

Document Control			
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Date	16.06.26	Signature	
Checked by	TKe	Approved by	TKe
Signature		Signature	

Date: 16th June 2026

Aim

Subject:
Strowdes Estate 251666 -
Response to Planning
Condition 6

The following information has been prepared to discharge Planning Condition 6 of Planning Permission 251666 (approved 1st April 2026) relating to the Main House for the land referred to as The Strowdes Estate.

The SuDS design and associated maintenance requirements follow the principles of the originally approved scheme which was granted permission on 15th September 2023 under the reference 213587.

Planning Condition 6 states that:

Before the development is commenced above slab level, full details of a drainage system for the site shall have been submitted to and approved in writing by the LPA. The details shall include:

- A maintenance management plan for the SuDS features throughout the lifetime of the development, as well as who will be responsible for the maintenance.
- Details of the package treatment proposed and conformation from the EA regarding the environmental permit.

Reason: To prevent increased risk of surface water runoff.

This information is also relevant to the following application proposals, which are also amendments to the original Main House permission under Section 73:

- 252489 submitted October 2025 (adding a sunken garden to the west of the main house); and
- 252721 submitted November 2025 (refinements to the architecture and landscape treatment within the immediate curtilage, together with an update to the Estate-wide Landscape Masterplan).

1. Drainage Strategy Summary

Surface Water Drainage Overview

As per the consented surface water drainage proposals, surface water from the Main House building and associated hard landscaped areas are to drain via gravity to a total of two soakaways, one soakaway is located to the north of the Main House and one to the south. Soakaways have been sized using FEH rainfall data and using a climate change allowance of 40%. Infiltration testing was carried out in accordance with BRE DG 365.

Surface water from the proposed building is to be routed to the external below ground drainage via a network of rainwater pipes and suspended drainage within the building footprint.

Foul Water Drainage Overview

Foul water is to drain from the proposed building via a number of connection points to the external below ground drainage network via a number of gravity connections suspended within the building as well as a number of pumped connections from basement. A review of the Thames Water asset mapping shows that there are no public sewers within the vicinity of the site and the nearest water course is c.800m away and a connection to this water course is not feasible. As such, it is proposed to use a foul water treatment plant to treat foul water before disposal to the ground via a drainage field. Refer to Section 3 for further information on the disposal of foul water.

Refer to **Appendix A** for Proposed Drainage Drawings.

Refer to **Appendix B** for Surface Water Calculations.

Refer to **Appendix C** for Foul Water (drainage field sizing) Calculations.

2. SuDS Maintenance

During the construction phase of the development, the responsibility for the maintenance of SuDS lies with the contractor. Post-construction, all proposed drainage within the site is to be private (i.e. does not lie on public land) therefore all SuDS will be maintained by the site owner (Imperium Trust Company) for the lifetime of the development. A copy of the SuDS Maintenance requirements is to be stored within the O&M Manual once handover is complete.

The drainage system should be regularly inspected and maintained to ensure that it is kept clear of silt and debris. Permanent inspection records should be kept by the site owner or management company, recording any previous issues and future work to be carried out.

There are three categories of maintenance activities, as follows:

1. Regular maintenance (including inspections and monitoring)
2. Occasional maintenance
3. Remedial maintenance

The sections below summarise the proposed schedule of maintenance for each SuDS element in accordance with the SuDS Manual.

Soakaways

The general performance of soakaways is listed below.

- Peak flow reduction: Good
- Volume reduction: Good
- Water quality treatment: Good
- Amenity potential: Poor
- Biodiversity potential: Poor

Maintenance requirements for soakaways are listed in **Table 1**.

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Table 1: Soakaways maintenance schedule

Maintenance schedule	Required action	Frequency
Regular maintenance	Remove sediment and debris from pre-treatment devices and floor of inspection tube or chamber.	Annually.
	Cleaning of gutters and any filters on downpipes.	Annually.
	Trimming any roots that may be causing blockages.	Annually (or as required)
Occasional maintenance	-	-
Remedial actions	Reconstruct Soakaway and/or replace or clean void fill, if performance deteriorates or failure occurs.	As required.
	Replacement of clogged geotextile.	As required.
Monitoring	Inspect silt traps and note rate of sediment accumulation.	Monthly in the first year then annually.
	Check soakaway to ensure emptying is occurring.	Annually.

Geocellular / Modular systems

The general performance of geocellular / modular systems is listed below.

- Peak flow reduction: Good
- Volume reduction: Poor (storage only), Good with infiltration
- Water quality treatment: Poor
- Amenity potential: Poor
- Biodiversity potential: Poor

Maintenance requirements for geocellular /modular systems are listed in Error! Reference source not found..

Table 2: Geocellular / modular systems maintenance schedule

Maintenance schedule	Required action	Frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then six monthly
	Debris removal from catchment surface (where may cause risks to performance)	Monthly
	Where rainfall infiltrates into blocks from above, check surface of filter for blockage by silt, algae or other matter. Remove and replace surface infiltration medium as necessary.	Monthly (and after large storms)
	Remove sediment from pre-treatment structures	Annually, or as required
Remedial actions	Repair/rehabilitation of inlets, outlet, overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually and after large storms

Drainage pipes, silt traps and catchpits

Table 3: Maintenance requirements for pipes, silt traps and catchpits

Maintenance schedule	Required action	Frequency
----------------------	-----------------	-----------

Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then six monthly
	Debris removal from catchment surface and chambers (where may cause risks to performance)	Monthly
	Inspection of manholes, silt traps and catchpits to assess silt accumulation	Monthly (and after large storms)
	Removal of accumulated silt from silt trap and catchpit sumps	Annually, or as required
Remedial actions	Repair/rehabilitation of inlets, outlet, overflows and vents	As required
	Cleaning/jetting of pipework if silt/debris is building up in system	As required
Monitoring	Inspect/check all inlets, outlets, and overflows to ensure that they are in good condition and operating as designed.	Annually and after large storms

NOTE: Manhole covers can be heavy and suitable lifting equipment/ procedures should be used. Where possible, personnel should not enter manholes to carry out maintenance.

Gullies and linear drains

Inspection and removal of debris from silt trap every 3 months, preferably after leaf fall in the autumn. (Timeframe can be adjusted to suit actual site conditions.) Charge water trap where necessary.

Pumping stations

Pumping stations are to be maintained in accordance with the pump supplier/maintenance company requirements and in accordance with British Standards (BS EN 12056-4), i.e. inspections every quarter.

Unusual / unresolved problems

If the drainage system is still holding water following cleaning with a jetter, or the jetting of the system removes excessive amounts of debris this may indicate greater issues within the system. A CCTV survey is likely to be required and further advice should be sought from a drainage engineer.

The following are specific indicators which may trigger intervention:

- Witnessing waterlogged areas / standing or stagnant water / poorly drained areas, indicative of a blockage
- Removal of fallen leaves and debris particularly in autumn months
- Significant storm events are typically classed as MET Office weather alert Amber and above.

3. Foul Drainage Disposal:

As discussed in Section 1 of this design note, foul water from the proposed building is to drain via a network of pipes and manholes via gravity through a foul water treatment plant and subsequently to the point of disposal via a drainage field. Due to the anticipated occupancy of the development and the subsequent daily foul water usage exceeding 2m³ per day, a permit to discharge foul water to ground is required.

The foul drainage strategy has been developed in line with the approved scheme and location specific percolation testing was carried out in order to confirm the suitability of the ground for percolation of foul water. Drainage field sizing calculations were carried out in accordance with BS 6297:2007 which formed the design.

Given the nature of the development, the proposed drainage field has also been designed to accommodate foul water flows from the nearby Estate Management Building (EMB). For details of the EMB drainage proposals and separate planning condition discharge, refer to **PCY-EWD-EMB-XX-RP-C-000001**.

An application was made to the Environment Agency for a permission to discharge foul water to ground. This permit was granted by the EA on 02.06.26.

Details of the proposed drainage field can be found in **Appendix A**.

A copy of the EA Permit can be found in **Appendix D**.

Appendix A - Proposed Drainage Drawings



Below ground drainage notes

1. The location and level of existing drainage connections and existing services is to be checked prior to commencement of drainage works. Any variance to the details on this drawing and the schedule is to be brought to the attention of the Engineer.
2. The design is based on the information available on the date of issue from other parties (eg. Architect and M&E Engineer). It is subject to change resulting from updates to the available information from others.
3. The drawings are to be read in conjunction with the NBS specifications, associated manhole schedule and standard drainage detail drawings where applicable.
4. Private foul and surface water drainage is to be constructed in accordance with Building Regulations Part H, BS EN 752 and BS EN 12056.
5. Drains at ground level are to be constructed using vitrified clay pipes to BS EN 295-1 super strength specification (Hepworth Supersieve) or similar approved.
6. All surface water connections to be 150mm diameter and to be laid at a minimum gradient of 1/80 unless noted otherwise.
7. All soil connections and rainwater pipes should be roddable from ground level.
8. Backfilling of drain trenches adjacent to building or other structures is to be in accordance with diagram 8 of the Building Regulations.
9. All drainage excavations should be risk assessed by the contractor to ensure trench safety / stabilisation measures are considered during the construction period. Any excavations left exposed should be inspected by a competent person on a daily basis. Ground conditions should be monitored and tool box talks should include site investigation information to aid the contractors ongoing risk assessment and method of excavation. All excavations should be assessed by a competent person for confined spaces requirements.
10. The contractor is to consider phasing of the drainage installation and are to provide temporary drainage measures they determine are required.
11. SuDS are to be installed in accordance with the recommendations made within the CIRIA SuDS Manual C753 (with particular attention drawn to chapter 31) and CIRIA Guidance on the Construction of SuDS C768. It is the responsibility of the contractor to consider construction programme of SuDS.
12. Detailed design of geocellular crates is a CDP item and should be based on level, layout and volume details shown. Detailed design information should be provided to the civil engineer to pass comment.
13. All manhole cover levels shown are approximate and are to suit the final ground or building levels.
14. Manhole covers in block paved areas are to be recessed unless noted otherwise.
15. All external foul water manhole covers in footpaths and paved areas (other than roads) are to be non-ventilating and single sealed unless noted otherwise.
16. All external surface water manhole covers are to be non-ventilating unless noted otherwise.
17. All manhole covers are to be installed square to paving, kerb lines or buildings.
18. Inspection chambers are to have a reduced access piece when the depth is greater than 1.2m to the base of the chamber.
19. Filter drains to be topped with free draining soil to be specified by the landscape architect

This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
Do not scale from this drawing.

All drawings to be printed in colour.

LEGEND

- Foul water manhole
- Surface water manhole
- Proposed foul water
- Proposed surface water
- Proposed surface water packaged pumping station
- Proposed surface water rising main
- Proposed linear channel with heelguard grating
- Proposed threshold drain with brick slot upstand
- Geocellular surface water soakaway
- Proposed permeable paving
- Proposed building
- Proposed perforated pipe
- Proposed basement extent
- Drainage above basement - by others
- Proposed overland flow route

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P02	16.06.26	JDI	TKe	Planning Issue
P01	08.06.26	JDI	TKe	Planning Issue
Rev	Date	By	Chk	Description

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Project
Project Conway

Drawing Title
Proposed Main House Below
Ground Drainage
Sheet 1

Scale	EWP Project	Date	Drawn
1:1000 @ A1	2240267	June 2026	JDI
Design Phase	Status	Revision	
For Planning	S2	P02	
[Project]-[Origin]-[Function]-[Spatial]-[Form]-[Discipline]-[No.] PCY-EWD-MH-ZZ-DR-C-0001			

0002



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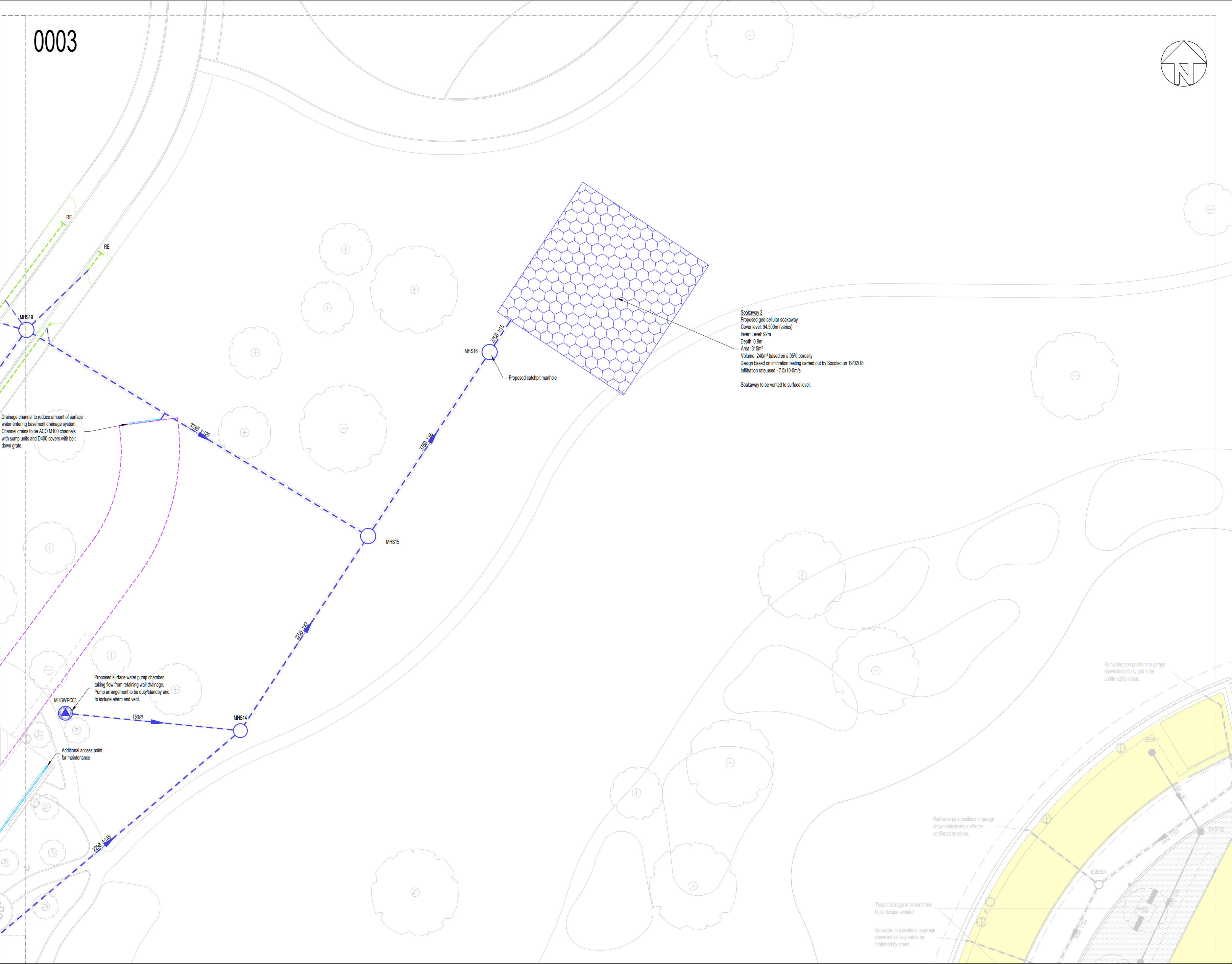
Drawing Title
Proposed Main House
Below Ground Drainage
Sheet 2

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Design Phase	Status	Revision
For Planning	S2	P02

[Project]-[Origin]-[Function]-[Spatial]-[Form]-[Discipline]-[No.]
PCY-EWD-MH-ZZ-DR-C-0002

0003



Drainage channel to reduce amount of surface water entering basement drainage system. Channel drains to be ACO M100 channels with sump units and D400 covers with bolt down grate.

Soakaway 2
Proposed geo-cellular soakaway
Cover level: 94.500m (varies)
Invert Level: 92m
Depth: 0.8m
Area: 315m²
Volume: 240m³ based on a 95% porosity
Design based on infiltration testing carried out by Socotec on 19/02/18
Infiltration rate used - 7.5x10-5m/s

Soakaway to be vented to surface level.

Proposed surface water pump chamber taking flow from retaining wall drainage. Pump arrangement to be duty/standby and to include alarm and vent.

Additional access point for maintenance

Rainwater pipe positions to garage shown indicatively and to be confirmed by others.

Rainwater pipe positions to garage shown indicatively and to be confirmed by others.

Treepit drainage to be confirmed by landscape architect

Rainwater pipe positions to garage shown indicatively and to be confirmed by others.

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P02	16.06.26	JDI	TKe	Issued for Planning
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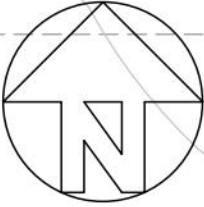
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Drawing Title
Proposed Main House
Below Ground Drainage
Sheet 3

Scale	EWPP Project	Date	Drawn
1:200 @ A1	2240267	June 2026	JDI
Design Phase	Status	Revision	
For Planning	S2	P02	
[Project]-[Origin]-[Function]-[Spatial]-[Form]-[Discipline]-[No.]			
PCY-EWD-MH-ZZ-DR-C-0003			

0004



draining to landscape architects
specification.

600x600mm cover to
sit within planter
Proposed trees to be co-ordinated
around below ground drainage
routing

Foul water connection from Main House to
external below ground drainage network.

Proposed rainwater outlet from Main House to
external drainage network. Exact position, size
and flow rate from proposed connection are
subject to confirmation by MEP engineer.

Design level based on MEP drawings - 94.063

Connection from Main House to external below
ground drainage network. Exact position, size
and flow rate from proposed connection are
subject to MEP design.

Design level based on MEP drawings - 93.467

Proposed surface water pump chamber
taking flow from retaining wall drainage.
Pump arrangement to be duty/standby and
to include alarm and vent.

Root barriers to be installed where pipe
runs are in close proximity to proposed
trees

Connection from Main House to external below
ground drainage network. Exact position, size
and flow rate from proposed connection are
subject to confirmation by MEP engineer.

Design level based on MEP drawings - 94.067

Proposed lined filter drain draining
handstanding area. Top soil to be free
draining to landscape architects
specification.

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Drawing Title
Proposed Main House
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Sheet 4

Scale 1:200 @ A1 EWP Project 2240267 Date June 2026 Drawn JDI

Design Phase For Planning Status S2 Revision P02

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PCY-EWD-MH-ZZ-DR-C-0004

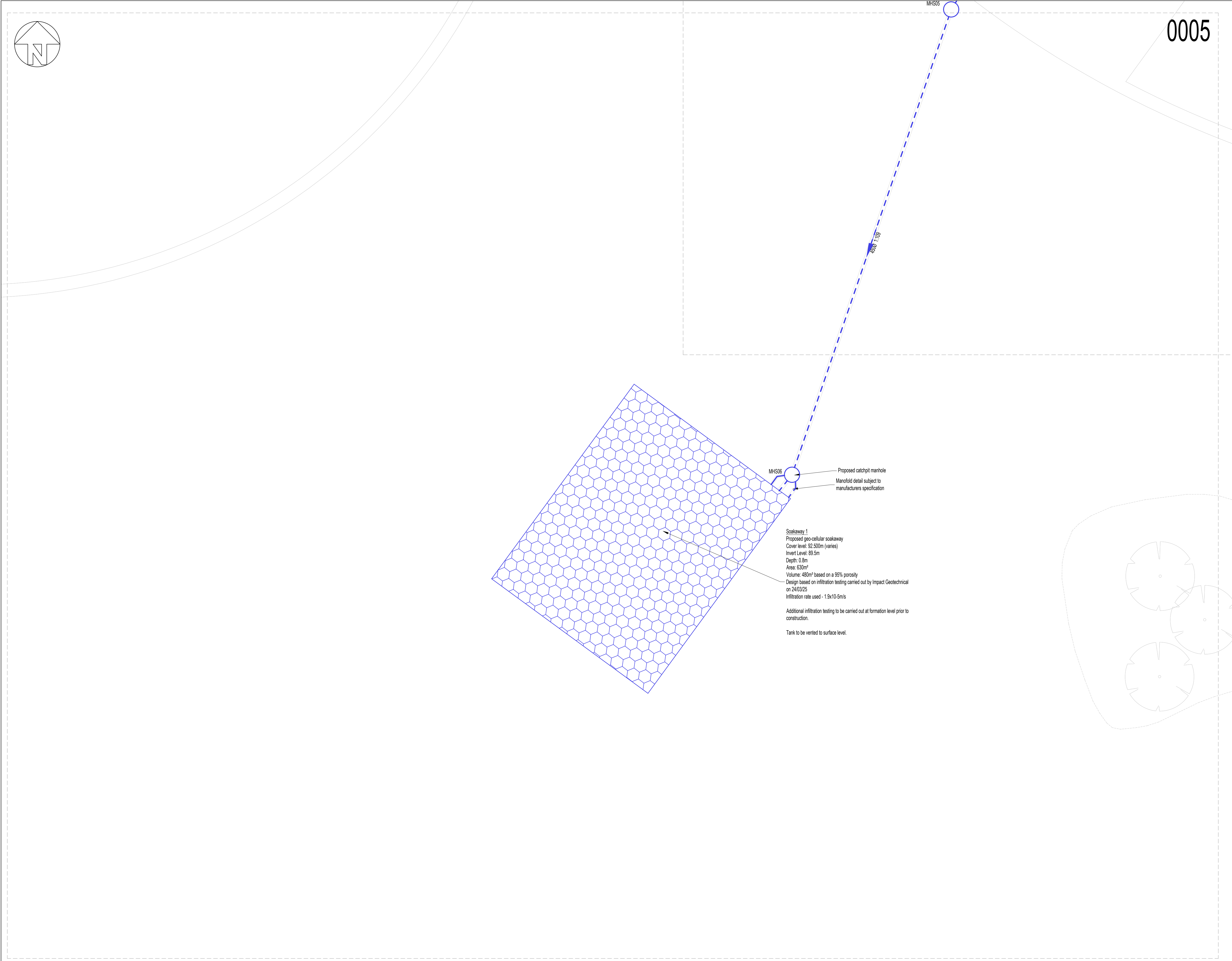
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- Proposed building
- Proposed perforated pipe
- Proposed basement extant
- Drainage above basement - by others
- Proposed overland flow route

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P02	16.06.26	JDI	TKe	Issued for Planning
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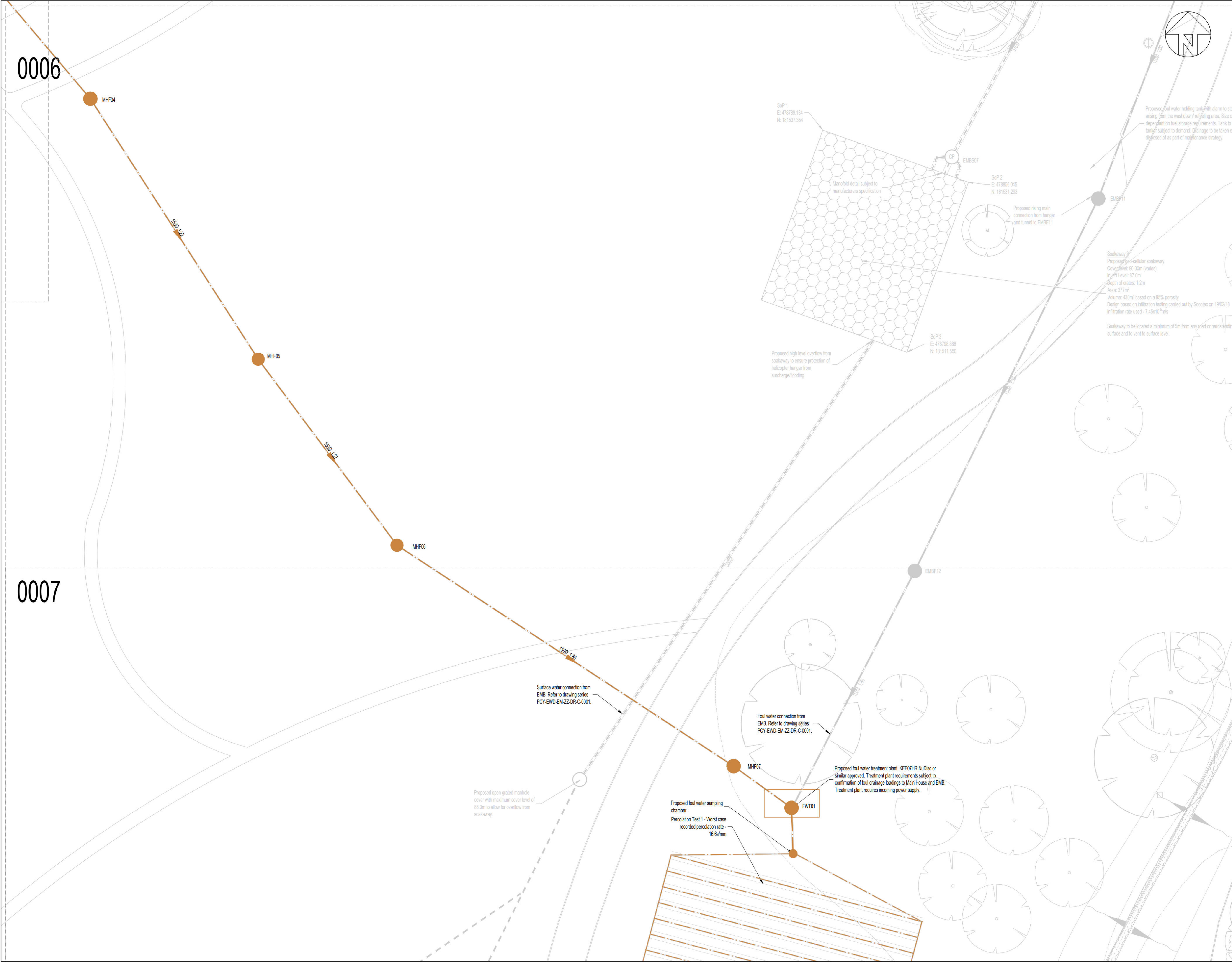
Project

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Drawing Title

Proposed Main House
Below Ground Drainage
Sheet 5

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Design Phase	Status	Revision	
For Information	S2	P02	
[Project]-[Origin]-[Function]-[Spatial]-[Form]-[Discipline]-[No.]			
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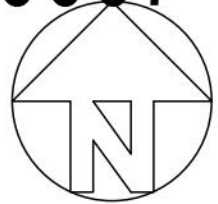
Proposed Main House
Below Ground Drainage
Sheet 6

Scale	EWP Project	Date	Drawn
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Design Phase	Status	Revision	
For Planning	S2	P02	

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Drawing Title
Proposed Main House
Below Ground Drainage
Sheet 7

Scale	EWPP Project	Date	Drawn
1:200 @ A1	2240267	June 2026	JDI

Design Phase	Status	Revision
For Planning	S2	P02

[Project]-[Origin]-[Function]-[Spatial]-[Form]-[Discipline]-[No.]
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Appendix B - Surface Water Calculations

Project: PCY - Main House Surface Water Calculations	Date: 09/06/2026		
	Designed by: JDi	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Main House SW Main	Company Address:		



Cellular Storage

Type : Cellular Storage

Dimensions

Exceedance Level (m)	94.500
Depth (m)	0.800
Base Level (m)	92.000
Number of Crates Long	21
Number of Crates Wide	30
Number of Crates High	2
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	241.100

Inlets

Inlet

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

Advanced

Base Infiltration Rate (m/hr)	0.27
Side Infiltration Rate (m/hr)	0.27
Safety Factor	2.0



Cellular Storage (1)

Type : Cellular Storage

Dimensions

Exceedance Level (m)	92.500
Depth (m)	0.800
Base Level (m)	89.000
Number of Crates Long	30
Number of Crates Wide	42
Number of Crates High	2
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	481.500

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Pipe (1)
Bypass Destination	(None)
Capacity Type	No Restriction

Advanced

Base Infiltration Rate (m/hr)	0.0684
Side Infiltration Rate (m/hr)	0.0684
Safety Factor	2.0

Project: PCY - Main House Surface Water Calculations		Date: 09/06/2026			
		Designed by: JDi	Checked by:		Approved By:
Report Details: Type: Manhole Schedule Storm Phase: Main House SW Main		Company Address:			

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
MHS18	94.930 93.360	Diameter / Length: 1.200	{1} Pipe - (387)	Pipe	93.360	Diam/Width:300	Manhole
E:478677.756	1.570						
N:181668.950			{a} Pipe - (343)	Pipe	93.360	Diam/Width:375	Not Applicable
MHS01	94.880 93.500	Diameter / Length: 0.600					Manhole
E:478606.403	1.380						
N:181651.757			{a} Pipe - (269)	Pipe	93.500	Diam/Width:300	Not Applicable
MHS02	94.600 93.300	Diameter / Length: 0.600	{1} Pipe - (269)	Pipe	93.300	Diam/Width:300	Manhole
E:478595.146	1.300						
N:181636.525			{a} Pipe - (270)	Pipe	93.300	Diam/Width:300	Not Applicable
MHS14	94.600 93.220	Diameter / Length: 1.200	{1} Pipe - (278)	Pipe	93.220	Diam/Width:225	Manhole
E:478724.167	1.380						
N:181652.782			{a} Pipe - (279)	Pipe	93.220	Diam/Width:225	Not Applicable
MHS17	94.600 93.600	Diameter / Length: 1.200					Manhole
E:478665.851	1.000						
N:181677.155			{a} Pipe - (387)	Pipe	93.600	Diam/Width:300	Not Applicable

Project: PCY - Main House Surface Water Calculations		Date: 09/06/2026			
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Report Details: Type: Manhole Schedule Storm Phase: Main House SW Main		Company Address:			

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
MHS08	94.500 92.995	Diameter / Length: 1.200	{1} Pipe - (377)	Pipe	92.995	Diam/Width:150	Manhole
E:478647.571 N:181598.061	1.505						
			{a} Pipe - (276)	Pipe	92.995	Diam/Width:300	Not Applicable
MHS03	94.500 93.000	Diameter / Length: 0.600	{1} Pipe - (270)	Pipe	93.000	Diam/Width:300	Manhole
E:478605.728 N:181628.650	1.500						
			{a} Pipe - (271)	Pipe	93.000	Diam/Width:300	Not Applicable
MHS07	94.500 93.500	Diameter / Length: 0.450					Manhole
E:478663.266 N:181592.886	1.000						
			{a} Pipe - (377)	Pipe	93.500	Diam/Width:150	Not Applicable
MHS16	94.500 91.800	Diameter / Length: 1.350	{1} Pipe - (279) (2)	Pipe	92.300	Diam/Width:375	Manhole
E:478753.066 N:181696.659	2.700						
			{a} Pipe	Pipe	92.300	Diam/Width:375	Not Applicable
MHS15	94.500 92.570	Diameter / Length: 1.350	{1} Pipe - (279)	Pipe	92.570	Diam/Width:225 Diam/Width:375	Manhole
E:478738.979 N:181675.338	1.930		{2} Pipe - (342)	Pipe	92.570		
			{a} Pipe - (279) (2)	Pipe	92.570	Diam/Width:375	Not Applicable

Project: PCY - Main House Surface Water Calculations		Date: 09/06/2026			
		Designed by: JDi	Checked by:		Approved By:
Report Details: Type: Manhole Schedule Storm Phase: Main House SW Main		Company Address:			

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
MHS19	94.400 92.955	Diameter / Length: 1.350	{1} Pipe - (343)	Pipe	92.955	Diam/Width:375	Manhole
E:478699.359	1.445						
N:181699.228			{a} Pipe - (342)	Pipe	92.955	Diam/Width:375	Not Applicable
MHS13	94.300 93.500	Diameter / Length: 0.600	{1} Pipe - (277)	Pipe	93.530	Diam/Width:150	Manhole
E:478692.438	0.800						
N:181625.967			{a} Pipe - (278)	Pipe	93.500	Diam/Width:225	Not Applicable
MHS12	94.205 93.650	Diameter / Length: 0.450					Manhole
E:478686.057	0.555						
N:181630.935			{a} Pipe - (277)	Pipe	93.650	Diam/Width:150	Not Applicable
MHS04	94.100 92.550	Diameter / Length: 1.350	{1} Pipe - (271)	Pipe	92.550	Diam/Width:300	Manhole
E:478623.817	1.550		{2} Pipe - (276)	Pipe	92.550	Diam/Width:300	
N:181615.783			{a} Pipe - (272)	Pipe	92.550	Diam/Width:450	Not Applicable
MHS05	93.100 91.000	Diameter / Length: 1.350	{1} Pipe - (272)	Pipe	91.000	Diam/Width:450	Manhole
E:478587.384	2.100						
N:181557.566			{a} Pipe - (272) (1)	Pipe	91.000	Diam/Width:450	Not Applicable

Project: PCY - Main House Surface Water Calculations		Date: 09/06/2026			
		Designed by: JDi	Checked by:		Approved By:
Report Details: Type: Manhole Schedule Storm Phase: Main House SW Main		Company Address:			

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
MHS06	92.500 89.975	Diameter / Length: 1.350	{1} Pipe - (272) (1)	Pipe	90.475	Diam/Width:450	Manhole
E:478568.904 N:181503.561	2.525		{a} Pipe (1)	Pipe	90.475	Diam/Width:450	Not Applicable

Project: PCY - Main House Surface Water Calculations		Date: 09/06/2026			
		Designed by: JDi	Checked by:		Approved By:
Report Details: Type: Inflow Summary Storm Phase: Main House SW Main		Company Address:			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (m²)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (m²)
Catchment Area	MHS02		Time of Concentration	413.781	100	0	100	413.781
Catchment Area (1)	MHS01		Time of Concentration	220.676	100	0	100	220.676
Catchment Area (2)	MHS04		Time of Concentration	632.369	100	0	100	632.369
Catchment Area (3)	MHS08		Time of Concentration	641.788	100	0	100	641.788
Catchment Area (4)	MHS04		Time of Concentration	119.376	100	0	100	119.376
Catchment Area (5)	MHS07		Time of Concentration	265.600	100	0	100	265.600
Catchment Area (6)	MHS04		Time of Concentration	148.417	100	0	100	148.417
Catchment Area (7)	MHS03		Time of Concentration	53.730	100	0	100	53.730
Catchment Area (8)	MHS02		Time of Concentration	34.664	100	0	100	34.664
Catchment Area (9)	MHS04		Time of Concentration	128.812	100	0	100	128.812
Catchment Area (10)	MHS01		Time of Concentration	755.637	100	0	100	755.637
Catchment Area (11)	MHS07		Time of Concentration	138.829	100	0	100	138.829
Catchment Area (12)	MHS18		Time of Concentration	1739.457	100	0	100	1739.457
Catchment Area (13)	MHS12		Time of Concentration	382.023	100	0	100	382.023
Catchment Area (14)	MHS14		Time of Concentration	259.068	100	0	100	259.068
Catchment Area (15)	MHS14		Time of Concentration	92.921	100	0	100	92.921
Catchment Area (16)	MHS19		Time of Concentration	419.796	100	0	100	419.796
Catchment Area (17)	MHS19		Time of Concentration	112.909	100	0	100	112.909
Catchment Area (18)	MHS17		Time of Concentration	66.269	100	0	100	66.269
Catchment Area (19)	MHS17		Time of Concentration	220.131	100	0	100	220.131
Catchment Area (20)	MHS03		Time of Concentration	237.258	100	0	100	237.258
Catchment Area (21)	MHS03		Time of Concentration	544.856	100	0	100	544.856
Catchment Area (22)	MHS01		Time of Concentration	335.633	100	0	100	335.633
Catchment Area (23)	MHS02		Time of Concentration	105.575	100	0	100	105.575
Catchment Area (24)	MHS14		Time of Concentration	157.641	100	0	100	157.641
Catchment Area (25)	MHS18		Time of Concentration	265.017	100	0	100	265.017
Catchment Area (26)	MHS01		Time of Concentration	387.952	100	0	100	387.952
TOTAL		0.0		8880.184				8880.184

Project: PCY - Main House Surface Water Calculations		Date: 09/06/2026			
		Designed by: JDi	Checked by:		Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Main House SW Main		Company Address:			

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (hrs)	0.083
Max. Travel Time (hrs)	0.50

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Manhole Options

Apply Offset	☐
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Project: PCY - Main House Surface Water Calculations	Date: 09/06/2026			
	Designed by: JDi		Checked by:	Approved By:
Report Title: Rainfall Analysis Criteria	Company Address:			

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

Rainfall

FEH (1)

Type: FEH

Site Location	GB 478850 181250 SU 78850 81250
Rainfall Version	2022
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	0.000
100.0	0.000
100.0	40.000

Storm Durations

Duration (hrs)	Run Time (hrs)
0.25	0.50
0.50	1.00
1.00	2.00
2.00	4.00
4.00	8.00
6.00	12.00
8.00	16.00
16.00	32.00
24.00	48.00

Project: PCY - Main House Surface Water Calculations	Date: 09/06/2026		
	Designed by: JDi	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Main House SW Main	Company Address:		





FEH (1): 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
MHS18	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	94.930	93.360	93.464	0.104	35.2	0.118	0.000	33.8	16.303	OK
MHS01	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	94.880	93.500	93.603	0.103	26.2	0.029	0.000	25.8	12.095	OK
MHS02	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	94.600	93.300	93.397	0.097	34.3	0.028	0.000	33.6	16.028	OK
MHS14	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	94.600	93.220	93.280	0.060	13.3	0.068	0.000	12.7	6.349	OK
MHS17	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	94.600	93.600	93.634	0.034	4.4	0.039	0.000	4.3	2.041	OK
MHS08	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	94.500	92.995	93.063	0.068	16.0	0.077	0.000	15.5	7.439	OK
MHS03	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	94.500	93.000	93.117	0.117	46.5	0.033	0.000	45.6	21.973	OK
MHS07	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	94.500	93.500	93.545	0.045	6.2	0.007	0.000	6.2	2.874	OK
MHS16	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	94.500	91.800	92.441	0.641	47.9	0.917	0.000	46.6	25.424	OK
MHS15	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	94.500	92.570	92.701	0.131	51.8	0.188	0.000	47.9	26.182	OK
MHS19	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	94.400	92.955	93.077	0.122	42.1	0.174	0.000	39.1	20.074	OK
MHS13	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	94.300	93.500	93.555	0.055	5.8	0.016	0.000	5.5	2.712	OK
MHS12	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	94.205	93.650	93.706	0.056	5.9	0.009	0.000	5.8	2.717	OK
MHS04	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	94.100	92.550	92.667	0.117	76.9	0.168	0.000	73.2	36.768	OK
MHS05	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	93.100	91.000	91.144	0.144	73.2	0.206	0.000	63.3	36.572	OK
MHS06	FEH (1): 2 years: +0 %: 0.25 hrs: Winter	92.500	89.975	90.549	0.574	63.3	0.821	0.000	62.8	35.818	OK

Project: PCY - Main House Surface Water Calculations		Date: 09/06/2026			
		Designed by: JDi	Checked by:		Approved By:
Report Details: Type: Junctions Summary Storm Phase: Main House SW Main		Company Address:			



FEH (1): 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
MHS18	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	94.930	93.360	93.538	0.178	87.4	0.201	0.000	84.5	40.440	OK
MHS01	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	94.880	93.500	93.680	0.180	65.0	0.051	0.000	64.0	30.002	OK
MHS02	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	94.600	93.300	93.475	0.175	85.2	0.050	0.000	83.5	39.773	OK
MHS14	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	94.600	93.220	93.318	0.098	33.2	0.111	0.000	32.0	15.734	OK
MHS17	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	94.600	93.600	93.653	0.053	11.0	0.060	0.000	10.8	5.054	OK
MHS08	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	94.500	92.995	93.105	0.110	39.8	0.125	0.000	38.8	18.469	OK
MHS03	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	94.500	93.000	93.212	0.212	115.5	0.060	0.000	113.3	54.523	OK
MHS07	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	94.500	93.500	93.575	0.075	15.5	0.012	0.000	15.3	7.141	OK
MHS16	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	94.500	91.800	92.548	0.748	122.5	1.071	0.000	120.6	64.415	OK
MHS15	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	94.500	92.570	92.808	0.238	130.3	0.341	0.000	122.5	65.206	OK
MHS19	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	94.400	92.955	93.167	0.212	104.8	0.304	0.000	98.4	49.811	OK
MHS13	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	94.300	93.500	93.590	0.090	14.4	0.026	0.000	13.7	6.735	OK
MHS12	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	94.205	93.650	93.749	0.099	14.6	0.016	0.000	14.4	6.744	OK
MHS04	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	94.100	92.550	92.744	0.194	191.4	0.278	0.000	184.3	91.192	OK
MHS05	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	93.100	91.000	91.252	0.252	184.3	0.360	0.000	164.1	90.935	OK
MHS06	FEH (1): 30 years: +0 %: 0.25 hrs: Winter	92.500	89.975	90.603	0.628	164.1	0.899	0.000	163.3	90.167	OK

Project: PCY - Main House Surface Water Calculations		Date: 09/06/2026			
		Designed by: JDi	Checked by:		Approved By:
Report Details: Type: Junctions Summary Storm Phase: Main House SW Main		Company Address:			



FEH (1): 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
MHS18	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	94.930	93.360	93.571	0.211	113.0	0.239	0.000	109.3	52.284	OK
MHS01	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	94.880	93.500	93.719	0.219	84.0	0.062	0.000	82.7	38.798	OK
MHS02	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	94.600	93.300	93.518	0.218	110.1	0.062	0.000	107.5	51.427	OK
MHS14	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	94.600	93.220	93.334	0.114	43.0	0.129	0.000	41.5	20.337	OK
MHS17	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	94.600	93.600	93.661	0.061	14.2	0.068	0.000	13.9	6.531	OK
MHS08	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	94.500	92.995	93.122	0.127	51.5	0.144	0.000	50.3	23.873	OK
MHS03	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	94.500	93.000	93.270	0.270	148.9	0.076	0.000	145.4	70.498	OK
MHS07	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	94.500	93.500	93.589	0.089	20.0	0.014	0.000	19.8	9.230	OK
MHS16	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	94.500	91.800	92.595	0.795	159.4	1.138	0.000	155.1	83.639	OK
MHS15	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	94.500	92.570	92.864	0.294	169.6	0.420	0.000	159.4	84.368	OK
MHS19	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	94.400	92.955	93.210	0.255	135.6	0.365	0.000	128.1	64.397	OK
MHS13	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	94.300	93.500	93.605	0.105	18.6	0.030	0.000	17.8	8.707	OK
MHS12	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	94.205	93.650	93.772	0.122	18.9	0.019	0.000	18.6	8.716	OK
MHS04	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	94.100	92.550	92.777	0.227	246.6	0.325	0.000	238.4	117.902	OK
MHS05	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	93.100	91.000	91.301	0.301	238.4	0.431	0.000	213.1	117.623	OK
MHS06	FEH (1): 100 years: +0 %: 0.25 hrs: Winter	92.500	89.975	90.625	0.650	213.1	0.931	0.000	212.1	116.842	OK

Project: PCY - Main House Surface Water Calculations		Date: 09/06/2026			
		Designed by: JDi	Checked by:		Approved By:
Report Details: Type: Junctions Summary Storm Phase: Main House SW Main		Company Address:			



FEH (1): 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
MHS18	FEH (1): 100 years: +40 %: 0.25 hrs: Summer	94.930	93.360	93.620	0.260	150.5	0.294	0.000	147.0	65.265	OK
MHS01	FEH (1): 100 years: +40 %: 0.25 hrs: Winter	94.880	93.500	94.260	0.760	117.6	0.215	0.000	109.2	54.324	Surcharged
MHS02	FEH (1): 100 years: +40 %: 0.25 hrs: Winter	94.600	93.300	94.017	0.717	147.6	0.203	0.000	140.4	72.010	Surcharged
MHS14	FEH (1): 100 years: +40 %: 0.25 hrs: Winter	94.600	93.220	93.362	0.142	59.2	0.161	0.000	56.8	28.464	OK
MHS17	FEH (1): 100 years: +40 %: 0.25 hrs: Winter	94.600	93.600	93.672	0.072	19.8	0.081	0.000	19.5	9.155	OK
MHS08	FEH (1): 100 years: +40 %: 0.25 hrs: Winter	94.500	92.995	93.151	0.156	72.0	0.177	0.000	70.8	33.428	OK
MHS03	FEH (1): 100 years: +40 %: 0.25 hrs: Winter	94.500	93.000	93.710	0.710	198.3	0.201	0.000	192.7	98.744	Surcharged
MHS07	FEH (1): 100 years: +40 %: 0.25 hrs: Winter	94.500	93.500	93.620	0.120	28.0	0.019	0.000	27.6	12.927	OK
MHS16	FEH (1): 100 years: +40 %: 0.25 hrs: Winter	94.500	91.800	92.701	0.901	205.3	1.290	0.000	203.5	117.556	Surcharged
MHS15	FEH (1): 100 years: +40 %: 0.25 hrs: Winter	94.500	92.570	93.048	0.478	214.9	0.684	0.000	205.3	118.280	Surcharged
MHS19	FEH (1): 100 years: +40 %: 0.25 hrs: Winter	94.400	92.955	93.417	0.462	199.1	0.662	0.000	158.1	90.139	Surcharged
MHS13	FEH (1): 100 years: +40 %: 0.25 hrs: Winter	94.300	93.500	93.626	0.126	25.2	0.036	0.000	23.9	12.194	OK
MHS12	FEH (1): 100 years: +40 %: 0.25 hrs: Winter	94.205	93.650	93.885	0.235	26.4	0.037	0.000	25.2	12.209	Surcharged
MHS04	FEH (1): 100 years: +40 %: 0.25 hrs: Winter	94.100	92.550	92.830	0.280	334.7	0.401	0.000	324.5	165.032	OK
MHS05	FEH (1): 100 years: +40 %: 0.25 hrs: Winter	93.100	91.000	91.390	0.390	324.5	0.557	0.000	287.3	164.762	OK
MHS06	FEH (1): 100 years: +40 %: 0.25 hrs: Winter	92.500	89.975	90.657	0.682	287.3	0.975	0.000	286.1	163.997	OK

Project: PCY - Main House Surface Water Calculations		Date: 09/06/2026			
		Designed by: JDi	Checked by:		Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Main House SW Main		Company Address:			



FEH (1): 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (hrs)	Percentage Available (%)
Cellular Storage	FEH (1): 2 years: +0 %: 0.50 hrs: Winter	92.050	92.050	0.050	0.050	36.7	15.016	0.000	32.990	0.0	0.000		93.772
Cellular Storage (1)	FEH (1): 2 years: +0 %: 2.00 hrs: Winter	89.074	89.074	0.074	0.074	28.3	44.510	0.000	81.268	0.0	0.000		90.756

Project: PCY - Main House Surface Water Calculations	Date: 09/06/2026			
	Designed by: JDi	Checked by:	Approved By:	
	Report Details: Type: Stormwater Controls Summary Storm Phase: Main House SW Main			
Company Address:				

Status
OK
OK

Project: PCY - Main House Surface Water Calculations		Date: 09/06/2026			
		Designed by: JDi	Checked by:		Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Main House SW Main		Company Address:			



**FEH (1): 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By:
Max. Avg. Depth**

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (hrs)	Percentage Available (%)
Cellular Storage	FEH (1): 30 years: +0 %: 1.00 hrs: Winter	92.215	92.215	0.215	0.215	68.1	64.340	0.000	81.936	0.0	0.000		73.314
Cellular Storage (1)	FEH (1): 30 years: +0 %: 2.00 hrs: Winter	89.233	89.233	0.233	0.233	62.4	139.280	0.000	85.010	0.0	0.000		71.074

Project: PCY - Main House Surface Water Calculations	Date: 09/06/2026		
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	Report Details: Type: Stormwater Controls Summary Storm Phase: Main House SW Main		
Company Address:			

Status
OK
OK

Project: PCY - Main House Surface Water Calculations		Date: 09/06/2026			
		Designed by: JDi	Checked by:		Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Main House SW Main		Company Address:			



**FEH (1): 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By:
Max. Avg. Depth**

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (hrs)	Percentage Available (%)
Cellular Storage	FEH (1): 100 years: +0 %: 1.00 hrs: Winter	92.320	92.320	0.320	0.320	89.6	95.633	0.000	84.168	0.0	0.000		60.335
Cellular Storage (1)	FEH (1): 100 years: +0 %: 4.00 hrs: Winter	89.322	89.322	0.322	0.322	48.4	192.940	0.000	173.395	0.0	0.000		59.929

Project: PCY - Main House Surface Water Calculations	Date: 09/06/2026			
	Designed by: JDi	Checked by:	Approved By:	
	Report Details: Type: Stormwater Controls Summary Storm Phase: Main House SW Main			
Company Address:				

Status
OK
OK

Project: PCY - Main House Surface Water Calculations		Date: 09/06/2026			
		Designed by: JDi	Checked by:		Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Main House SW Main		Company Address:			



**FEH (1): 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By:
Max. Avg. Depth**

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (hrs)	Percentage Available (%)
Cellular Storage	FEH (1): 100 years: +40 %: 2.00 hrs: Winter	92.498	92.498	0.498	0.498	80.4	149.106	0.000	175.209	0.0	0.000	0.67	38.156
Cellular Storage (1)	FEH (1): 100 years: +40 %: 4.00 hrs: Winter	89.504	89.504	0.504	0.504	67.9	301.571	0.000	177.768	0.0	0.000	2.67	37.368

Project: PCY - Main House Surface Water Calculations	Date: 09/06/2026			
	Designed by: JDi	Checked by:	Approved By:	
	Report Details: Type: Stormwater Controls Summary Storm Phase: Main House SW Main			
Company Address:				

Status
OK
OK

Appendix C - Drainage Field Sizing Calculations

Project Conway - Drainage Field Sizing Calculations
Drainage Field Section 1

Project Name	Project Conway
Project Number	2240264
Designer	JDi
Checked	Tke
Rev	P02

Percolation Test Number	1	2
Test 1 Vp (s/mm)	<u>16.6</u>	33.6
Test 2 Vp (s/mm)	16.4	57.6
Test 3 Vp (s/mm)	15.6	33.6

Drainage field floor area in square metres (based on BS 6297 2007)

$$A = p \times Vp \times 0.2$$

p (number of persons) 54

Vp (percolation value) s/mm 16.6

0.2 (treatment plant) 0.2

179.3 m2

Drainage field trench design (based on BS 6297 2007)

Maximum trench length (m) 30

Trench width (m) 0.9

Floor area per single trench (m2) 27

Number of trenches required **6.6**

Total drainage field area (m2) **189**

Additional design considerations

Ground water not encountered

Spacings between trenches - 1m

Pipe gradient - not steeper than 1:200

Minimum pipe depth - 0.2m

Infiltration pipe diameter - 100mm

Granular fill - clean shingle, broken stone graded 16mm to 32mm or gravel sized 20 to 50mm.

Table 4 Floor area to linear trench length

Drainage field floor area (A) m ²	Linear trench length (in metres)		
	0.3 m width trench	0.6 m width trench	0.9 m width trench
20	66	33	22
30	100	50	33
40	133	67	44
50	167	83	56
60	200	100	66
70	233	117	78
80	266	134	88
90	300	150	100

Project Conway - Drainage Field Sizing Calculations
Drainage Field Section 2 & 3

Project Name	Project Conway
Project Number	2240264
Designer	JDi
Checked	Tke
Rev	P02

Percolation Test Number	1	2
Test 1 Vp (s/mm)	16.6	33.6
Test 2 Vp (s/mm)	16.4	57.6
Test 3 Vp (s/mm)	15.6	33.6

Drainage field floor area in square metres (based on BS 6297 2007)

$$A = p \times V_p \times 0.2$$

p (number of persons) 100

Vp (percolation value) s/mm 16.6

0.2 (treatment plant) 0.2

332.0 m2

Drainage field trench design (based on BS 6297 2007)

Maximum trench length (m) 30

Trench width (m) 0.9

Floor area per single trench (m2) 27

Number of trenches required **12.3**

13

Total drainage field area (m2)

351

Additional design considerations

Ground water not encountered

Spacings between trenches - 1m

Pipe gradient - not steeper than 1:200

Minimum pipe depth - 0.2m

Infiltration pipe diameter - 100mm

Granular fill - clean shingle, broken stone graded 16mm to 32mm or gravel sized 20 to 50mm.

Table 4 Floor area to linear trench length

Drainage field floor area (A) m ²	Linear trench length (in metres)		
	0.3 m width trench	0.6 m width trench	0.9 m width trench
20	66	33	22
30	100	50	33
40	133	67	44
50	167	83	56
60	200	100	66
70	233	117	78
80	266	134	88
90	300	150	100

Project Conway - Drainage Field Sizing Calculations
Overall Calculations

Project Name	Project Conway
Project Number	2240264
Designer	JDi
Checked	Tke
Rev	P02

Percolation Test Number	1	2
Test 1 Vp (s/mm)	16.6	33.6
Test 2 Vp (s/mm)	16.4	57.6
Test 3 Vp (s/mm)	15.6	33.6

Drainage field floor area in square metres (based on BS 6297 2007)

$$A = p \times Vp \times 0.2$$

p (number of persons)	154
Vp (percolation value) s/mm	16.6
0.2 (treatment plant)	0.2

511.3 m2

Drainage field trench design (based on BS 6297 2007)

Maximum trench length (m)	30
Trench width (m)	0.9
Floor area per single trench (m2)	27
Number of trenches required	20
Total drainage field area (m2)	<u>540</u>

Additional design considerations

Ground water not encountered

Spacings between trenches - 1m

Pipe gradient - not steeper than 1:200

Minimum pipe depth - 0.2m

Infiltration pipe diameter - 100mm

Granular fill - clean shingle, broken stone graded 16mm to 32mm or gravel sized 20 to 50mm.

Table 4 Floor area to linear trench length

Drainage field floor area (A) m ²	Linear trench length (in metres)		
	0.3 m width trench	0.6 m width trench	0.9 m width trench
20	66	33	22
30	100	50	33
40	133	67	44
50	167	83	56
60	200	100	66
70	233	117	78
80	266	134	88
90	300	150	100

Appendix D - EA Permit to Discharge Foul Water

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Imperium Trust Company (UK) Limited

Sewage treatment plant and infiltration system serving
Stowdes Estate
Culham Lane
Remenham
Berkshire
RG10 8NU

Permit number

EPR/LP3422LW

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/LP3422LW

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016

Imperium Trust Company (UK) Limited ("the operator"),

whose registered office is

15 Hanover Square Mayfair

London

United Kingdom

W1S 1HS

company registration number **12053209**

to operate a groundwater activity at

Strowdes Estate

Culham Lane

Remenham

Berkshire

RG10 8NU

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Lesley Flounders	28/05/2026

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activity:
- (a) in accordance with a written management system that identifies and minimises risks of pollution so far as is reasonably practicable, including those risks arising from operations, maintenance, accidents, incidents, non-conformances and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of the permit.

2 Operations

2.1 Permitted activities

- 2.1.1 The only activity authorised by the permit is the activity specified in schedule 1 table S1.1.

2.2 The site

- 2.2.1 The groundwater activity shall take place at the discharge point marked on the site plan at schedule 7 to this permit, and as listed in table S3.2; and, the operating techniques that are the subject of conditions prefixed by 2.3 shall be applied at the location shown, or otherwise described, in schedule 7.

2.3 Operating techniques

- 2.3.1 The infiltration system specified in table S1.1 shall be constructed to comply with the following:
- (a) no part of the infiltration system constructed shall be more than 2 metres below ground level;
 - (b) no part of the infiltration system shall be less than 1.2 metres above the highest predicted annual groundwater level;
 - (c) the infiltration system shall not connect to any land drainage system;
 - (d) the infiltration system shall not be situated within 10 metres of any watercourse (including any ditch that runs dry for part of the year), or any other surface water;
 - (e) the infiltration system shall not be situated within 50 metres of a well, spring or borehole that is used to supply water for domestic or food production purposes.
- 2.3.2 The sewage treatment plant and infiltration system shall conform to all relevant British Standards in force at the time of installation.

3 Emissions and monitoring

3.1 Emissions to water or land

3.1.1 The limits given in schedule 3 table S3.1 shall not be exceeded.

3.2 Emissions of substances not controlled by emission limits

3.2.1 For the activity referenced in schedule 1, table S1.1 the operator shall take appropriate measures as far as is reasonably practicable:

- (a) to prevent the input of hazardous substances to groundwater; and
- (b) where a non-hazardous pollutant is not controlled by an emission limit, to limit the input of such non-hazardous pollutants to groundwater so as to ensure that inputs do not cause pollution of groundwater.

3.3 Monitoring

3.3.1 An accessible monitoring point shall be provided and maintained to enable monitoring to be carried out at the monitoring point specified in table S3.3 of schedule 3 and shown marked on the site plan in schedule 7.

4 Information

4.1 Records

4.1.1 All records required to be made by schedule 3, 4 and 5 to this permit shall:

- (a) be legible;
- (b) be made as soon as reasonably practicable;
- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
- (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made.

4.1.2 The operator shall maintain convenient access, in either electronic or hard copy, to the records, plan and management system required to be maintained by this permit.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.3 Notifications

4.3.1 The Environment Agency shall be notified as soon as reasonably practicable following detection, within the site of the regulated facility of:

- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution; and
- (b) any breach of a limit specified in schedule 3 table S3.1.

Any other significant adverse environmental effects, which may have been caused by the activity, shall also be notified to the Environment Agency as soon as reasonably practicable following detection.

4.3.2 The information provided under condition 4.3.1 shall be supported by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

4.3.4 Where the operator proposes to make a change in the nature of the activity by increasing the concentration of, or the addition of, or allowing the introduction of, a substance to the activity to an extent that the operator considers could have a significant adverse environmental effect on the receiving waters, and the change is not the subject of an application for approval under the EP Regulations or under the terms of this permit:

- (a) the Environment Agency shall be notified in writing at least 14 days before the increase or addition or allowing the introduction; and
- (b) the notification shall contain a description of the proposed change.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "as soon as reasonably practicable", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 Activities	
Description of activity	Limits of specified activity
Groundwater activity: discharge into land of secondary treated sewage effluent	Via an infiltration system centred on NGR SU 78782 81369.

Schedule 2 – Waste types, raw materials and fuels

Schedule 2 not in use.

Schedule 3 – Emissions and monitoring

Table S3.1 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements							
Effluent(s) and discharge point(s)	Parameter	Limit (including unit)	Reference Period	Monitoring method	Limit of effective range	Monitoring frequency	Compliance Statistic
Secondary treated sewage effluent via Outlet 1	Maximum daily flow	8.5 m3/day	Total daily volume	N/A	N/A	N/A	Maximum
	Visible oil or grease	No significant trace present so far as is reasonably practicable	Instantaneous (visual examination)	Visual examination	N/A	N/A	No significant trace

Table S3.2 Discharge points			
Effluent Name	Discharge Point	Discharge point NGR	Receiving water/Environment
Secondary treated sewage effluent	Outlet 1	SU 78782 81382	Groundwater via an infiltration system

Table S3.3 Monitoring points			
Effluent(s) and discharge point(s)	Monitoring type	Monitoring point NGR	Monitoring point reference
Secondary treated sewage effluent via Outlet 1	Effluent monitoring	SU 78776 81400	Effluent monitoring point

Schedule 4 – Reporting

Schedule 4 not in use.

Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 7 days of detection unless otherwise agreed in writing by the Environment Agency	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released/type or nature of sewage released	
Best estimate of the quantity or rate of release of substances and/or duration of discharge	
Best estimate of the environmental impact of the discharge	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit specified in schedule 3 table S3.1	
To be notified within 7 days of detection unless otherwise agreed in writing by the Environment Agency	
Description of where the effect on the environment was detected	

(b) Notification requirements for the breach of a limit specified in schedule 3 table S3.1	
To be notified within 7 days of detection unless otherwise agreed in writing by the Environment Agency	
Description of and best estimate of the scale of the environmental impact of the discharge	

Part B – to be submitted as soon as reasonably practicable unless otherwise agreed in writing by the Environment Agency

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident/breach/exceedance	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“annually” means once every year.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“appropriate measures” for the purposes of the emission of substances not controlled by emission limits condition (condition 3.2.1) do not require the operator to undertake treatment to a level beyond that specified in schedule 1 table S1.1, or to carry out routine monitoring for substances not controlled by emission limits.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the permitted activities, which are not controlled by an emission limit.

“emissions to land” includes emissions to groundwater.

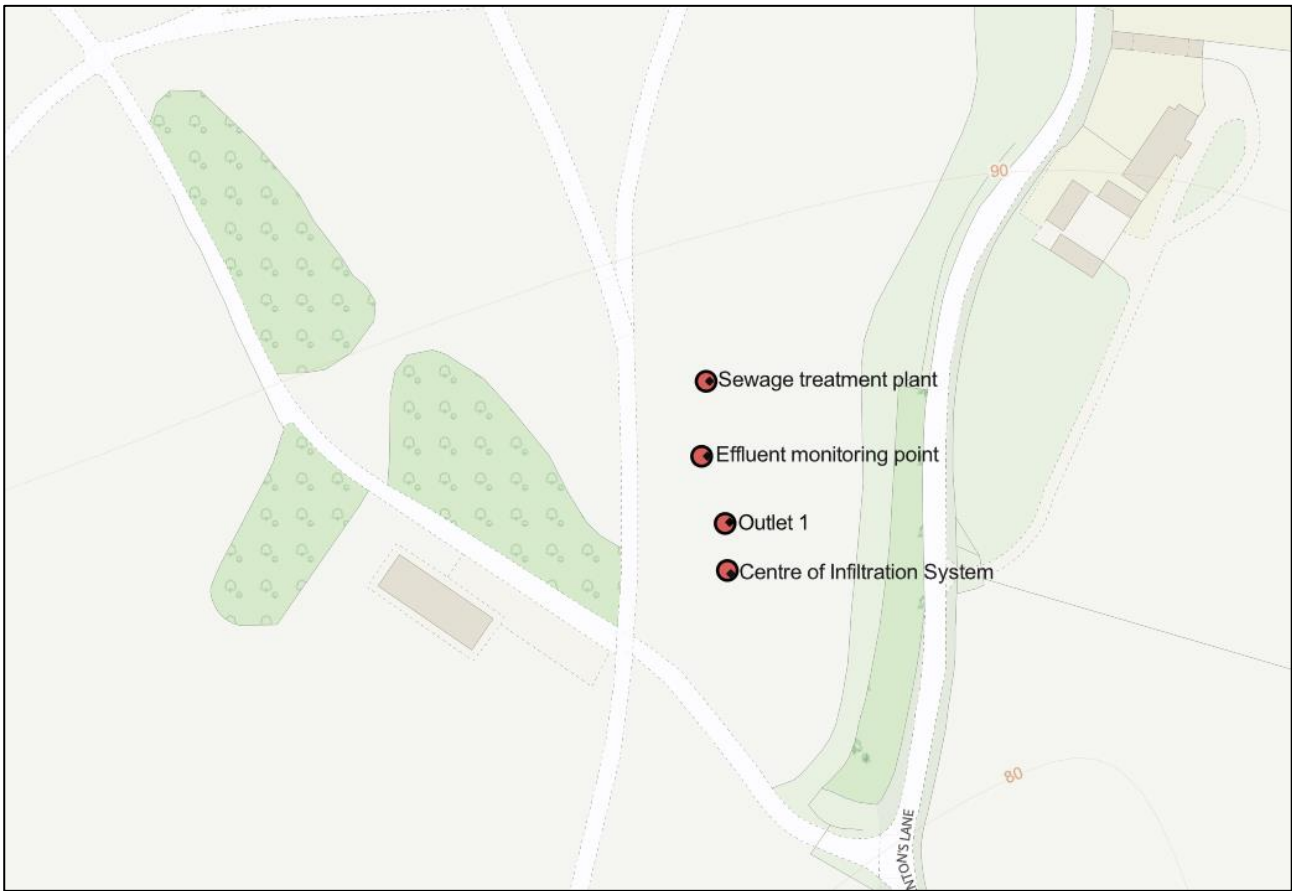
“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“significant pollution” means a category 1 or category 2 incident indicated by the Common Incident Classification Scheme (CICS).

“year” means calendar year ending 31 December.

Schedule 7 – Site plan



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END OF PERMIT

ElliottWood

