Carry out full CCTV survey to confirm ongoing integrity of all drains. Inspect all gullies and silt pits & drainage channels during the survey.	10-yearly intervals.
Control Chambers and Hydrobrakes	Check hydrobrake orifices are clear and retention tank door is closed. Check function of retention tank door and oil if necessary.	First 2 years of occupation – Monthly Then annually

4.6 Where appropriate refer also to specialist drainage manufacturer's information and maintenance requirements.

4.7 In all instances, inspection and cleaning should be carried out only by a specialist contractor and in accordance with the guidelines given in `Safe Working in Sewers and at Sewage Works' published by National Joint Health and Safety Committee for the Water Services.

4.8 Further information on safety is set out in Section 3.

5 Schedule B – Permeable Pavements

5.1 Inspection Frequency and Maintenance Requirements: as per table below.

Schedule	Action	Frequency
Regular Maintenance	Standard road sweeper	Annually after autumn leaf fall
Occasional Maintenance	Weed removal	Annually
Remedial Actions	Remediate adjacent landscaping to original levels Paving repairs including replenishment of lost jointing material Rehabilitation of surface and upper substructure by remedial sweeping	As required As required Every 10 to 15 years or as required if infiltration is reduced by clogging
Monitoring	Initial inspection Inspection for evidence of poor operation and/or weed growth Inspection for silt accumulation to establish sweeping frequencies Monitor inspection chambers	Monthly for first three months Quarterly, 48 hrs after large storms in first six months Annually Annually

5.2 Safety information is set out in Section 3.

6 Schedule C – Cellular Tank

6.1 Inspection Frequency and Maintenance Requirements: as per table below.

Schedule	Action	Frequency
Regular Maintenance	Remove debris and litter etc from sumps Check for and remove any sediment from sumps and catchpits	Monthly Annually
Remedial Actions	Repair inlets, outlets, and vents Clear blockages	As required As required
Monitoring	Inspect full system to ensure good condition and operating correctly Inspect system following storm events to ensure emptying is occurring and remove any debris CCTV survey inside tank for sediment build-up	Monthly for first 3 months, then annually After each significant storm event 5 years

6.2 Where appropriate refer also to specialist drainage manufacturer's information and maintenance requirements.

6.3 Further information on safety is set out in Section 3.

7 Contamination or Dilution of Spillage

7.1 In the event of a spillage it is the responsibility of the landowner to clear up any spillage before it enters the drainage system. The primary method of dealing with any spillage of hydrocarbons should be using sand to soak up the leak and prevent any hydrocarbons entering the drainage system. Once sand has been contaminated it should not be washed into the drainage system but disposed of by a Licensed Contractor.

7.2 Environment Agency – Emergency Contact Number

In the event of a spillage the Environment Agency should be contacted to notify the event and seek advice. The Environment Agency Incident Hotline is **0800 80 70 60** (Freephone 24hrs).

- End of Report -

Civil Engineering - Transport Planning - Flood Risk

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