



FLOOD RISK ASSESSMENT & DRAINAGE STRATEGY
LAND IN EAST GRAFTON, SITE A, WILTSHIRE, SN8 3DB

GRID REFERENCE: SU254605

NOVEMBER 2025

JOB REFERENCE: P00258

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1.0 Introduction and Site Context

- 1.1 AAH Consultants have been commissioned to undertake a Flood Risk Assessment (FRA) and Drainage Strategy (DS) in support of a planning application for a single-plot residential development on land in East Grafton (the 'Site').
- 1.2 A Flood Risk Assessment and Drainage Strategy is to be produced in accordance with the National Planning Policy Framework (July 2021), the Non-Statutory Technical Standards for SuDS (March 2015), the SuDS Manual C753 (2015), the Wiltshire Council Level 1 Strategic Flood Risk Assessment (SFRA) (November 2024) and Core Policy 67 relating to Flood Risk from the Wiltshire Core Strategy (January 2015).
- 1.3 The information presented is as follows:
- A background to the Site
 - An assessment of existing flood risk
 - Development proposals
 - Surface water management
 - Foul water management

The Site

- 1.4 The Site is located within the village of East Grafton, approximately 8 miles southeast of Marlborough town centre. The Site is accessed from a public highway (the A338) adjacent to the Site to the south and measures approximately 0.2Ha.
- 1.5 The Site lies within the administrative area of Wiltshire Council as Local Planning Authority (LPA) and Lead Local Flood Authority (LLFA), Thames Water as the water provider, and Southern Water as the sewerage company.

Topography

- 1.6 The Site is relatively planar with an overall fall from a high point at the southwest corner, where levels are approximately 154m above Ordnance Datum (AOD), to a low point at the northwest corner, where levels are circa 153.6m AOD.
- 1.7 Currently, the Site consists of open grassland, with hedges and trees forming the borders of the Site. Agricultural land is present immediately to the north of the Site, residential dwellings are located adjacent to the east and west boundaries, and the A338 public highway borders the Site at the south. An aerial image of the Site is provided in **Figure 1** below.



Figure 1: Aerial image of the Site (Google Earth)

Geology

- 1.8 According to British Geological Society (BGS) 1:50,000 scale mapping, the Site is underlain by bedrock geology of Upper Greensand Formation - Sandstone. There are no recorded superficial deposits recorded for this Site.
- 1.9 A review of the LandIS® Soilscales viewer illustrates that the Site consists of '*freely draining slightly acid loamy soils*'. This indicates conditions suitable for infiltration.

Hydrogeology

- 1.10 According to BGS 1:625,000 scale mapping, the Site is underlain by the Upper Greensand Formation, a moderately productive aquifer summarised as Glauconitic sands yielding up to 25l/s and often in hydraulic continuity with overlying Chalk.
- 1.11 The Site is recorded as being underlain by a principal aquifer (Bedrock), and lies within an area mapped as having high groundwater vulnerability. The Site exists outside all groundwater source protection zones.

Hydrology

- 1.12 There are no watercourses within or adjacent to the Site boundary. The nearest watercourses are: 300m west of the Site, and 305m east of the Site. Both watercourses are unnamed, appear to route in a northerly direction, and seemingly converge at a single point 680m north of the Site – prior to adjoining Wilton Water, an 8 acre spring water-fed lake.

2.0 Development Proposals

- 2.1 The Development proposals include the erection of a detached dwelling and garage; with associated driveway, landscaping, and access.



Figure 2: Development Proposals (by Architect)

- 2.2 Roof area (inclusive of the dwelling and garage) will require positive drainage to dispose of surface water run-off to a suitable destination, and measures approximately 267m².
- 2.3 A combined parking area / driveway is to be provided within the frontage of the Site. Run-off from this area will be disposed of to a suitable destination and measures approximately 258m².
- 2.4 The development proposals are illustrated above in **Figure 2** and appended to this report as Appendix A.
- 2.5 For flood risk purposes, the nature of the Development places it within the 'more vulnerable' category.

3.0 Existing Flood Risk

- 3.1 The National Planning Policy Framework (NPPF) sets strict tests to protect people and property from flood risk, which all local planning authorities are expected to follow. Where these tests are not met, national policy is clear that new development should not be allowed.
- 3.2 For the purposes of applying the National Planning Policy Framework, "flood risk" is a combination of the probability and the potential consequences of flooding from all sources – including from rivers and the sea (fluvial flooding), directly from rainfall on the ground surface (surface water or pluvial flooding) and rising groundwater (groundwater flooding), overwhelmed sewers and drainage systems (sewer flooding), and from reservoirs, canals and lakes and other artificial sources (artificial flooding).
- 3.3 The following assesses the potential for flood risk from all sources to determine the overall flood risk to the Site.

Tidal and Fluvial Flood Risk

- 3.4 According to the Environment Agency's (EA) Flood Map for Planning service (**Figure 3**), the Site lies within Flood Zone 1 and is, therefore, at low risk of flooding from rivers and the sea.

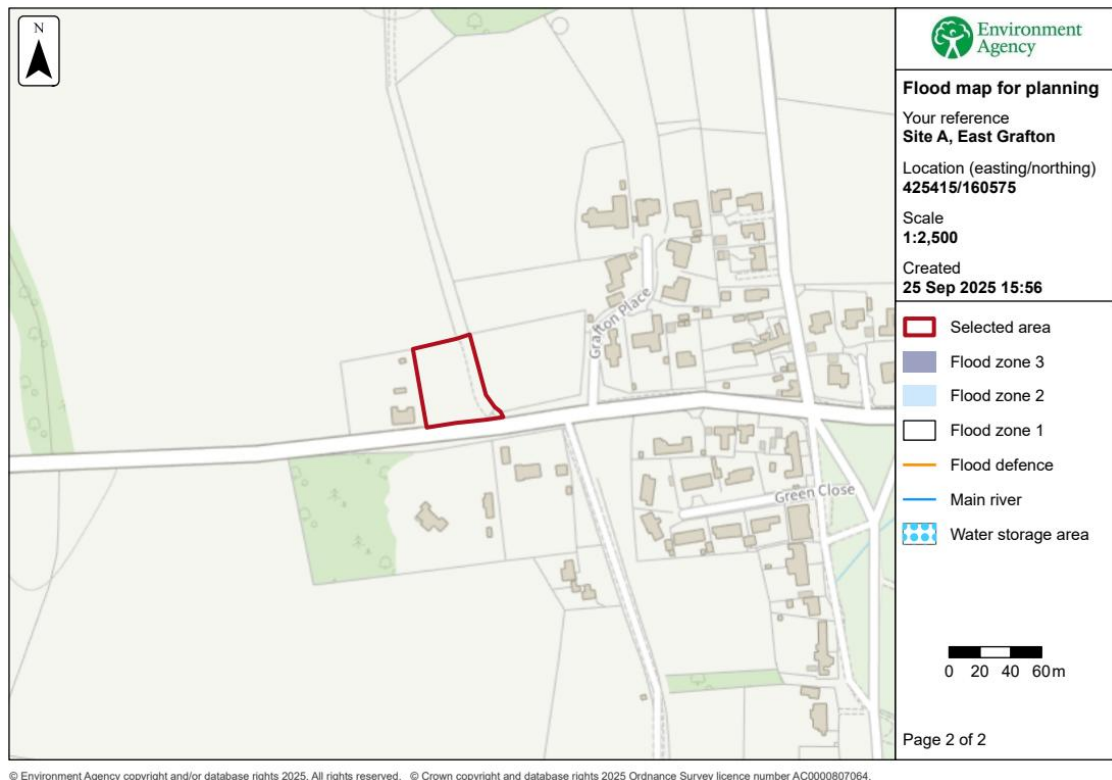


Figure 3: Environment Agency Flood Map for Planning (Site indicated in red)

- 3.5 The Site is not shown to be at risk of fluvial or tidal flooding in the present day, nor is at risk in a future scenario (years 2070 to 2125) when an allowance for climate change has been applied. As illustrated in **Figure 4** below.



Figure 4: Environment Agency Flood Zone Map (Site indicated in red)

Pluvial and Sewer Flood Risk

- 3.6 Intense rainfall can create run-off, which temporarily overwhelms the capacity of the local drainage systems. Under these conditions, localised 'flash' flooding can occur. In addition, surface water can flood into the sewer networks and overload both the surface water and combined sewer networks. This type of flooding is especially problematic when these systems become overloaded simultaneously.
- 3.7 The EA flood map for surface water divides England and Wales into areas with a very low, low, medium and high risk of pluvial flooding. 'Very low' means that each year this area has a chance of flooding of less than 1 in 1000 (0.1%). 'Low' means that each year this area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%), 'Medium' means that each year this area has a chance of flooding of between 1 in 100 (1%) and 1 in 30 (3.3%) and 'High' means that each year this area has a chance of flooding of greater than 1 in 30 (3.3%).
- 3.8 According to the available data (**Figure 5**), the Site is not at risk from this source. A small area adjacent to, but ultimately outside, the eastern boundary is illustrated to be at low to high risk of surface water flooding. The extents of this surface water flood risk coincides with a

topographical low spot, illustrated by an approximate 1.0m drop in elevation, as shown by the topographic survey appended to this report as Appendix B, thus resulting in ponding at this location. However, the EA flood maps illustrate this is to a depth of less than 20cm.



Figure 5: Risk of Flooding from Surface Water (Site indicated in red)

- 3.9 It is proposed that all surface water flows will be retained on Site for storm periods up to and including the 1 in 100 year event plus climate change allowance (CCA). In addition, surface water flows will be controlled at source through the use of a sustainable surface water drainage strategy, and the sewer systems provided should be watertight and lined to prevent water ingress. As such, pluvial flood risk is deemed to be low and satisfactory.
- 3.10 Following receipt of sewer records from Thames Water, a foul water sewer is evidenced to be within the A338 public highway which abuts the Site at its southern boundary. Level information for the public sewer illustrates that the sewer is at a depth of over 1m below ground. Additionally, any surface water flows generated by development within the area are to be disposed of via infiltration. As such, it is expected that the risk of sewer flooding is low.
- 3.11 Non-return flap valves should be fitted downstream on any drainage outlets leaving the Site to further mitigate against the risk of sewer flooding.

Groundwater Flood Risk

- 3.12 Groundwater flooding is most commonly caused by rainfall, which causes the groundwater table beneath a Site to rise and eventually exceed ground level. Groundwater flooding can also occur where the water table is sufficiently close to the Site surface that it inundates

subterranean development. Like other sources of flooding, groundwater flooding will be affected by increased rainfall attributable to climate change.

- 3.13 In the unlikely event of groundwater emergence, the topography of the Site is such that the Development is situated higher than the surrounding ground levels to the northwest, and as such, would enable exceedance flows (as a result of groundwater emergence at the surface) to be conveyed away from the Development towards the western boundary, as per the historic situation. In addition, there are no proposals for subterranean development, which will reduce the likelihood of groundwater entering the Development.

Artificial Flood Risk

- 3.14 The EA's Risk of Flooding from Reservoirs' map indicates areas where peoples' lives would be in danger as a result of an uncontrolled release of water from a reservoir or static body of water. In terms of probability of occurrence, the EA acknowledges in their flood map annotations that reservoir flooding is extremely unlikely. There has been no loss of life in the UK from reservoir flooding since 1925, with all large reservoirs inspected and supervised by reservoir panel engineers. As the enforcement authority for the Reservoirs Act 1975 in England, the Environment Agency ensures that reservoirs are regularly inspected and that essential safety work is carried out.
- 3.15 The EA Risk of Flooding from Reservoirs map (depicted in **Figure 6** below) indicates that the Site is not at risk from this source.

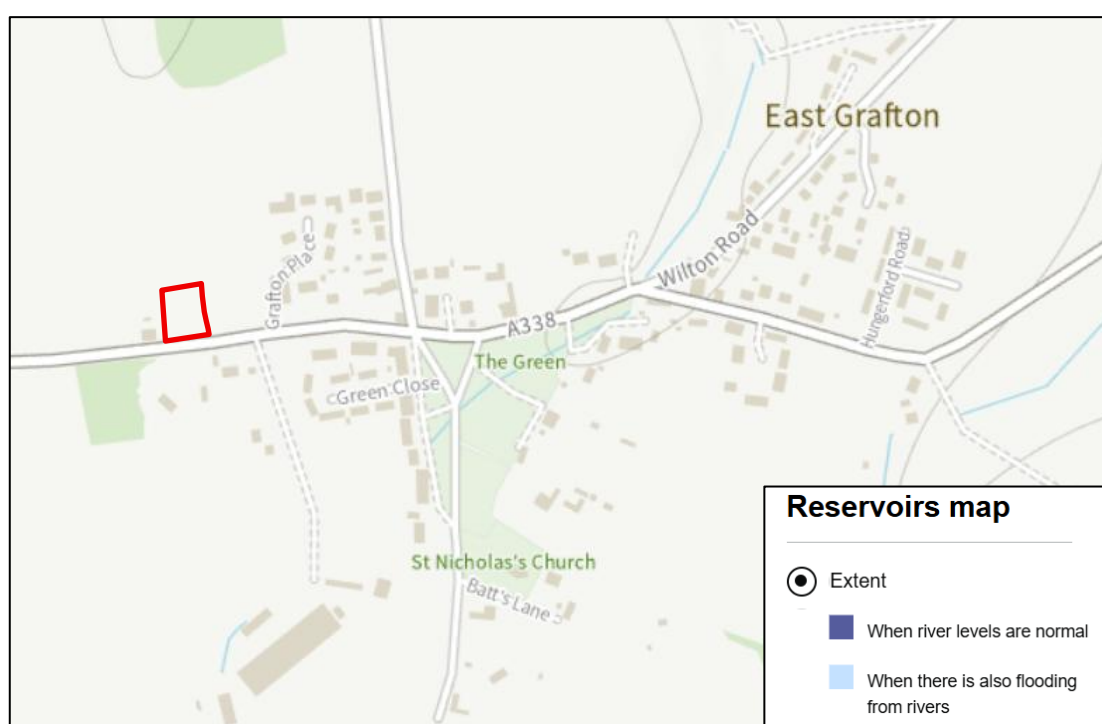


Figure 6: Environment Agency Flood Map for Reservoirs (Site indicated in red)

4.0 Surface Water Drainage

Existing Drainage

- 4.1 Historic mapping shows the Site has remained undeveloped since the late 1800s and likely earlier. As such, the likelihood of existing drainage infrastructure and other services being present at the Site is deemed to be low.

Surface Water Disposal Options

- 4.2 In accordance with Building Regulations Approved Document H and DEFRA's Non-Statutory Technical Standards for SuDS (Sustainable Drainage Systems), disposal of curtilage surface water run-off should be directed to the following, in order of preference:

- Infiltration to ground;
- Disposal to a watercourse;
- Disposal to a surface water sewer;
- Disposal to a combined sewer.

Infiltration

- 4.3 The ground conditions outlined in Section 1 of this report are indicative of conditions suitable for infiltration. As such, infiltration testing in accordance with BRE 365 was undertaken in June 2025 to determine the rate at which this may occur.
- 4.4 The test comprised three infiltration trials, each using 1,000 litres of water, carried out within a trial pit excavated to a depth of 1.5m. The results confirmed that infiltration is a suitable method for managing surface water run-off from the Site, with the calculated rates summarised in **Table 1**. The details of the infiltration tests are provided in Appendix C.

Table 1: Infiltration Test Results

Test No.	Infiltration Rate (m/s)	Infiltration Rate (m/hr)
1	1.95×10^{-4}	0.701
2	2.94×10^{-4}	1.06
3	2.67×10^{-4}	0.963

- 4.5 The lowest infiltration rate has been selected to inform the hydraulic design, ensuring a conservative approach and helping to mitigate any potential influence from the tests having been carried out during the summer months.

SuDS Management Train

- 4.6 The SuDS Manual C753 emphasises the multiple benefits that SuDS can provide.
- 4.7 The combined parking / driveway area provides opportunities for collection, attenuation and treatment of surface water run-off. The hardstanding will be of a permeable construction, with the formation lined with a permeable geotextile to allow infiltration of flows to ground whilst preventing the ingress of fine soil particles into the permeable sub-base. Ingress of fine soil particles into the permeable sub-base would otherwise reduce the available volume for the storage of surface water run-off. Where the sub-base forming the permeable surfacing abuts a structure, i.e. the garage, the side should be lined with an impermeable geotextile to prevent ground instability in areas containing foundations.
- 4.8 Permeable surfacing provides water quality benefits by passively filtering suspended solids, hydrocarbons and heavy metals from the collected surface water.
- 4.9 Roof water from the proposed dwelling and garage is proposed to be collected through traditional rainwater downpipes and conveyed to two interlinked, lined soakaways to the north of the Site. The lined soakaways are to be formed from 1.5m diameter manhole rings, and situated within a pit of porous granular fill measuring 2.0m wide x 2.0m long.
- 4.10 Roof water is generally clean and requires very little treatment. Catchpits should be strategically placed upstream of the infiltration features to reduce the risk of suspended solids from entering, otherwise resulting in potential blockages and reduced efficacy of the system.

Hydraulic Design

- 4.11 Preliminary hydraulic modelling using Causeway Flow hydraulic simulation software has been undertaken to provide initial sizing of the combined attenuation and infiltration features. The results demonstrate that there is sufficient space within the Site to accommodate surface water drainage systems and the associated volumes and infiltration areas.
- 4.12 The drainage system is required to function without any flooding of surface water for storm return periods up to and including 1 in 30 year and without any flood water leaving the site for storm return periods up to and including 1 in 100 year, plus an allowance for climate change. Climate change allowance has been specified based on the upper end of the total potential change anticipated for the '2070s', which equates to 40%.
- 4.13 Permeable surfacing and lined soakaways have been specified to meet storage requirements for the Site, and are proposed for the parking / driveway area located within the frontage of the Site, and within grassed areas at the northwestern extents of the Site. The systems

specified for the Site have been sized to attenuate flows up to and including a 1 in 100 year storm event plus an additional allowance for climate change. The storage volume provided is approximately 10m³.

- 4.14 In accordance with Building Regulations Approved Document H, a minimum 5m offset has been specified from the building edge to the lined soakaways.
- 4.15 A drainage strategy meeting the above criteria is presented in Appendix D, with supporting hydraulic calculations in Appendix E.
- 4.16 In the event of a drainage system blockage or a storm in excess of the design parameters, there may not be sufficient capacity within the drainage system to accommodate collected surface water run-off below ground level or within the Site. Under these circumstances, minor flooding may be expected on-site, leading to overland flows being directed off the Site. Finished ground levels have been designed to direct overland flows away from building thresholds and follow the natural, pre-development flow paths for surface water.

Water Quality

- 4.17 The water quality treatment train has been determined based on the CIRIA SuDS Manual. The appraisal of the Development's characteristics and relevant SuDS components is presented below, demonstrating that the relevant indices have been met.

Minimum water quality management requirements for discharges to receiving surface waters and groundwater (SuDS Manual, 2015, Table 4.3)				
Land use	Pollution hazard level	Requirement for discharge to surface waters and groundwater		
Residential roofs	Very low	Removal of gross solids and sediments only		
Individual property driveways, residential car parks, low traffic roads...	Low	Simple index approach		
Pollution hazard indices for different land use classifications (SuDS Manual, 2015, Table 4.3)				
Land use	Pollution hazard level	Total suspended solids TSS	Metals	Hydrocarbons
Residential roofs	Very low	0.2	0.2	0.05
Individual property driveways, residential car parks, low traffic roads (e.g. cul de sacs, home zones, general access roads)	Low	0.5	0.4	0.4
Indicative SuDS mitigation indices for discharges to groundwater (SuDS Manual, 2015, Table 26.4)				
Type of SuDS component		TSS	Metals	Hydrocarbons
Permeable paving		0.7	0.6	0.7
[Lined] Soakaways		0.3	0.5	0.6

Maintenance

- 4.18 Maintenance of SuDS is critical to achieve efficient functionality, long lasting performance, and reduced contamination risk to the Site and downstream. Regular inspections and checks can be undertaken by the Applicant; however, corrective maintenance and repairs may need to be undertaken by a competent professional. Maintenance responsibility should be placed with the Applicant or subsequent Homeowner.
- 4.19 The useful life and effective operation of SuDS components is related to the frequency of maintenance and the risk of sediment being introduced into the system.
- 4.20 Maintenance will usually be carried out manually, although suction tankers can be used for sediment and debris removal from large systems. If maintenance is not undertaken for extended periods, deposits may become hard-packed and more difficult to remove.
- 4.21 In exceptional circumstances where maintenance is not undertaken regularly, replacement of the entire SuDS may be required at significant cost and disruption and, ultimately, will lead to higher flood risk to the Development and the wider catchment.
- 4.22 An outline maintenance strategy and schedule for the proposed SuDS feature is provided in **Tables 2 and 3** below.

Table 2: Lined Soakaway Maintenance Requirements

Maintenance Schedule	Required Action	Typical Frequency
Regular maintenance	Inspect for sediment and debris in pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings.	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 from pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings.	As required, based on inspections
Remedial actions	Reconstruct soakaway and/or replace or clean void fill if performance deteriorates or failure occurs.	As required
	Replacement of clogged geotextile (will require reconstruction of soakaway).	As required
Monitoring	Inspect silt traps and note rate of sediment accumulation.	Monthly in the first year and then annually
	Check soakaway to ensure emptying is occurring.	Annually

Table 3: Permeable Surfacing Maintenance Requirements

Maintenance Schedule	Required Action	Typical Frequency
Regular maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturers' recommendations – particular attention to be paid to areas where water runs directly onto pervious surface from adjacent impermeable areas as this 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 actions	Remediate any landscaping that, through vegetation maintenance or soil slip has been raised to within 50mm of the level of the paving	As required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users and replace lost jointing material	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10-15 years or as required (if infiltration performance is reduced due to significant clogging)
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 hours after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

5.0 Foul Water Drainage

- 5.1 Foul water from the development should be disposed of to the Thames Water foul water sewer within the A338, a public highway adjacent south of the proposed Site. This is in accordance with the hierarchy, as set out within Building Regulations H, which states;

An adequate system of drainage shall be provided to carry foul water from appliances within the building to one of the following, listed in order of priority:

- i. a public sewer; or, where that is not reasonably practicable,*
 - ii. a private sewer communicating with a public sewer; or, where that is not reasonably practicable,*
 - iii. either a septic tank which has an appropriate form of secondary treatment or another wastewater treatment system; or, where that is not reasonably practicable,*
 - iv. a cesspool.*
- 5.2 Public sewer records have been requested from Thames Water which confirm this approach and evidence that the depth of the public sewers is sufficient to achieve a gravity connection from the Site. The Thames Water sewer records have been appended to this report as Appendix F.
- 5.3 Prior to making a connection to the public sewer, a S106 Connection Agreement with Thames Water will need to be approved.

6.0 Conclusion

- 6.1 A Flood Risk Assessment and Proposed Drainage Strategy has been produced in support of a residential development within East Grafton, Wiltshire. The proposals include the erection of a singular dwelling, a garage, and the provision of a driveway.
- 6.2 The surface water drainage design has been developed in accordance with the Non-Statutory Technical Standards for SuDS (March 2015), the SuDS Manual C753 (2015), the Wiltshire Council Level 1 Strategic Flood Risk Assessment (SFRA) (November 2024) and Core Policy 67 relating to Flood Risk from the Wiltshire Core Strategy (January 2015).
- 6.3 The foul water drainage design has been developed in accordance with the Building Regulations Approved Document H.
- 6.4 The Site lies within Flood Zone 1, and the Development is classed as 'more vulnerable'. As such, the Environment Agency's standing advice has been followed in undertaking the Flood Risk Assessment. There are no requirements for Sequential or Exception Tests.
- 6.5 The overall existing flood risk to the Site from all sources is considered to be low.
- 6.6 It is intended that surface water will be disposed of via infiltration into the ground and will be attenuated within permeable paving (driveway) and lined soakaways (roofs). Infiltration testing has been undertaken to confirm the principles of this design and has confirmed there is sufficient space on Site to accommodate the required storage and infiltration features.
- 6.7 Foul water is to be disposed of to the foul water public sewer within the adjacent public highway, the A338. Sewer records received from Thames Water illustrate that a gravity connection from the Site is feasible.
- 6.8 A maintenance strategy has been provided, with the preferred strategy being that drainage systems will be maintained by the Applicants or subsequent Homeowner.
- 6.9 This Flood Risk Assessment concludes that the development will be safe for its lifetime, taking account of the vulnerability of its users without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

APPENDIX A

DEVELOPMENT PROPOSALS



B	Updated	DB	30.09.25
A	-	HB	07.07.25
revisions		initial	date

Contractors, Sub Contractors and Suppliers are to check all relevant dimensions and levels of site and buildings before commencing any shop drawings or building work.

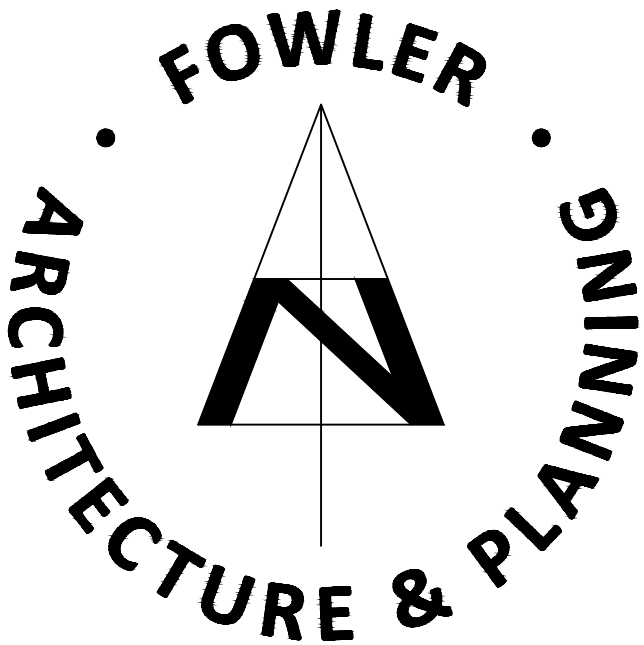
This drawing is copyright and may not be reproduced in any part of form without the written consent of Fowler Architecture and Planning

project
LAND IN EAST GRAFTON
East Grafton
Wiltshire SN8 3DB

Site Plan

scale drawn by date
1:200 @A1 EG May '25

250103-06 B
drawing no rev



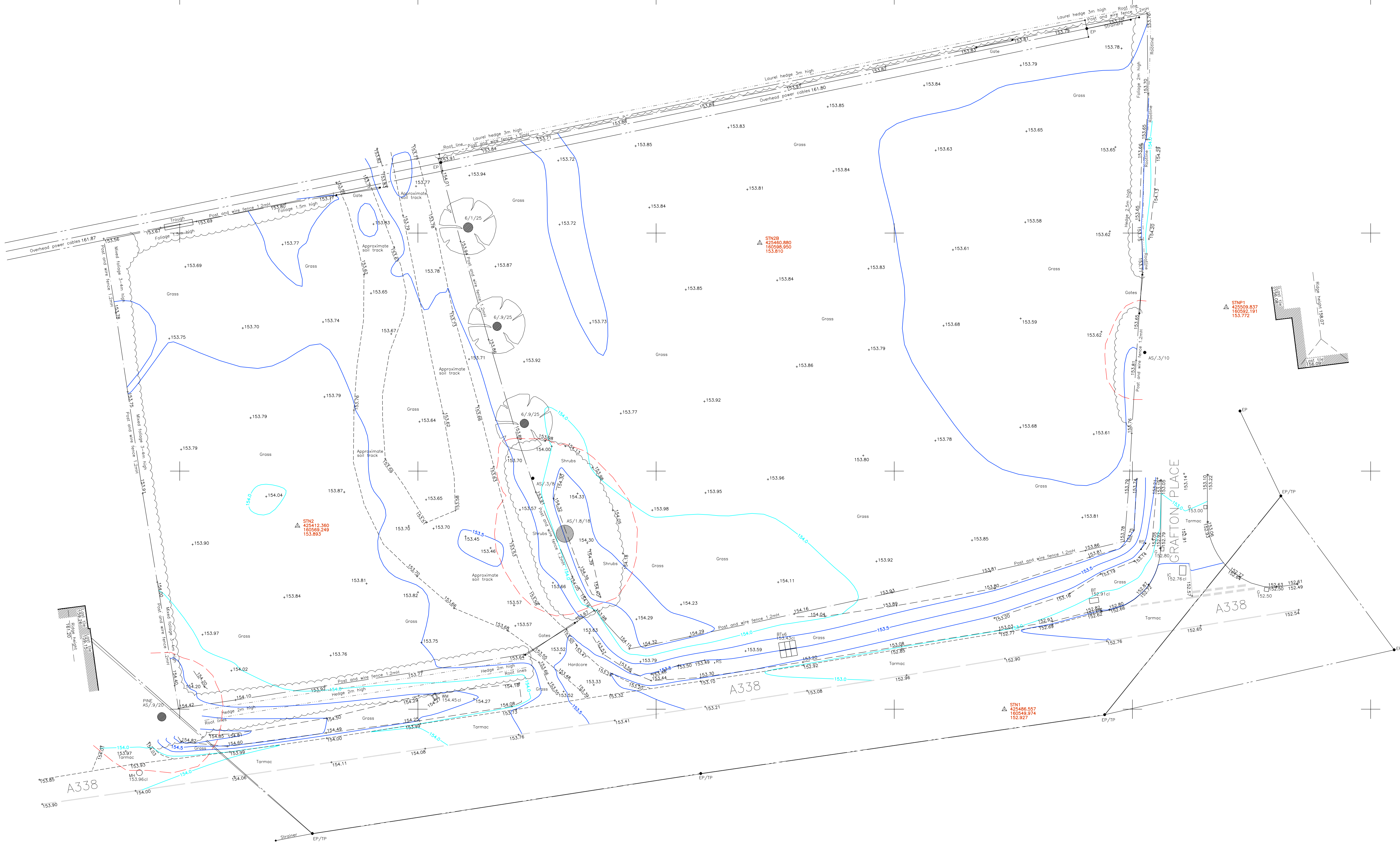
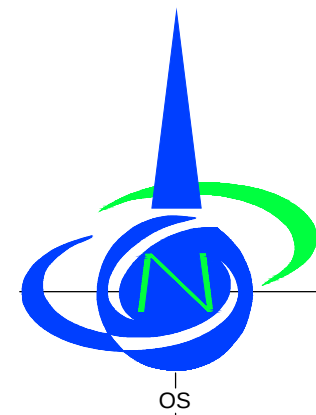
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APPENDIX B

TOPOGRAPHIC SURVEY



Tree Abbreviations		
ASH	Ash	LP London Plane
BAY	Bay	MAP Maple
BEE	Beech	OAK Oak
CB	Copper Beech	POP Poplar
CD	Cedar	RM Red Maple
CH	Cherry	RW Redwood
CON	Coniferous	SB Silver Birch
EUC	Eucalyptus	SER Service Tree
FR	Frax	SP Scots Pine
HAW	Hardwood	SVC Sycamore
HAZ	Hazel	WAL Walnut
HC	Horn Chestnut	WIL Willow
HOL	Holly	WYP Weeping Willow
LAB	Laburnum	YEW Yew
LAU	Laur	**MB Multiple stems/shrubs
LI	Line	Overall ds, shown

These dimensions with 'typical' have been surveyed by remote methods and therefore are approximate & dimensions cannot be guaranteed.
Tree Dimensions (Average) AS - As shown by red line
UTS - Unable to survey

Key			
AV	Air Valve	LP	Lamp Post
BL	Bolt	M	Manhole
BM	Bench Mark	MH	Manhole Cover
BP	Boundary Point	MS	Milestone
BT	BT Cover	RC	Road Level
CATV	Cable Television Cover	RS	Road Sign
CAB	Cabinet	RP	Road Water Pipe
CL	Clamp Level	SC	Street Light
EP	Electric Power Pole	SH	Shower
EV	Electric Valve (not for use)	SL	Slip Valve
FL	Fire Hydrant	SV	Slip Valve
FR	Flow Meter	TP	Telephone Pole
FWS	Foul Water Sewer	TL	Trunk Light
GA	Gate Post	TH	Threshold Level
GV	Gas Valve	TL	Trunk Light
IC	Inspection Chamber	VP	Vent Pipe
I	Invert Level	WM	Water Meter
HO	Kerb Outlet	WO	Wash Out

Linetypes	
Bank	---
Building	---
Channel	---
Electric	---
Fence	---
Foliage	---
FWS	---
Gate	---
Hedge	---
Kerb	---
Manhole	---
Pipe	---
Ridge	---
SPP	---
Telephone	---
Track/Path	---
Tree Canopy	---
Veget	---
Water line	---
Wall	---

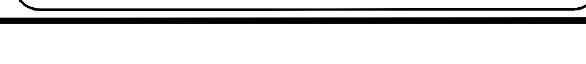
Coordinate System
This survey has been oriented to the O.S. National Grid (OSGB36) via a global position system and the O.S. Active Network (OS Net) OSGB36. True OSGB36 coordinates have been established at STN2 E 45423.30 N 100569.249 ELEV 153.893 and a further OSGB36 point established to create a true 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.



Land & Measured Building Surveyors
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enquiries@dandosurveying.co.uk

Project Name:
Land at East Grafton
A338, East Grafton, Marlborough, SN8 3DD
Drawing Title:
Topographical Survey
Client:
Fowler Architecture & Planning
Agent:

Date: 24th January 2025	Scale: 1:200 @A0	
Grid Orientation North GPS	Sheet ID MF582gridTOPO	Rev None
Site Level Datum OS GPS	Surveyed By AH	Drawn By AH
		



APPENDIX C

INFILTRATION TEST RESULTS

Test pit reference: 1, Test 1

Time (m)	Depth from surface
0	1.4
1	1.43
2	1.45
3	1.46
4	1.48
5	1.49
7	1.5

	Depth from surface (m)	time (min)
Pit Depth	1.5	
Water depth full	0.100	
75% depth	1.425	0.83333
25% depth	1.475	3.75000
Difference (75-25)	0.050	2.92

$f = V_{p75-25} / (A_{p50} * t_{p75-25})$

Size of Pit		
Width	0.24	m
Depth	1.5	m
Length	2	m

Volume (Vp75-25)	0.024	m ³
50% eff. depth	0.050	
Surface area (Ap50)	0.704	m ²

infiltration Rate	1.95E-04	m/sec
	7.01E-01	m/hr

Test pit reference: 1, Test 2

Time (m)	Depth from surface
0	1.37
1	1.39
2	1.41
3	1.44
4	1.47
5	1.49
7	1.5

	Depth from surface (m)	time (min)
Pit Depth	1.5	
Water depth full	0.130	
75% depth	1.403	1.62500
25% depth	1.468	3.91667
Difference (75-25)	0.065	2.29

$f = v_{p75-25} / (a_{p50} * t_{p75-25})$

Size of Pit		
Width	0.24	m
Depth	1.5	m
Length	2	m

Volume (Vp75-25)	0.031	m ³
50% eff. depth	0.065	m
Surface area (Ap50)	0.771	m ²

infiltration Rate	2.94E-04	m/sec
	1.06E+00	m/hr

Test pit reference: 1, Test 3

Time (m)	Depth from surface
0	1.35
1	1.37
2	1.39
3	1.42
4	1.45
5	1.47
7	1.49
8	1.5

	Depth from surface (m)	time (min)
Pit Depth	1.5	
Water depth full	0.150	
75% depth	1.388	1.87500
25% depth	1.463	4.62500
Difference (75-25)	0.075	2.75

$f = \frac{V_{p75-25}}{(A_{p50} * t_{p75-25})}$

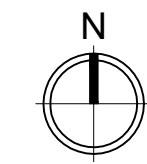
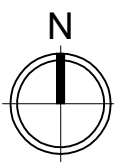
Size of Pit		
Width	0.24	m
Depth	1.5	m
Length	2	m

Volume (Vp75-25)	0.036	m ³
50% eff. depth	0.075	m
Surface area (Ap50)	0.816	m ²

infiltration Rate	2.67E-04	m/sec
	9.63E-01	m/hr

APPENDIX D

PROPOSED DRAINAGE LAYOUT



LOCATION AND IMPERMEABLE AREA PLAN
NTS

Notes:

1. This drawing to be read in conjunction with all relevant architects and engineers drawings and specifications.
2. Levels shown are metres above ordnance datum, dimensions are in millimetres, unless noted otherwise. Positions of rups and discharge stacks are shown indicatively and are assumed based on preliminary floor layouts.
3. All work shall be carried out in accordance with all pertinent health and safety regulations.
4. Existing below ground services are to be accurately located prior to excavation. Appropriate clearances and methods as required by the asset owners guidance shall be maintained to avoid strikes, damage or undermining.

Key:

- Proposed Surface Water Sever (All pipework to be 100mmØ @ 1:100 UNO)
- Proposed Permeable Surfacing (To be wrapped with a Permeable Geotextile where appropriate)
- Proposed Foul Water Sewer (All pipework to be 100mmØ @ 1:80 UNO)
- Thames Water Foul Water Sewer
- Proposed Impermeable Area

Abbreviations:

- D Demarcation
- C Chamber
- Ex Existing
- SW Surface Water
- FW Foul Water
- CL Cover Level
- IL Invert Level
- UNO Unless Noted Otherwise
- PTP Package Treatment Plant
- GEA Or Equivalent Approved
- UNO Unless Noted Otherwise

Rev	Date	Description	Drwn	Chk
P01	17/11/25	First Issue	EL	EK
Drawing No. P00258-DR-D-3001			Revision P02	
Date	20/11/25	Drawn	EL	
Scale @ A1	1:200	Checked	EK	

Site Address
Land at East Grafton [Site A],
Wiltshire,
SN8 3DB

Purpose of Issue
For Approval

Drawing Title
Proposed Drainage Layout



1 BAR LANE
YORK
NORTH YORKSHIRE
YO1 6JU
TEL: 01904 897276
EMAIL: INFO@AAHPLANNING.COM

AAHCONSULTANTS.CO.UK

APPENDIX E

SURFACE WATER HYDRAULIC CALCULATIONS

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	3.000
CV	1.000	Preferred Cover Depth (m)	0.450
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	x
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1		5.00	153.800	450	425415.155	160569.604	0.550
2	0.005	5.00	153.800	450	425425.925	160571.225	0.659
3			153.800	450	425424.601	160580.045	0.748
4			153.800	450	425420.512	160579.437	0.789
5	0.005	5.00	153.800	450	425419.489	160586.240	0.858
6	0.004	5.00	153.800	450	425403.093	160553.781	0.550
7	0.004	5.00	153.800	450	425401.536	160564.196	0.655
8		5.00	153.800	450	425408.940	160565.294	0.550
9			153.800	450	425404.542	160564.642	0.685
10		5.00	153.800	450	425409.912	160568.847	0.550
11	0.005	5.00	153.800	450	425404.075	160568.009	0.719
12			153.800	450	425402.500	160578.672	0.827
13			153.800	450	425408.894	160579.591	0.892
14	0.005	5.00	153.800	450	425408.146	160584.574	0.973
Soakaways			153.800	450	425403.626	160583.882	1.019
J1			153.800		425398.752	160583.085	0.349
Carpark 1	0.026	5.00	153.800		425414.589	160555.399	0.300
J2			153.800		425421.686	160556.596	0.372

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	1	2	10.891	0.600	153.250	153.141	0.109	100.0	100	5.24	49.5
1.001	2	3	8.919	0.600	153.141	153.052	0.089	100.0	100	5.43	48.8
1.002	3	4	4.134	0.600	153.052	153.011	0.041	100.0	100	5.52	48.4
1.003	4	5	6.879	0.600	153.011	152.942	0.069	100.0	100	5.67	47.8
1.004	5	14	11.465	0.600	152.942	152.827	0.115	100.0	100	5.92	46.9
2.000	6	7	10.531	0.600	153.250	153.145	0.105	100.0	100	5.23	49.5
2.001	7	9	3.039	0.600	153.145	153.115	0.030	100.0	100	5.29	49.3

Name	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	0.769	6.0	0.0	0.450	0.559	0.000	0.0	0	0.000
1.001	0.769	6.0	0.9	0.559	0.648	0.005	0.0	26	0.551
1.002	0.769	6.0	0.9	0.648	0.689	0.005	0.0	25	0.541
1.003	0.769	6.0	0.9	0.689	0.758	0.005	0.0	25	0.541
1.004	0.769	6.0	1.7	0.758	0.873	0.010	0.0	36	0.660
2.000	0.769	6.0	0.7	0.450	0.555	0.004	0.0	23	0.511
2.001	0.769	6.0	1.4	0.555	0.585	0.008	0.0	33	0.629

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
3.000	8	9	4.446	0.600	153.250	153.115	0.135	32.9	100	5.05	50.0
2.002	9	11	3.399	0.600	153.115	153.081	0.034	100.0	100	5.37	49.0
4.000	10	11	5.897	0.600	153.250	153.081	0.169	34.9	100	5.08	50.0
2.003	11	12	10.779	0.600	153.081	152.973	0.108	100.0	100	5.60	48.1
2.004	12	13	6.460	0.600	152.973	152.908	0.065	100.0	100	5.74	47.6
2.005	13	14	5.039	0.600	152.908	152.827	0.081	62.2	100	5.83	47.2
1.005	14	Soakaways	4.573	0.600	152.827	152.781	0.046	100.0	100	6.02	46.5
1.006	Soakaways	J1	4.939	0.600	153.500	153.451	0.049	100.0	100	6.12	46.2
5.000	Carpark 1	J2	7.197	0.600	153.500	153.428	0.072	100.0	100	5.16	49.8

Name	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)
3.000	1.349	10.6	0.0	0.450	0.585	0.000	0.0	0	0.000
2.002	0.769	6.0	1.4	0.585	0.619	0.008	0.0	33	0.629
4.000	1.310	10.3	0.0	0.450	0.619	0.000	0.0	0	0.000
2.003	0.769	6.0	2.3	0.619	0.727	0.013	0.0	43	0.715
2.004	0.769	6.0	2.2	0.727	0.792	0.013	0.0	42	0.708
2.005	0.978	7.7	2.2	0.792	0.873	0.013	0.0	37	0.850
1.005	0.769	6.0	4.7	0.873	0.919	0.028	0.0	67	0.851
1.006	0.769	6.0	4.7	0.200	0.249	0.028	0.0	66	0.848
5.000	0.769	6.0	4.7	0.200	0.272	0.026	0.0	66	0.848

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Detailed	Additional Storage (m³/ha)	0.0
Summer CV	1.000	Skip Steady State	x	Check Discharge Rate(s)	x
Winter CV	1.000	Drain Down Time (mins)	240	Check Discharge Volume	x

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 %)
2	0	0	0
30	0	0	0
100	40	10	0

Node Soakaways Lined Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.70130	Invert Level (m)	152.200	Pit Length (m)	2.000
Side Inf Coefficient (m/hr)	0.70130	Time to half empty (mins)	116	Depth (m)	1.600
Safety Factor	2.0	Ring Diameter (m)	1.500	Inf Depth (m)	0.581
Porosity	0.30	Pit Width (m)	2.000	Number Required	2

Node Carpark 1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.70130	Invert Level (m)	153.350	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	2	Depth (m)	0.300
Safety Factor	2.0	Width (m)	16.000	Inf Depth (m)	
Porosity	0.30	Length (m)	16.000		

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.87%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	1	153.250	0.000	0.0	0.0000	0.0000	OK
15 minute summer	2	11	153.166	0.025	0.8	0.0040	0.0000	OK
15 minute summer	3	11	153.078	0.026	0.8	0.0041	0.0000	OK
15 minute summer	4	11	153.035	0.024	0.8	0.0039	0.0000	OK
15 minute summer	5	11	152.977	0.035	1.6	0.0055	0.0000	OK
15 minute summer	6	10	153.272	0.022	0.7	0.0035	0.0000	OK
15 minute summer	7	11	153.179	0.034	1.4	0.0054	0.0000	OK
15 minute summer	8	1	153.250	0.000	0.0	0.0000	0.0000	OK
15 minute summer	9	11	153.149	0.034	1.3	0.0054	0.0000	OK
15 minute summer	10	1	153.250	0.000	0.0	0.0000	0.0000	OK
15 minute summer	11	11	153.123	0.042	2.1	0.0066	0.0000	OK
15 minute summer	12	11	153.015	0.042	2.1	0.0067	0.0000	OK
15 minute summer	13	12	152.943	0.035	2.0	0.0056	0.0000	OK
15 minute summer	14	12	152.896	0.069	4.3	0.0109	0.0000	OK
30 minute summer	Soakaways	25	152.478	-0.303	4.2	1.3569	0.0000	OK
15 minute summer	J1	1	153.451	0.000	0.0	0.0000	0.0000	OK
15 minute summer	Carpark 1	11	153.376	-0.124	4.4	0.1692	0.0000	OK
15 minute summer	J2	1	153.428	0.000	0.0	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	0.0	0.000	0.000	0.0083	
15 minute summer	2	1.001	3	0.8	0.518	0.133	0.0139	
15 minute summer	3	1.002	4	0.8	0.525	0.132	0.0063	
15 minute summer	4	1.003	5	0.8	0.416	0.131	0.0134	
15 minute summer	5	1.004	14	1.6	0.405	0.260	0.0464	
15 minute summer	6	2.000	7	0.7	0.367	0.109	0.0190	
15 minute summer	7	2.001	9	1.3	0.566	0.213	0.0071	
15 minute summer	8	3.000	9	0.0	0.000	0.000	0.0052	
15 minute summer	9	2.002	11	1.3	0.479	0.215	0.0092	
15 minute summer	10	4.000	11	0.0	0.000	0.000	0.0091	
15 minute summer	11	2.003	12	2.1	0.669	0.344	0.0335	
15 minute summer	12	2.004	13	2.0	0.732	0.337	0.0181	
15 minute summer	13	2.005	14	2.1	0.500	0.267	0.0207	
15 minute summer	14	1.005	Soakaways	4.3	0.797	0.717	0.0248	
30 minute summer	Soakaways	1.006	J1	0.0	0.000	0.000	0.0000	0.0
30 minute summer	Soakaways	Infiltration		1.2				
15 minute summer	Carpark 1	5.000	J2	0.0	0.000	0.000	0.0000	0.0
15 minute summer	Carpark 1	Infiltration		4.1				

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.87%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	1	153.250	0.000	0.0	0.0000	0.0000	OK
15 minute summer	2	10	153.186	0.045	2.4	0.0072	0.0000	OK
60 minute summer	3	47	153.155	0.103	1.7	0.0164	0.0000	SURCHARGED
60 minute summer	4	47	153.155	0.144	1.7	0.0229	0.0000	SURCHARGED
60 minute summer	5	47	153.155	0.213	3.4	0.0338	0.0000	SURCHARGED
15 minute summer	6	11	153.289	0.039	1.9	0.0061	0.0000	OK
15 minute summer	7	12	153.225	0.080	3.8	0.0128	0.0000	OK
15 minute summer	8	1	153.250	0.000	0.0	0.0000	0.0000	OK
15 minute summer	9	12	153.217	0.102	3.7	0.0163	0.0000	SURCHARGED
15 minute summer	10	1	153.250	0.000	0.0	0.0000	0.0000	OK
15 minute summer	11	12	153.206	0.125	6.0	0.0198	0.0000	SURCHARGED
60 minute summer	12	46	153.156	0.183	4.3	0.0291	0.0000	SURCHARGED
60 minute summer	13	46	153.154	0.246	4.1	0.0392	0.0000	SURCHARGED
60 minute summer	14	47	153.153	0.326	8.5	0.0519	0.0000	SURCHARGED
60 minute summer	Soakaways	47	153.148	0.367	8.4	4.1885	0.0000	OK
15 minute summer	J1	1	153.451	0.000	0.0	0.0000	0.0000	OK
15 minute summer	Carpark 1	12	153.416	-0.084	12.6	1.0444	0.0000	OK
15 minute summer	J2	1	153.428	0.000	0.0	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	0.0	0.000	0.000	0.0187	
15 minute summer	2	1.001	3	2.4	0.676	0.391	0.0313	
60 minute summer	3	1.002	4	1.7	0.636	0.280	0.0323	
60 minute summer	4	1.003	5	1.7	0.484	0.278	0.0538	
60 minute summer	5	1.004	14	3.1	0.454	0.510	0.0897	
15 minute summer	6	2.000	7	1.9	0.463	0.315	0.0484	
15 minute summer	7	2.001	9	3.7	0.680	0.618	0.0221	
15 minute summer	8	3.000	9	0.0	0.000	0.000	0.0174	
15 minute summer	9	2.002	11	3.6	0.558	0.595	0.0266	
15 minute summer	10	4.000	11	0.0	0.000	0.000	0.0231	
15 minute summer	11	2.003	12	5.7	0.816	0.948	0.0843	
60 minute summer	12	2.004	13	4.1	0.814	0.686	0.0505	
60 minute summer	13	2.005	14	3.9	0.496	0.505	0.0394	
60 minute summer	14	1.005	Soakaways	8.4	1.075	1.392	0.0358	
60 minute summer	Soakaways	1.006	J1	0.0	0.000	0.000	0.0000	0.0
60 minute summer	Soakaways	Infiltration		1.7				
15 minute summer	Carpark 1	5.000	J2	0.0	0.000	0.000	0.0000	0.0
15 minute summer	Carpark 1	Infiltration		10.3				

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.87%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	1	46	153.596	0.346	1.1	0.0550	0.0000	FLOOD RISK
60 minute winter	2	46	153.596	0.455	2.4	0.0723	0.0000	FLOOD RISK
60 minute winter	3	46	153.594	0.542	2.3	0.0862	0.0000	FLOOD RISK
60 minute winter	4	46	153.593	0.582	1.9	0.0925	0.0000	FLOOD RISK
60 minute winter	5	46	153.591	0.649	3.6	0.1032	0.0000	FLOOD RISK
60 minute winter	6	46	153.616	0.366	2.0	0.0583	0.0000	FLOOD RISK
60 minute winter	7	46	153.615	0.470	3.8	0.0748	0.0000	FLOOD RISK
60 minute winter	8	46	153.613	0.363	0.7	0.0578	0.0000	FLOOD RISK
60 minute winter	9	46	153.613	0.498	3.3	0.0792	0.0000	FLOOD RISK
60 minute winter	10	46	153.612	0.361	0.7	0.0575	0.0000	FLOOD RISK
60 minute winter	11	46	153.611	0.530	5.1	0.0843	0.0000	FLOOD RISK
60 minute winter	12	46	153.598	0.625	4.7	0.0993	0.0000	FLOOD RISK
60 minute winter	13	46	153.589	0.681	4.1	0.1082	0.0000	FLOOD RISK
60 minute winter	14	46	153.581	0.754	8.1	0.1199	0.0000	FLOOD RISK
60 minute winter	Soakaways	46	153.548	0.767	7.8	5.6649	0.0000	OK
60 minute winter	J1	47	153.497	0.046	2.6	0.0000	0.0000	OK
15 minute summer	Carpark 1	12	153.462	-0.038	25.0	3.0139	0.0000	OK
15 minute summer	J2	1	153.428	0.000	0.0	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)
60 minute winter	1	1.000	2	-1.1	-0.192	-0.190	0.0852	
60 minute winter	2	1.001	3	2.3	0.652	0.377	0.0698	
60 minute winter	3	1.002	4	1.9	0.645	0.321	0.0323	
60 minute winter	4	1.003	5	1.7	0.479	0.284	0.0538	
60 minute winter	5	1.004	14	3.0	0.440	0.497	0.0897	
60 minute winter	6	2.000	7	1.9	0.445	0.310	0.0824	
60 minute winter	7	2.001	9	3.3	0.649	0.549	0.0238	
60 minute winter	8	3.000	9	-0.7	-0.126	-0.062	0.0348	
60 minute winter	9	2.002	11	3.0	0.558	0.501	0.0266	
60 minute winter	10	4.000	11	-0.7	-0.116	-0.070	0.0461	
60 minute winter	11	2.003	12	4.7	0.778	0.784	0.0843	
60 minute winter	12	2.004	13	4.1	0.823	0.671	0.0505	
60 minute winter	13	2.005	14	3.4	0.498	0.440	0.0394	
60 minute winter	14	1.005	Soakaways	7.8	0.993	1.285	0.0358	
60 minute winter	Soakaways	1.006	J1	2.6	0.728	0.437	0.0179	2.5
60 minute winter	Soakaways	Infiltration		1.7				
15 minute summer	Carpark 1	5.000	J2	0.0	0.000	0.000	0.0000	0.0
15 minute summer	Carpark 1	Infiltration		17.4				

APPENDIX F

THAMES WATER SEWER RECORDS

AAH Consultants
BAR LANE STUDIOS, 1 BAR LANE
YORK
YO1 6JU

Search address supplied Site B, East Grafton
A338
East Grafton
Wiltshire
SN8 3DB

Your reference Site B East Grafton

Our reference ALS/ALS Standard/2025_5254038

Search date 17 November 2025

Keeping you up-to-date

Notification of price changes

We're changing our report prices from 4th June 2025. The price will increase by 3.5% based on Retail Price Index (RPI).

Find our new prices on our website thameswater.co.uk/property-searches

Any Questions? We're happy to talk through the changes with you – give our Property Searches team a call on 0800 009 4540 .



Thames Water Utilities Ltd
Property Searches,
Clearwater Court, Vastern Road, Reading RG1 8DB



property.searches@thameswater.co.uk
thameswater.co.uk/propertysearches



0800 009 4540

Search address supplied: Site B, East Grafton, A338, East Grafton, Wiltshire, SN8 3DB

Dear Sir / Madam

An Asset Location Search is recommended when undertaking a site development. It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

This search provides maps showing the position and size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0800 009 4540, or use the contact details below:

Thames Water Utilities Ltd
Property Searches
Clearwater Court
Vastern Road
Reading
RG1 8DB

Email: property.searches@thameswater.co.uk

Web: thameswater.co.uk/propertysearches

Waste Water Services

Please provide a copy extract from the public sewer map.

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority. Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners. The public sewer map relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus. The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an 'as constructed' record. It is recommended these details be checked with the developer.

Clean Water Services

Please provide a copy extract from the public water main map.

Enclosed is a map showing the approximate positions of our water mains and associated apparatus. Please note that records are not kept of the positions of individual domestic supplies. For your information, there will be a pressure of at least 10m head at the outside stop valve. If you would like to know the static pressure, please contact our Customer Centre on 0800 316 9800. The Customer Centre can also arrange for a full flow and pressure test to be carried out for a fee.



For your guidance:

- Assets other than vested water mains may be shown on the plan, for information only.
- If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

Further contacts:

Waste Water queries

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. You can do this by emailing customer.feedback@thameswater.co.uk with the email subject header 'Enquiry – TWOSA', along with details of the request.

If you have any questions regarding sewer connections, budget estimates, diversions or building over issues please direct them to our service desk which can be contacted by writing to:

Developer Services (Waste Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

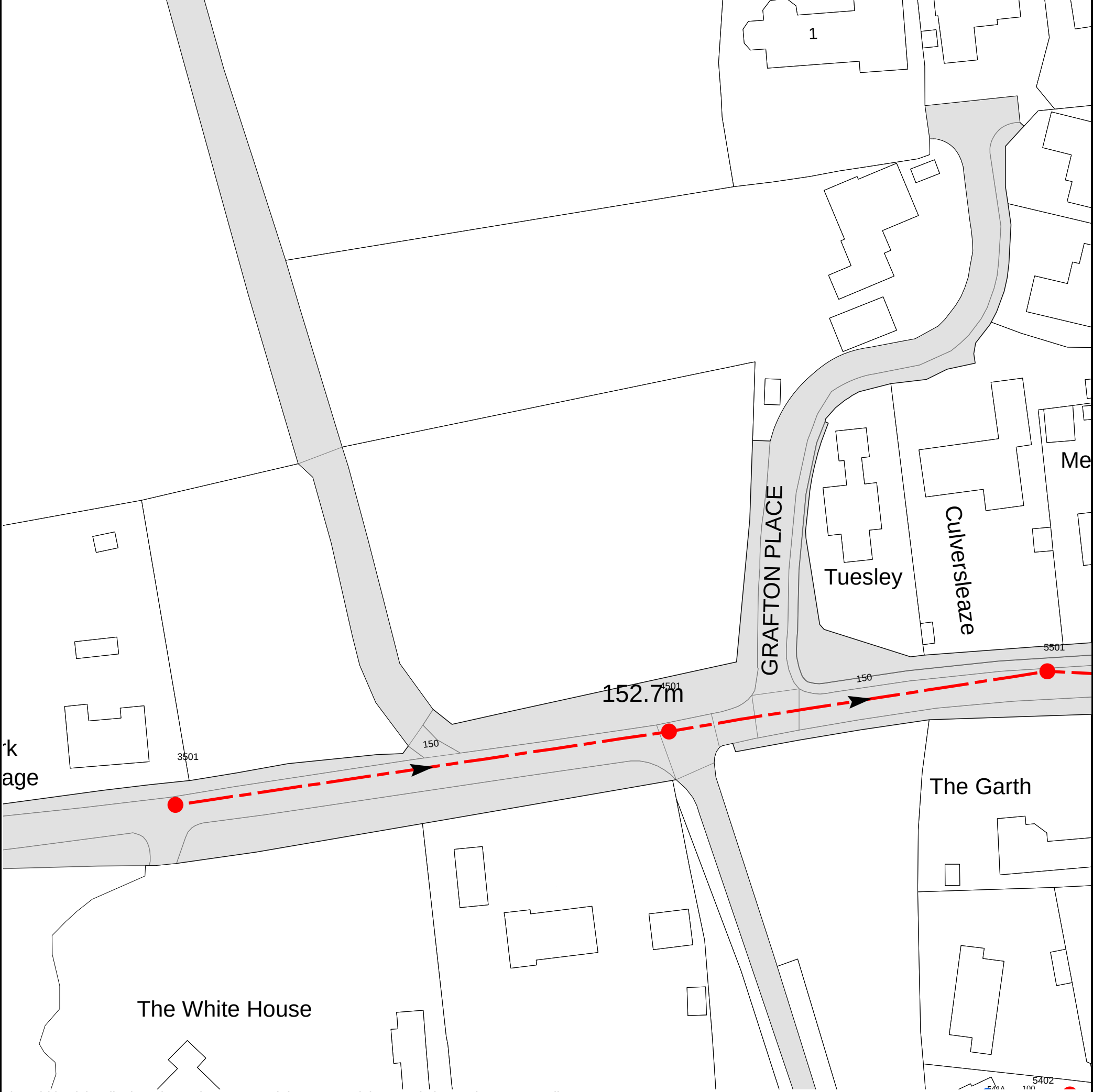
Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

Clean Water queries

Should you require any advice concerning clean water connections, please contact:

Developer Services (Clean Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 425465,160591
The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map (2024) with the Sanction of the controller of H.M. Stationery Office, License no. AC0000849556 Crown Copyright Reserved.

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
3501	153.97	152.56
4501	152.83	151.59
5501	152.37	150.81
The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.		

ALS/ALS Standard/2025_5254038



A scale bar labeled 'Meters' with markings at 0, 10, 20, 40, 60, and 80.

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Scale: 1:1789
Width: 500m
Printed By: SAshok1
Print Date: 18/11/2025
Map Centre: 425469,160577
Grid Reference: SU2560NW

Comments:

ALS/ALS Standard/2025_5254038

NB: Level quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates no Survey information is available.

REFERENCE	COVER LEVEL	INVERT LEVEL
3501	153.97	152.56
5501	152.37	150.81
6502	152.07	150.27
6602		
6501	151.88	149.72
6401	151.33	149.55
6551	151.88	151.08
6402	152.61	151.59
6504	152.06	151.02
5401	152.85	151.84
641B		

REFERENCE	COVER LEVEL	INVERT LEVEL
4501	152.83	151.59
5402	153.37	152.29
6601	153.08	151.4
6503	151.87	150.32
6505		
6301	153.13	151.33
5601		
6550	151.74	150.81
641A		
541A		



Asset Location Search - Sewer Key

Public Sewer Types (Operated and maintained by Thames Water)

	Foul Sewer: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.
	Surface Water Sewer: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.
	Combined Sewer: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.
	Storm Sewer
	Sludge Sewer
	Foul Trunk Sewer
	Surface Trunk Sewer
	Combined Trunk Sewer
	Foul Rising Main
	Surface Water Rising Main
	Combined Rising Main
	Vacuum
	Thames Water Proposed
	Vent Pipe
	Gallery

Other Sewer Types (Not operated and maintained by Thames Water)

	Sewer		Culverted Watercourse
	Proposed		Decommissioned Sewer
	Content of this drainage network is currently unknown		Ownership of this drainage network is currently unknown

Notes:

- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
- 2) All measurements on the plan are metric.
- 3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate the direction of flow.
- 4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

	Air Valve		Meter
	Dam Chase		Vent
	Fitting		

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

	Ancillary		Drop Pipe
	Control Valve		Weir

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol. Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

	Inlet		Outfall
	Undefined End		

Other Symbols

Symbols used on maps which do not fall under other general categories.

	Change of Characteristic Indicator		Public / Private Pumping Station
	Invert Level		Summit

Areas

Lines denoting areas of underground surveys, etc.

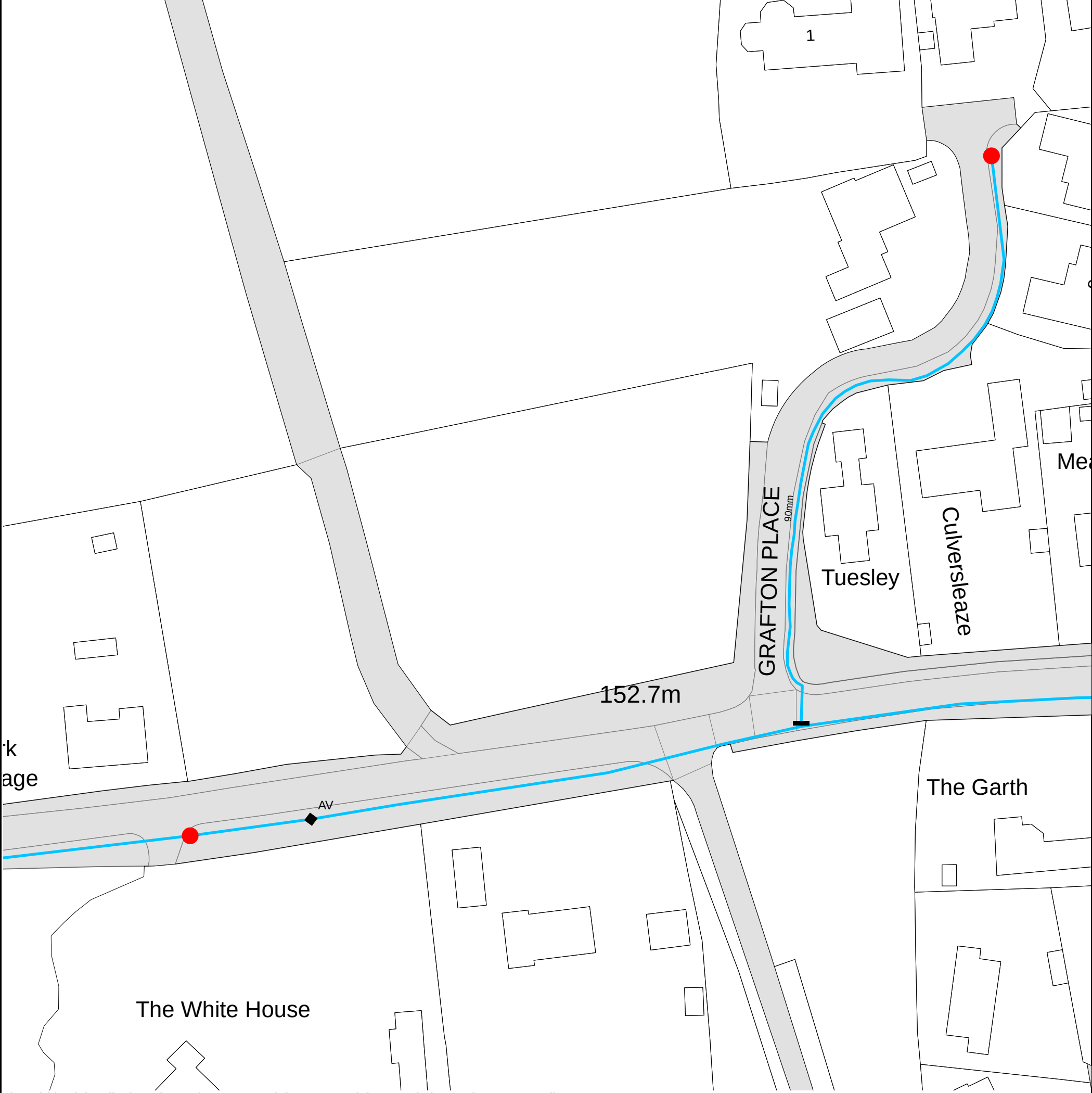
	Agreement
	Chamber
	Operational Site

Ducts or Crossings

	Casement	Ducts may contain high voltage cables. Please check with Thames Water.
	Conduit Bridge	
	Subway	
	Tunnel	

5) 'na' or '0' on a manhole indicates that data is unavailable.

6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimeters. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology, please contact Property Searches on 0800 009 4540.



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 425465, 160591.
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Asset Location Search - Water Key

Water Pipes (Operated & Maintained by Thames Water)

- 4"** **Distribution Main:** The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.
- 16"** **Trunk Main:** A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.
- 3" SUPPLY** **Supply Main:** A supply main indicates that the water main is used as a supply for a single property or group of properties.
- 3" FIRE** **Fire Main:** Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.
- 3" METERED** **Metered Pipe:** A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.
- Transmission Tunnel:** A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.
- Proposed Main:** A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

PIPE DIAMETER	DEPTH BELOW GROUND
Up to 300mm (12")	900mm (3')
300mm - 600mm (12" - 24")	1100mm (3' 8")
600mm and bigger (24" plus)	1200mm (4')

Valves

- General Purpose Valve
- Air Valve
- Pressure Control Valve
- Customer Valve

Hydrants

- Single Hydrant

Meters

- Meter

End Items

Symbol indicating what happens at the end of a water main.

- Blank Flange
- Capped End
- Emptying Pit
- Undefined End
- Manifold
- Customer Supply
- Fire Supply

Operational Sites

- Booster Station
- Other
- Other (Proposed)
- Pumping Station
- Service Reservoir
- Shaft Inspection
- Treatment Works
- Unknown
- Water Tower

Other Symbols

- Data Logger
- Casement:** Ducts may contain high voltage cables. Please check with Thames Water.

Other Water Pipes (Not Operated or Maintained by Thames Water)

- Other Water Company Main:** Occasionally other water company water pipes may overlap the border of our clean water coverage area. These mains are denoted in purple and in most cases have the owner of the pipe displayed along them.
- Private Main:** Indicates that the water main in question is not owned by Thames Water. These mains normally have text associated with them indicating the diameter and owner of the pipe.