

Cefn Lodge Care Home

Drainage Strategy & Flood Risk Statement

Client: Oxford Care Holdings (BIRA CARE)
Project Ref: CC2696
Report Revision: P02

CAMBRIA

Report Control Sheet

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Project	Cefn Lodge Care Home
Project ref	CC2696
Document title	Drainage Strategy & Flood Risk Statement
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Prepared by	L Mitchell MEng (Hons) CEng MICE FFB
Reviewed and authorised by	L Mitchell MEng (Hons) CEng MICE FFB

Document naming protocol

Project Ref.	Originator	Vol.	Level	Type	Role	Number
CC2696	CAM	XX	XX	RP	C	0001

Current issue

Revision	Status	Date	Description	Prepared by	Authorised by
P01	S2	18/07/25	First issue	L Mitchell	G Mitchell
P02	S2	26/06/26	For Planning	L Mitchell	G Mitchell

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1 Introduction

1.1.1 Cambria Consulting Limited are the appointed Civil & Structural consulting engineers for the development of a new building which will provide an additional 50 beds on grounds within the site currently occupied by Cefn Lodge Care Home.

1.1.2 This drainage strategy and flood risk statement is prepared primarily to support the scheme's planning application and the objectives are:

- Identify suitable disposal method / outfall locations for the development generated surface water and foul water.
- Provide feedback on any statutory consultations undertaken.
- Undertake preliminary hydraulic calculations to identify peak design flows or restrictions to the development and any subsequent attenuation / storage requirements.
- Provide a schematic layout of the proposed foul and surface water drainage proposals.
- Demonstrate that a drainage design, compliant to the National SuDS standards, is achievable within the proposed planning layout and that effective management of surface water run-off has been considered.

2 Development Context

2.1 Site Location & Existing Use

2.1.1 The application site is located within the residential area of Skewen, approximately 2.4 miles south-west of Neath City Centre. It has a total area of 5,950m² and is split in two with the western portion comprising an existing 33 bed care home and the eastern portion comprising previously undeveloped vegetated ground which is the location of the proposed development. This area is therefore considered greenfield in nature.

2.1.2 Vehicular access is gained from Cefn-Parc on the site's northwestern corner and there is a pedestrian link to Pen-Yr-Heol to the east.

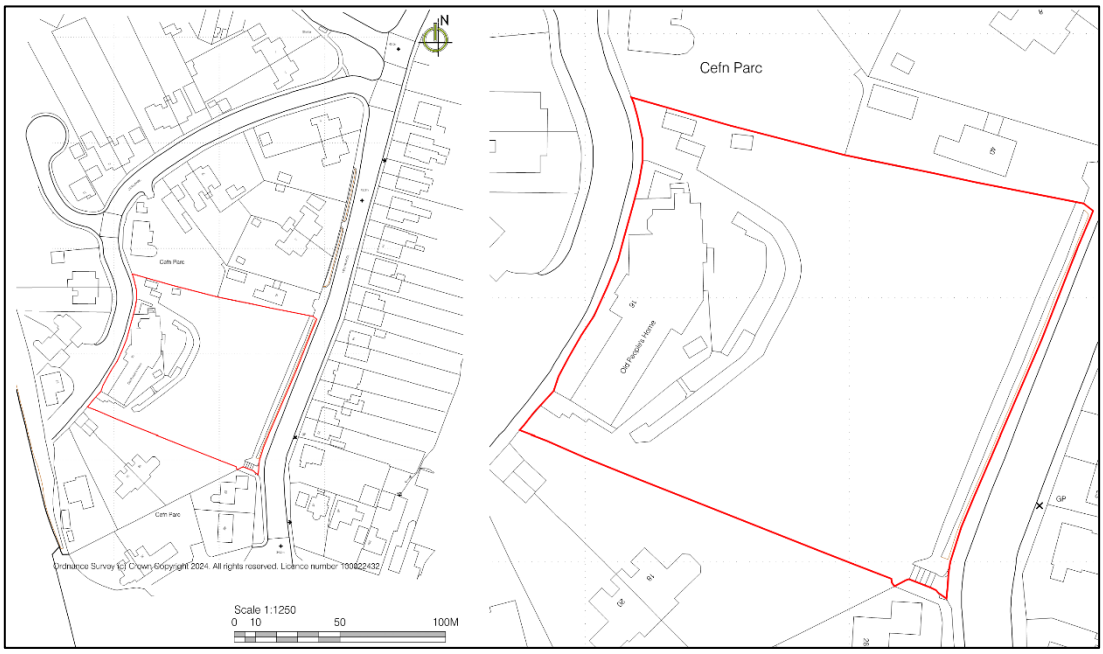


Figure 1 – Site Location

- Site address: Cefn Lodge Nursing Home, Cefn-Parc, Skewen, Neath SA10 6YR
  - National grid reference: SS7212196558
  - National grid reference (6 figure): SS721965
  - Easting (X) 272121
  - Northing (Y) 196558

2.2 Topography

2.2.1 A topographic survey has been undertaken by Surveybase (reference SB10589 – TOPO – April 2024) and is available within Appendix A.

2.2.2 The western portion of the site is a relatively flat / gently sloping plateau comprising the existing 33 bed care home at a level of approximately 45.5mAOD. Beyond this, to the east, the levels fall steeply in an easterly direction towards Pen-Yr-Heol.

2.2.3 In order to develop this land and respond to this challenging topography the proposed building is split across three-storeys. Significant earthwork reprofiling and retaining walls are required to facilitate the proposed development.

2.2.4 The site is also constrained by existing mature trees and a requirement to observe associated root protection zones.

2.3 Flood Risk

TAN 15 Planning Policy

2.3.1 A revised TAN15 was implemented on the 31st March 2025. The TAN outlines the actions that should be taken when considering development in different flood zones which are defined by the Flood Map for Planning and the Flood Risk Assessment Wales (FRAW) maps which together make up the Wales Flood Map.

Table: Flood Zones

Flood Zone	Flooding from Rivers	Flooding from the Sea	Flooding from surface water and small watercourse
1	Less than 1 in 1000 (0.1%) (plus climate change) chance of flooding in a given year.		
2	Less than 1 in 100 (1%) but greater than 1 in 1000 (0.1%) chance of flooding in a given year, including climate change.	Less than 1 in 200 (0.5%) but greater than 1 in 1000 (0.1%) chance of flooding in a given year, including climate change.	Less than 1 in 100 (1%) but greater than 1 in 1000 (0.1%) chance of flooding in a given year, including climate change.
3	A greater than 1 in 100 (1%) in a given year, including climate change.	A greater than 1 in 200 (0.5%) in a given year, including climate change.	A greater than 1 in 100 (1%) in a given year, including climate change.
TAN 15 Defended Zones	Areas where flood risk management infrastructure provides a minimum standard of protection against flooding from rivers of 1:100 (plus climate change and freeboard)	Areas where flood risk management infrastructure provides a minimum standard of protection against flooding from the sea of 1:200 (plus climate change and freeboard)	Not Applicable.

Flood Zone Classification

2.3.2 The proposed development is considered **'highly vulnerable'** end use.

2.3.3 The Flood Map for Planning shows the site is located in **Flood Zone 1** being at little or no risk of flooding from tidal or fluvial sources.

2.3.4 There is however, a small area of surface water flood risk. This is representative of a localised low spot where some ponding could be experienced and not an overland flow path which would warrant further consideration.



Figure 2 – NRW Flood Map for Planning (FMfP) – Surface Water

2.3.5 Surface water flooding will typically be mitigated against by proposed external levels making sure that areas fall away from buildings.

2.3.6 This source of flood risk will be eliminated as a result of the proposed ground reprofiling and introduction of positive drainage provision through redevelopment.

2.3.7 Due consideration for overland flow paths, exceedance routes etc will form part of the SAB application process.

3 Proposed Development

3.1.1 The proposed care home for older people will provide 50 beds laid out in flexible wings delivering living and communal spaces for residents over 3 storeys.

3.1.2 Modifications to the upper existing plateau include additional parking, delivery and ambulance spaces and bin and cycle storage.



Figure 3 – Proposed Development – CGI Rendered Image

4 Existing Drainage

4.1.1 DCWW public sewer records indicate that the local area is served by a combined sewerage system.

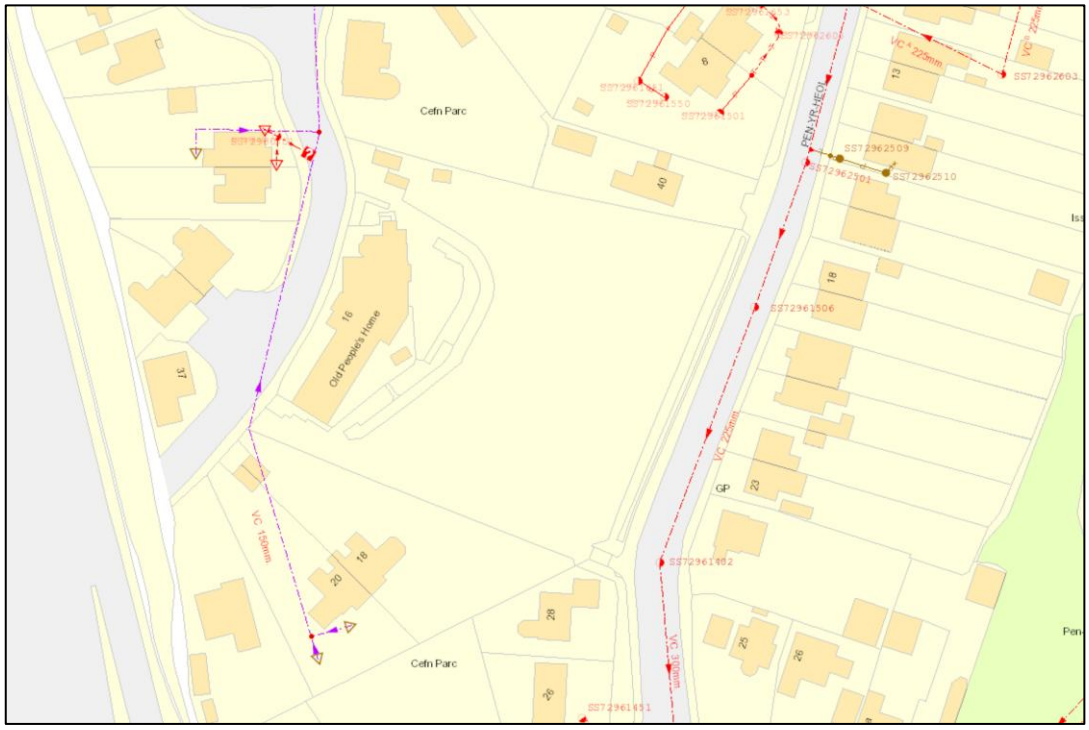


Figure 4 – Extract of Welsh Water Records

4.1.2 The system within Cefn Parc is a 150mm asset whereas the network in Pen-yr-heol is a 225mm dia asset which upsizes to 300mm immediately south of the proposed development.

4.1.3 There are no DCWW sewerage of water supply assets crossing the site that would need to be considered as part of the proposed development.

4.1.4 There is a traditional kerb-gully drainage system draining the highway of Pen-Yr-Heol. Drainage investigation and CCTV survey has been undertaken and proven that this network discharges to a culverted watercourse to the south. This is discussed further in the sections to follow and the Draintech CCTV Survey Report output is available for reference within Appendix B.

4.1.5 No definitive drainage investigation / utility survey has been undertaken to determine how the existing upper plateau is drained. The topographical survey has however, identified a number of chambers and several invert levels that suggests there is an existing foul sewer running along the southern boundary in an easterly direction which is anticipated to connect to the DCWW combined system in Pen-Yr-Heol. This will be investigated in the next stage to ascertain connectivity and suitability for re-use to serve the proposed development.

5 Proposed Foul Drainage

5.1.1 It is proposed to drain the proposed development's foul flows to the DCWW combined system located in Pen-Yr-Heol.

5.1.2 Given the site's steep topography, a gravity connection is readily achievable.

5.1.3 With reference to the calculations contained within Appendix F, the anticipated peak flow rate of a 50 bed care home is 1.34l/s.

5.1.4 DCWW did not provide a response as part of the planning pre-app consultation process and as such, spare capacity in the existing network is yet to be explored and determined.

5.1.5 The potential existing foul asset running along the southern boundary should be investigated as it may provide an opportunity for reuse and avoid intrusive works in Pen-yr-Heol. Should connectivity be proven, along with suitable condition for reuse, this connection would be subject to a S106 agreement only with DCWW. If proven otherwise, a new off-site connection will be required which would be subject to S104 and S106 agreements.

5.1.6 It is assumed that any grease treatment for hot food preparation will be undertaken via chemical dosing prior to connection to the below ground drainage network.

6 Proposed Surface Water Drainage

6.1.1 In October 2018, Welsh Government published the 'Statutory standards for sustainable drainage systems – designing, constructing, operating and maintaining Surface Water Drainage Systems'. This standard is now mandatory for new developments with either a construction area greater than 100m² or more than 1 dwelling.

6.1.2 The principles that underpin the design of surface water management schemes to meet the standards area as follows;

SuDS schemes should aim to:

- Manage water on or close to the surface and as close to the source of the runoff as possible.
- Treat rainfall as a valuable natural resource
- Ensure pollution is prevented at source, rather than relying on the drainage system to treat or intercept it.
- Manage rainfall to help protect people from increased flood risk, and the environment from morphological and associated ecological damage resulting from changes in flow rates, patterns and sediment movement caused by the development.
- Take account of likely future pressures on flood risk, the environment and water resources such as climate change and urban creep.
- Use the SuDS Management Train, using drainage components in series across a site to achieve a robust surface water management system (rather than using a single "end of pipe" feature, such as a pond, the serve the whole development).
- Maximise the delivery of benefits for amenity and biodiversity.
- Seek to make the best use of available land through multifunctional usage of public spaces and the public realm.
- Perform safely, reliably and effectively over the design life of the development taking into account the need for reasonable levels of maintenance.
- Avoid the need for pumping where possible.
- Be affordable, taking into account both construction and long-term maintenance costs and the additional environmental and social benefits afforded by the system.

6.1.3 An illustrative proposed drainage layout showing the drainage strategy and design intent is available within the drawings provided in Appendix G.

6.2 Standard S1 – Surface Water Runoff Destination

Standard S1 - Surface Water Runoff Destination

6.2.1 This standard reviews the disposal routes for surface water run-off. The destinations are split into 5 levels with Level 1 being the most preferential and level 5 being the least preferred and only used in exceptional circumstances.

Priority Level 1: Surface water runoff is collected for use;

6.2.2 The proposals include a number of internal rainwater downpipes which will be unable to discharge through surface level SuDS features. In order to compensate for this and achieve interception compliance, it is proposed to include a rainwater harvesting system which will collect roof run-off and recycle for non-potable reuse to flush toilets, supply washing machines etc.

Priority Level 2: Surface water runoff is infiltrated to ground;

6.2.3 Soakaway testing to BRE Digest 365 has been undertaken by Spectrum Geo Services (reference 26008/R1) and the results are available in Appendix C. Of the five testing positions, none yielded sufficient uptake and infiltration / soakaway is not considered a viable means of ultimate surface water disposal.

6.2.4 Passive infiltration may be considered with permeable membranes to SuDS features where location is appropriate however, this will not be relied upon in calculation

Priority Level 3: Surface water runoff is discharged to a surface water body;

6.2.5 As discussed in section 4.1.4, there is an open watercourse to the south of the development site which is culverted to cross beneath Pen Yr Heol road to the south of the development site.

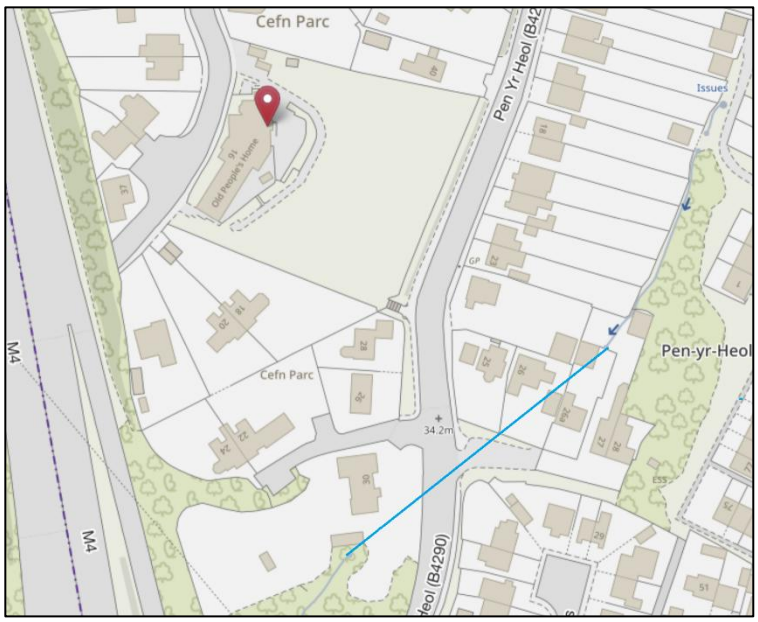


Figure 5 – Existing Culverted Watercourse

6.2.6 This is the nearest watercourse to the proposed development.

Priority Level 4: Surface water runoff is discharged to a surface water sewer; highway drain or other drainage;

6.2.7 Draintech have undertaken drainage investigation and CCTV survey which has proven that the existing highway surface water network in Pen-yr-Heol conveys run-off to the culverted watercourse – refer to Appendix B for Draintech report.

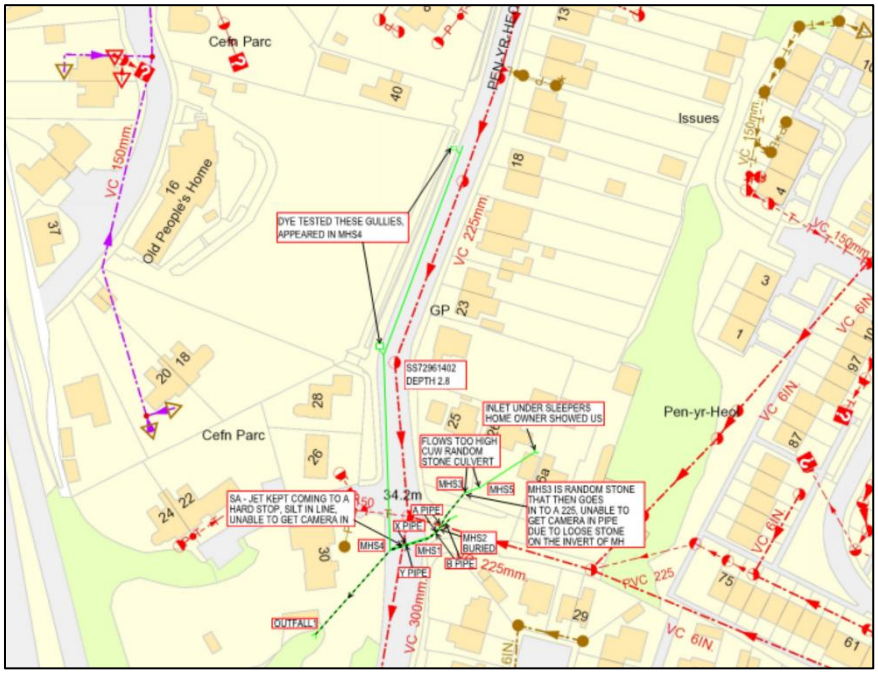


Figure 6 – Extract of Draintech CCTV Survey Plan

6.2.8 Subject to the approval of NPTCBC, it is proposed to convey surface water run-off generated by the proposed development to this system rather than create a new independent outfall to watercourse.

Priority Level 5: Discharge to a Combined Sewer

6.2.9 Conveyance to combined sewer is considered the least sustainable approach and the lowest order disposal method. On this basis a connection to the combined network in Pen-Yr-Heol will be resisted by both DCWW and SAB unless all higher disposal methods are fully explored and discounted.

6.3 Standard S2 - Surface Water Runoff Control

6.3.1 The split building floor levels steers the proposed drainage strategy to be split into two catchments serving the upper and lower plateaus respectively.

6.3.2 Soakaway testing has proven the ground conditions unsuitable to support infiltration and therefore a positively draining solution is to be sought. With reference to the calculations contained within Appendix D, Site specific QBAR greenfield rates have been generated of 10.8l/s/ha which based on a contributing hardstanding area of 1,523m² equates to a rate of 1.56l/s. It proposed to restrict the proposed network to this rate, regulated by a Hydrobrake flow control, subject to agreement with NPTCBC through SAB Pre-app consultation

6.3.3 The surface water drainage system will be sized to cater for the 1 in 100 year storm event with a +40% allowance for climate change. In particular recognition of the existing tree RPZs and in order to give confidence to the size of the attenuation tank required, an InfoDrainage model has been created and the outputs for the Q100+40%cc storm event area appended in

6.3.4 Urban creep is not considered appropriate in this instance given building footprint is maximised within the developable area and any future extensions would be regulated through the planning process.

6.4 Standard S3 – Water Quality

6.4.1 The pollution hazard score associated with the proposed development is 'low'.

6.4.2 SUDS features / components are located in pockets across the site responding 'at source' wherever possible. It is proposed to integrate a mixture of features including bioretention / raingardens and permeable paving.

6.4.3 The Simple Index Approach method will be adopted to ensure sufficient treatment measures are met. This will be provided within the Full SAB application.

6.4.4 Detailed calculations will be provided in the Full SAB application demonstrating interception criteria and the retention of the first 5mm of rainfall is met. The proposals include a number of internal rainwater downpipes which will be unable to discharge through surface level SuDS features. In order to compensate for this and achieve interception compliance, it is proposed to include a rainwater harvesting system which will collect roof run-off and recycle for non-potable reuse to flush toilets, supply washing machines etc.

6.5 Standard S4 & S5 – Amenity & Biodiversity

6.5.1 A variety of 'soft' green SUDs features are to be integrated at surface level into the external landscaping proposals, to provide attractive amenity spaces, promoting dual functionality.

6.5.2 The accessible raingardens will consist of a diverse range of planting habitats. Interactive, well planted raingardens will bring a range of amenity benefits to the resident end users.

6.5.3 Robust, low maintenance planting will be prioritised with a focus on native species which will be developed and presented through the Full SAB application.

6.5.4 Current landscaping proposals are presented in Appendix G.

6.6 Standard S6 - Design of drainage for Construction, Operation and Maintenance and Structural Integrity

6.6.1 All SUDS features will need to be designed and constructed in accordance with CIRIA C753 The SUDS Manual and C768 Guidance on the Construction of SUDS.

6.6.2 Foundation designs for the building and retaining walls will need to make consideration for the drainage installation to avoid loading the drainage network with the zone of influence – particularly to the rainwater harvesting and attenuation tanks.

6.6.3 The site is under single ownership and as such the SAB is not required to adopt any SUDs features.

7 Conclusions

7.1.1 The development's foul drainage is proposed to make gravity connection to the existing DCWW combined system in Pen-Yr-Heol subject to DCWW capacity checks and approvals.

7.1.2 Subject to NPTCBC approval, surface water is proposed to make connection to the existing surface water highway network located in Pen-Yr-Heol which in turn discharges to a culverted watercourse to the south of the development site. It is proposed to restrict discharge to a QBar rate of 1.6l/s and provide attenuation to cater for the Q100+40%cc critical storm event.

7.1.3 It is recommended that these outline proposals are presented to NPTCBC through the SAB Pre-Application consultation process to receive feedback and give confidence to take forward the detailed design and full SAB Application.

7.1.4 Whilst the proposals remain subject to detailed design, SAB approval and formal agreements, this drainage strategy demonstrates that drainage aspects can be responsibly and effectively managed, following the principles of a SAB compliant scheme, with sufficient robustness to support the development's planning application.

Appendix A: Topographic Survey



TOPOGRAPHICAL | BUILDING | UTILITIES | LASER SCAN | BIM | UAV

Notes: Coordinate System

The survey has been orientated to the O.S. National Grid (OSGB36) via GPS and the O.S. Active Network. True OSGB36 coordinates have been established at:
Station: ST1 E: 272087.549 N: 196526.671 EL: 45.319
and a further OSGB36 point established to create a true O.S. bearing for angle orientation. A scale factor of 1 has been applied to the survey therefore the coordinates shown are arbitrary.
All levels are related to O.S. Datum.

Station	Easting	Northing	Level
ST1	272087.549	196526.671	45.319
ST2	272107.523	196521.257	43.974
ST3	272095.056	196555.106	45.400
ST4	272110.826	196579.795	45.360
ST5	272127.783	196569.724	44.664
ST6	272096.175	196618.161	44.826
ST7	272125.472	196545.149	44.504
ST8	272154.402	196573.009	43.971
ST9	272134.588	196542.655	42.890
ST10	272151.548	196502.716	39.623
ST11	272170.076	196493.969	36.517
ST13	272162.695	196564.386	42.753

All Stations are marked with a MAG Nail.

ON DETAIL SURVEY

A/C	Air Conditioning Unit	GV	Gas Valve	S/A	Soakaway
AV	Air Valve	GY	Gully	Stay	Stay
BdL	Bed Level	IC	Inspection Cover	SC	Stop Cock
BB	Belisha Beacon	IL	Invert Level	SV	Stop Valve
BOL	Bollard	JB	Junction Box	S	Stump
BH	Borehole	KO	Kerb Outlet	SW	Surface Water
Bk	Brick	LP	Lamp Post	STN	Survey Control Station
BKP	Brick paving	LI	Light	Tac	Tactile Paving
BT	British Telecom	MH	Manhole Cover	TP	Telegraph Pole
CAB	Cabinet	Mkr	Marker Post	TCB	Telephone Call Box
CP	Catch Pit	MB	Multiple Bole	THL	Threshold Level
Co	Concrete	NVP	No Visible Pipes	T/F	Top Of Fence
CL	Cover Level	OVG	Overgrown	T/P	Top Of Parapet Level
CUL	Culvert	O/H	Overhead	T/V	Top Of Vegetation
dil	Dilapidated	PM	Parking Meter	T/W	Top Of Wall
DCH	Drainage Channel	PS	Paving Slab	TL	Traffic Lights
ER	Earth Rod	PO	Post	UTL	Unable to Lift
EP	Electricity Pole	PB	Post Box	VP	Vent Pipe
FH	Fire Hydrant	Ri	Riser	WL	Water Level
FB	Flower Bed	RE	Rodding Eye	WM	Water Meter
FW	Foul	RS	Road Sign	WO	Water Wash Out
		SP	Sign Post		

ON FENCES/WALLS/DIVISIONS

A/B	Armco Crash Barrier	P/L	Palisade Fence	BW	Brick Wall
B/W	Barbed Wire Fence	P/F	Picket Fence	CW	Concrete Wall
C/L	Chain Link Fence	P/R	Post and Rail Fence	RW	Retaining Wall
C/B	Close Boarded Fence	P/W	Post and Wire Fence	SW	Stone Wall
E/F	Electric Fence	S/F	Safety Fence	TW	Timber Wall
H/F	Heras Fence	T/F	Trellis Fence		
H/R	Hand Rail	W/M	Wire Mesh Fence		
I/R	Iron Rail Fence				

ON BUILDINGS

CHM	Chimney	FRL	Flat Roof Level	RL	Ridge Level
DH	Door Head	FL	Floor Level	SH	Sill Height
DP	Down Pipe	HH	Head Height	SWP	Soil Pipe
EL	Eave Level	PL	Parapet Level	THL	Threshold Level

Rev	Comments	By	Chkd	Date
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

SURVEYBASE
PRECISION DIGITAL SURVEYORS
www.surveybase.co.uk
Bath: 01225 314370 - London: 02039 066892

Project Name
Cefn Lodge Nursing Home, 16 Cefn-Parc, Skewenm, Neath Port Talbot SA10 6YR

CAD Drawing Name
SB10589 - TOPO

Drawing Title
Topographical Survey of (1 OF 1 A0)

Client
Cefn Lodge

Date
29/04/2024

Scale
A0 @ 1:200

Drawn By
SB - JG

Checked By
SB - CW

SB Code
SB10589

Revision
-

Grid Orientation
NORTH GPS

Site Level Datum
OS GPS

All dimensions are to be checked on site where applicable.This drawing must not be scaled, and only written dimensions should be respected.

Tree species and sizes on this drawing are not guaranteed, and if critical should be verified by an arboriculturist. Tree spreads are average about the bole, and heights are approximate at the time of the survey.

Appendix B: Draintech CCTV Survey

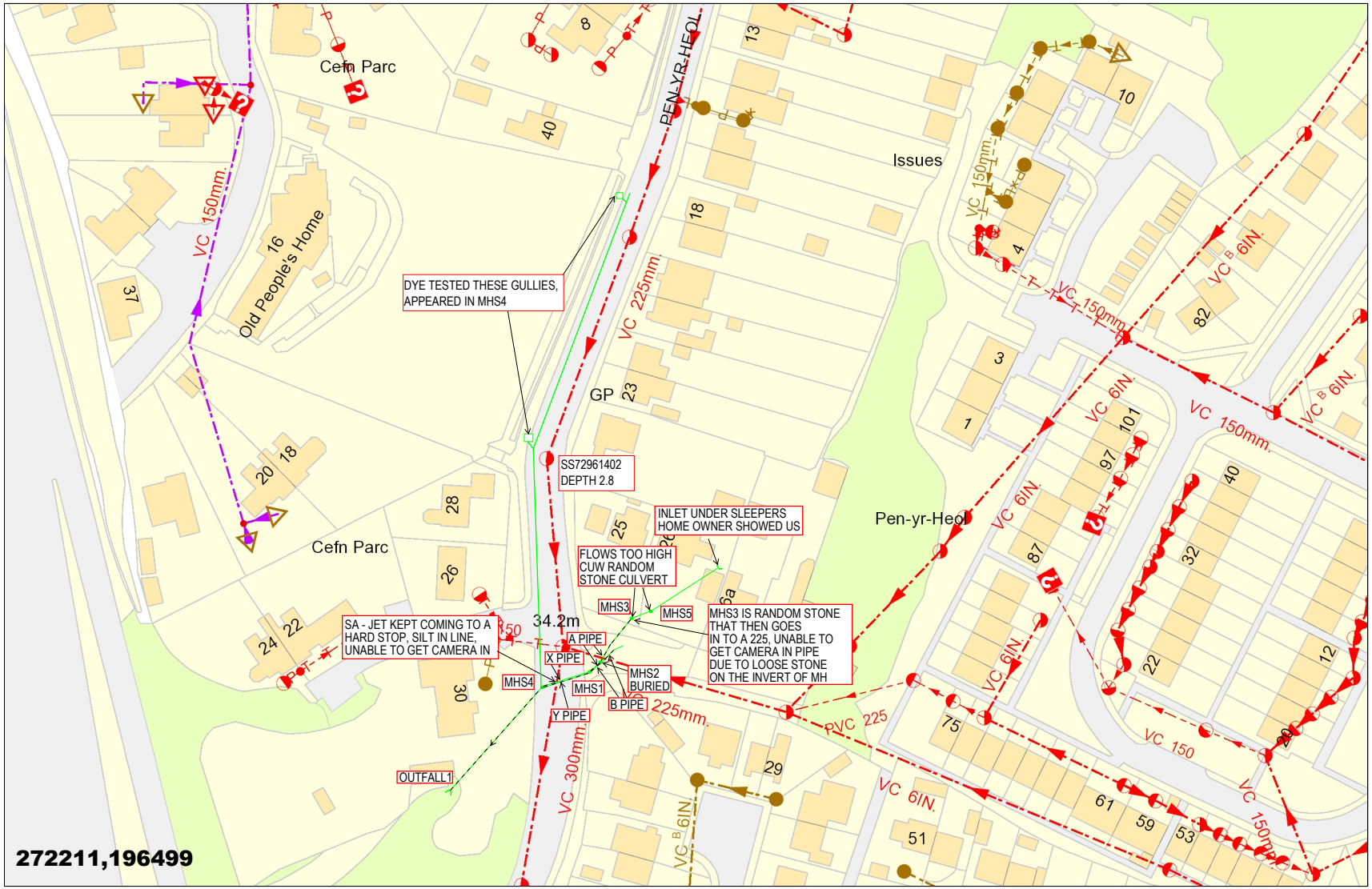
Dŵr Cymru
Welsh Water

DRAINTECH
Cleaning • Surveys • Lining • Civils
Job - 21618 - 01 - 001

Key
SA - Survey abandoned

12/05/2026

Scale: 1: 1500



LEGEND

Clean Water

- Sluice Val
- Air Val, SINGLE
- Tap
- Pressure Reducing Valve
- Meter
- BULK Meter
- FH
- Cap
- Existing Main
- NON COMPANY

Sewerage External

- Foul
- Surface Water
- Combined
- Rising Main
- Private
- Treatment Works
- Pumping Station
- Special Purpose
- Unknown End
- Change, Combined Overflow
- Outfall, FOUL
- Lamp Hole, Foul
- Private Sewer Transfer
- Lateral Drain
- Inspection Chamber

Dwr Cymru Cyfyngedig ('the Company') gives this information as to the position of its underground apparatus by way of general guidance only and on the strict understanding that it is based on the best information available and no warranty as to its correctness is relied upon In the event of excavations or other works made in the vicinity of the company's apparatus and any onus of locating the apparatus before carrying out any excavations rests entirely on you. The information which is supplied hereby the company, is done so in accordance with statutory requirements of sections 198 and 199 f the water industry Act 1991 based upon the best Information available and in particular, but without prejudice to the generality of the foregoing, it should be noted that the records that are available to the Company may not disclosure the existence of a drain sewer or disposal main laid before 1 September 1989, or if they do, the particulars thereof including their position underground may not be accurate. It must be understood that the furnishing of this information us entirely without prejudice to the provision of the New Roads and Street Works Act 1991 and the company's right to be compensated for any damage to its apparatus.

EXACT LOCATION OF ALL APPARATUS TO BE DETERMINED ON SITE

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Whilst every reasonable effort has been taken to correctly record the pipe material of DCWW assets, there is a possibility that in some cases pipe material (other than Asbestos Cement or Pitch Fibre) may be found to be Asbestos Cement (AC) or Pitch Fibre (PF). It is therefore advisable that the possible presence of AC or PF pipes be anticipated and considered as part of any risk assessment prior to excavation

DRAINTECH

helping to improve the drainage network

Drainage Survey Report

Job Number : 21618

Project Number: 1

Project Name: Cefn Lodge Nursing Home, Cefn-Parc, Skewen, Neath SA10 6YR

Company: Cambria Consulting

Site Date: 19-05-2026

Draintech Surveys Ltd| Atlantic House| Charnwood Park| Bridgend| CF31 3PL| 01656 767001| www.draintech.co.uk

DRAINTECH
Cleaning • Surveys • Lining • Civils

Draintech Surveys Ltd

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21618 Cefn Lodge Nursing Home Skewen		19/05/2026

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Section Item 3: MHS1 > MHS4 (MHS1X) 3

Section Item 4: MHS1 > MHS4 (MHS1X) 4

Section Item 5: MHS4 > OUTFALL 1 (MHS4X) 6

Section Item 6: MHS2 > MHS1 (MHS2X) 7

Section Item 7: MHS3 > MHS2 (MHS3X) 8

Project Information

Project Name	Project Number	Project Date
21618 Cefn Lodge Nursing Home Skewen		19/05/2026

Client

Company: Cambria Consulting
Contact: Laura Mitchell

Site

Company: Draintech Surveys Ltd
Contact: Jack Jones

Contractor

Company: Draintech Surveys Ltd

DRAINTECH
Cleaning • Surveys • Lining • Civils

Draintech Surveys Ltd

Section Inspection - 19/05/2026 - MHS2X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
1	1	19/05/26	9:15	Not Specified	No Rain Or Snow	No	MHS2X

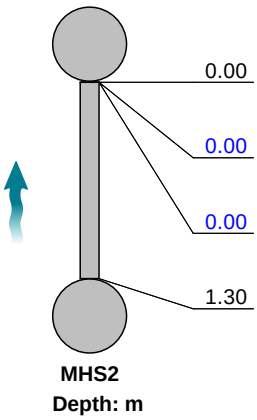
Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech JJ	CA70SZJ	Minicam	Not Specified	Not Specified	Not Specified

Town or Village:	Skewen	**Inspection Direction:**	Upstream	**Upstream Node:**	MHS2
Road:	Cefn Lodge Nursing	**Inspected Length:**	1.30 m	**Upstream Pipe Depth:**	
Location:	Road	**Total Length:**	1.30 m	**Downstream Node:**	MHS1
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	2.000 m

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:		**Dia/Height:**	300 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:		**Lining Material:**	No Lining

Comments: MHS2 - Buried
Recommendations:

Scale: 1:50



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: SMH1	00:00:00		
0.00	WL	Water level, 10% of the vertical dimension	00:00:02		
0.00	REM	General remark: A PIPE	00:01:09		
1.30	MHF	Finish node, manhole, reference: SMH2	00:00:13		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Inspection - 19/05/2026 - MHS3X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
2	1	19/05/26	11:39	Not Specified	No Rain Or Snow	No	MHS3X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech JJ	CA70SZJ	Minicam	Not Specified	Not Specified	Not Specified

Town or Village:	Skewen	**Inspection Direction:**	Upstream	**Upstream Node:**	MHS3
Road:	Cefn Lodge Nursing	**Inspected Length:**	14.36 m	**Upstream Pipe Depth:**	
Location:	Road	**Total Length:**	14.36 m	**Downstream Node:**	MHS2
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:		**Dia/Height:**	300 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:		**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:125

Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: m MHS2					
0.00	MH	Start node, manhole, reference: MHS2	00:00:00		
0.00	REM	General remark: A PIPE			
0.00	WL	Water level, 10% of the vertical dimension	00:00:02		
3.47	H	Hole in drain or sewer from 8 o'clock to 11 o'clock	00:00:30		5
3.47	SV	Soil visible beyond defect	00:00:31		
3.47	VV	Void visible beyond defect	00:00:31		
4.19	SC	Pipe size changes, new size(s), 225mm high	00:00:40		
4.19	JDL	Joint displaced, large	00:00:41		1 / 4
4.19	LR	Line deviates right	00:00:42		
4.40	REM	General remark: CHANGED TO PUSHER	00:01:45		
14.36	MHF	Finish node, manhole, reference: MHS3: LIFTED COVER SEEN CAMERA LIGHT	00:03:09		
MHS3 Depth: m					

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
2	165.0	11.6	167.0	5.0	1	5.0	0.3	5.0	4.0

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Section Inspection - 19/05/2026 - MHS1X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
3	1	19/05/26	9:49	Not Specified	No Rain Or Snow	No	MHS1X

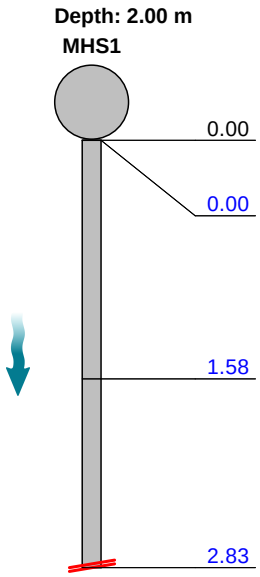
Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech JJ	CA70SZJ	Minicam	Not Specified	Not Specified	Not Specified

Town or Village:	Skewen	**Inspection Direction:**	Downstream	**Upstream Node:**	MHS1
Road:	Cefn Lodge Nursing	**Inspected Length:**	2.83 m	**Upstream Pipe Depth:**	2.000 m
Location:	Road	**Total Length:**	2.83 m	**Downstream Node:**	MHS4
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	2.180 m

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:		**Dia/Height:**	375 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:		**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MHS1	00:00:00		
0.00	WL	Water level, 30% of the vertical dimension	00:00:02		
1.58	CUW	Loss of vision, camera under water	00:00:12		
2.83	SA	Survey abandoned: UNABLE TO GET PASSED STONE IN LINE	00:00:41		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Inspection - 19/05/2026 - MHS1X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
4	1	19/05/26	9:54	Not Specified	No Rain Or Snow	No	MHS1X

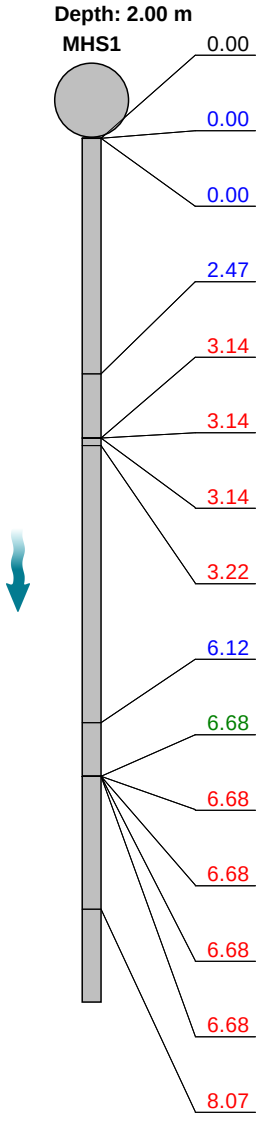
Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech JJ	CA70SZJ	Minicam	Not Specified	Not Specified	Not Specified

Town or Village:	Skewen	**Inspection Direction:**	Downstream	**Upstream Node:**	MHS1
Road:	Cefn Lodge Nursing	**Inspected Length:**	10.02 m	**Upstream Pipe Depth:**	2.000 m
Location:	Road	**Total Length:**	10.02 m	**Downstream Node:**	MHS4
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	2.180 m

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:		**Dia/Height:**	300 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:		**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:79



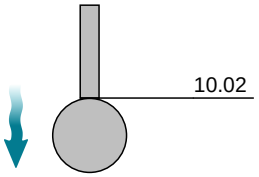
Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MHS1	00:00:01		
0.00	WL	Water level, 10% of the vertical dimension	00:00:01		
0.00	REM	General remark: Y PIPE	00:00:02		
2.47	WL	Water level, 20% of the vertical dimension	00:00:15		
3.14	FL	Fracture, longitudinal at 11 o'clock	00:00:24		3 / 2
3.14	FL	Fracture, longitudinal at 1 o'clock	00:00:24		3 / 2
3.14	CL	Crack, longitudinal at 3 o'clock	00:00:30		2 / 2
3.22	CC	Crack, circumferential from 11 o'clock to 4 o'clock	00:00:33		2 / 2
6.12	WL	Water level, 10% of the vertical dimension	00:01:23		
6.68	LR	Line deviates right	00:01:28		
6.68	D	Deformed sewer or drain, 10%	00:01:28		4 / 3
6.68	CL	Crack, longitudinal at 9 o'clock	00:01:29		2 / 2
6.68	FL	Fracture, longitudinal at 12 o'clock	00:01:29		3 / 2
6.68	FL	Fracture, longitudinal at 3 o'clock	00:01:30		3 / 2
8.07	JDL	Joint displaced, large	00:01:43		1 / 4

Section Inspection - 19/05/2026 - MHS1X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
4	1	19/05/26	9:54	Not Specified	No Rain Or Snow	No	MHS1X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech JJ	CA70SZJ	Minicam	Not Specified	Not Specified	Not Specified

Scale: 1:79	Position [m]	Code	Observation	MPEG	Photo	Grade
	10.02	MHF	Finish node, manhole, reference: MHS4	00:01:56		



MHS4

Depth: 2.18 m

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
9	170.0	27.1	272.0	4.0	9	5.0	1.4	14.0	4.0

Section Inspection - 19/05/2026 - MHS4X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
5	1	19/05/26	10:06	Not Specified	No Rain Or Snow	No	MHS4X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech JJ	CA70SZJ	Minicam	Not Specified	Not Specified	Not Specified

Town or Village:	Skewen	**Inspection Direction:**	Downstream	**Upstream Node:**	MHS4
Road:	Cefn Lodge Nursing	**Inspected Length:**	34.57 m	**Upstream Pipe Depth:**	2.180 m
Location:	Road	**Total Length:**	34.57 m	**Downstream Node:**	OUTFALL 1
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:		**Dia/Height:**	450 mm
Flow Control:	No flow control	**Pipe Material:**	Concrete
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:		**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:300



Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: 2.18 m **MHS4**					
0.00	MH	Start node, manhole, reference: MHS4	00:00:00		
0.00	WL	Water level, 10% of the vertical dimension	00:00:01		
1.30	H	Hole in drain or sewer at 12 o'clock	00:00:13		4
2.09	H	Hole in drain or sewer from 12 o'clock to 1 o'clock	00:00:28		4
17.90	CL	Crack, longitudinal at 12 o'clock	00:02:15		2 / 2
19.02	CN	Connection other than junction at 12 o'clock, 100mm dia	00:02:28		
34.57	OCF	Finish node, other special chamber, reference: OUTFALL 1: .	00:03:40		
OUTFALL 1 **Depth: m**					

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
3	80.0	4.9	170.0	4.0	1	1.0	0.0	1.0	2.0

Section Inspection - 19/05/2026 - MHS2X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
6	1	19/05/26	10:26	Not Specified	No Rain Or Snow	No	MHS2X

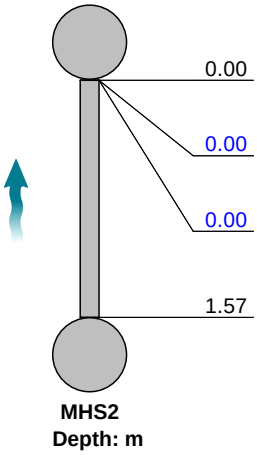
Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech JJ	CA70SZJ	Minicam	Not Specified	Not Specified	Not Specified

Town or Village:	Skewen	**Inspection Direction:**	Upstream	**Upstream Node:**	MHS2
Road:	Cefn Lodge Nursing	**Inspected Length:**	1.57 m	**Upstream Pipe Depth:**	
Location:	Road	**Total Length:**	1.57 m	**Downstream Node:**	MHS1
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	2.000 m

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:		**Dia/Height:**	300 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:		**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MHS1	00:00:00		
0.00	WL	Water level, 5% of the vertical dimension	00:00:01		
0.00	REM	General remark: B PIPE	00:00:20		
1.57	MHF	Finish node, manhole, reference: MHS2	00:00:15		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Inspection - 19/05/2026 - MHS3X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
7	1	19/05/26	10:28	Not Specified	No Rain Or Snow	No	MHS3X

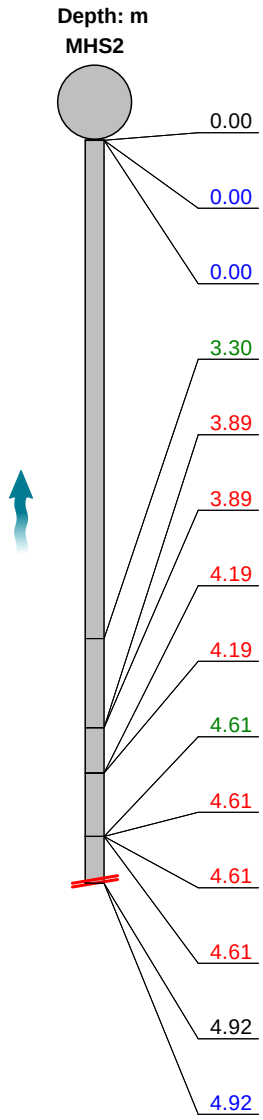
Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech JJ	CA70SZJ	Minicam	Not Specified	Not Specified	Not Specified

Town or Village:	Skewen	**Inspection Direction:**	Upstream	**Upstream Node:**	MHS3
Road:	Cefn Lodge Nursing	**Inspected Length:**	4.92 m	**Upstream Pipe Depth:**	
Location:	Road	**Total Length:**	4.92 m	**Downstream Node:**	MHS2
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:		**Dia/Height:**	300 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:		**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MHS2	00:00:02		
0.00	WL	Water level, 5% of the vertical dimension	00:00:02		
0.00	REM	General remark: B PIPE	00:00:03		
3.30	LR	Line deviates right	00:00:23		
3.89	CL	Crack, longitudinal at 10 o'clock	00:00:30		2 / 2
3.89	CL	Crack, longitudinal at 12 o'clock	00:00:31		2 / 2
4.19	CL	Crack, longitudinal at 4 o'clock	00:00:37		2 / 2
4.19	CL	Crack, longitudinal at 6 o'clock	00:00:38		2 / 2
4.61	LR	Line deviates right	00:00:46		
4.61	JDL	Joint displaced, large	00:00:47		1 / 4
4.61	FL	Fracture, longitudinal at 10 o'clock	00:00:58		3 / 2
4.61	FL	Fracture, longitudinal at 9 o'clock	00:00:59		3 / 2
4.92	SC	Pipe size changes, new size(s), 225mm high	00:01:13		
4.92	SA	Survey abandoned: UNABLE TO GET PASSED DRIVE THROUGH	00:01:14		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
7	120.0	24.8	122.0	3.0	7	9.0	2.2	11.0	4.0

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Job - Cefn Lodge Nursing Home - 21618			
Reference	**Easting**	**Northing**	**Cover Levels**
mhs3	272198.261	196455.501	33.787
MHS2 buried	272188.241	196446.983	34.082 - Location point only
mhs1	272185.907	196444.200	34.107
mhs4	272175.670	196439.288	32.477
outfall 1	272152.438	196411.065	31.823
dcww1402	272172.368	196492.596	33.035

Appendix C: Soakaway Testing Results

Report No	Date
26008/R1	**April 2026**

Project

CEFN LODGE CARE HOME, SKEWEN – SOAKAWAY INFILTRATION INVESTIGATION

Client

BP Khanal

Spectrum Geo Services
Foxglove Cottage,
Cwm Risca Lane,
Tondu,
BRIDGEND
CF32 0EH

© Spectrum Geo Services

Report No:	Date:
26008/R1	**April 2026**

Project:
CEFN LODGE CARE HOME, SKEWEN – SOAKAWAY INFILTRATION INVESTIGATION

Issue Number	Status	Description of Amendments
1	Draft	

Report prepared by:	
Signed 	April 2026

This report is provided for the benefit only of the party to whom it is addressed. Spectrum Geo Services do not extend responsibility to any third party for the whole or any part of the contents. Spectrum Geo Services owes no duty of care in relation to this report to any third party. The investigation and reportage has been undertaken with all reasonable skill, care and due diligence. Spectrum Geo Services disclaims any responsibility to the client or others in respect of any matter(s) outside this agreed scope of the above works.

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1.2 Scope of Works 4
1.3 Limitations 4

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2.1 Site Location 5

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1.0 INTRODUCTION

1.1 Introduction

Spectrum Geo Services (SGS) were requested by BP Khanal to undertake a series of soakaway tests at a site adjacent to an existing care home in Skewen, Swansea.

The site is situated at 16 Cefn Parc, Skewen, Neath, SA10 6YR. The existing site comprised a sloping grassed area, adjacent to Cefn Lodge.

1.2 Scope of Works

The objectives of this assessment are to investigate the Infiltration Rates by BRE Digest soakaway testing at 5 locations, as directed by others.

1.3 Limitations

Subsoils are inherently variable and by their very nature are hidden from view such that no investigation can be exhaustive to the extent that all soil conditions are revealed. Conditions may therefore be present beneath the site that were not apparent from the data available for review.

Unless specifically noted to the contrary, it should be assumed that this report has not been submitted to any regulatory authorities for approval. Redevelopment sites in particular may have planning conditions attached in respect of contaminated land assessment. Where we are made aware of such conditions in advance of scoping the works, we can tailor the report to the regulatory authority requirements. Where we are not made aware of any such requirements there can be no certainty that our investigation will meet any or all of the regulatory authority requirements.

2.0 EXISTING SITE INFORMATION

2.1 Site Location

The site is situated on the eastern side of Cefnparc Road, Skewen, SA10 6YR.

The site comprised a rough vegetated area, immediately to the east of an existing Car Home.

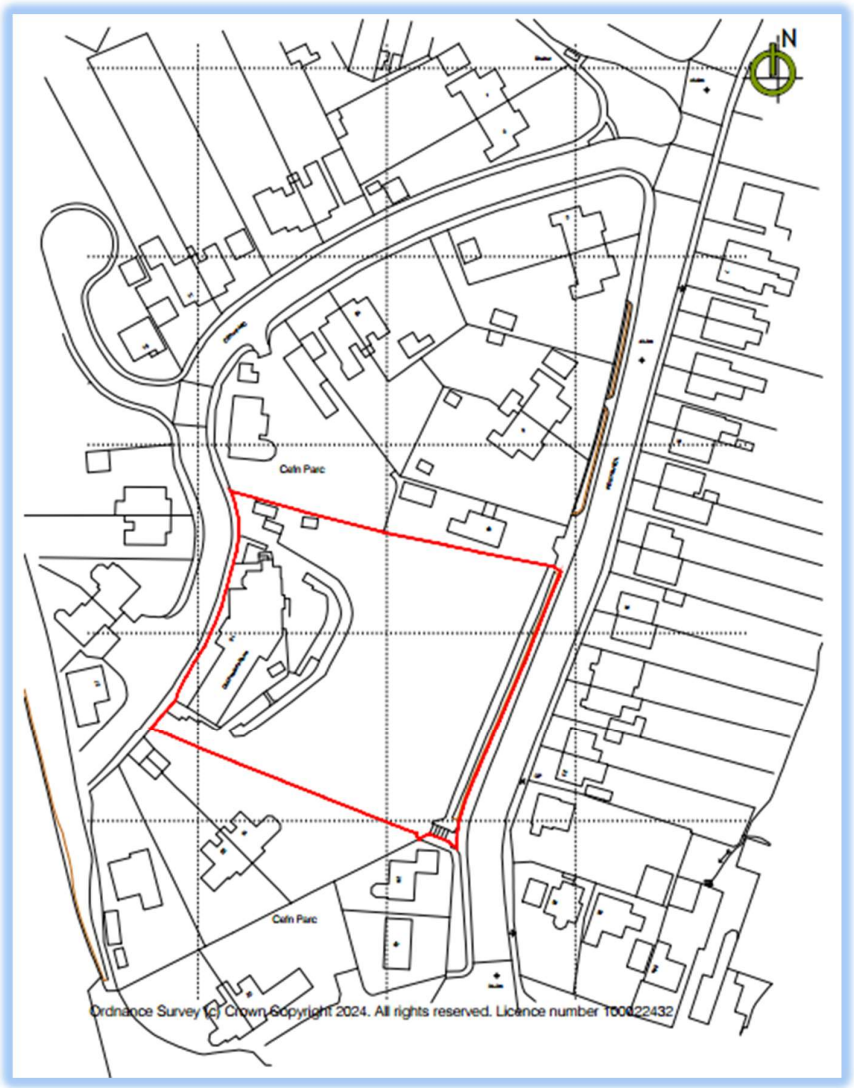


Figure 01.

3.0 SGS SITE OPERATIONS

3.1 Site Works

Site works comprised BRE Digest Soakaway tests and machine dug trial pits. These were made on 01 and 02 April 2026. The positions are shown on Drawing 26008/Locs.

Logs are shown in Appendix B.

4.0 SITE CONDITIONS ENCOUNTERED

4.1 Ground Conditions

During both ground investigations, a generalised succession as was noted, indicated in Table 4.1.

Stratum	Depth to base (m)	Remarks
MADE GROUND. Macadam	0.10	SA1 and 4
MADE GROUND. Sand and Gravel	0.20	SA4
CLAY	(1.50)	SA1 and 4
SAND/GRAVEL	(1.40) to (1.50)	SA2,3 and 5

Table 4.1. Generalised Strata

4.2 Groundwater Conditions

Water strikes were not noted.

It should be noted that groundwater levels vary due to changes in climatic and other conditions and may therefore vary from those recorded during these operations.

5.0 IN-SITU TESTING

BRE Digest Soakaway Testing was undertaken at 5 locations, determined by the project architect.

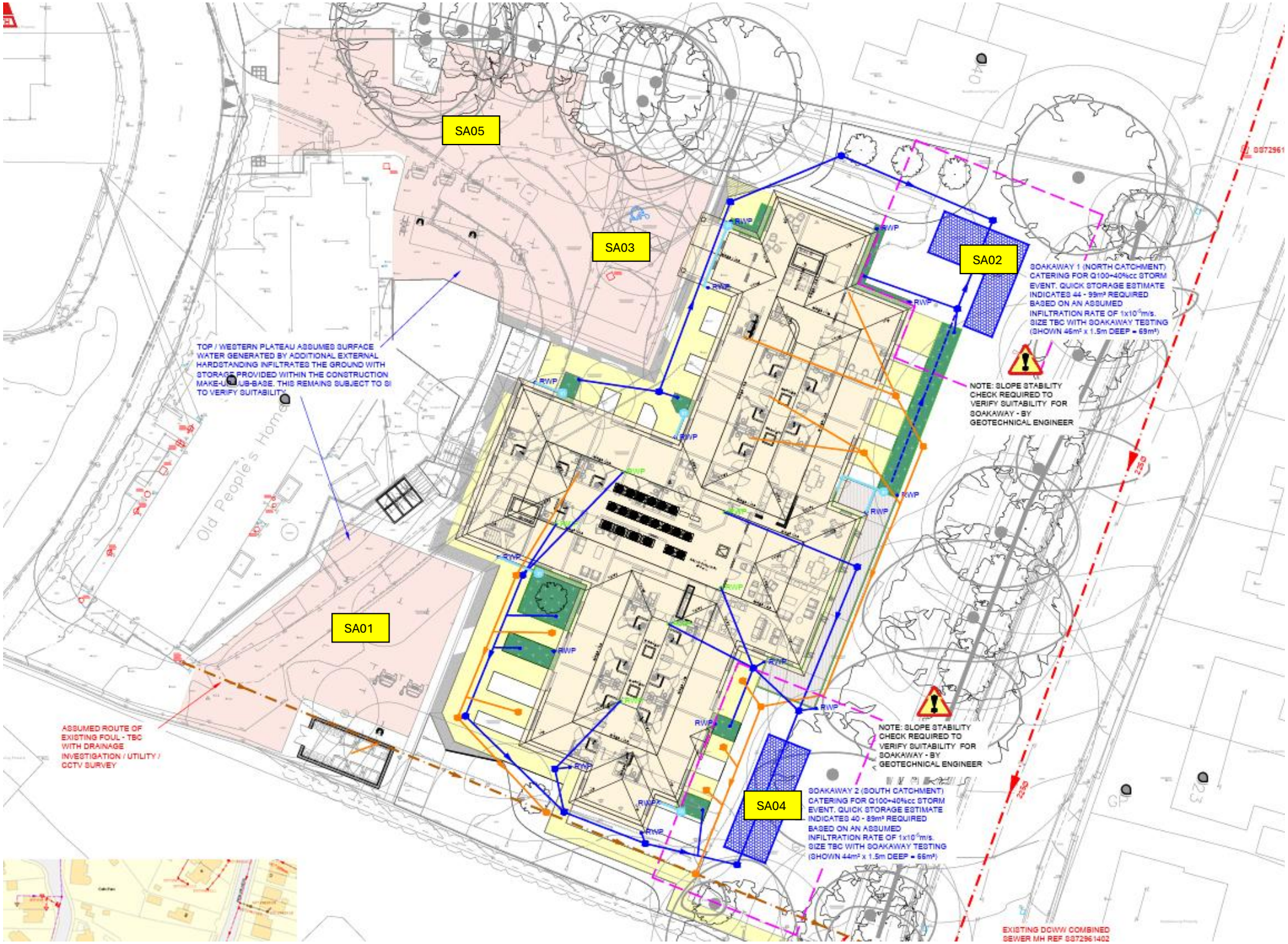
The results are appended.

None of the tests achieved sufficient drawdown to allow calculation of infiltration rates (If values).

APPENDIX A

Drawings

Borehole Location Plan	Drawing 26008_Locs


SA05
SA03
SA02
SA01
SA04
TOP / WESTERN PLATEAU ASSUMES SURFACE WATER GENERATED BY ADDITIONAL EXTERNAL HARDSTANDING INFILTRATES THE GROUND WITH STORAGE PROVIDED WITHIN THE CONSTRUCTION MAKE-UP SUB-BASE. THIS REMAINS SUBJECT TO SI TO VERIFY SUITABILITY
SOAKAWAY 1 (NORTH CATCHMENT) CATERING FOR Q100+40%cc STORM EVENT. QUICK STORAGE ESTIMATE INDICATES 44 - 99m³ REQUIRED BASED ON AN ASSUMED INFILTRATION RATE OF 1x10⁻⁵m/s. SIZE TBC WITH SOAKAWAY TESTING (SHOWN 46m² x 1.5m DEEP = 69m³)
NOTE: SLOPE STABILITY CHECK REQUIRED TO VERIFY SUITABILITY FOR SOAKAWAY - BY GEOTECHNICAL ENGINEER
NOTE: SLOPE STABILITY CHECK REQUIRED TO VERIFY SUITABILITY FOR SOAKAWAY - BY GEOTECHNICAL ENGINEER
SOAKAWAY 2 (SOUTH CATCHMENT) CATERING FOR Q100+40%cc STORM EVENT. QUICK STORAGE ESTIMATE INDICATES 40 - 89m³ REQUIRED BASED ON AN ASSUMED INFILTRATION RATE OF 1x10⁻⁵m/s. SIZE TBC WITH SOAKAWAY TESTING (SHOWN 44m² x 1.5m DEEP = 66m³)
ASSUMED ROUTE OF EXISTING FOUL - TBC WITH DRAINAGE INVESTIGATION / UTILITY / CCTV SURVEY
EXISTING DCWW COMBINED SEWER MH REF SS72961402
Old People's Home
RWP
225

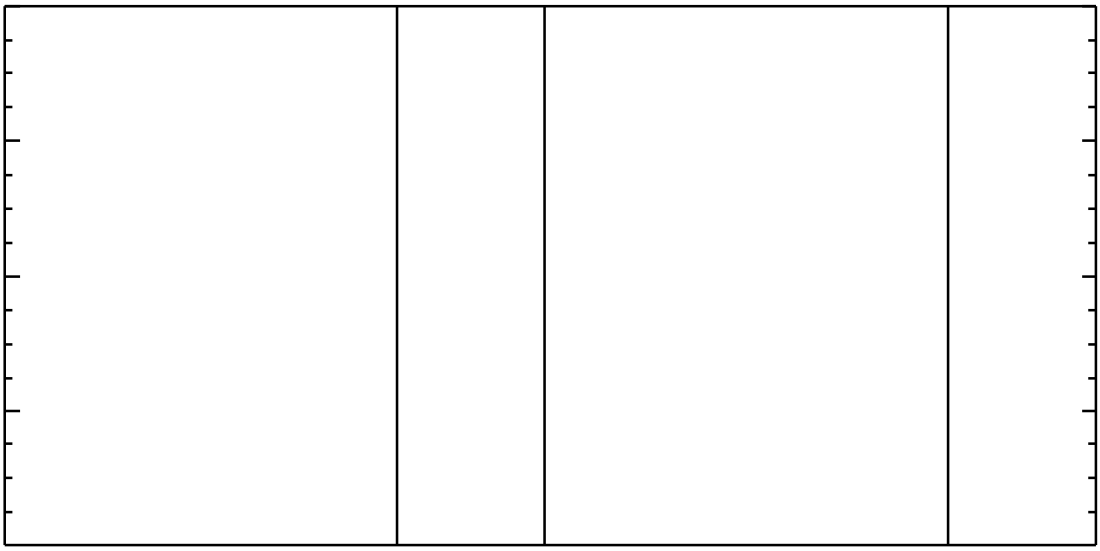
APPENDIX B

Trial Pit Logs

Trial Pit/Trench Description

Project	Cefn Lodge	Project No	26008
Described by	PL	Trial Pit No	SA01
Date	02.04.2026	Sheet No	1

Face Sketch (Indicate stratum boundaries, codes and Face(s) sketched, use additional sheets as required)

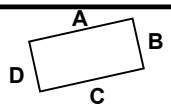


Samples and Tests			Strata		
Depth, m	Type & No	Results	Depth, m	Code	Description
			GL - 0.10	1	MADE GROUND: Macadam
			0.10 - 1.50	2	Brown and grey slightly sandy gravelly CLAY with low cobble content of subrounded sandstone. Gravel is subrounded fine to coarse of sandstone. GLACIAL TILL.

Groundwater Observations

None

Strike of Face A		deg
Length of Face A	1	m
Width of Face B	0.4	m



Method/plant	2.50 ton tracked excavator
Stability	Stable
Shoring	None
Weather	Dry overcast

Infiltration test at this location

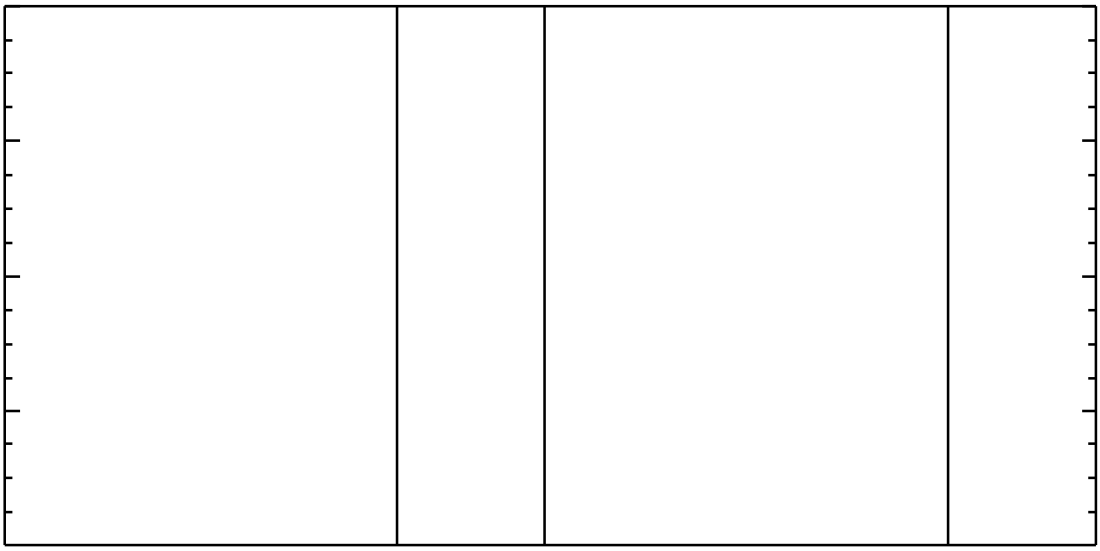
Sample Type:
U Undisturbed, P Piston, D Disturbed, B Bulk, W Water
ES Environmental Soil Sample
EW Environmental Water Sample

Logger's Signature
PL

Trial Pit/Trench Description

Project	Cefn Lodge	Project No	26008
Described by	PL	Trial Pit No	SA02
Date	02.04.2026	Sheet No	1 of 3

Face Sketch (Indicate stratum boundaries, codes and Face(s) sketched, use additional sheets as required)

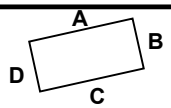


Samples and Tests			Strata		
Depth, m	Type & No	Results	Depth, m	Code	Description
			GL - 0.30	1	Dark brown slightly sandy gravelly CLAY. Gravel is subrounded fine to coarse of sandstone. TOPSOIL.
			0.30 - 1.50	2	Light brown clayey sandy subrounded fine to coarse GRAVEL with low cobble content of subrounded sandstone. GLACIAL TILL.

Groundwater Observations

None

Strike of Face A		deg
Length of Face A	1.1	m
Width of Face B	0.3	m



Method/plant	2.50 ton tracked excavator
Stability	Stable
Shoring	None
Weather	Dry overcast

Infiltration test at this location

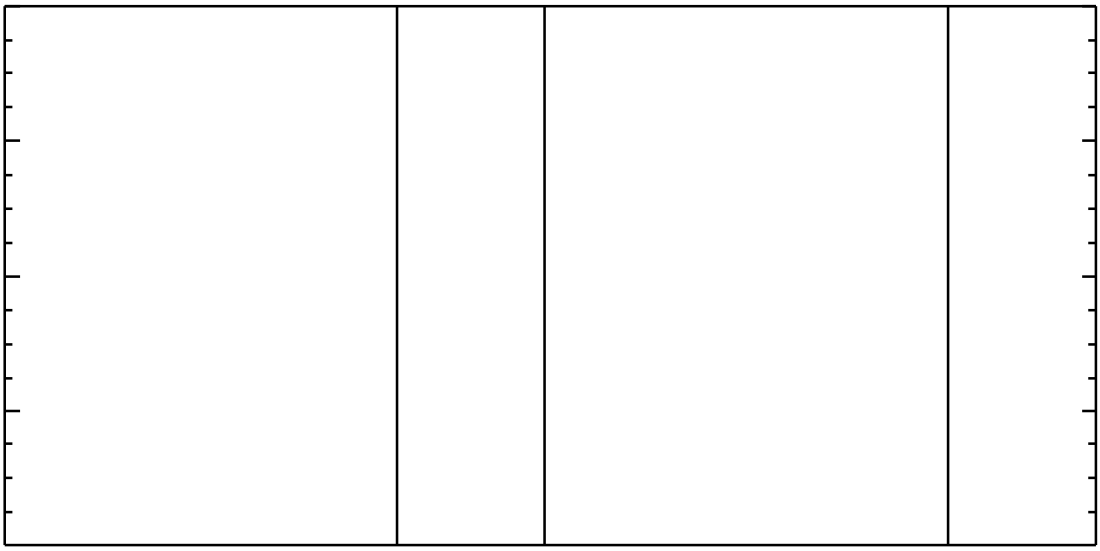
Sample Type:
U Undisturbed, P Piston, D Disturbed, B Bulk, W Water
ES Environmental Soil Sample
EW Environmental Water Sample

Logger's Signature
PL

Trial Pit/Trench Description

Project	Cefn Lodge	Project No	26008
Described by	PL	Trial Pit No	SA03
Date	01.04.2026	Sheet No	1 of 3

Face Sketch (Indicate stratum boundaries, codes and Face(s) sketched, use additional sheets as required)

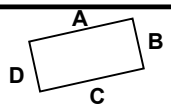


Samples and Tests			Strata		
Depth, m	Type & No	Results	Depth, m	Code	Description
			GL - 0.50	1	Dark brown clayey SAND AND GRAVEL with low cobble content of subangular to subrounded sandstone. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of sandstone. TOPSOIL.
			0.50 - 1.40	2	Light brown slightly clayey SAND AND GRAVEL with low cobble content of subrounded sandstone. Sand is fine to coarse. Gravel is subrounded fine to coarse of sandstone. GLACIAL TILL.

Groundwater Observations

None

Strike of Face A		deg
Length of Face A	1.1	m
Width of Face B	0.3	m



Method/plant	2.50 ton tracked excavator
Stability	Stable
Shoring	None
Weather	Dry overcast

Infiltration test at this location

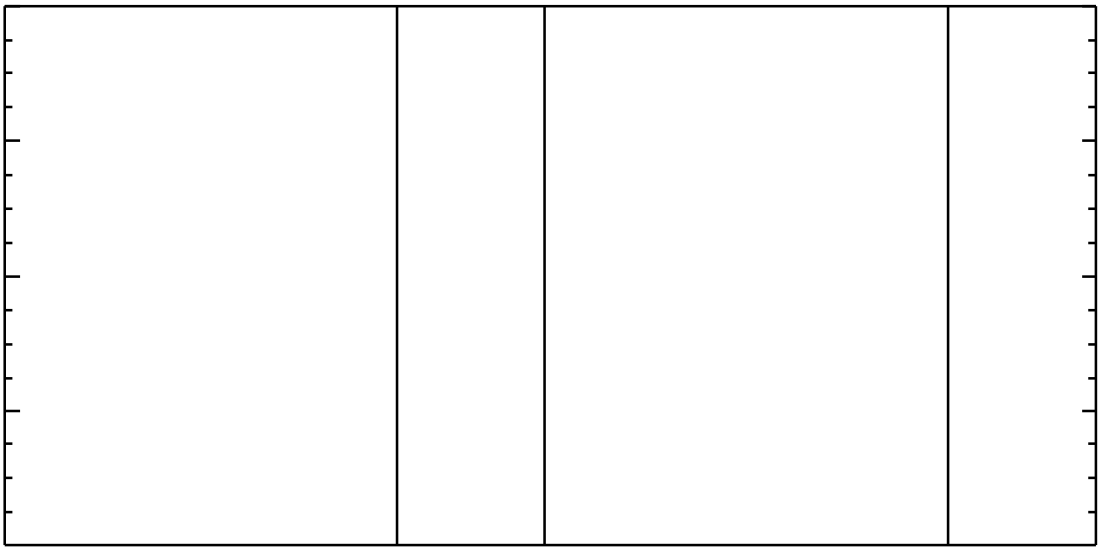
Sample Type:
U Undisturbed, P Piston, D Disturbed, B Bulk, W Water
ES Environmental Soil Sample
EW Environmental Water Sample

Logger's Signature
PL

Trial Pit/Trench Description

Project	Cefn Lodge	Project No	26008
Described by	PL	Trial Pit No	SA04
Date	01.04.2026	Sheet No	1 of 3

Face Sketch (Indicate stratum boundaries, codes and Face(s) sketched, use additional sheets as required)

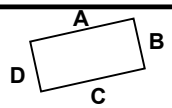


Samples and Tests			Strata		
Depth, m	Type & No	Results	Depth, m	Code	Description
			GL - 0.10	1	MADE GROUND: Macadam
			0.10 - 0.20	2	MADE GROUND: Red SAND AND GRAVEL. Sand is fine to coarse. Gravel is angular fine to coarse of limestone and mudstone. Probably a base for the old tennis court.
			0.20 - 1.50	3	Brown and grey slightly sandy gravelly CLAY with low cobble content of subrounded sandstone. Gravel is subrounded fine to coarse of sandstone. GLACIAL TILL.

Groundwater Observations

None

Strike of Face A		deg
Length of Face A	1	m
Width of Face B	0.3	m



Method/plant	2.50 ton tracked excavator
Stability	Stable
Shoring	None
Weather	Dry overcast

Infiltration test at this location

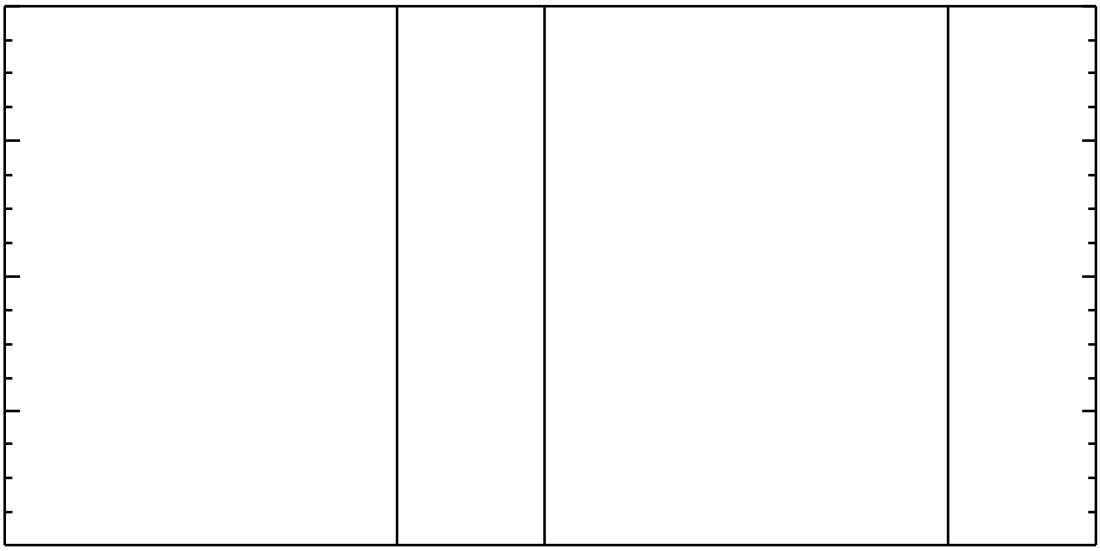
Sample Type:
U Undisturbed, P Piston, D Disturbed, B Bulk, W Water
ES Environmental Soil Sample
EW Environmental Water Sample

Logger's Signature
PL

Trial Pit/Trench Description

Project	Cefn Lodge	Project No	26008
Described by	PL	Trial Pit No	SA05
Date	02.04.2026	Sheet No	1 of 3

Face Sketch (Indicate stratum boundaries, codes and Face(s) sketched, use additional sheets as required)

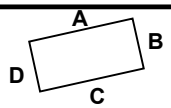


Samples and Tests			Strata		
Depth, m	Type & No	Results	Depth, m	Code	Description
			GL - 0.40	1	Dark brown slightly sandy gravelly CLAY. Gravel is subrounded fine to coarse of sandstone. TOPSOIL.
			0.40 - 1.50	2	Light brown clayey sandy subrounded fine to coarse GRAVEL with low cobble content of subrounded sandstone. GLACIAL TILL.

Groundwater Observations

None

Strike of Face A		deg
Length of Face A	1	m
Width of Face B	0.3	m



Method/plant	2.50 ton tracked excavator
Stability	Stable
Shoring	None
Weather	Dry overcast

Infiltration test at this location

Sample Type:
U Undisturbed, P Piston, D Disturbed, B Bulk, W Water
ES Environmental Soil Sample
EW Environmental Water Sample

Logger's Signature
PL

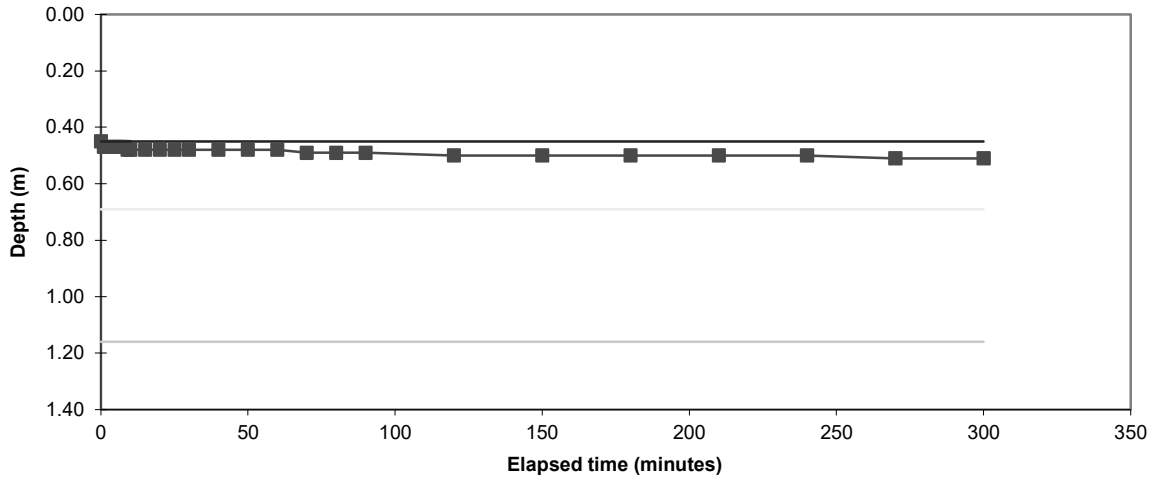
APPENDIX C

In-Situ Testing

Soakaway Test Results

Trial Pit No:	SA01	Test No:	1	Date:	02.04.2026
Length (m):	1.00				
Width (m):	0.40	Granular infill:	NA		
Depth (m):	1.40	Porosity of infill:	1	(assumed)	

Elapsed time (minutes)	Water Depth (metres)	Elapsed time (minutes)	Water Depth (metres)
0	0.45	30	0.48
1	0.47	40	0.48
2	0.47	50	0.48
3	0.47	60	0.48
4	0.47	70	0.49
5	0.47	80	0.49
6	0.47	90	0.49
7	0.47	120	0.50
8	0.47	150	0.50
9	0.48	180	0.50
10	0.48	210	0.50
15	0.48	240	0.50
20	0.48	270	0.51
25	0.48	300	0.51



Water depth at start of test (m):	0.45		
75% effective depth (m):	0.69	Elapsed time (mins):	405.9
50% effective depth (m):	0.93		
25% effective depth (m):	1.16	Elapsed time (mins):	682.4
Empty depth (m):	1.40		

Volume outflow between 75% and 25% effective depth (m^3):

Mean surface area of outflow (m^2): 1.72
(side area at 50% effective depth + base area)

Time for outflow between 75% and 25% effective depth (mins):

Soil infiltration rate (m/s): **Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate**

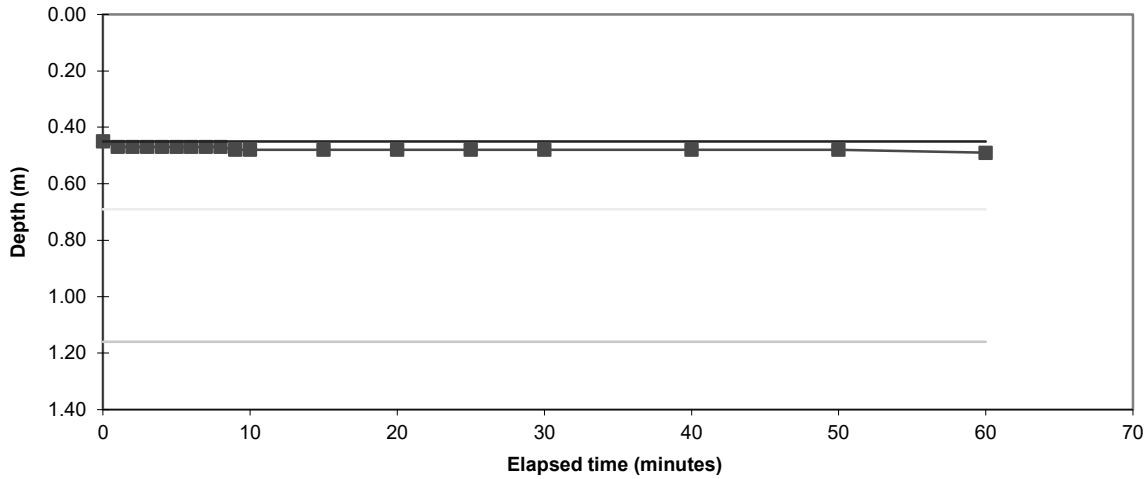
Remarks

Notes: Results processed following BRE 365 (1991) Water depths measured below ground level	**Project** Cefn Lodge **Project No.** 26008 **Carried out for**	**Figure** **SA01_1**

Soakaway Test Results

Trial Pit No:	SA01	Test No:	2	Date:	02.04.2026
Length (m):	1.00				
Width (m):	0.40	Granular infill:	NA		
Depth (m):	1.40	Porosity of infill:	1	(assumed)	

Elapsed time (minutes)	Water Depth (metres)	Elapsed time (minutes)	Water Depth (metres)
0	0.45	30	0.48
1	0.47	40	0.48
2	0.47	50	0.48
3	0.47	60	0.49
4	0.47		
5	0.47		
6	0.47		
7	0.47		
8	0.47		
9	0.48		
10	0.48		
15	0.48		
20	0.48		
25	0.48		



Water depth at start of test (m):	0.45		
75% effective depth (m):	0.69	Elapsed time (mins):	#N/A
50% effective depth (m):	0.93		
25% effective depth (m):	1.16	Elapsed time (mins):	#N/A
Empty depth (m):	1.40		

Volume outflow between 75% and 25% effective depth (m^3):

Mean surface area of outflow (m^2): 1.72
(side area at 50% effective depth + base area)

Time for outflow between 75% and 25% effective depth (mins):

Soil infiltration rate (m/s): **Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate**

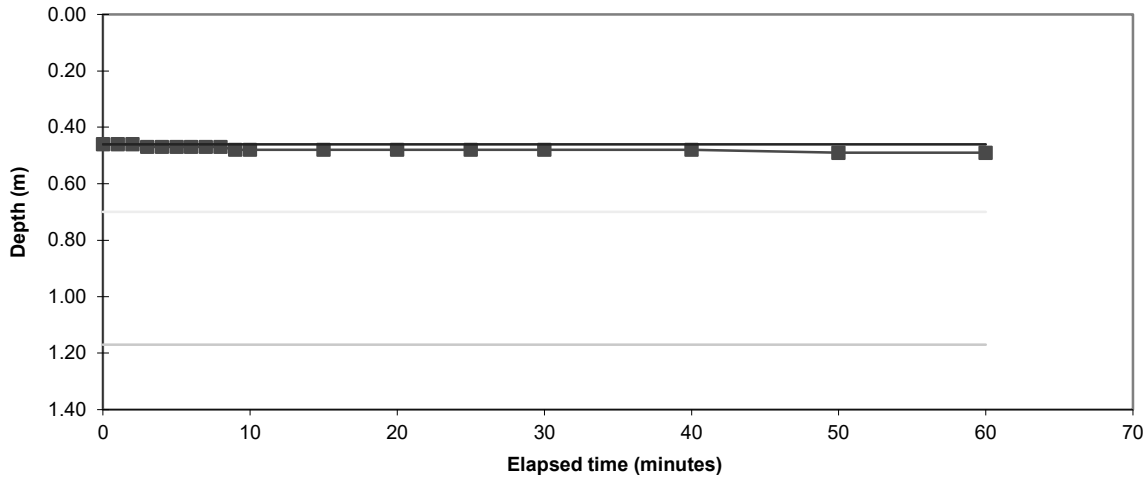
Remarks

Notes: Results processed following BRE 365 (1991) Water depths measured below ground level	**Project** Cefn Lodge **Project No.** 26008 **Carried out for**	**Figure** **SA01_2**

Soakaway Test Results

Trial Pit No:	SA01	Test No:	3	Date:	02.04.2026
Length (m):	1.00				
Width (m):	0.40	Granular infill:	NA		
Depth (m):	1.40	Porosity of infill:	1	(assumed)	

Elapsed time (minutes)	Water Depth (metres)	Elapsed time (minutes)	Water Depth (metres)
0	0.46	30	0.48
1	0.46	40	0.48
2	0.46	50	0.49
3	0.47	60	0.49
4	0.47		
5	0.47		
6	0.47		
7	0.47		
8	0.47		
9	0.48		
10	0.48		
15	0.48		
20	0.48		
25	0.48		



Water depth at start of test (m):	0.46		
75% effective depth (m):	0.70	Elapsed time (mins):	#N/A
50% effective depth (m):	0.93		
25% effective depth (m):	1.17	Elapsed time (mins):	#N/A
Empty depth (m):	1.40		

Volume outflow between 75% and 25% effective depth (m^3):

Mean surface area of outflow (m^2): 1.72
(side area at 50% effective depth + base area)

Time for outflow between 75% and 25% effective depth (mins):

Soil infiltration rate (m/s): **Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate**

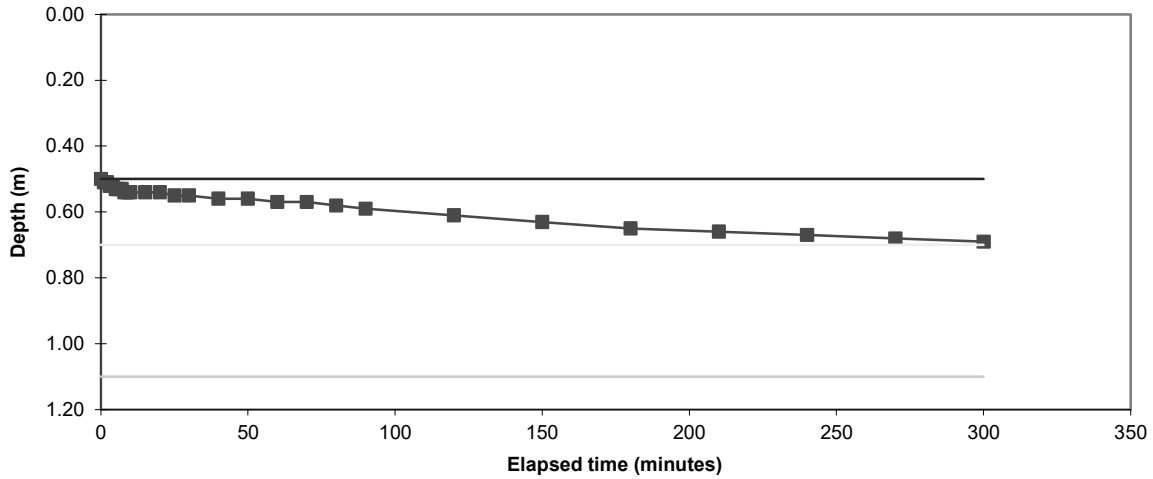
Remarks

Notes: Results processed following BRE 365 (1991) Water depths measured below ground level	**Project** Cefn Lodge **Project No.** 26008 **Carried out for**	**Figure** **SA01_3**

Soakaway Test Results

Trial Pit No:	SA02	Test No:	1	Date:	02.04.2026
Length (m):	1.10				
Width (m):	0.30	Granular infill:	NA		
Depth (m):	1.30	Porosity of infill:	1	(assumed)	

Elapsed time (minutes)	Water Depth (metres)	Elapsed time (minutes)	Water Depth (metres)
0	0.50	30	0.55
1	0.51	40	0.56
2	0.51	50	0.56
3	0.52	60	0.57
4	0.52	70	0.57
5	0.53	80	0.58
6	0.53	90	0.59
7	0.53	120	0.61
8	0.54	150	0.63
9	0.54	180	0.65
10	0.54	210	0.66
15	0.54	240	0.67
20	0.54	270	0.68
25	0.55	300	0.69



Water depth at start of test (m):	0.50		
75% effective depth (m):	0.70	Elapsed time (mins):	304.3
50% effective depth (m):	0.90		
25% effective depth (m):	1.10	Elapsed time (mins):	478.3
Empty depth (m):	1.30		

Volume outflow between 75% and 25% effective depth (m^3):

Mean surface area of outflow (m^2): 1.45
(side area at 50% effective depth + base area)

Time for outflow between 75% and 25% effective depth (mins):

Soil infiltration rate (m/s): **Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate**

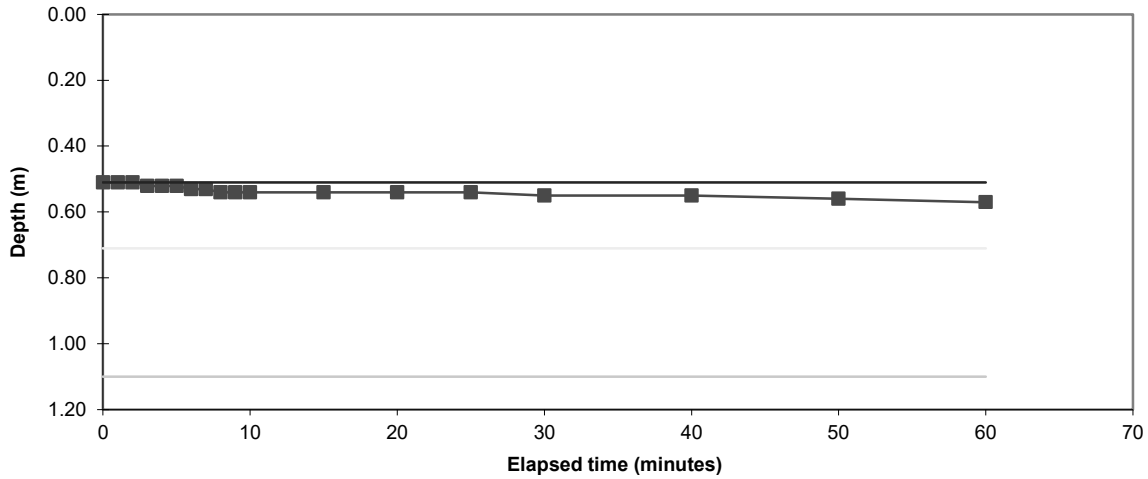
Remarks

Notes: Results processed following BRE 365 (1991) Water depths measured below ground level	**Project**	Cefn Lodge	**Figure**
	Project No.	26008	**SA02_1**
	Carried out for		

Soakaway Test Results

Trial Pit No:	SA02	Test No:	2	Date:	02.04.2026
Length (m):	1.10				
Width (m):	0.30	Granular infill:	NA		
Depth (m):	1.30	Porosity of infill:	1	(assumed)	

Elapsed time (minutes)	Water Depth (metres)	Elapsed time (minutes)	Water Depth (metres)
0	0.51	30	0.55
1	0.51	40	0.55
2	0.51	50	0.56
3	0.52	60	0.57
4	0.52		
5	0.52		
6	0.53		
7	0.53		
8	0.54		
9	0.54		
10	0.54		
15	0.54		
20	0.54		
25	0.54		



Water depth at start of test (m):	0.51		
75% effective depth (m):	0.71	Elapsed time (mins):	#N/A
50% effective depth (m):	0.91		
25% effective depth (m):	1.10	Elapsed time (mins):	#N/A
Empty depth (m):	1.30		

Volume outflow between 75% and 25% effective depth (m^3):

Mean surface area of outflow (m^2): 1.42
(side area at 50% effective depth + base area)

Time for outflow between 75% and 25% effective depth (mins):

Soil infiltration rate (m/s): **Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate**

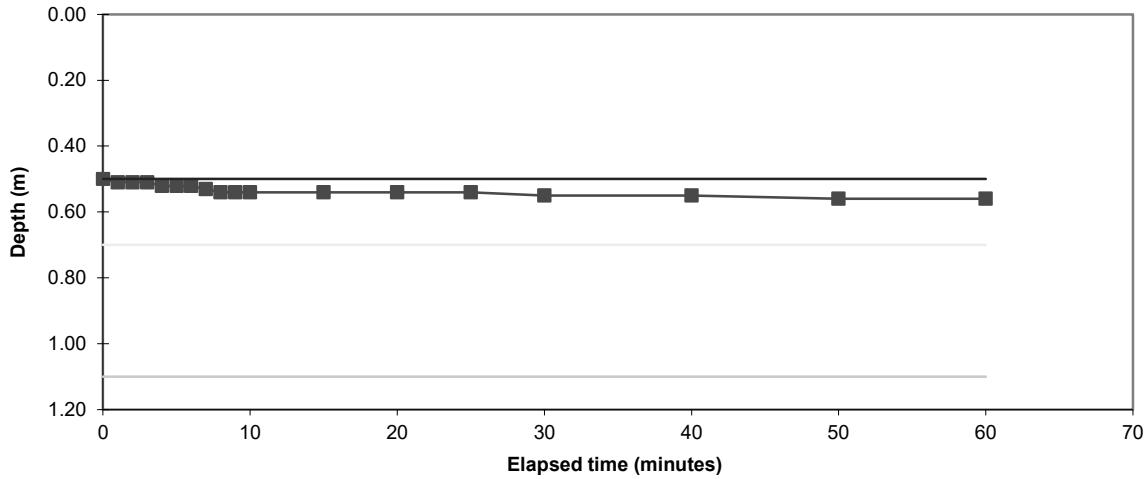
Remarks

Notes: Results processed following BRE 365 (1991) Water depths measured below ground level	**Project** Cefn Lodge **Project No.** 26008 **Carried out for**	**Figure** **SA02_2**

Soakaway Test Results

Trial Pit No:	SA02	Test No:	3	Date:	02.04.2026
Length (m):	1.10				
Width (m):	0.30	Granular infill:	NA		
Depth (m):	1.30	Porosity of infill:	1	(assumed)	

Elapsed time (minutes)	Water Depth (metres)	Elapsed time (minutes)	Water Depth (metres)
0	0.50	30	0.55
1	0.51	40	0.55
2	0.51	50	0.56
3	0.51	60	0.56
4	0.52		
5	0.52		
6	0.52		
7	0.53		
8	0.54		
9	0.54		
10	0.54		
15	0.54		
20	0.54		
25	0.54		



Water depth at start of test (m):	0.50		
75% effective depth (m):	0.70	Elapsed time (mins):	#N/A
50% effective depth (m):	0.90		
25% effective depth (m):	1.10	Elapsed time (mins):	#N/A
Empty depth (m):	1.30		

Volume outflow between 75% and 25% effective depth (m^3):

Mean surface area of outflow (m^2): 1.45
(side area at 50% effective depth + base area)

Time for outflow between 75% and 25% effective depth (mins):

Soil infiltration rate (m/s): **Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate**

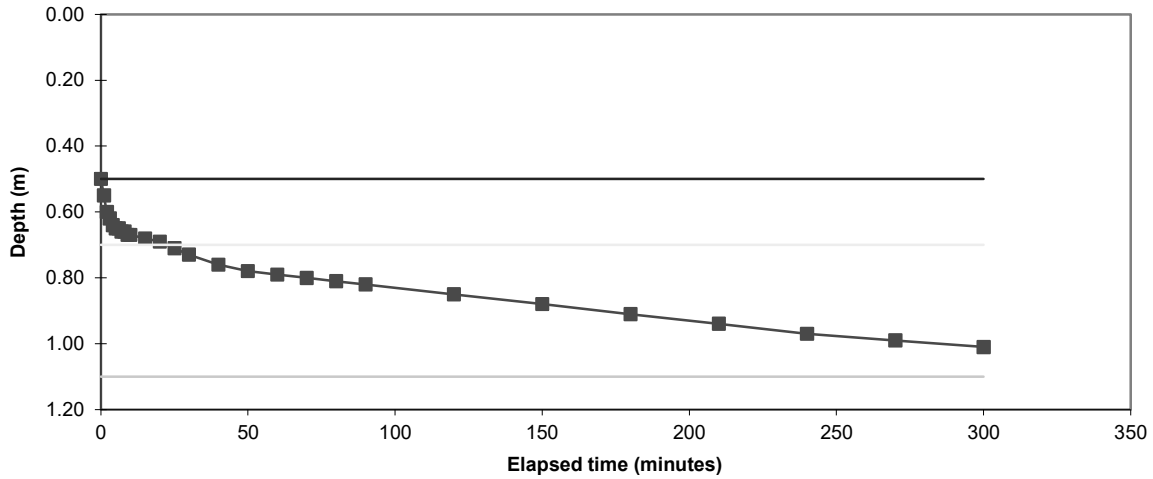
Remarks

Notes: Results processed following BRE 365 (1991) Water depths measured below ground level	**Project** Cefn Lodge **Project No.** 26008 **Carried out for**	**Figure** **SA02_3**

Soakaway Test Results

Trial Pit No:	SA03	Test No:	1	Date:	01.04.2026
Length (m):	1.10				
Width (m):	0.30	Granular infill:	NA		
Depth (m):	1.30	Porosity of infill:	1	(assumed)	

Elapsed time (minutes)	Water Depth (metres)	Elapsed time (minutes)	Water Depth (metres)
0	0.50	30	0.73
1	0.55	40	0.76
2	0.60	50	0.78
3	0.62	60	0.79
4	0.64	70	0.80
5	0.65	80	0.81
6	0.65	90	0.82
7	0.66	120	0.85
8	0.66	150	0.88
9	0.67	180	0.91
10	0.67	210	0.94
15	0.68	240	0.97
20	0.69	270	0.99
25	0.71	300	1.01



Water depth at start of test (m):	0.50		
75% effective depth (m):	0.70	Elapsed time (mins):	22.5
50% effective depth (m):	0.90		
25% effective depth (m):	1.10	Elapsed time (mins):	326.7
Empty depth (m):	1.30		

Volume outflow between 75% and 25% effective depth (m^3):

Mean surface area of outflow (m^2): 1.45
(side area at 50% effective depth + base area)

Time for outflow between 75% and 25% effective depth (mins):

Soil infiltration rate (m/s): **Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate**

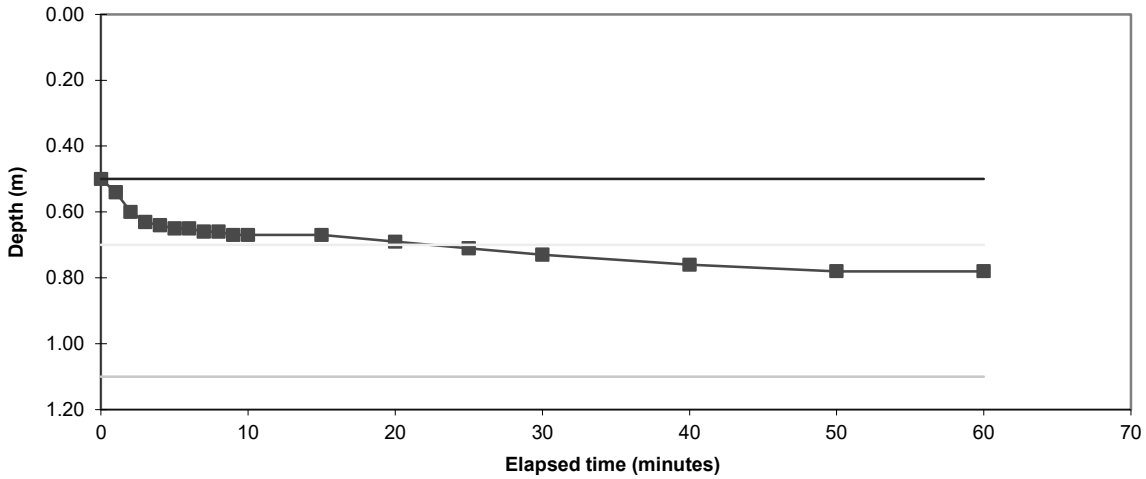
Remarks

Notes: Results processed following BRE 365 (1991) Water depths measured below ground level	**Project** Cefn Lodge **Project No.** 26008 **Carried out for**	**Figure** **SA03_1**

Soakaway Test Results

Trial Pit No:	SA03	Test No:	2	Date:	01.04.2026
Length (m):	1.10				
Width (m):	0.30	Granular infill:	NA		
Depth (m):	1.30	Porosity of infill:	1	(assumed)	

Elapsed time (minutes)	Water Depth (metres)	Elapsed time (minutes)	Water Depth (metres)
0	0.50	30	0.73
1	0.54	40	0.76
2	0.60	50	0.78
3	0.63	60	0.78
4	0.64		
5	0.65		
6	0.65		
7	0.66		
8	0.66		
9	0.67		
10	0.67		
15	0.67		
20	0.69		
25	0.71		



Water depth at start of test (m):	0.50		
75% effective depth (m):	0.70	Elapsed time (mins):	22.5
50% effective depth (m):	0.90		
25% effective depth (m):	1.10	Elapsed time (mins):	#N/A
Empty depth (m):	1.30		

Volume outflow between 75% and 25% effective depth (m^3):

Mean surface area of outflow (m^2): 1.45
(side area at 50% effective depth + base area)

Time for outflow between 75% and 25% effective depth (mins):

Soil infiltration rate (m/s): **Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate**

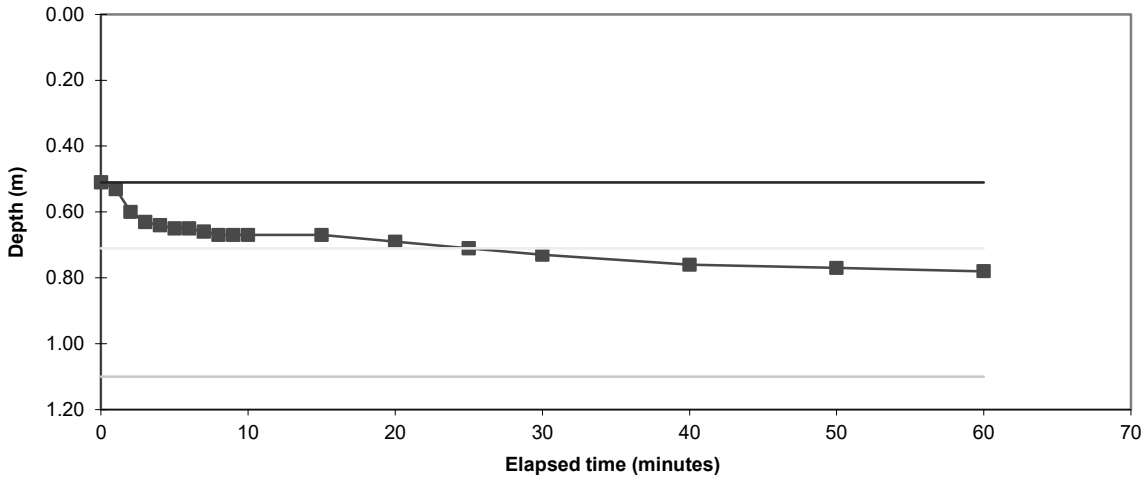
Remarks

Notes: Results processed following BRE 365 (1991) Water depths measured below ground level	**Project** **Project No.** **Carried out for**	Cefn Lodge 26008	**Figure** **SA03_2**

Soakaway Test Results

Trial Pit No:	SA03	Test No:	3	Date:	01.04.2026
Length (m):	1.10				
Width (m):	0.30	Granular infill:	NA		
Depth (m):	1.30	Porosity of infill:	1	(assumed)	

Elapsed time (minutes)	Water Depth (metres)	Elapsed time (minutes)	Water Depth (metres)
0	0.51	30	0.73
1	0.53	40	0.76
2	0.60	50	0.77
3	0.63	60	0.78
4	0.64		
5	0.65		
6	0.65		
7	0.66		
8	0.67		
9	0.67		
10	0.67		
15	0.67		
20	0.69		
25	0.71		



Water depth at start of test (m):	0.51		
75% effective depth (m):	0.71	Elapsed time (mins):	25.0
50% effective depth (m):	0.91		
25% effective depth (m):	1.10	Elapsed time (mins):	#N/A
Empty depth (m):	1.30		

Volume outflow between 75% and 25% effective depth (m^3):

Mean surface area of outflow (m^2): 1.42
(side area at 50% effective depth + base area)

Time for outflow between 75% and 25% effective depth (mins):

Soil infiltration rate (m/s): **Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate**

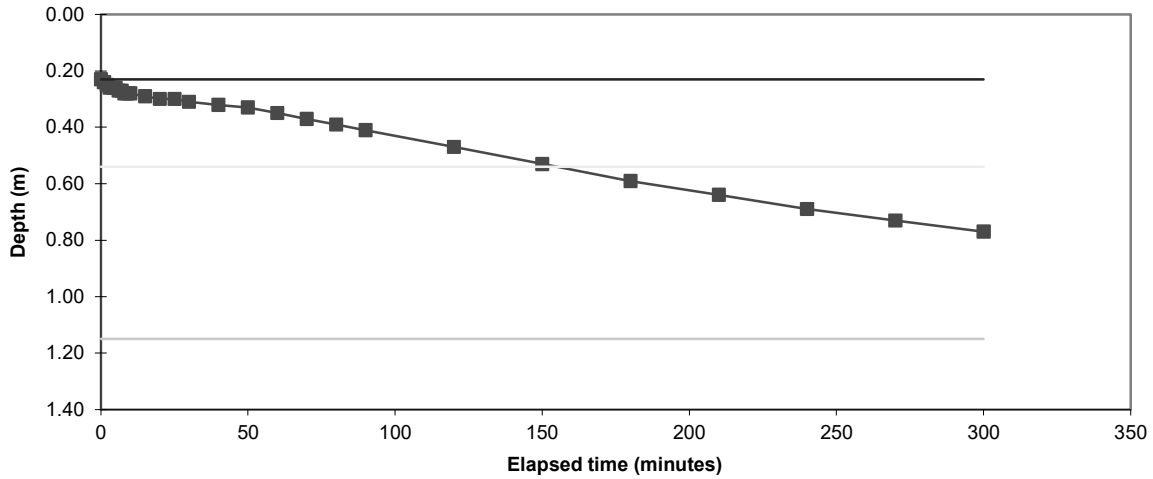
Remarks

Notes: Results processed following BRE 365 (1991) Water depths measured below ground level	**Project** Cefn Lodge **Project No.** 26008 **Carried out for**	**Figure** **SA03_3**

Soakaway Test Results

Trial Pit No:	SA04	Test No:	1	Date:	01.04.2026
Length (m):	1.00				
Width (m):	0.30	Granular infill:	NA		
Depth (m):	1.45	Porosity of infill:	1	(assumed)	

Elapsed time (minutes)	Water Depth (metres)	Elapsed time (minutes)	Water Depth (metres)
0	0.23	30	0.31
1	0.24	40	0.32
2	0.25	50	0.33
3	0.26	60	0.35
4	0.26	70	0.37
5	0.26	80	0.39
6	0.27	90	0.41
7	0.27	120	0.47
8	0.28	150	0.53
9	0.28	180	0.59
10	0.28	210	0.64
15	0.29	240	0.69
20	0.30	270	0.73
25	0.30	300	0.77



Water depth at start of test (m):	0.23		
75% effective depth (m):	0.54	Elapsed time (mins):	155.0
50% effective depth (m):	0.84		
25% effective depth (m):	1.15	Elapsed time (mins):	448.1
Empty depth (m):	1.45		

Volume outflow between 75% and 25% effective depth (m^3):

Mean surface area of outflow (m^2): 1.89
(side area at 50% effective depth + base area)

Time for outflow between 75% and 25% effective depth (mins):

Soil infiltration rate (m/s): **Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate**

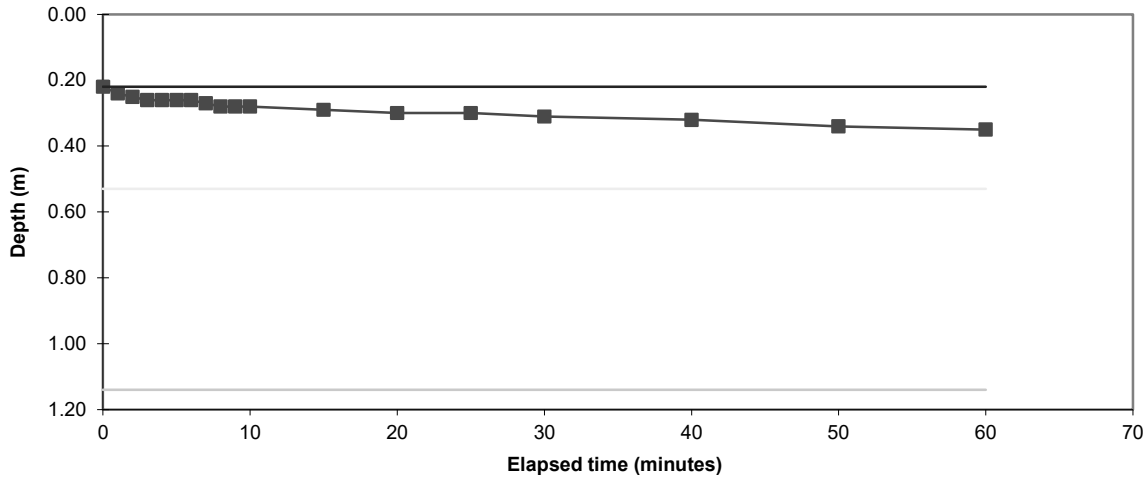
Remarks

Notes: Results processed following BRE 365 (1991) Water depths measured below ground level	**Project** Cefn Lodge **Project No.** 26008 **Carried out for**	**Figure** **SA4_01**

Soakaway Test Results

Trial Pit No:	SA04	Test No:	2	Date:	01.04.2026
Length (m):	1.00				
Width (m):	0.30	Granular infill:	NA		
Depth (m):	1.45	Porosity of infill:	1	(assumed)	

Elapsed time (minutes)	Water Depth (metres)	Elapsed time (minutes)	Water Depth (metres)
0	0.22	30	0.31
1	0.24	40	0.32
2	0.25	50	0.34
3	0.26	60	0.35
4	0.26		
5	0.26		
6	0.26		
7	0.27		
8	0.28		
9	0.28		
10	0.28		
15	0.29		
20	0.30		
25	0.30		



Water depth at start of test (m):	0.22		
75% effective depth (m):	0.53	Elapsed time (mins):	#N/A
50% effective depth (m):	0.84		
25% effective depth (m):	1.14	Elapsed time (mins):	#N/A
Empty depth (m):	1.45		

Volume outflow between 75% and 25% effective depth (m^3):

Mean surface area of outflow (m^2): 1.89
(side area at 50% effective depth + base area)

Time for outflow between 75% and 25% effective depth (mins):

Soil infiltration rate (m/s): **Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate**

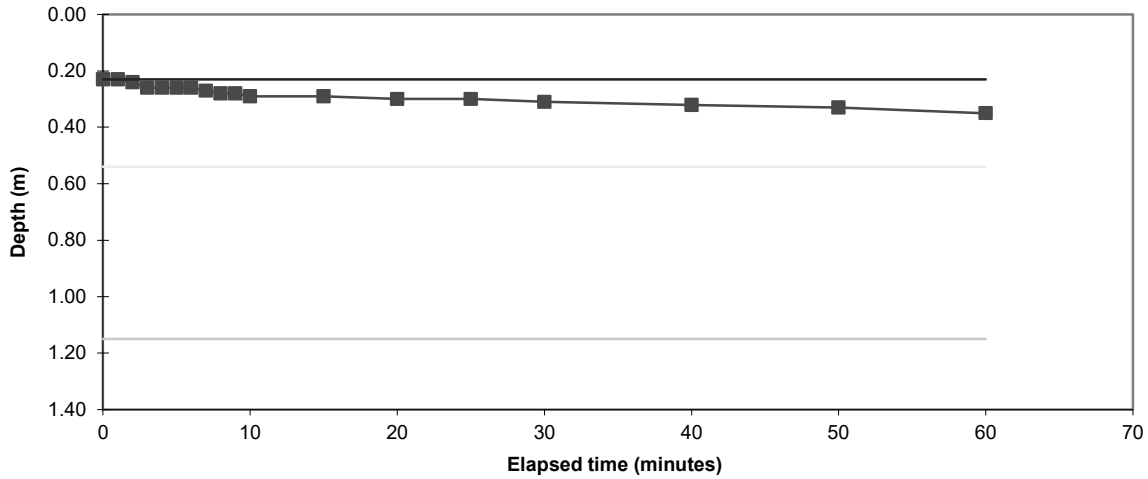
Remarks

Notes: Results processed following BRE 365 (1991) Water depths measured below ground level	**Project** **Project No.** **Carried out for**	Cefn Lodge 26008	**Figure** **SA04_2**

Soakaway Test Results

Trial Pit No:	SA04	Test No:	3	Date:	01.04.2026
Length (m):	1.00				
Width (m):	0.30	Granular infill:	NA		
Depth (m):	1.45	Porosity of infill:	1	(assumed)	

Elapsed time (minutes)	Water Depth (metres)	Elapsed time (minutes)	Water Depth (metres)
0	0.23	30	0.31
1	0.23	40	0.32
2	0.24	50	0.33
3	0.26	60	0.35
4	0.26		
5	0.26		
6	0.26		
7	0.27		
8	0.28		
9	0.28		
10	0.29		
15	0.29		
20	0.30		
25	0.30		



Water depth at start of test (m):	0.23		
75% effective depth (m):	0.54	Elapsed time (mins):	#N/A
50% effective depth (m):	0.84		
25% effective depth (m):	1.15	Elapsed time (mins):	#N/A
Empty depth (m):	1.45		

Volume outflow between 75% and 25% effective depth (m^3):

Mean surface area of outflow (m^2): 1.89
(side area at 50% effective depth + base area)

Time for outflow between 75% and 25% effective depth (mins):

Soil infiltration rate (m/s): **Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate**

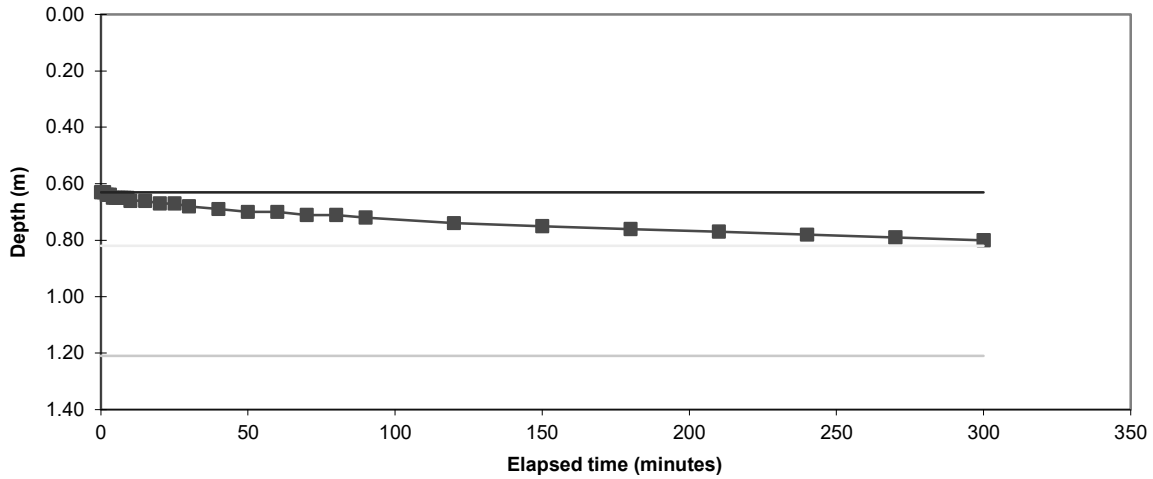
Remarks

Notes: Results processed following BRE 365 (1991) Water depths measured below ground level	**Project**	Cefn Lodge	**Figure**
	Project No.	26008	**SA04_3**
	Carried out for		

Soakaway Test Results

Trial Pit No:	SA05	Test No:	1	Date:	02.04.2026
Length (m):	1.00				
Width (m):	0.30	Granular infill:	NA		
Depth (m):	1.40	Porosity of infill:	1	(assumed)	

Elapsed time (minutes)	Water Depth (metres)	Elapsed time (minutes)	Water Depth (metres)
0	0.63	30	0.68
1	0.63	40	0.69
2	0.64	50	0.70
3	0.64	60	0.70
4	0.65	70	0.71
5	0.65	80	0.71
6	0.65	90	0.72
7	0.65	120	0.74
8	0.65	150	0.75
9	0.65	180	0.76
10	0.66	210	0.77
15	0.66	240	0.78
20	0.67	270	0.79
25	0.67	300	0.80



Water depth at start of test (m):	0.63		
75% effective depth (m):	0.82	Elapsed time (mins):	307.5
50% effective depth (m):	1.02		
25% effective depth (m):	1.21	Elapsed time (mins):	453.8
Empty depth (m):	1.40		

Volume outflow between 75% and 25% effective depth (m^3):

Mean surface area of outflow (m^2): 1.29
(side area at 50% effective depth + base area)

Time for outflow between 75% and 25% effective depth (mins):

Soil infiltration rate (m/s): **Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate**

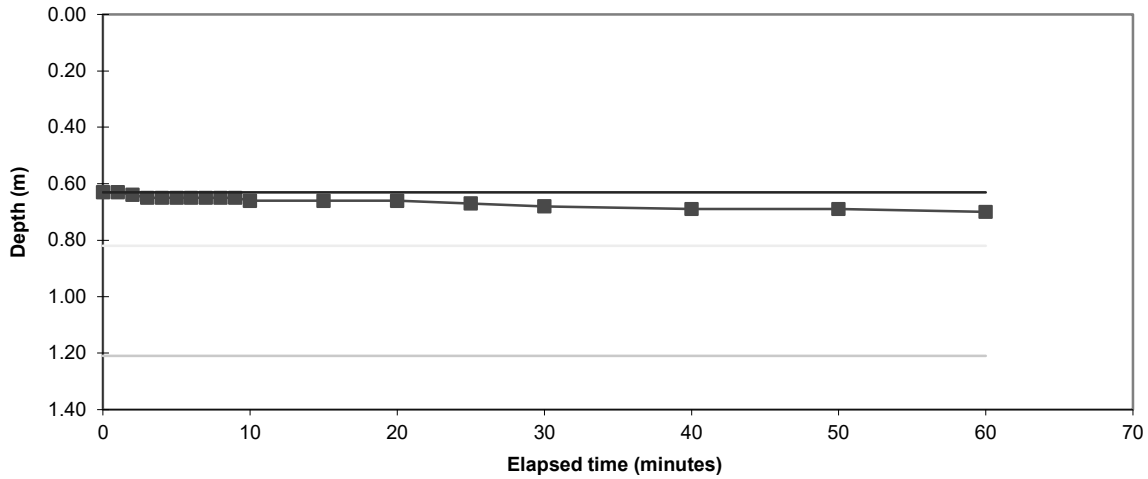
Remarks

Notes: Results processed following BRE 365 (1991) Water depths measured below ground level	**Project** Cefn Lodge **Project No.** 26008 **Carried out for**	**Figure** **SA05_1**

Soakaway Test Results

Trial Pit No:	SA05	Test No:	2	Date:	02.04.2026
Length (m):	1.00				
Width (m):	0.30	Granular infill:	NA		
Depth (m):	1.40	Porosity of infill:	1	(assumed)	

Elapsed time (minutes)	Water Depth (metres)	Elapsed time (minutes)	Water Depth (metres)
0	0.63	30	0.68
1	0.63	40	0.69
2	0.64	50	0.69
3	0.65	60	0.70
4	0.65		
5	0.65		
6	0.65		
7	0.65		
8	0.65		
9	0.65		
10	0.66		
15	0.66		
20	0.66		
25	0.67		



Water depth at start of test (m):	0.63		
75% effective depth (m):	0.82	Elapsed time (mins):	#N/A
50% effective depth (m):	1.02		
25% effective depth (m):	1.21	Elapsed time (mins):	#N/A
Empty depth (m):	1.40		

Volume outflow between 75% and 25% effective depth (m^3):

Mean surface area of outflow (m^2): 1.29
(side area at 50% effective depth + base area)

Time for outflow between 75% and 25% effective depth (mins):

Soil infiltration rate (m/s): **Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate**

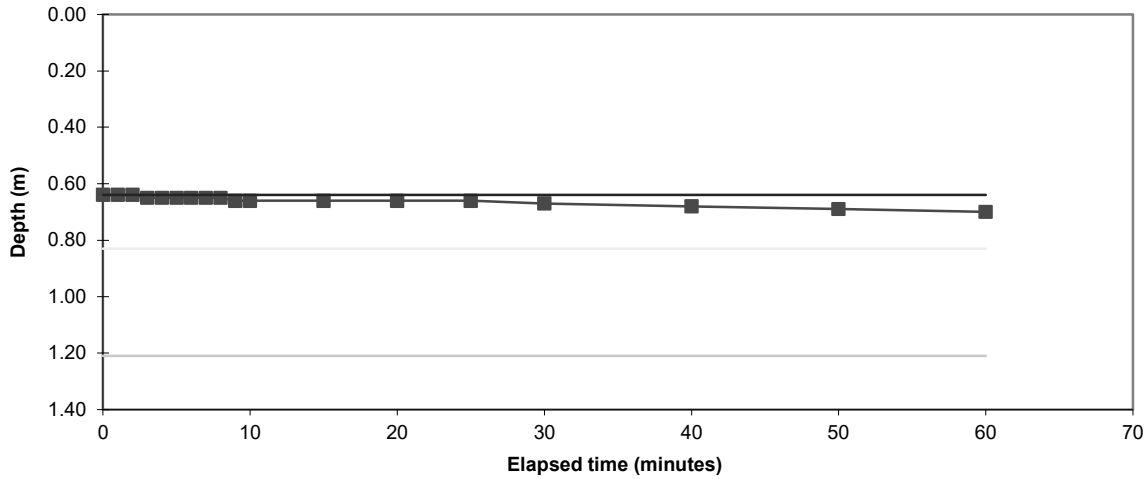
Remarks

Notes: Results processed following BRE 365 (1991) Water depths measured below ground level	**Project** Cefn Lodge **Project No.** 26008 **Carried out for**	**Figure** **SA05_2**

Soakaway Test Results

Trial Pit No:	SA05	Test No:	3	Date:	02.04.2026
Length (m):	1.00				
Width (m):	0.30	Granular infill:	NA		
Depth (m):	1.40	Porosity of infill:	1	(assumed)	

Elapsed time (minutes)	Water Depth (metres)	Elapsed time (minutes)	Water Depth (metres)
0	0.64	30	0.67
1	0.64	40	0.68
2	0.64	50	0.69
3	0.65	60	0.70
4	0.65		
5	0.65		
6	0.65		
7	0.65		
8	0.65		
9	0.66		
10	0.66		
15	0.66		
20	0.66		
25	0.66		



Water depth at start of test (m):	0.64		
75% effective depth (m):	0.83	Elapsed time (mins):	#N/A
50% effective depth (m):	1.02		
25% effective depth (m):	1.21	Elapsed time (mins):	#N/A
Empty depth (m):	1.40		

Volume outflow between 75% and 25% effective depth (m^3):

Mean surface area of outflow (m^2): 1.29
(side area at 50% effective depth + base area)

Time for outflow between 75% and 25% effective depth (mins):

Soil infiltration rate (m/s): **Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate**

Remarks

Notes: Results processed following BRE 365 (1991) Water depths measured below ground level	**Project**	Cefn Lodge	**Figure**
	Project No.	26008	**SA05_3**
	Carried out for		

APPENDIX D

Photographic Plates


21/4/26
PROJECT
CEFN LODGE
PROJECT NO
26008
TP
SA01
DEPTH (M)
GL 1.50
FACE


21/4/26
PROJECT
CEFN LODGE
PROJECT NO
26008
TP
SA02
DEPTH (M)
GL 1.50
FACE


PROJECT
CEFN LODGE
PROJECT NO
26008
TP
SA03
DEPTH (M)
GL 1.40
FACE
100
300
400
500


1/4/26
PROJECT
CEFN LODGE
PROJECT NO
26008
TP
SA04
DEPTH (M)
GL 1.50
FACE


21/4/26
PROJECT
CEFN LODGE
PROJECT NO
26008
TP
SA05
DEPTH (M)
GL 1.50
FACE

Appendix D: Greenfield Rates

CAMBRIA

CC2696 - Cefn Lodge
Greenfield Run-off Rate - REFH2

Description	Return period (yrs)	As-rural peak flow (m^3/s)	Greenfield (l/s/ha)	As-rural direct runoff (ML)
1 year	1	0.009203103	9.20	0.061898652
2 year	2	0.010421008	10.42	0.070725323
5 year	5	0.014335511	14.34	0.099147267
10 year	10	0.017049346	17.05	0.118893861
30 year	30	0.021348609	21.35	0.150239215
50 year	50	0.023429922	23.43	0.165438902
75 year	75	0.025142207	25.14	0.177954916
100 year	100	0.026397171	26.40	0.187134297
200 year	200	0.029601569	29.60	0.210595121
1000 year	1000	0.03895008	38.95	0.279202753

Greenfield Rates Per Hectare

Development Contributing Area (m²)	10000	Q1	**9.20**	
		Q2	**10.42**	
		Q5	**14.34**	
		Q30	**21.35**	
		Q100	**26.40**	
		QBAR (approx Q2.3)	**10.81**	l/s/ha

Restricted Discharge Rate - System 1

Catchment (m²)	1523	Q1	**1.40**	
		Q2	**1.59**	
		Q5	**2.18**	
		Q30	**3.25**	
		Q100	**4.02**	
		QBAR (approx Q2.3)	**1.65**	l/s

Appendix E: InfoDrainage Model Outputs

CC2696: Cefn Lodge Rev P01	Date: 19/06/2026		
	Designed by: GJ	Checked by: LM	Approved By: LM
Report Details: Type: Junctions Storm Phase: Phase	Cambria Consulting:		

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
S1/00	Manhole	272148.414	196549.049	41.000	0.900	40.100	Circular	0.600
S1/01	Manhole	272156.291	196569.620	41.000	1.050	39.950	Circular	0.600
S1/02	Manhole	272177.113	196560.756	41.000	1.250	39.750	Circular	0.600
S1/03	Manhole	272175.443	196556.561	41.000	1.300	39.700	Circular	0.600
S1/04	Manhole	272166.368	196533.156	41.000	1.500	39.500	Circular	0.600
S1/05	Manhole	272161.049	196520.135	41.000	1.600	39.400	Circular	0.600
S1/06 - HB	Manhole	272155.478	196506.180	41.000	1.700	39.300	Circular	1.200
S2/04	Manhole	272147.152	196508.110	41.000	1.250	39.750	Circular	0.600
S2/03	Manhole	272139.799	196510.955	41.000	1.150	39.850	Circular	0.600
S3/00	Manhole	272138.965	196514.864	41.000	0.900	40.100	Circular	0.600
S2/01	Manhole	272130.862	196519.655	41.000	1.000	40.000	Circular	0.600
S2/00	Manhole	272136.056	196532.425	41.000	0.900	40.100	Circular	0.600
S1/07	Manhole	272163.510	196496.461	41.000	2.000	39.000	Circular	1.200

Name	Lock
S1/00	None
S1/01	None
S1/02	None
S1/03	None
S1/04	None
S1/05	None
S1/06 - HB	None
S2/04	None
S2/03	None
S3/00	None
S2/01	None
S2/00	None
S1/07	None

Inlets

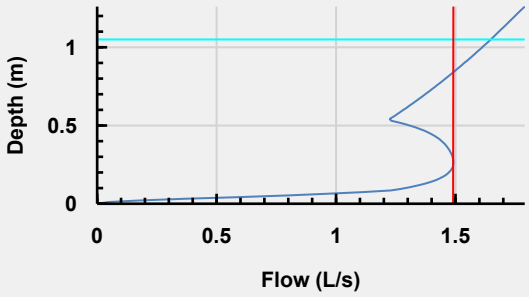
Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
S1/00	Inlet	Catchment Area	(None)	No Restriction
S1/01	Inlet	Catchment Area (1) S1.000	(None)	No Restriction
S1/02	Inlet	S1.001	(None)	No Restriction
S1/03	Inlet	S1.002	(None)	No Restriction
S1/04	Inlet	Catchment Area (8) S1.003 Catchment Area (10)	(None)	No Restriction
S1/05	Inlet	Catchment Area (13)	(None)	No Restriction
	Inlet (1)	S1.004	(None)	No Restriction
S1/06 - HB	Inlet	S2.003	(None)	No Restriction
	Inlet (1)	S1.006	(None)	No Restriction
S2/04	Inlet	S2.002	(None)	No Restriction
S2/03	Inlet	Catchment Area (7) S2.001 S3.000	(None)	No Restriction
S2/01	Inlet	S2.000	(None)	No Restriction
S2/00	Inlet	Catchment Area (9)	(None)	No Restriction
S1/07	Inlet	S1.007	(None)	No Restriction

CC2696: Cefn Lodge Rev P01	Date: 19/06/2026		
	Designed by: GJ	Checked by: LM	Approved By: LM
Report Details: Type: Junctions Storm Phase: Phase	Cambria Consulting:		

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
S1/00	Outlet	S1.000	Free Discharge
S1/01	Outlet	S1.001	Free Discharge
S1/02	Outlet	S1.002	Free Discharge
S1/03	Outlet	S1.003	Free Discharge
S1/04	Outlet	S1.004	Free Discharge
S1/05	Outlet (1)	S1.005	Free Discharge
S1/06 - HB	Outlet	S1.007	Hydro-Brake®

Invert Level (m)	39.300
Design Depth (m)	1.050
Design Flow (L/s)	1.65
Objective	Minimise Upstream Storage Requirements
Application	Surface Water Only
Sump Available	☑
Unit Reference	SHE-0060-1650-1050-1650



S2/04	Outlet	S2.003	Free Discharge
S2/03	Outlet	S2.002	Free Discharge
S3/00	Outlet	S3.000	Free Discharge
S2/01	Outlet	S2.001	Free Discharge
S2/00	Outlet	S2.000	Free Discharge



Cellular Storage

Type : Cellular Storage

Dimensions

Exceedance Level (m)	41.000
Depth (m)	1.000
Base Level (m)	39.350
Number of Crates Long	9
Number of Crates Wide	13
Number of Crates High	2
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	1
Crate Height (m)	0.5
Total Volume (m³)	111.800

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	S1.005
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet (1)

Outgoing Connection	S1.006
Outlet Type	Free Discharge

CC2696: Cefn Lodge Rev P01	Date: 19/06/2026		
	Designed by: GJ	Checked by: LM	Approved By: LM
Report Details: Type: Inflow Summary Storm Phase: Phase	Cambria Consulting:		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	S1/00		Time of Concentration	0.007	100	0	100	0.007
Catchment Area (1)	S1/01		Time of Concentration	0.041	100	0	100	0.041
Catchment Area (7)	S2/03		Time of Concentration	0.080	100	0	100	0.080
Catchment Area (8)	S1/04		Time of Concentration	0.004	100	0	100	0.004
Catchment Area (9)	S2/00		Time of Concentration	0.016	100	0	100	0.016
Catchment Area (10)	S1/04		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (13)	S1/05		Time of Concentration	0.003	100	0	100	0.003
TOTAL		**0.0**		**0.157**				**0.157**

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

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for Catchment Area: Rank By: Max. Inflow

Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
FEH: 100 years: +40 %: 15 mins: Summer	0.01	4.5	1.997
FEH: 100 years: +40 %: 15 mins: Winter	0.01	4.2	1.998
FEH: 100 years: +40 %: 30 mins: Summer	0.01	3.3	2.838
FEH: 100 years: +40 %: 30 mins: Winter	0.01	3.1	2.837
FEH: 100 years: +40 %: 60 mins: Summer	0.01	3.1	3.871
FEH: 100 years: +40 %: 60 mins: Winter	0.01	2.5	3.875
FEH: 100 years: +40 %: 120 mins: Summer	0.01	2.3	4.793
FEH: 100 years: +40 %: 120 mins: Winter	0.01	1.6	4.803
FEH: 100 years: +40 %: 180 mins: Summer	0.01	1.8	5.428
FEH: 100 years: +40 %: 180 mins: Winter	0.01	1.3	5.414
FEH: 100 years: +40 %: 240 mins: Summer	0.01	1.5	5.919
FEH: 100 years: +40 %: 240 mins: Winter	0.01	1.0	5.924
FEH: 100 years: +40 %: 360 mins: Summer	0.01	1.2	6.680
FEH: 100 years: +40 %: 360 mins: Winter	0.01	0.8	6.685
FEH: 100 years: +40 %: 480 mins: Summer	0.01	1.0	7.286

FEH: 100 years: +40 %: 480 mins: Winter	0.01	0.6	7.261
FEH: 100 years: +40 %: 600 mins: Summer	0.01	0.9	7.765
FEH: 100 years: +40 %: 600 mins: Winter	0.01	0.6	7.783
FEH: 100 years: +40 %: 720 mins: Summer	0.01	0.7	8.185
FEH: 100 years: +40 %: 720 mins: Winter	0.01	0.5	8.173
FEH: 100 years: +40 %: 960 mins: Summer	0.01	0.6	8.905
FEH: 100 years: +40 %: 960 mins: Winter	0.01	0.4	8.928
FEH: 100 years: +40 %: 1440 mins: Summer	0.01	0.4	10.003
FEH: 100 years: +40 %: 1440 mins: Winter	0.01	0.3	9.978
FEH: 100 years: +40 %: 2160 mins: Summer	0.01	0.3	11.220
FEH: 100 years: +40 %: 2160 mins: Winter	0.01	0.2	11.262
FEH: 100 years: +40 %: 2880 mins: Summer	0.01	0.3	12.168
FEH: 100 years: +40 %: 2880 mins: Winter	0.01	0.2	12.096
FEH: 100 years: +40 %: 4320 mins: Summer	0.01	0.2	13.680
FEH: 100 years: +40 %: 4320 mins: Winter	0.01	0.1	13.374
FEH: 100 years: +40 %: 5760 mins: Summer	0.01	0.2	14.988
FEH: 100 years: +40 %: 5760 mins: Winter	0.01	0.1	14.934

FEH: 100 years: +40 %: 7200 mins: Summer	0.01	0.2	15.978
FEH: 100 years: +40 %: 7200 mins: Winter	0.01	0.1	16.494
FEH: 100 years: +40 %: 8640 mins: Summer	0.01	0.1	17.220
FEH: 100 years: +40 %: 8640 mins: Winter	0.01	0.1	17.946
FEH: 100 years: +40 %: 10080 mins: Summer	0.01	0.1	18.648
FEH: 100 years: +40 %: 10080 mins: Winter	0.01	0.1	18.738

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for Catchment Area (1): Rank By: Max. Inflow

Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
FEH: 100 years: +40 %: 15 mins: Summer	0.04	25.1	11.151
FEH: 100 years: +40 %: 15 mins: Winter	0.04	23.6	11.154
FEH: 100 years: +40 %: 30 mins: Summer	0.04	18.3	15.856
FEH: 100 years: +40 %: 30 mins: Winter	0.04	17.1	15.852
FEH: 100 years: +40 %: 60 mins: Summer	0.04	17.3	21.619
FEH: 100 years: +40 %: 60 mins: Winter	0.04	13.9	21.617
FEH: 100 years: +40 %: 120 mins: Summer	0.04	12.7	26.775
FEH: 100 years: +40 %: 120 mins: Winter	0.04	9.1	26.779
FEH: 100 years: +40 %: 180 mins: Summer	0.04	10.1	30.285
FEH: 100 years: +40 %: 180 mins: Winter	0.04	7.0	30.292
FEH: 100 years: +40 %: 240 mins: Summer	0.04	8.6	33.040
FEH: 100 years: +40 %: 240 mins: Winter	0.04	5.8	33.029
FEH: 100 years: +40 %: 360 mins: Summer	0.04	6.6	37.338
FEH: 100 years: +40 %: 360 mins: Winter	0.04	4.3	37.345
FEH: 100 years: +40 %: 480 mins: Summer	0.04	5.5	40.624

FEH: 100 years: +40 %: 480 mins: Winter	0.04	3.6	40.613
FEH: 100 years: +40 %: 600 mins: Summer	0.04	4.7	43.358
FEH: 100 years: +40 %: 600 mins: Winter	0.04	3.0	43.366
FEH: 100 years: +40 %: 720 mins: Summer	0.04	4.2	45.679
FEH: 100 years: +40 %: 720 mins: Winter	0.04	2.7	45.693
FEH: 100 years: +40 %: 960 mins: Summer	0.04	3.4	49.721
FEH: 100 years: +40 %: 960 mins: Winter	0.04	2.2	49.676
FEH: 100 years: +40 %: 1440 mins: Summer	0.04	2.5	55.821
FEH: 100 years: +40 %: 1440 mins: Winter	0.04	1.6	55.879
FEH: 100 years: +40 %: 2160 mins: Summer	0.04	1.9	62.527
FEH: 100 years: +40 %: 2160 mins: Winter	0.04	1.2	62.551
FEH: 100 years: +40 %: 2880 mins: Summer	0.04	1.5	67.849
FEH: 100 years: +40 %: 2880 mins: Winter	0.04	1.0	67.698
FEH: 100 years: +40 %: 4320 mins: Summer	0.04	1.1	75.930
FEH: 100 years: +40 %: 4320 mins: Winter	0.04	0.7	75.864
FEH: 100 years: +40 %: 5760 mins: Summer	0.04	0.9	82.933
FEH: 100 years: +40 %: 5760 mins: Winter	0.04	0.6	83.412

FEH: 100 years: +40 %: 7200 mins: Summer	0.04	0.8	90.636
FEH: 100 years: +40 %: 7200 mins: Winter	0.04	0.5	90.306
FEH: 100 years: +40 %: 8640 mins: Summer	0.04	0.8	98.622
FEH: 100 years: +40 %: 8640 mins: Winter	0.04	0.5	98.292
FEH: 100 years: +40 %: 10080 mins: Summer	0.04	0.7	106.824
FEH: 100 years: +40 %: 10080 mins: Winter	0.04	0.4	106.944

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for Catchment Area (7): Rank By: Max. Inflow

Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
FEH: 100 years: +40 %: 15 mins: Summer	0.08	49.0	21.753
FEH: 100 years: +40 %: 15 mins: Winter	0.08	46.0	21.760
FEH: 100 years: +40 %: 30 mins: Summer	0.08	35.6	30.923
FEH: 100 years: +40 %: 30 mins: Winter	0.08	33.4	30.917
FEH: 100 years: +40 %: 60 mins: Summer	0.08	33.7	42.174
FEH: 100 years: +40 %: 60 mins: Winter	0.08	27.1	42.158
FEH: 100 years: +40 %: 120 mins: Summer	0.08	24.8	52.253
FEH: 100 years: +40 %: 120 mins: Winter	0.08	17.8	52.226
FEH: 100 years: +40 %: 180 mins: Summer	0.08	19.8	59.098
FEH: 100 years: +40 %: 180 mins: Winter	0.08	13.6	59.083
FEH: 100 years: +40 %: 240 mins: Summer	0.08	16.7	64.470
FEH: 100 years: +40 %: 240 mins: Winter	0.08	11.2	64.455
FEH: 100 years: +40 %: 360 mins: Summer	0.08	12.9	72.827
FEH: 100 years: +40 %: 360 mins: Winter	0.08	8.5	72.824
FEH: 100 years: +40 %: 480 mins: Summer	0.08	10.8	79.267

FEH: 100 years: +40 %: 480 mins: Winter	0.08	6.9	79.235
FEH: 100 years: +40 %: 600 mins: Summer	0.08	9.2	84.555
FEH: 100 years: +40 %: 600 mins: Winter	0.08	5.9	84.566
FEH: 100 years: +40 %: 720 mins: Summer	0.08	8.1	89.113
FEH: 100 years: +40 %: 720 mins: Winter	0.08	5.2	89.119
FEH: 100 years: +40 %: 960 mins: Summer	0.08	6.6	96.988
FEH: 100 years: +40 %: 960 mins: Winter	0.08	4.3	96.983
FEH: 100 years: +40 %: 1440 mins: Summer	0.08	4.9	108.906
FEH: 100 years: +40 %: 1440 mins: Winter	0.08	3.2	108.891
FEH: 100 years: +40 %: 2160 mins: Summer	0.08	3.7	122.019
FEH: 100 years: +40 %: 2160 mins: Winter	0.08	2.4	121.987
FEH: 100 years: +40 %: 2880 mins: Summer	0.08	3.0	132.200
FEH: 100 years: +40 %: 2880 mins: Winter	0.08	1.9	132.270
FEH: 100 years: +40 %: 4320 mins: Summer	0.08	2.2	147.949
FEH: 100 years: +40 %: 4320 mins: Winter	0.08	1.4	147.685
FEH: 100 years: +40 %: 5760 mins: Summer	0.08	1.8	161.545
FEH: 100 years: +40 %: 5760 mins: Winter	0.08	1.2	161.826

FEH: 100 years: +40 %: 7200 mins: Summer	0.08	1.6	176.863
FEH: 100 years: +40 %: 7200 mins: Winter	0.08	1.0	176.862
FEH: 100 years: +40 %: 8640 mins: Summer	0.08	1.4	192.528
FEH: 100 years: +40 %: 8640 mins: Winter	0.08	0.9	192.522
FEH: 100 years: +40 %: 10080 mins: Summer	0.08	1.4	208.296
FEH: 100 years: +40 %: 10080 mins: Winter	0.08	0.9	207.828

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for Catchment Area (8): Rank By: Max. Inflow

Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
FEH: 100 years: +40 %: 15 mins: Summer	0.00	2.4	1.072
FEH: 100 years: +40 %: 15 mins: Winter	0.00	2.3	1.070
FEH: 100 years: +40 %: 30 mins: Summer	0.00	1.8	1.521
FEH: 100 years: +40 %: 30 mins: Winter	0.00	1.6	1.521
FEH: 100 years: +40 %: 60 mins: Summer	0.00	1.7	2.074
FEH: 100 years: +40 %: 60 mins: Winter	0.00	1.3	2.073
FEH: 100 years: +40 %: 120 mins: Summer	0.00	1.2	2.583
FEH: 100 years: +40 %: 120 mins: Winter	0.00	0.9	2.582
FEH: 100 years: +40 %: 180 mins: Summer	0.00	1.0	2.912
FEH: 100 years: +40 %: 180 mins: Winter	0.00	0.7	2.905
FEH: 100 years: +40 %: 240 mins: Summer	0.00	0.8	3.175
FEH: 100 years: +40 %: 240 mins: Winter	0.00	0.6	3.181
FEH: 100 years: +40 %: 360 mins: Summer	0.00	0.6	3.589
FEH: 100 years: +40 %: 360 mins: Winter	0.00	0.4	3.571
FEH: 100 years: +40 %: 480 mins: Summer	0.00	0.5	3.901

FEH: 100 years: +40 %: 480 mins: Winter	0.00	0.3	3.895
FEH: 100 years: +40 %: 600 mins: Summer	0.00	0.4	4.165
FEH: 100 years: +40 %: 600 mins: Winter	0.00	0.3	4.146
FEH: 100 years: +40 %: 720 mins: Summer	0.00	0.4	4.381
FEH: 100 years: +40 %: 720 mins: Winter	0.00	0.3	4.404
FEH: 100 years: +40 %: 960 mins: Summer	0.00	0.3	4.776
FEH: 100 years: +40 %: 960 mins: Winter	0.00	0.2	4.800
FEH: 100 years: +40 %: 1440 mins: Summer	0.00	0.2	5.328
FEH: 100 years: +40 %: 1440 mins: Winter	0.00	0.2	5.376
FEH: 100 years: +40 %: 2160 mins: Summer	0.00	0.2	6.156
FEH: 100 years: +40 %: 2160 mins: Winter	0.00	0.1	5.964
FEH: 100 years: +40 %: 2880 mins: Summer	0.00	0.2	6.396
FEH: 100 years: +40 %: 2880 mins: Winter	0.00	0.1	6.588
FEH: 100 years: +40 %: 4320 mins: Summer	0.00	0.1	7.152
FEH: 100 years: +40 %: 4320 mins: Winter	0.00	0.1	7.146
FEH: 100 years: +40 %: 5760 mins: Summer	0.00	0.1	8.082
FEH: 100 years: +40 %: 5760 mins: Winter	0.00	0.1	7.884

FEH: 100 years: +40 %: 7200 mins: Summer	0.00	0.1	9.072
FEH: 100 years: +40 %: 7200 mins: Winter	0.00	0.0	8.892
FEH: 100 years: +40 %: 8640 mins: Summer	0.00	0.1	10.062
FEH: 100 years: +40 %: 8640 mins: Winter	0.00	0.0	9.648
FEH: 100 years: +40 %: 10080 mins: Summer	0.00	0.1	11.364
FEH: 100 years: +40 %: 10080 mins: Winter	0.00	0.0	10.644

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for Catchment Area (9): Rank By: Max. Inflow

Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
FEH: 100 years: +40 %: 15 mins: Summer	0.02	9.5	4.220
FEH: 100 years: +40 %: 15 mins: Winter	0.02	8.9	4.221
FEH: 100 years: +40 %: 30 mins: Summer	0.02	6.9	6.007
FEH: 100 years: +40 %: 30 mins: Winter	0.02	6.5	6.000
FEH: 100 years: +40 %: 60 mins: Summer	0.02	6.5	8.186
FEH: 100 years: +40 %: 60 mins: Winter	0.02	5.3	8.189
FEH: 100 years: +40 %: 120 mins: Summer	0.02	4.8	10.132
FEH: 100 years: +40 %: 120 mins: Winter	0.02	3.5	10.129
FEH: 100 years: +40 %: 180 mins: Summer	0.02	3.8	11.480
FEH: 100 years: +40 %: 180 mins: Winter	0.02	2.6	11.464
FEH: 100 years: +40 %: 240 mins: Summer	0.02	3.2	12.528
FEH: 100 years: +40 %: 240 mins: Winter	0.02	2.2	12.502
FEH: 100 years: +40 %: 360 mins: Summer	0.02	2.5	14.140
FEH: 100 years: +40 %: 360 mins: Winter	0.02	1.6	14.139
FEH: 100 years: +40 %: 480 mins: Summer	0.02	2.1	15.382

FEH: 100 years: +40 %: 480 mins: Winter	0.02	1.4	15.392
FEH: 100 years: +40 %: 600 mins: Summer	0.02	1.8	16.407
FEH: 100 years: +40 %: 600 mins: Winter	0.02	1.1	16.394
FEH: 100 years: +40 %: 720 mins: Summer	0.02	1.6	17.294
FEH: 100 years: +40 %: 720 mins: Winter	0.02	1.0	17.293
FEH: 100 years: +40 %: 960 mins: Summer	0.02	1.3	18.806
FEH: 100 years: +40 %: 960 mins: Winter	0.02	0.8	18.859
FEH: 100 years: +40 %: 1440 mins: Summer	0.02	1.0	21.157
FEH: 100 years: +40 %: 1440 mins: Winter	0.02	0.6	21.180
FEH: 100 years: +40 %: 2160 mins: Summer	0.02	0.7	23.659
FEH: 100 years: +40 %: 2160 mins: Winter	0.02	0.5	23.694
FEH: 100 years: +40 %: 2880 mins: Summer	0.02	0.6	25.698
FEH: 100 years: +40 %: 2880 mins: Winter	0.02	0.4	25.698
FEH: 100 years: +40 %: 4320 mins: Summer	0.02	0.4	28.758
FEH: 100 years: +40 %: 4320 mins: Winter	0.02	0.3	28.716
FEH: 100 years: +40 %: 5760 mins: Summer	0.02	0.4	31.362
FEH: 100 years: +40 %: 5760 mins: Winter	0.02	0.2	31.248

FEH: 100 years: +40 %: 7200 mins: Summer	0.02	0.3	34.560
FEH: 100 years: +40 %: 7200 mins: Winter	0.02	0.2	34.632
FEH: 100 years: +40 %: 8640 mins: Summer	0.02	0.3	37.626
FEH: 100 years: +40 %: 8640 mins: Winter	0.02	0.2	37.116
FEH: 100 years: +40 %: 10080 mins: Summer	0.02	0.3	40.158
FEH: 100 years: +40 %: 10080 mins: Winter	0.02	0.2	40.392

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for Catchment Area (10): Rank By: Max. Inflow

Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
FEH: 100 years: +40 %: 15 mins: Summer	0.01	3.9	1.729
FEH: 100 years: +40 %: 15 mins: Winter	0.01	3.7	1.735
FEH: 100 years: +40 %: 30 mins: Summer	0.01	2.8	2.465
FEH: 100 years: +40 %: 30 mins: Winter	0.01	2.7	2.459
FEH: 100 years: +40 %: 60 mins: Summer	0.01	2.7	3.360
FEH: 100 years: +40 %: 60 mins: Winter	0.01	2.2	3.346
FEH: 100 years: +40 %: 120 mins: Summer	0.01	2.0	4.150
FEH: 100 years: +40 %: 120 mins: Winter	0.01	1.4	4.161
FEH: 100 years: +40 %: 180 mins: Summer	0.01	1.6	4.701
FEH: 100 years: +40 %: 180 mins: Winter	0.01	1.1	4.700
FEH: 100 years: +40 %: 240 mins: Summer	0.01	1.3	5.132
FEH: 100 years: +40 %: 240 mins: Winter	0.01	0.9	5.132
FEH: 100 years: +40 %: 360 mins: Summer	0.01	1.0	5.798
FEH: 100 years: +40 %: 360 mins: Winter	0.01	0.7	5.803
FEH: 100 years: +40 %: 480 mins: Summer	0.01	0.9	6.307

FEH: 100 years: +40 %: 480 mins: Winter	0.01	0.6	6.307
FEH: 100 years: +40 %: 600 mins: Summer	0.01	0.7	6.721
FEH: 100 years: +40 %: 600 mins: Winter	0.01	0.5	6.703
FEH: 100 years: +40 %: 720 mins: Summer	0.01	0.6	7.105
FEH: 100 years: +40 %: 720 mins: Winter	0.01	0.4	7.069
FEH: 100 years: +40 %: 960 mins: Summer	0.01	0.5	7.723
FEH: 100 years: +40 %: 960 mins: Winter	0.01	0.3	7.740
FEH: 100 years: +40 %: 1440 mins: Summer	0.01	0.4	8.658
FEH: 100 years: +40 %: 1440 mins: Winter	0.01	0.3	8.622
FEH: 100 years: +40 %: 2160 mins: Summer	0.01	0.3	9.720
FEH: 100 years: +40 %: 2160 mins: Winter	0.01	0.2	9.648
FEH: 100 years: +40 %: 2880 mins: Summer	0.01	0.2	10.446
FEH: 100 years: +40 %: 2880 mins: Winter	0.01	0.2	10.602
FEH: 100 years: +40 %: 4320 mins: Summer	0.01	0.2	11.868
FEH: 100 years: +40 %: 4320 mins: Winter	0.01	0.1	11.712
FEH: 100 years: +40 %: 5760 mins: Summer	0.01	0.2	12.648
FEH: 100 years: +40 %: 5760 mins: Winter	0.01	0.1	13.068

FEH: 100 years: +40 %: 7200 mins: Summer	0.01	0.1	13.902
FEH: 100 years: +40 %: 7200 mins: Winter	0.01	0.1	13.656
FEH: 100 years: +40 %: 8640 mins: Summer	0.01	0.1	15.234
FEH: 100 years: +40 %: 8640 mins: Winter	0.01	0.1	14.922
FEH: 100 years: +40 %: 10080 mins: Summer	0.01	0.1	16.446
FEH: 100 years: +40 %: 10080 mins: Winter	0.01	0.1	16.314

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for Catchment Area (13): Rank By: Max. Inflow

Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
FEH: 100 years: +40 %: 15 mins: Summer	0.00	2.0	0.886
FEH: 100 years: +40 %: 15 mins: Winter	0.00	1.9	0.883
FEH: 100 years: +40 %: 30 mins: Summer	0.00	1.4	1.257
FEH: 100 years: +40 %: 30 mins: Winter	0.00	1.4	1.256
FEH: 100 years: +40 %: 60 mins: Summer	0.00	1.4	1.713
FEH: 100 years: +40 %: 60 mins: Winter	0.00	1.1	1.712
FEH: 100 years: +40 %: 120 mins: Summer	0.00	1.0	2.132
FEH: 100 years: +40 %: 120 mins: Winter	0.00	0.7	2.132
FEH: 100 years: +40 %: 180 mins: Summer	0.00	0.8	2.408
FEH: 100 years: +40 %: 180 mins: Winter	0.00	0.6	2.407
FEH: 100 years: +40 %: 240 mins: Summer	0.00	0.7	2.617
FEH: 100 years: +40 %: 240 mins: Winter	0.00	0.5	2.617
FEH: 100 years: +40 %: 360 mins: Summer	0.00	0.5	2.971
FEH: 100 years: +40 %: 360 mins: Winter	0.00	0.3	2.971
FEH: 100 years: +40 %: 480 mins: Summer	0.00	0.4	3.235

FEH: 100 years: +40 %: 480 mins: Winter	0.00	0.3	3.228
FEH: 100 years: +40 %: 600 mins: Summer	0.00	0.4	3.433
FEH: 100 years: +40 %: 600 mins: Winter	0.00	0.2	3.414
FEH: 100 years: +40 %: 720 mins: Summer	0.00	0.3	3.643
FEH: 100 years: +40 %: 720 mins: Winter	0.00	0.2	3.642
FEH: 100 years: +40 %: 960 mins: Summer	0.00	0.3	3.930
FEH: 100 years: +40 %: 960 mins: Winter	0.00	0.2	3.930
FEH: 100 years: +40 %: 1440 mins: Summer	0.00	0.2	4.476
FEH: 100 years: +40 %: 1440 mins: Winter	0.00	0.1	4.428
FEH: 100 years: +40 %: 2160 mins: Summer	0.00	0.2	4.908
FEH: 100 years: +40 %: 2160 mins: Winter	0.00	0.1	5.052
FEH: 100 years: +40 %: 2880 mins: Summer	0.00	0.1	5.262
FEH: 100 years: +40 %: 2880 mins: Winter	0.00	0.1	5.256
FEH: 100 years: +40 %: 4320 mins: Summer	0.00	0.1	6.072
FEH: 100 years: +40 %: 4320 mins: Winter	0.00	0.1	6.012
FEH: 100 years: +40 %: 5760 mins: Summer	0.00	0.1	6.906
FEH: 100 years: +40 %: 5760 mins: Winter	0.00	0.0	6.768

FEH: 100 years: +40 %: 7200 mins: Summer	0.00	0.1	7.944
FEH: 100 years: +40 %: 7200 mins: Winter	0.00	0.0	7.434
FEH: 100 years: +40 %: 8640 mins: Summer	0.00	0.1	8.514
FEH: 100 years: +40 %: 8640 mins: Winter	0.00	0.0	8.394
FEH: 100 years: +40 %: 10080 mins: Summer	0.00	0.1	9.180
FEH: 100 years: +40 %: 10080 mins: Winter	0.00	0.0	9.072

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1/00: Rank By: Max. Depth

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
FEH: 100 years: +40 %: 15 mins: Summer	41.000	40.100	40.477	0.377	4.5	0.107	0.000	4.3	2.015	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	41.000	40.100	40.433	0.333	4.2	0.094	0.000	4.0	2.014	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	41.000	40.100	40.625	0.525	3.3	0.149	0.000	3.5	2.840	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	41.000	40.100	40.541	0.441	3.1	0.125	0.000	3.2	2.840	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	41.000	40.100	40.612	0.512	3.1	0.145	0.000	3.1	3.873	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	41.000	40.100	40.369	0.269	2.5	0.076	0.000	2.3	3.876	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	41.000	40.100	40.331	0.231	2.3	0.065	0.000	2.1	4.805	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	41.000	40.100	40.140	0.040	1.6	0.011	0.000	1.6	4.808	OK
FEH: 100 years: +40 %: 180 mins: Summer	41.000	40.100	40.207	0.107	1.8	0.030	0.000	1.8	5.432	OK
FEH: 100 years: +40 %: 180 mins: Winter	41.000	40.100	40.205	0.105	1.3	0.030	0.000	1.3	5.415	OK
FEH: 100 years: +40 %: 240 mins: Summer	41.000	40.100	40.249	0.149	1.5	0.042	0.000	1.5	5.921	OK
FEH: 100 years: +40 %: 240 mins: Winter	41.000	40.100	40.252	0.152	1.0	0.043	0.000	1.0	5.926	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	41.000	40.100	40.301	0.201	1.2	0.057	0.000	1.2	6.683	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	41.000	40.100	40.308	0.208	0.8	0.059	0.000	0.8	6.688	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	41.000	40.100	40.323	0.223	1.0	0.063	0.000	1.0	7.289	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	41.000	40.100	40.333	0.233	0.6	0.066	0.000	0.6	7.264	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	41.000	40.100	40.330	0.230	0.9	0.065	0.000	0.9	7.769	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	41.000	40.100	40.342	0.242	0.6	0.069	0.000	0.6	7.786	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	41.000	40.100	40.332	0.232	0.7	0.066	0.000	0.7	8.189	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	41.000	40.100	40.342	0.242	0.5	0.069	0.000	0.5	8.176	Surcharged

FEH: 100 years: +40 %: 960 mins: Summer	41.000	40.100	40.331	0.231	0.6	0.065	0.000	0.6	8.908	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	41.000	40.100	40.335	0.235	0.4	0.067	0.000	0.4	8.932	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	41.000	40.100	40.314	0.214	0.4	0.060	0.000	0.5	10.006	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	41.000	40.100	40.306	0.206	0.3	0.058	0.000	0.3	9.981	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	41.000	40.100	40.274	0.174	0.3	0.049	0.000	0.3	11.223	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	41.000	40.100	40.236	0.136	0.2	0.039	0.000	0.2	11.264	OK
FEH: 100 years: +40 %: 2880 mins: Summer	41.000	40.100	40.228	0.128	0.3	0.036	0.000	0.3	12.170	OK
FEH: 100 years: +40 %: 2880 mins: Winter	41.000	40.100	40.161	0.061	0.2	0.017	0.000	0.2	12.097	OK
FEH: 100 years: +40 %: 4320 mins: Summer	41.000	40.100	40.134	0.034	0.2	0.010	0.000	0.2	13.681	OK
FEH: 100 years: +40 %: 4320 mins: Winter	41.000	40.100	40.110	0.010	0.1	0.003	0.000	0.1	13.374	OK
FEH: 100 years: +40 %: 5760 mins: Summer	41.000	40.100	40.111	0.011	0.2	0.003	0.000	0.2	14.988	OK
FEH: 100 years: +40 %: 5760 mins: Winter	41.000	40.100	40.109	0.009	0.1	0.003	0.000	0.1	14.933	OK
FEH: 100 years: +40 %: 7200 mins: Summer	41.000	40.100	40.111	0.011	0.2	0.003	0.000	0.2	15.978	OK
FEH: 100 years: +40 %: 7200 mins: Winter	41.000	40.100	40.109	0.009	0.1	0.003	0.000	0.1	16.494	OK
FEH: 100 years: +40 %: 8640 mins: Summer	41.000	40.100	40.110	0.010	0.1	0.003	0.000	0.1	17.219	OK
FEH: 100 years: +40 %: 8640 mins: Winter	41.000	40.100	40.108	0.008	0.1	0.002	0.000	0.1	17.946	OK
FEH: 100 years: +40 %: 10080 mins: Summer	41.000	40.100	40.110	0.010	0.1	0.003	0.000	0.1	18.647	OK
FEH: 100 years: +40 %: 10080 mins: Winter	41.000	40.100	40.108	0.008	0.1	0.002	0.000	0.1	18.738	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1/01: Rank By: Max. Depth

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
FEH: 100 years: +40 %: 15 mins: Summer	41.000	39.950	40.479	0.529	25.2	0.150	0.000	20.7	13.122	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	41.000	39.950	40.432	0.482	23.9	0.136	0.000	19.9	13.136	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	41.000	39.950	40.621	0.671	20.3	0.190	0.000	19.1	18.672	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	41.000	39.950	40.538	0.588	19.2	0.166	0.000	18.1	18.664	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	41.000	39.950	40.608	0.658	19.3	0.186	0.000	18.2	25.421	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	41.000	39.950	40.366	0.416	15.7	0.118	0.000	15.0	25.413	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	41.000	39.950	40.328	0.378	14.6	0.107	0.000	13.8	31.284	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	41.000	39.950	40.138	0.188	10.8	0.053	0.000	10.7	31.283	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	41.000	39.950	40.205	0.255	11.9	0.072	0.000	11.2	35.353	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	41.000	39.950	40.205	0.255	8.2	0.072	0.000	8.2	35.347	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	41.000	39.950	40.249	0.299	10.1	0.085	0.000	9.8	38.598	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	41.000	39.950	40.252	0.302	6.8	0.085	0.000	6.8	38.600	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	41.000	39.950	40.301	0.351	7.8	0.099	0.000	7.7	43.752	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	41.000	39.950	40.308	0.358	5.1	0.101	0.000	5.1	43.770	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	41.000	39.950	40.323	0.373	6.5	0.106	0.000	6.4	47.815	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	41.000	39.950	40.333	0.383	4.2	0.108	0.000	4.2	47.783	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	41.000	39.950	40.330	0.380	5.6	0.107	0.000	5.6	51.109	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	41.000	39.950	40.342	0.392	3.6	0.111	0.000	3.6	51.142	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	41.000	39.950	40.332	0.382	4.9	0.108	0.000	4.9	53.854	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	41.000	39.950	40.342	0.392	3.2	0.111	0.000	3.1	53.862	Surcharged

FEH: 100 years: +40 %: 960 mins: Summer	41.000	39.950	40.331	0.381	4.0	0.108	0.000	4.0	58.620	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	41.000	39.950	40.335	0.385	2.6	0.109	0.000	2.6	58.603	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	41.000	39.950	40.314	0.364	3.0	0.103	0.000	3.0	65.821	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	41.000	39.950	40.306	0.356	1.9	0.101	0.000	1.9	65.857	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	41.000	39.950	40.274	0.324	2.2	0.092	0.000	2.2	73.739	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	41.000	39.950	40.236	0.286	1.4	0.081	0.000	1.4	73.809	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	41.000	39.950	40.228	0.278	1.8	0.079	0.000	1.8	79.997	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	41.000	39.950	40.161	0.211	1.2	0.060	0.000	1.2	79.767	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	41.000	39.950	40.134	0.184	1.4	0.052	0.000	1.4	89.581	Surcharged
FEH: 100 years: +40 %: 4320 mins: Winter	41.000	39.950	40.007	0.057	0.9	0.016	0.000	0.9	89.216	OK
FEH: 100 years: +40 %: 5760 mins: Summer	41.000	39.950	40.053	0.103	1.1	0.029	0.000	1.1	97.879	OK
FEH: 100 years: +40 %: 5760 mins: Winter	41.000	39.950	39.972	0.022	0.7	0.006	0.000	0.7	98.346	OK
FEH: 100 years: +40 %: 7200 mins: Summer	41.000	39.950	39.998	0.048	1.0	0.014	0.000	1.0	106.603	OK
FEH: 100 years: +40 %: 7200 mins: Winter	41.000	39.950	39.970	0.020	0.6	0.006	0.000	0.6	106.799	OK
FEH: 100 years: +40 %: 8640 mins: Summer	41.000	39.950	39.974	0.024	0.9	0.007	0.000	0.9	115.844	OK
FEH: 100 years: +40 %: 8640 mins: Winter	41.000	39.950	39.969	0.019	0.6	0.005	0.000	0.6	116.237	OK
FEH: 100 years: +40 %: 10080 mins: Summer	41.000	39.950	39.973	0.023	0.8	0.006	0.000	0.8	125.474	OK
FEH: 100 years: +40 %: 10080 mins: Winter	41.000	39.950	39.969	0.019	0.5	0.005	0.000	0.5	125.681	OK

CC2696: Cefn Lodge Rev P01	Date: 19/06/2026		
	Designed by: GJ	Checked by: LM	Approved By: LM
Report Details: Type: Junctions Summary Storm Phase: Phase	Cambria Consulting:		

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1/02: Rank By: Max. Depth

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
FEH: 100 years: +40 %: 15 mins: Summer	41.000	39.750	40.310	0.560	20.7	0.158	0.000	17.7	13.130	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	41.000	39.750	40.278	0.528	19.9	0.149	0.000	17.2	13.148	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	41.000	39.750	40.349	0.599	19.1	0.170	0.000	18.0	18.536	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	41.000	39.750	40.290	0.540	18.1	0.153	0.000	17.1	18.529	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	41.000	39.750	40.362	0.612	18.2	0.173	0.000	17.2	25.093	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	41.000	39.750	40.227	0.477	15.0	0.135	0.000	14.4	25.065	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	41.000	39.750	40.212	0.462	13.8	0.131	0.000	13.2	30.831	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	41.000	39.750	40.134	0.384	10.7	0.109	0.000	10.1	30.819	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	41.000	39.750	40.203	0.453	11.2	0.128	0.000	10.8	34.860	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	41.000	39.750	40.204	0.454	8.2	0.128	0.000	8.0	34.850	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	41.000	39.750	40.248	0.498	9.8	0.141	0.000	9.3	38.102	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	41.000	39.750	40.251	0.501	6.8	0.142	0.000	6.6	38.100	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	41.000	39.750	40.301	0.551	7.7	0.156	0.000	7.4	43.298	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	41.000	39.750	40.307	0.557	5.1	0.158	0.000	5.0	43.311	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	41.000	39.750	40.323	0.573	6.4	0.162	0.000	6.3	47.438	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	41.000	39.750	40.333	0.583	4.2	0.165	0.000	4.1	47.400	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	41.000	39.750	40.329	0.579	5.6	0.164	0.000	5.4	50.824	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	41.000	39.750	40.342	0.592	3.6	0.168	0.000	3.5	50.854	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	41.000	39.750	40.332	0.582	4.9	0.165	0.000	4.7	53.718	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	41.000	39.750	40.342	0.592	3.1	0.168	0.000	3.1	53.720	Surcharged

FEH: 100 years: +40 %: 960 mins: Summer	41.000	39.750	40.331	0.581	4.0	0.164	0.000	3.9	58.631	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	41.000	39.750	40.335	0.585	2.6	0.166	0.000	2.5	58.614	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	41.000	39.750	40.313	0.563	3.0	0.159	0.000	2.9	65.835	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	41.000	39.750	40.305	0.555	1.9	0.157	0.000	1.9	65.871	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	41.000	39.750	40.274	0.524	2.2	0.148	0.000	2.2	73.797	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	41.000	39.750	40.236	0.486	1.4	0.137	0.000	1.4	73.849	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	41.000	39.750	40.228	0.478	1.8	0.135	0.000	1.8	80.133	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	41.000	39.750	40.161	0.411	1.2	0.116	0.000	1.2	79.951	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	41.000	39.750	40.134	0.384	1.4	0.109	0.000	1.4	89.770	Surcharged
FEH: 100 years: +40 %: 4320 mins: Winter	41.000	39.750	40.007	0.257	0.9	0.073	0.000	0.9	89.423	Surcharged
FEH: 100 years: +40 %: 5760 mins: Summer	41.000	39.750	40.053	0.303	1.1	0.086	0.000	1.1	98.204	Surcharged
FEH: 100 years: +40 %: 5760 mins: Winter	41.000	39.750	39.837	0.087	0.7	0.025	0.000	0.7	98.345	OK
FEH: 100 years: +40 %: 7200 mins: Summer	41.000	39.750	39.998	0.248	1.0	0.070	0.000	1.0	106.739	Surcharged
FEH: 100 years: +40 %: 7200 mins: Winter	41.000	39.750	39.770	0.020	0.6	0.006	0.000	0.6	106.798	OK
FEH: 100 years: +40 %: 8640 mins: Summer	41.000	39.750	39.957	0.207	0.9	0.059	0.000	0.9	115.991	Surcharged
FEH: 100 years: +40 %: 8640 mins: Winter	41.000	39.750	39.769	0.019	0.6	0.005	0.000	0.6	116.236	OK
FEH: 100 years: +40 %: 10080 mins: Summer	41.000	39.750	39.920	0.170	0.8	0.048	0.000	0.8	125.471	Surcharged
FEH: 100 years: +40 %: 10080 mins: Winter	41.000	39.750	39.768	0.018	0.5	0.005	0.000	0.5	125.681	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1/03: Rank By: Max. Depth

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
FEH: 100 years: +40 %: 15 mins: Summer	41.000	39.700	40.259	0.559	17.7	0.158	0.000	17.4	13.092	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	41.000	39.700	40.228	0.528	17.2	0.150	0.000	16.9	13.109	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	41.000	39.700	40.281	0.581	18.0	0.164	0.000	16.9	18.293	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	41.000	39.700	40.228	0.528	17.1	0.149	0.000	16.2	18.286	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	41.000	39.700	40.301	0.601	17.2	0.170	0.000	16.2	24.684	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	41.000	39.700	40.192	0.492	14.4	0.139	0.000	13.8	24.650	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	41.000	39.700	40.183	0.483	13.2	0.137	0.000	12.7	30.326	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	41.000	39.700	40.134	0.434	10.1	0.123	0.000	9.6	30.311	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	41.000	39.700	40.202	0.502	10.8	0.142	0.000	10.4	34.332	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	41.000	39.700	40.204	0.504	8.0	0.142	0.000	7.7	34.323	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	41.000	39.700	40.248	0.548	9.3	0.155	0.000	9.0	37.576	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	41.000	39.700	40.251	0.551	6.6	0.156	0.000	6.4	37.577	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	41.000	39.700	40.301	0.601	7.4	0.170	0.000	7.0	42.814	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	41.000	39.700	40.307	0.607	5.0	0.172	0.000	4.8	42.829	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	41.000	39.700	40.323	0.623	6.3	0.176	0.000	6.1	47.021	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	41.000	39.700	40.333	0.633	4.1	0.179	0.000	4.0	46.986	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	41.000	39.700	40.329	0.629	5.4	0.178	0.000	5.2	50.492	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	41.000	39.700	40.342	0.642	3.5	0.182	0.000	3.4	50.520	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	41.000	39.700	40.332	0.632	4.7	0.179	0.000	4.6	53.479	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	41.000	39.700	40.342	0.642	3.1	0.182	0.000	3.0	53.479	Surcharged

FEH: 100 years: +40 %: 960 mins: Summer	41.000	39.700	40.331	0.631	3.9	0.179	0.000	3.8	58.609	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	41.000	39.700	40.335	0.635	2.5	0.180	0.000	2.4	58.594	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	41.000	39.700	40.313	0.613	2.9	0.174	0.000	2.8	65.813	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	41.000	39.700	40.305	0.605	1.9	0.171	0.000	1.8	65.851	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	41.000	39.700	40.274	0.574	2.2	0.162	0.000	2.1	73.735	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	41.000	39.700	40.236	0.536	1.4	0.152	0.000	1.4	73.806	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	41.000	39.700	40.228	0.528	1.8	0.149	0.000	1.7	79.997	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	41.000	39.700	40.160	0.460	1.2	0.130	0.000	1.1	79.771	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	41.000	39.700	40.134	0.434	1.4	0.123	0.000	1.4	89.584	Surcharged
FEH: 100 years: +40 %: 4320 mins: Winter	41.000	39.700	40.007	0.307	0.9	0.087	0.000	0.9	89.214	Surcharged
FEH: 100 years: +40 %: 5760 mins: Summer	41.000	39.700	40.054	0.354	1.1	0.100	0.000	1.1	97.882	Surcharged
FEH: 100 years: +40 %: 5760 mins: Winter	41.000	39.700	39.837	0.137	0.7	0.039	0.000	0.7	98.347	OK
FEH: 100 years: +40 %: 7200 mins: Summer	41.000	39.700	39.998	0.298	1.0	0.084	0.000	1.0	106.598	Surcharged
FEH: 100 years: +40 %: 7200 mins: Winter	41.000	39.700	39.720	0.020	0.6	0.006	0.000	0.6	106.800	OK
FEH: 100 years: +40 %: 8640 mins: Summer	41.000	39.700	39.957	0.257	0.9	0.073	0.000	0.9	115.820	Surcharged
FEH: 100 years: +40 %: 8640 mins: Winter	41.000	39.700	39.720	0.020	0.6	0.006	0.000	0.6	116.237	OK
FEH: 100 years: +40 %: 10080 mins: Summer	41.000	39.700	39.920	0.220	0.8	0.062	0.000	0.8	125.472	Surcharged
FEH: 100 years: +40 %: 10080 mins: Winter	41.000	39.700	39.719	0.019	0.5	0.005	0.000	0.5	125.681	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1/04: Rank By: Max. Depth

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
FEH: 100 years: +40 %: 15 mins: Summer	41.000	39.500	40.011	0.511	21.2	0.145	0.000	19.9	15.464	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	41.000	39.500	39.994	0.494	20.7	0.140	0.000	19.4	15.484	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	41.000	39.500	40.043	0.543	21.5	0.154	0.000	20.6	21.687	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	41.000	39.500	40.018	0.518	20.5	0.147	0.000	19.7	21.672	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	41.000	39.500	40.121	0.621	20.5	0.176	0.000	19.7	29.360	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	41.000	39.500	40.052	0.552	17.3	0.156	0.000	16.7	29.304	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	41.000	39.500	40.132	0.632	15.9	0.179	0.000	15.4	36.203	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	41.000	39.500	40.134	0.634	11.9	0.179	0.000	11.6	36.194	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	41.000	39.500	40.201	0.701	12.9	0.198	0.000	12.6	41.058	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	41.000	39.500	40.203	0.703	9.5	0.199	0.000	9.2	41.038	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	41.000	39.500	40.247	0.747	11.1	0.211	0.000	10.8	44.993	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	41.000	39.500	40.251	0.751	7.8	0.212	0.000	7.6	44.999	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	41.000	39.500	40.300	0.800	8.7	0.226	0.000	8.5	51.351	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	41.000	39.500	40.307	0.807	5.9	0.228	0.000	5.8	51.351	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	41.000	39.500	40.323	0.823	7.5	0.233	0.000	7.3	56.450	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	41.000	39.500	40.332	0.832	4.8	0.236	0.000	4.7	56.406	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	41.000	39.500	40.329	0.829	6.4	0.235	0.000	6.3	60.685	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	41.000	39.500	40.342	0.842	4.1	0.238	0.000	4.0	60.674	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	41.000	39.500	40.331	0.831	5.6	0.235	0.000	5.5	64.364	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	41.000	39.500	40.342	0.842	3.7	0.238	0.000	3.6	64.348	Surcharged

FEH: 100 years: +40 %: 960 mins: Summer	41.000	39.500	40.331	0.831	4.6	0.235	0.000	4.5	70.767	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	41.000	39.500	40.335	0.835	3.0	0.236	0.000	2.9	70.785	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	41.000	39.500	40.313	0.813	3.4	0.230	0.000	3.4	79.799	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	41.000	39.500	40.305	0.805	2.2	0.228	0.000	2.2	79.849	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	41.000	39.500	40.273	0.773	2.6	0.219	0.000	2.5	89.620	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	41.000	39.500	40.235	0.735	1.7	0.208	0.000	1.6	89.422	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	41.000	39.500	40.228	0.728	2.1	0.206	0.000	2.1	96.865	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	41.000	39.500	40.160	0.660	1.4	0.187	0.000	1.4	96.995	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	41.000	39.500	40.134	0.634	1.6	0.179	0.000	1.6	108.642	Surcharged
FEH: 100 years: +40 %: 4320 mins: Winter	41.000	39.500	40.007	0.507	1.0	0.143	0.000	1.0	108.108	Surcharged
FEH: 100 years: +40 %: 5760 mins: Summer	41.000	39.500	40.053	0.553	1.3	0.157	0.000	1.3	118.667	Surcharged
FEH: 100 years: +40 %: 5760 mins: Winter	41.000	39.500	39.836	0.336	0.9	0.095	0.000	0.9	119.297	Surcharged
FEH: 100 years: +40 %: 7200 mins: Summer	41.000	39.500	39.998	0.498	1.2	0.141	0.000	1.2	129.594	Surcharged
FEH: 100 years: +40 %: 7200 mins: Winter	41.000	39.500	39.691	0.191	0.8	0.054	0.000	0.7	129.347	Surcharged
FEH: 100 years: +40 %: 8640 mins: Summer	41.000	39.500	39.957	0.457	1.1	0.129	0.000	1.1	141.144	Surcharged
FEH: 100 years: +40 %: 8640 mins: Winter	41.000	39.500	39.607	0.107	0.7	0.030	0.000	0.7	140.807	OK
FEH: 100 years: +40 %: 10080 mins: Summer	41.000	39.500	39.920	0.420	1.0	0.119	0.000	1.0	153.281	Surcharged
FEH: 100 years: +40 %: 10080 mins: Winter	41.000	39.500	39.552	0.052	0.6	0.015	0.000	0.6	152.638	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1/05: Rank By: Max. Depth

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
FEH: 100 years: +40 %: 15 mins: Summer	41.000	39.400	39.814	0.414	21.3	0.117	0.000	20.7	15.933	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	41.000	39.400	39.806	0.406	20.8	0.115	0.000	20.1	15.950	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	41.000	39.400	39.893	0.493	22.1	0.139	0.000	21.3	22.328	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	41.000	39.400	39.883	0.483	21.1	0.137	0.000	20.4	22.311	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	41.000	39.400	40.011	0.611	21.1	0.173	0.000	20.4	30.285	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	41.000	39.400	40.011	0.611	17.8	0.173	0.000	17.3	30.226	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	41.000	39.400	40.132	0.732	16.4	0.207	0.000	15.9	37.459	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	41.000	39.400	40.134	0.734	12.3	0.208	0.000	12.0	37.450	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	41.000	39.400	40.200	0.800	13.4	0.227	0.000	13.0	42.560	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	41.000	39.400	40.203	0.803	9.8	0.227	0.000	9.6	42.541	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	41.000	39.400	40.246	0.846	11.5	0.240	0.000	11.1	46.705	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	41.000	39.400	40.250	0.850	8.1	0.241	0.000	7.9	46.709	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	41.000	39.400	40.300	0.900	9.0	0.255	0.000	8.8	53.458	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	41.000	39.400	40.307	0.907	6.1	0.257	0.000	6.0	53.454	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	41.000	39.400	40.322	0.922	7.7	0.261	0.000	7.5	58.892	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	41.000	39.400	40.332	0.932	5.0	0.264	0.000	4.9	58.838	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	41.000	39.400	40.329	0.929	6.6	0.263	0.000	6.5	63.410	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	41.000	39.400	40.342	0.942	4.3	0.266	0.000	4.2	63.377	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	41.000	39.400	40.331	0.931	5.8	0.263	0.000	5.7	67.391	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	41.000	39.400	40.341	0.941	3.8	0.266	0.000	3.7	67.371	Surcharged

FEH: 100 years: +40 %: 960 mins: Summer	41.000	39.400	40.330	0.930	4.8	0.263	0.000	4.7	74.314	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	41.000	39.400	40.334	0.934	3.1	0.264	0.000	3.0	74.328	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	41.000	39.400	40.313	0.913	3.6	0.258	0.000	3.5	84.272	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	41.000	39.400	40.305	0.905	2.3	0.256	0.000	2.3	84.274	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	41.000	39.400	40.273	0.873	2.7	0.247	0.000	2.6	94.525	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	41.000	39.400	40.235	0.835	1.7	0.236	0.000	1.7	94.472	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	41.000	39.400	40.228	0.828	2.2	0.234	0.000	2.1	102.126	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	41.000	39.400	40.160	0.760	1.4	0.215	0.000	1.4	102.250	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	41.000	39.400	40.134	0.734	1.7	0.208	0.000	1.7	114.712	Surcharged
FEH: 100 years: +40 %: 4320 mins: Winter	41.000	39.400	40.006	0.606	1.1	0.172	0.000	1.1	114.116	Surcharged
FEH: 100 years: +40 %: 5760 mins: Summer	41.000	39.400	40.053	0.653	1.4	0.185	0.000	1.4	125.568	Surcharged
FEH: 100 years: +40 %: 5760 mins: Winter	41.000	39.400	39.836	0.436	0.9	0.123	0.000	0.9	126.065	Surcharged
FEH: 100 years: +40 %: 7200 mins: Summer	41.000	39.400	39.998	0.598	1.2	0.169	0.000	1.2	137.535	Surcharged
FEH: 100 years: +40 %: 7200 mins: Winter	41.000	39.400	39.690	0.290	0.8	0.082	0.000	0.8	136.781	Surcharged
FEH: 100 years: +40 %: 8640 mins: Summer	41.000	39.400	39.956	0.556	1.1	0.157	0.000	1.1	149.654	Surcharged
FEH: 100 years: +40 %: 8640 mins: Winter	41.000	39.400	39.607	0.207	0.7	0.059	0.000	0.7	149.201	Surcharged
FEH: 100 years: +40 %: 10080 mins: Summer	41.000	39.400	39.920	0.520	1.0	0.147	0.000	1.0	162.460	Surcharged
FEH: 100 years: +40 %: 10080 mins: Winter	41.000	39.400	39.552	0.152	0.7	0.043	0.000	0.7	161.710	Surcharged

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1/06 - HB: Rank By: Max. Depth

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
FEH: 100 years: +40 %: 15 mins: Summer	41.000	39.300	40.143	0.843	33.2	0.953	0.000	1.5	26.013	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	41.000	39.300	40.134	0.834	32.5	0.943	0.000	1.5	26.176	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	41.000	39.300	40.149	0.849	35.1	0.960	0.000	1.5	37.792	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	41.000	39.300	40.111	0.811	33.4	0.917	0.000	1.5	37.763	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	41.000	39.300	40.215	0.915	33.4	1.035	0.000	1.5	53.174	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	41.000	39.300	40.121	0.821	28.3	0.929	0.000	1.5	53.153	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	41.000	39.300	40.131	0.831	26.1	0.939	0.000	1.5	69.984	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	41.000	39.300	40.133	0.833	19.7	0.942	0.000	1.5	70.038	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	41.000	39.300	40.200	0.900	21.4	1.018	0.000	1.5	83.278	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	41.000	39.300	40.203	0.903	15.5	1.021	0.000	1.5	83.480	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	41.000	39.300	40.246	0.946	18.4	1.070	0.000	1.6	94.956	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	41.000	39.300	40.250	0.950	13.0	1.074	0.000	1.6	95.317	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	41.000	39.300	40.299	0.999	14.6	1.130	0.000	1.6	116.007	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	41.000	39.300	40.306	1.006	9.9	1.138	0.000	1.6	116.332	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	41.000	39.300	40.322	1.022	12.2	1.156	0.000	1.6	135.469	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	41.000	39.300	40.332	1.032	8.1	1.167	0.000	1.6	135.487	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	41.000	39.300	40.328	1.028	10.7	1.163	0.000	1.6	153.579	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	41.000	39.300	40.341	1.041	6.9	1.177	0.000	1.6	153.424	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	41.000	39.300	40.331	1.031	9.3	1.166	0.000	1.6	170.715	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	41.000	39.300	40.341	1.041	6.1	1.177	0.000	1.6	170.125	Surcharged

FEH: 100 years: +40 %: 960 mins: Summer	41.000	39.300	40.330	1.030	7.7	1.165	0.000	1.6	207.585	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	41.000	39.300	40.334	1.034	5.0	1.169	0.000	1.6	205.555	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	41.000	39.300	40.312	1.012	5.8	1.145	0.000	1.6	259.265	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	41.000	39.300	40.304	1.004	3.8	1.136	0.000	1.6	254.619	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	41.000	39.300	40.273	0.973	4.4	1.100	0.000	1.6	279.477	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	41.000	39.300	40.235	0.935	2.8	1.057	0.000	1.5	270.915	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	41.000	39.300	40.227	0.927	3.6	1.049	0.000	1.5	293.380	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	41.000	39.300	40.160	0.860	2.3	0.972	0.000	1.5	282.021	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	41.000	39.300	40.133	0.833	2.7	0.942	0.000	1.5	314.043	Surcharged
FEH: 100 years: +40 %: 4320 mins: Winter	41.000	39.300	40.006	0.706	1.7	0.798	0.000	1.5	297.312	Surcharged
FEH: 100 years: +40 %: 5760 mins: Summer	41.000	39.300	40.052	0.752	2.2	0.851	0.000	1.5	332.939	Surcharged
FEH: 100 years: +40 %: 5760 mins: Winter	41.000	39.300	39.836	0.536	1.5	0.606	0.000	1.5	318.997	Surcharged
FEH: 100 years: +40 %: 7200 mins: Summer	41.000	39.300	39.997	0.697	1.9	0.789	0.000	1.5	357.784	Surcharged
FEH: 100 years: +40 %: 7200 mins: Winter	41.000	39.300	39.690	0.390	1.5	0.441	0.000	1.5	348.152	Surcharged
FEH: 100 years: +40 %: 8640 mins: Summer	41.000	39.300	39.956	0.656	1.7	0.742	0.000	1.5	384.413	Surcharged
FEH: 100 years: +40 %: 8640 mins: Winter	41.000	39.300	39.607	0.307	1.5	0.347	0.000	1.5	378.731	Surcharged
FEH: 100 years: +40 %: 10080 mins: Summer	41.000	39.300	39.920	0.620	1.6	0.701	0.000	1.5	412.448	Surcharged
FEH: 100 years: +40 %: 10080 mins: Winter	41.000	39.300	39.551	0.251	1.5	0.284	0.000	1.5	409.836	Surcharged

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S2/04: Rank By: Max. Depth

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
FEH: 100 years: +40 %: 15 mins: Summer	41.000	39.750	40.490	0.740	36.2	0.209	0.000	33.2	25.909	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	41.000	39.750	40.465	0.715	35.2	0.202	0.000	32.5	26.080	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	41.000	39.750	40.536	0.786	36.4	0.222	0.000	35.1	36.870	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	41.000	39.750	40.460	0.710	34.6	0.201	0.000	33.4	36.847	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	41.000	39.750	40.529	0.779	34.6	0.220	0.000	33.4	49.895	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	41.000	39.750	40.339	0.589	29.1	0.167	0.000	28.3	49.865	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	41.000	39.750	40.304	0.554	26.7	0.157	0.000	26.1	61.626	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	41.000	39.750	40.133	0.383	20.0	0.108	0.000	19.7	61.575	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	41.000	39.750	40.201	0.451	21.8	0.128	0.000	21.4	69.706	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	41.000	39.750	40.203	0.453	15.9	0.128	0.000	15.5	69.659	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	41.000	39.750	40.247	0.497	18.7	0.141	0.000	18.4	76.119	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	41.000	39.750	40.250	0.500	13.2	0.142	0.000	13.0	76.073	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	41.000	39.750	40.300	0.550	14.8	0.156	0.000	14.6	86.237	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	41.000	39.750	40.307	0.557	10.1	0.158	0.000	9.9	86.226	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	41.000	39.750	40.322	0.572	12.4	0.162	0.000	12.2	94.133	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	41.000	39.750	40.332	0.582	8.2	0.165	0.000	8.1	94.109	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	41.000	39.750	40.329	0.579	10.8	0.164	0.000	10.7	100.670	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	41.000	39.750	40.341	0.591	7.0	0.167	0.000	6.9	100.661	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	41.000	39.750	40.331	0.581	9.5	0.164	0.000	9.3	106.302	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	41.000	39.750	40.341	0.591	6.2	0.167	0.000	6.1	106.306	Surcharged

FEH: 100 years: +40 %: 960 mins: Summer	41.000	39.750	40.330	0.580	7.8	0.164	0.000	7.7	115.784	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	41.000	39.750	40.334	0.584	5.1	0.165	0.000	5.0	115.833	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	41.000	39.750	40.313	0.563	5.9	0.159	0.000	5.8	130.055	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	41.000	39.750	40.305	0.555	3.8	0.157	0.000	3.8	130.065	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	41.000	39.750	40.273	0.523	4.4	0.148	0.000	4.4	145.674	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	41.000	39.750	40.235	0.485	2.9	0.137	0.000	2.8	145.677	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	41.000	39.750	40.228	0.478	3.6	0.135	0.000	3.6	157.896	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	41.000	39.750	40.160	0.410	2.3	0.116	0.000	2.3	157.967	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	41.000	39.750	40.133	0.383	2.7	0.109	0.000	2.7	176.705	Surcharged
FEH: 100 years: +40 %: 4320 mins: Winter	41.000	39.750	40.006	0.256	1.7	0.073	0.000	1.7	176.401	Surcharged
FEH: 100 years: +40 %: 5760 mins: Summer	41.000	39.750	40.053	0.303	2.2	0.086	0.000	2.2	192.907	Surcharged
FEH: 100 years: +40 %: 5760 mins: Winter	41.000	39.750	39.836	0.086	1.4	0.024	0.000	1.4	193.073	OK
FEH: 100 years: +40 %: 7200 mins: Summer	41.000	39.750	39.998	0.248	1.9	0.070	0.000	1.9	211.423	Surcharged
FEH: 100 years: +40 %: 7200 mins: Winter	41.000	39.750	39.767	0.017	1.2	0.005	0.000	1.2	211.492	OK
FEH: 100 years: +40 %: 8640 mins: Summer	41.000	39.750	39.956	0.206	1.7	0.058	0.000	1.7	230.154	Surcharged
FEH: 100 years: +40 %: 8640 mins: Winter	41.000	39.750	39.766	0.016	1.1	0.005	0.000	1.1	229.636	OK
FEH: 100 years: +40 %: 10080 mins: Summer	41.000	39.750	39.920	0.170	1.6	0.048	0.000	1.6	248.454	Surcharged
FEH: 100 years: +40 %: 10080 mins: Winter	41.000	39.750	39.765	0.015	1.0	0.004	0.000	1.0	248.218	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S2/03: Rank By: Max. Depth

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
FEH: 100 years: +40 %: 15 mins: Summer	41.000	39.850	40.782	0.932	49.0	0.264	0.000	36.2	27.278	Flood Risk
FEH: 100 years: +40 %: 15 mins: Winter	41.000	39.850	40.733	0.883	46.0	0.250	0.000	35.2	27.207	Flood Risk
FEH: 100 years: +40 %: 30 mins: Summer	41.000	39.850	40.920	1.070	39.4	0.303	0.000	36.4	37.958	Flood Risk
FEH: 100 years: +40 %: 30 mins: Winter	41.000	39.850	40.812	0.962	37.2	0.272	0.000	34.6	37.807	Flood Risk
FEH: 100 years: +40 %: 60 mins: Summer	41.000	39.850	40.878	1.028	37.4	0.291	0.000	34.6	51.116	Flood Risk
FEH: 100 years: +40 %: 60 mins: Winter	41.000	39.850	40.570	0.720	30.7	0.204	0.000	29.1	50.713	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	41.000	39.850	40.503	0.653	28.1	0.185	0.000	26.7	62.521	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	41.000	39.850	40.234	0.384	20.6	0.109	0.000	20.0	62.129	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	41.000	39.850	40.315	0.465	22.7	0.131	0.000	21.8	70.451	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	41.000	39.850	40.204	0.354	16.3	0.100	0.000	15.9	70.175	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	41.000	39.850	40.248	0.398	19.3	0.113	0.000	18.7	76.770	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	41.000	39.850	40.251	0.401	13.4	0.113	0.000	13.2	76.636	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	41.000	39.850	40.301	0.451	15.1	0.128	0.000	14.8	86.825	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	41.000	39.850	40.307	0.457	10.1	0.129	0.000	10.1	86.821	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	41.000	39.850	40.323	0.473	12.8	0.134	0.000	12.4	94.682	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	41.000	39.850	40.333	0.483	8.3	0.137	0.000	8.2	94.665	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	41.000	39.850	40.329	0.479	11.0	0.136	0.000	10.8	101.148	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	41.000	39.850	40.342	0.492	7.1	0.139	0.000	7.0	101.156	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	41.000	39.850	40.331	0.481	9.7	0.136	0.000	9.5	106.693	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	41.000	39.850	40.342	0.492	6.2	0.139	0.000	6.2	106.704	Surcharged

FEH: 100 years: +40 %: 960 mins: Summer	41.000	39.850	40.331	0.481	7.9	0.136	0.000	7.8	116.079	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	41.000	39.850	40.335	0.485	5.1	0.137	0.000	5.1	116.140	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	41.000	39.850	40.313	0.463	5.9	0.131	0.000	5.9	130.326	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	41.000	39.850	40.305	0.455	3.8	0.129	0.000	3.8	130.338	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	41.000	39.850	40.273	0.423	4.4	0.120	0.000	4.4	145.905	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	41.000	39.850	40.236	0.386	2.8	0.109	0.000	2.9	145.877	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	41.000	39.850	40.228	0.378	3.6	0.107	0.000	3.6	158.086	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	41.000	39.850	40.160	0.310	2.3	0.088	0.000	2.3	158.077	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	41.000	39.850	40.134	0.284	2.7	0.080	0.000	2.7	176.787	Surcharged
FEH: 100 years: +40 %: 4320 mins: Winter	41.000	39.850	40.006	0.156	1.7	0.044	0.000	1.7	176.401	Surcharged
FEH: 100 years: +40 %: 5760 mins: Summer	41.000	39.850	40.053	0.203	2.2	0.057	0.000	2.2	192.907	Surcharged
FEH: 100 years: +40 %: 5760 mins: Winter	41.000	39.850	39.879	0.029	1.4	0.008	0.000	1.4	193.073	OK
FEH: 100 years: +40 %: 7200 mins: Summer	41.000	39.850	39.998	0.148	1.9	0.042	0.000	1.9	211.423	OK
FEH: 100 years: +40 %: 7200 mins: Winter	41.000	39.850	39.877	0.027	1.2	0.008	0.000	1.2	211.492	OK
FEH: 100 years: +40 %: 8640 mins: Summer	41.000	39.850	39.957	0.107	1.7	0.030	0.000	1.7	230.154	OK
FEH: 100 years: +40 %: 8640 mins: Winter	41.000	39.850	39.876	0.026	1.1	0.007	0.000	1.1	229.636	OK
FEH: 100 years: +40 %: 10080 mins: Summer	41.000	39.850	39.920	0.070	1.6	0.020	0.000	1.6	248.453	OK
FEH: 100 years: +40 %: 10080 mins: Winter	41.000	39.850	39.875	0.025	1.0	0.007	0.000	1.0	248.218	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S3/00: Rank By: Max. Depth

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
FEH: 100 years: +40 %: 15 mins: Summer	41.000	40.100	40.785	0.685	5.6	0.194	0.000	3.1	1.072	Flood Risk
FEH: 100 years: +40 %: 15 mins: Winter	41.000	40.100	40.735	0.635	5.0	0.180	0.000	3.6	1.046	Flood Risk
FEH: 100 years: +40 %: 30 mins: Summer	41.000	40.100	40.920	0.820	3.4	0.232	0.000	3.4	1.018	Flood Risk
FEH: 100 years: +40 %: 30 mins: Winter	41.000	40.100	40.812	0.712	2.7	0.201	0.000	2.7	0.887	Flood Risk
FEH: 100 years: +40 %: 60 mins: Summer	41.000	40.100	40.877	0.777	2.7	0.220	0.000	2.3	0.975	Flood Risk
FEH: 100 years: +40 %: 60 mins: Winter	41.000	40.100	40.569	0.469	1.5	0.133	0.000	1.3	0.599	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	41.000	40.100	40.503	0.403	1.4	0.114	0.000	0.8	0.559	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	41.000	40.100	40.234	0.134	0.3	0.038	0.000	0.2	0.205	OK
FEH: 100 years: +40 %: 180 mins: Summer	41.000	40.100	40.315	0.215	0.7	0.061	0.000	0.4	0.395	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	41.000	40.100	40.204	0.104	0.1	0.029	0.000	0.0	0.145	OK
FEH: 100 years: +40 %: 240 mins: Summer	41.000	40.100	40.248	0.148	0.5	0.042	0.000	0.1	0.295	OK
FEH: 100 years: +40 %: 240 mins: Winter	41.000	40.100	40.251	0.151	0.1	0.043	0.000	0.0	0.208	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	41.000	40.100	40.301	0.201	0.1	0.057	0.000	0.0	0.277	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	41.000	40.100	40.307	0.207	0.1	0.059	0.000	0.0	0.287	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	41.000	40.100	40.323	0.223	0.1	0.063	0.000	0.0	0.309	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	41.000	40.100	40.332	0.232	0.1	0.066	0.000	0.0	0.322	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	41.000	40.100	40.329	0.229	0.1	0.065	0.000	0.0	0.322	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	41.000	40.100	40.342	0.242	0.1	0.068	0.000	0.0	0.338	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	41.000	40.100	40.331	0.231	0.1	0.065	0.000	0.0	0.331	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	41.000	40.100	40.342	0.242	0.1	0.068	0.000	0.0	0.342	Surcharged

FEH: 100 years: +40 %: 960 mins: Summer	41.000	40.100	40.331	0.231	0.1	0.065	0.000	0.0	0.339	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	41.000	40.100	40.335	0.235	0.1	0.066	0.000	0.0	0.338	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	41.000	40.100	40.313	0.213	0.1	0.060	0.000	0.0	0.339	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	41.000	40.100	40.305	0.205	0.0	0.058	0.000	0.0	0.316	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	41.000	40.100	40.273	0.173	0.0	0.049	0.000	0.0	0.291	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	41.000	40.100	40.235	0.135	0.0	0.038	0.000	0.0	0.257	OK
FEH: 100 years: +40 %: 2880 mins: Summer	41.000	40.100	40.228	0.128	0.0	0.036	0.000	0.0	0.227	OK
FEH: 100 years: +40 %: 2880 mins: Winter	41.000	40.100	40.160	0.060	0.0	0.017	0.000	0.0	0.129	OK
FEH: 100 years: +40 %: 4320 mins: Summer	41.000	40.100	40.134	0.034	0.0	0.010	0.000	0.0	0.074	OK
FEH: 100 years: +40 %: 4320 mins: Winter	41.000	40.100	40.100	0.000	0.0	0.000	0.000	0.0	0.000	OK
FEH: 100 years: +40 %: 5760 mins: Summer	41.000	40.100	40.100	0.000	0.0	0.000	0.000	0.0	0.000	OK
FEH: 100 years: +40 %: 5760 mins: Winter	41.000	40.100	40.100	0.000	0.0	0.000	0.000	0.0	0.000	OK
FEH: 100 years: +40 %: 7200 mins: Summer	41.000	40.100	40.100	0.000	0.0	0.000	0.000	0.0	0.000	OK
FEH: 100 years: +40 %: 7200 mins: Winter	41.000	40.100	40.100	0.000	0.0	0.000	0.000	0.0	0.000	OK
FEH: 100 years: +40 %: 8640 mins: Summer	41.000	40.100	40.100	0.000	0.0	0.000	0.000	0.0	0.000	OK
FEH: 100 years: +40 %: 8640 mins: Winter	41.000	40.100	40.100	0.000	0.0	0.000	0.000	0.0	0.000	OK
FEH: 100 years: +40 %: 10080 mins: Summer	41.000	40.100	40.100	0.000	0.0	0.000	0.000	0.0	0.000	OK
FEH: 100 years: +40 %: 10080 mins: Winter	41.000	40.100	40.100	0.000	0.0	0.000	0.000	0.0	0.000	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S2/01: Rank By: Max. Depth

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
FEH: 100 years: +40 %: 15 mins: Summer	41.000	40.000	40.847	0.847	7.7	0.240	0.000	13.1	4.468	Flood Risk
FEH: 100 years: +40 %: 15 mins: Winter	41.000	40.000	40.773	0.773	6.1	0.219	0.000	9.5	4.402	Flood Risk
FEH: 100 years: +40 %: 30 mins: Summer	41.000	40.000	40.927	0.927	5.4	0.262	0.000	8.8	6.028	Flood Risk
FEH: 100 years: +40 %: 30 mins: Winter	41.000	40.000	40.819	0.819	5.1	0.232	0.000	7.9	6.014	Flood Risk
FEH: 100 years: +40 %: 60 mins: Summer	41.000	40.000	40.884	0.884	5.2	0.250	0.000	7.5	8.202	Flood Risk
FEH: 100 years: +40 %: 60 mins: Winter	41.000	40.000	40.576	0.576	4.5	0.163	0.000	5.3	8.194	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	41.000	40.000	40.509	0.509	4.1	0.144	0.000	4.8	10.050	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	41.000	40.000	40.239	0.239	3.5	0.068	0.000	3.1	10.039	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	41.000	40.000	40.321	0.321	3.4	0.091	0.000	3.6	11.348	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	41.000	40.000	40.204	0.204	2.7	0.058	0.000	2.6	11.322	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	41.000	40.000	40.248	0.248	3.2	0.070	0.000	2.9	12.390	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	41.000	40.000	40.251	0.251	2.2	0.071	0.000	2.2	12.360	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	41.000	40.000	40.301	0.301	2.5	0.085	0.000	2.2	14.068	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	41.000	40.000	40.307	0.307	1.6	0.087	0.000	1.7	14.062	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	41.000	40.000	40.323	0.323	2.1	0.091	0.000	2.1	15.378	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	41.000	40.000	40.333	0.333	1.3	0.094	0.000	1.4	15.389	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	41.000	40.000	40.329	0.329	1.8	0.093	0.000	1.8	16.405	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	41.000	40.000	40.342	0.342	1.1	0.097	0.000	1.2	16.391	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	41.000	40.000	40.331	0.331	1.6	0.094	0.000	1.6	17.293	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	41.000	40.000	40.342	0.342	1.0	0.097	0.000	1.0	17.293	Surcharged

FEH: 100 years: +40 %: 960 mins: Summer	41.000	40.000	40.331	0.331	1.3	0.094	0.000	1.3	18.805	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	41.000	40.000	40.335	0.335	0.8	0.095	0.000	0.8	18.858	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	41.000	40.000	40.313	0.313	1.0	0.089	0.000	1.0	21.160	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	41.000	40.000	40.305	0.305	0.6	0.086	0.000	0.6	21.181	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	41.000	40.000	40.273	0.273	0.7	0.077	0.000	0.7	23.661	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	41.000	40.000	40.236	0.236	0.5	0.067	0.000	0.5	23.698	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	41.000	40.000	40.228	0.228	0.6	0.065	0.000	0.6	25.700	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	41.000	40.000	40.160	0.160	0.4	0.045	0.000	0.4	25.698	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	41.000	40.000	40.134	0.134	0.4	0.038	0.000	0.4	28.756	OK
FEH: 100 years: +40 %: 4320 mins: Winter	41.000	40.000	40.012	0.012	0.3	0.003	0.000	0.3	28.716	OK
FEH: 100 years: +40 %: 5760 mins: Summer	41.000	40.000	40.053	0.053	0.4	0.015	0.000	0.4	31.362	OK
FEH: 100 years: +40 %: 5760 mins: Winter	41.000	40.000	40.011	0.011	0.2	0.003	0.000	0.2	31.247	OK
FEH: 100 years: +40 %: 7200 mins: Summer	41.000	40.000	40.013	0.013	0.3	0.004	0.000	0.3	34.560	OK
FEH: 100 years: +40 %: 7200 mins: Winter	41.000	40.000	40.011	0.011	0.2	0.003	0.000	0.2	34.631	OK
FEH: 100 years: +40 %: 8640 mins: Summer	41.000	40.000	40.012	0.012	0.3	0.003	0.000	0.3	37.625	OK
FEH: 100 years: +40 %: 8640 mins: Winter	41.000	40.000	40.010	0.010	0.2	0.003	0.000	0.2	37.115	OK
FEH: 100 years: +40 %: 10080 mins: Summer	41.000	40.000	40.012	0.012	0.3	0.003	0.000	0.3	40.157	OK
FEH: 100 years: +40 %: 10080 mins: Winter	41.000	40.000	40.010	0.010	0.2	0.003	0.000	0.2	40.391	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S2/00: Rank By: Max. Depth

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
FEH: 100 years: +40 %: 15 mins: Summer	41.000	40.100	40.860	0.760	9.5	0.215	0.000	7.7	4.210	Flood Risk
FEH: 100 years: +40 %: 15 mins: Winter	41.000	40.100	40.792	0.692	8.9	0.196	0.000	6.1	4.264	Flood Risk
FEH: 100 years: +40 %: 30 mins: Summer	41.000	40.100	40.941	0.841	6.9	0.238	0.000	5.4	6.022	Flood Risk
FEH: 100 years: +40 %: 30 mins: Winter	41.000	40.100	40.832	0.732	6.5	0.207	0.000	5.1	6.012	Flood Risk
FEH: 100 years: +40 %: 60 mins: Summer	41.000	40.100	40.898	0.798	6.5	0.226	0.000	5.2	8.193	Flood Risk
FEH: 100 years: +40 %: 60 mins: Winter	41.000	40.100	40.586	0.486	5.3	0.138	0.000	4.5	8.191	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	41.000	40.100	40.518	0.418	4.8	0.118	0.000	4.1	10.133	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	41.000	40.100	40.244	0.144	3.5	0.041	0.000	3.5	10.128	OK
FEH: 100 years: +40 %: 180 mins: Summer	41.000	40.100	40.327	0.227	3.8	0.064	0.000	3.4	11.479	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	41.000	40.100	40.204	0.104	2.6	0.029	0.000	2.7	11.461	OK
FEH: 100 years: +40 %: 240 mins: Summer	41.000	40.100	40.248	0.148	3.2	0.042	0.000	3.2	12.527	OK
FEH: 100 years: +40 %: 240 mins: Winter	41.000	40.100	40.251	0.151	2.2	0.043	0.000	2.2	12.499	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	41.000	40.100	40.301	0.201	2.5	0.057	0.000	2.5	14.139	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	41.000	40.100	40.307	0.207	1.6	0.059	0.000	1.6	14.136	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	41.000	40.100	40.323	0.223	2.1	0.063	0.000	2.1	15.380	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	41.000	40.100	40.333	0.233	1.4	0.066	0.000	1.3	15.390	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	41.000	40.100	40.329	0.229	1.8	0.065	0.000	1.8	16.405	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	41.000	40.100	40.342	0.242	1.1	0.068	0.000	1.1	16.392	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	41.000	40.100	40.331	0.231	1.6	0.065	0.000	1.6	17.293	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	41.000	40.100	40.342	0.242	1.0	0.068	0.000	1.0	17.291	Surcharged

FEH: 100 years: +40 %: 960 mins: Summer	41.000	40.100	40.331	0.231	1.3	0.065	0.000	1.3	18.804	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	41.000	40.100	40.335	0.235	0.8	0.066	0.000	0.8	18.857	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	41.000	40.100	40.313	0.213	1.0	0.060	0.000	1.0	21.156	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	41.000	40.100	40.305	0.205	0.6	0.058	0.000	0.6	21.179	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	41.000	40.100	40.273	0.173	0.7	0.049	0.000	0.7	23.658	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	41.000	40.100	40.236	0.136	0.5	0.038	0.000	0.5	23.694	OK
FEH: 100 years: +40 %: 2880 mins: Summer	41.000	40.100	40.228	0.128	0.6	0.036	0.000	0.6	25.698	OK
FEH: 100 years: +40 %: 2880 mins: Winter	41.000	40.100	40.160	0.060	0.4	0.017	0.000	0.4	25.697	OK
FEH: 100 years: +40 %: 4320 mins: Summer	41.000	40.100	40.134	0.034	0.4	0.010	0.000	0.4	28.757	OK
FEH: 100 years: +40 %: 4320 mins: Winter	41.000	40.100	40.115	0.015	0.3	0.004	0.000	0.3	28.715	OK
FEH: 100 years: +40 %: 5760 mins: Summer	41.000	40.100	40.117	0.017	0.4	0.005	0.000	0.4	31.361	OK
FEH: 100 years: +40 %: 5760 mins: Winter	41.000	40.100	40.113	0.013	0.2	0.004	0.000	0.2	31.247	OK
FEH: 100 years: +40 %: 7200 mins: Summer	41.000	40.100	40.115	0.015	0.3	0.004	0.000	0.3	34.559	OK
FEH: 100 years: +40 %: 7200 mins: Winter	41.000	40.100	40.113	0.013	0.2	0.004	0.000	0.2	34.631	OK
FEH: 100 years: +40 %: 8640 mins: Summer	41.000	40.100	40.115	0.015	0.3	0.004	0.000	0.3	37.625	OK
FEH: 100 years: +40 %: 8640 mins: Winter	41.000	40.100	40.112	0.012	0.2	0.003	0.000	0.2	37.115	OK
FEH: 100 years: +40 %: 10080 mins: Summer	41.000	40.100	40.114	0.014	0.3	0.004	0.000	0.3	40.157	OK
FEH: 100 years: +40 %: 10080 mins: Winter	41.000	40.100	40.112	0.012	0.2	0.003	0.000	0.2	40.391	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1/07: Rank By: Max. Depth

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
FEH: 100 years: +40 %: 15 mins: Summer	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	2.343	OK
FEH: 100 years: +40 %: 15 mins: Winter	41.000	39.000	39.023	0.023	1.5	0.000	0.000	1.5	2.340	OK
FEH: 100 years: +40 %: 30 mins: Summer	41.000	39.000	39.023	0.023	1.5	0.000	0.000	1.5	4.573	OK
FEH: 100 years: +40 %: 30 mins: Winter	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	4.560	OK
FEH: 100 years: +40 %: 60 mins: Summer	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	9.598	OK
FEH: 100 years: +40 %: 60 mins: Winter	41.000	39.000	39.023	0.023	1.5	0.000	0.000	1.5	9.528	OK
FEH: 100 years: +40 %: 120 mins: Summer	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	19.880	OK
FEH: 100 years: +40 %: 120 mins: Winter	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	19.740	OK
FEH: 100 years: +40 %: 180 mins: Summer	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	30.286	OK
FEH: 100 years: +40 %: 180 mins: Winter	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	30.134	OK
FEH: 100 years: +40 %: 240 mins: Summer	41.000	39.000	39.024	0.024	1.6	0.000	0.000	1.6	40.711	OK
FEH: 100 years: +40 %: 240 mins: Winter	41.000	39.000	39.024	0.024	1.6	0.000	0.000	1.6	40.529	OK
FEH: 100 years: +40 %: 360 mins: Summer	41.000	39.000	39.024	0.024	1.6	0.000	0.000	1.6	61.421	OK
FEH: 100 years: +40 %: 360 mins: Winter	41.000	39.000	39.024	0.024	1.6	0.000	0.000	1.6	61.147	OK
FEH: 100 years: +40 %: 480 mins: Summer	41.000	39.000	39.024	0.024	1.6	0.000	0.000	1.6	81.527	OK
FEH: 100 years: +40 %: 480 mins: Winter	41.000	39.000	39.025	0.025	1.6	0.000	0.000	1.6	81.170	OK
FEH: 100 years: +40 %: 600 mins: Summer	41.000	39.000	39.025	0.025	1.6	0.000	0.000	1.6	100.845	OK
FEH: 100 years: +40 %: 600 mins: Winter	41.000	39.000	39.025	0.025	1.6	0.000	0.000	1.6	100.476	OK
FEH: 100 years: +40 %: 720 mins: Summer	41.000	39.000	39.025	0.025	1.6	0.000	0.000	1.6	119.329	OK
FEH: 100 years: +40 %: 720 mins: Winter	41.000	39.000	39.025	0.025	1.6	0.000	0.000	1.6	118.950	OK

FEH: 100 years: +40 %: 960 mins: Summer	41.000	39.000	39.025	0.025	1.6	0.000	0.000	1.6	158.073	OK
FEH: 100 years: +40 %: 960 mins: Winter	41.000	39.000	39.025	0.025	1.6	0.000	0.000	1.6	157.703	OK
FEH: 100 years: +40 %: 1440 mins: Summer	41.000	39.000	39.024	0.024	1.6	0.000	0.000	1.6	213.631	OK
FEH: 100 years: +40 %: 1440 mins: Winter	41.000	39.000	39.024	0.024	1.6	0.000	0.000	1.6	213.636	OK
FEH: 100 years: +40 %: 2160 mins: Summer	41.000	39.000	39.024	0.024	1.6	0.000	0.000	1.6	239.923	OK
FEH: 100 years: +40 %: 2160 mins: Winter	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	239.874	OK
FEH: 100 years: +40 %: 2880 mins: Summer	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	259.788	OK
FEH: 100 years: +40 %: 2880 mins: Winter	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	259.978	OK
FEH: 100 years: +40 %: 4320 mins: Summer	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	291.231	OK
FEH: 100 years: +40 %: 4320 mins: Winter	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	290.336	OK
FEH: 100 years: +40 %: 5760 mins: Summer	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	318.322	OK
FEH: 100 years: +40 %: 5760 mins: Winter	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	318.996	OK
FEH: 100 years: +40 %: 7200 mins: Summer	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	348.832	OK
FEH: 100 years: +40 %: 7200 mins: Winter	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	348.151	OK
FEH: 100 years: +40 %: 8640 mins: Summer	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	379.699	OK
FEH: 100 years: +40 %: 8640 mins: Winter	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	378.731	OK
FEH: 100 years: +40 %: 10080 mins: Summer	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	410.821	OK
FEH: 100 years: +40 %: 10080 mins: Winter	41.000	39.000	39.024	0.024	1.5	0.000	0.000	1.5	409.835	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for Cellular Storage: Rank By: Max. Avg. Depth

Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
FEH: 100 years: +40 %: 15 mins: Summer	39.704	39.704	0.354	0.354	53.0	39.271	0.000	0.000	1.4	0.912	64.874	OK
FEH: 100 years: +40 %: 15 mins: Winter	39.705	39.705	0.355	0.355	52.2	39.411	0.000	0.000	1.4	0.906	64.748	OK
FEH: 100 years: +40 %: 30 mins: Summer	39.848	39.848	0.498	0.498	53.9	55.391	0.000	0.000	1.3	1.856	50.455	OK
FEH: 100 years: +40 %: 30 mins: Winter	39.848	39.848	0.498	0.498	51.4	55.364	0.000	0.000	1.3	1.855	50.480	OK
FEH: 100 years: +40 %: 60 mins: Summer	40.012	40.012	0.662	0.662	51.3	73.536	0.000	0.000	1.3	4.380	34.226	OK
FEH: 100 years: +40 %: 60 mins: Winter	40.012	40.012	0.662	0.662	43.6	73.541	0.000	0.000	1.3	4.376	34.221	OK
FEH: 100 years: +40 %: 120 mins: Summer	40.132	40.132	0.782	0.782	40.0	86.931	0.000	0.000	1.4	9.507	22.244	OK
FEH: 100 years: +40 %: 120 mins: Winter	40.133	40.133	0.783	0.783	30.1	87.050	0.000	0.000	1.4	9.597	22.138	OK
FEH: 100 years: +40 %: 180 mins: Summer	40.201	40.201	0.851	0.851	32.7	94.564	0.000	0.000	1.5	14.736	15.417	OK
FEH: 100 years: +40 %: 180 mins: Winter	40.203	40.203	0.853	0.853	23.5	94.844	0.000	0.000	1.4	14.979	15.166	OK
FEH: 100 years: +40 %: 240 mins: Summer	40.246	40.246	0.896	0.896	27.9	99.605	0.000	0.000	1.5	19.998	10.908	OK
FEH: 100 years: +40 %: 240 mins: Winter	40.250	40.250	0.900	0.900	19.4	100.040	0.000	0.000	1.5	20.404	10.518	OK
FEH: 100 years: +40 %: 360 mins: Summer	40.299	40.299	0.949	0.949	21.8	105.527	0.000	0.000	1.5	30.891	5.611	OK
FEH: 100 years: +40 %: 360 mins: Winter	40.306	40.306	0.956	0.956	14.4	106.304	0.000	0.000	1.5	31.226	4.916	OK

FEH: 100 years: +40 %: 480 mins: Summer	40.322	40.322	0.972	0.972	18.3	108.061	0.000	0.000	1.5	42.386	3.344	OK
FEH: 100 years: +40 %: 480 mins: Winter	40.332	40.332	0.982	0.982	11.6	109.146	0.000	0.000	1.5	42.429	2.374	OK
FEH: 100 years: +40 %: 600 mins: Summer	40.329	40.329	0.979	0.979	15.7	108.761	0.000	0.000	1.5	53.873	2.719	OK
FEH: 100 years: +40 %: 600 mins: Winter	40.341	40.341	0.991	0.991	9.7	110.178	0.000	0.000	1.5	53.729	1.451	OK
FEH: 100 years: +40 %: 720 mins: Summer	40.331	40.331	0.981	0.981	13.6	109.016	0.000	0.000	1.5	65.284	2.490	OK
FEH: 100 years: +40 %: 720 mins: Winter	40.341	40.341	0.991	0.991	8.4	110.166	0.000	0.000	1.5	64.693	1.462	OK
FEH: 100 years: +40 %: 960 mins: Summer	40.330	40.330	0.980	0.980	10.9	108.930	0.000	0.000	1.5	92.437	2.567	OK
FEH: 100 years: +40 %: 960 mins: Winter	40.334	40.334	0.984	0.984	6.7	109.388	0.000	0.000	1.5	90.362	2.158	OK
FEH: 100 years: +40 %: 1440 mins: Summer	40.312	40.312	0.962	0.962	7.9	106.979	0.000	0.000	1.5	129.229	4.312	OK
FEH: 100 years: +40 %: 1440 mins: Winter	40.304	40.304	0.954	0.954	4.7	106.083	0.000	0.000	1.5	124.573	5.114	OK
FEH: 100 years: +40 %: 2160 mins: Summer	40.273	40.273	0.923	0.923	5.6	102.578	0.000	0.000	1.5	133.801	8.249	OK
FEH: 100 years: +40 %: 2160 mins: Winter	40.235	40.235	0.885	0.885	3.2	98.372	0.000	0.000	1.5	125.233	12.011	OK
FEH: 100 years: +40 %: 2880 mins: Summer	40.227	40.227	0.877	0.877	4.4	97.526	0.000	0.000	1.5	135.480	12.768	OK
FEH: 100 years: +40 %: 2880 mins: Winter	40.160	40.160	0.810	0.810	2.4	90.007	0.000	0.000	1.5	124.050	19.492	OK
FEH: 100 years: +40 %: 4320 mins: Summer	40.133	40.133	0.783	0.783	2.9	87.068	0.000	0.000	1.4	137.336	22.122	OK
FEH: 100 years: +40 %: 4320 mins: Winter	40.006	40.006	0.656	0.656	1.3	72.927	0.000	0.000	1.3	120.908	34.770	OK
FEH: 100 years: +40 %: 5760 mins: Summer	40.052	40.052	0.702	0.702	2.1	78.079	0.000	0.000	1.2	140.030	30.162	OK

FEH: 100 years: +40 %: 5760 mins: Winter	39.836	39.836	0.486	0.486	0.9	54.029	0.000	0.000	1.2	125.922	51.673	OK
FEH: 100 years: +40 %: 7200 mins: Summer	39.998	39.998	0.648	0.648	1.7	71.973	0.000	0.000	1.2	146.360	35.623	OK
FEH: 100 years: +40 %: 7200 mins: Winter	39.690	39.690	0.340	0.340	0.8	37.818	0.000	0.000	1.1	136.659	66.174	OK
FEH: 100 years: +40 %: 8640 mins: Summer	39.956	39.956	0.606	0.606	1.4	67.383	0.000	0.000	1.2	154.258	39.729	OK
FEH: 100 years: +40 %: 8640 mins: Winter	39.607	39.607	0.257	0.257	0.7	28.542	0.000	0.000	0.9	149.095	74.470	OK
FEH: 100 years: +40 %: 10080 mins: Summer	39.920	39.920	0.570	0.570	1.2	63.329	0.000	0.000	1.2	163.994	43.355	OK
FEH: 100 years: +40 %: 10080 mins: Winter	39.552	39.552	0.202	0.202	0.7	22.401	0.000	0.000	0.8	161.618	79.964	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1.000: Rank By: Max. Flow

Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
FEH: 100 years: +40 %: 15 mins: Summer	Pipe	S1/00	S1/01	41.000	40.477	0.150	2.004	0.2	0.29	4.3	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	Pipe	S1/00	S1/01	41.000	40.433	0.150	2.009	0.2	0.27	4.0	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	Pipe	S1/00	S1/01	41.000	40.625	0.150	2.840	0.2	0.24	3.5	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	Pipe	S1/00	S1/01	41.000	40.541	0.150	2.840	0.2	0.22	3.2	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	Pipe	S1/00	S1/01	41.000	40.612	0.150	3.873	0.2	0.21	3.1	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	Pipe	S1/00	S1/01	41.000	40.369	0.150	3.876	0.2	0.16	2.3	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	Pipe	S1/00	S1/01	41.000	40.331	0.150	4.796	0.2	0.14	2.1	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	Pipe	S1/00	S1/01	41.000	40.140	0.114	4.806	0.2	0.11	1.6	OK
FEH: 100 years: +40 %: 180 mins: Summer	Pipe	S1/00	S1/01	41.000	40.207	0.150	5.430	0.2	0.12	1.8	OK
FEH: 100 years: +40 %: 180 mins: Winter	Pipe	S1/00	S1/01	41.000	40.205	0.150	5.415	0.2	0.09	1.3	OK
FEH: 100 years: +40 %: 240 mins: Summer	Pipe	S1/00	S1/01	41.000	40.249	0.150	5.920	0.2	0.1	1.5	OK
FEH: 100 years: +40 %: 240 mins: Winter	Pipe	S1/00	S1/01	41.000	40.252	0.150	5.926	0.2	0.07	1.0	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	Pipe	S1/00	S1/01	41.000	40.301	0.150	6.683	0.2	0.08	1.2	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	Pipe	S1/00	S1/01	41.000	40.308	0.150	6.688	0.2	0.05	0.8	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	Pipe	S1/00	S1/01	41.000	40.323	0.150	7.289	0.2	0.07	1.0	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	Pipe	S1/00	S1/01	41.000	40.333	0.150	7.264	0.2	0.04	0.6	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	Pipe	S1/00	S1/01	41.000	40.330	0.150	7.769	0.2	0.06	0.9	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	Pipe	S1/00	S1/01	41.000	40.342	0.150	7.786	0.2	0.04	0.6	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	Pipe	S1/00	S1/01	41.000	40.332	0.150	8.189	0.2	0.05	0.7	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	Pipe	S1/00	S1/01	41.000	40.342	0.150	8.176	0.2	0.03	0.5	Surcharged
FEH: 100 years: +40 %: 960 mins: Summer	Pipe	S1/00	S1/01	41.000	40.331	0.150	8.908	0.2	0.04	0.6	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	Pipe	S1/00	S1/01	41.000	40.335	0.150	8.932	0.2	0.03	0.4	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	Pipe	S1/00	S1/01	41.000	40.314	0.150	10.006	0.2	0.03	0.5	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	Pipe	S1/00	S1/01	41.000	40.306	0.150	9.981	0.2	0.02	0.3	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	Pipe	S1/00	S1/01	41.000	40.274	0.150	11.223	0.2	0.02	0.3	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	Pipe	S1/00	S1/01	41.000	40.236	0.150	11.264	0.1	0.02	0.2	OK
FEH: 100 years: +40 %: 2880 mins: Summer	Pipe	S1/00	S1/01	41.000	40.228	0.150	12.170	0.2	0.02	0.3	OK
FEH: 100 years: +40 %: 2880 mins: Winter	Pipe	S1/00	S1/01	41.000	40.161	0.136	12.097	0.1	0.01	0.2	OK
FEH: 100 years: +40 %: 4320 mins: Summer	Pipe	S1/00	S1/01	41.000	40.134	0.109	13.681	0.1	0.01	0.2	OK

FEH: 100 years: +40 %: 4320 mins: Winter	Pipe	S1/00	S1/01	41.000	40.110	0.032	13.374	0.1	0.01	0.1	OK
FEH: 100 years: +40 %: 5760 mins: Summer	Pipe	S1/00	S1/01	41.000	40.111	0.055	14.988	0.1	0.01	0.2	OK
FEH: 100 years: +40 %: 5760 mins: Winter	Pipe	S1/00	S1/01	41.000	40.109	0.015	14.933	0.1	0.01	0.1	OK
FEH: 100 years: +40 %: 7200 mins: Summer	Pipe	S1/00	S1/01	41.000	40.111	0.027	15.978	0.1	0.01	0.2	OK
FEH: 100 years: +40 %: 7200 mins: Winter	Pipe	S1/00	S1/01	41.000	40.109	0.015	16.494	0.1	0.01	0.1	OK
FEH: 100 years: +40 %: 8640 mins: Summer	Pipe	S1/00	S1/01	41.000	40.110	0.017	17.219	0.1	0.01	0.1	OK
FEH: 100 years: +40 %: 8640 mins: Winter	Pipe	S1/00	S1/01	41.000	40.108	0.014	17.946	0.1	0.01	0.1	OK
FEH: 100 years: +40 %: 10080 mins: Summer	Pipe	S1/00	S1/01	41.000	40.110	0.016	18.647	0.1	0.01	0.1	OK
FEH: 100 years: +40 %: 10080 mins: Winter	Pipe	S1/00	S1/01	41.000	40.108	0.013	18.738	0.1	0.01	0.1	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1.001: Rank By: Max. Flow

Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
FEH: 100 years: +40 %: 15 mins: Summer	Pipe	S1/01	S1/02	41.000	40.479	0.150	13.112	1.2	1.24	20.7	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	Pipe	S1/01	S1/02	41.000	40.432	0.150	13.131	1.1	1.19	19.9	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	Pipe	S1/01	S1/02	41.000	40.621	0.150	18.672	1.1	1.15	19.1	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	Pipe	S1/01	S1/02	41.000	40.538	0.150	18.664	1.0	1.09	18.1	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	Pipe	S1/01	S1/02	41.000	40.608	0.150	25.391	1.0	1.09	18.2	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	Pipe	S1/01	S1/02	41.000	40.366	0.150	25.393	0.9	0.9	15.0	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	Pipe	S1/01	S1/02	41.000	40.328	0.150	31.260	0.9	0.83	13.8	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	Pipe	S1/01	S1/02	41.000	40.138	0.150	31.278	0.9	0.64	10.7	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	Pipe	S1/01	S1/02	41.000	40.205	0.150	35.347	0.9	0.67	11.2	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	Pipe	S1/01	S1/02	41.000	40.205	0.150	35.346	0.9	0.49	8.2	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	Pipe	S1/01	S1/02	41.000	40.249	0.150	38.596	0.9	0.59	9.8	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	Pipe	S1/01	S1/02	41.000	40.252	0.150	38.600	0.8	0.41	6.8	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	Pipe	S1/01	S1/02	41.000	40.301	0.150	43.752	0.8	0.46	7.7	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	Pipe	S1/01	S1/02	41.000	40.308	0.150	43.770	0.8	0.31	5.1	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	Pipe	S1/01	S1/02	41.000	40.323	0.150	47.815	0.8	0.39	6.4	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	Pipe	S1/01	S1/02	41.000	40.333	0.150	47.783	0.7	0.25	4.2	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	Pipe	S1/01	S1/02	41.000	40.330	0.150	51.109	0.8	0.33	5.6	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	Pipe	S1/01	S1/02	41.000	40.342	0.150	51.142	0.7	0.22	3.6	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	Pipe	S1/01	S1/02	41.000	40.332	0.150	53.854	0.7	0.29	4.9	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	Pipe	S1/01	S1/02	41.000	40.342	0.150	53.862	0.7	0.19	3.1	Surcharged
FEH: 100 years: +40 %: 960 mins: Summer	Pipe	S1/01	S1/02	41.000	40.331	0.150	58.620	0.7	0.24	4.0	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	Pipe	S1/01	S1/02	41.000	40.335	0.150	58.603	0.7	0.15	2.6	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	Pipe	S1/01	S1/02	41.000	40.314	0.150	65.821	0.7	0.18	3.0	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	Pipe	S1/01	S1/02	41.000	40.306	0.150	65.857	0.6	0.12	1.9	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	Pipe	S1/01	S1/02	41.000	40.274	0.150	73.739	0.7	0.13	2.2	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	Pipe	S1/01	S1/02	41.000	40.236	0.150	73.809	0.6	0.09	1.4	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	Pipe	S1/01	S1/02	41.000	40.228	0.150	79.997	0.6	0.11	1.8	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	Pipe	S1/01	S1/02	41.000	40.161	0.150	79.767	0.6	0.07	1.2	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	Pipe	S1/01	S1/02	41.000	40.134	0.150	89.581	0.6	0.08	1.4	Surcharged

FEH: 100 years: +40 %: 4320 mins: Winter	Pipe	S1/01	S1/02	41.000	40.007	0.150	89.216	0.5	0.05	0.9	OK
FEH: 100 years: +40 %: 5760 mins: Summer	Pipe	S1/01	S1/02	41.000	40.053	0.150	97.879	0.6	0.07	1.1	OK
FEH: 100 years: +40 %: 5760 mins: Winter	Pipe	S1/01	S1/02	41.000	39.972	0.051	98.346	0.5	0.04	0.7	OK
FEH: 100 years: +40 %: 7200 mins: Summer	Pipe	S1/01	S1/02	41.000	39.998	0.148	106.603	0.5	0.06	1.0	OK
FEH: 100 years: +40 %: 7200 mins: Winter	Pipe	S1/01	S1/02	41.000	39.970	0.020	106.799	0.5	0.04	0.6	OK
FEH: 100 years: +40 %: 8640 mins: Summer	Pipe	S1/01	S1/02	41.000	39.974	0.111	115.844	0.5	0.05	0.9	OK
FEH: 100 years: +40 %: 8640 mins: Winter	Pipe	S1/01	S1/02	41.000	39.969	0.019	116.237	0.4	0.03	0.6	OK
FEH: 100 years: +40 %: 10080 mins: Summer	Pipe	S1/01	S1/02	41.000	39.973	0.093	125.474	0.5	0.05	0.8	OK
FEH: 100 years: +40 %: 10080 mins: Winter	Pipe	S1/01	S1/02	41.000	39.969	0.018	125.681	0.4	0.03	0.5	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1.002: Rank By: Max. Flow

Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
FEH: 100 years: +40 %: 15 mins: Summer	Pipe	S1/02	S1/03	41.000	40.310	0.150	13.130	1.0	0.94	17.7	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	Pipe	S1/02	S1/03	41.000	40.278	0.150	13.148	1.0	0.92	17.2	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	Pipe	S1/02	S1/03	41.000	40.349	0.150	18.524	1.0	0.96	18.0	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	Pipe	S1/02	S1/03	41.000	40.290	0.150	18.519	1.0	0.92	17.1	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	Pipe	S1/02	S1/03	41.000	40.362	0.150	25.023	1.0	0.92	17.2	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	Pipe	S1/02	S1/03	41.000	40.227	0.150	25.020	0.9	0.77	14.4	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	Pipe	S1/02	S1/03	41.000	40.212	0.150	30.800	0.9	0.71	13.2	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	Pipe	S1/02	S1/03	41.000	40.134	0.150	30.813	0.9	0.54	10.1	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	Pipe	S1/02	S1/03	41.000	40.203	0.150	34.852	0.9	0.58	10.8	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	Pipe	S1/02	S1/03	41.000	40.204	0.150	34.849	0.9	0.43	8.0	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	Pipe	S1/02	S1/03	41.000	40.248	0.150	38.098	0.9	0.5	9.3	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	Pipe	S1/02	S1/03	41.000	40.251	0.150	38.100	0.8	0.35	6.6	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	Pipe	S1/02	S1/03	41.000	40.301	0.150	43.298	0.8	0.39	7.4	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	Pipe	S1/02	S1/03	41.000	40.307	0.150	43.311	0.8	0.27	5.0	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	Pipe	S1/02	S1/03	41.000	40.323	0.150	47.438	0.8	0.33	6.3	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	Pipe	S1/02	S1/03	41.000	40.333	0.150	47.400	0.7	0.22	4.1	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	Pipe	S1/02	S1/03	41.000	40.329	0.150	50.824	0.8	0.29	5.4	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	Pipe	S1/02	S1/03	41.000	40.342	0.150	50.854	0.7	0.19	3.5	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	Pipe	S1/02	S1/03	41.000	40.332	0.150	53.718	0.7	0.25	4.7	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	Pipe	S1/02	S1/03	41.000	40.342	0.150	53.720	0.7	0.16	3.1	Surcharged
FEH: 100 years: +40 %: 960 mins: Summer	Pipe	S1/02	S1/03	41.000	40.331	0.150	58.631	0.7	0.21	3.9	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	Pipe	S1/02	S1/03	41.000	40.335	0.150	58.614	0.7	0.13	2.5	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	Pipe	S1/02	S1/03	41.000	40.313	0.150	65.835	0.7	0.15	2.9	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	Pipe	S1/02	S1/03	41.000	40.305	0.150	65.871	0.6	0.1	1.9	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	Pipe	S1/02	S1/03	41.000	40.274	0.150	73.797	0.6	0.12	2.2	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	Pipe	S1/02	S1/03	41.000	40.236	0.150	73.849	0.6	0.08	1.4	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	Pipe	S1/02	S1/03	41.000	40.228	0.150	80.133	0.6	0.09	1.8	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	Pipe	S1/02	S1/03	41.000	40.161	0.150	79.951	0.5	0.06	1.2	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	Pipe	S1/02	S1/03	41.000	40.134	0.150	89.770	0.6	0.07	1.4	Surcharged

FEH: 100 years: +40 %: 4320 mins: Winter	Pipe	S1/02	S1/03	41.000	40.007	0.150	89.423	0.5	0.05	0.9	Surcharged
FEH: 100 years: +40 %: 5760 mins: Summer	Pipe	S1/02	S1/03	41.000	40.053	0.150	98.204	0.5	0.06	1.1	Surcharged
FEH: 100 years: +40 %: 5760 mins: Winter	Pipe	S1/02	S1/03	41.000	39.837	0.112	98.345	0.5	0.04	0.7	OK
FEH: 100 years: +40 %: 7200 mins: Summer	Pipe	S1/02	S1/03	41.000	39.998	0.150	106.739	0.5	0.05	1.0	Surcharged
FEH: 100 years: +40 %: 7200 mins: Winter	Pipe	S1/02	S1/03	41.000	39.770	0.020	106.798	0.5	0.03	0.6	OK
FEH: 100 years: +40 %: 8640 mins: Summer	Pipe	S1/02	S1/03	41.000	39.957	0.150	115.991	0.5	0.05	0.9	Surcharged
FEH: 100 years: +40 %: 8640 mins: Winter	Pipe	S1/02	S1/03	41.000	39.769	0.019	116.236	0.4	0.03	0.6	OK
FEH: 100 years: +40 %: 10080 mins: Summer	Pipe	S1/02	S1/03	41.000	39.920	0.150	125.471	0.5	0.04	0.8	Surcharged
FEH: 100 years: +40 %: 10080 mins: Winter	Pipe	S1/02	S1/03	41.000	39.768	0.018	125.681	0.4	0.03	0.5	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1.003: Rank By: Max. Flow

Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
FEH: 100 years: +40 %: 15 mins: Summer	Pipe	S1/03	S1/04	41.000	40.259	0.150	13.092	1.0	1.1	17.4	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	Pipe	S1/03	S1/04	41.000	40.228	0.150	13.109	1.0	1.07	16.9	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	Pipe	S1/03	S1/04	41.000	40.281	0.150	18.260	1.0	1.07	16.9	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	Pipe	S1/03	S1/04	41.000	40.228	0.150	18.255	0.9	1.02	16.2	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	Pipe	S1/03	S1/04	41.000	40.301	0.150	24.595	0.9	1.02	16.2	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	Pipe	S1/03	S1/04	41.000	40.192	0.150	24.594	0.8	0.87	13.8	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	Pipe	S1/03	S1/04	41.000	40.183	0.150	30.291	0.8	0.8	12.7	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	Pipe	S1/03	S1/04	41.000	40.134	0.150	30.305	0.7	0.6	9.6	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	Pipe	S1/03	S1/04	41.000	40.202	0.150	34.323	0.7	0.66	10.4	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	Pipe	S1/03	S1/04	41.000	40.204	0.150	34.323	0.7	0.49	7.7	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	Pipe	S1/03	S1/04	41.000	40.248	0.150	37.572	0.7	0.57	9.0	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	Pipe	S1/03	S1/04	41.000	40.251	0.150	37.577	0.7	0.4	6.4	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	Pipe	S1/03	S1/04	41.000	40.301	0.150	42.814	0.6	0.44	7.0	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	Pipe	S1/03	S1/04	41.000	40.307	0.150	42.829	0.6	0.31	4.8	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	Pipe	S1/03	S1/04	41.000	40.323	0.150	47.021	0.6	0.39	6.1	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	Pipe	S1/03	S1/04	41.000	40.333	0.150	46.986	0.6	0.25	4.0	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	Pipe	S1/03	S1/04	41.000	40.329	0.150	50.492	0.6	0.33	5.2	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	Pipe	S1/03	S1/04	41.000	40.342	0.150	50.520	0.6	0.21	3.4	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	Pipe	S1/03	S1/04	41.000	40.332	0.150	53.479	0.6	0.29	4.6	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	Pipe	S1/03	S1/04	41.000	40.342	0.150	53.479	0.5	0.19	3.0	Surcharged
FEH: 100 years: +40 %: 960 mins: Summer	Pipe	S1/03	S1/04	41.000	40.331	0.150	58.609	0.5	0.24	3.8	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	Pipe	S1/03	S1/04	41.000	40.335	0.150	58.594	0.5	0.15	2.4	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	Pipe	S1/03	S1/04	41.000	40.313	0.150	65.813	0.5	0.18	2.8	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	Pipe	S1/03	S1/04	41.000	40.305	0.150	65.851	0.5	0.11	1.8	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	Pipe	S1/03	S1/04	41.000	40.274	0.150	73.735	0.5	0.13	2.1	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	Pipe	S1/03	S1/04	41.000	40.236	0.150	73.806	0.5	0.09	1.4	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	Pipe	S1/03	S1/04	41.000	40.228	0.150	79.997	0.5	0.11	1.7	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	Pipe	S1/03	S1/04	41.000	40.160	0.150	79.771	0.4	0.07	1.1	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	Pipe	S1/03	S1/04	41.000	40.134	0.150	89.584	0.4	0.09	1.4	Surcharged

FEH: 100 years: +40 %: 4320 mins: Winter	Pipe	S1/03	S1/04	41.000	40.007	0.150	89.214	0.4	0.05	0.9	Surcharged
FEH: 100 years: +40 %: 5760 mins: Summer	Pipe	S1/03	S1/04	41.000	40.054	0.150	97.882	0.4	0.07	1.1	Surcharged
FEH: 100 years: +40 %: 5760 mins: Winter	Pipe	S1/03	S1/04	41.000	39.837	0.150	98.347	0.4	0.05	0.7	OK
FEH: 100 years: +40 %: 7200 mins: Summer	Pipe	S1/03	S1/04	41.000	39.998	0.150	106.598	0.4	0.06	1.0	Surcharged
FEH: 100 years: +40 %: 7200 mins: Winter	Pipe	S1/03	S1/04	41.000	39.720	0.104	106.800	0.4	0.04	0.6	OK
FEH: 100 years: +40 %: 8640 mins: Summer	Pipe	S1/03	S1/04	41.000	39.957	0.150	115.820	0.4	0.06	0.9	Surcharged
FEH: 100 years: +40 %: 8640 mins: Winter	Pipe	S1/03	S1/04	41.000	39.720	0.062	116.237	0.4	0.04	0.6	OK
FEH: 100 years: +40 %: 10080 mins: Summer	Pipe	S1/03	S1/04	41.000	39.920	0.150	125.472	0.4	0.05	0.8	Surcharged
FEH: 100 years: +40 %: 10080 mins: Winter	Pipe	S1/03	S1/04	41.000	39.719	0.035	125.681	0.4	0.03	0.5	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1.004: Rank By: Max. Flow

Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
FEH: 100 years: +40 %: 15 mins: Summer	Pipe	S1/04	S1/05	41.000	40.011	0.150	15.446	1.1	1.33	19.9	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	Pipe	S1/04	S1/05	41.000	39.994	0.150	15.466	1.1	1.3	19.4	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	Pipe	S1/04	S1/05	41.000	40.043	0.150	21.640	1.2	1.38	20.6	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	Pipe	S1/04	S1/05	41.000	40.018	0.150	21.628	1.1	1.32	19.7	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	Pipe	S1/04	S1/05	41.000	40.121	0.150	29.261	1.1	1.32	19.7	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	Pipe	S1/04	S1/05	41.000	40.052	0.150	29.243	0.9	1.12	16.7	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	Pipe	S1/04	S1/05	41.000	40.132	0.150	36.167	0.9	1.03	15.4	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	Pipe	S1/04	S1/05	41.000	40.134	0.150	36.188	0.7	0.78	11.6	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	Pipe	S1/04	S1/05	41.000	40.201	0.150	41.050	0.7	0.84	12.6	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	Pipe	S1/04	S1/05	41.000	40.203	0.150	41.038	0.6	0.62	9.2	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	Pipe	S1/04	S1/05	41.000	40.247	0.150	44.990	0.6	0.72	10.8	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	Pipe	S1/04	S1/05	41.000	40.251	0.150	44.999	0.5	0.51	7.6	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	Pipe	S1/04	S1/05	41.000	40.300	0.150	51.351	0.5	0.57	8.5	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	Pipe	S1/04	S1/05	41.000	40.307	0.150	51.351	0.5	0.39	5.8	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	Pipe	S1/04	S1/05	41.000	40.323	0.150	56.450	0.4	0.49	7.3	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	Pipe	S1/04	S1/05	41.000	40.332	0.150	56.406	0.4	0.32	4.7	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	Pipe	S1/04	S1/05	41.000	40.329	0.150	60.685	0.4	0.42	6.3	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	Pipe	S1/04	S1/05	41.000	40.342	0.150	60.674	0.4	0.27	4.0	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	Pipe	S1/04	S1/05	41.000	40.331	0.150	64.364	0.4	0.37	5.5	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	Pipe	S1/04	S1/05	41.000	40.342	0.150	64.348	0.4	0.24	3.6	Surcharged
FEH: 100 years: +40 %: 960 mins: Summer	Pipe	S1/04	S1/05	41.000	40.331	0.150	70.767	0.4	0.3	4.5	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	Pipe	S1/04	S1/05	41.000	40.335	0.150	70.785	0.4	0.2	2.9	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	Pipe	S1/04	S1/05	41.000	40.313	0.150	79.799	0.4	0.23	3.4	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	Pipe	S1/04	S1/05	41.000	40.305	0.150	79.849	0.4	0.15	2.2	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	Pipe	S1/04	S1/05	41.000	40.273	0.150	89.620	0.4	0.17	2.5	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	Pipe	S1/04	S1/05	41.000	40.235	0.150	89.422	0.4	0.11	1.6	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	Pipe	S1/04	S1/05	41.000	40.228	0.150	96.865	0.4	0.14	2.1	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	Pipe	S1/04	S1/05	41.000	40.160	0.150	96.995	0.4	0.09	1.4	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	Pipe	S1/04	S1/05	41.000	40.134	0.150	108.642	0.4	0.11	1.6	Surcharged

FEH: 100 years: +40 %: 4320 mins: Winter	Pipe	S1/04	S1/05	41.000	40.007	0.150	108.108	0.4	0.07	1.0	Surcharged
FEH: 100 years: +40 %: 5760 mins: Summer	Pipe	S1/04	S1/05	41.000	40.053	0.150	118.667	0.4	0.09	1.3	Surcharged
FEH: 100 years: +40 %: 5760 mins: Winter	Pipe	S1/04	S1/05	41.000	39.836	0.150	119.297	0.4	0.06	0.9	Surcharged
FEH: 100 years: +40 %: 7200 mins: Summer	Pipe	S1/04	S1/05	41.000	39.998	0.150	129.594	0.4	0.08	1.2	Surcharged
FEH: 100 years: +40 %: 7200 mins: Winter	Pipe	S1/04	S1/05	41.000	39.691	0.150	129.347	0.4	0.05	0.7	Surcharged
FEH: 100 years: +40 %: 8640 mins: Summer	Pipe	S1/04	S1/05	41.000	39.957	0.150	141.144	0.4	0.07	1.1	Surcharged
FEH: 100 years: +40 %: 8640 mins: Winter	Pipe	S1/04	S1/05	41.000	39.607	0.150	140.807	0.4	0.05	0.7	OK
FEH: 100 years: +40 %: 10080 mins: Summer	Pipe	S1/04	S1/05	41.000	39.920	0.150	153.281	0.4	0.07	1.0	Surcharged
FEH: 100 years: +40 %: 10080 mins: Winter	Pipe	S1/04	S1/05	41.000	39.552	0.102	152.638	0.3	0.04	0.6	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1.005: Rank By: Max. Flow

Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
FEH: 100 years: +40 %: 15 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	39.814	0.150	15.868	1.4	1.94	20.7	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	39.806	0.150	15.886	1.4	1.9	20.1	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	39.893	0.150	22.275	1.2	2.01	21.3	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	39.883	0.150	22.263	1.2	1.92	20.4	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	40.011	0.150	30.187	1.2	1.92	20.4	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	40.011	0.150	30.166	1.0	1.63	17.3	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	40.132	0.150	37.426	0.9	1.5	15.9	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	40.134	0.150	37.446	0.9	1.13	12.0	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	40.200	0.150	42.553	0.8	1.23	13.0	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	40.203	0.150	42.541	0.8	0.9	9.6	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	40.246	0.150	46.703	0.8	1.05	11.1	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	40.250	0.150	46.709	0.8	0.74	7.9	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	40.300	0.150	53.458	0.8	0.83	8.8	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	40.307	0.150	53.454	0.7	0.56	6.0	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	40.322	0.150	58.892	0.7	0.71	7.5	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	40.332	0.150	58.838	0.6	0.46	4.9	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	40.329	0.150	63.410	0.7	0.61	6.5	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	40.342	0.150	63.377	0.6	0.39	4.2	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	40.331	0.150	67.391	0.7	0.54	5.7	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	40.341	0.150	67.371	0.6	0.35	3.7	Surcharged
FEH: 100 years: +40 %: 960 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	40.330	0.150	74.314	0.6	0.44	4.7	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	40.334	0.150	74.328	0.5	0.28	3.0	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	40.313	0.150	84.272	0.6	0.33	3.5	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	40.305	0.150	84.274	0.5	0.21	2.3	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	40.273	0.150	94.525	0.5	0.25	2.6	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	40.235	0.150	94.472	0.4	0.16	1.7	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	40.228	0.150	102.126	0.5	0.2	2.1	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	40.160	0.150	102.250	0.4	0.13	1.4	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	40.134	0.150	114.712	0.4	0.16	1.7	Surcharged

FEH: 100 years: +40 %: 4320 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	40.006	0.150	114.116	0.3	0.1	1.1	Surcharged
FEH: 100 years: +40 %: 5760 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	40.053	0.150	125.568	0.4	0.13	1.4	Surcharged
FEH: 100 years: +40 %: 5760 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	39.836	0.150	126.065	0.3	0.08	0.9	Surcharged
FEH: 100 years: +40 %: 7200 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	39.998	0.150	137.535	0.4	0.11	1.2	Surcharged
FEH: 100 years: +40 %: 7200 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	39.690	0.150	136.781	0.3	0.07	0.8	Surcharged
FEH: 100 years: +40 %: 8640 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	39.956	0.150	149.654	0.4	0.1	1.1	Surcharged
FEH: 100 years: +40 %: 8640 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	39.607	0.150	149.201	0.3	0.07	0.7	Surcharged
FEH: 100 years: +40 %: 10080 mins: Summer	Pipe	S1/05	Cellular Storage	41.000	39.920	0.150	162.460	0.4	0.1	1.0	Surcharged
FEH: 100 years: +40 %: 10080 mins: Winter	Pipe	S1/05	Cellular Storage	41.000	39.552	0.150	161.710	0.3	0.06	0.7	Surcharged

CC2696: Cefn Lodge Rev P01	Date: 19/06/2026		
	Designed by: GJ	Checked by: LM	Approved By: LM
Report Details: Type: Connections Summary Storm Phase: Phase	Cambria Consulting:		

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S2.000: Rank By: Max. Flow

Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
FEH: 100 years: +40 %: 15 mins: Summer	Pipe	S2/00	S2/01	41.000	40.860	0.150	4.210	0.7	0.51	7.7	Flood Risk
FEH: 100 years: +40 %: 15 mins: Winter	Pipe	S2/00	S2/01	41.000	40.792	0.150	4.264	0.7	0.4	6.1	Flood Risk
FEH: 100 years: +40 %: 30 mins: Summer	Pipe	S2/00	S2/01	41.000	40.941	0.150	6.022	0.6	0.36	5.4	Flood Risk
FEH: 100 years: +40 %: 30 mins: Winter	Pipe	S2/00	S2/01	41.000	40.832	0.150	6.012	0.7	0.34	5.1	Flood Risk
FEH: 100 years: +40 %: 60 mins: Summer	Pipe	S2/00	S2/01	41.000	40.898	0.150	8.193	0.7	0.35	5.2	Flood Risk
FEH: 100 years: +40 %: 60 mins: Winter	Pipe	S2/00	S2/01	41.000	40.586	0.150	8.191	0.8	0.3	4.5	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	Pipe	S2/00	S2/01	41.000	40.518	0.150	10.131	0.7	0.27	4.1	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	Pipe	S2/00	S2/01	41.000	40.244	0.150	10.128	0.7	0.23	3.5	OK
FEH: 100 years: +40 %: 180 mins: Summer	Pipe	S2/00	S2/01	41.000	40.327	0.150	11.478	0.7	0.22	3.4	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	Pipe	S2/00	S2/01	41.000	40.204	0.150	11.461	0.7	0.18	2.7	OK
FEH: 100 years: +40 %: 240 mins: Summer	Pipe	S2/00	S2/01	41.000	40.248	0.150	12.526	0.7	0.21	3.2	OK
FEH: 100 years: +40 %: 240 mins: Winter	Pipe	S2/00	S2/01	41.000	40.251	0.150	12.499	0.7	0.14	2.2	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	Pipe	S2/00	S2/01	41.000	40.301	0.150	14.139	0.7	0.17	2.5	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	Pipe	S2/00	S2/01	41.000	40.307	0.150	14.136	0.6	0.11	1.6	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	Pipe	S2/00	S2/01	41.000	40.323	0.150	15.380	0.7	0.14	2.1	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	Pipe	S2/00	S2/01	41.000	40.333	0.150	15.390	0.6	0.09	1.3	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	Pipe	S2/00	S2/01	41.000	40.329	0.150	16.405	0.6	0.12	1.8	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	Pipe	S2/00	S2/01	41.000	40.342	0.150	16.392	0.5	0.08	1.1	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	Pipe	S2/00	S2/01	41.000	40.331	0.150	17.293	0.6	0.1	1.6	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	Pipe	S2/00	S2/01	41.000	40.342	0.150	17.291	0.5	0.07	1.0	Surcharged
FEH: 100 years: +40 %: 960 mins: Summer	Pipe	S2/00	S2/01	41.000	40.331	0.150	18.804	0.6	0.08	1.3	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	Pipe	S2/00	S2/01	41.000	40.335	0.150	18.857	0.5	0.05	0.8	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	Pipe	S2/00	S2/01	41.000	40.313	0.150	21.156	0.5	0.06	1.0	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	Pipe	S2/00	S2/01	41.000	40.305	0.150	21.179	0.5	0.04	0.6	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	Pipe	S2/00	S2/01	41.000	40.273	0.150	23.658	0.5	0.05	0.7	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	Pipe	S2/00	S2/01	41.000	40.236	0.150	23.694	0.4	0.03	0.5	OK
FEH: 100 years: +40 %: 2880 mins: Summer	Pipe	S2/00	S2/01	41.000	40.228	0.150	25.698	0.4	0.04	0.6	OK
FEH: 100 years: +40 %: 2880 mins: Winter	Pipe	S2/00	S2/01	41.000	40.160	0.110	25.697	0.4	0.03	0.4	OK
FEH: 100 years: +40 %: 4320 mins: Summer	Pipe	S2/00	S2/01	41.000	40.134	0.084	28.757	0.4	0.03	0.4	OK

FEH: 100 years: +40 %: 4320 mins: Winter	Pipe	S2/00	S2/01	41.000	40.115	0.014	28.715	0.4	0.02	0.3	OK
FEH: 100 years: +40 %: 5760 mins: Summer	Pipe	S2/00	S2/01	41.000	40.117	0.031	31.361	0.4	0.02	0.4	OK
FEH: 100 years: +40 %: 5760 mins: Winter	Pipe	S2/00	S2/01	41.000	40.113	0.012	31.247	0.3	0.02	0.2	OK
FEH: 100 years: +40 %: 7200 mins: Summer	Pipe	S2/00	S2/01	41.000	40.115	0.014	34.559	0.4	0.02	0.3	OK
FEH: 100 years: +40 %: 7200 mins: Winter	Pipe	S2/00	S2/01	41.000	40.113	0.012	34.631	0.3	0.01	0.2	OK
FEH: 100 years: +40 %: 8640 mins: Summer	Pipe	S2/00	S2/01	41.000	40.115	0.014	37.625	0.4	0.02	0.3	OK
FEH: 100 years: +40 %: 8640 mins: Winter	Pipe	S2/00	S2/01	41.000	40.112	0.011	37.115	0.3	0.01	0.2	OK
FEH: 100 years: +40 %: 10080 mins: Summer	Pipe	S2/00	S2/01	41.000	40.114	0.013	40.157	0.3	0.02	0.3	OK
FEH: 100 years: +40 %: 10080 mins: Winter	Pipe	S2/00	S2/01	41.000	40.112	0.011	40.391	0.3	0.01	0.2	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S2.001: Rank By: Max. Flow

Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
FEH: 100 years: +40 %: 15 mins: Summer	Pipe	S2/01	S2/03	41.000	40.847	0.150	4.247	0.7	0.67	13.1	Flood Risk
FEH: 100 years: +40 %: 15 mins: Winter	Pipe	S2/01	S2/03	41.000	40.773	0.150	4.293	0.5	0.49	9.5	Flood Risk
FEH: 100 years: +40 %: 30 mins: Summer	Pipe	S2/01	S2/03	41.000	40.927	0.150	6.028	0.5	0.45	8.8	Flood Risk
FEH: 100 years: +40 %: 30 mins: Winter	Pipe	S2/01	S2/03	41.000	40.819	0.150	6.014	0.4	0.4	7.9	Flood Risk
FEH: 100 years: +40 %: 60 mins: Summer	Pipe	S2/01	S2/03	41.000	40.884	0.150	8.200	0.4	0.38	7.5	Flood Risk
FEH: 100 years: +40 %: 60 mins: Winter	Pipe	S2/01	S2/03	41.000	40.576	0.150	8.192	0.3	0.27	5.3	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	Pipe	S2/01	S2/03	41.000	40.509	0.150	10.045	0.3	0.25	4.8	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	Pipe	S2/01	S2/03	41.000	40.239	0.150	10.037	0.3	0.16	3.1	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	Pipe	S2/01	S2/03	41.000	40.321	0.150	11.345	0.3	0.18	3.6	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	Pipe	S2/01	S2/03	41.000	40.204	0.150	11.322	0.3	0.14	2.6	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	Pipe	S2/01	S2/03	41.000	40.248	0.150	12.388	0.3	0.15	2.9	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	Pipe	S2/01	S2/03	41.000	40.251	0.150	12.360	0.3	0.11	2.2	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	Pipe	S2/01	S2/03	41.000	40.301	0.150	14.067	0.3	0.11	2.2	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	Pipe	S2/01	S2/03	41.000	40.307	0.150	14.062	0.3	0.08	1.7	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	Pipe	S2/01	S2/03	41.000	40.323	0.150	15.377	0.3	0.11	2.1	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	Pipe	S2/01	S2/03	41.000	40.333	0.150	15.389	0.3	0.07	1.4	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	Pipe	S2/01	S2/03	41.000	40.329	0.150	16.405	0.3	0.09	1.8	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	Pipe	S2/01	S2/03	41.000	40.342	0.150	16.391	0.3	0.06	1.2	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	Pipe	S2/01	S2/03	41.000	40.331	0.150	17.293	0.3	0.08	1.6	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	Pipe	S2/01	S2/03	41.000	40.342	0.150	17.293	0.3	0.05	1.0	Surcharged
FEH: 100 years: +40 %: 960 mins: Summer	Pipe	S2/01	S2/03	41.000	40.331	0.150	18.805	0.3	0.07	1.3	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	Pipe	S2/01	S2/03	41.000	40.335	0.150	18.858	0.3	0.04	0.8	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	Pipe	S2/01	S2/03	41.000	40.313	0.150	21.160	0.3	0.05	1.0	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	Pipe	S2/01	S2/03	41.000	40.305	0.150	21.181	0.2	0.03	0.6	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	Pipe	S2/01	S2/03	41.000	40.273	0.150	23.661	0.3	0.04	0.7	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	Pipe	S2/01	S2/03	41.000	40.236	0.150	23.698	0.2	0.02	0.5	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	Pipe	S2/01	S2/03	41.000	40.228	0.150	25.700	0.2	0.03	0.6	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	Pipe	S2/01	S2/03	41.000	40.160	0.150	25.698	0.2	0.02	0.4	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	Pipe	S2/01	S2/03	41.000	40.134	0.150	28.756	0.2	0.02	0.4	OK

FEH: 100 years: +40 %: 4320 mins: Winter	Pipe	S2/01	S2/03	41.000	40.012	0.082	28.716	0.2	0.01	0.3	OK
FEH: 100 years: +40 %: 5760 mins: Summer	Pipe	S2/01	S2/03	41.000	40.053	0.128	31.362	0.2	0.02	0.4	OK
FEH: 100 years: +40 %: 5760 mins: Winter	Pipe	S2/01	S2/03	41.000	40.011	0.020	31.247	0.2	0.01	0.2	OK
FEH: 100 years: +40 %: 7200 mins: Summer	Pipe	S2/01	S2/03	41.000	40.013	0.078	34.560	0.2	0.02	0.3	OK
FEH: 100 years: +40 %: 7200 mins: Winter	Pipe	S2/01	S2/03	41.000	40.011	0.019	34.631	0.2	0.01	0.2	OK
FEH: 100 years: +40 %: 8640 mins: Summer	Pipe	S2/01	S2/03	41.000	40.012	0.057	37.625	0.2	0.01	0.3	OK
FEH: 100 years: +40 %: 8640 mins: Winter	Pipe	S2/01	S2/03	41.000	40.010	0.018	37.115	0.2	0.01	0.2	OK
FEH: 100 years: +40 %: 10080 mins: Summer	Pipe	S2/01	S2/03	41.000	40.012	0.039	40.157	0.2	0.01	0.3	OK
FEH: 100 years: +40 %: 10080 mins: Winter	Pipe	S2/01	S2/03	41.000	40.010	0.017	40.391	0.1	0.01	0.2	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S2.002: Rank By: Max. Flow

Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
FEH: 100 years: +40 %: 15 mins: Summer	Pipe	S2/03	S2/04	41.000	40.782	0.150	25.904	2.0	1.81	36.2	Flood Risk
FEH: 100 years: +40 %: 15 mins: Winter	Pipe	S2/03	S2/04	41.000	40.733	0.150	26.075	2.0	1.76	35.2	Flood Risk
FEH: 100 years: +40 %: 30 mins: Summer	Pipe	S2/03	S2/04	41.000	40.920	0.150	36.955	2.1	1.82	36.4	Flood Risk
FEH: 100 years: +40 %: 30 mins: Winter	Pipe	S2/03	S2/04	41.000	40.812	0.150	36.933	2.0	1.73	34.6	Flood Risk
FEH: 100 years: +40 %: 60 mins: Summer	Pipe	S2/03	S2/04	41.000	40.878	0.150	50.151	2.0	1.73	34.6	Flood Risk
FEH: 100 years: +40 %: 60 mins: Winter	Pipe	S2/03	S2/04	41.000	40.570	0.150	50.120	1.6	1.45	29.1	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	Pipe	S2/03	S2/04	41.000	40.503	0.150	61.971	1.5	1.34	26.7	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	Pipe	S2/03	S2/04	41.000	40.234	0.150	61.929	1.5	1	20.0	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	Pipe	S2/03	S2/04	41.000	40.315	0.150	70.077	1.5	1.09	21.8	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	Pipe	S2/03	S2/04	41.000	40.204	0.150	70.042	1.5	0.79	15.9	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	Pipe	S2/03	S2/04	41.000	40.248	0.150	76.494	1.5	0.93	18.7	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	Pipe	S2/03	S2/04	41.000	40.251	0.150	76.455	1.4	0.66	13.2	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	Pipe	S2/03	S2/04	41.000	40.301	0.150	86.575	1.4	0.74	14.8	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	Pipe	S2/03	S2/04	41.000	40.307	0.150	86.569	1.3	0.5	10.1	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	Pipe	S2/03	S2/04	41.000	40.323	0.150	94.401	1.3	0.62	12.4	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	Pipe	S2/03	S2/04	41.000	40.333	0.150	94.379	1.3	0.41	8.2	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	Pipe	S2/03	S2/04	41.000	40.329	0.150	100.852	1.3	0.54	10.8	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	Pipe	S2/03	S2/04	41.000	40.342	0.150	100.847	1.2	0.35	7.0	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	Pipe	S2/03	S2/04	41.000	40.331	0.150	106.392	1.3	0.47	9.5	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	Pipe	S2/03	S2/04	41.000	40.342	0.150	106.395	1.2	0.31	6.2	Surcharged
FEH: 100 years: +40 %: 960 mins: Summer	Pipe	S2/03	S2/04	41.000	40.331	0.150	115.781	1.2	0.39	7.8	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	Pipe	S2/03	S2/04	41.000	40.335	0.150	115.830	1.1	0.25	5.1	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	Pipe	S2/03	S2/04	41.000	40.313	0.150	130.043	1.1	0.29	5.9	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	Pipe	S2/03	S2/04	41.000	40.305	0.150	130.062	1.0	0.19	3.8	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	Pipe	S2/03	S2/04	41.000	40.273	0.150	145.665	1.1	0.22	4.4	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	Pipe	S2/03	S2/04	41.000	40.236	0.150	145.671	1.0	0.15	2.9	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	Pipe	S2/03	S2/04	41.000	40.228	0.150	157.895	1.0	0.18	3.6	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	Pipe	S2/03	S2/04	41.000	40.160	0.150	157.965	0.9	0.12	2.3	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	Pipe	S2/03	S2/04	41.000	40.134	0.150	176.707	1.0	0.13	2.7	Surcharged

FEH: 100 years: +40 %: 4320 mins: Winter	Pipe	S2/03	S2/04	41.000	40.006	0.150	176.401	0.8	0.09	1.7	Surcharged
FEH: 100 years: +40 %: 5760 mins: Summer	Pipe	S2/03	S2/04	41.000	40.053	0.150	192.907	0.9	0.11	2.2	Surcharged
FEH: 100 years: +40 %: 5760 mins: Winter	Pipe	S2/03	S2/04	41.000	39.879	0.053	193.073	0.8	0.07	1.4	OK
FEH: 100 years: +40 %: 7200 mins: Summer	Pipe	S2/03	S2/04	41.000	39.998	0.150	211.423	0.9	0.1	1.9	OK
FEH: 100 years: +40 %: 7200 mins: Winter	Pipe	S2/03	S2/04	41.000	39.877	0.022	211.492	0.8	0.06	1.2	OK
FEH: 100 years: +40 %: 8640 mins: Summer	Pipe	S2/03	S2/04	41.000	39.957	0.150	230.154	0.8	0.09	1.7	OK
FEH: 100 years: +40 %: 8640 mins: Winter	Pipe	S2/03	S2/04	41.000	39.876	0.021	229.636	0.7	0.06	1.1	OK
FEH: 100 years: +40 %: 10080 mins: Summer	Pipe	S2/03	S2/04	41.000	39.920	0.120	248.453	0.8	0.08	1.6	OK
FEH: 100 years: +40 %: 10080 mins: Winter	Pipe	S2/03	S2/04	41.000	39.875	0.020	248.218	0.7	0.05	1.0	OK

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S2.003: Rank By: Max. Flow

Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
FEH: 100 years: +40 %: 15 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.490	0.150	25.909	1.9	0.81	33.2	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	40.465	0.150	26.080	1.8	0.79	32.5	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.536	0.150	36.870	2.0	0.85	35.1	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	40.460	0.150	36.847	1.9	0.81	33.4	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.529	0.150	49.889	1.9	0.81	33.4	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	40.339	0.150	49.857	1.6	0.69	28.3	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.304	0.150	61.619	1.5	0.64	26.1	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	40.133	0.150	61.573	1.1	0.48	19.7	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.201	0.150	69.700	1.2	0.52	21.4	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	40.203	0.150	69.659	0.9	0.38	15.5	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.247	0.150	76.114	1.0	0.45	18.4	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	40.250	0.150	76.073	0.7	0.32	13.0	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.300	0.150	86.235	0.8	0.35	14.6	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	40.307	0.150	86.226	0.7	0.24	9.9	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.322	0.150	94.133	0.7	0.3	12.2	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	40.332	0.150	94.109	0.5	0.2	8.1	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.329	0.150	100.670	0.6	0.26	10.7	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	40.341	0.150	100.661	0.4	0.17	6.9	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.331	0.150	106.302	0.5	0.23	9.3	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	40.341	0.150	106.306	0.3	0.15	6.1	Surcharged
FEH: 100 years: +40 %: 960 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.330	0.150	115.784	0.5	0.19	7.7	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	40.334	0.150	115.833	0.3	0.12	5.0	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.313	0.150	130.055	0.5	0.14	5.8	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	40.305	0.150	130.065	0.4	0.09	3.8	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.273	0.150	145.674	0.6	0.11	4.4	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	40.235	0.150	145.677	0.2	0.07	2.8	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.228	0.150	157.896	0.6	0.09	3.6	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	40.160	0.150	157.967	0.2	0.06	2.3	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.133	0.150	176.705	0.7	0.07	2.7	Surcharged

FEH: 100 years: +40 %: 4320 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	40.006	0.150	176.401	0.2	0.04	1.7	Surcharged
FEH: 100 years: +40 %: 5760 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	40.053	0.150	192.907	0.6	0.05	2.2	Surcharged
FEH: 100 years: +40 %: 5760 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	39.836	0.150	193.073	0.2	0.03	1.4	OK
FEH: 100 years: +40 %: 7200 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	39.998	0.150	211.423	0.6	0.05	1.9	Surcharged
FEH: 100 years: +40 %: 7200 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	39.767	0.150	211.492	0.2	0.03	1.2	OK
FEH: 100 years: +40 %: 8640 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	39.956	0.150	230.154	0.2	0.04	1.7	Surcharged
FEH: 100 years: +40 %: 8640 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	39.766	0.150	229.636	0.2	0.03	1.1	OK
FEH: 100 years: +40 %: 10080 mins: Summer	Pipe	S2/04	S1/06 - HB	41.000	39.920	0.150	248.454	0.2	0.04	1.6	Surcharged
FEH: 100 years: +40 %: 10080 mins: Winter	Pipe	S2/04	S1/06 - HB	41.000	39.765	0.133	248.218	0.2	0.03	1.0	OK

CC2696: Cefn Lodge Rev P01	Date: 19/06/2026		
	Designed by: GJ	Checked by: LM	Approved By: LM
Report Details: Type: Connections Summary Storm Phase: Phase	Cambria Consulting:		

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S3.000: Rank By: Max. Flow

Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
FEH: 100 years: +40 %: 15 mins: Summer	Pipe	S3/00	S2/03	41.000	40.785	0.150	0.000	0.2	0.07	3.1	Flood Risk
FEH: 100 years: +40 %: 15 mins: Winter	Pipe	S3/00	S2/03	41.000	40.735	0.150	0.023	0.2	0.08	3.6	Flood Risk
FEH: 100 years: +40 %: 30 mins: Summer	Pipe	S3/00	S2/03	41.000	40.920	0.150	0.015	0.2	0.08	3.4	Flood Risk
FEH: 100 years: +40 %: 30 mins: Winter	Pipe	S3/00	S2/03	41.000	40.812	0.150	0.013	0.2	0.06	2.7	Flood Risk
FEH: 100 years: +40 %: 60 mins: Summer	Pipe	S3/00	S2/03	41.000	40.877	0.150	0.014	0.1	0.05	2.3	Flood Risk
FEH: 100 years: +40 %: 60 mins: Winter	Pipe	S3/00	S2/03	41.000	40.569	0.150	0.011	0.1	0.03	1.3	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	Pipe	S3/00	S2/03	41.000	40.503	0.150	0.015	0.0	0.02	0.8	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	Pipe	S3/00	S2/03	41.000	40.234	0.150	0.007	0.0	0	0.2	OK
FEH: 100 years: +40 %: 180 mins: Summer	Pipe	S3/00	S2/03	41.000	40.315	0.150	0.026	0.0	0.01	0.4	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	Pipe	S3/00	S2/03	41.000	40.204	0.150	0.013	0.0	0	0.0	OK
FEH: 100 years: +40 %: 240 mins: Summer	Pipe	S3/00	S2/03	41.000	40.248	0.150	0.023	0.0	0	0.1	OK
FEH: 100 years: +40 %: 240 mins: Winter	Pipe	S3/00	S2/03	41.000	40.251	0.150	0.027	0.0	0	0.0	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	Pipe	S3/00	S2/03	41.000	40.301	0.150	0.028	0.0	0	0.0	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	Pipe	S3/00	S2/03	41.000	40.307	0.150	0.034	0.0	0	0.0	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	Pipe	S3/00	S2/03	41.000	40.323	0.150	0.028	0.0	0	0.0	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	Pipe	S3/00	S2/03	41.000	40.332	0.150	0.036	0.0	0	0.0	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	Pipe	S3/00	S2/03	41.000	40.329	0.150	0.026	0.0	0	0.0	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	Pipe	S3/00	S2/03	41.000	40.342	0.150	0.029	0.0	0	0.0	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	Pipe	S3/00	S2/03	41.000	40.331	0.150	0.030	0.0	0	0.0	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	Pipe	S3/00	S2/03	41.000	40.342	0.150	0.033	0.0	0	0.0	Surcharged
FEH: 100 years: +40 %: 960 mins: Summer	Pipe	S3/00	S2/03	41.000	40.331	0.150	0.040	0.0	0	0.0	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	Pipe	S3/00	S2/03	41.000	40.335	0.150	0.028	0.0	0	0.0	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	Pipe	S3/00	S2/03	41.000	40.313	0.150	0.056	0.0	0	0.0	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	Pipe	S3/00	S2/03	41.000	40.305	0.150	0.040	0.0	0	0.0	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	Pipe	S3/00	S2/03	41.000	40.273	0.150	0.051	0.0	0	0.0	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	Pipe	S3/00	S2/03	41.000	40.235	0.150	0.051	0.0	0	0.0	OK
FEH: 100 years: +40 %: 2880 mins: Summer	Pipe	S3/00	S2/03	41.000	40.228	0.150	0.036	0.0	0	0.0	OK
FEH: 100 years: +40 %: 2880 mins: Winter	Pipe	S3/00	S2/03	41.000	40.160	0.150	0.016	0.0	0	0.0	OK
FEH: 100 years: +40 %: 4320 mins: Summer	Pipe	S3/00	S2/03	41.000	40.134	0.150	0.000	0.0	0	0.0	OK

FEH: 100 years: +40 %: 4320 mins: Winter	Pipe	S3/00	S2/03	41.000	40.100	0.078	0.000	0.0	0	0.0	OK
FEH: 100 years: +40 %: 5760 mins: Summer	Pipe	S3/00	S2/03	41.000	40.100	0.101	0.000	0.0	0	0.0	OK
FEH: 100 years: +40 %: 5760 mins: Winter	Pipe	S3/00	S2/03	41.000	40.100	0.014	0.000	0.0	0	0.0	OK
FEH: 100 years: +40 %: 7200 mins: Summer	Pipe	S3/00	S2/03	41.000	40.100	0.074	0.000	0.0	0	0.0	OK
FEH: 100 years: +40 %: 7200 mins: Winter	Pipe	S3/00	S2/03	41.000	40.100	0.014	0.000	0.0	0	0.0	OK
FEH: 100 years: +40 %: 8640 mins: Summer	Pipe	S3/00	S2/03	41.000	40.100	0.053	0.000	0.0	0	0.0	OK
FEH: 100 years: +40 %: 8640 mins: Winter	Pipe	S3/00	S2/03	41.000	40.100	0.013	0.000	0.0	0	0.0	OK
FEH: 100 years: +40 %: 10080 mins: Summer	Pipe	S3/00	S2/03	41.000	40.100	0.035	0.000	0.0	0	0.0	OK
FEH: 100 years: +40 %: 10080 mins: Winter	Pipe	S3/00	S2/03	41.000	40.100	0.012	0.000	0.0	0	0.0	OK

CC2696: Cefn Lodge Rev P01	Date: 19/06/2026		
	Designed by: GJ	Checked by: LM	Approved By: LM
Report Details: Type: Connections Summary Storm Phase: Phase	Cambria Consulting:		

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1.007: Rank By: Max. Flow

Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
FEH: 100 years: +40 %: 15 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.143	0.024	2.343	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	40.134	0.024	2.340	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.149	0.024	4.573	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	40.111	0.024	4.560	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.215	0.024	9.598	0.8	0.06	1.5	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	40.121	0.024	9.528	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.131	0.024	19.880	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	40.133	0.024	19.740	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.200	0.024	30.286	0.8	0.06	1.5	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	40.203	0.024	30.134	0.8	0.06	1.5	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.246	0.024	40.711	0.8	0.06	1.6	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	40.250	0.024	40.529	0.8	0.06	1.6	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.299	0.025	61.421	0.8	0.06	1.6	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	40.306	0.025	61.147	0.8	0.06	1.6	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.322	0.025	81.527	0.8	0.06	1.6	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	40.332	0.025	81.170	0.8	0.06	1.6	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.328	0.025	100.845	0.8	0.06	1.6	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	40.341	0.025	100.476	0.8	0.06	1.6	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.331	0.025	119.329	0.8	0.06	1.6	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	40.341	0.025	118.950	0.8	0.06	1.6	Surcharged
FEH: 100 years: +40 %: 960 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.330	0.025	158.073	0.8	0.06	1.6	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	40.334	0.025	157.703	0.8	0.06	1.6	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.312	0.025	213.631	0.8	0.06	1.6	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	40.304	0.025	213.636	0.8	0.06	1.6	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.273	0.025	239.923	0.8	0.06	1.6	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	40.235	0.024	239.874	0.8	0.06	1.5	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.227	0.024	259.788	0.8	0.06	1.5	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	40.160	0.024	259.978	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.133	0.024	291.231	0.8	0.05	1.5	Surcharged

FEH: 100 years: +40 %: 4320 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	40.006	0.024	290.336	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 5760 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	40.052	0.024	318.322	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 5760 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	39.836	0.024	318.996	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 7200 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	39.997	0.024	348.832	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 7200 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	39.690	0.024	348.151	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 8640 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	39.956	0.024	379.699	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 8640 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	39.607	0.024	378.731	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 10080 mins: Summer	Pipe	S1/06 - HB	S1/07	41.000	39.920	0.024	410.821	0.8	0.05	1.5	Surcharged
FEH: 100 years: +40 %: 10080 mins: Winter	Pipe	S1/06 - HB	S1/07	41.000	39.551	0.024	409.835	0.8	0.05	1.5	Surcharged

FEH: 100 years: Increase Rainfall (%): +40: Summary Results for S1.006: Rank By: Max. Flow

Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
FEH: 100 years: +40 %: 15 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	39.704	0.150	0.000	0.1	0.14	1.4	Surcharged
FEH: 100 years: +40 %: 15 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	39.705	0.150	0.000	0.1	0.14	1.4	Surcharged
FEH: 100 years: +40 %: 30 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	39.848	0.150	0.000	0.1	0.12	1.3	Surcharged
FEH: 100 years: +40 %: 30 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	39.848	0.150	0.000	0.1	0.12	1.3	Surcharged
FEH: 100 years: +40 %: 60 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	40.012	0.150	0.000	0.1	0.13	1.3	Surcharged
FEH: 100 years: +40 %: 60 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	40.012	0.150	0.000	0.1	0.13	1.3	Surcharged
FEH: 100 years: +40 %: 120 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	40.132	0.150	0.000	0.1	0.14	1.4	Surcharged
FEH: 100 years: +40 %: 120 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	40.133	0.150	0.000	0.1	0.14	1.4	Surcharged
FEH: 100 years: +40 %: 180 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	40.201	0.150	0.000	0.1	0.14	1.5	Surcharged
FEH: 100 years: +40 %: 180 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	40.203	0.150	0.000	0.1	0.14	1.4	Surcharged
FEH: 100 years: +40 %: 240 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	40.246	0.150	0.000	0.1	0.15	1.5	Surcharged
FEH: 100 years: +40 %: 240 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	40.250	0.150	0.000	0.1	0.14	1.5	Surcharged
FEH: 100 years: +40 %: 360 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	40.299	0.150	0.000	0.1	0.15	1.5	Surcharged
FEH: 100 years: +40 %: 360 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	40.306	0.150	0.000	0.1	0.15	1.5	Surcharged
FEH: 100 years: +40 %: 480 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	40.322	0.150	0.000	0.1	0.15	1.5	Surcharged
FEH: 100 years: +40 %: 480 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	40.332	0.150	0.000	0.1	0.15	1.5	Surcharged
FEH: 100 years: +40 %: 600 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	40.329	0.150	1.166	0.1	0.15	1.5	Surcharged
FEH: 100 years: +40 %: 600 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	40.341	0.150	0.807	0.1	0.15	1.5	Surcharged
FEH: 100 years: +40 %: 720 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	40.331	0.150	13.925	0.1	0.15	1.5	Surcharged
FEH: 100 years: +40 %: 720 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	40.341	0.150	13.545	0.1	0.15	1.5	Surcharged
FEH: 100 years: +40 %: 960 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	40.330	0.150	42.954	0.1	0.15	1.5	Surcharged
FEH: 100 years: +40 %: 960 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	40.334	0.150	42.538	0.1	0.15	1.5	Surcharged
FEH: 100 years: +40 %: 1440 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	40.312	0.150	83.601	0.2	0.14	1.5	Surcharged
FEH: 100 years: +40 %: 1440 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	40.304	0.150	83.596	0.2	0.14	1.5	Surcharged
FEH: 100 years: +40 %: 2160 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	40.273	0.150	94.248	0.2	0.14	1.5	Surcharged
FEH: 100 years: +40 %: 2160 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	40.235	0.150	94.193	0.2	0.14	1.5	Surcharged
FEH: 100 years: +40 %: 2880 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	40.227	0.150	101.889	0.2	0.14	1.5	Surcharged
FEH: 100 years: +40 %: 2880 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	40.160	0.150	102.007	0.2	0.14	1.5	Surcharged
FEH: 100 years: +40 %: 4320 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	40.133	0.150	114.525	0.2	0.13	1.4	Surcharged

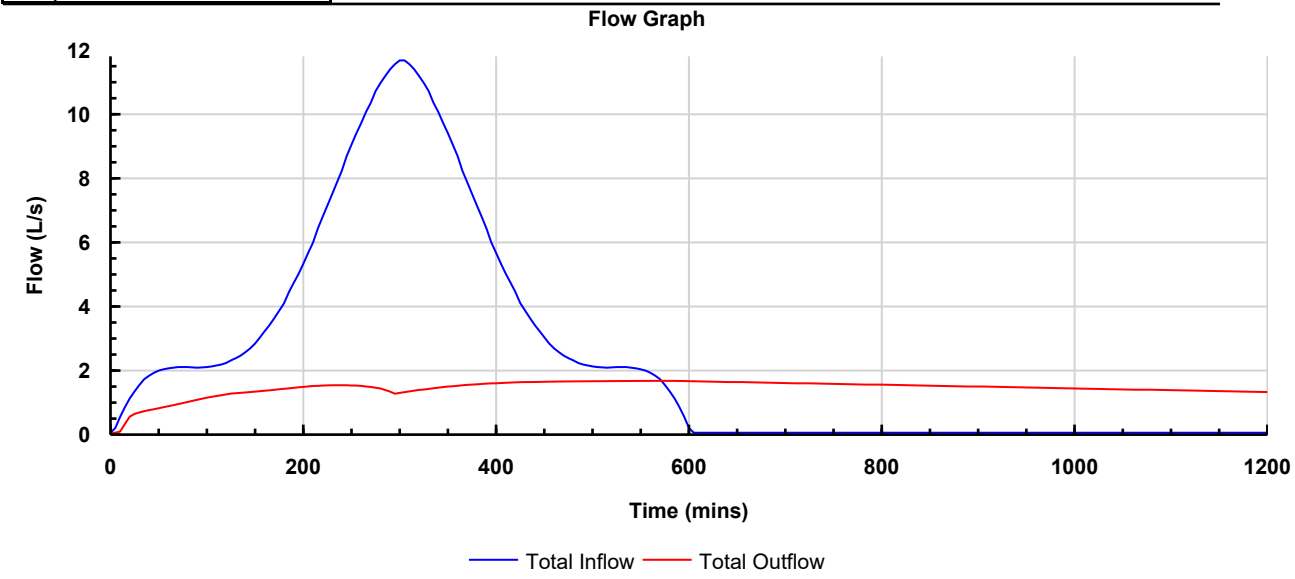
FEH: 100 years: +40 %: 4320 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	40.006	0.150	113.933	0.2	0.13	1.3	Surcharged
FEH: 100 years: +40 %: 5760 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	40.052	0.150	125.414	0.1	0.12	1.2	Surcharged
FEH: 100 years: +40 %: 5760 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	39.836	0.150	125.922	0.1	0.12	1.2	Surcharged
FEH: 100 years: +40 %: 7200 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	39.998	0.150	137.408	0.1	0.12	1.2	Surcharged
FEH: 100 years: +40 %: 7200 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	39.690	0.150	136.659	0.1	0.1	1.1	Surcharged
FEH: 100 years: +40 %: 8640 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	39.956	0.150	149.544	0.1	0.12	1.2	Surcharged
FEH: 100 years: +40 %: 8640 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	39.607	0.150	149.095	0.1	0.09	0.9	Surcharged
FEH: 100 years: +40 %: 10080 mins: Summer	Pipe	Cellular Storage	S1/06 - HB	41.000	39.920	0.150	162.367	0.1	0.12	1.2	Surcharged
FEH: 100 years: +40 %: 10080 mins: Winter	Pipe	Cellular Storage	S1/06 - HB	41.000	39.552	0.150	161.618	0.1	0.08	0.8	Surcharged

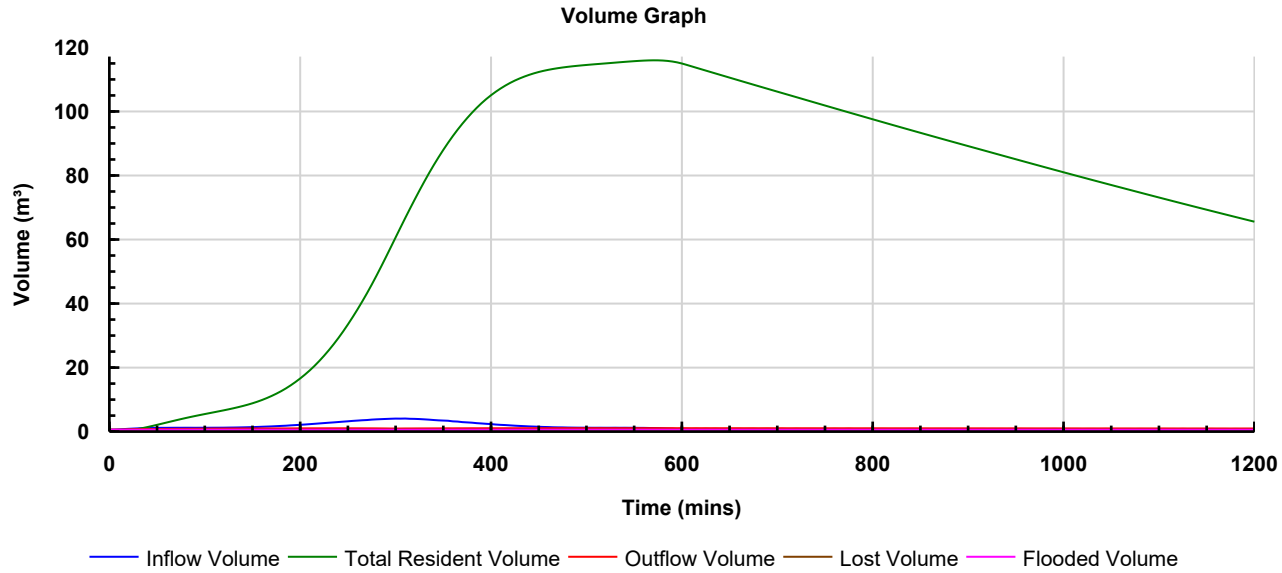
Phase
FEH: 100 years: Increase Rainfall (%): +40: 600 mins: Winter

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
S1/07			1.6	100.476
TOTAL	11.7	166.372	1.6	100.476

Graphs





Appendix F: Foul Calculations

CONTRACT - Cefn Lodge Care Home

JOB NO - CC2696

CAMBRIA

Sheet No	1 of 1
Designed By	LKM
Checked By	LKM
Date	18/07/2025
Rev	P1

Foul Sewer Design Flow
British Water, Flows and Loads - 4

DATA Per person / activity /day (unless otherwise specified)		Flow (Litres)	BOD (Grams)	Ammonia as N (Grams)	OUTPUT No.	Flow Rate l/day	Flow Rate l/s
DOMESTIC DWELLINGS							
Standard residential		150	60	8	0	0	0.000
Mobile home type caravans with full service		150	90	8	0	0	0.000
INDUSTRIAL							
Office / Factory without canteen		50	25	5	0	0	0.000
Office / Factory with canteen		100	38	5	0	0	0.000
Open industrial site, eg construction, quarry, without canteen		60	25	5	0	0	0.000
*Full-time Staff		90	38	5	0	0	0.000
*Part-time Staff (4 hr shift)		45	25	3	0	0	0.000
SCHOOLS							
Non-residential with canteen cooking on site		90	38	5	0	0	0.000
Non-residential without a canteen		50	25	5	0	0	0.000
Boarding school:	(i) residents	200	75	10	0	0	0.000
	(ii) day staff (inc. Mid-day meal)	90	38	5	0	0	0.000
HOTELS, PUBS & CLUBS							
Hotel Guest (Prestige hotels)		300	105	12	0	0	0.000
Hotel Guests (3* & 4* hotels)		250	94	10	0	0	0.000
Guests (Bedroom only - no meals)		80	50	6	0	0	0.000
Residential Training / Conference Guest (inclusive all meals)		350	150	15	0	0	0.000
Non residential Conference Guest		60	25	2.5	0	0	0.000
Drinkers		12	15	5	0	0	0.000
Holiday camp chalet resident		227	94	10	0	0	0.000
Resident Staff		180	75	10	0	0	0.000
Restaurants:	- Full Meals: - luxury catering	30	38	4	0	0	0.000
	- pre-prepared catering	25	30	2.5	0	0	0.000
	- Snack Bars & bar meals	15	19	2.5	0	0	0.000
	- Function Rooms including buffets	15	19	2.5	0	0	0.000
	- Fast Food i.e. (roadside restaurants)	12	12	2.5	0	0	0.000
	- Fast Food Meal (burger chain and similar)	12	15	4	0	0	0.000
Students (Accommodations only)		100	56	5	0	0	0.000
AMENITY SITES							
Toilet Blocks (per use)		10	12	2.5	0	0	0.000
Toilet (EC) (per use)		10	12	2.5	0	0	0.000
Toilet (Urinal) (per use)		5	12	2.5	0	0	0.000
Toilet Blocks in Long Stay car parks / lorry parks (per use)		10	19	4	0	0	0.000
Shower (per use)		40	19	2	0	0	0.000
Golf Club		20	19	5	0	0	0.000
Local community sports club, e.g. Squash, rugby & football		40	25	6	0	0	0.000
Swimming (where a separate pool exists without an associated sports centre)		10	12	2.5	0	0	0.000
Health Club / Sports centre		50	19	4	0	0	0.000
Tent Sites		75	44	8	0	0	0.000
Caravan Sites	(i) Touring not serviced	100	44	8	0	0	0.000
	(ii) static not serviced	100	44	8	0	0	0.000
	(iii) Static fully serviced	180	75	8	0	0	0.000
HOSPITALS & RESIDENTIAL CARE HOMES							
Residential old people / nursing		350	110	13	50	17500	0.203
Small Hospitals		450	140	Access	0	0	0.000
Large Hospitals		Access individually					

RESULTS	
Total Average Flow =	17500.00 l/day
Total Average Flow =	0.20 l/s
Total Peak Flow =	DWF x 6 +10%
Total Peak Flow =	1.34 l/s

Appendix C: Development Drawings

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THIS SYMBOL IS USED TO HIGHLIGHT INSTANCES OF RISK WITHIN THE CONSTRUCTION PROCESS.

ALWAYS CHECK FOR LATER REVISIONS OF THIS DRAWING.

LEGEND / KEY TO SYMBOLS

- EXISTING DCWW COMBINED SEWER
- EXISTING FOUL SEWER - ASSUMED SUBJECT TO FURTHER INVESTIGATION
- PROPOSED SURFACE WATER SEWER
- PROPOSED FOUL DRAINAGE
- ACO LINEAR DRAIN
- ACO OVERFLOW
- RWP — RAINWATER DOWNPIPE (EXTERNAL)
- RWP — RAINWATER DOWNPIPE (INTERNAL)
- SOAKAWAY TESTING POSITIONS

SUDS FEATURES:

- RAINGARDEN
- PERMEABLE PAVING (TYPE TBC)
- ATTENUATION CRATES SDS GEOLIGHT OR EQUIVALENT APPROVED

NOTES

1. PROPOSALS ARE HIGH LEVEL AND INDICATIVE OF DESIGN INTENT ONLY. THEY REMAIN SUBJECT TO FURTHER SURVEYS, , DETAILED DESIGN AND CONSULTATION WITH SAB.
2. FOUL SVP POSITIONS TBC
3. ANY GREASE TREATMENT REQUIREMENTS ASSUMED VIA CHEMICAL DOSING PRIOR TO CONNECTION TO BELOW GROUND DRAINAGE SYSTEM.
4. SPRINKLER DRAIN DOWN RATES TO BE CONFIRMED - MAY REQUIRE INCREASED PIPEWORK DIAMETERS FOR CAPACITY AND HIGH INTENSITY INTAKE GULLY
5. UTILITY SURVEY HAS NOTE BEEN UNDERTAKEN - PRESENCE OF UNDERGROUND SERVICES TO BE PROVIDED TO INFORM DETAILED DESIGN.

Rev.	Description	By	Chk	App
P02	UPDATE FOR POSITIVE DRAINAGE SW SYSTEM - FOR PLANNING	GJ	LM	LM
		25/06/26		
P01	FIRST ISSUE	LM	LM	LM
		18/07/25		

Client:
OXFORD CARE HOLDINGS (BIRA CARE)

Project:
CEFN LODGE CARE HOME

Drawing Title:
PROPOSED DRAINAGE LAYOUT - SHEET 1

Drawing No.
CC2696 CAM XX XX GA C 0500
Project Originator Vol. Level Type Role Number

Status: S1 PRELIMINARY
Scale @A1: 1:200
Rev: P02

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TOP / WESTERN PLATEAU ASSUMES SURFACE WATER GENERATED BY ADDITIONAL EXTERNAL HARDSTANDING - STORAGE PROVIDED WITHIN THE CONSTRUCTION MAKE-UP SUB-BASE TO DISCHARGE TO EXISTING SURFACE WATER SYSTEM AT HIGHER LEVEL & THEREFORE EXCLUDED FROM LOWER SYSTEM NETWORK. SUPPLEMENTARY DRAINAGE INVESTIGATION & CCTV SURVEY REQUIRED TO INFORM DETAILED DESIGN.

RAINWATER HARVESTING SYSTEM - SIZE TBC RETAINING WALL FOOTINGS TO BE DESIGN TO ENSURE NO TRANSFER OF LOAD THROUGH ZONE OF INFLUENCE

ASSUMED ROUTE OF EXISTING FOUL - TBC WITH DRAINAGE INVESTIGATION / UTILITY / CCTV SURVEY

SDS ATTENUATION CRATES CATERING FOR Q100+40%cc STORM EVENT.
13 x 9 x 1m DEEP = 117m³
FOUNDATION DESIGN TO ENSURE NO LOADING TRANSFERRED THROUGH ZONE OF INFLUENCE.

FLOW CONTROL CHAMBER RESTRICTED TO 1.65l/s (Q100 + 40%CC) DESIGN HEAD 1.05m HYDROBRAKE REF: MD-SHE-0060-1650-1050-1650

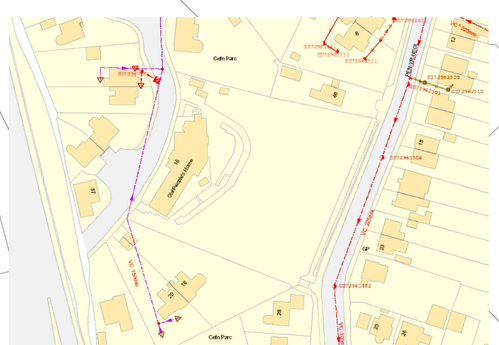
ASSUMED ROUTE OF EXISTING FOUL - TBC WITH DRAINAGE INVESTIGATION / UTILITY / CCTV SURVEY

FOUL TO REUSE OF EXISTING OFF-SITE CONNECTION SUBJECT TO VERIFICATION OF EXISTENCE, CONNECTIVITY TO DCWW SYSTEM, CONDITION AND SUITABILITY

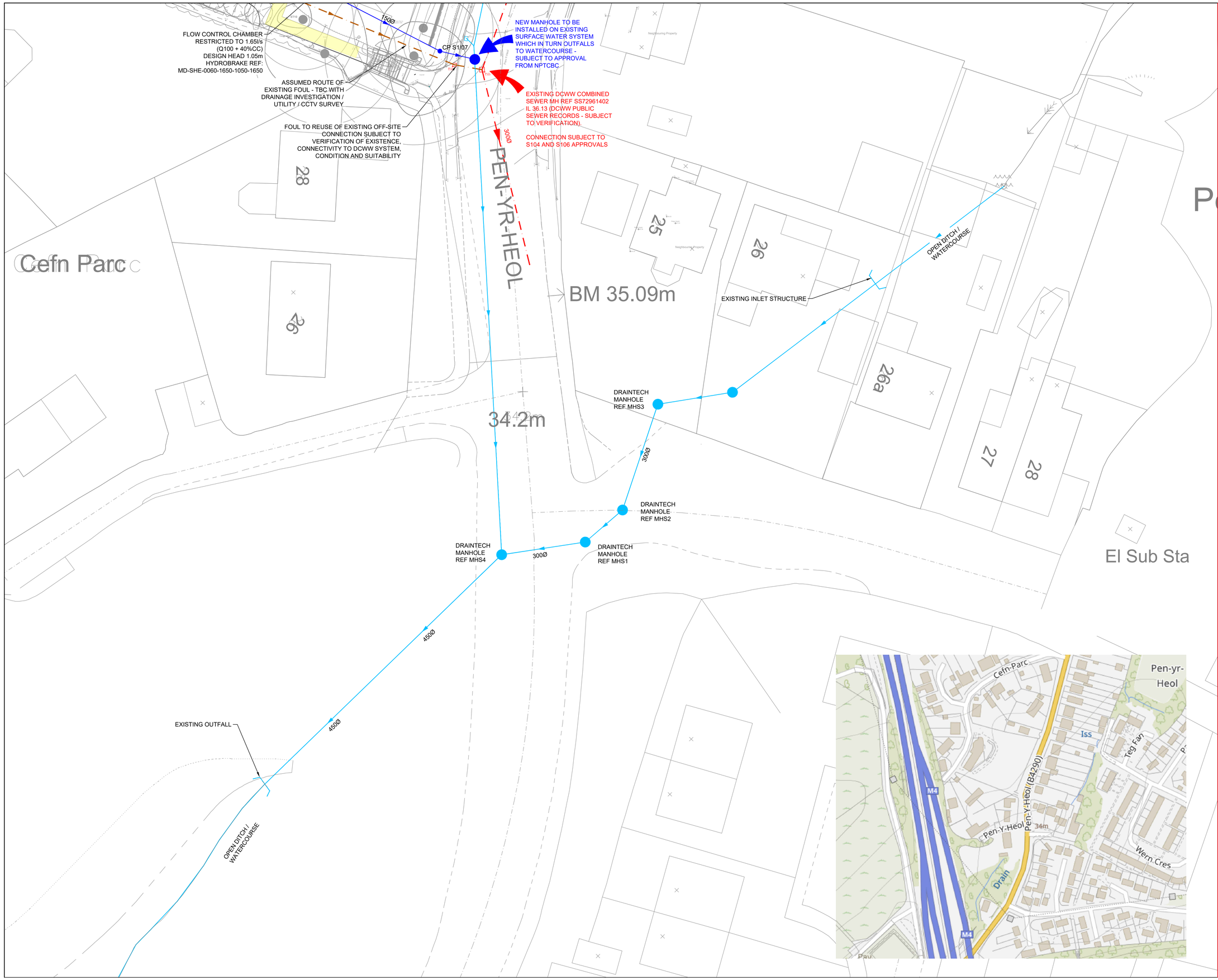
NEW MANHOLE TO BE INSTALLED ON EXISTING SURFACE WATER SYSTEM WHICH IN TURN OUTFALLS TO WATERCOURSE - SUBJECT TO APPROVAL FROM NPTCBC

EXISTING DCWW COMBINED SEWER MH REF SS72961402 IL 36.13 (DCWW PUBLIC SEWER RECORDS - SUBJECT TO VERIFICATION).

CONNECTION SUBJECT TO S104 AND S106 APPROVALS



EXTRACT FROM DCWW PUBLIC SEWER RECORDS



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LEGEND / KEY TO SYMBOLS

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- EXISTING FOUL SEWER - ASSUMED SUBJECT TO FURTHER INVESTIGATION
- PROPOSED SURFACE WATER SEWER
- PROPOSED FOUL DRAINAGE
- ACO LINEAR DRAIN
- ACO OVERFLOW
- *RWP RAINWATER DOWNPIPE (EXTERNAL)
- • RWP RAINWATER DOWNPIPE (INTERNAL)
- SOAKAWAY TESTING POSITIONS

SUDS FEATURES:

- RAINGARDEN
- PERMEABLE PAVING (TYPE TBC)
- ATTENUATION CRATES SDS GEOLIGHT OR EQUIVALENT APPROVED

NOTES

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2. FOUL SVP POSITIONS TBC
3. ANY GREASE TREATMENT REQUIREMENTS ASSUMED VIA CHEMICAL DOSING PRIOR TO CONNECTION TO BELOW GROUND DRAINAGE SYSTEM.
4. SPRINKLER DRAIN DOWN RATES TO BE CONFIRMED - MAY REQUIRE INCREASED PIPEWORK DIAMETERS FOR CAPACITY AND HIGH INTENSITY INTAKE GULLY
5. UTILITY SURVEY HAS NOTE BEEN UNDERTAKEN - PRESENCE OF UNDERGROUND SERVICES TO BE PROVIDED TO INFORM DETAILED DESIGN.

Rev.	Description	By	Chk	App
P01	FIRST ISSUE - FOR PLANNING	LM	LM	LM
		26/06/26		

Client:
OXFORD CARE HOLDINGS (BIRA CARE)

Project:
CEFN LODGE CARE HOME

Drawing Title:
PROPOSED DRAINAGE LAYOUT - SHEET 2

Drawing No.
CC2696 CAM XX XX GA C 0501
Project Originator Vol. Level Type Role Number

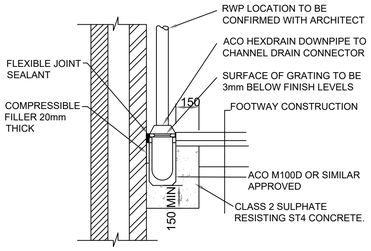
Status: S1 PRELIMINARY
Scale @A1: 1:200
Rev: P01

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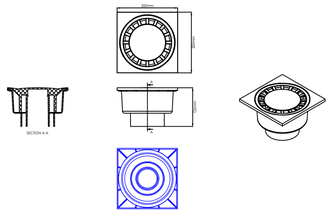




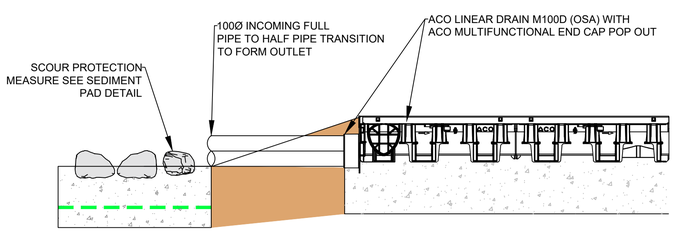


NOTES:
1. DRAINAGE CHANNELS TO BE ACO M150D OR SIMILAR APPROVED
2. FOUNDATION FOR CHANNELS TO BE LAID ON A ROLLED SUB-BASE OF 150mm MINIMUM THICKNESS.
3. GRATING LOAD CLASSIFICATION TO BE C250/ D400
4. RWP'S TO HAVE ACO HEXDRAIN CONNECTORS TO CHANNEL GRATINGS - REFER TO MANUFACTURERS GUIDELINES

RWP OUTLETS TO LINEAR DRAIN DETAIL
SCALE - NTS



ACO SUDS OVERFLOW GULLY



LINEAR DRAIN - DISCHARGE TO SURFACE FEATURE - RAINARDEN

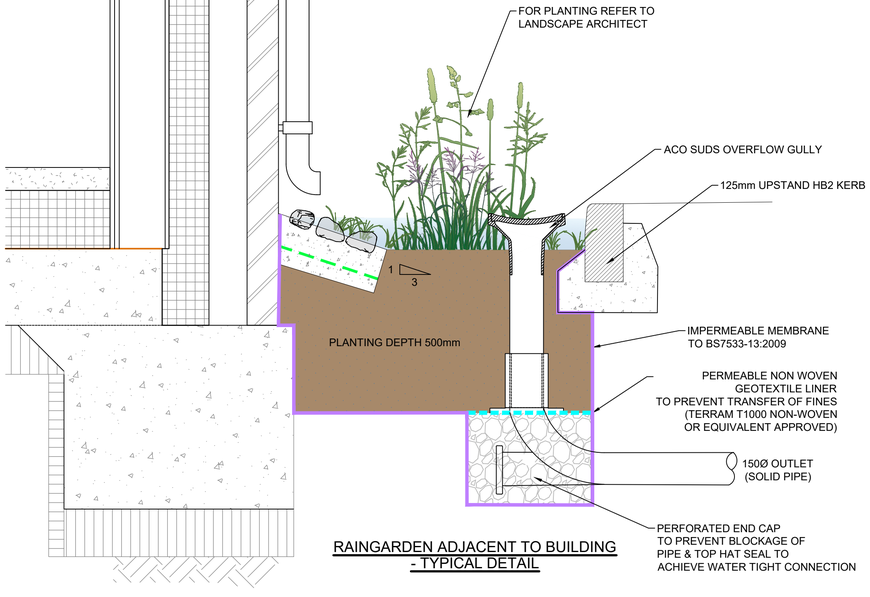
SOIL SPECIFICATION

PLANTING LAYER
SOIL SPEC GREEN BLUE URBAN ARBORSOIL HYDRO OR EQUIVALENT APPROVED

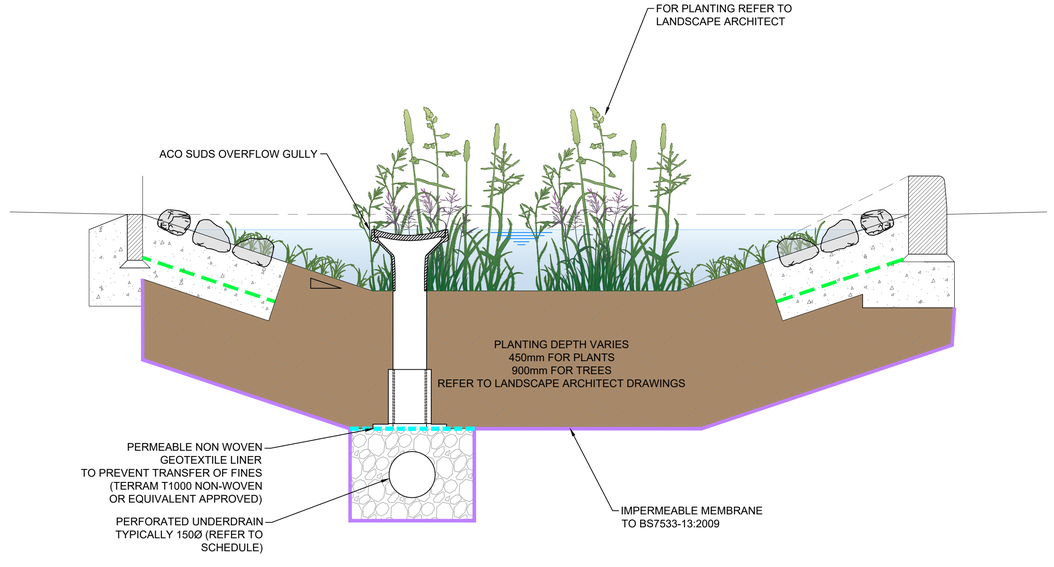
DRAINAGE LAYER
SINGLE SIZED (30-80mm), COARSE GRAVEL / CLEAN STONE TO ACHIEVE A MINIMUM 30% VOID RATIO

OTHER SOIL SPECIFICATION PARAMETERS TO BE APPROPRIATE FOR RAINGARDEN PLANTING SPECIES TO RAINGARDENS AND IN ACCORDANCE WITH CIRIA SUDS MANUAL BOX 18.1 CRITERIA.

ONSITE SOIL TO BE TESTED IN ADVANCE IF INTENDED FOR RE USE.



RAINGARDEN ADJACENT TO BUILDING - TYPICAL DETAIL



TYPICAL ROADSIDE RAINGARDEN DETAIL

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NOTES

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Rev.	Description	By	Chk	App
P01	FIRST ISSUE	LM	LM	LM
		18/07/25		

Client:
OXFORD CARE HOLDINGS (BIRA CARE)

Project:
CEFN LODGE CARE HOME

Drawing Title:
DRAINAGE DETAILS

Drawing No.
CC2696 CAM XX XX D C 0510
Project Originator Vol. Level Type Role Number

Status: S1 PRELIMINARY
Scale @A1: AS SHOWN
Rev: P01

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Schedule - Soft landscape design

Plant establishment and maintenance notes to be included within landscape specification

Special habitat mixtures mix 1 - Emorsgate seeds EL1 flowering lawn mix

Overall objective of proposed works is to create meadow grass. Location shown for proposed meadow grass to be mown in a 1m wide strip along path/ road edges and within any visibility splays to a maximum height of 75mm.

M1	Sowing rate	4 g/m²
	Total area	150 sq.m
	Subsoil depth	150mm

Amenity grass mix 1 - Emorsgate EG22 strong lawn mix

M2	Sowing rate	25 g/m²
	Total area	1,603 sq.m
	Imported topsoil depth	150mm

Trees

Code	Species	Common name	Size	Type	Quantity
T1	Pinus sylvestris	Pine, scots	3.0-3.5m	Rootball 1.5m clear stem	1
T2	Betula utilis jacquemontii 'Snow Queen'	West himalayan birch Snow Queen	3.0-3.5m	Rootball multistem	10
T3	Amelanchier arborea 'Robin Hill'	Amelanchier 'Robin Hill'	3.0-3.5m	Rootball multistem	8
T4	Acer campestre 'Elsrijk'	Field maple	18-20cm	Rootball	8
				Total	27

Hedges

Code	Species	Common name	Size	Type	Length
H1	Fagus Sylvatica	Beech	1m tough, 100cm(h) x 20cm(w)	Instant hedge	84
				Total	84

Hedgerow Mix 1

Overall objective of proposed works is to create new native hedgerow or fill gaps within the existing hedgerow.

Code	Species	Common name	Size	Type	Percentage
H2	Crataegus monogyna	Hawthorn	60-80cm	1+2	35
	Prunus spinosa	Blackthorn	60-80cm	1+2	35
	Corylus avellana	Hazel	60-80cm	1+2	10
	Ilex aquifolium	Holly	60-80cm	1+2	5
	Rosa canina	Dog rose	60-80cm	1+2	5
	Acer campestre	Field maple	60-80cm	1+2	10
				Total	100%

Shrubs

Imported topsoil depth 450mm

Code	Species	Common name	Size	Density	Quantity
S1	Cornus stolonifera Flaviramea	Golden dogwood	5L	4/m²	704
S2	Cornus alba Sibirica	Red barked dogwood	5L	4/m²	476
S3	Lavandula angustifolia 'Hidcote'	Lavender 'Hidcote'	5L	4/m²	136
S4	Hebe 'Sutherlandii'	Shrubby veronica	3L	4/m²	152
S5	Miscanthus sinensis 'Gracillimus'	Eulalia 'Gracillimus'	3L	4/m²	124
S6	Stipa tenuissima	Mexican feather grass	5L	4/m²	88
	Rudbeckia fulgida var. sullivantii 'Goldsturm'	Rudbeckia	3L	4/m²	33
	Hebe x franciscana Variegata	Hebe 'Silver Queen'	5L	4/m²	33
S7	Hebe x franciscana Variegata	Hebe 'Silver Queen'	5L	4/m²	88
	Hosta	Plantain lily	3L	4/m²	31
S8	Miscanthus sinensis 'Gracillimus'	Eulalia 'Gracillimus'	3L	4/m²	31
	Verbena bonariensis	Argentinian vervain	3L	4/m²	31
	Astilbe 'Bumalda' x arendsii	Astilbe 'Bumalda'	3L	4/m²	31
	Rudbeckia fulgida var. sullivantii 'Goldsturm'	Rudbeckia	3L	4/m²	31
	Hebe x franciscana Variegata	Hebe 'Silver Queen'	5L	4/m²	31
				Total	2020

Bulbs

Code	Species	Common name	Size	Density	Quantity
B1	Hyacinthoides non scripta	Bluebell	6/7cm	10/m2	998
	Galanthus nivalis	Snowdrop	4/5cm	10/m2	998
	Anemone levellei	Anemone	9cm pot	10/m2	998
	Eranthis hyemalis	Winter aconite	4/5cm	10/m2	998
	Crocus speciosus 'Albus'	White Bieberstein's crocus	5/6cm	10/m2	998
				Total	4990

Works to existing trees & vegetation

To be read in conjunction with tree survey - Ref: Andrew Day Arboricultural Consultancy Ltd. 'Arboricultural report' AD01425 Cefn Lodge Nursing Home, 16 Cefn-Parc, Skewen, Wales

Works to existing trees and vegetation should be carried out to BS3998:2010 and are to be undertaken only by an Arboricultural Association approved tree surgeon following the appropriate statutory approvals. All works must comply with the Wildlife and Countryside Act (1981) (as amended) and the Conservation of Habitats and Species Regulations (2018) (as amended), which includes the protection of bats and nesting birds.

Code	Species	Common name	Proposed works
ET1	-	Common holly	Retain
ET2	-	Sycamore	Retain
ET3	-	Sycamore	Retain
ET4	-	Common lime	Retain
ET5	-	Bay tree	Retain
ET6	-	Holm oak	Retain
ET7	-	Blue cedar	Removal
ET8	-	Common lime	Retain
ET9	-	Common lime	Retain
ET10	-	Arizona cypress	Retain
ET11	-	Common lime	Retain
ET12	-	Holm oak	Retain
ET13	-	Sycamore	Retain
ET14	-	Common holly	Removal
ET15	-	Common holly	Removal
ET16	-	Strawberry tree	Removal
ET17	-	Common holly	Removal
ET18	-	Common holly	Removal
ET19	-	Common holly	Removal
ET20	-	Bay tree	Removal
ET21	-	Lawson cypress	Removal
ET22	-	Bay tree	Removal
ET23	-	Lawson cypress	Retain
ET24	-	Ash	Retain
ET25	-	Common holly	Retain
ET26	-	English yew	Retain
ET27	-	English yew	Retain
ET28	-	Sycamore	Retain
ET29	-	Holm oak	Retain
ET30	-	Holm oak	Retain
ET31	-	Oak	Retain
ET32	-	Sycamore	Retain
ET33	-	Sycamore	Retain
ET34	-	Sycamore	Retain
ET35	-	Sycamore	Retain
ET36	-	Sycamore	Retain
ET37	-	Sycamore	Removal
EG1	-	Western red cedar	Removal
EG2	-	Norway spruce	Removal
EG3	-	Sycamore, mixed scrub species	Retain

CEFN LODGE CARE HOME

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2. All information to be read in conjunction with relevant landscape drawings and specification.
3. Do not scale from this drawing.
4. Only figured dimensions are to be used.
5. All dimensions in metres unless otherwise noted.
6. The Landscape Architect is to be notified of any discrepancies before proceeding.
7. No liability accepted for amendments by others.
8. Utilities - A safe system of work to HSE HSG47 'Avoiding danger from underground services to be followed by contractor to plan, detect, identify, mark services and employ safe excavation/ safe digging practices prior to works commencing.
9. Proposed planting locations to be reviewed following detail design of infrastructure requirements including easements for underground or above ground services, overhead power lines, highway safety and visibility splays and other infrastructure provisions, such as substations, refuse stores, lighting, signage and CCTV requirements.
10. Signage - to be provided by others as specified in the Health and Safety (Safety Signs and Signals) Regulations 1996.
11. All parapets, barriers, balustrades and other elements of structure intended to retain, stop or guide people to specialist detail design and to meet the appropriate loading requirements of BS EN 1991-1-1, PD 6688-1-1 and BS 6180.
12. Drawing for the purpose of planning and not for construction.
13. Design based on KWL Architects 'Site plan - Level 2 - First floor (entrance) level' 5498 PL03 G.
14. Maintain and/ or clip back shrubs/ hedges to a maximum height of 600mm and to not impact visibility.

KEY

- Existing tree (indicative location and canopy spread)
- Existing feature to be removed
- Root protection area
- Proposed grass
- Proposed meadow grass
- Proposed shrub
- Proposed hedge
- Proposed tree
- Proposed bulb planting
- Proposed rain garden

N

REV. NO.	DDMMYY	DESCRIPTION OF REVISION	INITIALS
P04	110326	AMENDED TREE PLANTING	GLO
P03	180925	IDENTIFICATION OF EXISTING TREE T37	GLO
P02	210725	ADDITIONAL RAIN GARDENS	GLO
P01	090725	ADDITIONAL TREE PLANTING	GLO

Stiwdio Owens Landscape Architecture

STATUS

PLANNING

TITLE

SOFT LANDSCAPE DESIGN

DRG. NO	REVISION
812-STO-00-00-DR-L-0001	P04

SCALE	DRAWN	APPROVED	DATE
1:200@A1	GLO	GLO	040725