



Oxford Road Care Home Gomersal

Drainage Strategy

Report Ref: JCC26-106-C-02
Revision: 02, September 2026

Civil Engineering
Structural Engineering
Geo-Environmental Engineering

Document Control Sheet



Oxford Road
Care Home
Gomersal

DRAINAGE STRATEGY

Client: Angela Swift Developments Ltd.

Client Address: Windsor House
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Project Reference: JCC26-106

Report Reference: JCC26-106-C-02

Status: Planning

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Revision Record:

Rev.	Date	Status	Prepared	Signed	Checked	Signed	Approved	Signed
01	04/06/2026	Planning	A Tonge	Redacted	A Short	Redacted	K Haigh	Redacted
02	23/09/2026	Planning	A Tonge	Redacted	A Short	Redacted	K Haigh	Redacted

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1 INTRODUCTION

1.1 BRIEF

JC Consulting Ltd (JCC) have been commissioned by Angela Swift Developments Ltd. to undertake a Drainage Strategy for the development of a care facility, located in Gomersal, with associated infrastructure and soft landscaping, refer to **Appendix A** for *The Proposed Site Plan*. As a new development, Sustainable Drainage Systems (SuDS), surface and foul water drainage must be considered. This report gives an overview of the methodology used, summarises the options investigated and the drainage proposals for the development. The drainage strategy will be used to support a planning application.

A site location plan is shown in Figure 1.1. The site is located at Ordnance Survey Grid Ref: The site is located at Ordnance Survey Grid Ref: SE 20814 26338.

Figure 1.1 - Ordnance Survey Map – Site Location



1.2 OBJECTIVES

The Objectives of this strategy are as follows:

- To establish the existing drainage characteristics of the site.
- To assess the post development surface water runoff from the site.
- To determine the suitability of SuDS to manage post development surface water runoff.
- To assess the post development foul flows from the site.
- To determine a suitable discharge location for foul flows.

1.3 BACKGROUND INFORMATION

The application site is for a care facility accessed via Oxford Road, Gomersal, located at Ordnance Survey Grid Ref: SE 20814 26338. The proposed development has an approximate site area of 10,200m². The site is a greenfield site, placed within the rear parcel of land to the east of a disused school. The site is bounded residential dwellings to the north, the disused school facility and Grove Church to the west, and surrounding fields to the east and south. Refer to **Appendix B** for *Topographical Survey*.

1.4 PROPOSED SITE DEVELOPMENT

The site is to be developed for a proposed care facility development, with associated infrastructure and soft landscaping.

2 RELEVANT POLICIES, LEGISLATION AND GUIDANCE

2.1 OVERVIEW

This Drainage Strategy will be in accordance with the following legislation and guidance:

- National Planning Policy Framework
- Planning Practice Guidance
- Non-Statutory Technical Standards for Sustainable Drainage Systems

This Drainage Strategy will be designed using the standards:

- BS EN 725:2017 – Drain and sewer systems outside buildings.
- BS EN 12056-2 2000 – Gravity drainage systems inside buildings.
- SuDS Manual (CIRIA C753)
- Building Regulations Approved Document Part H 2010 Drainage and waste disposal (2015 Edition)
- PPG3 – Use and design of oil separators in surface water drainage systems.
- National Building Specification
- Civil Engineering Specification for the Water Industry (7th Edition)
- SSG Appendix C - Design and construction guidance for foul and surface water sewers offered for adoption under the Code for adoption agreements for water and sewerage companies operating wholly or mainly in England ("the Code"). Approved Version 2.0. 10 March 2020

2.2 NATIONAL PLANNING POLICY FRAMEWORK

The NPPF published in September 2023, and amended in February 2025, is a key part of the government's reform to make the planning system less complex and more accessible; to protect the environment and to promote sustainable growth.

In relation to drainage, the NPPF states that 'Major Developments' should incorporate sustainable drainage systems unless there is clear evidence that this would be inappropriate. The systems used should:

- Take account of advice from the Lead Local Flood Authority.
- Have appropriate proposed minimum operational standards.
- Have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development.
- Where possible provide multifunctional benefits.

2.3 PLANNING PRACTICE GUIDANCE

The Planning Practice Guidance (2014) reiterates the government's expectation that sustainable drainage systems are provided in new developments wherever appropriate. It states that the government expect decisions based on incorporated policies, relating to 'Major Developments' (developments of 10 dwellings or more, or equivalent non-residential developments) to ensure that sustainable drainage systems for the management of run-off are put in place, unless demonstrated otherwise.

2.4 NON-STATUTORY TECHNICAL STANDARDS FOR SUSTAINABLE DRAINAGE SYSTEMS

The 'Non-Statutory Technical Standards for Sustainable Drainage Systems' states that for greenfield developments, the peak run-off rate and run-off volume from the development to any drain, sewer, or surface water body for the 1 in 1-year rainfall event and the 1 in 100-year, 6-hour rainfall event should never exceed the peak greenfield run-off rate and volume for the same event.

For previously developed sites, the peak run-off rate and volume from the development to any drain, sewer or surface water body for the 1 in 1-year rainfall event and the 1 in 100-year, 6-hour rainfall event must be as close as reasonably possible to the greenfield run-off rate and volume from the development at the same rainfall event but should never exceed the rate of discharge or run-off volume from the development prior to re-development for that event.

Where it is not reasonably practicable to constrain volume of run-off, the volume must be discharged at a rate that does not affect flood risk.

Where the drainage system discharges to a surface water body that can accommodate uncontrolled surface water discharges without any impact on flood risk from that surface water body, the peak flow standards and volume control standards need not apply.

The drainage system must be designed so that flooding does not occur on any part of the site for a 1 in 30-year rainfall event, unless there is an area of the site dedicated for compensatory storage.

The drainage system must also be designed so that flooding does not occur during a 1 in 100-year rainfall event in any part of the building or any utility plant on-site.

The design of the proposed development must ensure that flows resulting from excess rainfall for a 1 in 100-year event are managed in exceedance routes that minimise the risks to people and properties.

Components of the drainage network must be designed to ensure the structural integrity of the network is maintained throughout its design life. Materials, products, or fittings must be of a suitable standard for intended use.

Pumping should only be used to facilitate drainage for parts of the site where it is not practicable to drain water via gravity.

The construction of any communication with an existing sewer or drainage system must be such that the making of the communication would not damage the structural integrity or functionality of the sewerage system. Damage to the drainage system must be minimised, if unavoidable, and must be rectified prior to completion of the system.

3 SURFACE WATER DRAINAGE

3.1 SUDS METHODOLOGY

The following methodology was used to produce a SuDS strategy for the site:

- Calculate pre-development/Greenfield runoff, using the method outlined in the Interim Code of Practice for Sustainable Drainage Systems (ICP SuDS).
- Calculate the required post development attenuation/storage required for the critical storm with a return period of 30 years in line with the National Planning Policy Framework (NPPF).
- Test the sensitivity of the site by investigating the volume of runoff produced during storms with a return period of 100 year plus 45% allowance for climate change in line with the NPPF.

Surface water attenuation provided is to be provided to ensure that surface water flows for up to a 30-year return period storm are attenuated below ground or within designated at surface features with no road/property/overland flooding. The proposed development must also test the sensitivity of the site for a 100-year return period storm with a 45% allowance for climate change to ensure that no flooding of properties or third-party land occurs.

The potential methods of discharge in order of preference are:

- Discharge via infiltration
- Discharge to watercourse
- Discharge to surface water sewer
- Discharge to combined sewer

A Site Investigation has not yet been carried out for the site. However, with reference to BGS Geology of Britain Viewer (2020) the bedrock geology is shown to be Lepton Edge Rock-Sandstone.

The Ordnance Survey maps, and EA maps show that the site is in within the Aire and Calder Management area, the nearest watercourse to the site is Church Beck, located 400m southeast of the site. Church Beck is understood to be a tributary of the River Calder, located approximately 6km southeast of site. Approximately 800m southeast of the development, there is Longbottom Dam, a former industrial reservoir.

The site is understood to historically drain to surrounding fields and Church Beck. There is an unnamed beck located approximately 200m north of the site.

Yorkshire Water have been contacted to assess if they have any sewerage assets within the vicinity of the site, see **Appendix C** for **Yorkshire Water Sewerage Plan**. To the west of the site, there is a 600mm diameter surface water sewer, which is understood to flow south within Oxford Road. Adjacent to this sewer is a 300mm diameter foul water sewer which flows north.

40m north of the site, within Scott Lane, there is a 150mm diameter surface water sewer which serves the surrounding dwellings.

A desk study identified an abandoned mineshaft within the site boundary. Discharge of surface water to ground via infiltration has been discounted due to the potential risk of ground stability associated with historic mining features.

Discharge of surface water to Church Beck is considered unfeasible, a review of aerial imagery indicates the route to the watercourse is constrained by mature tree cover. Provision of a new outfall to Chapel Beck will require extensive work through third party land and significant disturbance to existing tree root protection areas. Furthermore, the presence of extensive tree cover may result in future maintenance associated with tree root ingress.

Discharge of surface water to the 150mm diameter YW sewer within Scott Lane, 40m north of site is not considered feasible as it will require extensive works through the adjacent burial ground north of site.

Whilst it is understood that the pre-development response from Kirklees Council discourages the disposal of surface water via a pumped system, no viable alternative is available due to the difference in elevation between the proposed development and the nearest surface water sewer. It is therefore proposed to discharge surface water to the Yorkshire Water 600mm diameter surface water sewer located to the west

of the site within Oxford Road. Surface water will be pumped to a break chamber at the site entrance, from where it will discharge by gravity to the Yorkshire Water sewer at a restricted flow rate.

For a typical development of this nature, it would be proposed to restrict surface water flows to a rate agreed with the Lead Local Flood Authority (LLFA) to ensure that there will be no additional flooding to the surrounding area due to the development. In accordance with the DEFRA Non-Statutory Technical Standards for Sustainable Drainage Systems, the peak surface water flow rate should be as close as reasonably practicable to the greenfield runoff rate. Yorkshire Water have not yet been contacted regarding a pre-development enquiry to confirm there is sufficient capacity in the receiving network.

To ensure the water quality entering the water network does not have a detrimental impact to the environment, the design will look to incorporate source control features in compliance with the SuDS guidelines to delay the time of entry of flows to the network and provide a suitable level of treatment. The level of treatment is required to be proportional to the level of risk. For the proposed site it is considered rooftop surface water doesn't require treatment and that only the hardstanding areas will require one level of treatment.

3.2 PROPOSED DRAINAGE

It is proposed to provide a surface water drainage system serving the roofs and all hard-standing areas for the development. The site is to be developed for a proposed care facility development. Surface water from the proposed building will be collected via traditional rainwater downpipes and gullies, with hardstanding areas for and parking bays to be drained by permeable paving, and access road to be drained via gullies.

For a new development, surface water flows should be restricted to that of the greenfield runoff flow rate, or as close as practicable. The proposed new development impermeable area is approximately 4,100m². The greenfield runoff flow rate for the area has been calculated using the ICP SuDS Method (calculations carried out using MicroDrainage).

Figure 3.3.1 – Greenfield Runoff Flow Rate Calculation

The screenshot shows the 'Rural Runoff Calculator' window. The 'ICP SuDS' section is active, displaying the 'ICP SuDS Input (FSR Method)'. The input fields are: Return Period (Years) set to 2, Area (ha) set to 0.410, SAAR (mm) set to 826, Soil set to 0.450, and Growth Curve set to (None). The 'Partly Urbanised Catchment (QBAR)' section shows Urban set to 0.000 and Region set to Region 3. The 'Results' section shows QBAR rural (l/s) as 2.2 and QBAR urban (l/s) as 2.2. Below this is a 'Return Period Flood' table with columns for Region, QBAR (l/s), Q (30yrs) (l/s), Q (1 yrs) (l/s), Q (30 yrs) (l/s), and Q (100 yrs) (l/s). The table lists regions 1 through 10, with Region 10 highlighted in yellow. The bottom of the window has buttons for OK, Cancel, and Help, and a note to 'Enter Return Period between 1 and 1000'.

Region	QBAR (l/s)	Q (30yrs) (l/s)	Q (1 yrs) (l/s)	Q (30 yrs) (l/s)	Q (100 yrs) (l/s)
Region 1	2.2	4.1	1.9	4.1	5.4
Region 2	2.2	4.1	1.9	4.1	5.7
Region 3	2.2	3.8	1.9	3.8	4.5
Region 4	2.2	4.3	1.8	4.3	5.6
Region 5	2.2	5.3	1.9	5.3	7.8
Region 6/Region 7	2.2	5.0	1.9	5.0	7.0
Region 8	2.2	4.2	1.7	4.2	5.3
Region 9	2.2	3.9	1.9	3.9	4.8
Region 10	2.2	3.7	1.9	3.7	4.5

It is proposed to restrict surface water flows from the proposed development to the same as the QBAR greenfield runoff rate, with the maximum discharge flow rate from the surface water pumping station of 2.2l/s.

For the proposed development, Causeway Flow has been used to model the proposed surface water drainage and carry out a simulation for various return periods, and that for a 1 in 30-year return period event, there is no exceedance of the network, and or for a 1 in 100 plus 45% allowance for climate change event, there is no flooding of the network. Surface water exceedance flows in the event of failure of the network are directed away from buildings and follow the natural topography of the area. See **Appendix D** for **Proposed Drainage Arrangement**, and **Appendix E** for **Causeway Flow Calculations**.

The proposed drainage model does not show any flooding for a 1 in 30-year return period event or for a 1 in 100-year return period event plus 45% allowance for climate change. Flows in exceedance of the surface water sewerage will be retained within a below ground sewerage, attenuation tank, permeable paving sub-base with no flooding of buildings or third-party land. See **Appendix F** for **Attenuation Details**.

In the event of failure of the site sewerage network, the proposed site levels have been designed to direct surface water flows away from the proposed building and third-party land where possible, where unavoidable due to the topography of the site, exceedance flows are directed to soft landscaping and vegetation. See **Appendix G** for **Surface Water Overland Flow Plan**.

It is proposed to drain surface water from the parking bays to permeable paving which will provide a measure of SuDS source control, delaying the time of entry of surface water to the network and offering water quality improvement. The new care home rooftop will be drained via traditional surface water collection features. Surface water flows from the access road are to be drained via highways gullies to retain surface water on site.

3.3 SUDS SUITABILITY ASSESSMENT

The NPPF states that SuDS should be incorporated in all new developments unless evidence of unsuitability is provided. The following SuDS components in table 3.3 have been considered for the site.

Table 3.3 - SuDS Component Assessment

SuDS Component	Description	Site Suitability	Comments
Rainwater Harvesting	Systems that collect runoff from the roof of a building or other paved surface for use.	✗	Unsafe for care home residents due to potential bacteria contamination, creating significant health and infection risk.
Green Roof	Planted soil layers on the roof of buildings that slow and store runoff.	✗	Roof layout unsuitable, TBC by architect.
Soakaway	Systems that collect and store runoff, allowing it to infiltrate into the ground.	✗	Ground conditions unsuitable, presence of mineshaft.
Pervious Pavement	Structural paving through which runoff can soak and subsequently be stored in the sub-base beneath, and/ or allowed to infiltrate into the ground below.	✓	Potential for Pervious Paving to be used for the access road and parking bays.
Filter Strip	Grass strips that promote sedimentation and filtration as runoff is conveyed over the surface.	✗	Vegetated SuDS cannot be provided because they create trip, slip, and contamination risks, which are unsafe for vulnerable residents in a care home setting.
Filter Trench	Shallow stone-filled trenches that provide attenuation, conveyance and treatment of runoff.	✗	Vegetated SuDS cannot be provided because they create trip, slip, and contamination risks,

			which are unsafe for vulnerable residents in a care home setting.
Infiltration Trench	Systems that collect and store runoff, allowing it to infiltrate to the ground.	✗	Ground conditions unsuitable.
Swale	Vegetated channels (sometimes planted) used to convey and treat runoff.	✗	Site constraints and site layout provide limited opportunity for use.
Bioretention	Shallow landscaped depressions that allow runoff to pond temporarily on the surface. Before filtering through vegetation and underlying soils.	✗	Site layout unsuitable.
Infiltration Basin	Vegetated depressions that store and treat runoff, allowing it to infiltrate into the ground.	✗	Ground conditions unsuitable
Detention Basin	Vegetated depressions that store and treat runoff.	✗	Site constraints and site layout provide limited opportunity for use.
Pond	Permanent pools of water used to facilitate treatment of runoff – runoff can also be stored in attenuation zone above pool.	✗	Site constraints and site layout provide limited opportunity for use.
Stormwater Wetlands	Permanent pools of water used to facilitate treatment of runoff – runoff can also be stored in attenuation zone above pool.	✗	Site constraints and site layout provide limited opportunity for use.

3.4 WATER QUALITY MANAGEMENT

The surface water drainage design is required to consider the potential for contaminants to be collected with surface water runoff and discharge to the wider water catchment. Following the guidance within the Ciria SuDS Manual C753, Chapter 26, the impermeable areas proposed to be modified as part of the development and to be drained have been classified as having the following pollution hazard levels:

Table 3.4 – Land Classification Pollution Hazard Indices

Land Use	Pollution Hazard Level	Total Suspended Solids	Metals	Hydrocarbons
Residential Roofs	Very low	0.2	0.2	0.05
Residential Car Parks	Low	0.5	0.4	0.4

Where appropriate, SuDS features should be used to mitigate the pollution from areas of surface water collection. It is proposed to the access road and parking bays to permeable paving. Based on Ciria C753, Chapter 26, permeable paving offers the following mitigation indices:

Table 3.4.1 – SuDS Mitigation Indices

SuDS Component	Total Suspended Solids	Metals	Hydrocarbons
Permeable Pavement	0.7	0.6	0.7

On this basis, it is considered that suitable SuDS features have been proposed for the development to mitigate potential contaminants to the wider water catchment.

3.5 MAINTENANCE ISSUES

The surface water drainage will be retained within private ownership and maintenance of the network will fall under the responsibility of the landowner. Maintenance of SuDS features will be retained within private ownership carried out in accordance with the Ciria C753 SuDS manual. See **Appendix H** for a **Typical Drainage Maintenance Schedule**.

3.6 SAFETY ISSUES

Surface water pipework and manholes will be designed in accordance with the appropriate building regulations and Sewers for Adoption to ensure suitable access for maintenance and operation as required. SuDS features will be designed in accordance with the Ciria C753 SuDS manual. The surface water pumping station will be installed and maintained in accordance with the manufacturer's guidelines, with the unit and rising main specified by a specialist.

3.7 SURFACE WATER DRAINAGE SUMMARY

Based on the investigation carried out to date, the surface water drainage strategy can be summarised as:

- Flows from the proposed development will be discharged to the 600mm diameter YW surface water sewerage to the west of the site.
- Flows from the building rooftop will be collected and drained via traditional rainwater down pipes and gullies.
- Flows from the access road will be positively drained by highway gullies into the surface water network and parking bays will be drained via permeable paving which will receive water quality treatment and attenuation.
- Flows from the rooftops and all hard-standing areas are conveyed via gravity and discharged to a pumping station, which will convey surface water flows west of the site, to a break chamber, before discharging via gravity to the YW surface water sewer.
- Flows will be discharged at a maximum flow rate to that of the greenfield runoff, at 2.2 l/s.
- Peak flows in excess of discharge rates during storms up to 1 in 100 years, plus 45% for climate change, will be attenuated below ground within the network on site to ensure there is no flooding of buildings and flooding off site.

4 FOUL WATER DRAINAGE STRATEGY

4.1 METHODOLOGY

The following methodology was used to produce a foul water Drainage Strategy for the site:

- Determine a suitable method for foul water discharge.
- Calculate the post development foul water drainage flows, in accordance with BS EN 12056-2:2000.
- Outline the maintenance procedures for the proposed drainage network & who will be responsible for the maintenance of the network, in accordance with the relevant codes of practice.
- Outline the relevant guidance to be followed with respect to safety issues of the network.

4.2 FOUL DRAINAGE DISCHARGE METHOD

The potential methods of foul water discharge, in order of preference, are:

- Discharge to an existing foul water network.
- Discharge to an existing combined water network.
- Discharge to a septic tank, with an appropriate form of treatment or another wastewater treatment system.
- Discharge to a cesspool.

Yorkshire Water (YW) have been contacted to assess if they have any sewerage assets within the vicinity of the site, see **Appendix C** for **Yorkshire Water Sewerage Plan**. To the west of the site, there is a 300mm diameter foul water sewer which flows north within Oxford Road.

It is proposed to discharge foul water flows from site utilising a new foul water connection to the YW foul sewer west of the site, at the site access. Due to the elevation difference between the site access and proposed development, a pumped system will be used to pump foul water to the site access, before discharging to a break chamber, which then conveys foul water flows to the YW foul sewer, via gravity.

4.3 FOUL WATER MAINTENANCE ISSUES

Foul water drainage within the plot boundary is anticipated to be retained within private ownership. Therefore, this drainage will be the responsibility of the landowner. Refer to **Appendix H** for the **Drainage Maintenance Schedule**. The foul water pumping station will be installed and maintained in accordance with the manufacturer's guidelines, with the unit and rising main specified by a specialist.

4.4 FOUL WATER SAFETY ISSUES

Foul water pipework and manholes have been designed in accordance with the appropriate building regulations and Sewers for Adoption, to ensure suitable access for maintenance and operation as required.

Works are to be carried out by an established and professional contractor and in accordance with standard good practice guidance. The potential for flooding, caused by surface water rainfall, during construction is to be mitigated by the contractor by providing an in-depth method statement in accordance with BS8582 2013 and CIRIA C768.

5 CONCLUSION

The drainage strategy has been produced for the proposed development of a new care facility on a greenfield site. This report has been produced to present the drainage proposals for the development and document the underlying analysis, as required by Kirklees Council planning process. The drainage strategy has been produced in accordance with the applicable regulatory framework and relevant best practice guidance, as set out within the report.

The Drainage Strategy demonstrates that the site can be suitably and appropriately drained with flows managed on site without introducing additional flood risk to the buildings, site and surrounding area. Foul water from the development is proposed to discharge through the existing foul water pumping station into the 300mm diameter YW foul water sewer. Surface water from site is proposed to discharge into the 600mm diameter YW surface water sewer west of site via gravity, with a restricted flow rate of 2.2l/s.

6 DESIGN STANDARDS

The following methodology was used to produce a SuDS strategy:

- BS EN 725 2008 – Drain and sewer systems outside buildings
- BS EN 12056-2 2000 – Gravity drainage systems inside buildings. Sanitary pipework, layout and calculation guide to the design, construction and maintenance of concrete block permeable pavements (Edition 6)
- SUDs Manual (CIRIA C753)
- Building Regulations Approved Document Part H 2000 (2002 with 2010 Amendments) Drainage and waste disposal
- PPG3 – Use and design of oil separators in surface water drainage systems
- National Building Specification
- Civil Engineering Specification for the Water Industry (7th Edition)
- Design and Construction Guidance for Foul and Surface Water Sewers Offered for Adoption Under the Code for Adoption Agreements for Water and Sewerage Companies Operating Wholly or Mainly in England
- BRE Digest 365

LIST OF APPENDICES

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APPENDIX H:	TYPICAL DRAINAGE MAINTENANCE SCHEDULE

APPENDIX A

PROPOSED SITE PLAN



Notes					
Do not scale, use figured dimensions only.					
All dimensions to be verified on site prior to the commencement of any work or the production of any shop drawing. All discrepancies to be reported to the Architect.					
This drawing is to be read in conjunction with all related Architect's and Engineer's drawings and any other relevant information.					
This drawing is copyright © of TDC Architects Ltd.					
Revision numbering: D= RIBA Stage 0-2, P= RIBA Stage 3, T= RIBA Stage 4, C = RIBA Stage 5, R = RIBA Stage 6					
REV	DATE	REVISION	INITIALS	CHECK	
P1	21.01.2026	Pre-application issue	RMJB	SEL	
P2	01.05.2026	Planning application issue	RMJB	SEL	
P3	16.05.2026	Landscaping updated to reflect latest landscape architects design	TP	RMJB	
P4	17.05.2026	Tree survey updated to latest information received	TP	RMJB	
P5	18.05.2026	Entrance road layout updated & substation relocated to retain tree T9 as part of BNG	TP	RMJB	
P6	22.06.2026	Landscaping updated to reflect latest landscape architects design (Rev B)	TP	RMJB	
P7	30.07.2026	Landscaping updated to reflect latest landscape architects design (Rev C)	TP	RMJB	
P8	18.08.2026	Pedestrian crossing indicated as per Transport Planners comments	TP	RMJB	
		Landscaping updated to reflect latest landscape architects design (Rev D)			

DRAWING STATUS	
FOR DISCUSSION (RIBA STAGE 0-2)	☐
FOR PLANNING (RIBA STAGE 3)	☒
FOR TENDER (RIBA STAGE 4)	☐
FOR CONSTRUCTION (RIBA STAGE 5)	☐
AS-BUILT (RIBA STAGE 6)	☐
AS-RECORDED (RIBA STAGE 6)	☐

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AS

ANGELA SWIFT
DEVELOPMENTS

Project
Proposed Care Home at
Oxford Road, Gomersal

Drawing Title
Proposed Site Plan

Scale 1:500 @ A1	Date Jan 2026
Drawn by RMJB	Checked by SEL

Job No. A253019	Drawing No. AL(9)901	Rev. P8
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APPENDIX B

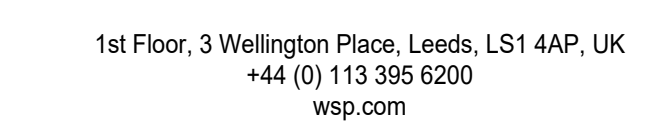
TOPOGRAPHICAL SURVEY

NOTES
Grid orientated to Ordnance Survey Grid (OSTN15)
Ordnance Survey Datum (OSGM15)
Local Scale Factor: 1:000000
Grid about station: B000
Interval: 0.25m

SURVEY STATIONS			
Name	Easting	Northing	Height
A000	420950.614	420378.393	125.596
B000	420826.147	420336.143	142.474
C000	420824.557	420368.072	142.709
D000	420791.798	420369.305	143.750
E000	420801.596	420203.629	144.491
F000	420781.615	420319.270	144.739
D001	420823.656	420301.597	142.360

[illegible]

REV	DATE	BY	DESCRIPTION	CHK	APP



WEST YORKSHIRE COMBINED AUTHORITY

GOMERSAL FIRST SCHOOL

GOMERSAL FIRST SCHOOL

SCALE: 1:200	SIZE: A0	DATE: 16/09/22
DRAWN BY: MS	CHECKED BY: CJ	APPROVED BY: PS
DRAWING No. 70081123-110-WSP-01		REV: 0

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APPENDIX C

YORKSHIRE WATER SEWERAGE PLAN

Property Identifier



Sewer Legend

	Combined Sewer		S24 Combined Sewer
	Surface Water Sewer		S24 Surface Water Sewer
	Foul Sewer		S24 Foul Sewer
	Section 104 Sewer		Rising Main
	Overflow Sewer		Abandoned Sewer
	Manhole		Syphone Sewer & Vacuum Sewer
	Pumping Station		Public Sewer Treatment Works

Please note that the direction of flow arrows may not always appear depending on the scale of the map.

Water Legend

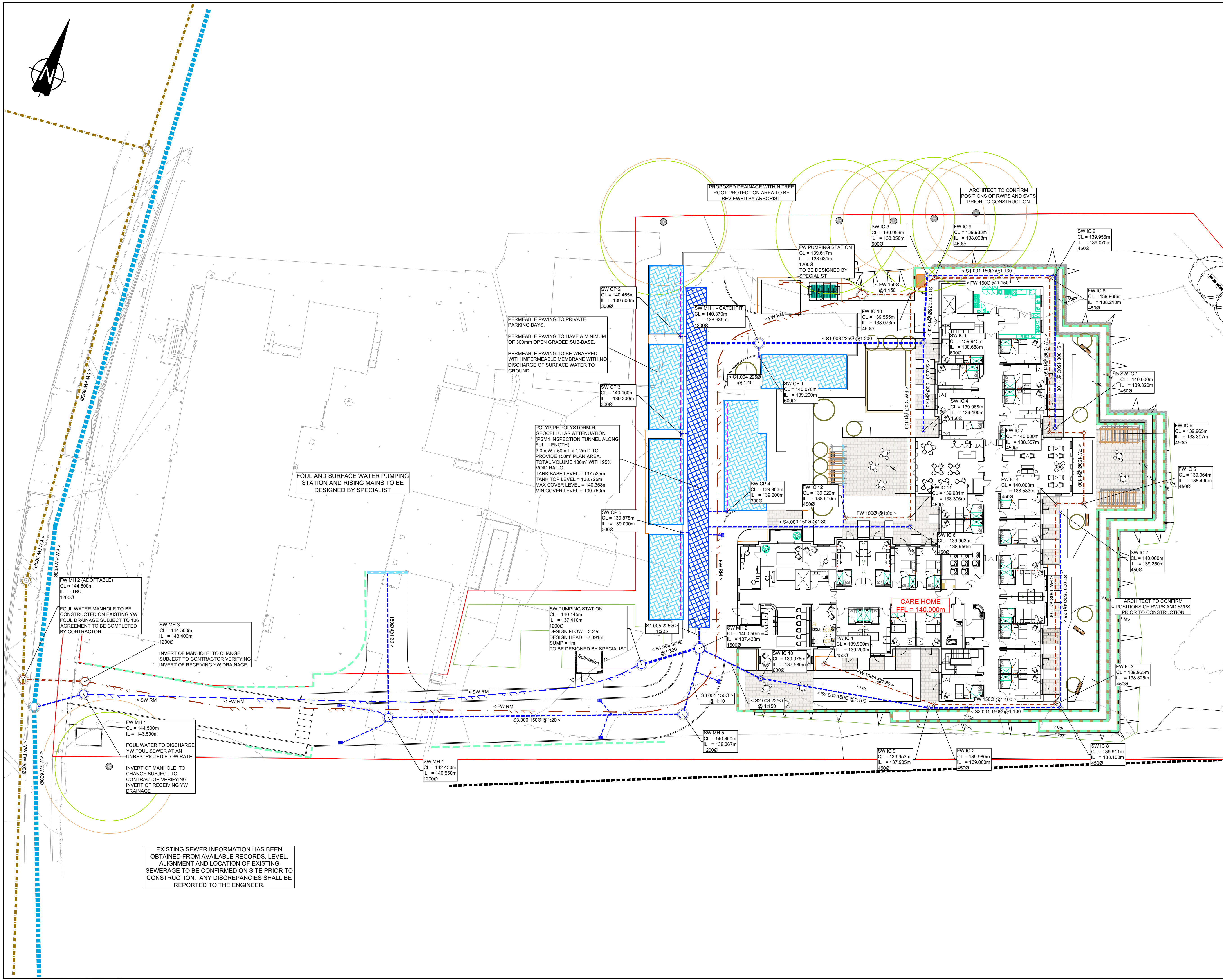
	Water Main 4" and below
	Water Main 4" and above
	Raw Water Main
	Private Water Main
	Fire Hydrant
	Pumping Station
	The assets in this area are the responsibility of another Water Undertaker



Public Waste Water Network 07/05/2026 12:05:20 OS Grid Coordinates: 420763 : 426246 Map Name : SE2026SE svcGISSafeMovePD

APPENDIX D

PROPOSED DRAINAGE ARRANGEMENT



- LEGEND:**
- SITE BOUNDARY
 - EXISTING YW FOUL WATER DRAINAGE
 - EXISTING YW SURFACE WATER DRAINAGE
 - PROPOSED FOUL WATER DRAINAGE
 - PROPOSED FOUL WATER DRAINAGE
 - PROPOSED PERMEABLE PAVING FOR PARKING BAY MIN. 300mm SUB-BASE
 - PROPOSED ATTENUATION TANK
 - PROPOSED PERFORATED PIPE
 - PROPOSED SURFACE WATER RISING MAIN
 - PROPOSED FOUL WATER RISING MAIN
 - PROPOSED LINEAR CHANNEL DRAIN
 - PROPOSED FOUL GULLY FOR REFUSE
 - PROPOSED RETAINING WALL

NOTES

1. REFER TO ARCHITECTS DRAWINGS FOR CONFIRMATION OF LANDSCAPING ARRANGEMENTS.

DRAWING INFORMATION

2. THIS DRAWING IS BASED ON ORDNANCE SURVEY AND TOPOGRAPHICAL SURVEY INFORMATION 70081123-110-WSP-01 DATED 16-09-2022. WE CAN ACCEPT NO LIABILITY FOR DESIGN BASED ON INFORMATION RECEIVED.

3. PROPOSED SITE INFORMATION BASED THE TDC ARCH DESIGN DRAWING A233015-10/0901 PROPOSED SITE PLAN.

4. EXISTING TREE ROOT PROTECTION AREAS TAKEN FROM AMENITY TREE DRAWING TR-01-OVERVIEW DATED 11-05-2026

- GENERAL NOTES:**
- THIS DRAWING IS BASED ON ORDNANCE SURVEY AND TOPOGRAPHICAL SURVEY INFORMATION RECEIVED. WE CAN ACCEPT NO LIABILITY FOR DESIGN BASED ON INFORMATION RECEIVED.
 - THIS DESIGN HAS BEEN CARRIED OUT TO APPROPRIATE STANDARDS BUT IT IS TO BE CHECKED IN ACCORDANCE WITH PROCUREMENT AND REQUIREMENTS PRIOR TO THE COMMENCEMENT OF WORKS.
 - ALL LEVELS, DIMENSIONS AND DETAILS TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OR FABRICATION.
 - NO EXISTING BELOW GROUND CONDITIONS HAVE BEEN PROVIDED. THEREFORE, ALL INFORMATION IS TO BE VERIFIED FURTHER TO ANY SITE WORKS.
 - NO EXISTING SERVICES INFORMATION HAVE BEEN PROVIDED. THEREFORE, ALL INFORMATION IS TO BE VERIFIED FURTHER TO ANY SITE WORKS.
 - EXISTING GROUND LEVELS AND GROUND PROFILES HAVE BEEN TAKEN FROM THE INFORMATION PROVIDED AND AS SUCH ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORKS. ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
 - COVER LEVELS SHOWN ARE APPROXIMATE ONLY, SUBJECT TO THE ARCHITECT'S EXTERNAL WORKS AND LANDSCAPING SCHEME.
 - GREASE TRAP REQUIREMENTS, ASSOCIATED FITTINGS AND INSTALLATION, WHETHER BURIED OR ABOVE GROUND, TO M&E CONTRACTOR'S DESIGN / DETAIL. M&E CONTRACTOR TO CONFIRM GREASE TRAP PROPOSALS PRIOR TO COMMENCEMENT OF DRAINAGE WORKS.
 - ALL RWPS AND SVPS TO BE FITTED WITH RODDABLE ACCESS PLATES. ALL DRAINS TO HAVE RODDABLE ACCESS.
 - ALL FOUL CONNECTIONS TO BE VENTED TO ATMOSPHERE. ALL POP-UPS LOCATED AT THE HEAD OF DRAINS TO BE VENTED ABOVE GROUND. ABOVE GROUND DRAINAGE DETAILS TO BE CONFIRMED BY THE M&E CONTRACTOR.
 - ALL NEW DRAINAGE TO BE CONSTRUCTED ADJACENT NEW AND PROPOSED TREE PLANTING TO BE PROTECTED AGAINST ROOT ACTIVITY USING 'ROOTCONTROL' ROOT BARRIER MATERIAL BY GREEN-TECH. ALL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - THE CONTRACTOR IS OBLIGED TO APPLY FOR A SECTION 106 CONNECTION TO THE WATER AUTHORITY WHEN CONNECTING DIRECTLY OR INDIRECTLY TO THE PUBLIC SEWERAGE NETWORK. COMPLETE APPLICATIONS SHOULD BE MADE A MINIMUM OF THREE WEEKS PRIOR TO THE PLANNED OUTFALL CONSTRUCTION DATE.
 - THE CONSTRUCTION OF ANY PRIVATE DRAINAGE WORKS WITHIN THE PUBLIC HIGHWAY SHALL REQUIRE THE CONTRACTOR TO OBTAIN A SECTION 50 LICENSE FROM THE LOCAL AUTHORITY PRIOR TO COMMENCEMENT OF WORK.

P3	ARCHITECTURAL PLAN REVISED	AT	AS	23.09.26
P2	ARCHITECTURAL PLAN REVISED	AT	AS	29.06.26
P1	INFORMATION ISSUE	AT	AS	01.06.26
REV	DESCRIPTION	DRAWN	CKD	DATE

DRAWING STATUS:

PRELIMINARY

DRAWING ISSUED FOR INFORMATION ONLY

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Civil Engineering
Structural Engineering
Geo-Environmental Engineering

CLIENT:	ANGELA SWIFT DEVELOPMENTS
PROJECT:	OXFORD ROAD CARE HOME GOMERSAL
DRAWING TITLE:	PROPOSED DRAINAGE GENERAL ARRANGEMENT
SCALE:	1:250
DRAWN:	AT
CKD:	AS
DATE:	01.06.26
JOB NUMBER:	JCC26-106
DRAWING NUMBER:	C-DR-100
REV:	P3
SIZE:	A1

APPENDIX E

PROPOSED SURFACE WATER DRAINAGE CALCULATIONS

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	30	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Simulation Settings

Rainfall Methodology	FEH-22	Skip Steady State	x	Check Discharge Rate(s)	x
Rainfall Events	Singular	Drain Down Time (mins)	240	Check Discharge Volume	x
Summer CV	1.000	Additional Storage (m³/ha)	20.0		
Analysis Speed	Normal	Starting Level (m)			

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
30	0	0	0
100	45	0	0

Node PS Offline Pump Control

Flap Valve	x	Design Depth (m)	2.391	Switch off depth (m)	0.000
Loop to Node	MH 3	Design Flow (l/s)	2.2		
Invert Level (m)	137.409	Switch on depth (m)	0.100		

Depth (m)	Flow (l/s)
2.391	2.200

Node CP 1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	139.200	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	
Safety Factor	2.0	Width (m)	6.200	Inf Depth (m)	0.300
Porosity	0.30	Length (m)	10.000		

Node CP 3 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	139.200	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	0.300
Porosity	0.30	Length (m)	25.000		

Node CP 4 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	139.200	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	
Safety Factor	2.0	Width (m)	6.200	Inf Depth (m)	0.300
Porosity	0.30	Length (m)	16.120		

Node CP 5 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	139.000	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	
Safety Factor	2.0	Width (m)	6.200	Inf Depth (m)	0.300
Porosity	0.30	Length (m)	10.000		

Node STORAGE TANK Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	137.525
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	150.0	150.0	1.200	150.0	202.1	1.201	0.0	202.1

Node CP 2 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	139.500	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	24	Depth (m)	
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	0.300
Porosity	0.30	Length (m)	10.000		

Node CP 1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	139.200	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	
Safety Factor	2.0	Width (m)	6.200	Inf Depth (m)	0.300
Porosity	0.30	Length (m)	10.000		

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.83%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	2	11	139.119	0.049	3.5	0.0219	0.0000	OK
15 minute summer	3	11	138.901	0.051	4.1	0.0207	0.0000	OK
15 minute summer	5	11	138.870	0.070	7.2	0.0320	0.0000	OK
15 minute summer	4	10	139.129	0.029	2.2	0.0185	0.0000	OK
15 minute summer	7	10	139.276	0.026	2.4	0.0203	0.0000	OK
15 minute summer	MH 1	11	138.734	0.055	10.2	0.0623	0.0000	OK
360 minute summer	STORAGE TANK	368	137.924	0.399	10.9	56.9356	0.0000	SURCHARGED
15 minute summer	6	10	139.001	0.045	4.0	0.0416	0.0000	OK
15 minute summer	1	10	139.354	0.034	2.1	0.0251	0.0000	OK
15 minute summer	CP 5	11	139.010	0.010	0.6	0.0117	0.0000	OK
15 minute summer	8	10	138.150	0.050	4.4	0.0185	0.0000	OK
15 minute summer	9	11	137.967	0.062	6.2	0.0209	0.0000	OK
360 minute summer	MH 2	368	137.924	0.486	5.1	0.5500	0.0000	SURCHARGED
360 minute summer	PS	368	137.924	0.515	1.1	0.5828	0.0000	OK
15 minute summer	CP 3	10	139.213	0.013	1.3	0.0173	0.0000	OK
15 minute summer	CP 4	10	139.221	0.020	2.5	0.0549	0.0000	OK
15 minute summer	CP 1	11	139.230	0.030	2.7	0.1919	0.0000	OK
15 minute summer	CP 2	11	139.513	0.013	0.5	0.0162	0.0000	OK
360 minute summer	MH 3	368	143.420	0.017	0.5	0.0190	0.0000	OK
360 minute summer	OUTFALL	368	142.976	0.017	0.5	0.0000	0.0000	OK
360 minute summer	10	368	137.924	0.344	2.9	0.1635	0.0000	SURCHARGED
15 minute summer	MH 4	10	140.581	0.031	3.9	0.0477	0.0000	OK
15 minute summer	MH 5	10	138.407	0.040	7.5	0.0593	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	2	1.001	3	3.4	0.698	0.218	0.0912	
15 minute summer	3	1.002	5	4.1	0.480	0.111	0.0853	
15 minute summer	5	1.003	MH 1	7.3	0.808	0.198	0.2178	
15 minute summer	4	5.000	5	2.2	0.456	0.080	0.0664	
15 minute summer	7	2.000	8	2.4	0.672	0.066	0.1037	
15 minute summer	MH 1	1.004	STORAGE TANK	10.2	1.391	0.122	0.0516	
360 minute summer	STORAGE TANK	1.005	MH 2	-4.5	-0.271	-0.133	0.1114	
15 minute summer	6	4.000	STORAGE TANK	3.9	0.869	0.197	0.1386	
15 minute summer	1	1.000	2	2.1	0.539	0.110	0.0880	
15 minute summer	CP 5	CP 5	STORAGE TANK	0.6	1.480	0.021	0.0007	
15 minute summer	8	2.001	9	4.3	0.721	0.241	0.1169	
15 minute summer	9	2.002	10	6.1	0.903	0.347	0.1707	
360 minute summer	MH 2	1.006	PS	1.1	0.020	0.017	0.6112	
360 minute summer	PS	Pump	MH 3	0.5				12.7
15 minute summer	CP 3	CP 3	STORAGE TANK	1.3	2.172	0.035	0.0010	
15 minute summer	CP 4	CP 4	STORAGE TANK	2.5	2.152	0.090	0.0033	
15 minute summer	CP 1	3.000_1	MH 1	2.4	1.267	0.179	0.0051	
15 minute summer	CP 2	CP 2	MH 1	0.5	0.812	0.037	0.0015	
360 minute summer	MH 3	11.000	OUTFALL	0.5	0.551	0.060	0.0227	12.7
360 minute summer	10	2.003	MH 2	2.6	0.339	0.062	0.3982	
15 minute summer	MH 4	3.000	MH 5	3.8	1.197	0.096	0.1404	
15 minute summer	MH 5	3.001	MH 2	7.4	2.034	0.142	0.0333	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.34%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	2	11	139.184	0.114	13.6	0.0515	0.0000	OK
15 minute summer	3	11	138.976	0.126	16.2	0.0513	0.0000	OK
15 minute summer	5	11	138.954	0.153	28.9	0.0701	0.0000	OK
15 minute summer	4	10	139.158	0.058	8.8	0.0375	0.0000	OK
15 minute summer	7	10	139.303	0.053	9.6	0.0408	0.0000	OK
15 minute summer	MH 1	11	138.797	0.118	39.8	0.1337	0.0000	OK
360 minute summer	STORAGE TANK	368	138.576	1.051	28.8	149.8670	0.0000	SURCHARGED
15 minute summer	6	10	139.058	0.102	15.8	0.0936	0.0000	OK
15 minute summer	1	10	139.389	0.069	8.3	0.0519	0.0000	OK
15 minute summer	CP 5	10	139.020	0.020	2.5	0.0411	0.0000	OK
360 minute summer	8	368	138.576	0.476	3.7	0.1756	0.0000	SURCHARGED
360 minute summer	9	368	138.576	0.671	5.3	0.2248	0.0000	SURCHARGED
360 minute summer	MH 2	368	138.576	1.138	13.2	1.2871	0.0000	SURCHARGED
360 minute summer	PS	368	138.576	1.167	1.7	1.3199	0.0000	OK
15 minute summer	CP 3	10	139.225	0.025	5.0	0.0567	0.0000	OK
15 minute summer	CP 4	10	139.242	0.042	10.0	0.1946	0.0000	OK
15 minute summer	CP 1	12	139.266	0.066	10.4	0.8617	0.0000	OK
15 minute summer	CP 2	11	139.528	0.027	2.1	0.0618	0.0000	OK
360 minute summer	MH 3	368	143.428	0.025	1.1	0.0285	0.0000	OK
360 minute summer	OUTFALL	368	142.984	0.025	1.1	0.0000	0.0000	OK
360 minute summer	10	368	138.576	0.996	7.1	0.4731	0.0000	SURCHARGED
15 minute summer	MH 4	10	140.614	0.064	15.4	0.0976	0.0000	OK
360 minute summer	MH 5	368	138.576	0.209	6.4	0.3101	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	2	1.001	3	13.4	0.966	0.863	0.2614	
15 minute summer	3	1.002	5	16.3	0.630	0.444	0.2563	
15 minute summer	5	1.003	MH 1	28.9	1.153	0.788	0.6038	
15 minute summer	4	5.000	5	8.7	0.668	0.321	0.1535	
15 minute summer	7	2.000	8	9.5	0.906	0.266	0.3320	
15 minute summer	MH 1	1.004	STORAGE TANK	39.8	1.980	0.479	0.1419	
360 minute summer	STORAGE TANK	1.005	MH 2	-12.1	-0.448	-0.357	0.1114	
15 minute summer	6	4.000	STORAGE TANK	15.5	1.230	0.785	0.3913	
15 minute summer	1	1.000	2	8.2	0.751	0.440	0.2495	
15 minute summer	CP 5	CP 5	STORAGE TANK	2.5	2.263	0.085	0.0018	
360 minute summer	8	2.001	9	3.7	0.642	0.206	0.3416	
360 minute summer	9	2.002	10	5.1	0.538	0.285	0.4418	
360 minute summer	MH 2	1.006	PS	1.7	0.034	0.027	0.6112	
360 minute summer	PS	Pump	MH 3	1.1				27.5
15 minute summer	CP 3	CP 3	STORAGE TANK	5.0	3.241	0.137	0.0025	
15 minute summer	CP 4	CP 4	STORAGE TANK	9.8	3.181	0.360	0.0089	
15 minute summer	CP 1	3.000_1	MH 1	8.9	1.728	0.655	0.0137	
15 minute summer	CP 2	CP 2	MH 1	2.0	1.206	0.149	0.0042	
360 minute summer	MH 3	11.000	OUTFALL	1.1	0.698	0.137	0.0406	27.4
360 minute summer	10	2.003	MH 2	6.9	0.380	0.162	0.3982	
15 minute summer	MH 4	3.000	MH 5	15.3	1.806	0.382	0.3689	
360 minute summer	MH 5	3.001	MH 2	6.4	1.071	0.122	0.1609	

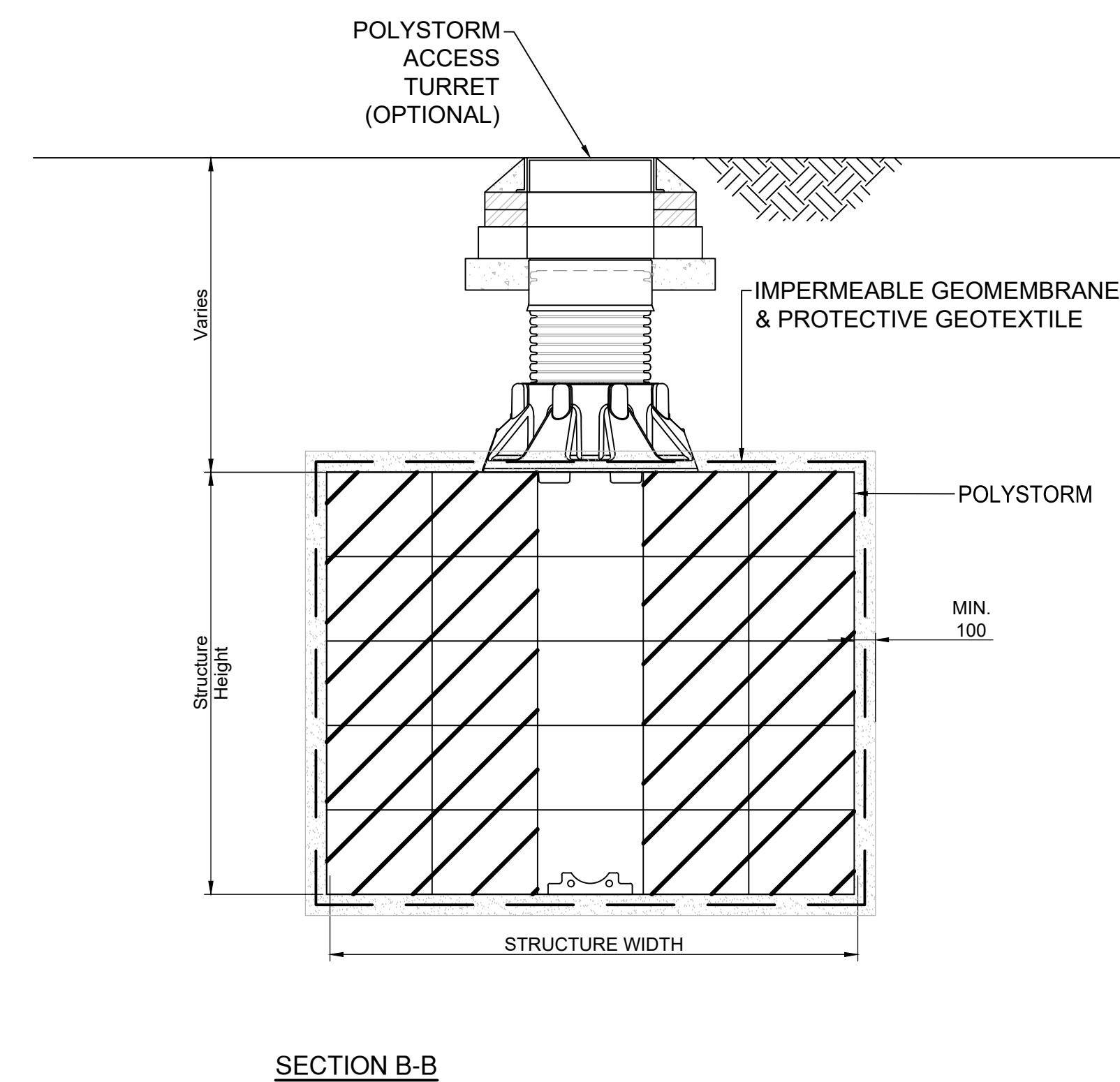
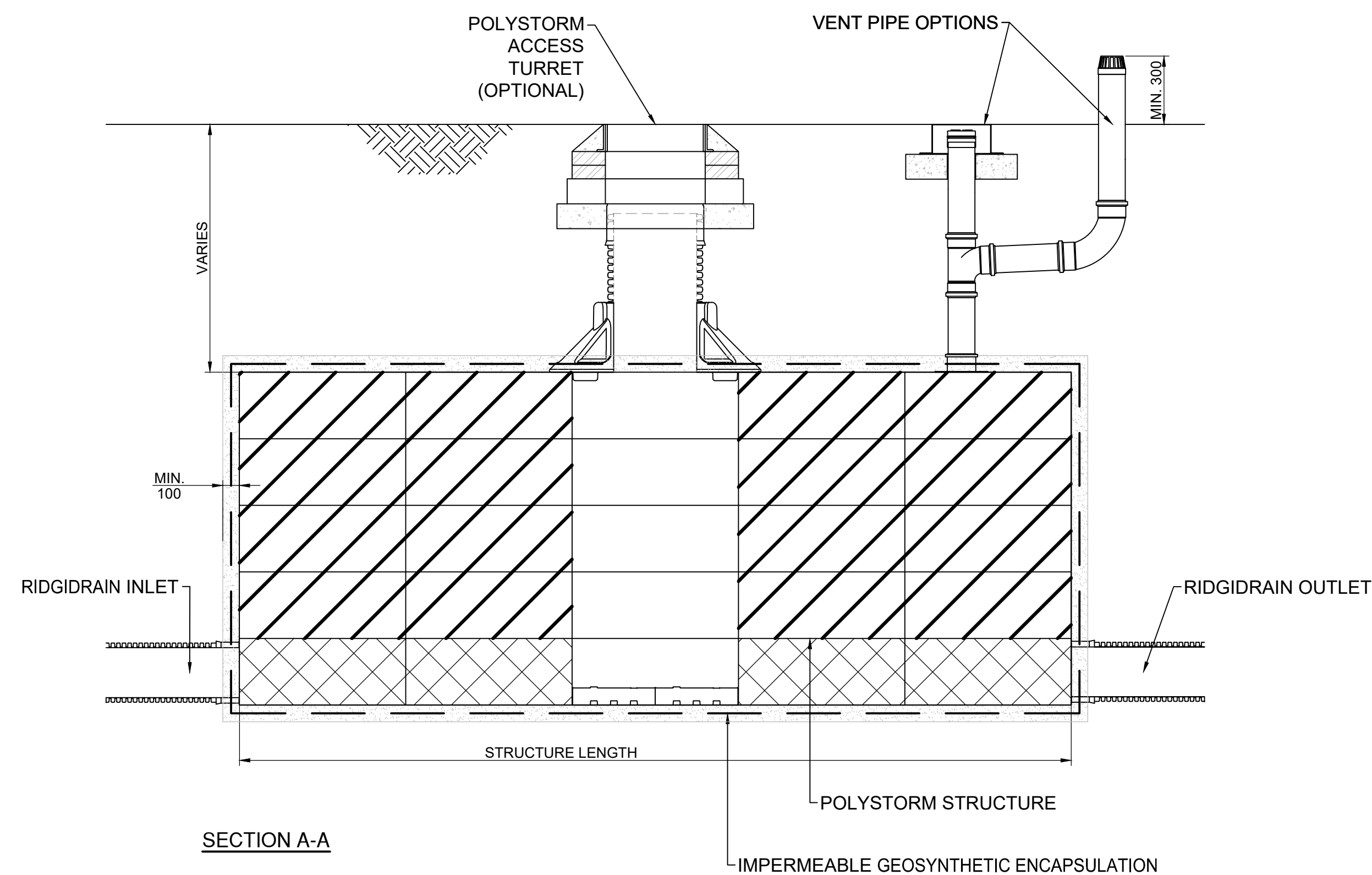
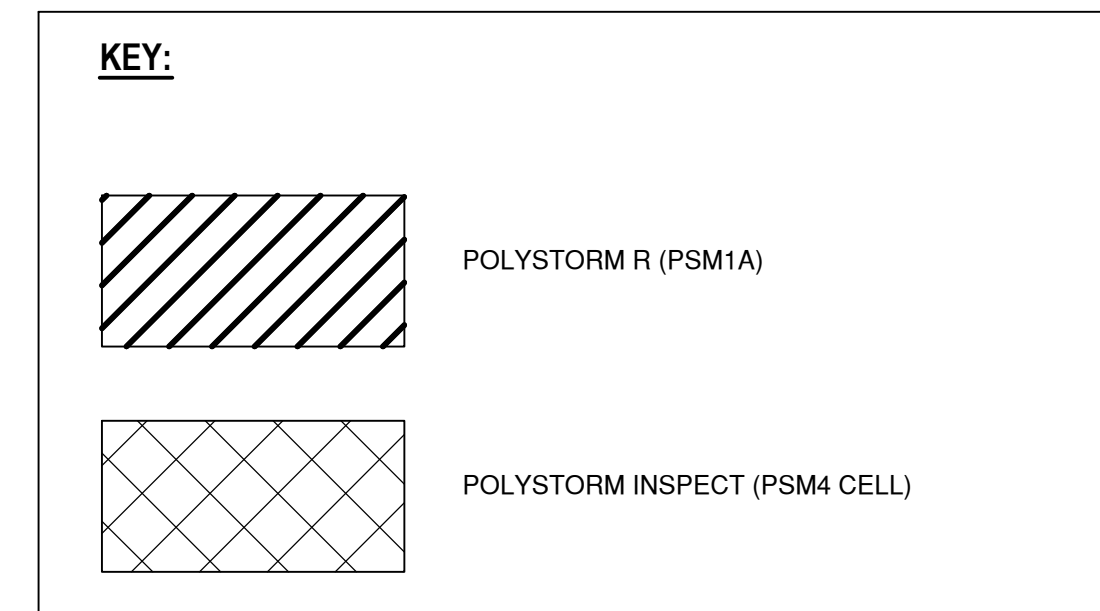
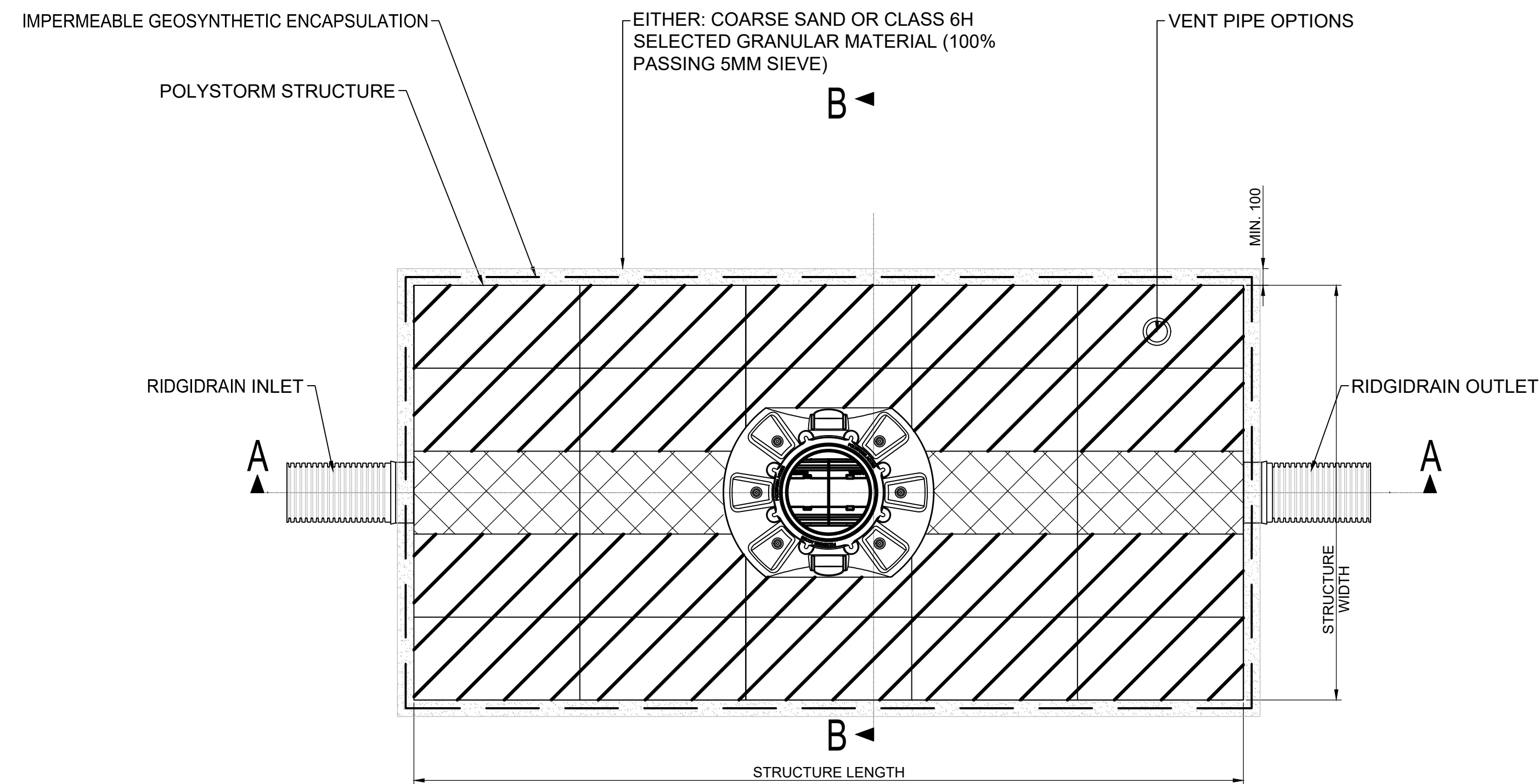
Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 97.49%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	2	368	139.874	0.804	5.3	0.3636	0.0000	FLOOD RISK
360 minute summer	3	368	139.875	1.024	6.3	0.4190	0.0000	FLOOD RISK
360 minute summer	5	368	139.875	1.075	11.3	0.4911	0.0000	FLOOD RISK
360 minute summer	4	368	139.875	0.775	3.4	0.4982	0.0000	FLOOD RISK
15 minute summer	7	12	139.895	0.645	17.8	0.4981	0.0000	FLOOD RISK
360 minute summer	MH 1	368	139.875	1.196	15.9	1.3521	0.0000	SURCHARGED
360 minute summer	STORAGE TANK	368	139.874	2.349	51.1	171.2686	0.0000	FLOOD RISK
360 minute summer	6	368	139.875	0.919	6.2	0.8414	0.0000	FLOOD RISK
360 minute summer	1	368	139.874	0.554	3.2	0.4140	0.0000	FLOOD RISK
360 minute summer	CP 5	368	139.875	0.874	13.7	15.4596	0.0000	FLOOD RISK
360 minute summer	8	368	139.874	1.774	6.8	0.6547	0.0000	FLOOD RISK
360 minute summer	9	368	139.874	1.969	9.1	0.6597	0.0000	FLOOD RISK
360 minute summer	MH 2	368	139.875	2.437	22.5	2.7559	0.0000	FLOOD RISK
360 minute summer	PS	368	139.875	2.466	2.6	2.7887	0.0000	OK
360 minute summer	CP 3	368	139.875	0.675	6.5	20.7970	0.0000	FLOOD RISK
360 minute summer	CP 4	368	139.875	0.675	7.0	18.2709	0.0000	FLOOD RISK
360 minute summer	CP 1	368	139.875	0.675	8.9	23.6438	0.0000	FLOOD RISK
360 minute summer	CP 2	368	139.875	0.375	1.4	4.9163	0.0000	SURCHARGED
360 minute summer	MH 3	304	143.440	0.037	2.2	0.0415	0.0000	OK
360 minute summer	OUTFALL	304	142.995	0.036	2.2	0.0000	0.0000	OK
360 minute summer	10	368	139.875	2.295	12.4	1.0901	0.0000	FLOOD RISK
15 minute summer	MH 4	10	140.643	0.093	28.6	0.1417	0.0000	OK
360 minute summer	MH 5	368	139.875	1.508	11.7	2.2375	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	2	1.001	3	5.2	0.784	0.337	0.3312	
360 minute summer	3	1.002	5	6.3	0.528	0.172	0.3949	
360 minute summer	5	1.003	MH 1	11.2	0.905	0.307	0.9609	
360 minute summer	4	5.000	5	3.4	0.493	0.124	0.2257	
15 minute summer	7	2.000	8	15.6	1.025	0.435	0.5049	
360 minute summer	MH 1	1.004	STORAGE TANK	15.9	1.571	0.191	0.2809	
360 minute summer	STORAGE TANK	1.005	MH 2	-20.7	-0.585	-0.611	0.1114	
360 minute summer	6	4.000	STORAGE TANK	6.1	0.984	0.312	0.5462	
360 minute summer	1	1.000	2	3.2	0.592	0.170	0.3956	
360 minute summer	CP 5	CP 5	STORAGE TANK	-13.0	1.724	-0.446	0.0129	
360 minute summer	8	2.001	9	6.2	0.607	0.348	0.3416	
360 minute summer	9	2.002	10	8.7	0.581	0.490	0.4418	
360 minute summer	MH 2	1.006	PS	2.6	0.037	0.040	0.6112	
360 minute summer	PS	Pump	MH 3	2.2				56.5
360 minute summer	CP 3	CP 3	STORAGE TANK	-5.5	2.445	-0.151	0.0129	
360 minute summer	CP 4	CP 4	STORAGE TANK	-4.7	2.455	-0.173	0.0227	
360 minute summer	CP 1	3.000_1	MH 1	-6.6	1.432	-0.483	0.0208	
360 minute summer	CP 2	CP 2	MH 1	-1.2	0.927	-0.084	0.0196	
360 minute summer	MH 3	11.000	OUTFALL	2.2	0.853	0.280	0.0681	56.5
360 minute summer	10	2.003	MH 2	12.0	0.302	0.283	0.3982	
15 minute summer	MH 4	3.000	MH 5	28.4	1.885	0.709	0.6354	
360 minute summer	MH 5	3.001	MH 2	10.5	1.207	0.201	0.1609	

APPENDIX F

PROPOSED ATTENUATION DETAILS



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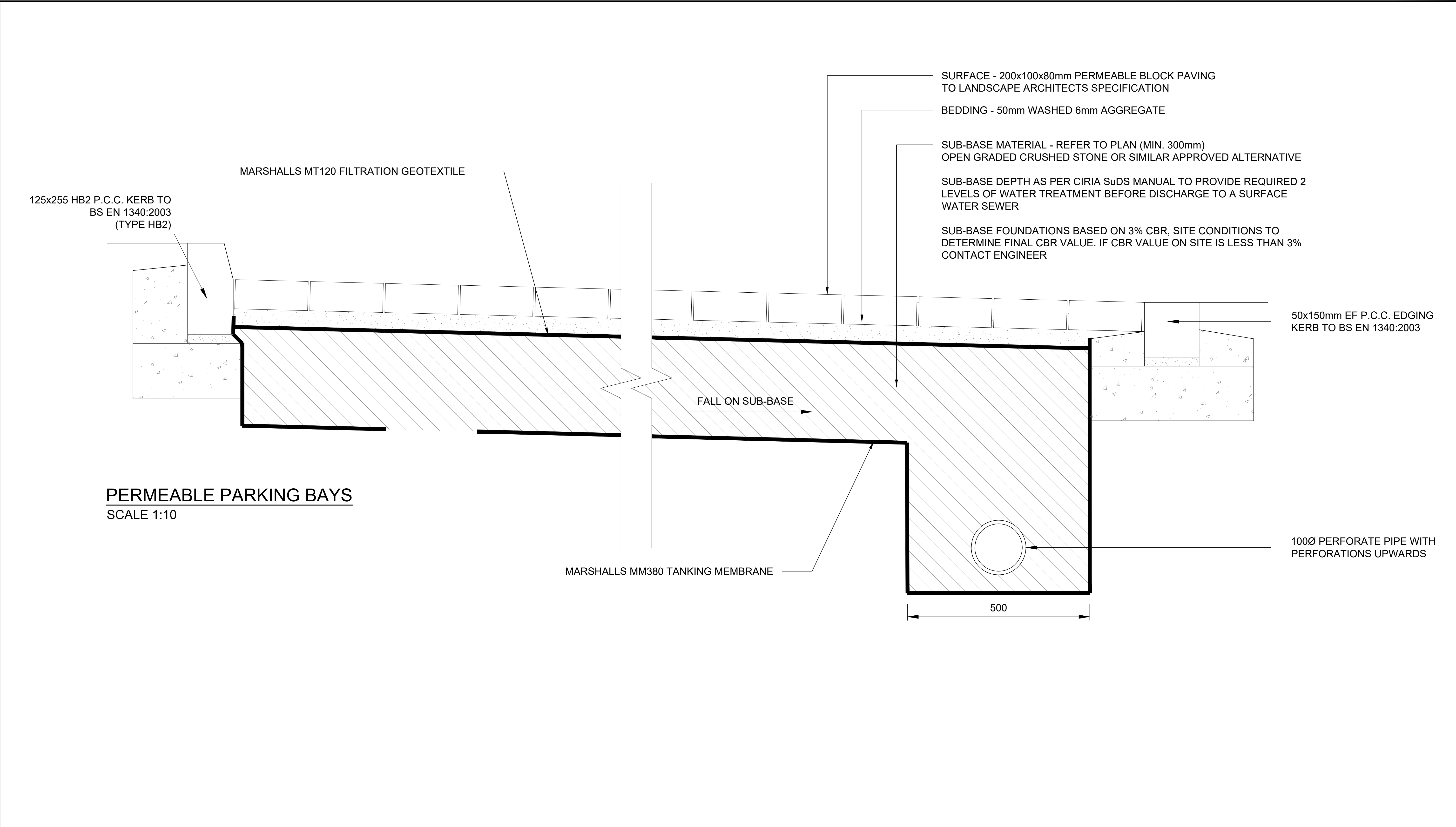
Unit 16, The Stottie Shed
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Gosforth, Newcastle upon Tyne
NE3 1XD

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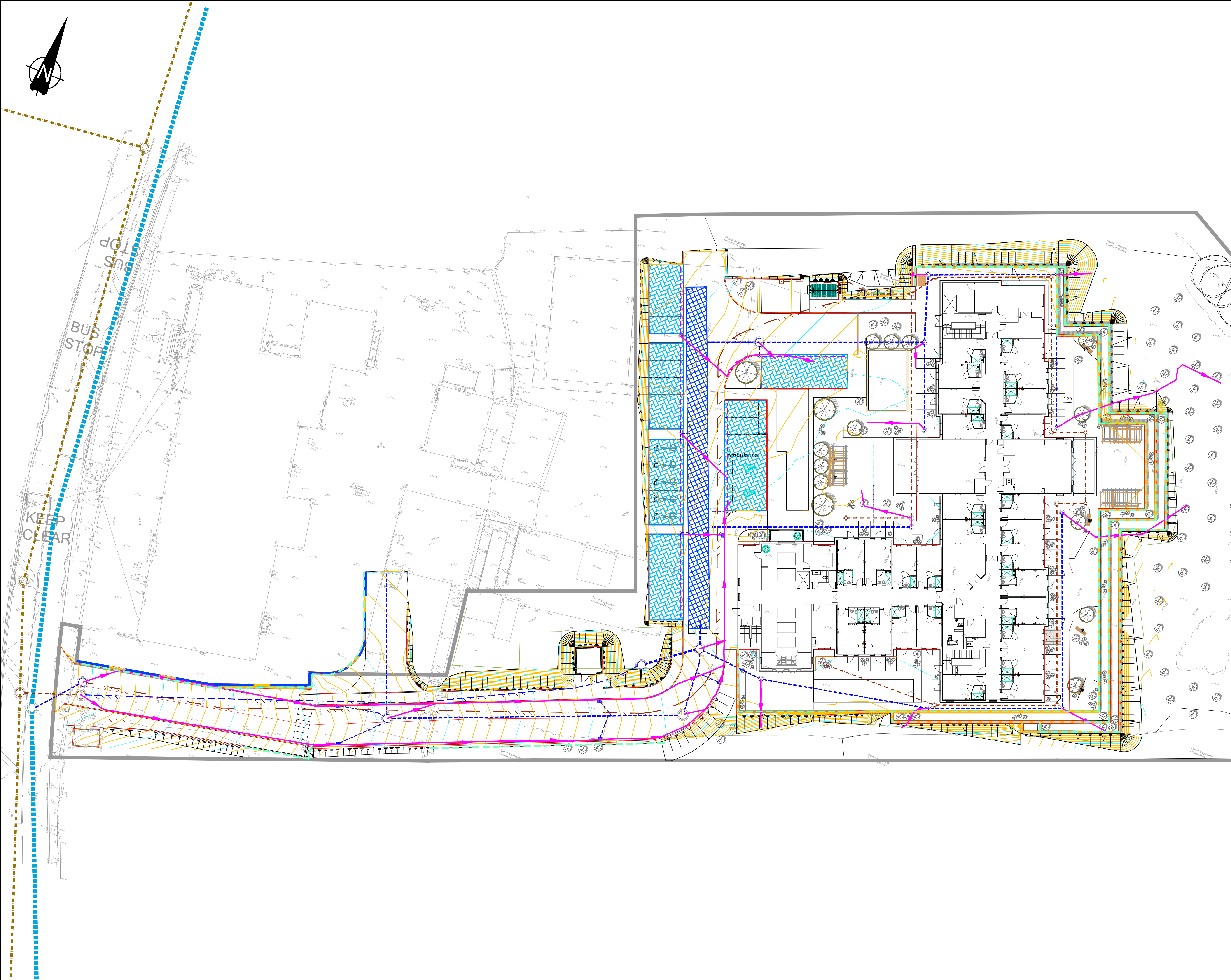
Client: ANGELA SWIFT DEVELOPMENTS LTD.		Project: OXFORD ROAD CARE HOME, GOMERSAL	
Drawing Title: PERMEABLE PAVING DETAILS			
Scale: NTS	Drawn: AT	Checked: AS	Date: 01/06/26
Job Number: JCC26 - 106	Drawing Number: JCC26-106-121		Rev: A
			Size: A3



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	Drawing Title: PERMEABLE PAVING DETAILS				
	Scale: 1:10	Drawn: AT	Checked: AS	Date: 01/06/26	
	Job Number: JCC26 - 106	Drawing Number: JCC26-106-120		Rev: A	Size: A3

APPENDIX G

PROPOSED DRAINAGE OVERLAND FLOW PATH



- LEGEND:**
- EXISTING YW FOUL WATER DRAINAGE
 - EXISTING YW SURFACE WATER DRAINAGE
 - PROPOSED FOUL WATER DRAINAGE
 - PROPOSED COMBINED WATER DRAINAGE
 - PROPOSED PERMEABLE PAVING FOR PARKING BAY MIN. 300mm SUB-BASE
 - PROPOSED ATTENUATION TANK
 - PROPOSED PERFORATED PIPE
 - PROPOSED SURFACE WATER RISING MAIN
 - PROPOSED FOUL WATER RISING MAIN
 - PROPOSED LINEAR CHANNEL DRAIN
 - PROPOSED FOUL GULLY FOR REFUSE
 - SURFACE WATER OVERLAND FLOW PATH
 - MAJOR CONTOUR (0.5m INTERVALS)
 - MINOR CONTOUR (0.1m INTERVALS)
 - PROPOSED RETAINING WALL
 - PROPOSED 1:2 BATTER / EMBANKMENT

NOTES

1. REFER TO ARCHITECTS DRAWINGS FOR CONFIRMATION OF LANDSCAPING ARRANGEMENTS.

DRAWING INFORMATION

2. EXISTING SITE INFORMATION BASED ON TOPOGRAPHICAL SURVEY CARRIED OUT BY SURVEY SOLUTIONS LTD. DRAWING NO. 73275MUG-01.

3. PROPOSED SITE INFORMATION BASED ON TDC ARCHITECTS DESIGN LTD. DRAWING NO. A243016 - AL(1)100 - REV.3.

GENERAL NOTES:

1. THIS DRAWING IS BASED ON ORDNANCE SURVEY AND TOPOGRAPHICAL SURVEY INFORMATION RECEIVED. WE CAN ACCEPT NO LIABILITY FOR DESIGN BASED ON INFORMATION RECEIVED.

2. THIS DESIGN HAS BEEN CARRIED OUT TO APPROPRIATE STANDARDS BUT IT IS TO BE CHECKED IN ACCORDANCE WITH PROCUREMENT AND REQUIREMENTS PRIOR TO THE COMMENCEMENT OF WORKS.

3. ALL LEVELS, DIMENSIONS AND DETAILS TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OR FABRICATION.

4. NO EXISTING BELOW GROUND CONDITIONS HAVE BEEN PROVIDED. THEREFORE, ALL INFORMATION IS TO BE VERIFIED FURTHER TO ANY SITE WORKS.

5. NO EXISTING SERVICES INFORMATION HAVE BEEN PROVIDED. THEREFORE, ALL INFORMATION IS TO BE VERIFIED FURTHER TO ANY SITE WORKS.

6. EXISTING GROUND LEVELS AND GROUND PROFILES HAVE BEEN TAKEN FROM THE INFORMATION PROVIDED AND AS SUCH ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORKS. ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

P3	ARCHITECTURAL PLAN REVISED	AT	AS	23.09.26
P2	ARCHITECTURAL PLAN REVISED	AT	AS	29.06.26
P1	INFORMATION ISSUE	AT	AS	01.06.26
REV	DESCRIPTION	DRAWN	CKD	DATE

DRAWING STATUS:

PRELIMINARY

DRAWING ISSUED FOR INFORMATION ONLY

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CLIENT:			
ANGELA SWIFT DEVELOPMENTS			
PROJECT:			
OXFORD ROAD CARE HOME GOMERSAL			
DRAWING TITLE:			
PROPOSED OVERLAND FLOW PLAN			
SCALE:	DRAWN:	CKD:	DATE:
1:250	AT	AS	01.06.26
JOB NUMBER:	DRAWING NUMBER:	REV:	SIZE:
JCC26-106	C-DR-101	P3	A1

APPENDIX H

TYPICAL DRAINAGE MAINTENANCE SCHEDULE

1 DRAINAGE MAINTENANCE SCHEDULE

Maintenance of all drainage features not adopted by the local water authority will be the responsibility of the landowner. The works will need to be carried out by a competent contractor.

1.1 SEWERAGE MAINTENANCE SCHEDULE

Sewerage maintenance schedule covers collection gullies, pipework, chambers, attenuation tanks and flow control devices.

MAINTENANCE SCHEDULE	REQUIRED ACTION	TYPICAL FREQUENCY
Regular Maintenance	Inspect and identify any areas that are not operating correctly including checking for blockages, if required, take remedial action.	Monthly for 3 months, then annually
	Remove debris from the catchment surface (where it may cause risk to performance)	Monthly
	Remove sediment from access chambers	Annually, or as required
Remedial Actions	Repair/ rehabilitate inlets, outlets, overflows and vents.	As required
Monitoring	Inspect/ check all inlets, outlets, flow control, overflows and vents to ensure they are in good condition and operating as designed.	Annually
	Survey inside of pipework and tank for sediment build up and remove if necessary	Every 5 years or as required

1.2 PERMEABLE PAVING MAINTENANCE SCHEDULE

Sewerage maintenance schedule covers permeable paving.

MAINTENANCE SCHEDULE	REQUIRED ACTION	TYPICAL FREQUENCY
Regular Maintenance	Brushing and Vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequent as required, based on site-specific observations of clogging or manufacturer's recommendations – paying particular attention to areas where water runs onto permeable surfacing from adjacent impermeable areas as this is the most likely to collect the most sediment

Occasional Maintenance	Stabilise and mow contributing and adjacent areas	As Required
	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying	As Required – once per year on less frequently used pavements
Remedial Actions	Remediate and landscaping which, through vegetation maintenance or soil slip, which has been raised to within 50mm of the level of the paving	As Required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replacing lost jointing material.	As Required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for 3 months after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	Three monthly, 48 hours after large storms in first 6 months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chamber	Annually

As required by CDM 2015 designs have been produced to ensure that all maintenance risks have been identified, eliminated, reduced and/ or controlled where appropriate.

Any manufacturer specific maintenance requirements are to be included as part of the site health and safety file.