



Long Goss, Little Somerford

Surface Water Drainage Strategy

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water, civils and environment

Site Address: Long Goss,
Swindon Road,
Little Somerford,
Chippenham,
SN15 5BW

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

degadea
water, civils and environment

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Site Location: Long Goss, Swindon Road, Little Somerford, Chippenham, SN15 5BW.

Issue	Date	Author	Check	Auth.	Comments
1	11/12/2025	Ceri Metcalfe	Daniel Buciak	James Mahoney	First issue
2	16/02/2026	Ceri Metcalfe	Daniel Buciak	Daniel Buciak	Updated Site Layout
3	24/04/2026	Ceri Metcalfe	Daniel Buciak	Daniel Buciak	Updated Site Layout and additional information

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1. Introduction

- 1.1. Aegaea were commissioned by the Developer to prepare a Drainage Strategy to support the discharge of conditions 6 and 7 respectively associated with planning references PL/2024/11637 at the below address.

Site Overview

- 1.2. The site of the proposed development is Long Goss, Swindon Road, Little Somerford, Chippenham, SN15 5BW.

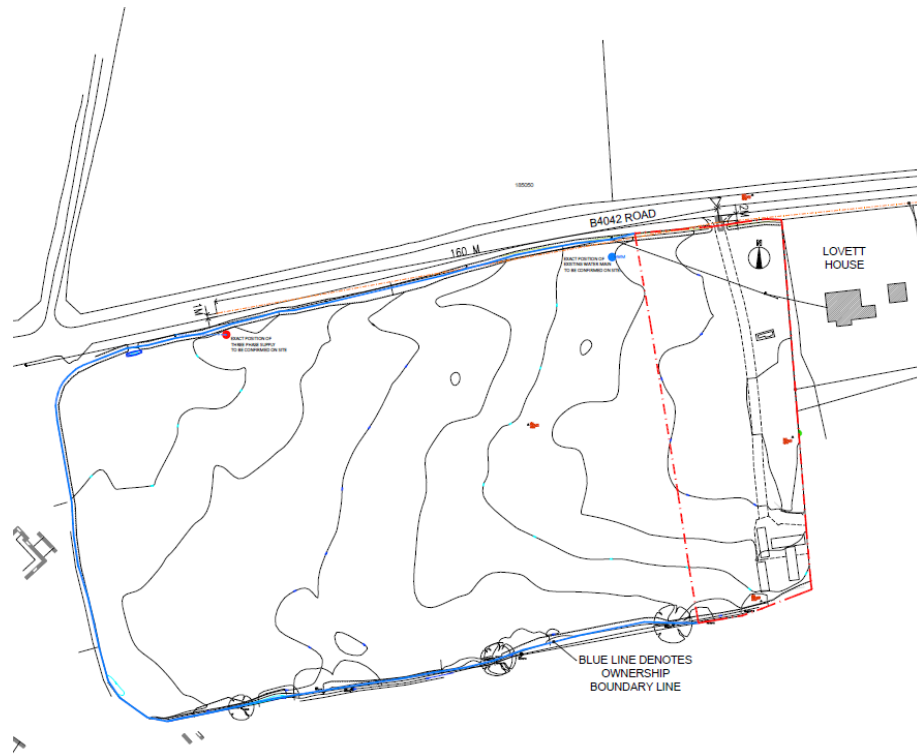


Figure 1: Site Location

- 1.3. The proposed development site measures approximately 4,965m² (0.497ha), situated and accessed from Swindon Road (B4042) to the north of the site.

- 1.4. The topographical survey is included in Appendix A, which illustrates that existing site levels vary between 97.87m Above Ordnance Datum (AOD) east of the site and 96.00m AOD to the south.
- 1.5. Wiltshire Council is the Local Planning Authority (LPA) and designated Lead Local Flood Authority (LLFA) for the site.
- 1.6. Wessex Water are the Sewerage Undertaker for the area. Wessex Water's asset mapping is included within Appendix B.

Development Proposals

- 1.7. It is understood that temporary accommodation is to be located onsite during the construction phase of the development.
- 1.8. The proposed development comprises of the erection of a for the erection of a self-build dwelling, new workshop and associated access and landscaping works.
- 1.9. The proposed development layout can be seen in Figure 2 below and is contained within Appendix C.

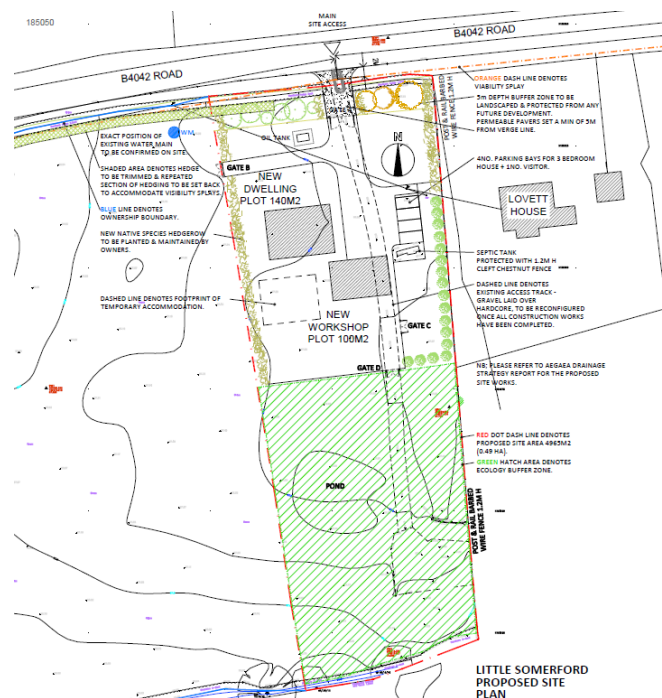


Figure 2: Proposed Site Plan

Ground Conditions

- 1.10. A review of readily available information indicates that the site is in an area of Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils with impeded drainage (Soilsclapes soil types viewer). British Geological Survey (BGS) data indicates that the bedrock underlying the site is Oxford Clay Formation – Mudstone.
- 1.11. Infiltration testing to BRE365 was undertaken on site by CLEAR in November 2025 at 4 no. trial pit locations across the site. The infiltration testing encountered Sandy and Gravely Clay throughout the trial pits. Insufficient soakage was recorded over the monitoring period within the test pits to enable infiltration rates to be calculated.
- 1.12. A copy of the infiltration tests is contained in Appendix D.
- 1.13. Based on the above, it is considered that the disposal of surface water via infiltration is not feasible and an alternative strategy in line with the SuDS hierarchy is to be sought.

2. Surface Water Drainage Strategy

Existing Drainage System

- 2.1. The existing on-site surface water drainage is assumed to currently discharge naturally via overland flows and existing land drain/surface water drain towards the south of the site.
- 2.2. An existing pipe, assumed to convey land drainage from the site, has been identified within the site that outfalls into an existing dry pond and ditch network to the south of the site. Refer to Appendix E for photos of the existing arrangement.
- 2.3. The existing outfall pipe has been rodded and is clear of any obstructions and is visually in good working condition.

Proposed Drainage Hierarchy

- 2.4. Current guidance indicates that the following surface water disposal options should be considered, listed in order of preference:
 - i. **Disposal via rainwater harvesting:** It is proposed that a rainwater harvesting tank is to be located onsite.
 - ii. **Disposal via on-site infiltration systems:** As mentioned above, infiltration has been discounted due to unfavourable ground condition.
 - iii. **Disposal to a watercourse/surface water body:** There is an existing dry pond/ditches that run along the southern boundary of the site, which is proposed to be the discharge point for surface water flows from the development. It is proposed to utilise an existing onsite connection into the pond.
 - iv. **Disposal to surface water sewer:** There are no public surface water sewers within the proximity of the proposed development.
 - v. **Disposal to combined sewer:** There are no public combined sewers within the proximity of the proposed development.
- 2.5. In accordance with the SuDS hierarchy, it is proposed that surface water flows are to discharge at a controlled rate into the existing ditch along the southern site boundary.

Runoff Rates

- 2.6. An assessment of greenfield runoff rates based on the proposed development drainage catchment areas for the fixed development (circa 671.5m²) was made using the pre-development calculator in Causeway Flow software based on the input parameters shown in Figure 3 below.

Pre-development discharge

Site Makeup: Greenfield

Greenfield Method: IH124

Positively Drained Area (ha): 0.067

SAAR (mm): 739

Soil Index: 1

SPR: 0.47

Region: 1

Betterment (%): 0

QBar (l/s): 0.3

Load

Calc

Return Period (years)	Growth Factor	Q (l/s)
1	0.85	0.3
30	1.99	0.7
100	2.48	0.9

Figure 3: Extract from Causeway Flow Greenfield Runoff Rate Calculator

- 2.7. The greenfield runoff rates for the proposed development site are set out in the Table 1 below.

Return Period	Greenfield Runoff Rate
Q_{BAR}	0.3 l/s
1 in 1 Year	0.3 l/s
1 in 30 Year	0.7 l/s
1 in 100 Year	0.9 l/s

Table 1: Greenfield Runoff Rates

- 2.8. The table above shows that due to the small nature of the proposed development and the associated soil class type, greenfield runoff rates are extremely low.

- 2.9. Where a site is below 1ha and greenfield runoff rates are low, it is considered that 1 l/s forms a practical minimum flow rate that balances and mitigates both the increased flood risk and blockage risk to the proposed drainage system. It is therefore proposed to restrict flows to 1 l/s as an appropriate minimum flow for small sites.

Proposed Drainage Strategy

- 2.10. The use of permeable paving for hardstanding areas is proposed to filter water and improve water quality of surface water flows arising from these hardstanding areas.
- 2.11. An attenuation pond is proposed to the south of the pond to treat surface water flows and provide attenuation prior to discharge at a controlled rate.
- 2.12. All on site drainage has been designed to accommodate surface water runoff including all modelled 1 in 100-year storms plus 45% climate change.
- 2.13. The proposed drainage layout can be found within Appendix F with supporting drainage calculations can be found in Appendix G.

3. Future Maintenance Strategy

General Maintenance

- 3.1. The surface water drainage network will be managed throughout the lifetime by the owners of the proposed development in accordance with details set out below.
- 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.

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

General maintenance for Surface Water Drainage Systems as per CIRIA C753.

- 3.3. 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.

Permeable Paving

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Regular raking to ensure even spread and smooth surface, may require additional top up.	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is 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 Maintenance	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of the paving.	As required
	Remediate work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace 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
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action.	Three-monthly, 48 hr after large storms in the first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

Attenuation Basin

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Remove litter and debris, cut grass access routes and around the basin. Inspect inlets and overflows for silt accumulation/blockages and clear if required, establish appropriate silt removal frequencies. Inspect banksides, structures, pipework etc for evidence of physical damage.	Monthly, during growing season or as required. Grass around the basin to be cut in spring before nesting season and autumn.
	Tidy all dead growth before start of growing season. Remove sediment from inlet.	Annually, or as required
Occasional Maintenance	Reseed areas of poor vegetation growth	As required
	Remove sediment from inlets and main basin when required.	Every 5 years, or as required
Remedial Maintenance	Repair erosions or other damage by reseedling or returfing.	As required
	Realignment of riprap	As required
	Repair / rehabilitate inlets	As required
	Relevel uneven surfaces and reinstate design levels	As required

Orifice Plate (Flow Control)

Maintenance Schedule	Required Action	Typical frequency
Regular Maintenance	Remove sediment and debris from flow control chambers and upstream manholes. Check for signs of damage, wear and tear. Check any visible fixing bolts.	Monthly (for the first 12 months, then 6 monthly).
Remedial Actions	Clean or replace orifice plate if defects are located or, if performance deteriorates or failure occurs. In the event of the blockage, the blockage/foreign material should be manually removed	As necessary.
Monitoring	Check flow control to ensure emptying is occurring.	Quarterly and post high intensity storm event.

Headwalls (inlets and outlets)

Maintenance Schedule	Required Action	Typical frequency
Regular Maintenance	Inspect inlets, outlets for blockages and clear if required	Monthly (for the first 12 months, then 6 monthly).
	Check for signs of damage, erosion of banks or scour.	
	Inspect structural integrity of head wall structure	
	Check integrity of metal work and replace when needed.	
Occasional Maintenance	In the event of the blockage, the blockage/foreign material should be manually removed	Annual/bi-annual visual checks are basic recommendation
	Galvanised Grates and Handrails	
Remedial Actions	In the event of damage, erosion of banks or scour, rehabilitate as required.	As required
	Repair/rehabilitation of inlets/outlets/overflows	As required
	Re-level uneven surfaces and reinstate design levels	As required

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 individual property driveways, residential car parks and low traffic roads are generally viewed as low risk (as per Table 26.2 of C753), shown in the tables below.

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Individual property driveways, residential car parks and low traffic roads	Low	0.5	0.4	0.4

Pollutant Hazard Indices

	Mitigation Indices				Indices for Calculation		
	TSS	Metals	Hydrocarbons		TSS	Metals	Hydrocarbons
Permeable Paving	0.7	0.6	0.7	100%	0.7	0.6	0.7
Total Mitigation Indices score					0.7	0.6	0.7
Sufficiency of Pollution Mitigation Indices					Sufficient (No additional mitigation required)		

SuDS Mitigation Indices

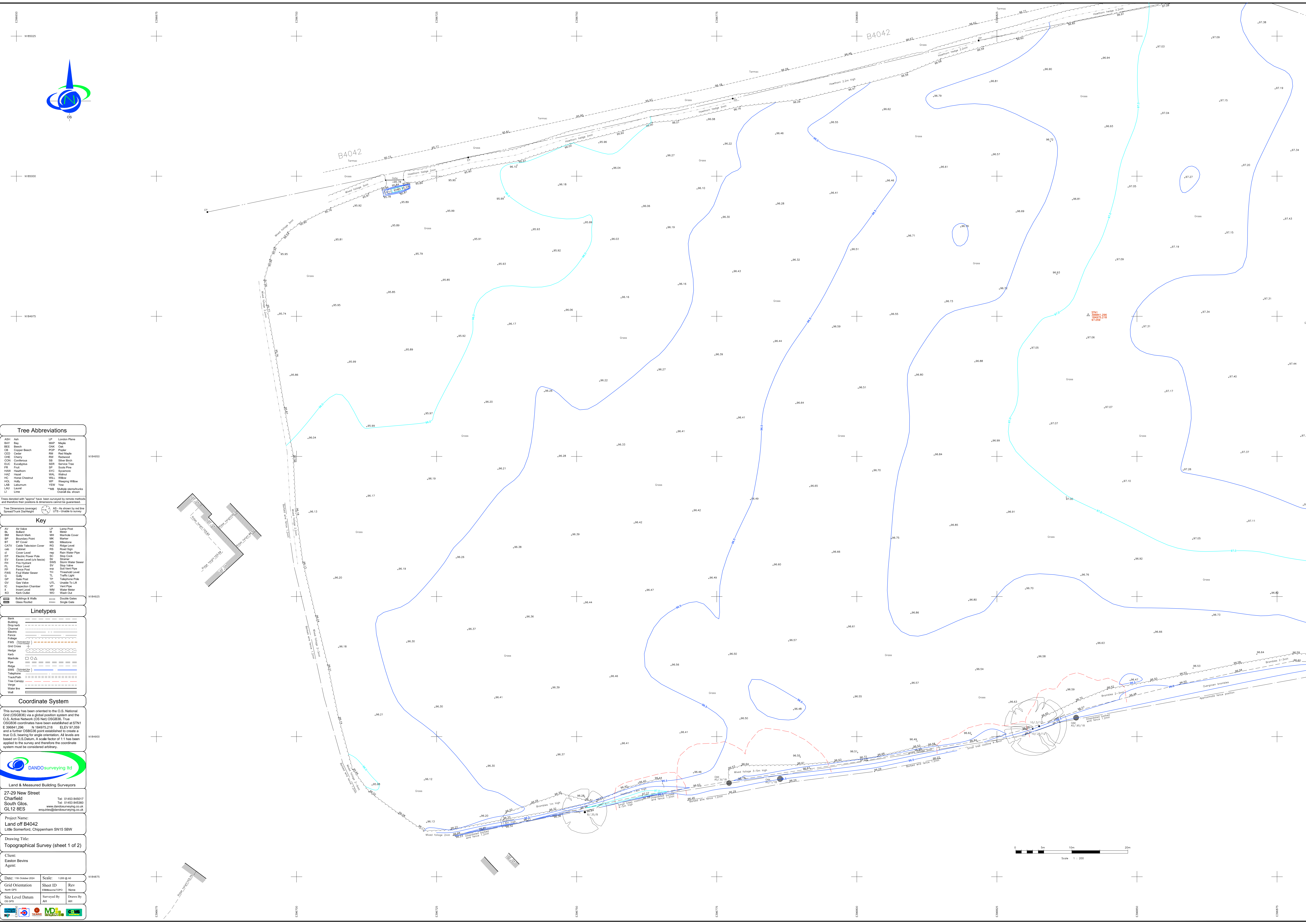
Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Residential Roofs	Very Low	0.2	0.2	0.05
Total Pollutant Hazard Indices		0.2	0.2	0.05

Pollutant Hazard Indices

SuDS Feature	Mitigation Indices				Indices for Calculation		
	TSS	Metals	Hydrocarbons		TSS	Metals	Hydrocarbons
Attenuation/Detention Basin	0.5	0.5	0.6	100%	0.5	0.5	0.6
Total Mitigation Indices score					0.5	0.5	0.6
Sufficiency of Pollution Mitigation Indices					Sufficient (No additional mitigation required)		

- 4.4. The mitigation indices offered by the proposed SuDS features exceed the hazard indices from roof areas and property driveways, therefore provides adequate mitigation. It is therefore considered that the proposed SuDS features on site are appropriate and acceptable in terms of water quality.

Appendix A - Topographical Survey



AV	Air Valve	LP	Lamp Post
BL	Ballast	M	Motor
BM	Bench Mark	MH	Manhole Cover
BP	Boundary Point	MK	Marker
BT	BT Cover	MS	Milestone
CATV	Cable Television Cover	RG	Ridge Line
cab	Cabinet	RS	Rest Sign
c	Cover Level	swp	Swamp Water Pipe
EP	Electric Power Pole	SC	Sign Cock
EV	Evanes Level (via fudgas)	Sy	Syranner
FH	Fire Hydrant	SW	Storm Water Sewer
FL	Floor Level	SW	Stop Valve
FP	Flow Point	swp	Swamp Velt Pipe
FWS	Four Water Sewer	TH	Threshold
G	Gully	TL	Traffic Light
GP	Gully Post	TP	Telephone Pole
GV	Gas Valve	UPL	Unable To Lift
IC	Inspection Chamber	VP	Vert Pipe
I	In Level	WM	Water Motor
K	Knot Outlet	WO	Warm Out

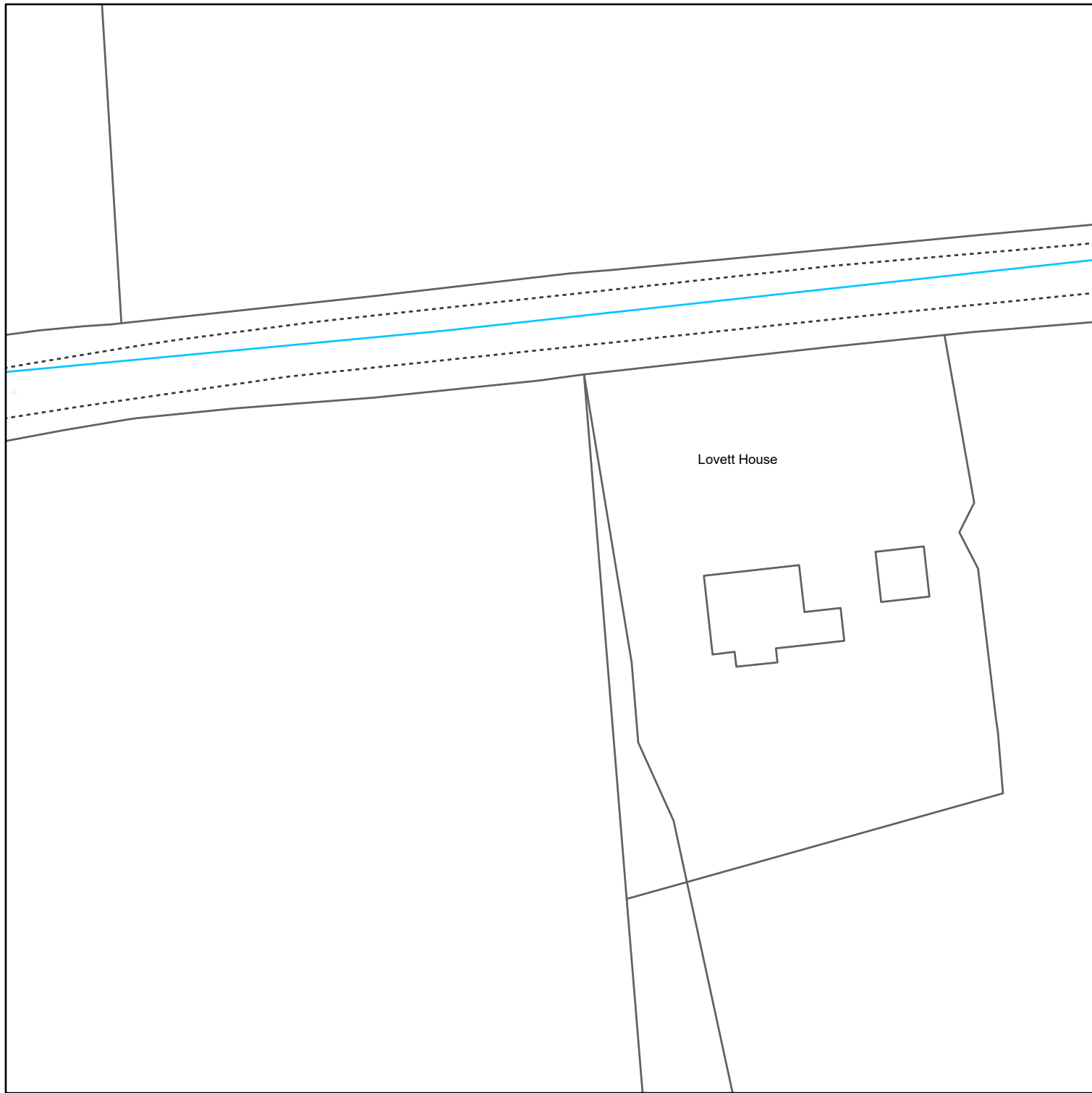
Coordinate System

This survey has been oriented to the O.S. National Grid (OSGB36) via a global position system and the O.S. Active Network (OS Net) OSGB36. True OSGB36 coordinates have been established at STN1 E 98841.296 N 184975.218 ELEV 97.059 and a further OSGB36 point established to create a true O.S. bearing for angle orientation. All levels are based on O.S.Datum. A scale factor of 1:1 has been applied to the survey and therefore the coordinate system must be considered arbitrary.

Date: 11th October 2024	Scale: 1:200 @ A0	
Grid Orientation North: GPS	Sheet ID E01030001TOPO	Rev None
Site Level Datum OS GPS	Surveyed By AH	Drawn By AH

Appendix B - Wessex Water Asset Mapping

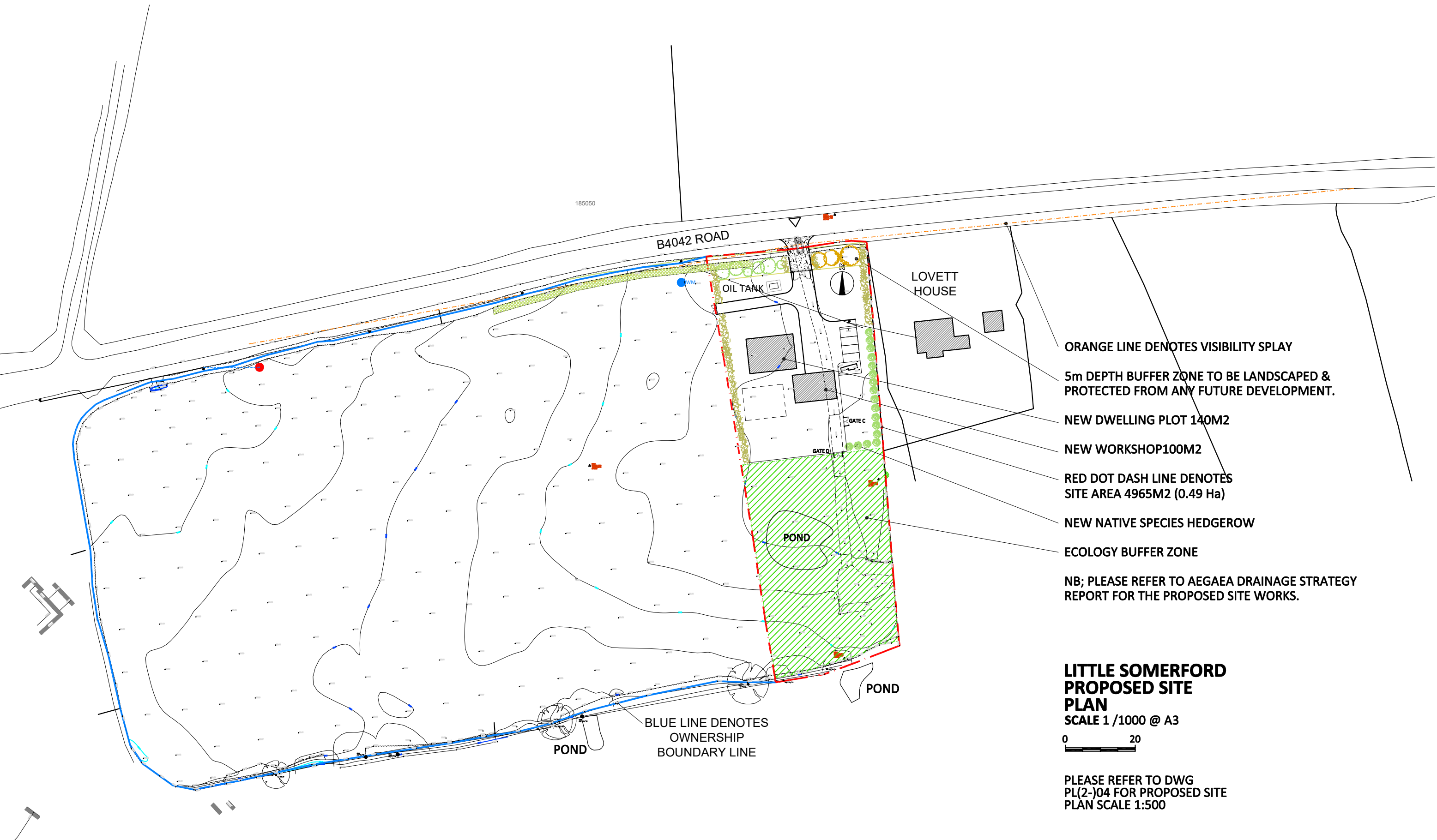
Wessex Water Network Map



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WATER MAINS		SEWERS		STRATEGIC PUBLIC PRIVATE SECTION 104		OTHER WESSEX PIPES		NON-WESSEX / UNKNOWN	
	Distribution		Foul Surface				Rising Mains		Private Rising Mains
	Washout		Surface Combined				Standby Rising Mains		Culverted Watercourse
	Raw Water		Abandoned				EDM Effluent Disposal		Highway Drain
	Abandoned						Overflow		Use Unknown
	Private						Syphon		Status Unknown
FITTINGS		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).							
	Hydrant	Some styles of line and symbol are shown on the key in sample/typical colours.							
	Other								
		STRUCTURES			Pumping Station - Surface				
			Manhole - Foul		Pumping Stn - Foul/Combined				
			Manhole - Surface		Gully				
			Manhole - Combined		Vent Column				
			Inlet		Rodding Eye				
			Outfall		Catchpit				
			Lamphole		Flushing Chamber				
			Bifurcation - Foul		Soakaway				
			Bifurcation - Surface		Non Return Valve				
			Bifurcation - Combined		Air Valve		Hatch Box	X	Washout
			Combined Sewage Overflow						
						OTHER STRUCTURES			
							Attenuation Tank		Tunnel
							Storage Tank		Interceptor
						 YTL GROUP			
						Date: 06/10/2025 Centre: 396917E, 185019N Scale: 1:625 (when printed at A4 size)			

Appendix C - Proposed Site Layout



- ORANGE LINE DENOTES VISIBILITY SPLAY
 - 5m DEPTH BUFFER ZONE TO BE LANDSCAPED & PROTECTED FROM ANY FUTURE DEVELOPMENT.
 - NEW DWELLING PLOT 140M2
 - NEW WORKSHOP 100M2
 - RED DOT DASH LINE DENOTES SITE AREA 4965M2 (0.49 Ha)
 - NEW NATIVE SPECIES HEDGEROW
 - ECOLOGY BUFFER ZONE
- NB; PLEASE REFER TO AEGAEA DRAINAGE STRATEGY REPORT FOR THE PROPOSED SITE WORKS.

**LITTLE SOMERFORD
PROPOSED SITE
PLAN**
SCALE 1 /1000 @ A3



PLEASE REFER TO DWG
PL(2-)04 FOR PROPOSED SITE
PLAN SCALE 1:500

All dimensions are in millimeters unless otherwise stated. Any variation or supplementary drawing is to be approved by the architect. All dimensions and conditions are to be checked on site, prior to preparing drawings or commencing work. Any discrepancies within these drawings are to be reported to the architect immediately.

PLANNING DRAWING
DO NOT SCALE FROM THIS DRAWING EXCEPT FOR LOCAL
AUTHORITY PLANNING PURPOSES.





ORANGE DASH LINE DENOTES VIABILITY SPLAY
5m DEPTH BUFFER ZONE TO BE LANDSCAPED & PROTECTED FROM ANY FUTURE DEVELOPMENT.

4NO. PARKING BAYS.

LOVETT HOUSE

SEPTIC TANK PROTECTED WITH 1.2M H CLEFT CHESTNUT FENCE.

DASHED LINE DENOTES EXISTING ACCESS TRACK - GRAVEL LAID OVER HARDWARE, TO BE RECONFIGURED TO ACCOMMODATE TEMPORARY ACCOMMODATION.

NB; PLEASE REFER TO AEGAEA DRAINAGE STRATEGY REPORT FOR THE PROPOSED SITE WORKS.

RED DOT DASH LINE DENOTES PROPOSED SITE AREA 4965M2 (0.49 HA).
GREEN HATCH AREA DENOTES ECOLOGY BUFFER ZONE.

LITTLE SOMERFORD PHASE 01 PROPOSED TEMPORARY ACCOMMODATION SITE PLAN

SCALE 1 / 500 @ A3



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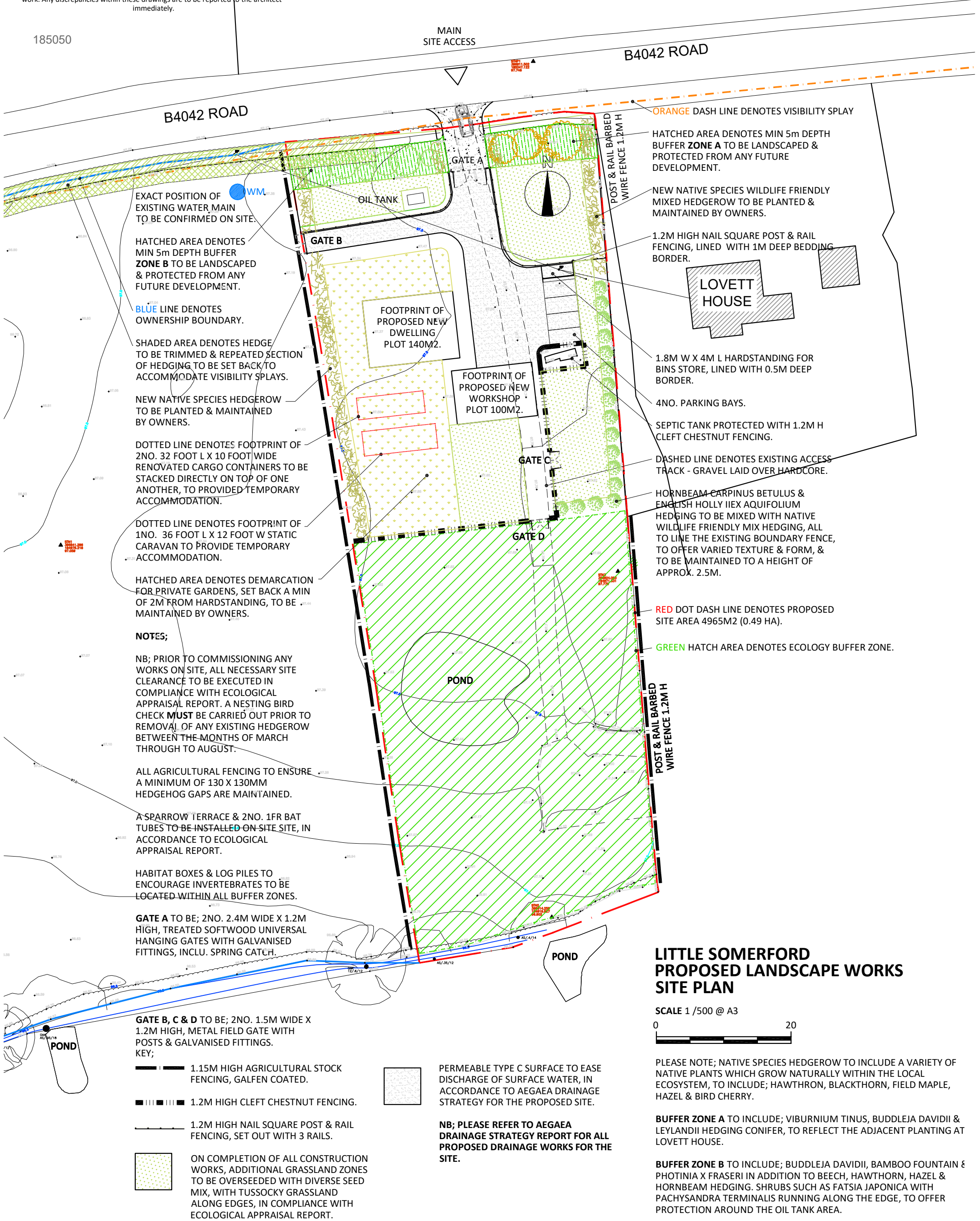
PLANNING DRAWING

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EXACT POSITION OF EXISTING WATER MAIN TO BE CONFIRMED ON SITE.

HATCHED AREA DENOTES MIN 5m DEPTH BUFFER ZONE B TO BE LANDSCAPED & PROTECTED FROM ANY FUTURE DEVELOPMENT.

BLUE LINE DENOTES OWNERSHIP BOUNDARY.

SHADED AREA DENOTES HEDGE TO BE TRIMMED & REPEATED SECTION OF HEDGING TO BE SET BACK TO ACCOMMODATE VISIBILITY SPLAYS.

NEW NATIVE SPECIES HEDGEROW TO BE PLANTED & MAINTAINED BY OWNERS.

DOTTED LINE DENOTES FOOTPRINT OF 2NO. 32 FOOT L X 10 FOOT WIDE RENOVATED CARGO CONTAINERS TO BE STACKED DIRECTLY ON TOP OF ONE ANOTHER, TO PROVIDED TEMPORARY ACCOMMODATION.

DOTTED LINE DENOTES FOOTPRINT OF 1NO. 36 FOOT L X 12 FOOT W STATIC CARAVAN TO PROVIDE TEMPORARY ACCOMMODATION.

HATCHED AREA DENOTES DEMARCATION FOR PRIVATE GARDENS, SET BACK A MIN OF 2M FROM HARDSTANDING, TO BE MAINTAINED BY OWNERS.

NOTES;

NB; PRIOR TO COMMISSIONING ANY WORKS ON SITE, ALL NECESSARY SITE CLEARANCE TO BE EXECUTED IN COMPLIANCE WITH ECOLOGICAL APPRAISAL REPORT. A NESTING BIRD CHECK **MUST** BE CARRIED OUT PRIOR TO REMOVAL OF ANY EXISTING HEDGEROW BETWEEN THE MONTHS OF MARCH THROUGH TO AUGUST.

ALL AGRICULTURAL FENCING TO ENSURE A MINIMUM OF 130 X 130MM HEDGEHOG GAPS ARE MAINTAINED.

A SPARROW TERRACE & 2NO. 1FR BAT TUBES TO BE INSTALLED ON-SITE SITE, IN ACCORDANCE TO ECOLOGICAL APPRAISAL REPORT.

HABITAT BOXES & LOG PILES TO ENCOURAGE INVERTEBRATES TO BE LOCATED WITHIN ALL BUFFER ZONES.

GATE A TO BE; 2NO. 2.4M WIDE X 1.2M HIGH, TREATED SOFTWOOD UNIVERSAL HANGING GATES WITH GALVANISED FITTINGS, INCLU. SPRING CATCH.

GATE B, C & D TO BE; 2NO. 1.5M WIDE X 1.2M HIGH, METAL FIELD GATE WITH POSTS & GALVANISED FITTINGS. KEY;

1.15M HIGH AGRICULTURAL STOCK FENCING, GALFEN COATED.

1.2M HIGH CLEFT CHESTNUT FENCING.

1.2M HIGH NAIL SQUARE POST & RAIL FENCING, SET OUT WITH 3 RAILS.

ON COMPLETION OF ALL CONSTRUCTION WORKS, ADDITIONAL GRASSLAND ZONES TO BE OVERSEEDDED WITH DIVERSE SEED MIX, WITH TUSOCKY GRASSLAND ALONG EDGES, IN COMPLIANCE WITH ECOLOGICAL APPRAISAL REPORT.

MAIN SITE ACCESS

B4042 ROAD

ORANGE DASH LINE DENOTES VISIBILITY SPLAY

HATCHED AREA DENOTES MIN 5m DEPTH BUFFER ZONE A TO BE LANDSCAPED & PROTECTED FROM ANY FUTURE DEVELOPMENT.

NEW NATIVE SPECIES WILDLIFE FRIENDLY MIXED HEDGEROW TO BE PLANTED & MAINTAINED BY OWNERS.

1.2M HIGH NAIL SQUARE POST & RAIL FENCING, LINED WITH 1M DEEP BEDDING BORDER.

LOVETT HOUSE

1.8M W X 4M L HARDSTANDING FOR BINS STORE, LINED WITH 0.5M DEEP BORDER.

4NO. PARKING BAYS.

SEPTIC TANK PROTECTED WITH 1.2M H CLEFT CHESTNUT FENCING.

DASHED LINE DENOTES EXISTING ACCESS TRACK - GRAVEL LAID OVER HARDCORE.

HORNBEAM CARPINUS BETULUS & ENGLISH HOLLY ILEX AQUIFOLIUM HEDGING TO BE MIXED WITH NATIVE WILDLIFE FRIENDLY MIX HEDGING, ALL TO LINE THE EXISTING BOUNDARY FENCE, TO OFFER VARIED TEXTURE & FORM, & TO BE MAINTAINED TO A HEIGHT OF APPROX. 2.5M.

RED DOT DASH LINE DENOTES PROPOSED SITE AREA 4965M² (0.49 HA).

GREEN HATCH AREA DENOTES ECOLOGY BUFFER ZONE.

LITTLE SOMERFORD PROPOSED LANDSCAPE WORKS SITE PLAN

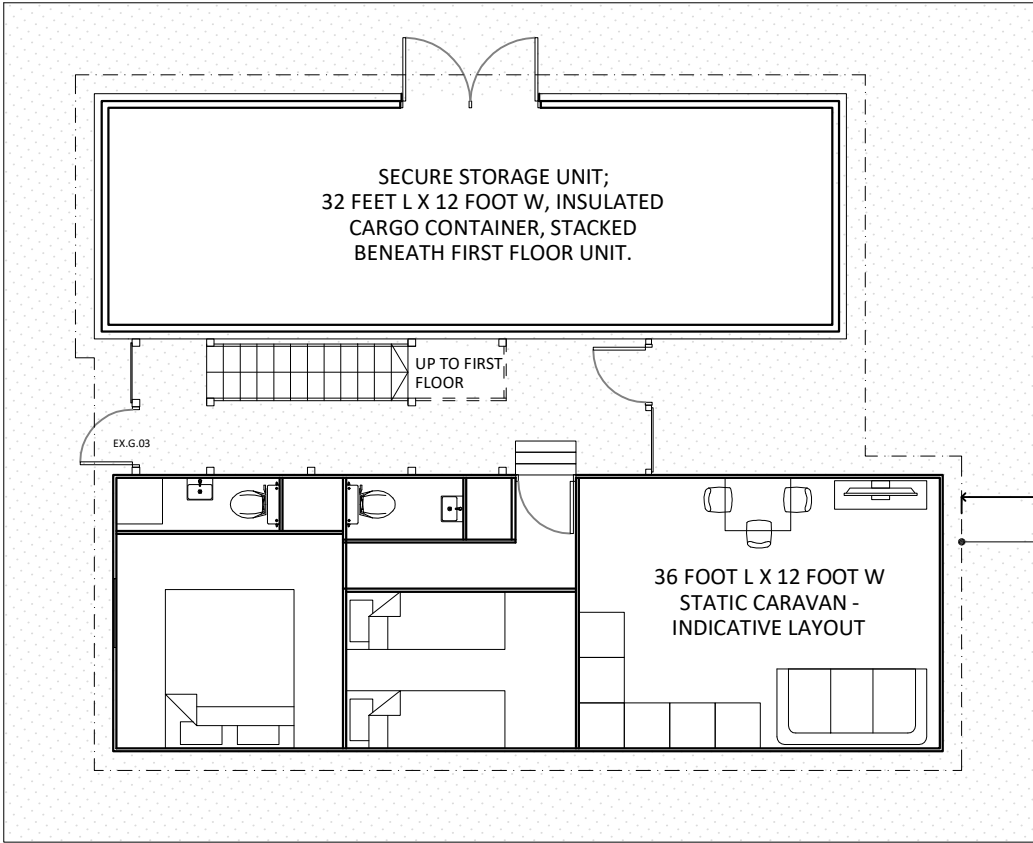
SCALE 1 /500 @ A3



PLEASE NOTE; NATIVE SPECIES HEDGEROW TO INCLUDE A VARIETY OF NATIVE PLANTS WHICH GROW NATURALLY WITHIN THE LOCAL ECOSYSTEM, TO INCLUDE; HAWTHORN, BLACKTHORN, FIELD MAPLE, HAZEL & BIRD CHERRY.

BUFFER ZONE A TO INCLUDE; VIBURNUM TINUS, BUDDLEJA DAVIDII & LEYLANDII HEDGING CONIFER, TO REFLECT THE ADJACENT PLANTING AT LOVETT HOUSE.

BUFFER ZONE B TO INCLUDE; BUDDLEJA DAVIDII, BAMBOO FOUNTAIN & PHOTINIA X FRASERI IN ADDITION TO BEECH, HAWTHORN, HAZEL & HORNBEAM HEDGING. SHRUBS SUCH AS FATSIA JAPONICA WITH PACHYSANDRA TERMINALIS RUNNING ALONG THE EDGE, TO OFFER PROTECTION AROUND THE OIL TANK AREA.



**LITTLE SOMERFORD
PROPOSED TEMPORARY ACCOMMODATION
GROUND FLOOR PLAN**

SCALE 1/100 @ A3
0 2

KEY;
A MIN OF 1.2M WIDE HOODING
PATHWAY TO LINE TEMPORARY
ACCOMMODATION

2NO. STACKED, REFURBISHED, CARGO CONTAINERS & 1NO. STATIC CARAVAN ARE TO PROVIDE THE OWNERS WITH TEMPORARY ACCOMMODATION, WHILST THE PROPOSED NEW DWELLING IS CONSTRUCTED.

PLEASE NOTE: INDICATIVE INTERNAL LAYOUTS FOR TEMPORARY ACCOMMODATION SHOWN ONLY

ALL TEMPORARY UNITS ARE TO BE PROVIDED WITH;

- DOUBLE GLAZED WINDOWS & DOORS (OBSCURED GLAZING IN SHOWER & WC ROOMS)

NB; PROPOSED TEMPORARY ACCOMMODATION FOOTPRINT TO BE OFFSET A MIN OF 4M FROM THE FOOTPRINT OF PROPOSED NEW DWELLING & 3M FROM THE FOOTPRINT OF THE PROPOSED NEW WORKSHOP.

DASHED LINE DENOTES FOOTPRINT OF PROPOSED NEW WORKSHOP 100M2

DASH LINE DENOTES FOOTPRINT OF REQUIRED REINFORCED STRUCTURAL SLAB TO SUPPORT TEMPORARY ACCOMMODATION, TO BE CONSTRUCTED IN ACCORDANCE TO STRUCTURAL ENGINEERS SPECIFICATION.

- ALL UNITS ARE TO BE CONNECTED TO 3 PHASE SUPPLY ON SITE. ALL ELECTRICAL WORK REQUIRED MUST COMPLY WITH PART P (ELECTRICAL SAFETY) & MUST BE DESIGNED, INSTALLED, INSPECTED & TESTED BY A COMPETENT REGISTERED PERSON, WHO WILL PROVIDE A BS7671 ELECTRICAL INSTALLATION CERTIFICATE, WHICH WILL THEN BE ISSUED TO WILTSHIRE COUNCIL BUILDING CONTROL & THE CLIENT, ON COMPLETION OF THE WORKS.

- ALL UNITS TO BE FITTED OUT WITH LPG GAS CENTRAL HEATING.

- ALL UPVC GUTTERS & DOWNPIPES TO BE CONNECTED TO APPROVED INFILTRATION SYSTEM. TO BE CHECKED, AGREED & APPROVED WITH WILTSHIRE COUNCIL BUILDING CONTROL & THE CLIENT, & MUST BE INSTALLED IN COMPLIANCE WITH CURRENT BUILDING REGULATIONS.

- ALL FOUL WASTE TO BE DISCHARGED INTO A SEALED HOLDING TANK & MAINTAINED BY A LICENSED WASTE CARRIER, USING A VACUUM TANKER.

- A MIN OF 1.2M W PERIMETER GRAVEL HOGGING PATHWAY TO LINE PERIMETER OF TEMPORARY ACCOMMODATION.

PROPOSED REFURBISHED CARGO CONTAINER ACCOMMODATION;

- 2NO. 32 FOOT L X 12 FOOT W CARGO CONTAINERS TO BE STACKED DIRECTLY ON TOP OF ONE ANOTHER, INSTALLED ON 200MM THICK REINFORCED CONCRETE SLAB TO ST.ENGINEERS SPECIFICATION. SLAB TO EXTEND A MINIMUM OF 250MM AROUND PERIMETER OF CONTAINER FOOTPRINT.

- BASE UNIT TO PROVIDE SECURE STORAGE FOR OWNERS PROPERTY & TOOLS.

- FIRST FLOOR TO PROVIDE 1NO. ADDITIONAL BEDROOM, 1NO SHOWER ROOM, ADDITIONAL STORAGE & 1NO. LIVING ROOM.

-THE SHOWER ROOM IS TO BE FITTED OUT WITH THERMOSTATICALLY CONTROLLED SHOWER WITH TOILET, WASH HAND BASIN, EXTRACTOR FAN & ELECTRIC HEATED TOWEL RAIL.

- BOTH CONTAINERS ARE TO BE FULLY INSULATED, INCLUDING ALL FLOORS, WALLS & CEILINGS, & IN COMPLIANCE WITH CURRENT BUILDING REGULATIONS.

-LOW ENERGY LED LIGHTING TO BE INSTALLED THROUGHOUT.

PLANNING DRAWING
All dimensions are in millimeters unless otherwise stated. Any variation or supplementary drawing is to be approved by the architect. All dimensions and conditions are to be checked on site, prior to preparing drawings or commencing work. Any discrepancies within these drawings are to be reported to the architect immediately.

- BOTH UNITS ARE TO BE LINED ETERNALLY WITH PRESSURE TREATED, VERTICAL SHIPLAP CLADDING. PLEASE NOTE, A MIN OF 1HOURL FIRE RESISTANCE IS TO BE ACHIEVED BETWEEN THE CARGO CONTAINERS & STATIC CARAVAN.

- GALVANISED STEEL STAIRCASE TO BE INSTALLED EXTERNALLY, TO PROVIDE ACCESS INTO FIRST FLOOR ACCOMMODATION.

- FIBRE CEMENT ROOFING SHEETS ARE TO BE SECURED TO ROOF OF CARGO UNITS & PROJECT OUT TO PROVIDE A PROTECTIVE OVERHANG FOR THE EXTERNAL STORE & STAIRCASE. TO BE ERECTED IN ACCORDANCE TO ST.ENGINEERS SPECIFICATION.

PROPOSED STATIC CARAVAN;

THE PROPOSED UNIT WILL BE APPROXIMATELY 36 FEET LONG X 12 FOOT WIDE INSTALLED ON 200MM THICK REINFORCED CONCRETE SLAB TO ST.ENGINEERS SPECIFICATION. SLAB TO EXTEND A MINIMUM OF 250MM AROUND PERIMETER OF CARAVAN FOOTPRINT.

CARAVAN TO BE FITTED OUT WITH;

- N, E, S & W ELEVATIONS TO BE FITTED WITH PIR SENSOR LED EXTERNAL LIGHT.

- CARAVAN TO BE FITTED OUT WITH ELECTRIC COOKER & OVEN, INTEGRATED FRIDGE FREEZER, MICROWAVE, DISHWASHER, KITCHEN & BATHROOM EXTRACTOR FANS.

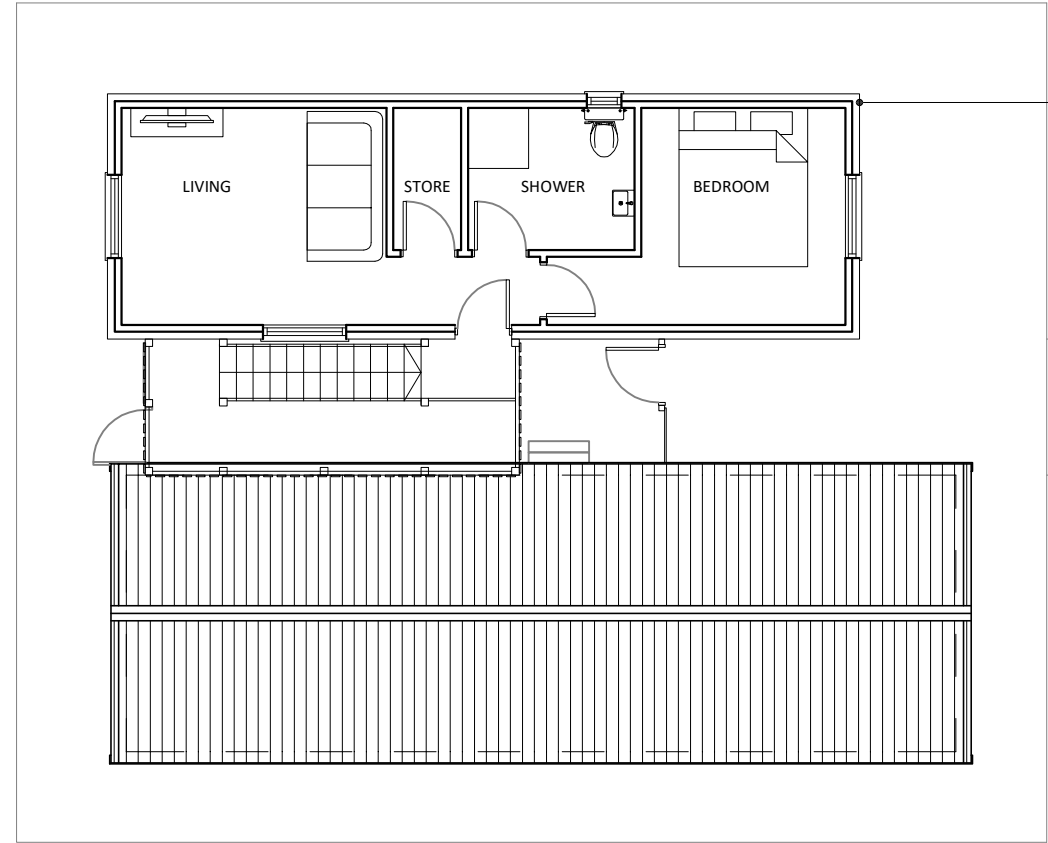
- CARAVAN TO BE FITTED WITH THERMOSTATICALLY CONTROLLED SHOWER WITH TOILET, WASH HAND BASIN, & ELECTRIC HEATED TOWEL RAIL.

- CARAVAN TO BE FITTED OUT WITH A SEPARATE TOILET & WASH HAND BASIN.

- CARAVAN TO BE FITTED OUT WITH 1NO. DOUBLE BEDROOM & 1NO. TWIN BEDROOM, EACH WITH STORAGE.

- LOW ENERGY LED LIGHTING TO BE INSTALLED THROUGHOUT.

- CARAVAN TO BE ALUMINUM CLAD WITH FULLY GALVANISED CHASSIS.

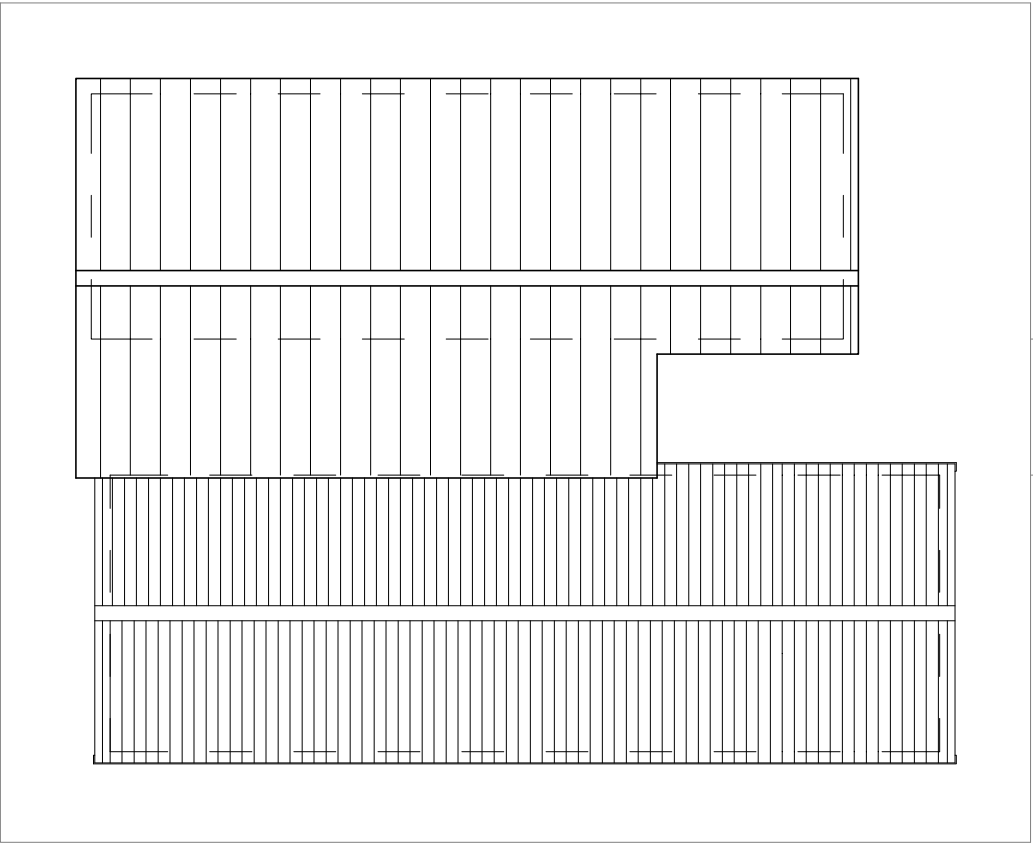


**LITTLE SOMERFORD
PROPOSED TEMPORARY
ACCOMMODATION
FIRST FLOOR PLAN**

SCALE 1/100 @ A3
0 2

KEY;
ASHPHALT SHINGLES

27.01.26 REV E - NOTES UPDATED TO CLIENTS SPEC.
20.04.26 REV F - SETTING OUT NOTES UPDATED FOR PLANNERS APPROVAL.



**LITTLE SOMERFORD
PROPOSED TEMPORARY
ACCOMMODATION
ROOF PLAN**

SCALE 1/100 @ A3
0 2

KEY;
ASHPHALT SHINGLES
FIBRE CEMENT ROOFING SHEETS

LITTLE SOMERFORD

25.11.25 REV A - SITE WORKS UPDATED TO CLIENTS SPEC.
12.12.25 REV B - SITE WORKS UPDATED TO CLIENTS SPEC.
18.12.25 REV C - SITE WORKS UPDATED TO CLIENTS SPEC.
23.01.26 REV D - SETTING OUT UPDATED TO CLIENTS SPEC.

JOB Ref: 251001 Dwg Title: PHASE 01 - PROPOSED TEMPORARY ACCOMMODATION PLANS Dwg No. PL(2)-J06 Scale: 1:100 @ A3
Status: CD REV. F 20.04.26

PLANNING DRAWING

All dimensions are in millimeters unless otherwise stated. Any variation or supplementary drawing is to be approved by the architect. All dimensions and conditions are to be checked on site, prior to preparing drawings or commencing work. Any discrepancies within these drawings are to be reported to the architect immediately.

KEY;

CARGO CONTAINERS TO BE LINED WITH PRESSURE TREATED, STAINED VERTICAL SHIPLAP CLADDING.

STATIC CARAVAN TO BE PAINTED WITH MOSS GREEN CENTRECOAT MOBILE HOME PAINT RAL 6005.

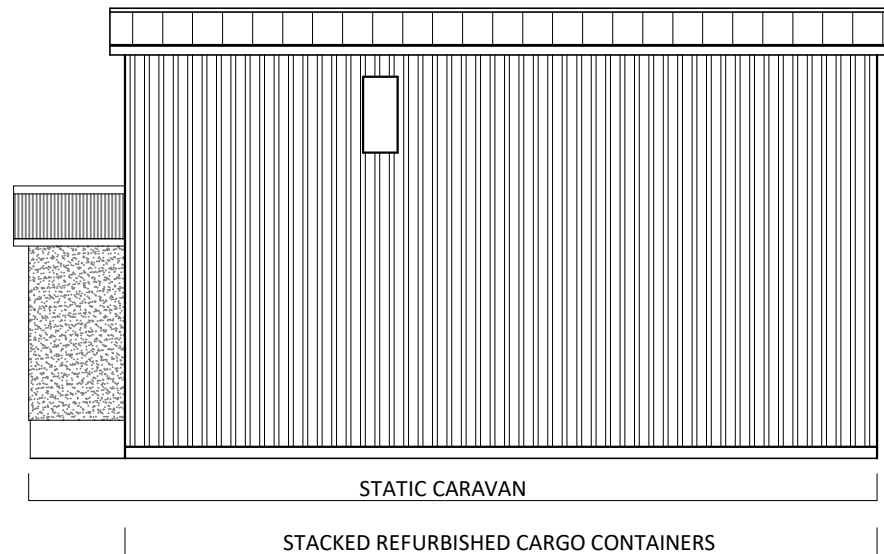
ASHPHALT SHINGLES.

FIBRE CEMENT ROOFING SHEETS.

NOTE 01; ALL NEW WINDOWS ARE TO BE BLACK UPVC, DOUBLE GLAZED UNITS.

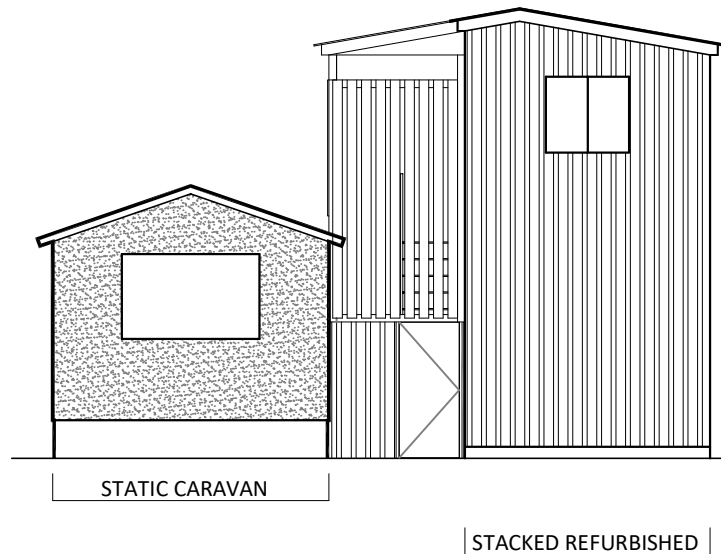
NOTE 02; ALL NEW RAINWATER GOODS, FASCIAS & SOFFITS ARE TO BE BLACK UPVC.

NOTE 03; 1800MM HIGH FENCE & GATE.

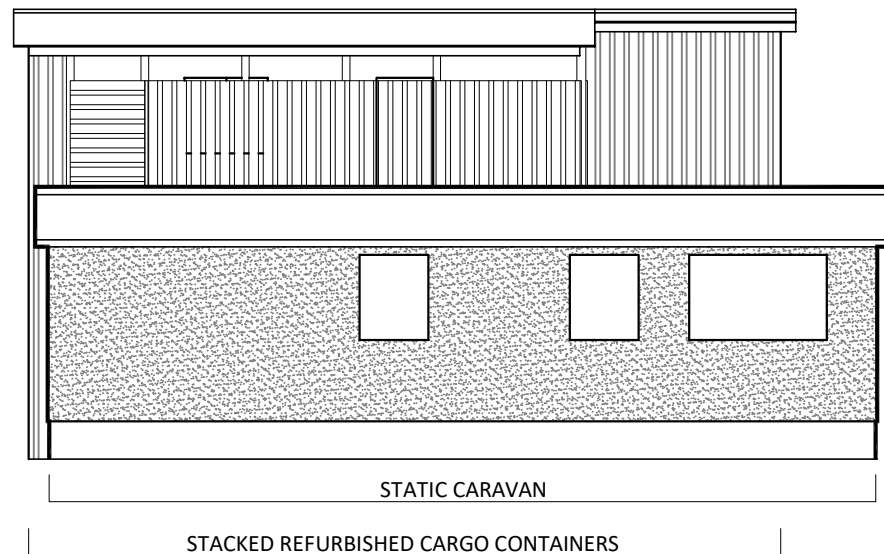


TEMPORARY ACCOMMODATION NORTH ELEVATION - FRONT

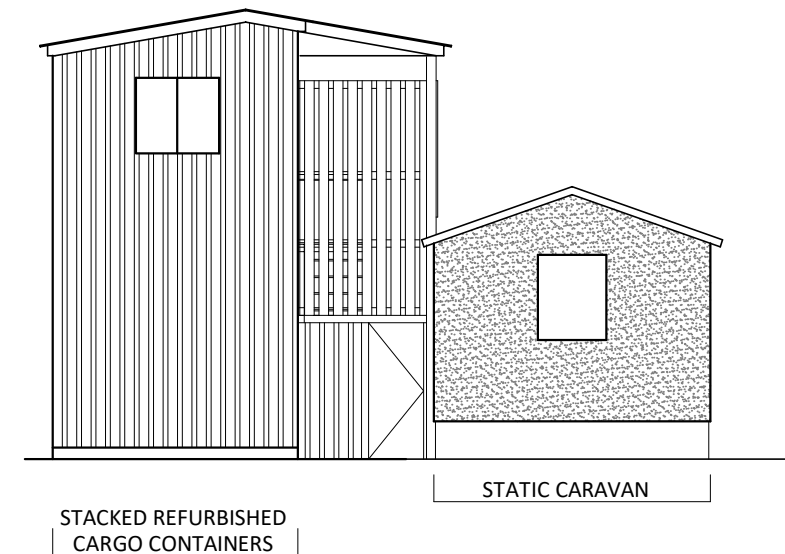
0 2
SCALE 1 /100 @ A3



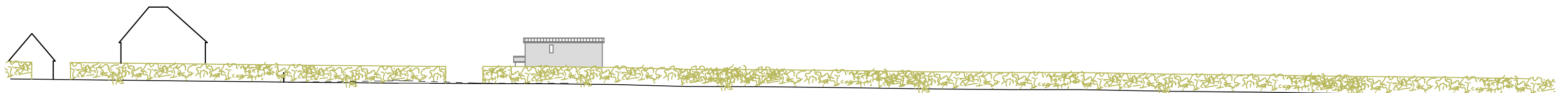
TEMPORARY ACCOMMODATION EAST ELEVATION - SIDE



TEMPORARY ACCOMMODATION SOUTH ELEVATION - REAR



TEMPORARY ACCOMMODATION WEST ELEVATION - SIDE



NORTH ELEVATION - SITE FROM B4042 ROAD

0 20
SCALE 1 /500 @ A3

Appendix D - Infiltration Tests

Project Number	251009	Location	TP01
----------------	--------	----------	------

Time (min)	Water Level bgl (m)		
	Test 1	Test 2	Test 3
0	1.100		
1	1.100		
2	1.100		
3	1.100		
4	1.100		
5	1.100		
10	1.100		
15	1.100		
20	1.100		
25	1.100		
30	1.100		
60	1.110		
120	1.110		
180	1.120		
240	1.120		
300	1.120		
360	1.130		

Notes
Soakaway testing was undertaken in general accordance with BRE Digest 365. A trial pit was excavated and filled with water once to assess the infiltration rates. Due to the time constraints of the investigation and the infiltration rates, the pit could not be refilled an additional two times. Water levels were monitored at regular intervals to calculate infiltration rates.

Results reflect conditions at the test location only and may not represent the wider site. Variations in soil type, groundwater or compaction could affect soakaway performance and should be considered in design.

The test did not achieve a fall in water level between 75% and 25% effective depth during monitoring. The water level within the soakaway only dropped by 0.03m over the 6-hour test period and therefore the test is considered to have failed.

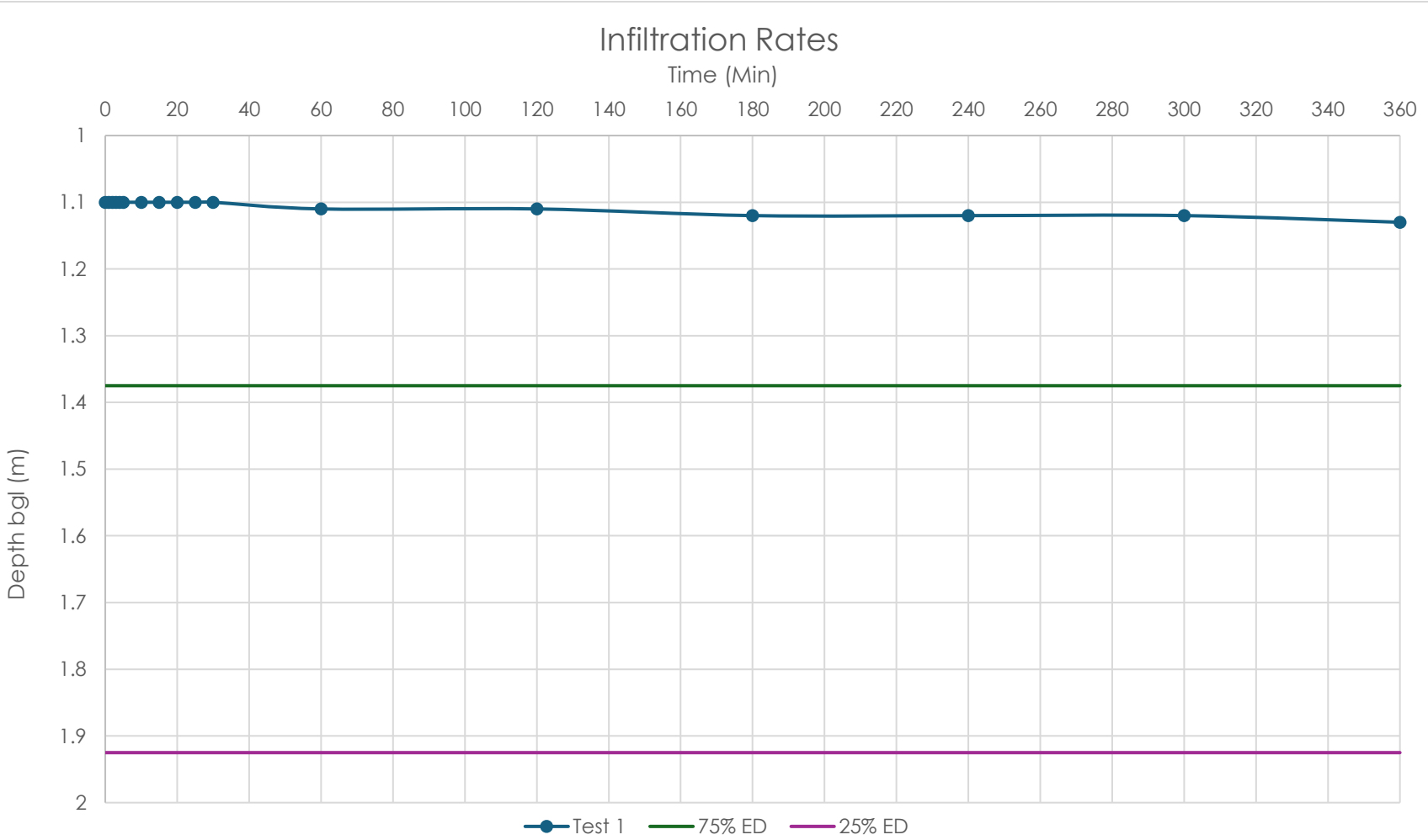
Test 1 Rate	Test 2 Rate	Test 3 Rate
N/A	N/A	N/A

Calculated Infiltration Rate (ms⁻¹) = FAIL

Ground Conditions

0.00-0.25m – TOPSOIL. Brown clayey gravelly SAND. Sand is fine to coarse. Gravel is angular to sub-angular flint.
0.25-1.20m - Orangish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to sub-angular flint.
1.20 - 2.20m - Blue / grey slightly sandy CLAY. Sand is fine to coarse.

No groundwater encountered.



Pit Width (m)	0.5	Pit Length (m)	2	Pit Depth (m)	2.2
---------------	-----	----------------	---	---------------	-----

Project Number	251009	Location	TP02
-----------------------	--------	-----------------	------

[illegible]

Notes

In accordance with the methodology set out in BS 6297:2007+A1:2008, percolation testing is undertaken using trial holes measuring approximately 300 mm by 300 mm in plan, excavated to a depth extending 300 mm below the proposed base of the invert level. These trial holes are then filled with water, and the time taken for the water level to fall from 75% to 25% of the effective depth is recorded to assess infiltration rates.

On this site, Clear Environmental was instructed to undertake the testing at this location between 0.90m and 1.20m below ground level.

Test 1 Rate	Test 2 Rate	Test 3 Rate
N/A	N/A	N/A

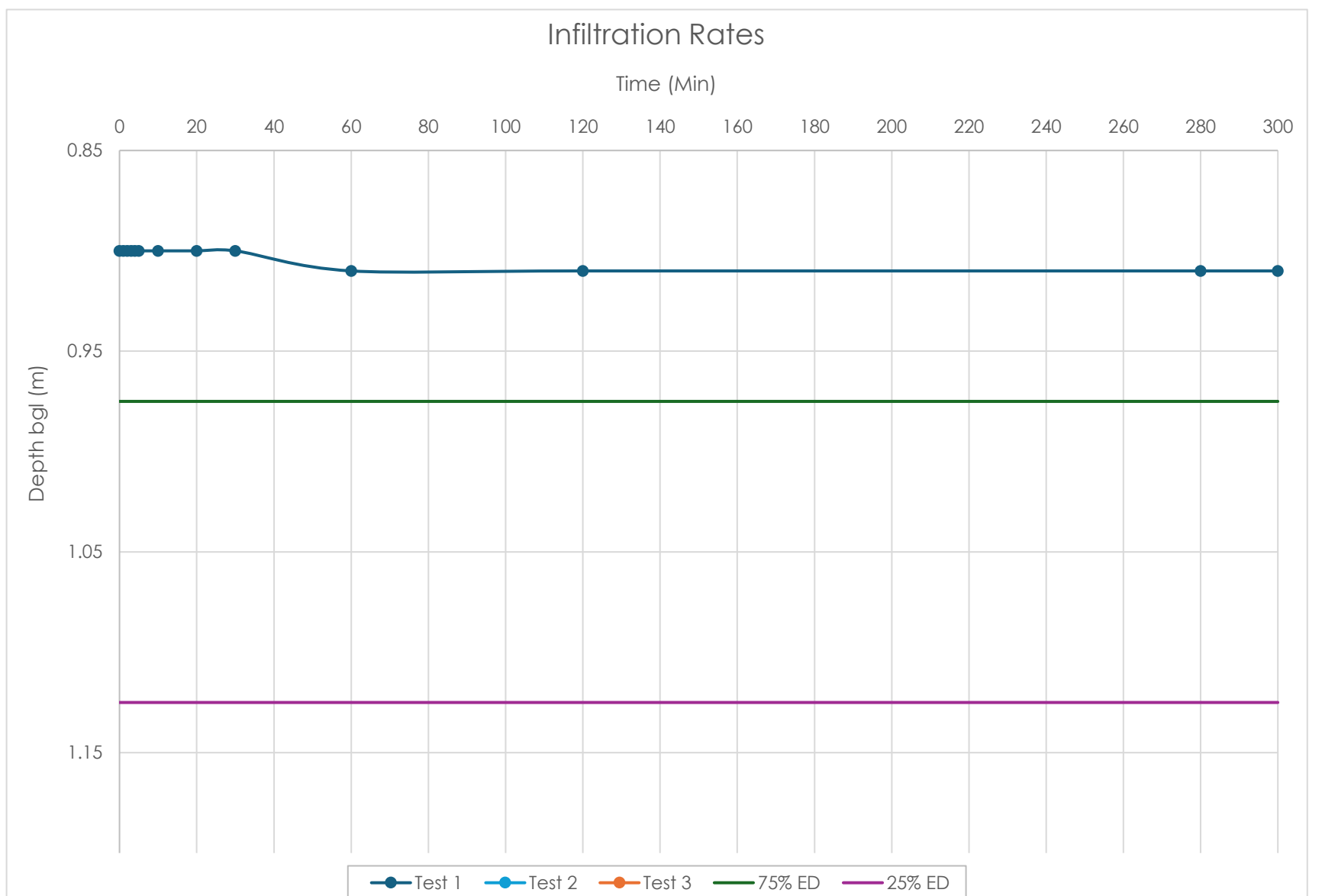
Percolation Value (secs/mm) = FAIL

Ground Conditions

0.00-0.30m – TOPSOIL. Brown clayey gravelly SAND. Sand is fine to coarse. Gravel is angular to sub-angular flint.

0.30-1.20m - Orangish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to sub-angular flint.

No groundwater encountered.



Pit Width (m)	0.3	Pit Length (m)	0.3	Pit Depth (m)	1.2
----------------------	-----	-----------------------	-----	----------------------	-----



Project Number	251009	Location	TP03
----------------	--------	----------	------

Time (min)	Water Level bgl (m)		
	Test No.		
	Test 1	Test 2	Test 3
0	0.350		
1	0.360		
2	0.370		
3	0.380		
4	0.390		
5	0.400		
10	0.410		
15	0.410		
20	0.410		
25	0.410		
30	0.410		
60	0.410		
120	0.410		
180	0.410		
240	0.410		
300	0.410		

Notes

Soakaway testing was undertaken in general accordance with BRE Digest 365. A trial pit was excavated and filled with water once to assess the infiltration rates. Due to the time constraints of the investigation and the infiltration rates, the pit could not be refilled an additional two times. Water levels were monitored at regular intervals to calculate infiltration rates.

Results reflect conditions at the test location only and may not represent the wider site. Variations in soil type, groundwater or compaction could affect soakaway performance and should be considered in design.

The test did not achieve a fall in water level between 75% and 25% effective depth during monitoring. The water level within the soakaway only dropped by 0.06m over the 6-hour test period and therefore the test is considered to have failed.

The water level monitoring curve indicates a rapid initial fall followed by a flattening trend, reflecting a slowing infiltration rate. This behaviour is consistent with the recorded ground conditions of clay soils of low permeability. Initial drawdown is considered representative of Topsoil.

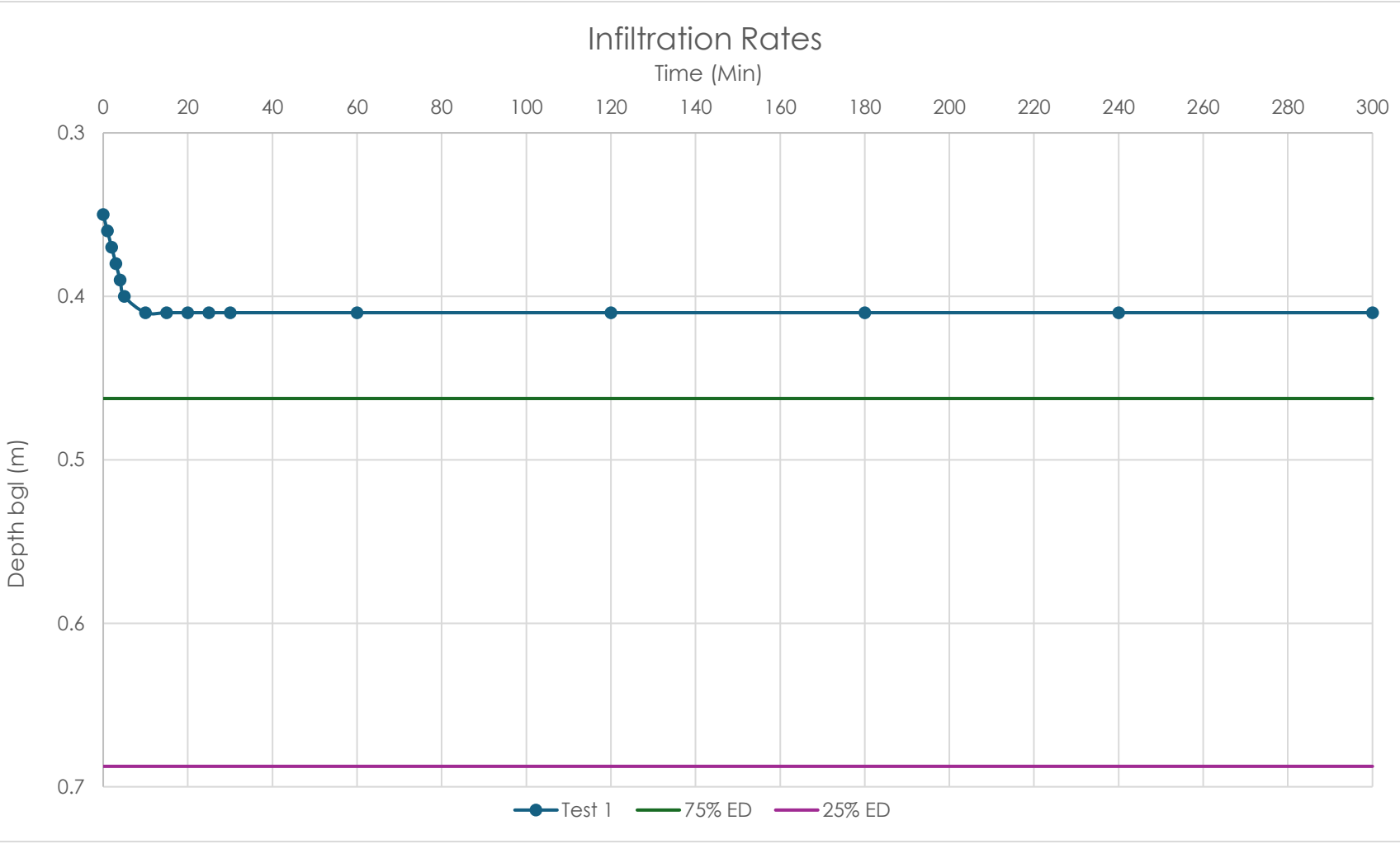
Test 1 Rate	Test 2 Rate	Test 3 Rate
N/A	N/A	N/A

Calculated Infiltration Rate (ms⁻¹) = FAIL

Ground Conditions

0.00-0.40m – TOPSOIL. Brown clayey gravelly SAND. Sand is fine to coarse. Gravel is angular to sub-angular flint.
0.40-0.80m - Orangish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to sub-angular flint.

No groundwater encountered.



Pit Width (m)	0.5	Pit Length (m)	2	Pit Depth (m)	0.8
---------------	-----	----------------	---	---------------	-----

Project Number	251009	Location	TP04
----------------	--------	----------	------

Time (min)	Water Level bgl (m)		
	Test No.		
	Test 1	Test 2	Test 3
0	0.80		
1	0.80		
2	0.80		
3	0.80		
4	0.80		
5	0.80		
10	0.80		
20	0.80		
30	0.80		
60	0.80		
120	0.80		
280	0.80		
300	0.80		

Notes
In accordance with the methodology set out in BS 6297:2007+A1:2008, percolation testing is undertaken using trial holes measuring approximately 300 mm by 300 mm in plan, excavated to a depth extending 300 mm below the proposed base of the invert level. These trial holes are then filled with water, and the time taken for the water level to fall from 75% to 25% of the effective depth is recorded to assess infiltration rates.

On this site, Clear Environmental was instructed to undertake the testing at this location between 0.80m and 1.10m below ground level.

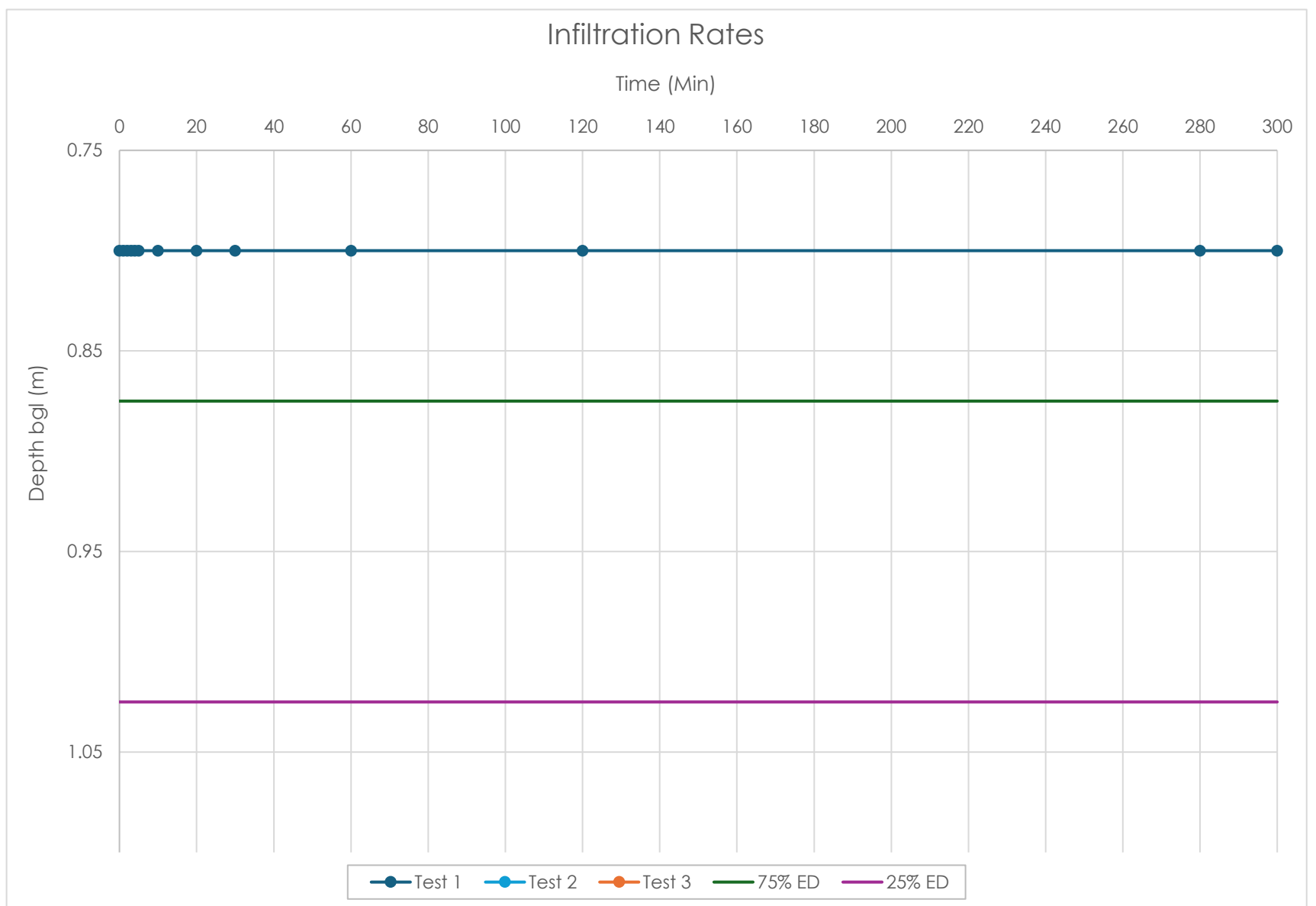
Test 1 Rate	Test 2 Rate	Test 3 Rate
N/A	N/A	N/A

Percolation Value (secs/mm) = FAIL

Ground Conditions

0.00-0.30m – TOPSOIL. Brown clayey gravelly SAND. Sand is fine to coarse. Gravel is angular to sub-angular flint.
0.30-1.10m - Orangish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to sub-angular flint.

No groundwater encountered.



Pit Width (m)	0.3	Pit Length (m)	0.3	Pit Depth (m)	1.1
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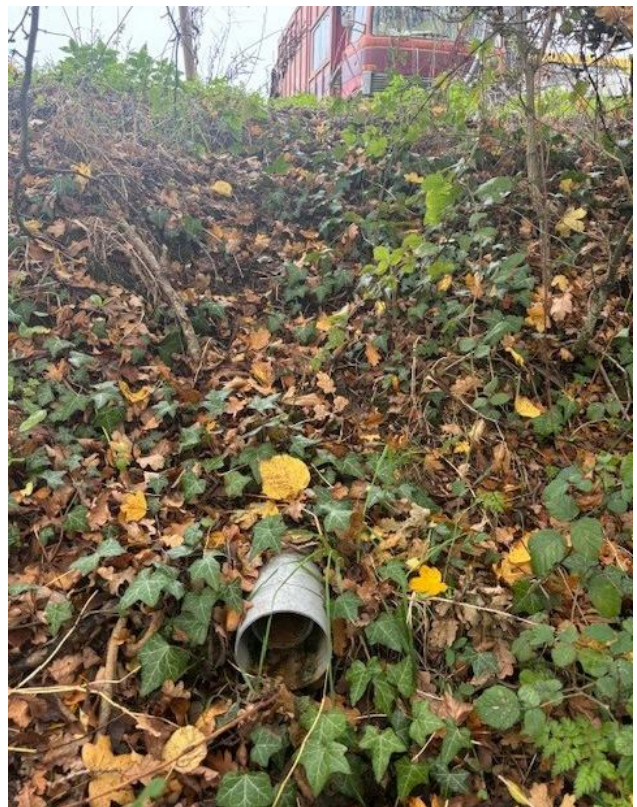
Legend

-  Site Boundary
-  Trial Pits

Figure Title Exploratory Hole Location Plan	
Site Location Land to the south of B4042, Little Somerford	
Job Number 251009	Figure Number 201009.01
Prepared By BJL	Date 01/11/2025
Client Ed & Jim Greening	

Appendix E - Existing Drainage and Pond Photos

Existing Pipe Outfall to Dry Pond



Incoming Ditch into Dry Pond



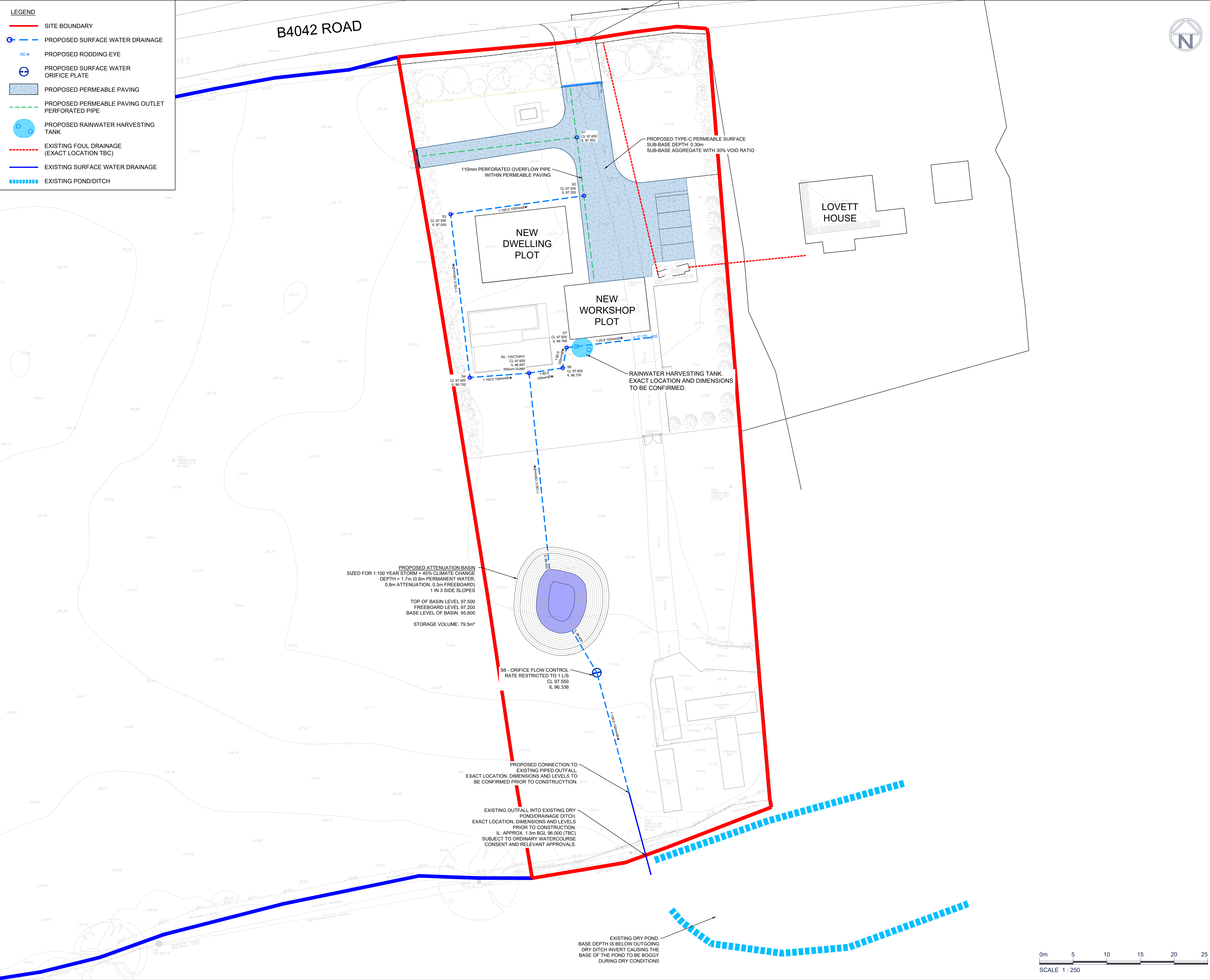
Outgoing Ditch into Dry Pond



Dry Pond Inlet from Site (Northwards)



Appendix F - Proposed Drainage Layout



LEGEND

SITE BOUNDARY

PROPOSED SURFACE WATER DRAINAGE

PROPOSED RODDING EYE

PROPOSED SURFACE WATER ORIFICE PLATE

PROPOSED PERMEABLE PAVING

PROPOSED PERMEABLE PAVING OUTLET PERFORATED PIPE

PROPOSED RAINWATER HARVESTING TANK

EXISTING FOUL DRAINAGE (EXACT LOCATION TBC)

EXISTING SURFACE WATER DRAINAGE

EXISTING POND/DITCH



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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 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH AND CHECKED AGAINST ALL ENGINEERING DETAILS, SPECIFICATIONS, GEOTECHNICAL AND OTHER RELEVANT DOCUMENTATION PROVIDED.
 - THIS DRAWING IS SCHEMATIC FOR CLARITY ONLY. POSITIONS OF PIPE RUNS AND MANHOLES MAY VARY ON SITE DUE TO SITE CONDITIONS.
 - WHERE EXISTING OR PROPOSED TREES ARE ADJACENT TO ACCESS ROADS OR DRAINAGE, ROOT BARRIERS (TYPE TO BE APPROVED) ARE REQUIRED TO PREVENT STRUCTURAL DAMAGE.
 - ANY ANOMALY OR CONTRADICTIONS BETWEEN ANY OF THE ABOVE IS TO BE REPORTED IMMEDIATELY.
 - THE DESIGN IS TO COMPLY IN ALL ASPECTS WITH THE CURRENT BRITISH STANDARDS, BUILDING REGULATIONS AND BUILDING LEGISLATION ETC.
 - ALL PIPE SIZES, CHAMBER DEPTHS, SIZE & QUANTITY SUBJECT TO REVIEW AND DETAILED DESIGN. ALL ADOPTED PIPE WORK ROUTING AND ANY EASEMENTS SUBJECT TO FULL DESIGN REVIEW AND APPROVAL BY THE RELEVANT BODIES.
 - DRAINAGE DESIGN SUBJECT TO DETAILED LEVELS AND EXTERNAL WORKS DESIGN.
 - SUBJECT TO DETAILED DESIGN AND APPROVAL.

THIS DRAWING IS FOR PLANNING PURPOSES ONLY AND NOT FOR CONSTRUCTION SUBJECT TO WATER AUTHORITY TECHNICAL APPROVAL

A03	24.04.26	DRAINAGE LAYOUT AMENDED TO SUIT UPDATED SITE LAYOUT	CM
A02	16.02.26	UPDATED SITE LAYOUT	CM
A01	11.12.25	FIRST ISSUE	CM

Rev	Date	Description	By
-----	------	-------------	----

Client

ED GREENING

Project

LONG GOSS, LITTLE SOMERFORD

Title

PROPOSED SURFACE WATER DRAINAGE LAYOUT

Project No.		Drawing No.		Revision
AEG9241		CIV-100		A03
Drawn	Checked	Approved	Date	Scale @ A1
CM	DB	JM	DEC 2025	1:250

Drawing Status

PLANNING

aegaea

water, civils and environment



FIGURE B.19
TYPICAL INSPECTION CHAMBER DETAIL - TYPE D

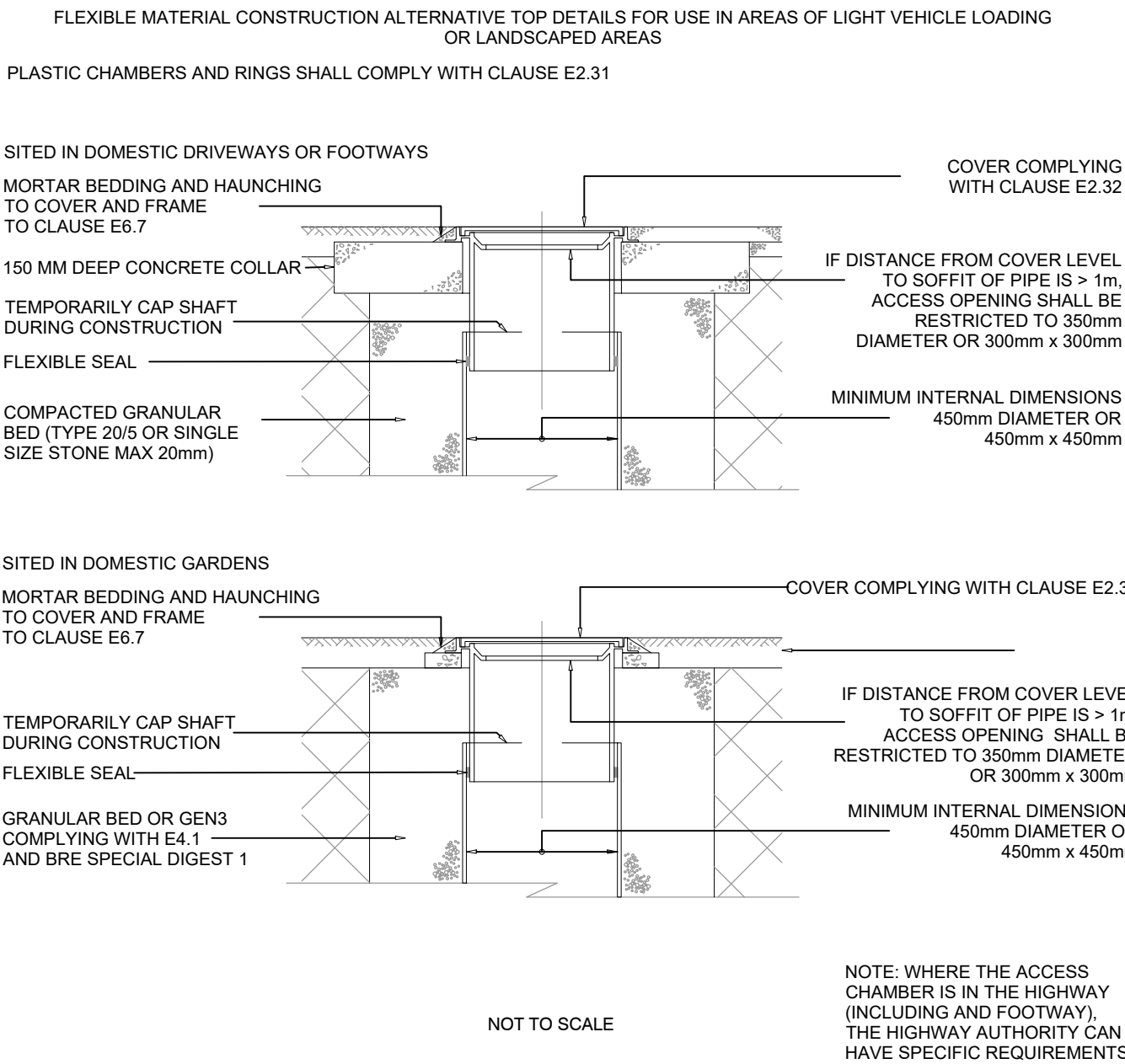
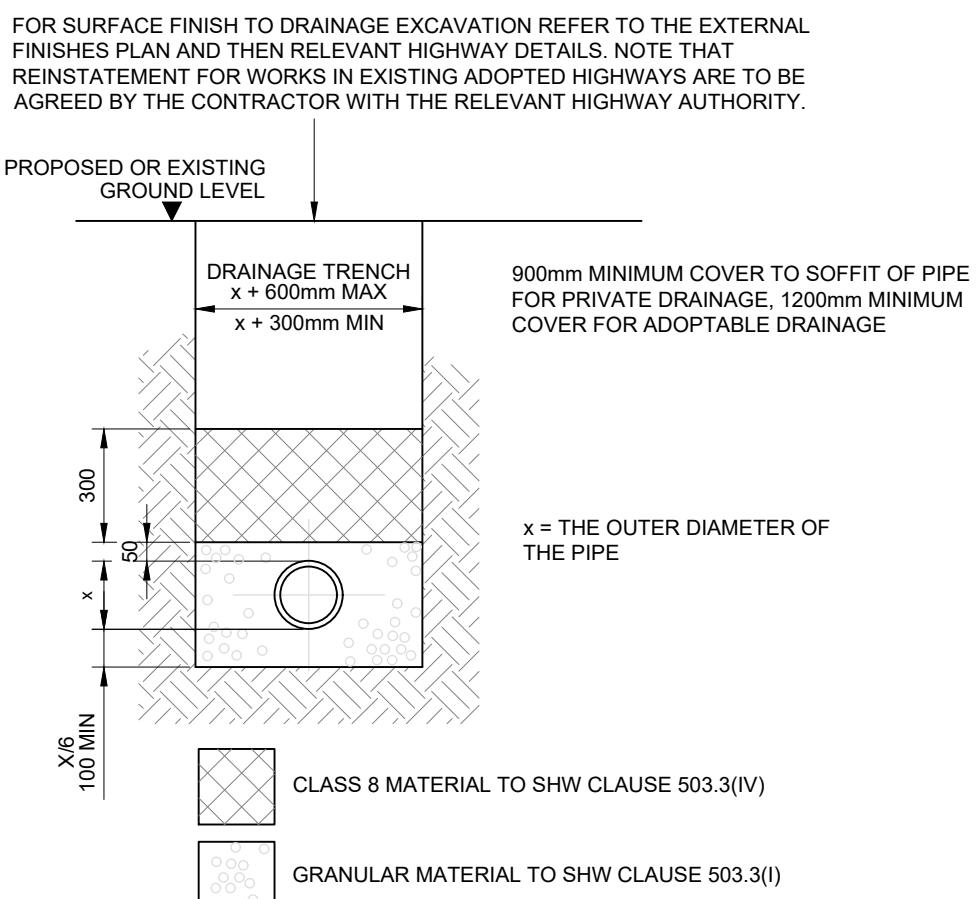
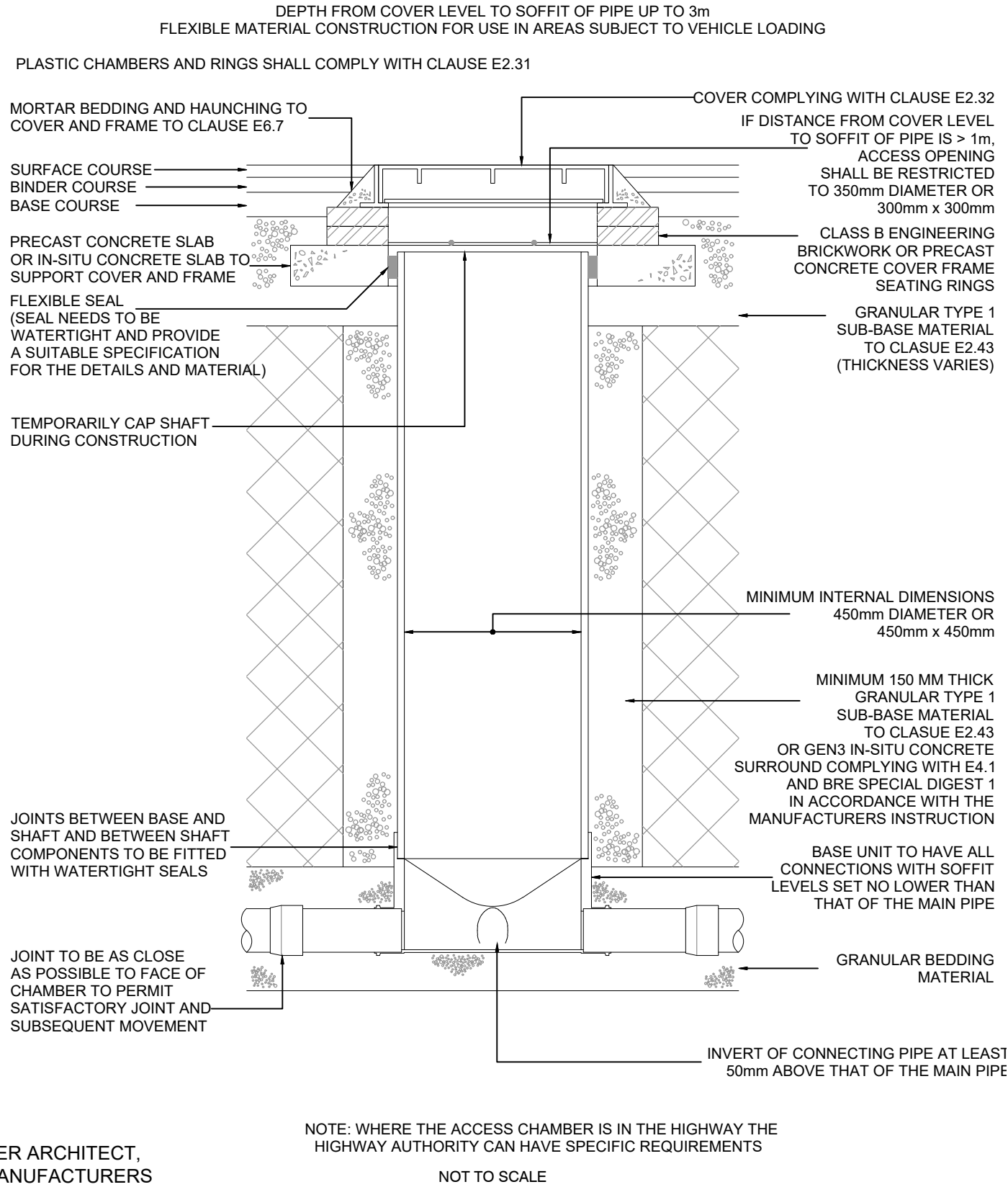
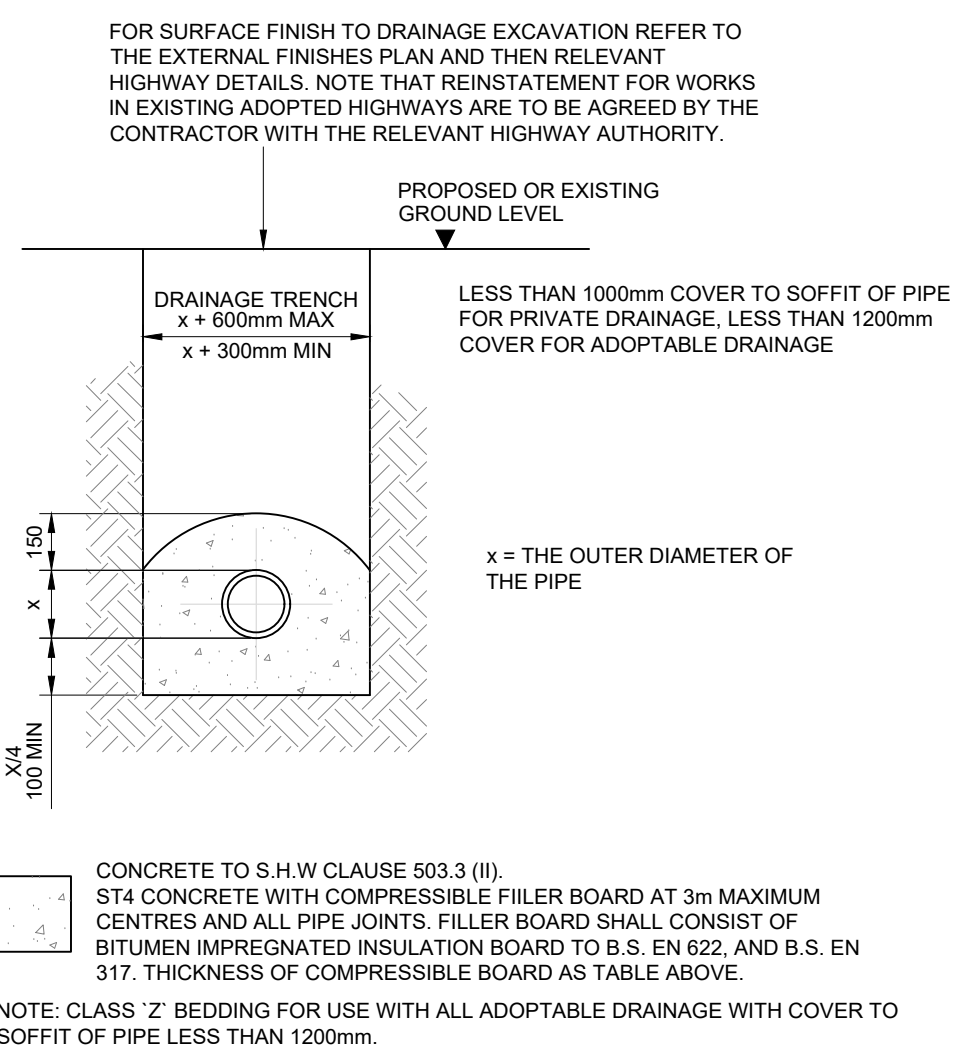


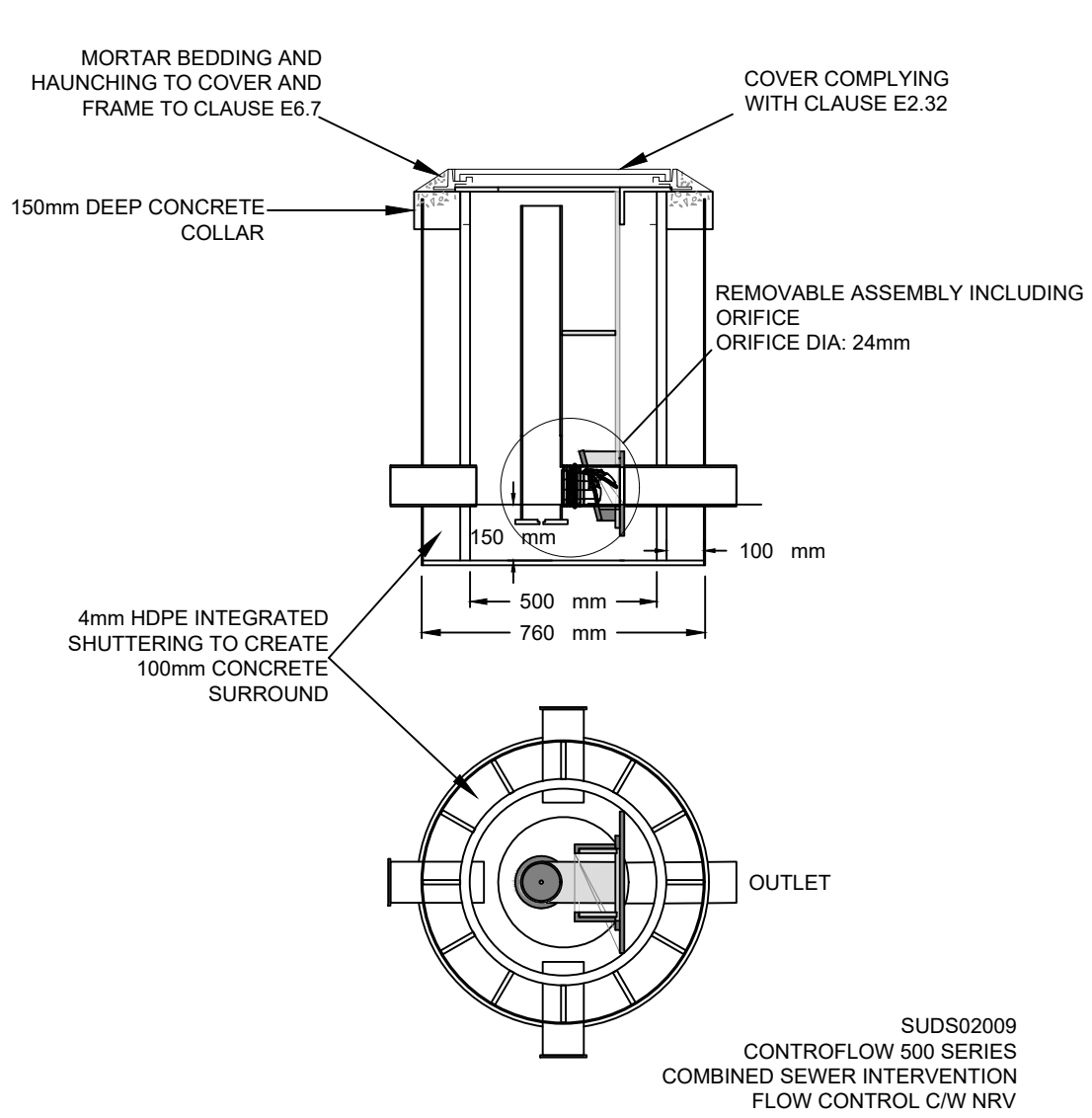
FIGURE B.18
TYPICAL INSPECTION CHAMBER DETAIL - TYPE D



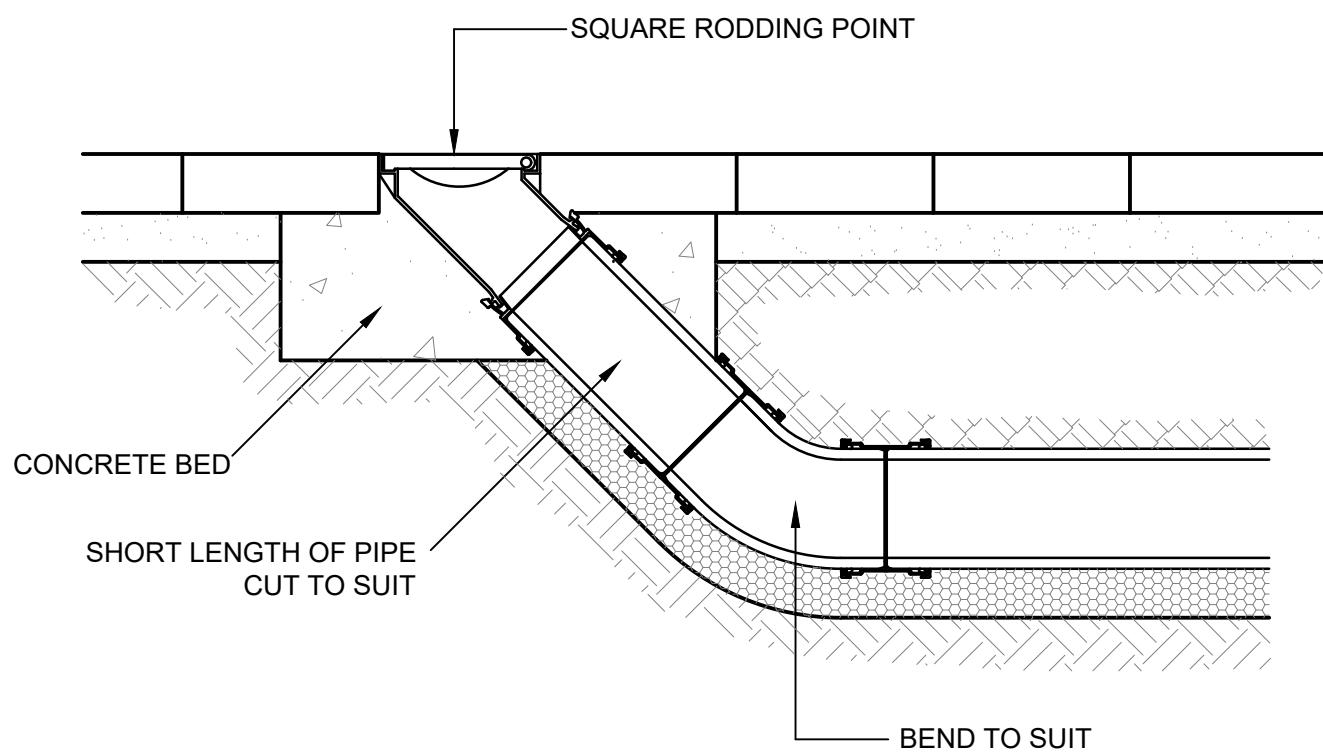
CLASS 'S' PIPE BEDDING



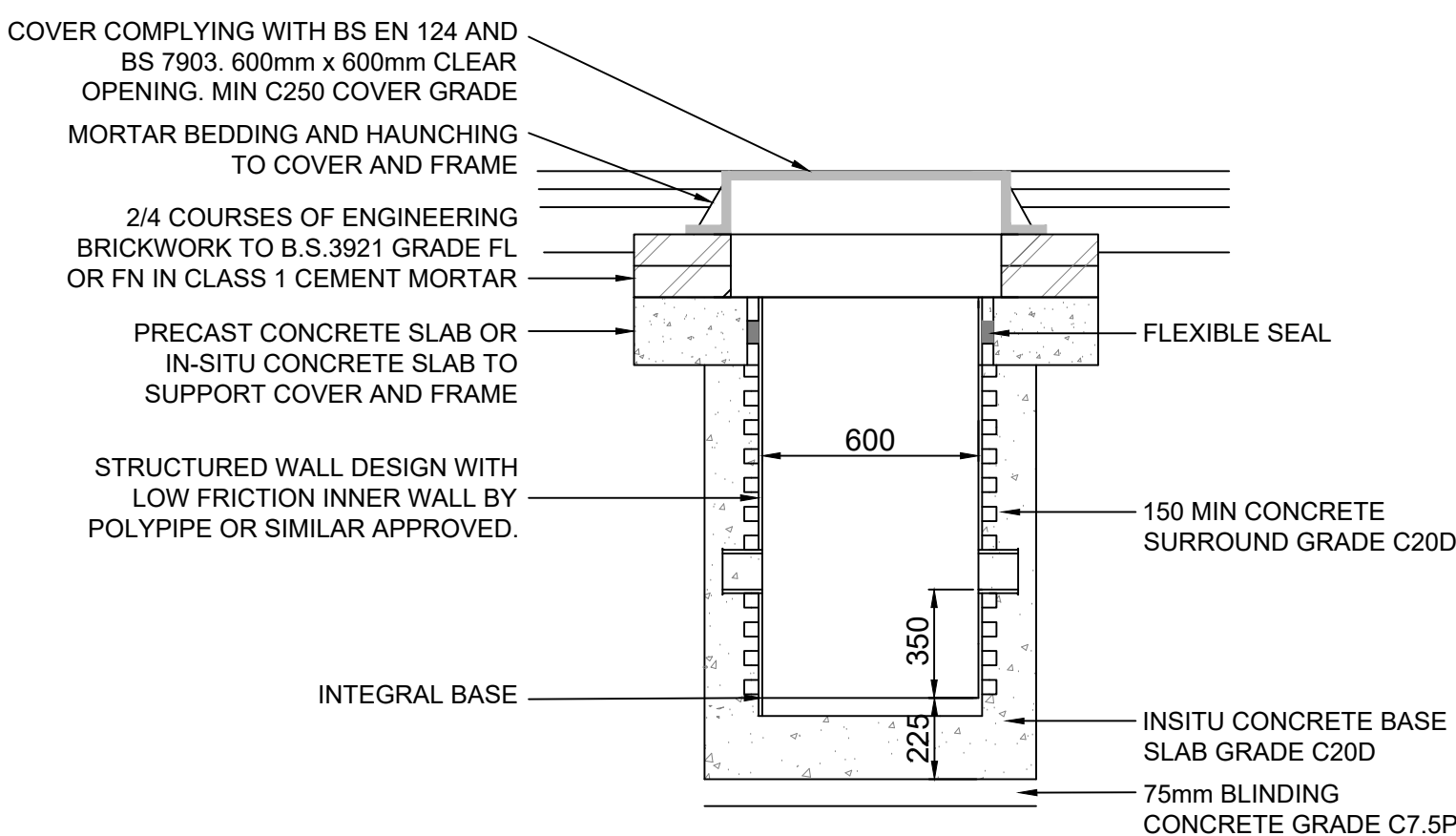
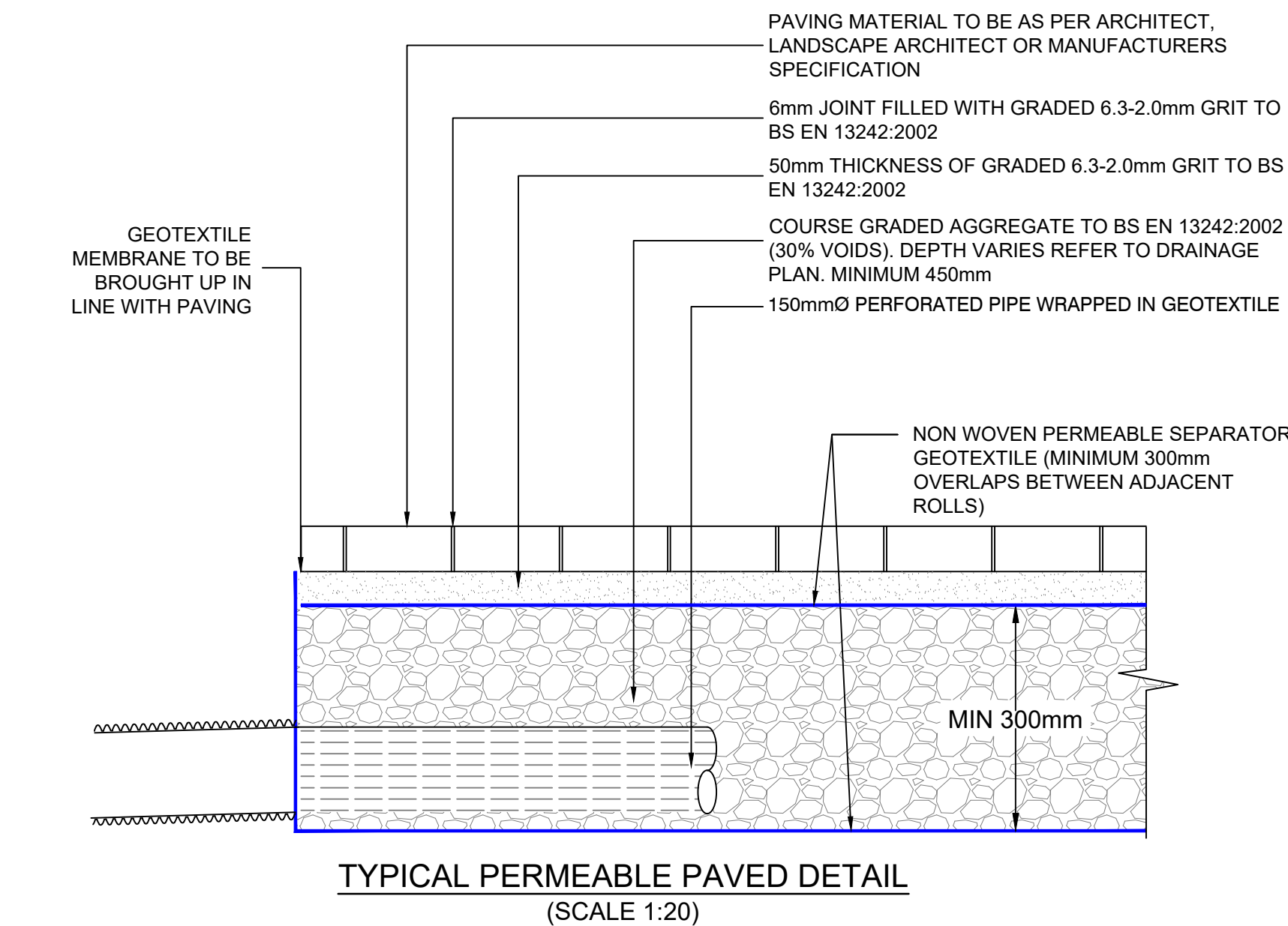
CLASS 'Z' PIPE BEDDING



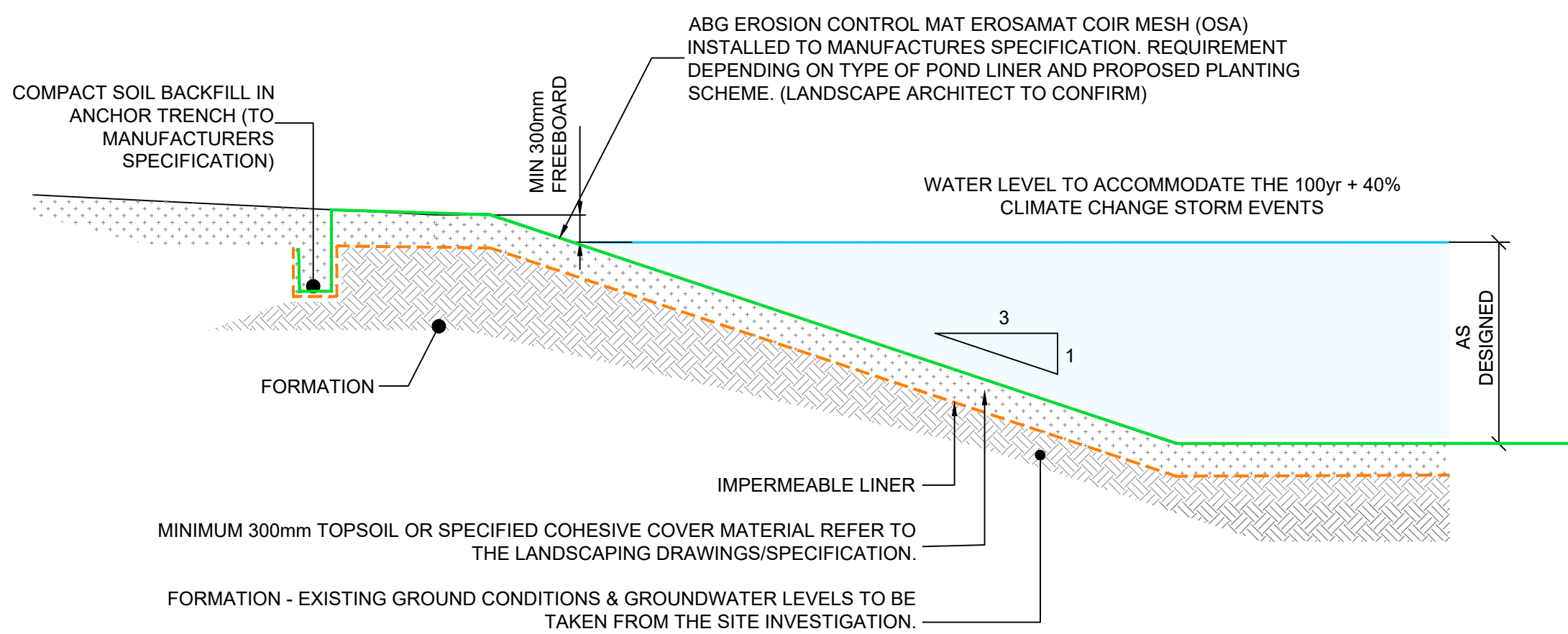
ORIFICE FLOW CONTROL CHAMBER
DETAIL TO BE CONFIRMED WITH MANUFACTURER FOR SITE SPECIFIC REQUIREMENTS



RODDING EYE DETAIL



TYPICAL CATCH PIT DETAIL
SCALE 1:20



TYPICAL ATTENUATION BASIN CONSTRUCTION DETAIL
(SCALE 1:50)

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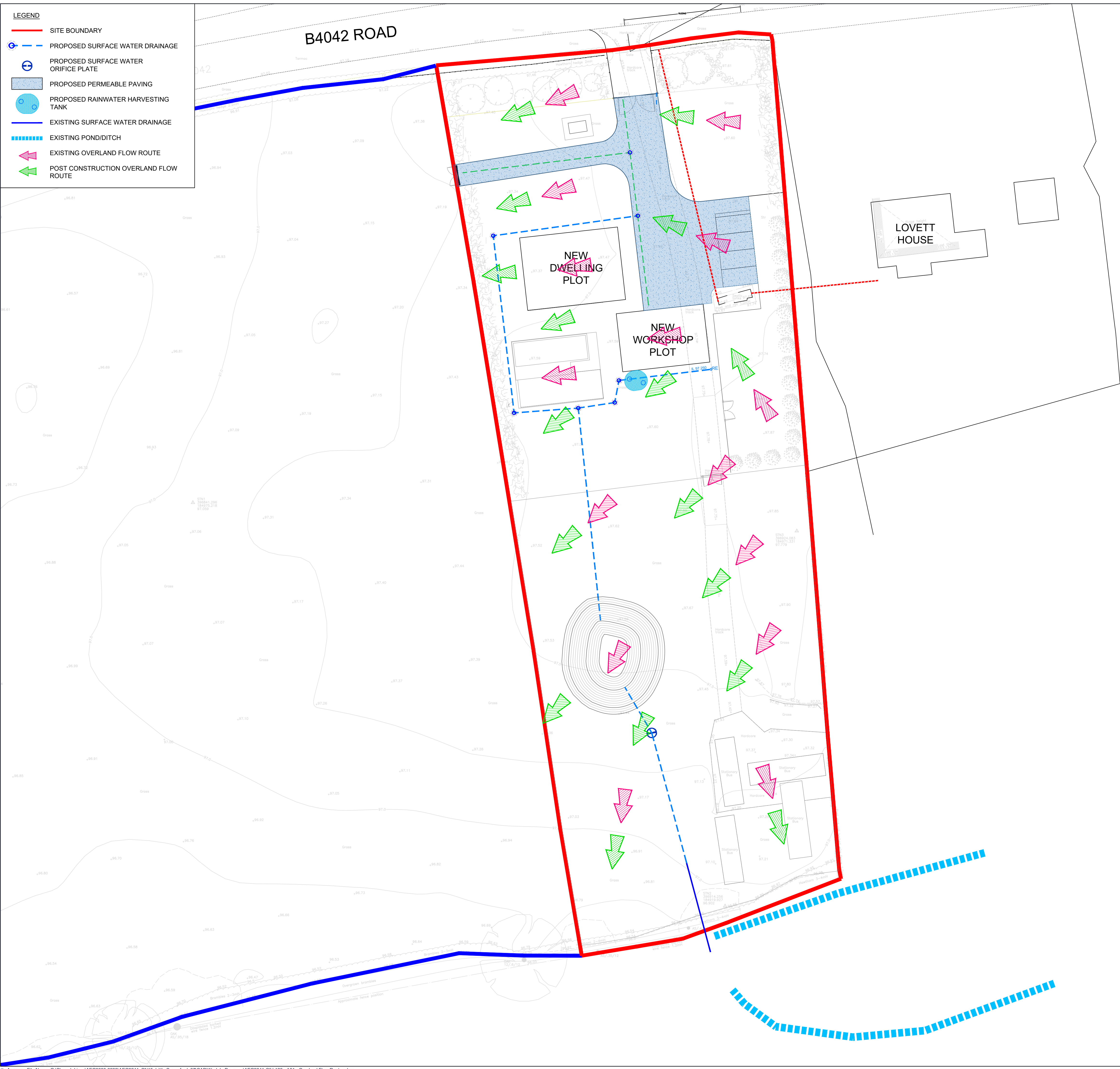
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION REFER TO THE RELEVANT CONSTRUCTION (DESIGN AND MANAGEMENT) DOCUMENTATION WHERE APPLICABLE. IT IS ASSUMED THAT ALL WORKS ON THIS DRAWING WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR, WORKING WHERE APPROPRIATE TO AN APPROVED METHOD STATEMENT.

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- DRAINAGE DESIGN SUBJECT TO DETAILED LEVELS AND EXTERNAL WORKS DESIGN.
- SUBJECT TO DETAILED DESIGN AND APPROVAL.

THIS DRAWING IS FOR PLANNING PURPOSES ONLY AND NOT FOR CONSTRUCTION SUBJECT TO WATER AUTHORITY TECHNICAL APPROVAL

A01	11.12.25	FIRST ISSUE	CM
Rev	Date	Description	By
Client			
ED GREENING			
Project			
LONG GOSS, LITTLE SOMERFORD			
Title			
PROPOSED DRAINAGE DETAILS			
Project No.	Drawing No.	Revision	
AEG9241	CIV-110	A01	
Drawn	Checked	Approved	Date
CM	DB	JM	DEC 2025
Scale @ A1	1:250		
Drawing Status			
PLANNING			
aegaea water, civils and environment			



LEGEND

- SITE BOUNDARY
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED SURFACE WATER ORIFICE PLATE
- PROPOSED PERMEABLE PAVING
- PROPOSED RAINWATER HARVESTING TANK
- EXISTING SURFACE WATER DRAINAGE
- EXISTING POND/DITCH
- EXISTING OVERLAND FLOW ROUTE
- POST CONSTRUCTION OVERLAND FLOW ROUTE



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ANY DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ENGINEER
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- WHERE EXISTING OR PROPOSED TREES ARE ADJACENT TO ACCESS ROADS OR DRAINAGE, ROOT BARRIERS (TYPE TO BE APPROVED) ARE REQUIRED TO PREVENT STRUCTURAL DAMAGE.
- ANY ANOMALY OR CONTRADICTIONS BETWEEN ANY OF THE ABOVE IS TO BE REPORTED IMMEDIATELY.
- THE DESIGN IS TO COMPLY IN ALL ASPECTS WITH THE CURRENT BRITISH STANDARDS, BUILDING REGULATIONS AND BUILDING LEGISLATION ETC.
- ALL PIPE SIZES, CHAMBER DEPTHS, SIZE & QUANTITY SUBJECT TO REVIEW AND DETAILED DESIGN. ALL ADOPTED PIPE WORK ROUTING AND ANY EASEMENTS SUBJECT TO FULL DESIGN REVIEW AND APPROVAL BY THE RELEVANT BODIES.
- DRAINAGE DESIGN SUBJECT TO DETAILED LEVELS AND EXTERNAL WORKS DESIGN.
- SUBJECT TO DETAILED DESIGN AND APPROVAL.

THIS DRAWING IS FOR PLANNING PURPOSES ONLY
AND NOT FOR CONSTRUCTION
SUBJECT TO WATER AUTHORITY TECHNICAL
APPROVAL

A01	24.04.26	FIRST ISSUE	CM
Rev	Date	Description	By

Client

ED GREENING

Project

LONG GOSS, LITTLE SOMERFORD

Title

OVERLAND FLOW ROUTES

Project No.		Drawing No.		Revision
AEG9241		CIV-120		A01
Drawn	Checked	Approved	Date	Scale @ A1
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Drawing Status

PLANNING



Appendix G - 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)	0.450
CV	1.000	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
1	0.017	5.00	97.650	Manhole	600	396901.217	185023.204	0.350	97.300
2	0.025	5.00	97.550	Manhole	600	396902.295	185014.329	0.350	97.200
3	0.007	5.00	97.500	Manhole	600	396885.388	185012.095	0.470	97.030
4	0.007	5.00	97.600	Manhole	600	396887.843	184991.424	0.778	96.822
5	0.010	5.00	97.600	Manhole	600	396893.821	184991.374	0.838	96.762
BASIN	0.024	5.00	97.200	Junction		396900.400	184950.006	0.800	96.400
6			97.550	Manhole	1200	396904.205	184943.660	1.214	96.336
OUTFALL			96.860	Junction		396911.652	184915.560	0.860	96.000

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)	Rain (mm/hr)
1.000	1	2	8.940	0.600	97.300	97.200	0.100	89.4	110	Circular	5.17	50.0
1.001	2	3	17.054	0.600	97.200	97.030	0.170	100.3	110	Circular	5.52	50.0
1.002	3	4	20.816	0.600	97.030	96.822	0.208	100.0	150	Circular	5.86	50.0
1.003	4	5	5.978	0.600	96.822	96.762	0.060	99.6	150	Circular	5.96	50.0
1.004	5	BASIN	41.888	0.600	96.762	96.400	0.362	115.7	150	Circular	6.71	50.0
1.005	BASIN	6	7.399	0.600	96.400	96.336	0.064	115.6	150	Circular	6.84	50.0
1.006	6	OUTFALL	29.070	0.600	96.336	96.000	0.336	86.5	150	Circular	7.29	50.0

Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1	2	0.867	8.2	3.1	0.240	0.240	0.017	0.0	47	0.806
1.001	2	3	0.818	7.8	7.6	0.240	0.360	0.042	0.0	88	0.931
1.002	3	4	1.005	17.8	8.9	0.320	0.628	0.049	0.0	75	1.003
1.003	4	5	1.006	17.8	10.1	0.628	0.688	0.056	0.0	81	1.039
1.004	5	BASIN	0.933	16.5	11.9	0.688	0.650	0.066	0.0	95	1.015
1.005	BASIN	6	0.933	16.5	16.3	0.650	1.064	0.090	0.0	122	1.061
1.006	6	OUTFALL	1.081	19.1	16.3	1.064	0.710	0.090	0.0	106	1.211

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	8.940	89.4	110	Circular	97.650	97.300	0.240	97.550	97.200	0.240
1.001	17.054	100.3	110	Circular	97.550	97.200	0.240	97.500	97.030	0.360
1.002	20.816	100.0	150	Circular	97.500	97.030	0.320	97.600	96.822	0.628
1.003	5.978	99.6	150	Circular	97.600	96.822	0.628	97.600	96.762	0.688
1.004	41.888	115.7	150	Circular	97.600	96.762	0.688	97.200	96.400	0.650
1.005	7.399	115.6	150	Circular	97.200	96.400	0.650	97.550	96.336	1.064
1.006	29.070	86.5	150	Circular	97.550	96.336	1.064	96.860	96.000	0.710

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	600	Manhole	Adoptable	2	600	Manhole	Adoptable
1.001	2	600	Manhole	Adoptable	3	600	Manhole	Adoptable
1.002	3	600	Manhole	Adoptable	4	600	Manhole	Adoptable
1.003	4	600	Manhole	Adoptable	5	600	Manhole	Adoptable
1.004	5	600	Manhole	Adoptable	BASIN		Junction	
1.005	BASIN		Junction		6	1200	Manhole	Adoptable
1.006	6	1200	Manhole	Adoptable	OUTFALL		Junction	

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
1	396901.217	185023.204	97.650	0.350	600		0	1.000	97.300	110
2	396902.295	185014.329	97.550	0.350	600		1	1.000	97.200	110
							0	1.001	97.200	110

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
3	396885.388	185012.095	97.500	0.470	600		1 1.001	97.030	110
4	396887.843	184991.424	97.600	0.778	600		1 1.002	96.822	150
5	396893.821	184991.374	97.600	0.838	600		1 1.003	96.762	150
BASIN	396900.400	184950.006	97.200	0.800			1 1.004	96.400	150
6	396904.205	184943.660	97.550	1.214	1200		1 1.005	96.336	150
OUTFALL	396911.652	184915.560	96.860	0.860			1 1.006	96.000	150

Simulation Settings

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

Storm Durations												
	15	30	60	120	180	240	360	480	600	720	960	1440
Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	
2	0	0	0	100	45	0	0	2	0	0	0	
30	0	0	0					30	0	0	0	

Node 6 Online Orifice Control

Flap Valve	x	Invert Level (m)	96.336	Design Flow (l/s)	1.0	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Depth (m)	1.100	Diameter (m)	0.021		

Node 1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Width (m)	4.300	Depth (m)	0.300
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	97.300	Length (m)	29.000	Inf Depth (m)	
Safety Factor	2.0	Time to half empty (mins)	16	Slope (1:X)	500.0		

Node 2 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Width (m)	12.440	Depth (m)	0.500
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	97.200	Length (m)	20.400	Inf Depth (m)	
Safety Factor	2.0	Time to half empty (mins)	43	Slope (1:X)	500.0		

Node BASIN Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	96.400
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	57.6	57.6	0.800	141.7	146.1

Other (defaults)

Entry Loss (manhole)	0.250	Entry Loss (junction)	0.000	Apply Recommended Losses	x
Exit Loss (manhole)	0.250	Exit Loss (junction)	0.000	Flood Risk (m)	0.300

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.90%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	12	97.344	0.044	3.9	0.6478	0.0000	OK
30 minute summer	2	24	97.253	0.053	7.3	2.4721	0.0000	OK
30 minute summer	3	21	97.079	0.049	4.0	0.0138	0.0000	OK
30 minute summer	4	19	96.884	0.062	5.3	0.0174	0.0000	OK
15 minute summer	5	11	96.837	0.075	7.3	0.0212	0.0000	OK
240 minute winter	BASIN	232	96.631	0.231	3.6	16.0790	0.0000	SURCHARGED
240 minute winter	6	232	96.631	0.295	1.2	0.3331	0.0000	SURCHARGED
240 minute winter	OUTFALL	232	96.017	0.017	0.5	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	2.6	0.725	0.319	0.0335	
30 minute summer	2	1.001	3	3.4	0.815	0.437	0.0718	
30 minute summer	3	1.002	4	4.0	0.734	0.228	0.1216	
30 minute summer	4	1.003	5	5.2	0.734	0.293	0.0448	
15 minute summer	5	1.004	BASIN	7.3	1.196	0.443	0.3372	
240 minute winter	BASIN	1.005	6	1.2	0.205	0.070	0.1303	
240 minute winter	6	1.006	OUTFALL	0.5	0.462	0.025	0.0306	11.1

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.42%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	13	97.363	0.063	7.5	1.2930	0.0000	OK
30 minute summer	2	24	97.281	0.081	13.8	4.6631	0.0000	OK
30 minute summer	3	20	97.100	0.070	7.8	0.0199	0.0000	OK
30 minute summer	4	19	96.916	0.094	10.1	0.0266	0.0000	OK
15 minute summer	5	11	96.872	0.110	13.9	0.0311	0.0000	OK
480 minute winter	BASIN	456	96.814	0.414	3.9	32.8701	0.0000	SURCHARGED
480 minute winter	6	456	96.814	0.478	0.9	0.5407	0.0000	SURCHARGED
480 minute winter	OUTFALL	456	96.019	0.019	0.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	4.7	0.813	0.566	0.0544	
30 minute summer	2	1.001	3	6.5	0.959	0.839	0.1168	
30 minute summer	3	1.002	4	7.8	0.853	0.440	0.2031	
30 minute summer	4	1.003	5	10.1	0.852	0.566	0.0739	
15 minute summer	5	1.004	BASIN	13.9	1.299	0.846	0.5558	
480 minute winter	BASIN	1.005	6	0.9	0.200	0.052	0.1303	
480 minute winter	6	1.006	OUTFALL	0.6	0.498	0.033	0.0364	20.9

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.41%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	1	22	97.402	0.102	12.6	2.7792	0.0000	OK
60 minute summer	2	41	97.354	0.154	20.3	10.2298	0.0000	FLOOD RISK
30 minute summer	3	19	97.269	0.239	12.2	0.0675	0.0000	FLOOD RISK
30 minute summer	4	19	97.213	0.391	15.0	0.1107	0.0000	SURCHARGED
30 minute summer	5	19	97.166	0.404	20.6	0.1142	0.0000	SURCHARGED
720 minute winter	BASIN	690	97.120	0.720	5.2	68.7660	0.0000	FLOOD RISK
720 minute winter	6	690	97.120	0.784	0.9	0.8869	0.0000	SURCHARGED
720 minute winter	OUTFALL	690	96.021	0.021	0.8	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	1	1.000	2	7.3	0.816	0.882	0.0834	
60 minute summer	2	1.001	3	8.8	1.008	1.135	0.1615	
30 minute summer	3	1.002	4	10.6	0.891	0.599	0.3665	
30 minute summer	4	1.003	5	13.2	0.792	0.741	0.1052	
30 minute summer	5	1.004	BASIN	19.5	1.110	1.185	0.7374	
720 minute winter	BASIN	1.005	6	0.9	0.166	0.055	0.1303	
720 minute winter	6	1.006	OUTFALL	0.8	0.538	0.042	0.0435	35.3