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Surface Water Drainage Strategy AEG10011_BA14_Lower Dunge Farm_06

Site Address: Lower Dunge Farm
Bratton Road
West Ashton
Trowbridge
BA14 6AX

UK Experts in Flood Modelling, Flood Risk
Assessments, and Surface Water Drainage Strategies

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Document Issue Record

Project: Lower Dunge Farm

Prepared for: Woolley & Wallis

Reference: AEG10011_BA14_Lower Dunge Farm_06

Site Location: Lower Dunge Farm, Bratton Road, West Ashton, Trowbridge, BA14 6AX

Issue	Date	Author	Check	Authorised	Comments
1	23/01/2026	Alix Rouvrais	Victoria Walker	Victoria Walker	Draft for Comment

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1. Introduction

- 1.1. Aegaea have been commissioned by Woolley & Wallis to undertake a Surface Water Drainage Strategy to support planning application ref: PL/2025/08773 at the below address.

Site Overview

- 1.2. The location of the proposed development is Lower Dunge Farm, Bratton Road, West Ashton, Trowbridge, BA14 6AX.



Figure 1: Site Location

- 1.3. The site is situated and accessed from Bratton Road, West Ashton.
- 1.4. The overall site area is approximately 39,600m² (3.960ha) and is currently Agricultural land.
- 1.5. Wiltshire Council is the Local Planning Authority (LPA) and also the designated Lead Local Flood Authority (LLFA).

Development Proposals

- 1.6. The proposed development comprises of the construction of a two agricultural barns & yard. The proposed development layout is contained within Appendix A.

Ground Conditions

- 1.7. A review of publicly available information indicates that the site is in an area of “Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils” that drains to “Stream network” (Soilscapes), BGS mapping indicates the bedrock deposit as being “Kimmeridge Clay Formation-Mudstone”.
- 1.8. Infiltration tests were undertaken in accordance with BRE 365 in September 2025. Test 1 showed insufficient fall in water level to calculate permeability and tests 2 & 3 were aborted as a result. Infiltration testing confirms permeability is not feasible for the site. Refer to Appendix B for infiltration results.

2. Surface Water Drainage Strategy

Proposed Drainage Hierarchy

- 2.1. Current guidance indicates that the following surface water disposal options should be considered, listed in order of preference:
- i. **Disposal via collection and reuse:** It is proposed to collect roof runoff from the proposed buildings via 3no. 30,000 litre rainwater harvesting tanks to the cattle shed and 2no. 30,000 litre rainwater harvesting tanks to the Farmyard Manure (FYM) store. It is proposed to use the stored run-off for washdown and cattle drinking water following treatment within the proprietary rainwater harvesting tanks.
 - ii. **Disposal via on-site infiltration systems:** As stated within Section 1.8 above, infiltration testing has been undertaken however, due to insufficient fall in water level, tests were aborted. It has therefore been deemed that discharge via infiltration systems is unviable.
 - iii. **Disposal to a watercourse/surface water body:** There is a watercourse/ditch network located along the site boundary, approximately 300m to the southwest of the proposed structures.

It is understood that Bratton Road to the northeast drains to an existing highway ditch. However, development flows would require pumping due to level differences in order to discharge here.
 - iv. **Disposal to surface water sewer/highway drain:** Wessex Water sewer mapping does not show any surface water sewers within the vicinity of the site.
 - v. **Disposal to combined sewer:** Wessex Water sewer mapping does not show any combined sewers within the vicinity of the site.
- 2.2. In accordance with the SuDS hierarchy, it is proposed that surface water flows from the development are to discharge to the watercourse/ditch network to the southwestern boundary.

Existing Greenfield Run-off Rates

- 2.3. The existing greenfield runoff rates for site have been calculated at 1.5 l/s using the IH124 Method as contained within Appendix C
- 2.4. Existing topography falls in a south easterly direction, towards the existing ditch network.

Design Criteria

- 2.5. The surface water drainage strategy has been developed on the following design criteria:
- Runoff rates limited to QBar rate of 1.5 l/s
 - Designed for the 100 year + 45% Climate change allowance.
 - An allowance of 10% has been allowed for urban creep.
 - Runoff will outfall to the nearest existing watercourse/surface water body. Where, this is not feasible due to design constraints (i.e. where the nearest existing ditch is not deep enough to collect the flows, does not have sufficient hydraulic capacity, presence of root protection zones, etc.), flows will be directed to the nearest feasible watercourse.

Existing Drainage System

- 2.6. Wessex water mapping shows no public sewers within proximity to the development. Refer to appendix D for mapping.
- 2.7. No existing drainage networks have been located within the planning boundary.

Proposed Drainage Strategy

- 2.8. In accordance with the drainage hierarchy as set out within the Building Regulations, NPPF and Ciria (C753) guidance, the discharge location for surface water flows has been reviewed for the site and is deemed that the destination criteria for surface water run-off has been met with proposals for re-use and discharge to watercourse/ditch.
- 2.9. It is proposed that surface water generated from the proposed development will be managed on site via a number of attenuation & SuDS features such as 5 no. 30,000 litre rainwater harvesting tanks located at the base of Rainwater Pipes (RWP) and an attenuation basin.
- 2.10. Where feasible, RWP's will discharge to large 30,000 litre water storage tanks with overflows discharging to the gravity drainage network.
- 2.11. An attenuation basin has been located to the north of the development adjacent to the proposed buildings to attenuate flows prior to discharge into the existing ditch network. SuDS features have been sized to accommodate a 1 in 100-year rainfall event + 45% climate change + 10% urban creep.
- 2.12. The proposed drainage layout & details can be found in Appendix E, with the drainage calculations included in Appendix F.

3. Future Maintenance Strategy

General Management

- 3.1. The onsite surface water drainage network will be managed throughout the lifetime by the property owner.
- 3.2. All drainage, whether piped or SuDS require regular maintenance. the tables below provide an overview of general maintenance tasks and frequency of which they need to be undertaken in accordance with CIRIA C753.

Maintenance Schedule	Required Action	Typical frequency
Regular Maintenance	Inspect for sediment and debris in catchpit manholes and gullies. Clean out as required	Twice Annually
	Cleaning of gutters and any filters on downpipes	Annually (or as required based on inspections)
	Trimming any roots that may be causing blockages	Annually (or as required)
Occasional Maintenance	Remove sediment and debris in catchpits, gullies, attenuation devices and inside concrete manhole rings.	As required, based on inspections.
Remedial actions	Reconstruct and/or replace components, if performance deteriorates or failure/blockage occurs.	As required
	Replacement of clogged components (flow restriction)	As required
Monitoring	Inspect silt traps/gullies/catchpits and note rate of sediment accumulation.	Monthly in the first year and then annually
	Check attenuation devices	Annually

The required maintenance for each component making up the drainage system is scheduled in the tables below, based on CIRIA report C753 – The SuDS manual.

Pond

General maintenance for pond as per CIRIA C753.

Maintenance Schedule	Required Action	Typical frequency
Regular Maintenance	Remove Litter and debris	Monthly
	Cut the grass – public areas	Monthly (or as required)
	Inspect marginal and bankside vegetation and remove nuisance plants (for first 3 years)	Monthly (during growing season)
	Inspect inlets, outlets, banksides, structures, pipework etc. for evidence of blockage and/or physical damage	Monthly (as start, then as required)
	Inspect water body for signs of poor water quality	Monthly (May – October)
	Inspect silt accumulation rates in any forebay and in main body of the pond and establish appropriate removal frequencies; undertake contamination testing once some build-up has occurred, to inform management and disposal options	Half yearly
Occasional Maintenance	Remove sediment from the main body of big ponds when pool volume is reduced by 20%	With effective pre-treatment, this will only be required rarely, e.g. every 25-50 years
Remedial Maintenance	Repair erosions or other damage	As required
	Replant, where necessary	As required
	Aerate pond when signs of eutrophication are detected	As required
	Realign riprap or repair other damage	As required
	Repair / rehabilitate inlets, outlets and overflows	As required

Maintenance of ponds is relatively straightforward, and typically there should only be a small amount of extra work required for a SuDS pond feature over and above what is necessary for standard green space.

Rainwater Harvesting

Maintenance Schedule	Required Action	Typical frequency
Regular Maintenance	Inspection of the tank for debris and sediment build-up, inlets/outlets/withdrawal device, overflow areas, filters.	Annually (and following poor performance)
	Cleaning of tank, inlets, outlets, gutters, withdrawal devices and roof drain filters of silts and other debris	Annually (and following poor performance)
Occasional Maintenance	Cleaning and/or replacement of any filters	Three monthly (or as required)
Remedial Actions	Repair of overflow erosion damage or damage to tank	As required

Guidance provided by the manufacturer of the product should take precedence over maintenance guidance above. Many of the specific maintenance activities can be undertaken as part of general building maintenance/cleaning i.e. cleaning gutters and downpipes, inspecting and cleaning filters, checking the storage tank for leaks and debris, maintaining overflow pipes, and occasionally cleaning the entire tank to remove sediment buildup; the frequency of these tasks depends on factors like local climate and debris accumulation.

Hydro-Brake (Vortex Flow Control)

Maintenance Schedule	Required Action	Typical frequency
Regular Maintenance	Remove sediment and debris from flow control chambers and upstream manholes	Monthly (for the first 12 months, then 6 monthly).
Remedial Actions	Replace or clean hydrobrake if performance deteriorates or failure occurs.	As necessary.
Monitoring	Check flow control to ensure emptying is occurring.	Quarterly and post high intensity storm event.

Guidance provided by manufacturer of product should take precedence over maintenance guidance above.

4. Pollution Prevention & Water Quality Management

SuDS Mitigation Indices

- 4.1. Chapter 26 of the CIRIA C753 The SuDS Manual, provides design advice to meet water quality standards by adopting the SuDS train treatment mechanism and thereby reduce the risk of pollution by evaluating potential pollution hazards at the outset.
- 4.2. The proposed site layout provides the opportunity to introduce SuDS into the scheme to reduce potential contaminant risk further.
- 4.3. Runoff from Commercial / Industrial roofing: Low Potential for metal Leaching are generally viewed as low risk (as per Table 26.2 of C753), shown in the tables below.

Pollutant Hazard Indices

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Other Roofs (typically commercial/industrial roofs)	Low	0.3	0.2*	0.05

* up to 0.8 where there is potential for metals to leach from the roof.

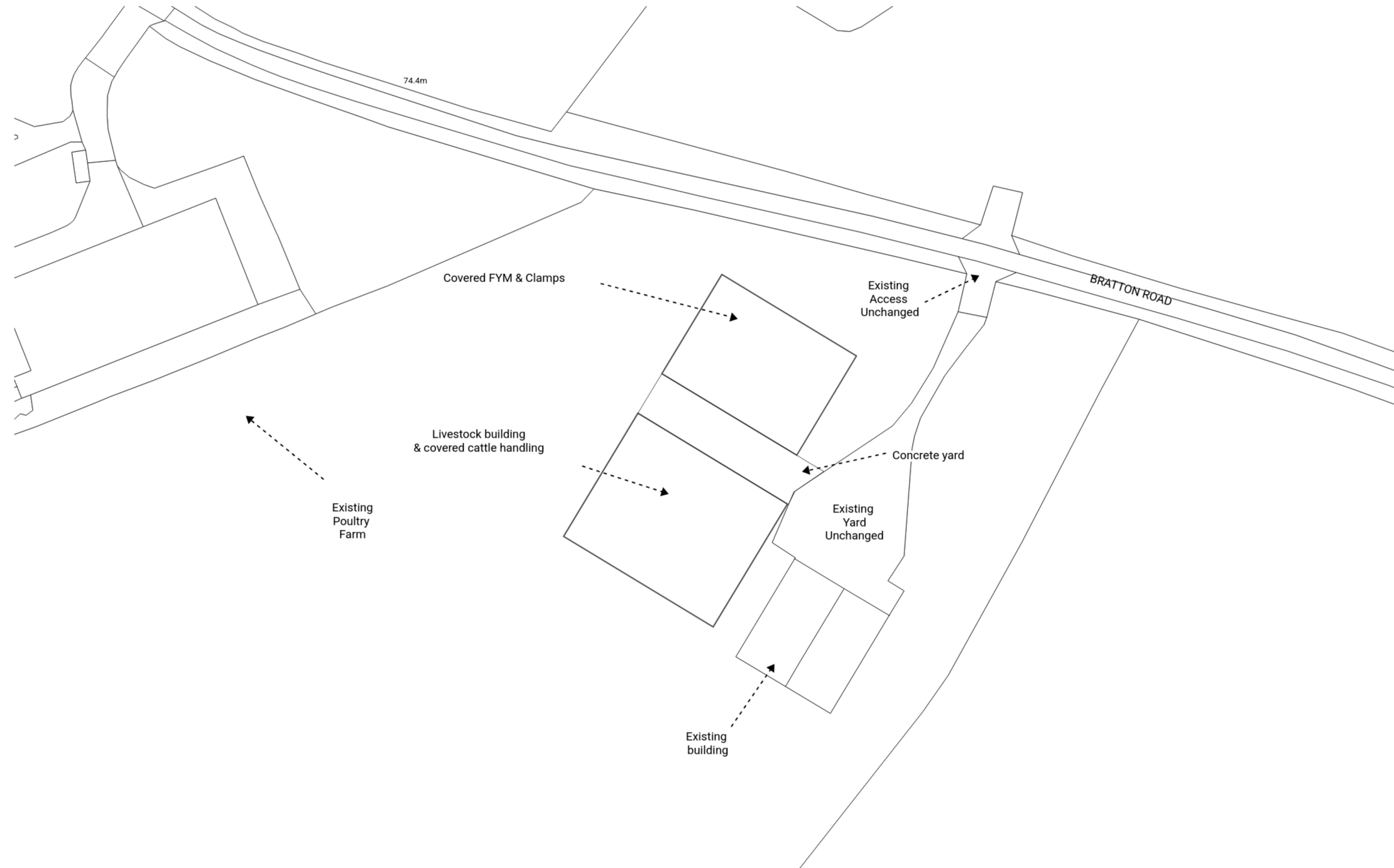
SuDS Mitigation Indices

	Mitigation Indices				Indices for Calculation		
	TSS	Metals	Hydrocarbons		TSS	Metals	Hydrocarbons
Pond	0.7	0.7	0.5	100%	0.7	0.7	0.5
Total Mitigation Indices score					0.7	0.7	0.5
Sufficiency of Pollution Mitigation Indices					Sufficient (No additional mitigation required)		

- 4.4. The mitigation indices offered by the pond exceed the hazard indices from the runoff generated from commercial/industrial roofing with Low potential for metal Leaching.

It is therefore considered that the proposed pond along with the proprietary rainwater harvesting system on site are appropriate and acceptable in terms of water quality and provides adequate mitigation.

Appendix A - Proposed Development Layout



Appendix B - Infiltration testing

West Ashton**SOAKAWAY FACTUAL REPORT****Report Number:** R-G0805-01**Date:** September 2025**Client:**

TAC Page & Partners
Lower Dunge Farm
Bratton Road
West Ashton
Trowbridge
BA14 6AX

Report Status:	Final		
Issue Number:	P01		
Issue Date:	September 2025		
Prepared By:	I. Parsons B.Sc., FGS		
Signed:			
Checked By:	C. Pristavec M.E.Sci., FGS		
Signed:			



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1.INTRODUCTION

1.1 Instruction

Wessex and West Ground Investigation Limited (WWGI) were instructed by Tim Page of TAC Page & Partners (the Client) to carry out a Soakaway Assessment for the site known as 'West Ashton'. The instruction to proceed is contained in email dated 20th August 2025.

1.2 Proposed Development

At the time of writing, the future site use is a proposed cattle shed.

1.3 Brief and Report Scope

The general specification for the works was provided by the Client and incorporated the brief to undertake soakaway testing. The investigation comprised four machine excavated trial pits with in situ testing and the provision of a factual report.

This report is based upon full factual records of the site work carried out and the ground conditions encountered in the exploratory holes.

1.4 Limitations

The recommendations and opinions expressed in this report are based on the strata observed in the exploratory holes, the results of the site and laboratory tests or data provided by others. WWGI take no responsibility for conditions that have not been revealed by the exploratory holes, or which occur between them. Information provided from other sources is taken in good faith and WWGI cannot guarantee its accuracy.

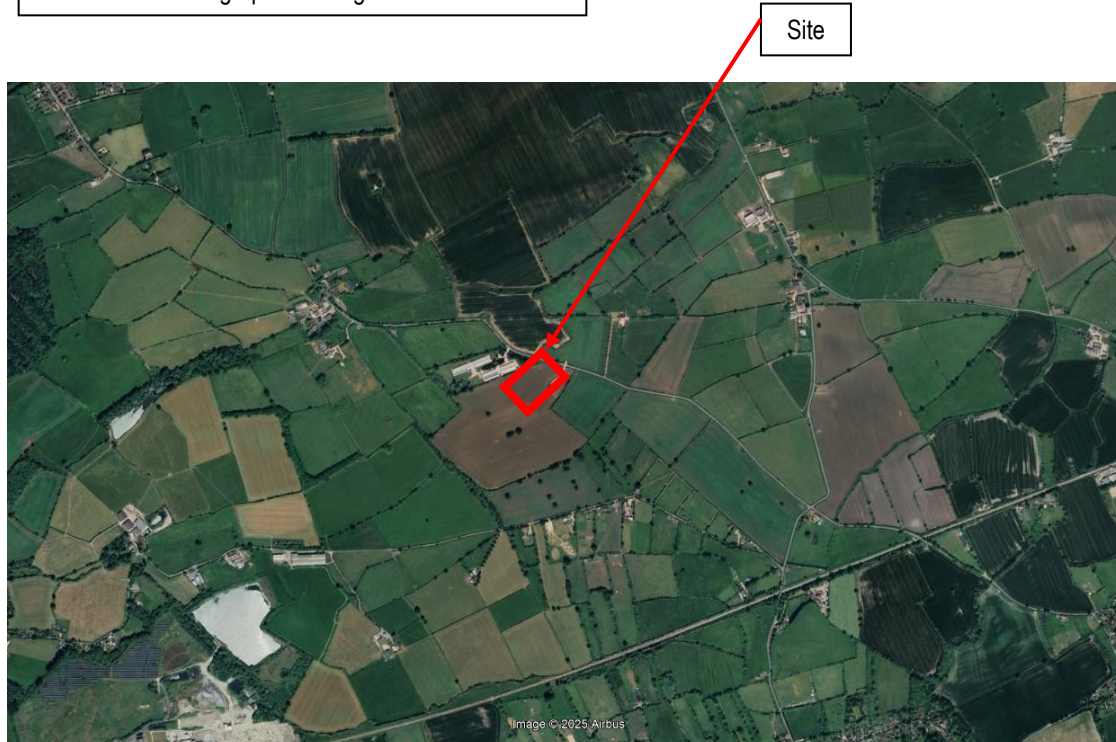
The report has been prepared exclusively for the Client, for the site area indicated, and for the purpose stated. WWGI accepts no responsibility for any site, client or type of development not indicated in this report. This report should be reviewed at all stages of construction by someone familiar with the terms and assumptions it contains. It is essential that a suitably qualified and experienced engineer be appointed for the design of the works, and supervise construction.

2.THE SITE

2.1 Site Location and Description

The site is located approximately 1km north west of the village of Edington and 7km south west of the town of Trowbridge, Wiltshire. The National Grid Reference of the site is ST 90062 54130. A Site Location Plan is presented in the Appendix A and an aerial photograph of the site is below.

Aerial Photograph Showing Site Location.



At the time of the investigation the site was a single agricultural field given to crop. The site was relatively level with a drainage ditch along the northern and western boundary. Agricultural use surrounds the site in all directions.

2.2 Published Geology

The published geological map of the area, Sheet 281 Frome (2000) and the British Geological Survey (BGS) online Onshore GeoIndex portal record the site to be underlain by the Jurassic Kimmeridge Clay Formation. Superficial deposits are recorded to comprise glacial head deposits of clay, silt, sand and gravel. .

3.FIELDWORK

3.1 General

The fieldwork was carried out by WWGI on the 9th September 2025 and consisted of four machine excavated trial pits with BRE 365 soakaway infiltration testing.

The fieldwork was carried out generally in accordance with BS 5930:2020 *Code of Practice for Site Investigations*, and the Client's instructions, unless otherwise stated. Investigation locations were selected by WWGI based on the proposed development layout and the specification provided by the Client.

All exploratory hole locations were scanned for buried services using a Cable Avoidance Tool (CAT) to check for underground services.

3.2 Machine Excavated Trial Pits

Four machine excavated trial pits were excavated to depths of up to 2.80mbgl using a 5t tracked 360 excavator. The trial pits were backfilled immediately on completion of logging and testing.

3.3 Soakaway Tests

Soakaway infiltration testing was carried out in within all trial pits in general accordance with BRE Digest 365 (2016), the results of which are included in Appendix B of this report.

3.4 The Logging of Soils and Rocks

The logging of soils and rocks has been carried out in accordance with BS5930 except where superseded by the soil and rock description methodology in BS EN14688-1, BS EN 14688-2 and BS EN 14689-1.

3.5 Drainage

The infiltration recorded during soakaway testing did not yield meaningful results with an infiltration value unable to be calculated at any location due to the 75% and 25% effective depths not being attained. The ground conditions at the site may not be suitable for soakaway drainage and a positive drainage system may need to be adopted - possibly by connection into existing drainage. Checks should be made to ensure the drainage is capable of taking increased capacity if appropriate.

4. LIST OF REFERENCES

British Geological Survey. Frome. England and Wales Sheet 281. Solid and Drift, 2000. 1:50 000. BGS Keyworth, Nottingham.

NHBC Standards, Chapter 5.3 – Drainage below ground.

BS EN 1997-1. 2007. Eurocode 7: Geotechnical Design. Part 1 General Rules. British Standards Institution, 2013 (revised text).

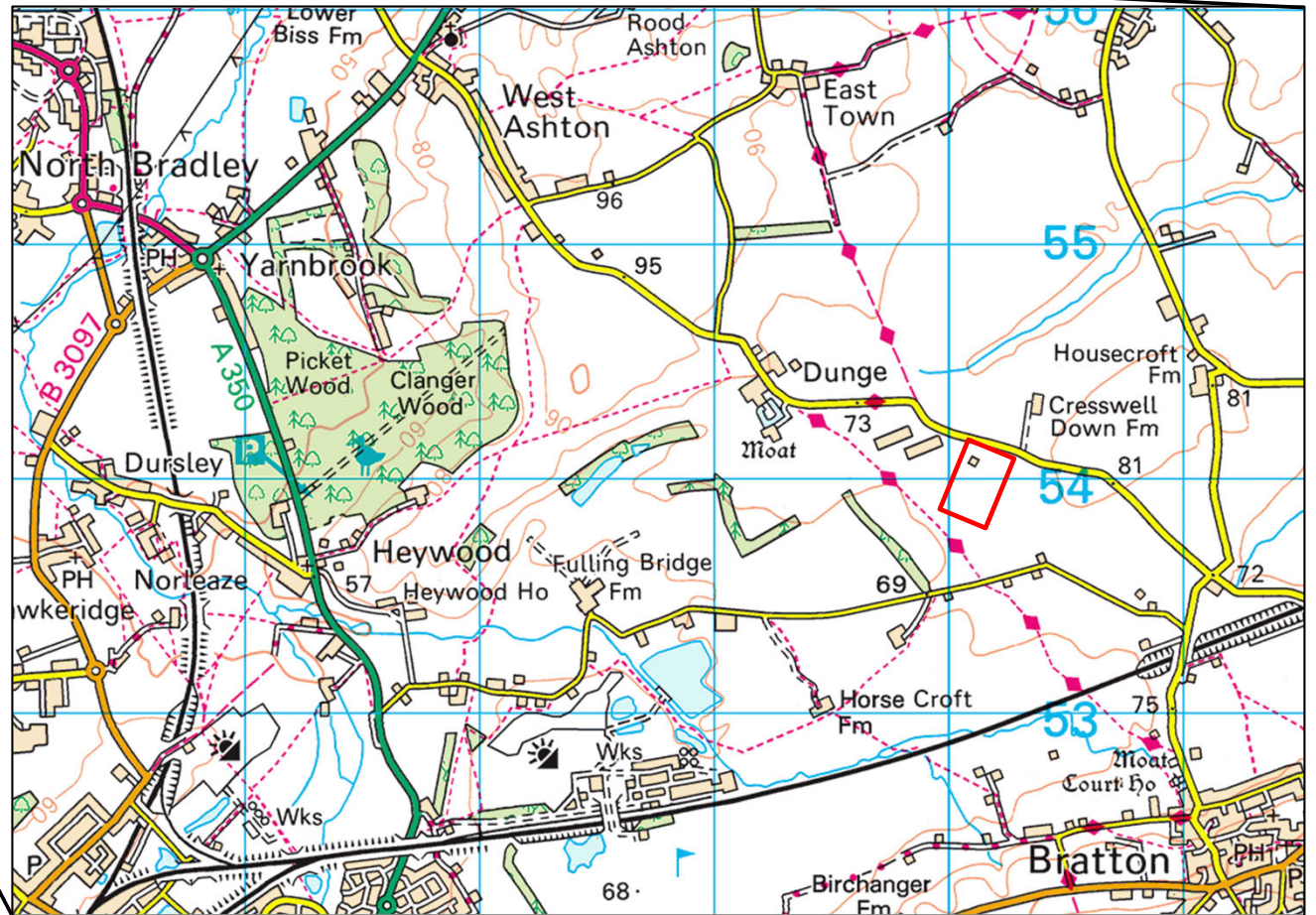
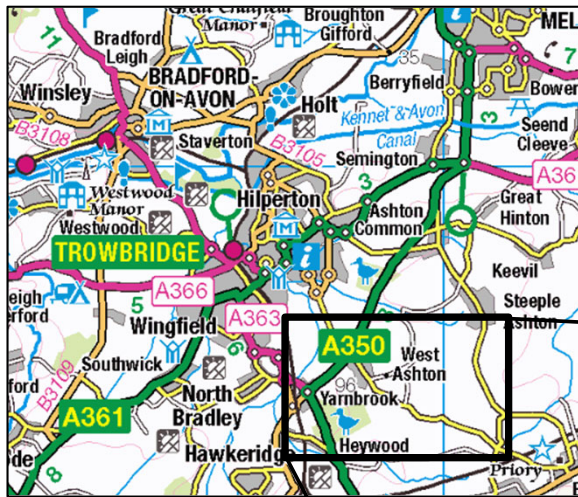
BS EN 1997-2. 2007. Eurocode 7: Geotechnical Design. Part 2 Ground Investigation and testing. British Standards Institution, 2010 (revised text).

BS 5930. 2020. Code of practice for ground investigations. British Standards Institution.

BS EN ISO 22475-1. Geotechnical investigation and testing – Sampling methods and groundwater measurements – Part 1 Technical principles for execution.

Building Research Establishment, Special Digest 365, Soakaway Design, 2016.

APPENDIX A – DRAWINGS



Key
 The Site

Status	Final	
Scale	NTS	Current Issue Signatures
		Author C. Pristavec
Datum	N/A	Checker I. Parsons
Grid	N/A	Approver I. Parsons
© Copyright Reserved		

Project	West Ashton
Title	Site Location Plan

		
Drawing No.	Project No.	Issue No.
0001	G0805	01



Key



Trial Pit Location

Status

Final

Scale

NTS

Current Issue Signatures

Author

C. Pristavec

Datum

N/A

Checker

I. Parsons

Grid

N/A

Approver

I. Parsons

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Project

West Ashton

Title

Exploratory Hole Plan



Drawing No.

0002

Project No.

G0805

Issue No.

01

APPENDIX B EXPLORATORY HOLE RECORDS

SOAKAWAY INFILTRATION DATA

Key to Exploratory Hole Symbols and Abbreviations

SAMPLE TYPES

B	Bulk disturbed sample	ES	Environmental soil sample	U	Undisturbed sample
C	Core sample	EW	Environmental water sample	UT	Undisturbed thin wall sample
CBR-D	Disturbed sample from CBR test area	G	Gas sample	W	Water sample
CBR-U	Undisturbed sample from CBR test area	L	Liner sample		
D	Small disturbed sample	SPT	SPT split spoon sample		

IN-SITU TESTING

SPTs	Standard Penetration Test (using a split spoon sampler)
SPTc	Standard Penetration Test (using a solid 60 degree cone)
N	Recorded SPT 'N' Value *
-/-	Blows/Penetration (mm) after seating blows totalling 150 mm
MX	Mexi Probe Test (records CBR as %)
HV	Hand Shear Vane Test (undrained shear strength quoted in kPa)
HP	Hand Penetrometer Test (kg/m ³)
()	Denotes residual test value
PID	Photo Ionisation Detector (ppm) *
Kf/Kr	Permeability Test (f = falling head, r = rising head quoted in ms ⁻¹)
HPD	High Pressure Dilatometer Test (pressure meter)
PKR	Packer / Lugeon Permeability Test
CBR	California Bearing Ratio Test

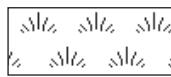
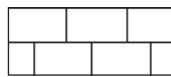
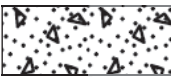
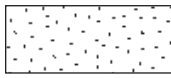
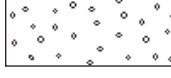
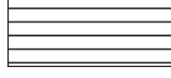
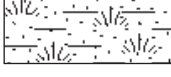
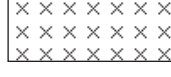
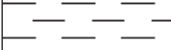
ROTARY CORE DETAILS

TCR	Total Core Recovery, %
SCR	Solid Core Recovery, %
RQD	Rock Quality Designation (% of intact core >100 mm)
FI	Fracture Spacing (average fracture spacing; in mm, over indicated length of core) **
NI	Non-Intact Core
AZCL	Assumed Zone of Core Loss

GROUNDWATER

	Groundwater strike
	Standing water level after 20 minutes; 1st, 2nd etc (number denotes level order)

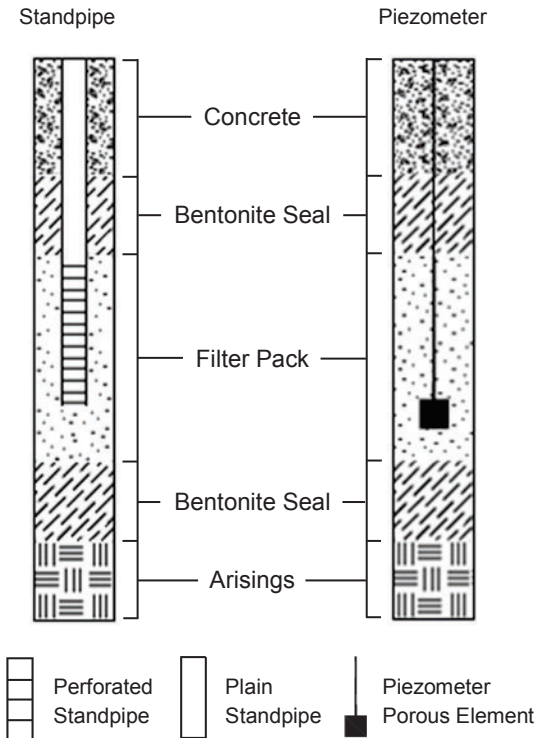
STRATA LEGENDS - Note: Composite strata types are shown by combining symbols

	Made Ground		Silt		Peat		Limestone
	Concrete		Sand		Void		Chalk
	Bituminous Bound Materials		Gravel		Mudstone		Coal
	Topsoil		Cobbles		Siltstone		Metamorphic Rock
	Clay		Boulders		Sandstone		Fine Grained Igneous Rock

* Where a single value is quoted this is the uncorrected 'N' value for a full 300 mm test drive following a seating drive of 150mm. Where the full test drive penetration is not achieved the number of blows is quoted for the penetration below the test total of 300mm, e.g.: 50/75.

** The minimum, average and maximum are shown e.g. 5/45/125.

INSTALLATION & BACKFILL DETAILS



STRATUM BOUNDARIES

	Unit boundary
--	---------------



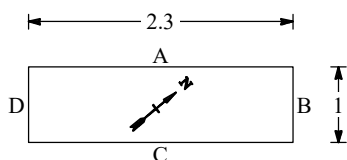
TRIAL PIT LOG

Project West Ashton				TRIAL PIT No SA01
Job No G0805	Date 09-09-25 09-09-25	Ground Level (m)	Co-Ordinates ()	
Contractor WWGI				Sheet 1 of 1

A		B		C		D		Legend
0							0	
1							1	
2							2	
3							3	
4							4	

STRATA				SAMPLES & TESTS		
Depth	No	DESCRIPTION		Depth	No	Remarks/Tests
0,00-0,25		Soft brown very sandy CLAY.				
0,25-0,55		Firm greyish brown silty CLAY.				
0,55-2,50		Stiff greyish brown sandy slightly gravelly CLAY. Gravel is subangular and subrounded fine chalk.				

Shoring/Support: None
Stability: Stable



GENERAL REMARKS

Terminated on Engineer's instruction. Groundwater not encountered. Soakaway test undertaken in base. Hole backfilled with arisings upon completion.

All dimensions in metres
Scale 1:50

Client TAC Page & Partners

Method/
Plant Used

5 tonne excavator

Logged By
IP

Trial Pit Soakaway Test



Based on BRE DG 365:2016

Project	West Ashton	Status		LOCATION ID	
Project ID	G0805	CHECKED		SA01	

Trial Pit Details

	Test 1	Test 2	Test 3	Ground Level	mAOD	Date Excavated	09/09/2025
Depth	2.50			Coordinates	mE	Date Tested	09/09/2025
Width	1.00				mN		
Length	2.30						

Test 1

Time min	Depth to Water m bgl	Test Parameters		Elapsed Time (min)			
0	0.84	75% esd (mbgl)	1.26	0	50	100	150
1	0.84	50% esd (mbgl)	1.67	100	150	200	250
2	0.84	25% esd (mbgl)	2.09	200	250	300	
5	0.84	A_{50} (m ²)	7.78				
10	0.84	V_{p75-25} (m ³)	1.91				
30	0.84	t_{75} (min)	1.5E+35				
60	0.85	t_{25} (min)	2.0E+78				
90	0.85	Data Fit R ²	0.726				
120	0.85						
180	0.85						
Infiltration rate f (ms ⁻¹)				Total effective storage depth (esd) (m)			
NOT PERMEABLE				1.66			

Test 2

Time min	Depth to Water m bgl	Test Parameters		Elapsed Time (min)			
0		75% esd (mbgl)		-10	0	10	20
1		50% esd (mbgl)		20	30	40	50
2		25% esd (mbgl)					
4		A_{50} (m ²)					
8		V_{p75-25} (m ³)					
15		t_{75} (min)					
30		t_{25} (min)					
45		Data Fit R ²					
60							
120							
Infiltration rate f (ms ⁻¹)				Total effective storage depth (esd) (m)			
NO VALID DATA							

Test 3

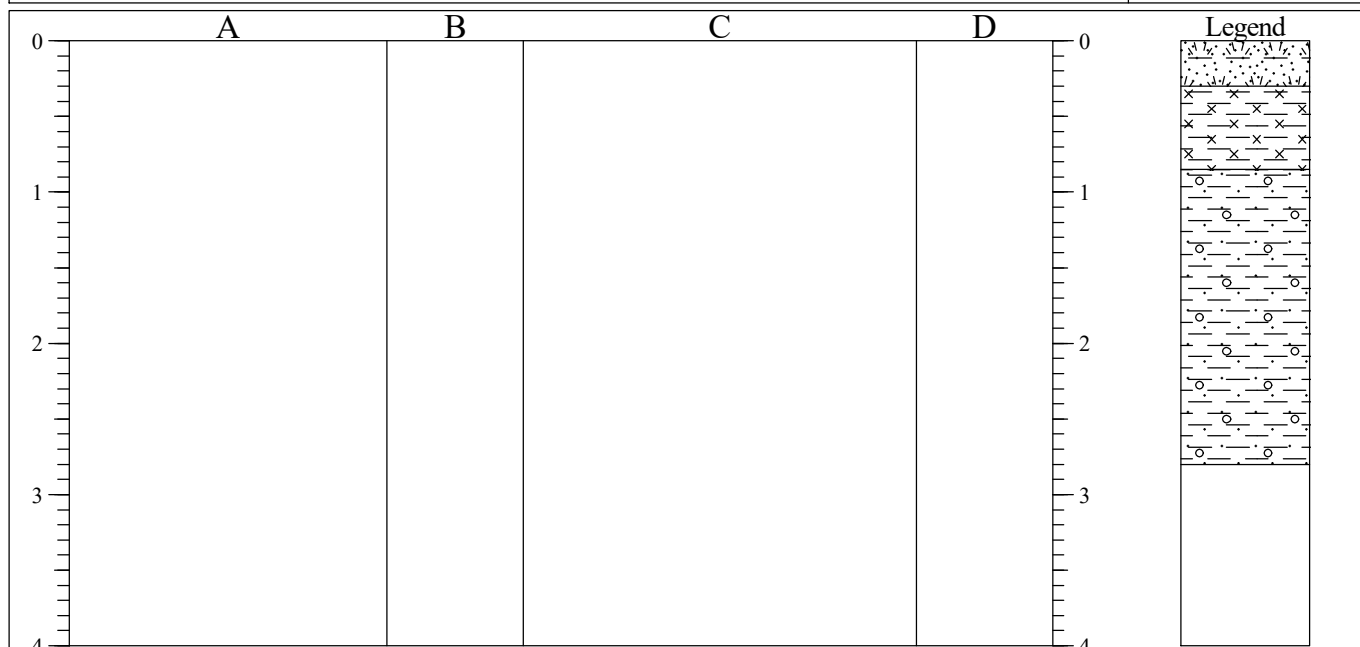
Time min	Depth to Water m bgl	Test Parameters		Elapsed Time (min)			
0		75% esd (mbgl)		-50	0	50	100
1		50% esd (mbgl)		50	100	150	
2		25% esd (mbgl)					
4		A_{50} (m ²)					
8		V_{p75-25} (m ³)					
15		t_{75} (min)					
30		t_{25} (min)					
45		Data Fit R ²					
60							
120							
Infiltration rate f (ms ⁻¹)				Total effective storage depth (esd) (m)			
NO VALID DATA				0.00			

Carried out by	Notes:	Insufficient fall to calculate permeability. Tests 2 & 3 aborted.	Logged	Checked
Wessex and West			IP	CP



TRIAL PIT LOG

Project West Ashton				TRIAL PIT No SA02
Job No G0805	Date 09-09-25 09-09-25	Ground Level (m)	Co-Ordinates ()	
Contractor WWGI				Sheet 1 of 1

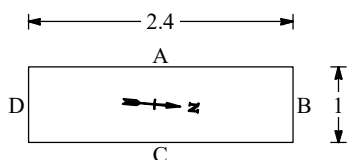


STRATA

SAMPLES & TESTS

Depth	No	DESCRIPTION	Depth	No	Remarks/Tests
0,00-0,30		Soft brown very sandy CLAY.			
0,30-0,85		Firm greyish brown silty CLAY.			
0,85-2,80		Stiff greyish brown sandy slightly gravelly CLAY. Gravel is subangular and subrounded fine chalk.			

Shoring/Support: None
Stability: Stable



GENERAL REMARKS

Terminated on Engineer's instruction. Groundwater not encountered. Soakaway test undertaken in base. Hole backfilled with arisings upon completion.

All dimensions in metres
Scale 1:50

Client TAC Page & Partners

Method/
Plant Used 5 tonne excavator

Logged By
IP

Trial Pit Soakaway Test



Based on BRE DG 365:2016

Project	West Ashton	Status		LOCATION ID	
Project ID	G0805	CHECKED		SA02	

Trial Pit Details

	Test 1	Test 2	Test 3	Ground Level	mAOD	Date Excavated	09/09/2025
Depth	2.80			Coordinates	mE	Date Tested	09/09/2025
Width	1.00				mN		
Length	2.40						

Test 1

Time min	Depth to Water m bgl	Test Parameters		Elapsed Time (min)			
0	0.33	75% esd (mbgl)	0.95	0.00			
1	0.33	50% esd (mbgl)	1.57	0.50			
2	0.33	25% esd (mbgl)	2.18	1.00			
5	0.33	A_{50} (m ²)	10.80	1.50			
10	0.33	V_{p75-25} (m ³)	2.96	2.00			
30	0.33	t_{75} (min)	3.0E+37	2.50			
60	0.33	t_{25} (min)	1.4E+66	3.00			
90	0.34	Data Fit R ²	0.557	3.50			
120	0.34			4.00			
180	0.34			4.50			
Infiltration rate f (ms ⁻¹)				Total effective storage depth (esd) (m)			
NOT PERMEABLE				2.47			

Test 2

Time min	Depth to Water m bgl	Test Parameters		Elapsed Time (min)			
0		75% esd (mbgl)		0.00			
1		50% esd (mbgl)		0.10			
2		25% esd (mbgl)		0.20			
4		A_{50} (m ²)		0.30			
8		V_{p75-25} (m ³)		0.40			
15		t_{75} (min)		0.50			
30		t_{25} (min)		0.60			
45		Data Fit R ²		0.70			
60				0.80			
120				0.90			
Infiltration rate f (ms ⁻¹)				Total effective storage depth (esd) (m)			
NO VALID DATA							

Test 3

Time min	Depth to Water m bgl	Test Parameters		Elapsed Time (min)			
0		75% esd (mbgl)		0.00			
1		50% esd (mbgl)		0.10			
2		25% esd (mbgl)		0.20			
4		A_{50} (m ²)		0.30			
8		V_{p75-25} (m ³)		0.40			
15		t_{75} (min)		0.50			
30		t_{25} (min)		0.60			
45		Data Fit R ²		0.70			
60				0.80			
120				0.90			
Infiltration rate f (ms ⁻¹)				Total effective storage depth (esd) (m)			
NO VALID DATA				0.00			

Carried out by	Notes: Insufficient fall to calculate permeability. Tests 2 & 3 aborted.	Logged	Checked
Wessex and West		IP	CP



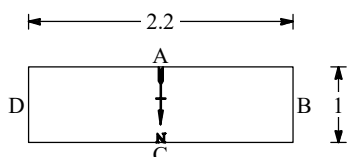
TRIAL PIT LOG

Project West Ashton				TRIAL PIT No SA03
Job No G0805	Date 09-09-25 09-09-25	Ground Level (m)	Co-Ordinates ()	
Contractor WWGI				Sheet 1 of 1

A		B		C		D		Legend
0							0	
1							1	
2							2	
3							3	
4							4	

STRATA				SAMPLES & TESTS		
Depth	No	DESCRIPTION		Depth	No	Remarks/Tests
0,00-0,30		Soft brown very sandy CLAY.				
0,30-0,75		Firm greyish brown silty CLAY.				
0,75-2,35		Stiff greyish brown sandy slightly gravelly CLAY. Gravel is subangular and subrounded fine chalk.				

Shoring/Support: None
Stability: Stable



GENERAL REMARKS

Terminated on Engineer's instruction. Groundwater not encountered. Soakaway test undertaken in base. Hole backfilled with arisings upon completion.

All dimensions in metres
Scale 1:50

Client TAC Page & Partners

Method/
Plant Used 5 tonne excavator

Logged By
IP

Trial Pit Soakaway Test



Based on BRE DG 365:2016

Project	West Ashton	Status		LOCATION ID	
Project ID	G0805	CHECKED		SA03	

Trial Pit Details

	Test 1	Test 2	Test 3	Ground Level	mAOD	Date Excavated	09/09/2025
Depth	2.35			Coordinates	mE	Date Tested	09/09/2025
Width	1.00				mN		
Length	2.20						

Test 1

Time min	Depth to Water m bgl	Test Parameters		Elapsed Time (min)			
0	0.46	75% esd (mbgl)	0.93	0	50	100	150
1	0.46	50% esd (mbgl)	1.41	200	250	300	
2	0.46	25% esd (mbgl)	1.88				
5	0.46	A_{50} (m ²)	8.25				
10	0.46	V_{p75-25} (m ³)	2.08				
30	0.47	t_{75} (min)	1.5E+19				
60	0.47	t_{25} (min)	1.5E+37				
90	0.48	Data Fit R ²	0.755				

Water Level m bgl

Legend: Test Data, Best Fit Line, 75% ESD, 25% ESD

Infiltration rate f (ms⁻¹) NOT PERMEABLE

Total effective storage depth (esd) (m) 1.89

Test 2

Time min	Depth to Water m bgl	Test Parameters		Elapsed Time (min)			
0		75% esd (mbgl)		-10	0	10	20
1		50% esd (mbgl)		30	40	50	
2		25% esd (mbgl)					
4		A_{50} (m ²)					
8		V_{p75-25} (m ³)					
15		t_{75} (min)					
30		t_{25} (min)					
45		Data Fit R ²					
60							
120							

Water Level m bgl

Legend: Test Data, Best Fit Line, 75% ESD, 25% ESD

Infiltration rate f (ms⁻¹) NO VALID DATA

Total effective storage depth (esd) (m)

Test 3

Time min	Depth to Water m bgl	Test Parameters		Elapsed Time (min)			
0		75% esd (mbgl)		-50	0	50	100
1		50% esd (mbgl)		150			
2		25% esd (mbgl)					
4		A_{50} (m ²)					
8		V_{p75-25} (m ³)					
15		t_{75} (min)					
30		t_{25} (min)					
45		Data Fit R ²					
60							
120							

Water Level m bgl

Legend: Test Data, Best Fit Line, 75% ESD, 25% ESD

Infiltration rate f (ms⁻¹) NO VALID DATA

Total effective storage depth (esd) (m) 0.00

Carried out by	Notes: Insufficient fall to calculate permeability. Tests 2 & 3 aborted.	Logged	Checked
Wessex and West		IP	CP



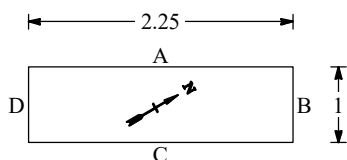
TRIAL PIT LOG

Project West Ashton				TRIAL PIT No SA04
Job No G0805	Date 09-09-25 09-09-25	Ground Level (m)	Co-Ordinates ()	
Contractor WWGI				Sheet 1 of 1

A		B		C		D		Legend
0							0	
1							1	
2							2	
3							3	
4							4	

STRATA				SAMPLES & TESTS		
Depth	No	DESCRIPTION		Depth	No	Remarks/Tests
0,00-0,25		Soft brown very sandy CLAY.				
0,25-0,60		Firm greyish brown silty CLAY.				
0,60-2,65		Stiff greyish brown sandy slightly gravelly CLAY. Gravel is subangular and subrounded fine chalk.				

Shoring/Support: None
Stability: Stable



GENERAL REMARKS

Terminated on Engineer's instruction. Groundwater not encountered. Soakaway test undertaken in base. Hole backfilled with arisings upon completion.

All dimensions in metres
Scale 1:50

Client TAC Page & Partners

Method/
Plant Used 5 tonne excavator

Logged By
IP

Trial Pit Soakaway Test



Based on BRE DG 365:2016

Project	West Ashton	Status		LOCATION ID	
Project ID	G0805	CHECKED		SA04	

Trial Pit Details

	Test 1	Test 2	Test 3	Ground Level	mAOD	Date Excavated	09/09/2025
Depth	2.65			Coordinates	mE	Date Tested	09/09/2025
Width	1.00				mN		
Length	2.25						

Test 1

Time min	Depth to Water m bgl	Test Parameters		Elapsed Time (min)			
0	0.46	75% esd (mbgl)	1.01	0.00			
1	0.46	50% esd (mbgl)	1.56	0.50			
2	0.46	25% esd (mbgl)	2.10	1.00			
5	0.46	A_{50} (m ²)	9.37	1.50			
10	0.46	V_{p75-25} (m ³)	2.46	2.00			
30	0.46	t_{75} (min)	2.2E+32	2.50			
60	0.47	t_{25} (min)	4.2E+61	3.00			
		Data Fit R ²	0.421				
Infiltration rate f (ms ⁻¹)				Total effective storage depth (esd) (m)			
NOT PERMEABLE				2.19			

Test 2

Time min	Depth to Water m bgl	Test Parameters		Elapsed Time (min)			
0		75% esd (mbgl)		-10	0	10	20
1		50% esd (mbgl)		30	40	50	
2		25% esd (mbgl)					
4		A_{50} (m ²)					
8		V_{p75-25} (m ³)					
15		t_{75} (min)					
30		t_{25} (min)					
45		Data Fit R ²					
60							
120							
Infiltration rate f (ms ⁻¹)				Total effective storage depth (esd) (m)			
NO VALID DATA							

Test 3

Time min	Depth to Water m bgl	Test Parameters		Elapsed Time (min)			
0		75% esd (mbgl)		-50	0	50	100
1		50% esd (mbgl)		150			
2		25% esd (mbgl)					
4		A_{50} (m ²)					
8		V_{p75-25} (m ³)					
15		t_{75} (min)					
30		t_{25} (min)					
45		Data Fit R ²					
60							
120							
Infiltration rate f (ms ⁻¹)				Total effective storage depth (esd) (m)			
NO VALID DATA				0.00			

Carried out by	Notes: Insufficient fall to calculate permeability. Tests 2 & 3 aborted.	Logged	Checked
Wessex and West		IP	CP

Appendix C - Greenfield Run off Calculations

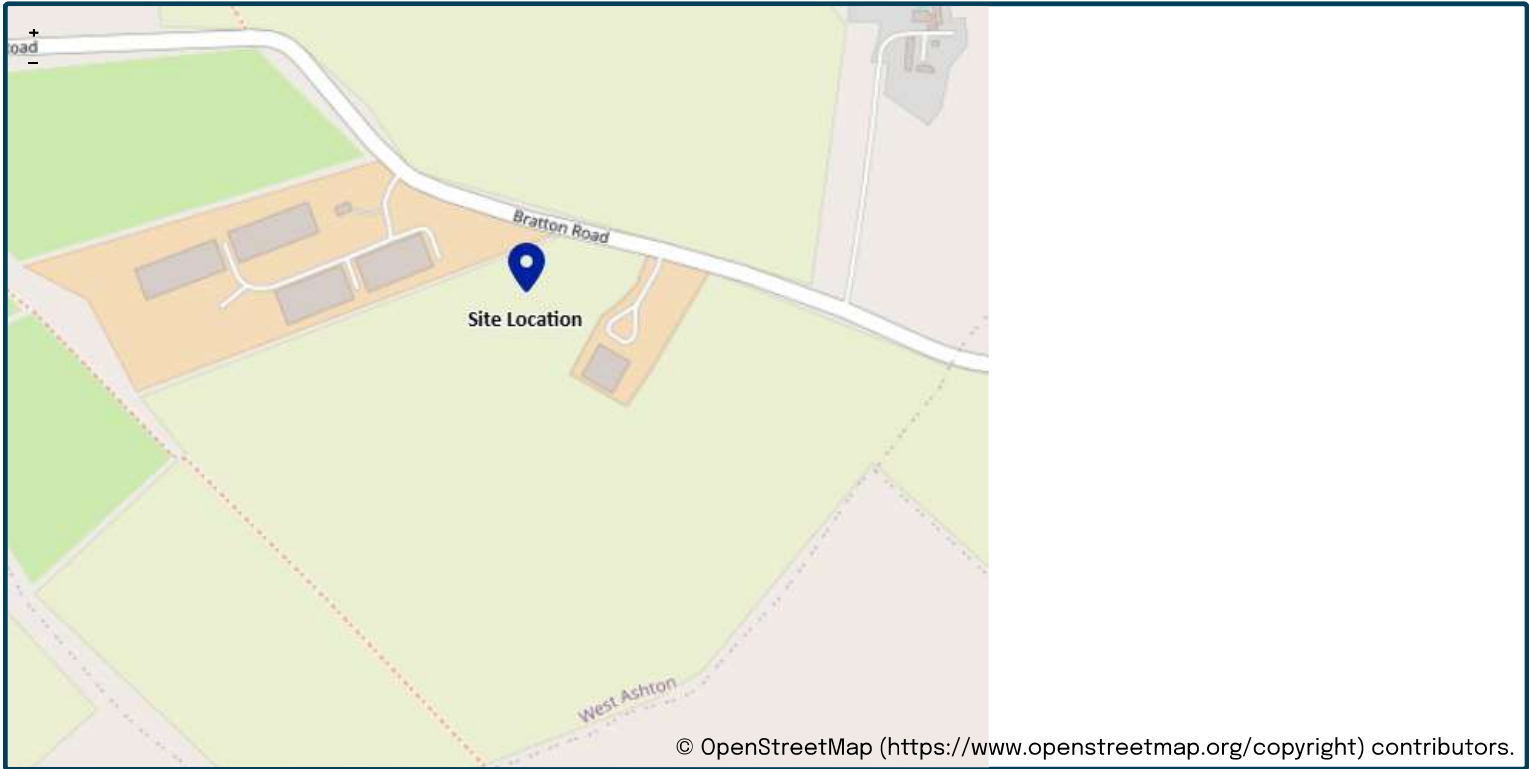
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	22/01/2026
Calculated by	AR
Reference	LOWER DUNGE FARM
Model version	2.2.2

Location

Site name	LOWER DUNGE FARM
Site location	WEST ASHTON



Site easting (British National Grid)	390041
Site northing (British National Grid)	154117

Site details

Total site area (ha)	0.289 ha
----------------------	--------------------------------

Greenfield runoff

Method

Method	IH124
--------	-------

IH124

	<u>My value</u>		<u>Map value</u>
SAAR (mm)	729	mm	729
How should SPR be derived?	WRAP soil type		
WRAP soil type	4		4
SPR	0.47		
QBar (IH124) (l/s)	1.5	l/s	

Growth curve factors

	<u>My value</u>		<u>Map value</u>
Hydrological region	8		8
1 year growth factor	0.78		
2 year growth factor	0.93		
10 year growth factor	1.49		
30 year growth factor	1.95		
100 year growth factor	2.43		
200 year growth factor	2.78		

Results

Method	IH124	
Flow rate 1 year (l/s)	1.1	l/s
Flow rate 2 year (l/s)	1.4	l/s
Flow rate 10 years (l/s)	2.2	l/s
Flow rate 30 years (l/s)	2.9	l/s
Flow rate 100 years (l/s)	3.6	l/s
Flow rate 200 years (l/s)	4.1	l/s

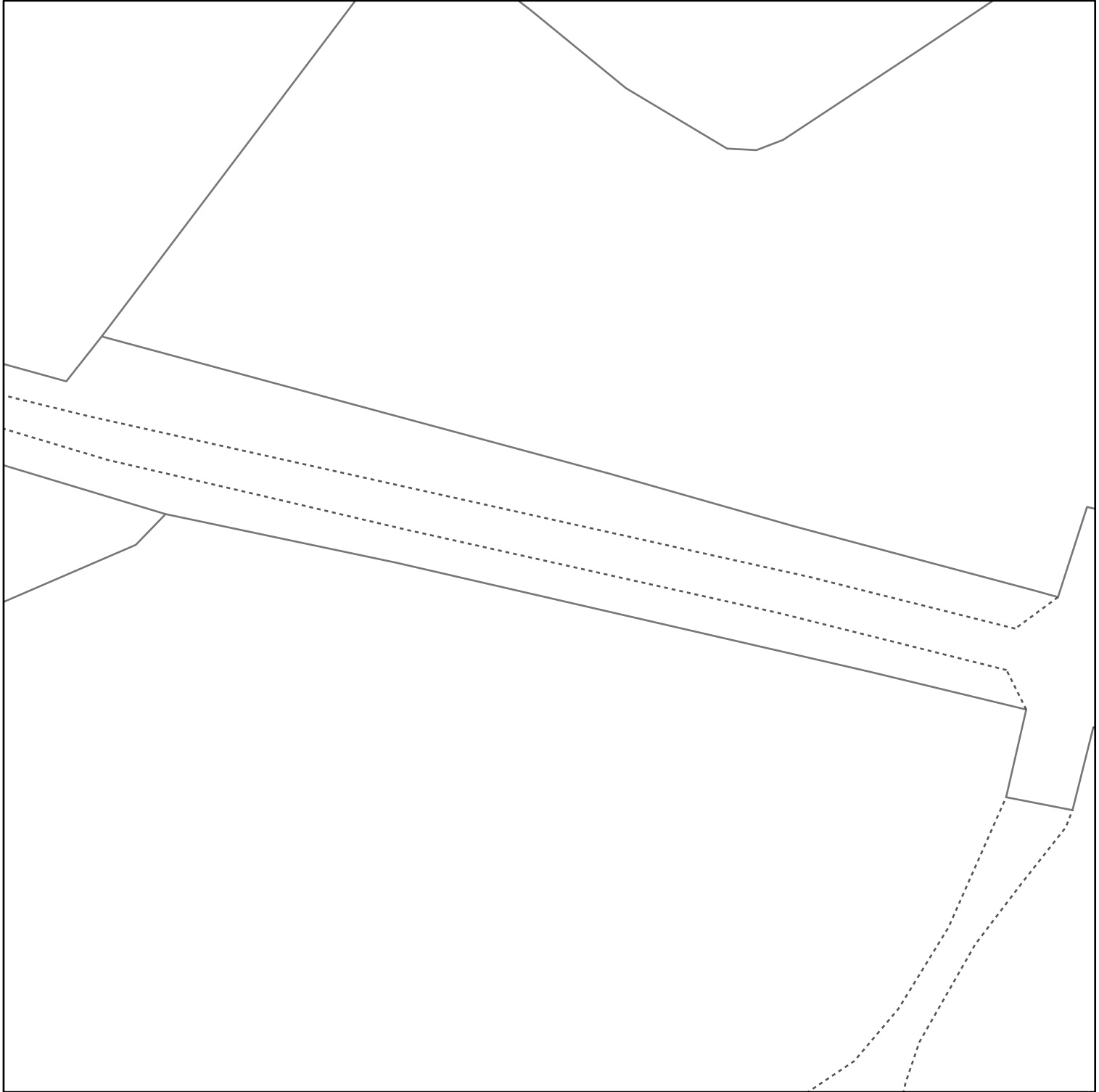
Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent ‘zero’ figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.2.2) developed by HR Wallingford and available at uksuds.com (<https://www.uknuts.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (<https://www.uknuts.com/terms-conditions>). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Appendix D - Wessex Water Mapping

Wessex Water Network Map



Reproduced from the Ordnance Survey map with the permission of the Controller of His Majesty's Stationery Office. © Crown copyright and database rights (2026) OS AC0000848304

WATER MAINS		SEWERS		STRATEGIC PUBLIC		PRIVATE		SECTION 104		OTHER WESSEX PIPES		NON-WESSEX / UNKNOWN	
	Distribution		Foul								Rising Mains		Private Rising Mains
	Washout		Surface								Standby Rising Mains		Culverted Watercourse
	Raw Water		Combined								EDM Effluent Disposal		Highway Drain
	Abandoned		Abandoned								Overflow		Use Unknown
	Private	Colours generally indicate the use of the sewer/drain (i.e Red - Foul, Dark Blue - Surface, Magenta - Combined/Dual Use, Light Green - Highway Drain, Mid Green - Overflow).							Syphon		Status Unknown		
FITTINGS		Some styles of line and symbol are shown on the key in sample/typical colours.								OTHER STRUCTURES			Chamber
	Hydrant		Manhole - Foul		Pumping Station - Surface		Attenuation Tank		Tunnel		Interceptor		
	Other		Manhole - Surface		Pumping Stn - Foul/Combined		Gully		Vent Column		Rodding Eye		Catchpit
			Manhole - Combined		Flushing Chamber		Soakaway		Non Return Valve		Air Valve		Hatch Box
			Inlet		Outfall		Washout						
			Lamphole										
			Bifurcation - Foul										
			Bifurcation - Surface										
			Bifurcation - Combined										
			Combined Sewage Overflow										

Information in this map is provided for identification purposes only. No warranty as to accuracy is given or implied. The precise route of pipe work may not exactly match that shown. Wessex Water does not accept liability for inaccuracies. Sewers and lateral drains adopted by Wessex Water under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 are to be plotted over time and may not yet be shown. In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located. If you are considering any form of building works and pipe work is shown within the boundary of your property or a property to be purchased (or very close by) a surveyor should plot its exact position prior to commencing works or purchase. If you are proposing to build over or near Wessex Water's apparatus you should contact the Developer Services Team, tel: 01225 526333 or e-mail: developer.enquiries@wessexwater.co.uk to discuss your proposals. Details of assets within Wessex Water's land ownership are unavailable through this service.

Date: 09/01/2026

Centre: 390098E, 154183N

Scale: 1:625
(when printed at A4 size)

Appendix E - Proposed Drainage Layout & Details



DO NOT SCALE THIS DRAWING. USE FIGURED DIMENSIONS ONLY.
THE CONTRACTOR MUST CHECK & VERIFY ALL DIMENSIONS ON SITE.
ANY DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ENGINEER
FOR CLARIFICATION BEFORE PROCEEDING.
THIS DRAWING IS COPYRIGHT AND OWNED BY AEGAEA.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
REFER TO THE RELEVANT CONSTRUCTION (DESIGN AND MANAGEMENT)
DOCUMENTATION WHERE APPLICABLE.
IT IS ASSUMED THAT ALL WORKS ON THIS DRAWING WILL BE CARRIED OUT BY
A COMPETENT CONTRACTOR, WORKING WHERE APPROPRIATE TO AN
APPROVED METHOD STATEMENT.

GENERAL NOTES

1. THE CONTRACTOR IS TO CHECK AND VERIFY ALL SITE DIMENSIONS AND LEVELS, INCLUDING EXISTING SEWER INVERT LEVELS AND UTILITIES, PRIOR TO START ON SITE.
2. POSITIONS OF EXISTING SERVICES/STATUTORY UNDERTAKERS' APPARATUS ADJACENT TO OR CROSSING PROPOSED EXCAVATIONS ARE TO BE CONFIRMED PRIOR TO START ON SITE.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH AND CHECKED AGAINST ALL: ENGINEERING DETAILS, SPECIFICATIONS, GEOTECHNICAL AND OTHER RELEVANT DOCUMENTATION PROVIDED.
4. THIS DRAWING IS SCHEMATIC FOR CLARITY ONLY. POSITIONS OF PIPE RUNS AND MANHOLES MAY VARY ON SITE DUE TO SITE CONDITIONS.
5. WHERE EXISTING OR PROPOSED TREES ADJACENT TO HIGHWAYS OR DRAINAGE ARE PROPOSED, ROOT BARRIERS (TYPE TO BE APPROVED) ARE REQUIRED TO PREVENT STRUCTURAL DAMAGE.
6. ANY ANOMALY OR CONTRADICTIONS BETWEEN ANY OF THE ABOVE IS TO BE REPORTED IMMEDIATELY.
7. THE CONTRACTOR IS TO COMPLY IN ALL ASPECTS WITH THE CURRENT BRITISH STANDARDS, BUILDING REGULATIONS AND BUILDING LEGISLATION ETC.
8. FURTHER SURVEYS REQUIRED TO DETERMINE EXACT LOCATION, DIMENSIONS AND LEVELS OF EXISTING SEWERS.
9. DRAINAGE LAYOUT IS SUBJECT TO CHANGE AND DEPENDANT ON RECEIPT OF LEVELS OF EXISTING SURFACE AND FOUL WATER SEWER.

DRAINAGE INVERTS BASED ON ASSUMED COVER LEVELS. ALL DRAINAGE LEVELS SUBJECT TO CHANGE AT DETAILED DESIGN FOLLOWING DETAILED LEVEL PROPOSALS

LEGEND

- PROPOSED SURFACE WATER SEWER
- PROPOSED 30,000 L RAIN WATER BUTT / STORAGE

PROPOSED ATTENUATION BASIN SIZED FOR 1:100 YEAR STORM + 45% CLIMATE CHANGE

DEPTH = 1.9m (0.6m PERMANENT WATER DEPTH + 1.0m ATTENUATION + 300mm FREEBOARD)
MAINTENANCE STRIP TO TOP OF BASIN = 3m

- BASIN BASE LEVEL = 71.700
- PERMANENT WATER DEPTH = 600mm
- PERMANENT WATER LEVEL = 72.300
- BASE LEVEL FOR ATTENUATION STORAGE = 72.300
- TOP WATER LEVEL FOR ATTENUATION STORAGE = 73.300
- 300mm FREE BOARD LEVELS = 73.300 - 73.600
- 3m MAINTENANCE STRIP AROUND TOP OF BASIN SET AT 73.600.

EMBANKMENT AROUND BASIN TO TIE INTO EXISTING GROUND LEVEL AS SHOWN

SW4 - PROPOSED FLOW CONTROL
CHAMBER TYPE :
CTL-SHE-0055-1500-1234-1500,
DISCHARGE RATE LIMITED TO 1.5 l/s (Qbar)
CL 73.600
IL 72.157

SW5
CL 73.400
IL 71.598

SW3
CL 74.600
IL 72.561

SW2
CL 74.250
IL 72.905

SW1
CL 74.625
IL 73.125

SW8
CL 74.600
IL 72.900

SW8
CL 74.600
IL 73.100

SW6
CL 72.25
IL 71.219

SW6
CL 72.25
IL 71.219

SW7
CL 71.30
IL 70.381

PROPOSED OUTFALL TO EXISTING WATER COURSE
IL 70.00

INSET

0m 10 20 30 40 50

SCALE 1 : 500

A01	21.01.26	FIRST ISSUE	AR
Rev	Date	Description	By

Client

WOOLEY AND WALLIS

Project

LOWER DUNGE FARM

Title
PROPOSED SURFACE WATER DRAINAGE STRATEGY

Project No.	Drawing No.	Revision		
AEG10011	CIV-001	A01		
Drawn	Checked	Approved	Date	Scale @ A1
AR	VW	VW	JAN 2026	1:500

Drawing Status
INFORMATION

aegaea
water, civils and environment

FIGURE B18
TYPICAL INSPECTION CHAMBER DETAIL - TYPE D (FLEXIBLE MATERIAL DETAIL)

MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE
IN AREAS SUBJECT TO VEHICLE LOADING 2M, NON-ENTRY

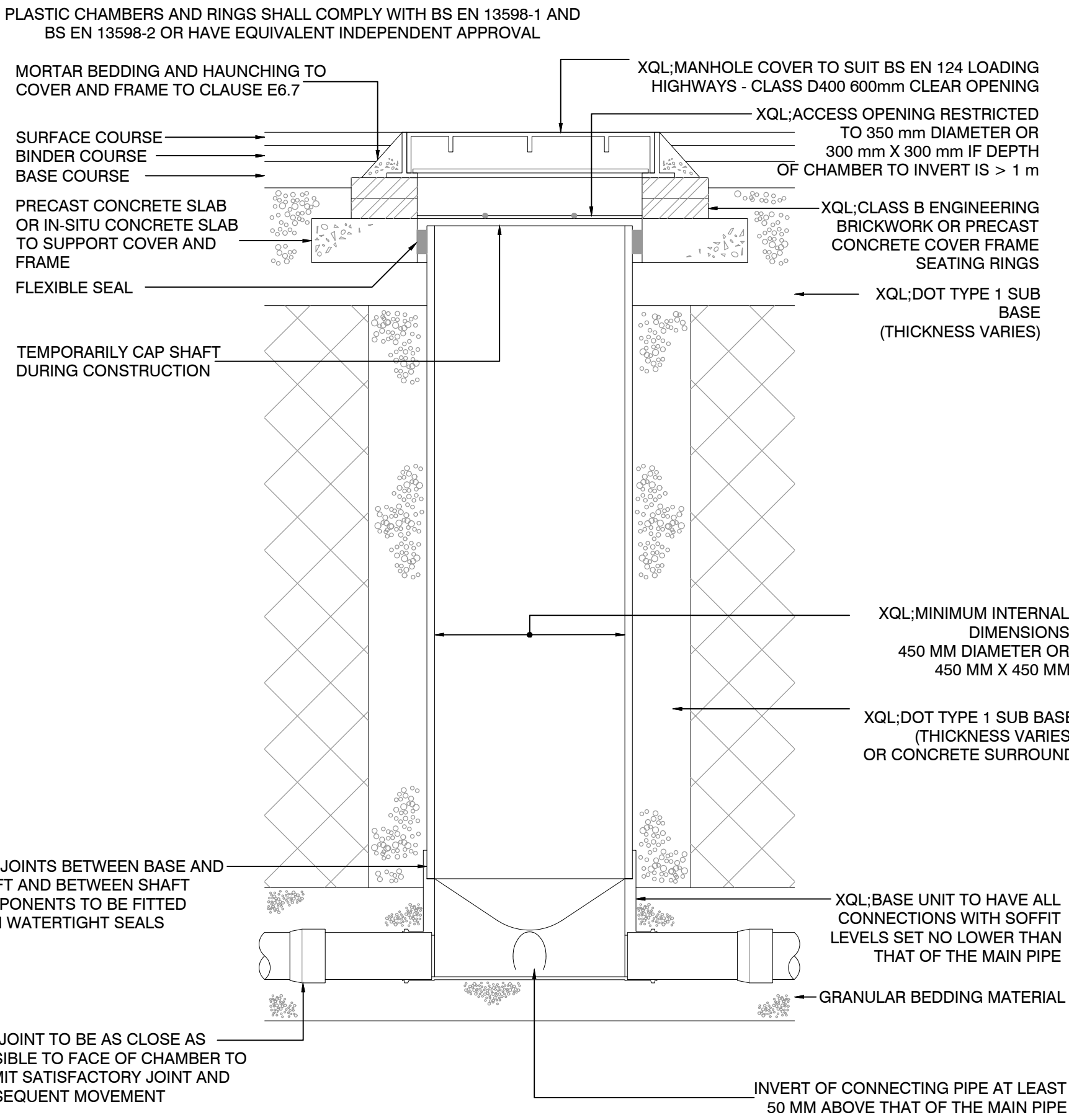
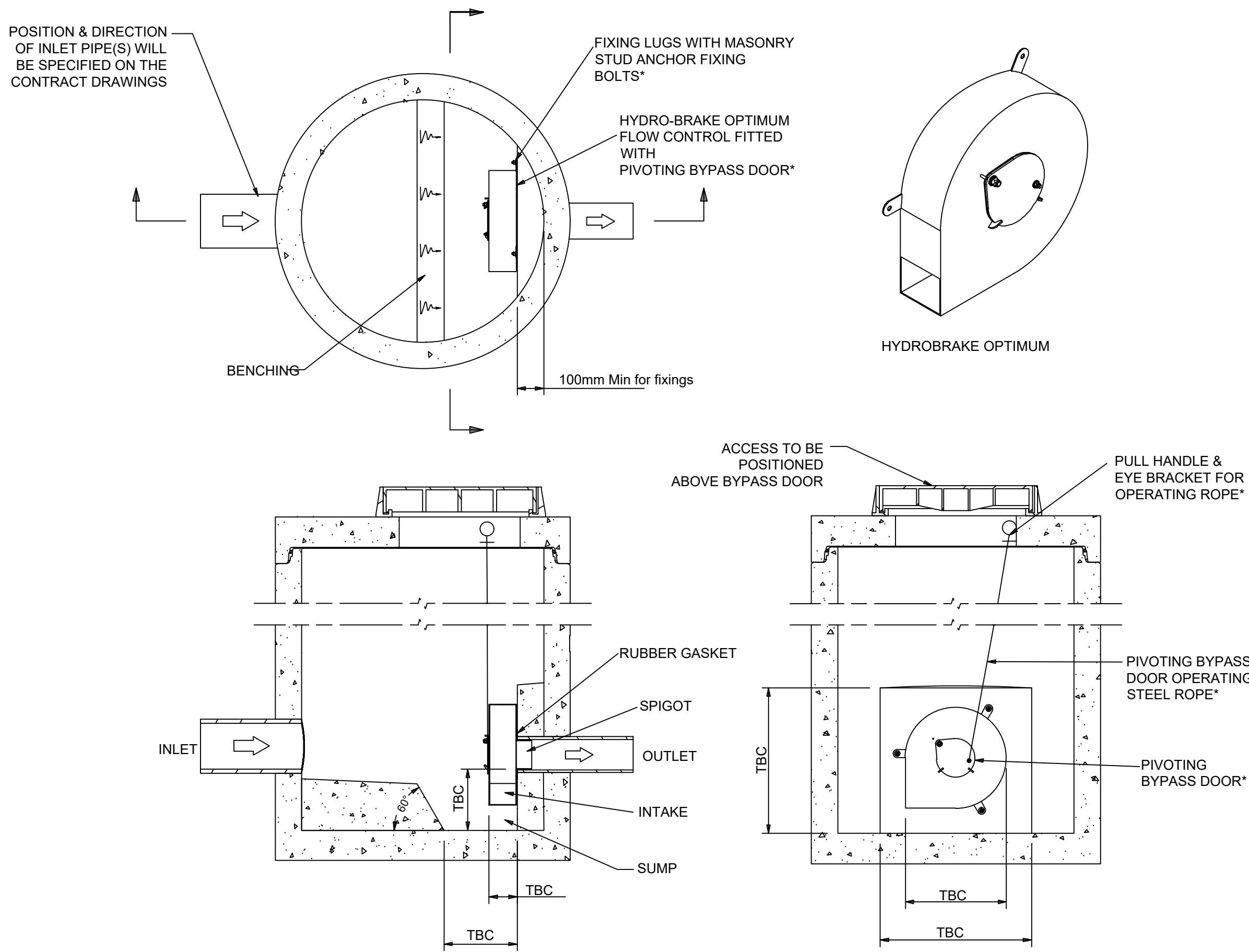
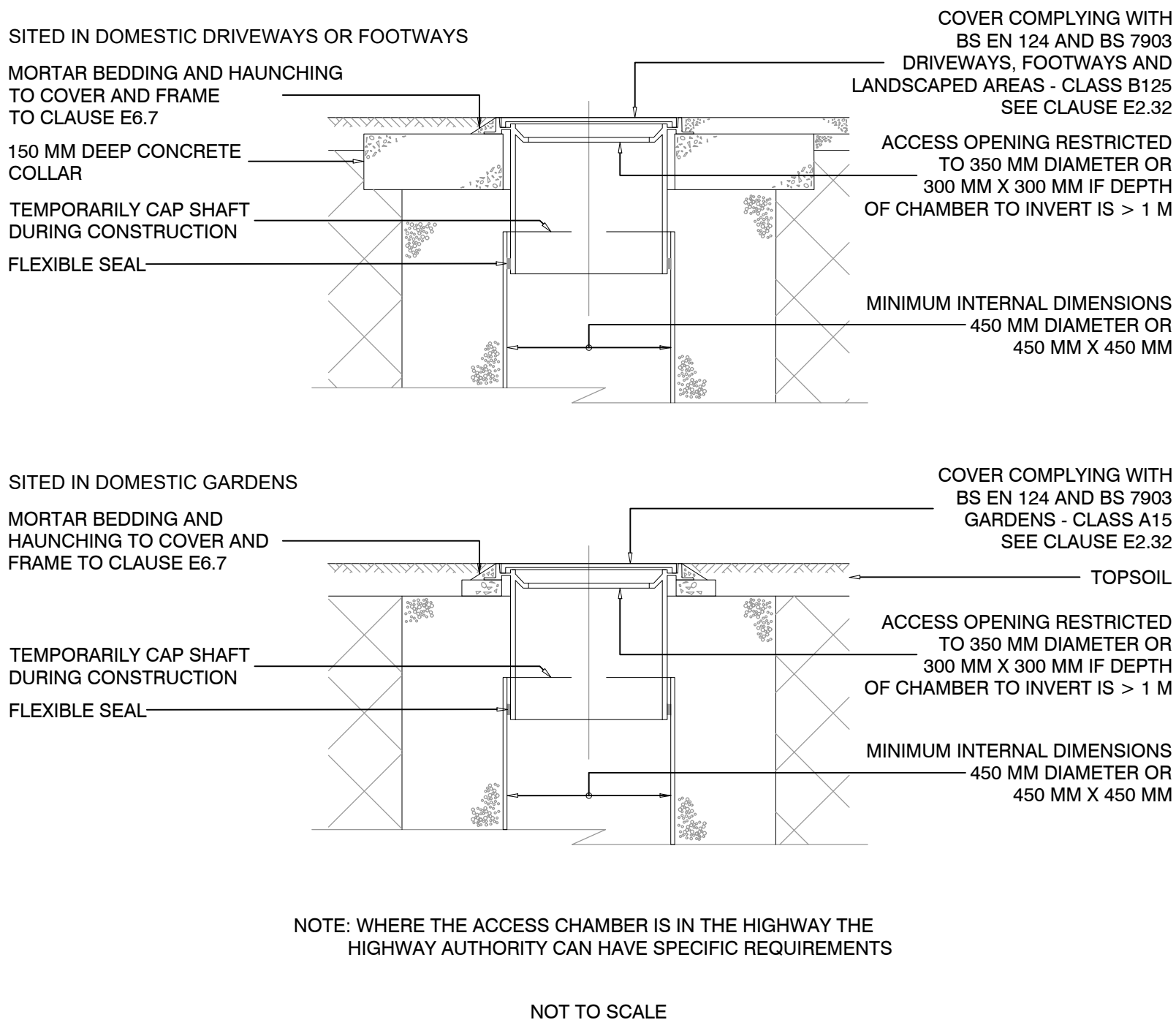
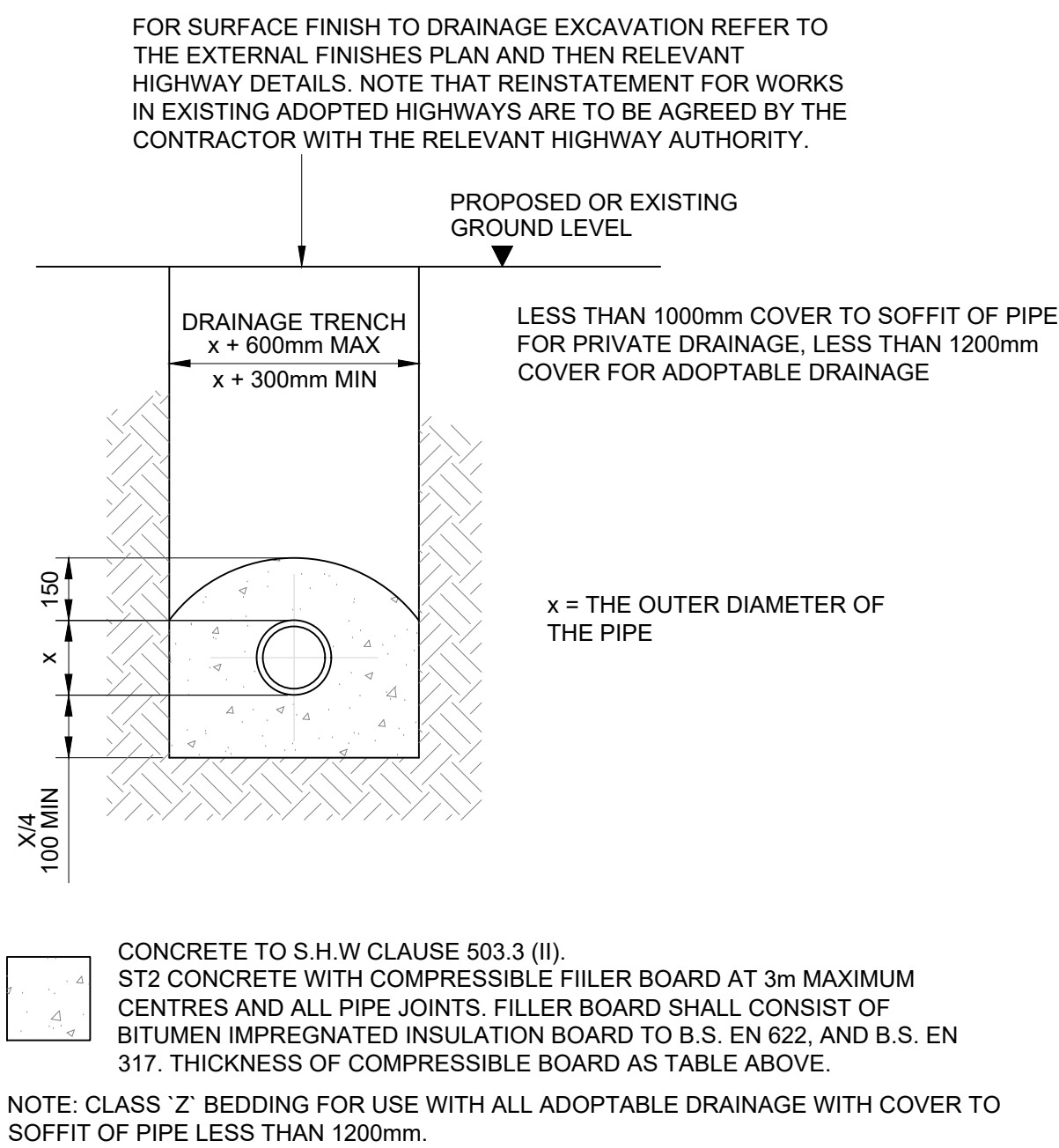


FIGURE B19
ALTERNATIVE TOP DETAILS FOR LIGHT VEHICLE LOADING AND LANDSCAPED AREAS - TYPE D

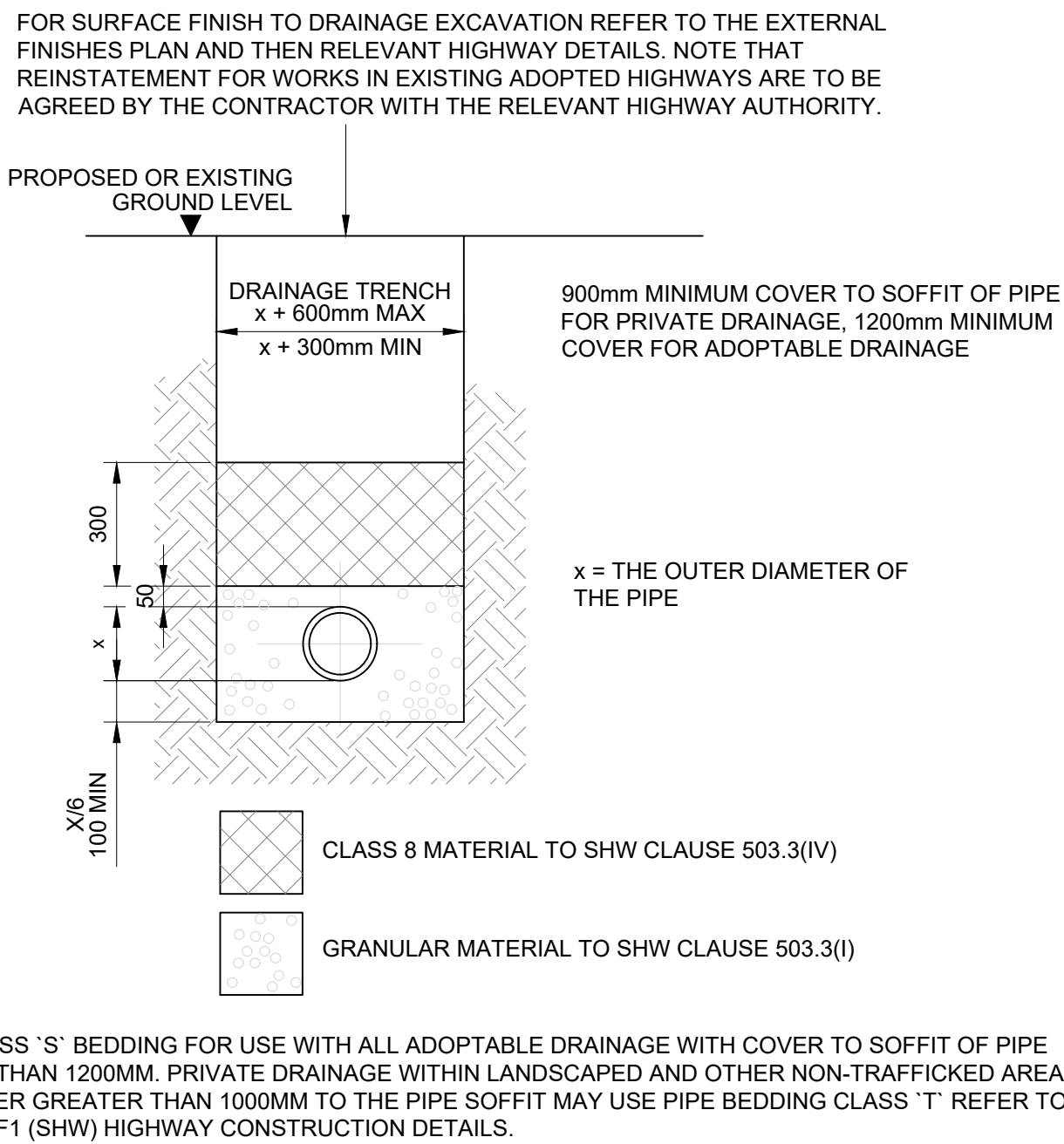
PLASTIC CHAMBERS AND RINGS SHALL COMPLY WITH BS EN 13598-1 AND BS EN 13598-2 OR HAVE EQUIVALENT INDEPENDENT APPROVAL



TYPICAL FLOW CONTROL CHAMBER - HYDROBRAKE OR SIMILAR APPROVED
REFER TO HYDROBRAKE DOCUMENTATION
TOP HALF OF CHAMBER TO BE CONSTRUCTED AS TYPE B MANHOLE



CLASS 'Z' PIPE BEDDING



CLASS 'S' PIPE BEDDING

DO NOT SCALE THIS DRAWING. USE FIGURED DIMENSIONS ONLY. THE CONTRACTOR MUST CHECK & VERIFY ALL DIMENSIONS ON SITE. ANY DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING. THIS DRAWING IS COPYRIGHT AND OWNED BY AEGAEA.

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A01	21.01.26	FIRST ISSUE	AR
Rev	Date	Description	By

Client

WOOLEY AND WALLIS

Project

LOWER DUNGE FARM

Title

DRAINAGE DETAILS

Project No.	Drawing No.	Revision
AEG10011	CIV-006	A01

Drawn	Checked	Approved	Date	Scale @ A1
AR	VW	VW	JAN 2026	AS SHOWN

Drawing Status

INFORMATION

aegaea
water, civils and environment

DO NOT SCALE THIS DRAWING. USE FIGURED DIMENSIONS ONLY.
THE CONTRACTOR MUST CHECK & VERIFY ALL DIMENSIONS ON SITE.
ANY DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ENGINEER
FOR CLARIFICATION BEFORE PROCEEDING.
THIS DRAWING IS COPYRIGHT AND OWNED BY AEGAEA.

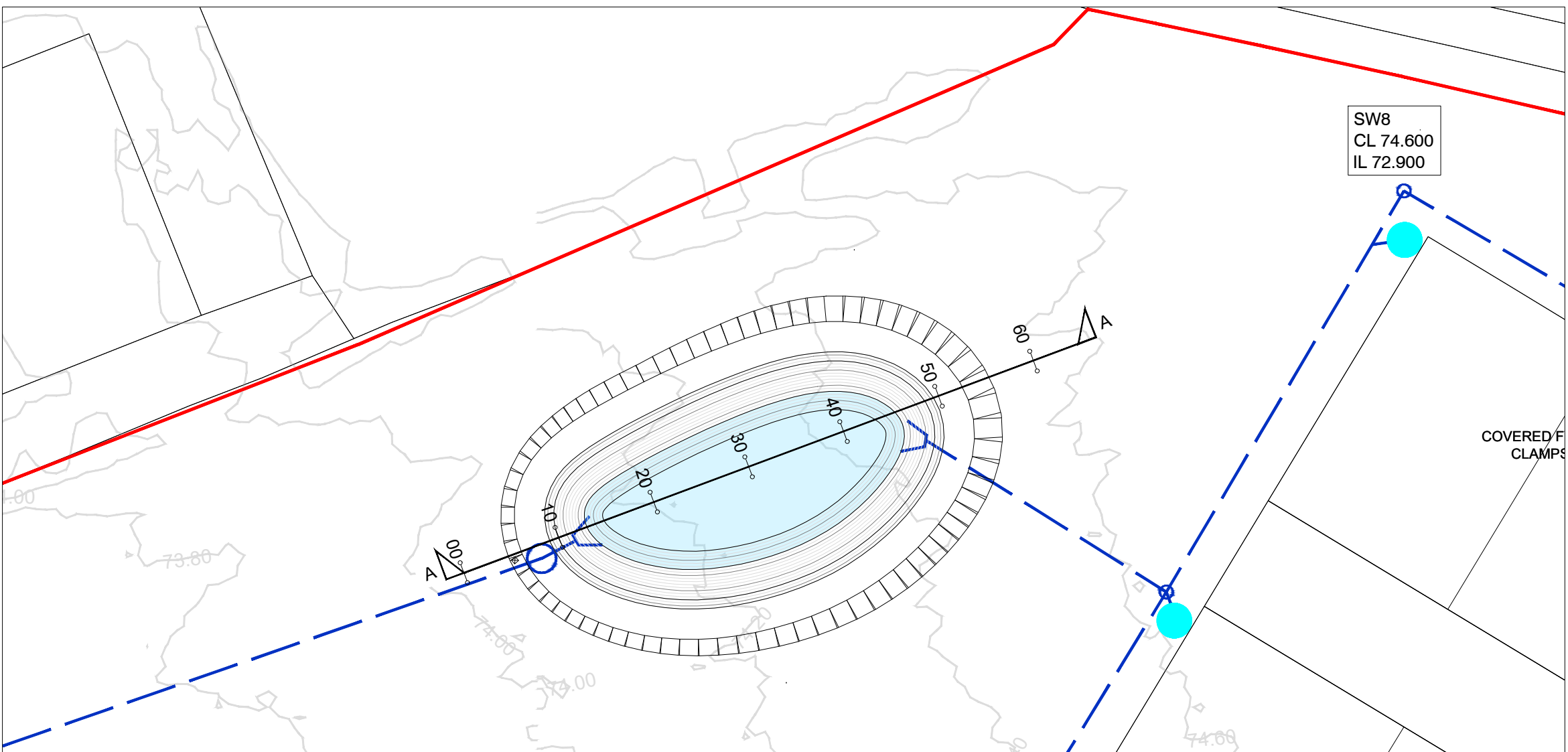
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
REFER TO THE RELEVANT CONSTRUCTION (DESIGN AND MANAGEMENT)
DOCUMENTATION WHERE APPLICABLE.
IT IS ASSUMED THAT ALL WORKS ON THIS DRAWING WILL BE CARRIED OUT BY
A COMPETENT CONTRACTOR, WORKING WHERE APPROPRIATE TO AN
APPROVED METHOD STATEMENT.

GENERAL NOTES

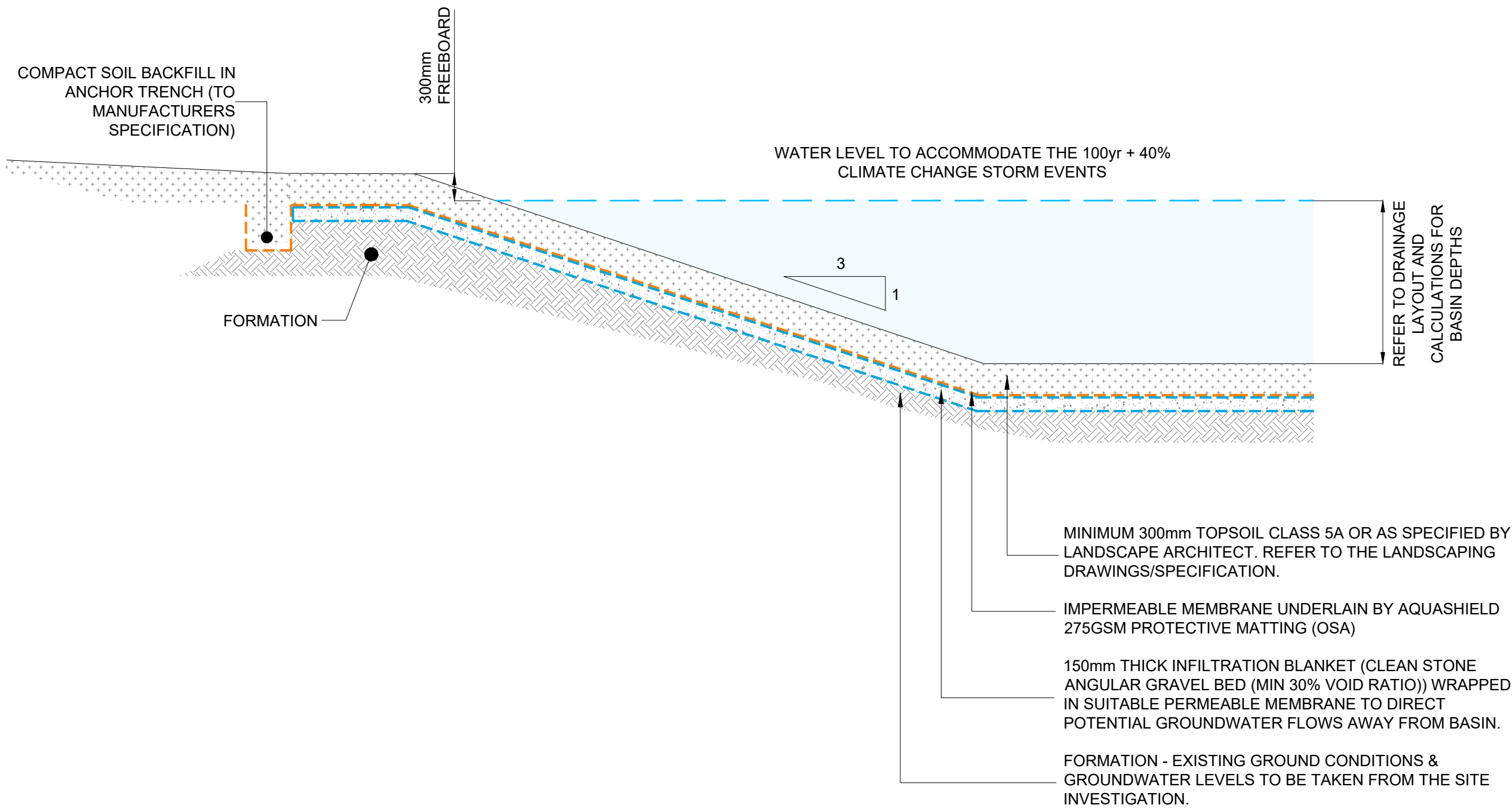
1. THE CONTRACTOR IS TO CHECK AND VERIFY ALL SITE DIMENSIONS AND LEVELS, INCLUDING EXISTING SEWER INVERT LEVELS AND UTILITIES, PRIOR TO START ON SITE.
2. POSITIONS OF EXISTING SERVICES/STATUTORY UNDERTAKERS APPARATUS ADJACENT TO OR CROSSING PROPOSED EXCAVATIONS ARE TO BE CONFIRMED PRIOR TO START ON SITE.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH AND CHECKED AGAINST ALL: ENGINEERING DETAILS, SPECIFICATIONS, GEOTECHNICAL AND OTHER RELEVANT DOCUMENTATION PROVIDED.
4. THIS DRAWING IS SCHEMATIC FOR CLARITY ONLY, POSITIONS OF PIPE RUNS AND MANHOLES MAY VARY ON SITE DUE TO SITE CONDITIONS.
5. WHERE EXISTING OR PROPOSED TREES ADJACENT TO HIGHWAYS OR DRAINAGE ARE PROPOSED, ROOT BARRIERS (TYPE TO BE APPROVED) ARE REQUIRED TO PREVENT STRUCTURAL DAMAGE.
6. ANY ANOMALY OR CONTRADICTIONS BETWEEN ANY OF THE ABOVE IS TO BE REPORTED IMMEDIATELY.
7. THE CONTRACTOR IS TO COMPLY IN ALL ASPECTS WITH THE CURRENT BRITISH STANDARDS, BUILDING REGULATIONS AND BUILDING LEGISLATION ETC.
8. FURTHER SURVEYS REQUIRED TO DETERMINE EXACT LOCATION, DIMENSIONS AND LEVELS OF EXISTING SEWERS.
9. DRAINAGE LAYOUT IS SUBJECT TO CHANGE AND DEPENDANT ON RECEIPT OF LEVELS OF EXISTING SURFACE AND FOUL WATER SEWER.

DRAINAGE INVERTS BASED ON ASSUMED COVER LEVELS. ALL DRAINAGE LEVELS SUBJECT TO CHANGE AT DETAILED DESIGN FOLLOWING DETAILED LEVEL PROPOSALS

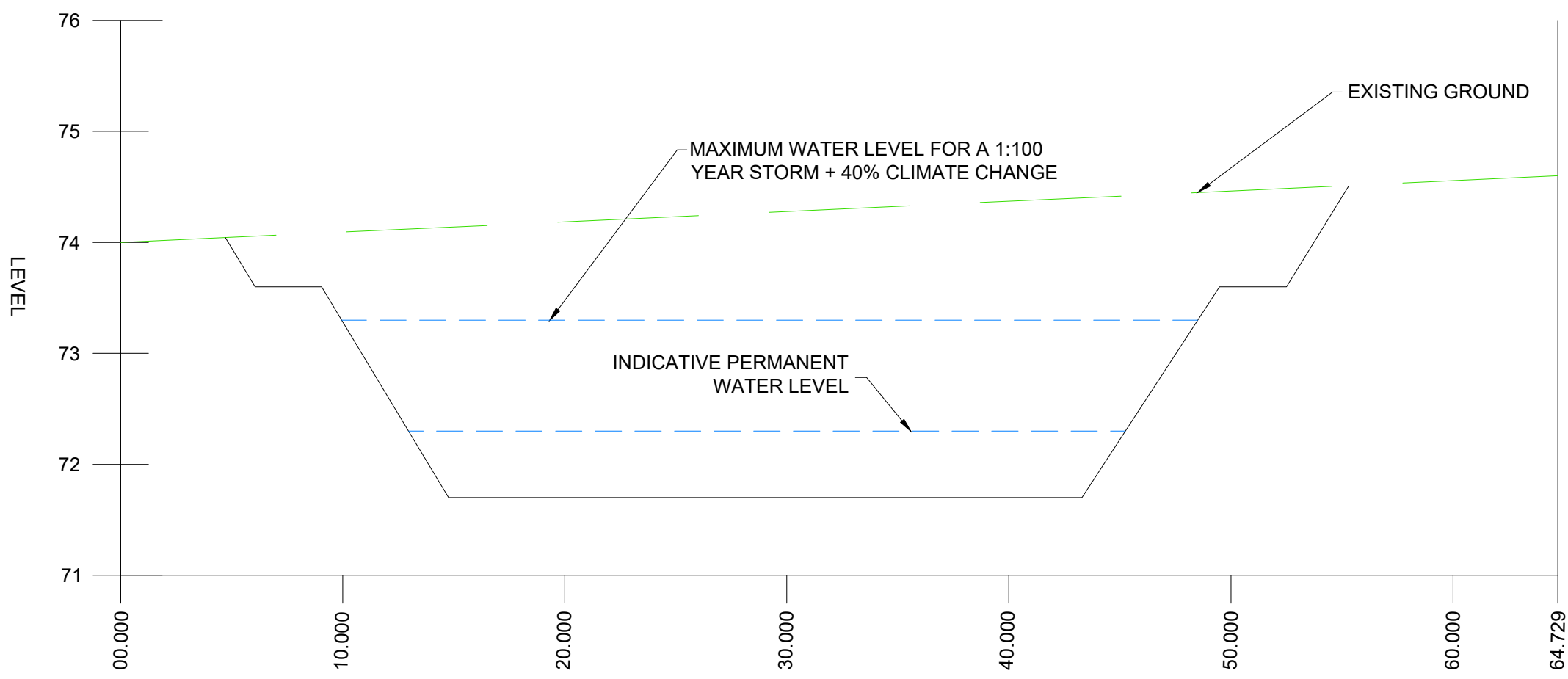
WHERE GROUNDWATER IS ENCOUNTERED, ADVICE SHOULD BE SOUGHT FROM A GEOTECHNICAL ENGINEER AND MITIGATION MEASURES TO BE USED.



BASIN LAYOUT
(SCALE 1:500)



TYPICAL ATTENUATION BASIN CONSTRUCTION DETAIL
(SCALE NTS)



BASIN -SECTION A - A
SCALE H-1:250 V-1:50

A01	21.01.26	FIRST ISSUE	AR
Rev	Date	Description	By

Client

WOOLEY AND WALLIS

Project

LOWER DUNGE FARM

Title

BASIN DETAILS

Project No.	Drawing No.	Revision
AEG10011	CIV-006	A01

Drawn	Checked	Approved	Date	Scale @ A1
AR	VW		JAN 2026	AS SHOWN

Drawing Status

INFORMATION

aegaea
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Working in Partnership with Mr William Arrowsmith
at W J A Fabrication & Construction Ltd

30,000 Litre Vertical Non-Potable Water Tank 2 x 3inch

Description:

Strong, durable MDPE tank construction. WRAS approved. UV stabilised. Ribbed sides for extra strength. Strong lid structure. Positive tie down points. Standard colour: black, but other colours available: clear, dark green, green translucent. Heavy duty for a longer life span. Additional outlets and outlet sizes available.



RainStor Twin Filter/ Diverter Complete with Brackets DN100/DN150 800m2

Description:

Rainwater filter for large roof areas. The Twin Filter can be installed in chambers underground or directly on the wall kept frost free. Usually installed in standard 1000mm manholes. The filter could also be pre-installed in chambers prior to delivery to site. Due to its two step cleaning system, it has a high level of filtering efficiency, independent of flow rate. Due to the steep inclination of the filter cartridge the dirt is continuously cleaned away into the sewer. The cleaned water is collected in a tank and directed into the storage. The 3p two step filtration system is a tried and tested proven technology.



RainStor Overflow Siphon DN100

Description:

Ideal for installation through plastic walled Tanks. Any floating materials are skimmed off via the chamfered slots as the tank overflows.



RainStor Calmed Tank Inlet DN100

Description:

Provides a calmed inlet for rainwater entering the storage tank.
Prevents disturbance of settled sedimentation layer and
supplies the lower part of the water with oxygen so that the
water remains fresh. Made from Polyethylene



C-Level Tank Level Indicator Kit

Description:

C-Level Tank level indicators are an innovative Level indicator designed for storage tanks. Just a simple mechanical float, a weight and a pulley system, with no gimmicks, no batteries. These gauges show the actual level of fluid in storage tanks, unlike other gauges that read back to front. The weighted float and indicator are connected to the counterweight by separate cords, each cord running over a pair of Pulleys.



Pipe Fitting – Topaz Part Fill Top Up Valve 1" BSPM

Description:

Topaz Part Fill is a high flow valve intended for use in rain water harvesting tanks. The purpose of the float valve is to automatically maintain a low level of water in the tank during periods of no or low rainfall. This allows services fed by the tank to continue while leaving capacity in the tank for refilling by the next rainfall. This high flow valve refills 10 times faster than a standard valve.



Pipe Fitting Plastic – Plastic Ball Valve Camlock Male 3" X 3" BSPF

Description:

Pipe Fitting – Plastic Ball Valve Camlock Male 3" X 3"
BSPF – Made from High Quality Polypropylene Body



Pipe Fitting – Hose Tail X Camlock Female 3"

Description:

Pipe Fitting – Hose Tail X Camlock Female 2" –
Made from High Quality Polypropylene Body



RainStor Pump Station with Dry Run Protection

Description:

RainStor Pump Station come as a complete kit – Pre- Installed ready to be wired up and to start pumping water through.



Dear William,

Many Thanks for Giving D&H the opportunity to
Quote you for your Rainwater Harvesting System,

Please let me know if you have any further
questions by contacting myself on the below details.

Many Thanks



Ashley Clarke

Sales & Business Development

E: ashley.clarke@dandhdirect.com

N: 01553 819590

M: 07384 918841

Appendix F - Proposed Drainage Calculations

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	2	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	x

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
Rainfall Events	Singular	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	20.000	Additional Storage (m³/ha)	0.0
Ratio-R	0.400	Starting Level (m)	
Summer CV	1.000	Check Discharge Rate(s)	x
Winter CV	1.000	Check Discharge Volume	x

Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	10	0
30	0	10	0
100	45	10	0

Node 4 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	72.066	Product Number	CTL-SHE-0055-1500-1234-1500
Design Depth (m)	1.234	Min Outlet Diameter (m)	0.075
Design Flow (l/s)	1.5	Min Node Diameter (mm)	1200

Node PO Pond Storage Structure

Invert Level (m)	72.300	Time to half empty (mins)	Analyse flow through structure	x
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Inlets

PI

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	363.0	1.000	622.0

Results for 2 year +10% A Critical Storm Duration. Lowest mass balance: 99.78%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	73.236	0.111	21.8	0.1260	0.0000	OK
15 minute summer	2	11	73.078	0.173	43.3	0.1959	0.0000	OK
15 minute summer	3	11	72.755	0.194	70.1	0.2770	0.0000	OK
480 minute winter	PI	472	72.521	0.221	8.0	0.0000	0.0000	OK
480 minute winter	PO	472	72.519	0.219	5.6	86.0851	0.0000	SURCHARGED
480 minute winter	4	472	72.518	0.452	4.0	0.5116	0.0000	SURCHARGED
4320 minute winter	5	1920	71.726	0.028	1.2	0.0312	0.0000	OK
960 minute summer	6	375	70.778	0.028	1.2	0.0321	0.0000	OK
10080 minute summer	7	5040	70.402	0.021	1.2	0.0242	0.0000	OK
10080 minute summer	OUTFALL	5040	70.021	0.021	1.2	0.0000	0.0000	OK
15 minute summer	8	11	73.167	0.067	8.1	0.0758	0.0000	OK
15 minute summer	9	11	73.034	0.134	29.1	0.1520	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	1	3.000	2	21.3	0.676	0.300	1.7630	
15 minute summer	2	3.001	3	42.2	1.056	0.595	1.5775	
15 minute summer	3	2.002	PI	69.8	1.120	0.376	1.5235	
480 minute winter	PO	1.000	4	4.0	0.564	0.227	0.1490	
480 minute winter	4	1.001	5	1.2	0.384	0.017	0.2863	
4320 minute winter	5	1.002	6	1.2	0.397	0.017	0.2759	
960 minute summer	6	1.003	7	1.2	0.440	0.017	0.2505	
10080 minute summer	7	1.004	OUTFALL	1.2	0.553	0.010	0.0708	207.2
15 minute summer	8	2.000	9	7.9	0.394	0.112	1.0339	
15 minute summer	9	2.001	3	27.9	0.947	0.395	1.3622	

Results for 30 year +10% A Critical Storm Duration. Lowest mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	73.286	0.160	41.4	0.1815	0.0000	OK
15 minute summer	2	11	73.202	0.297	82.5	0.3363	0.0000	OK
15 minute summer	3	11	72.841	0.280	132.1	0.4003	0.0000	OK
720 minute winter	PI	705	72.724	0.424	10.3	0.0000	0.0000	OK
720 minute winter	PO	705	72.722	0.422	6.9	176.6924	0.0000	SURCHARGED
720 minute winter	4	705	72.721	0.655	2.6	0.7410	0.0000	SURCHARGED
960 minute winter	5	240	71.726	0.028	1.2	0.0312	0.0000	OK
960 minute winter	6	240	70.778	0.028	1.2	0.0321	0.0000	OK
960 minute winter	7	240	70.402	0.021	1.2	0.0242	0.0000	OK
960 minute winter	OUTFALL	240	70.021	0.021	1.2	0.0000	0.0000	OK
15 minute summer	8	10	73.193	0.093	15.3	0.1048	0.0000	OK
15 minute summer	9	11	73.103	0.203	55.3	0.2296	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	1	3.000	2	40.6	0.772	0.572	2.8994	
15 minute summer	2	3.001	3	78.6	1.228	1.108	2.4736	
15 minute summer	3	2.002	PI	131.3	1.349	0.707	2.3845	
720 minute winter	PO	1.000	4	2.6	0.580	0.149	0.1490	
720 minute winter	4	1.001	5	1.2	0.383	0.017	0.2863	
960 minute winter	5	1.002	6	1.2	0.397	0.017	0.2759	
960 minute winter	6	1.003	7	1.2	0.440	0.017	0.2505	
960 minute winter	7	1.004	OUTFALL	1.2	0.553	0.010	0.0708	72.0
15 minute summer	8	2.000	9	15.0	0.454	0.212	1.6925	
15 minute summer	9	2.001	3	53.6	1.130	0.757	2.1822	

Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 99.82%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	11	74.178	1.053	77.9	1.1904	0.0000	SURCHARGED
15 minute summer	2	11	73.887	0.982	153.0	1.1105	0.0000	SURCHARGED
1440 minute winter	3	1410	73.084	0.523	11.0	0.7490	0.0000	SURCHARGED
1440 minute winter	PI	1410	73.084	0.784	10.8	0.0000	0.0000	OK
1440 minute winter	PO	1410	73.081	0.781	7.2	363.5060	0.0000	FLOOD RISK
1440 minute winter	4	1410	73.081	1.015	2.7	1.1474	0.0000	SURCHARGED
1440 minute winter	5	1410	71.727	0.029	1.4	0.0329	0.0000	OK
1440 minute winter	6	1410	70.780	0.030	1.4	0.0339	0.0000	OK
1440 minute winter	7	1410	70.404	0.023	1.4	0.0255	0.0000	OK
1440 minute winter	OUTFALL	1410	70.022	0.022	1.4	0.0000	0.0000	OK
15 minute summer	8	11	73.470	0.370	29.0	0.4182	0.0000	SURCHARGED
15 minute summer	9	11	73.412	0.512	98.6	0.5793	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	1	3.000	2	76.4	1.084	1.076	3.7686	
15 minute summer	2	3.001	3	153.2	2.176	2.162	2.7457	
1440 minute winter	3	2.002	PI	10.8	0.597	0.058	3.8627	
1440 minute winter	PO	1.000	4	2.7	0.551	0.155	0.1490	
1440 minute winter	4	1.001	5	1.4	0.395	0.019	0.3095	
1440 minute winter	5	1.002	6	1.4	0.409	0.019	0.2985	
1440 minute winter	6	1.003	7	1.4	0.456	0.019	0.2710	
1440 minute winter	7	1.004	OUTFALL	1.4	0.573	0.011	0.0764	116.5
15 minute summer	8	2.000	9	31.1	0.517	0.440	3.4451	
15 minute summer	9	2.001	3	94.7	1.345	1.338	3.2394	