GeoSmart Information

SuDSmart Plus

Sustainable Drainage Assessment

Site Address

16 Strawberry Hill
Twickenham
Richmond upon Thames
TW1 4PT

Grid Reference

515591, 172272

Report Prepared for

Allan Vaz

Date

2024-09-06

Report Status

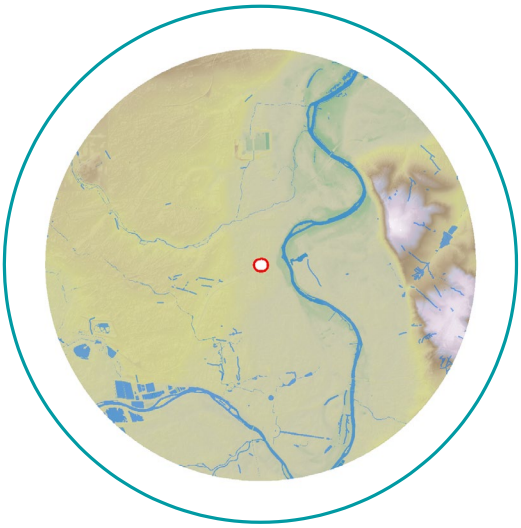
FINAL

Site Area

0.13 ha

Report Reference

82632.01R2



Drain as Existing

The proposed development comprises of internal modifications to the existing building, resulting in no increase in impermeable area. Therefore, the Site is proposed to drain as existing.

The condition and capacity of the existing drainage network should be the subject of investigation.

Consideration should be made to the adoption of rainwater harvesting measures where feasible.

Report Author

Toby Kay

Consultant

Report Checker

Jessica Bayliff

Principal Consultant

Report Reviewer

Bob Sargent

Associate

GeoSmart Information Ltd
Suite 9-11, 1st Floor, Old Bank Buildings,
Bellstone, Shrewsbury, SY1 1HU
+44(0)1743 298 100
info@geosmartinfo.co.uk
www.geosmartinfo.co.uk

1 Executive summary

This report assesses the feasibility of a range of Sustainable Drainage Scheme (SuDS) options in support of the Site development process. A SuDS strategy is proposed to ensure surface water runoff can be managed effectively over the lifetime of the development.

SuDS suitability

Risk	Issue	Result
Discharge Location	What is the infiltration potential at the Site?	High
	What is the potential to discharge to surface water features?	Low
	What is the potential to discharge to sewers?	High
	What is the potential to discharge to highway drains?	Medium
Flooding	What is the river (fluvial) flood risk at the Site?	Very Low
	What is the surface water (pluvial) flood risk at the Site?	Very Low
	What is the groundwater flood risk at the Site?	Negligible
Pollution	Is the groundwater a protected resource?	No
	Is the surface water feature a protected resource?	N/A

Summary of existing and proposed development

The Site was formerly used within a residential capacity as student accommodation. At present there is a three-storey dwelling with twenty-one bedrooms and landscaped areas. Development proposals comprise the change of use of the existing student accommodation to a single-family dwelling with no increase in impermeable area.

Summary of discharge routes

GeoSmart's SuDS Infiltration Potential (SD50) map indicates the Site has a High potential for infiltration, primarily due to the high permeability of the underlying geology (Kempton Park Gravel Member). Infiltration to ground is therefore likely to be feasible.

OS mapping indicates that there are no surface water features located within 100 m of the Site. Discharge to a surface water feature is therefore not considered to be feasible.

The asset location plan search included in Appendix C confirms the Site is located within 6 m of the public sewer network. Due to the short distance to nearby sewers discharging surface water runoff to the sewer is feasible.

According to Google Streetview, highway gullies are located within Strawberry Hill Road, indicating the presence of the highway drainage network.

Proposed SuDS strategy

As the proposed development comprises of internal modifications to the existing building on-Site, there will be no increases in impermeable area. Therefore, the proposed development would not require any additional surface water runoff attenuation. The Site is therefore proposed to drain as existing with the recommendation to adopt rainwater harvesting measures where feasible.

SuDS & drainage network maintenance

The management and maintenance of the SuDS features, in line with the details and schedules outlined in Section 10 of this report, will be undertaken by contractors appointed by the owners and occupiers of the new residential building, where payments for the works will form part of the property deeds and / or rental agreements.

Recommendations / Next steps

The current drainage system should be inspected and maintained in perpetuity of the existing and proposed development over its projected lifespan.

Consideration should be made to the adoption of rainwater harvesting measures to reduce the volume of water entering the sewer system.

2 Proposed SuDS strategy

The most suitable SuDS options are outlined below and a SuDS strategy schematic is shown overleaf. Supporting information is provided in subsequent sections.

Table 1. Proposed SuDS sizing (dimensions) and attenuation volumes

Rainwater Harvesting	To comply with London Plan policy opportunities for rainwater harvesting should be explored where feasible. In terms of attenuation storage within this SuDS scheme, the volume of run-off which could be attenuated by rainwater harvesting has not been considered.
Total Attenuation Provided	0 m^3
Total Attenuation Required	0 m^3

3 Site analysis

Site location

Figure 1. Aerial Imagery (Bluesky, 2024)

Figure 2. SuDS infiltration suitability (SD50) map (GeoSmart, 2024)

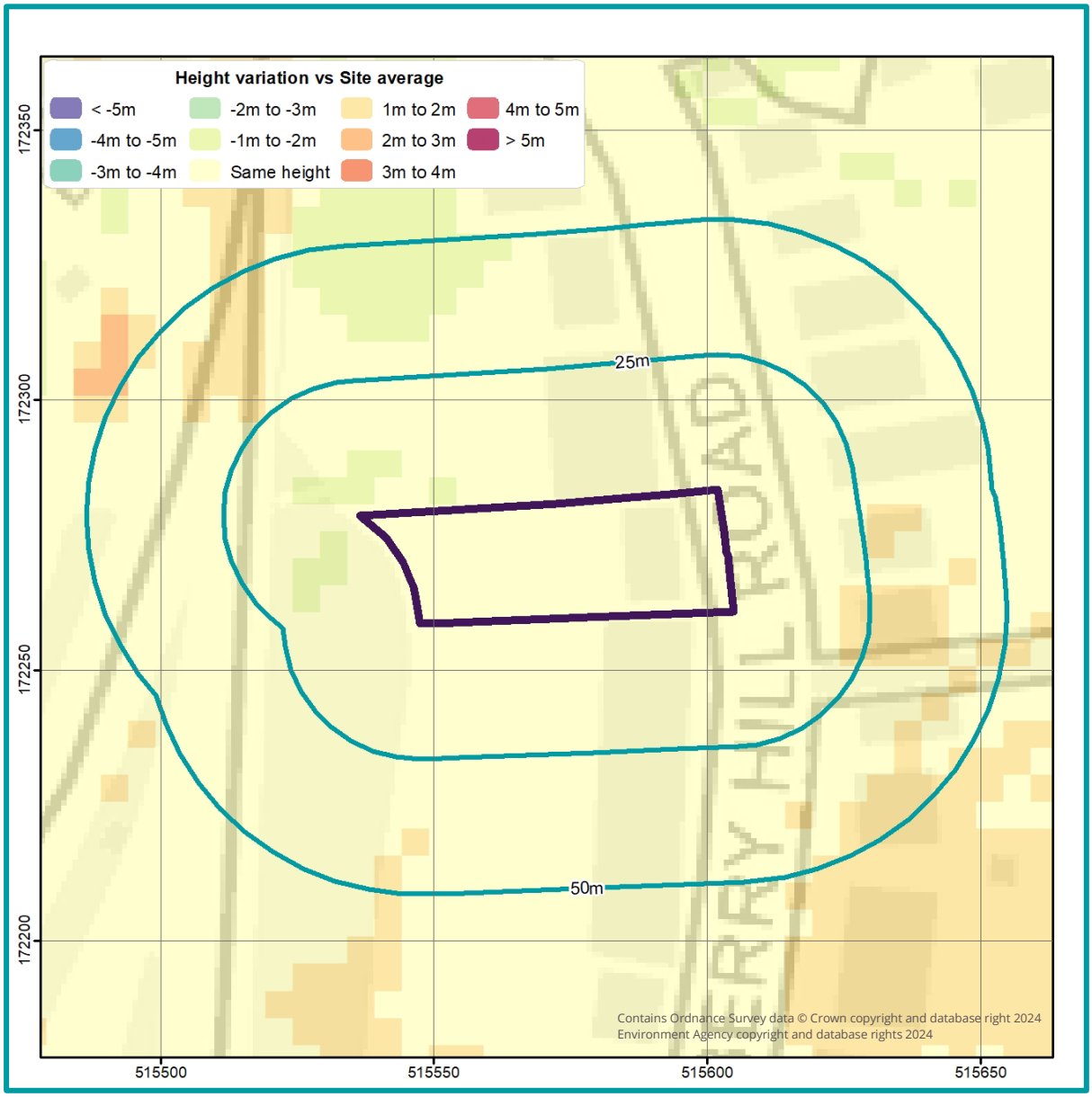
The GeoSmart SuDS Infiltration Suitability Map (SD50) screens the potential for infiltration drainage at the Site and indicates where further assessment is recommended. The map combines information on the thickness and permeability of the underlying material and the depth to the high groundwater table. It supports conceptual Site drainage design and the planning of further Site investigation.

There is a High potential for infiltration SuDS across the Site. It is likely that the underlying geology at the Site has high permeability and an infiltration SuDS scheme should be possible at the Site.

Groundwater levels are expected to be sufficiently deep at the Site. Although, a Site Investigation is recommended to confirm the infiltration capacity and the depth to

groundwater. Various options can be considered for infiltration SuDS and these include infiltration trenches, soakaways, swales and permeable pavements.

Figure 3. Site topography (GeoSmart, 2024)



An assessment of the topography at the Site has been undertaken using LiDAR DTM5 elevation data to identify the general slope and any localised depressions. The mapping shows a comparison between average ground levels on the Site with ground levels in the surrounding area. The mapping confirms the overall Site is generally level.

Further analysis could be undertaken by visiting the Site or by collecting additional topographic survey to provide further confirmation of ground levels.

Figure 4. Source protection zone map (EA, 2024)

An assessment of the EA's groundwater Source Protection Zones (SPZs) has been undertaken within the vicinity of the Site and confirms the Site is not located within an SPZ.

Infiltration, if possible, is likely to be acceptable providing risk screening identifies suitable mitigation measures, if required, to prevent an impact on water quality from the proposed or historical land use and contaminated land.

If further analysis is required, this would involve a review of Site specific contaminated land data. If hazards are identified, it is recommended that the Local Authority and the Environment Agency are contacted to confirm the susceptibility of any SPZs within the wider area.

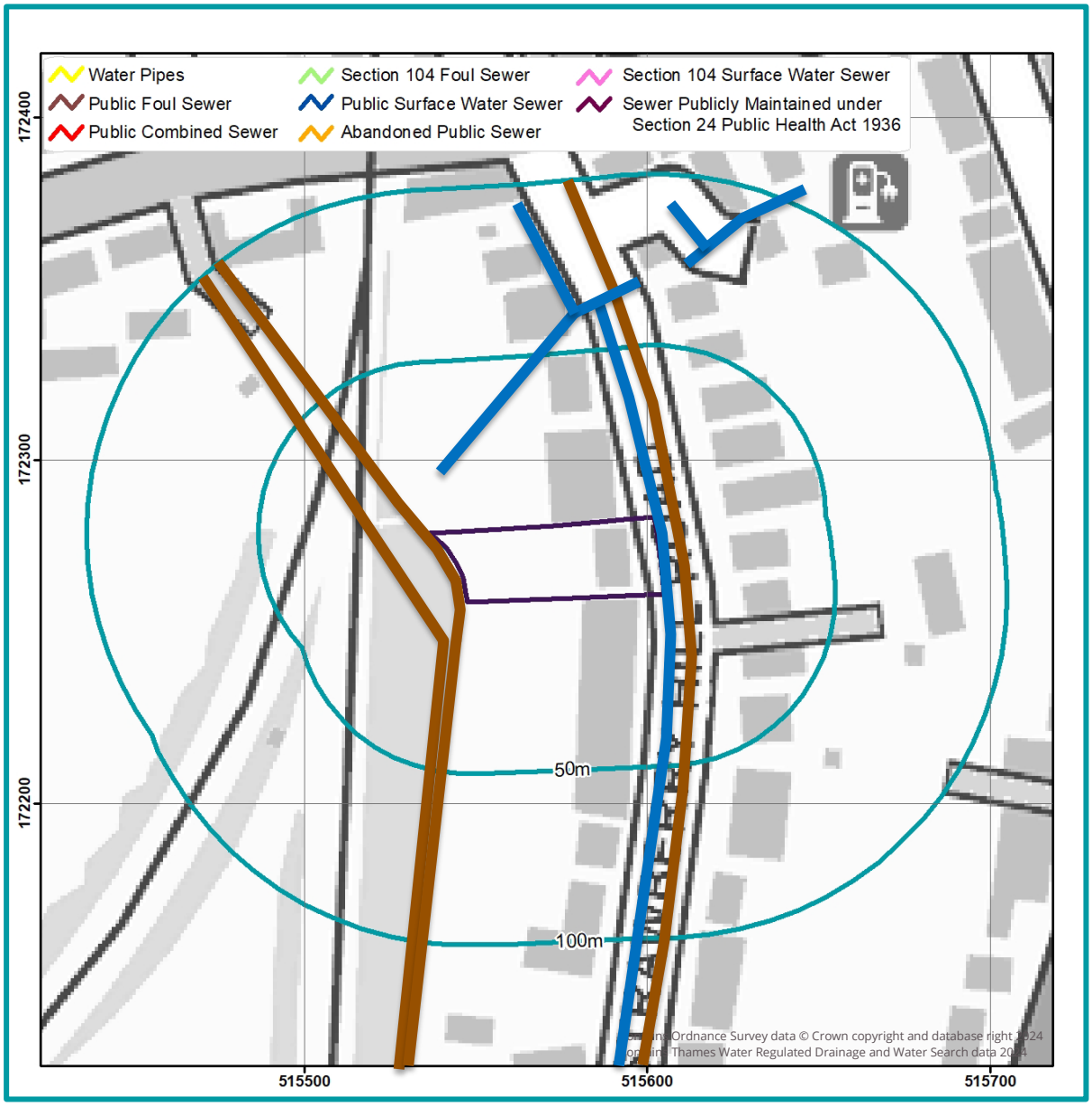
Figure 5. Surface water features map (EA, 2024)

OS mapping indicates that there are no surface water features located within 100 m of the Site. Discharge to a surface water feature is therefore not considered to be feasible.

According to DEFRA's Magic Map, the Site is not within 250m of a SSSI or SPA.

Further analysis could be undertaken by visiting the Site or by contacting the Local Council and the Environment Agency (EA) to confirm the presence, location and condition of any mapped or additional unmapped surface water features.

Figure 6. Sewer features map (OS & Thames Water, 2024)



GeoSmart has undertaken an assessment of the location of sewer features within the vicinity of the Site. There is a public surface water sewer, located adjacent to the east of the Site, therefore discharge to sewer is likely to be appropriate.

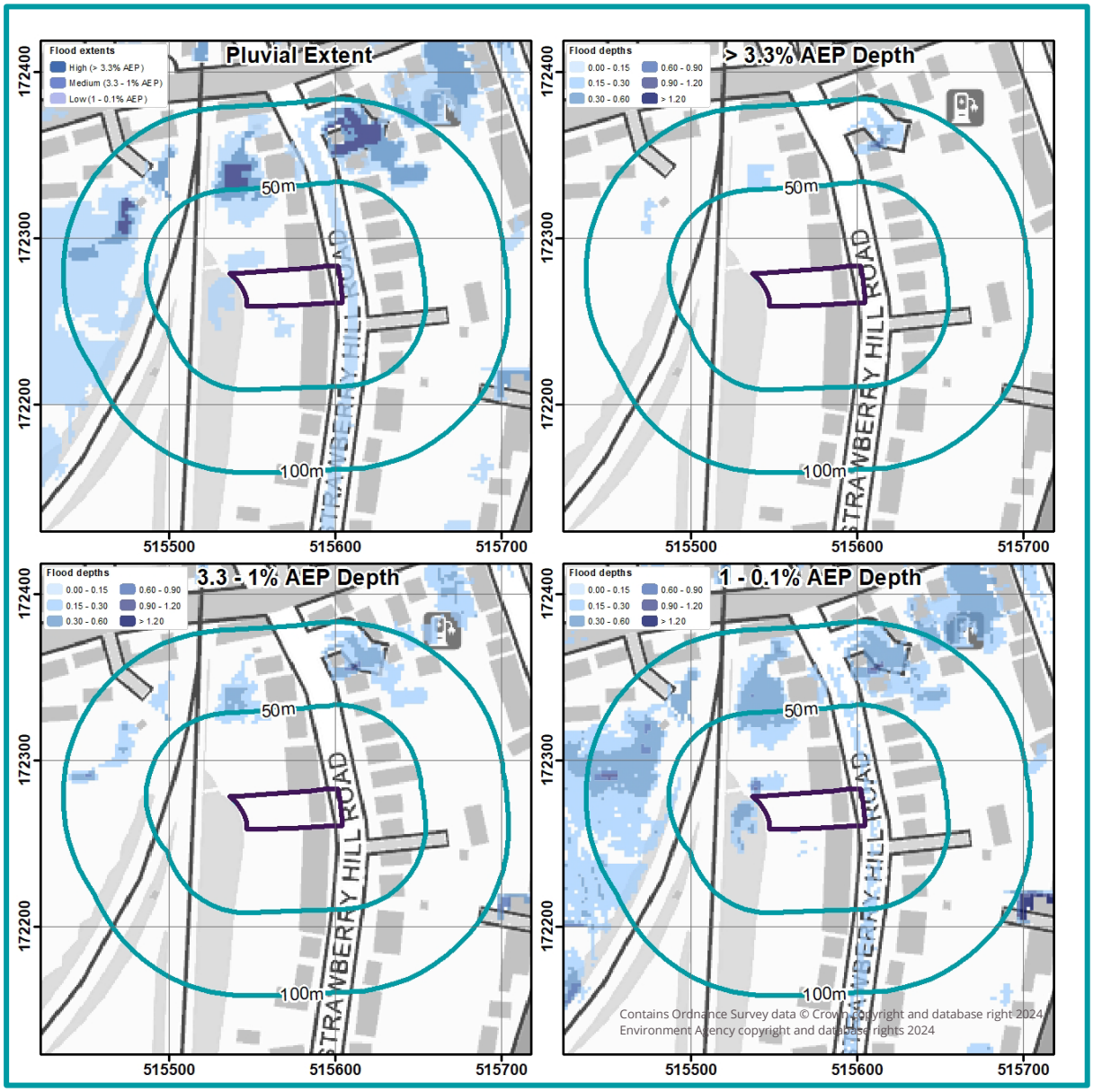
Further analysis of the connections and condition of the public surface water drainage system should be undertaken by carrying out a CCTV survey or by contacting the drainage provider or the Local Council to confirm the presence, location and condition of the sewer. Consultation with the drainage provider would also be required to determine that sufficient capacity is available to accept the proposed discharge, and to gain permission to connect if required.

Figure 7. Risk of flooding from rivers & sea map (EA, 2024)

According to the EA's Risk of Flooding from Rivers and the Sea (RoFRS) map, the Site has a Very Low risk of flooding from fluvial or coastal flooding, with less than 0.1% annual probability of flooding, therefore the SuDs design is unlikely to be affected.

A separate Flood Risk Assessment has been undertaken (ref: 82632), where the potential risks to the development are discussed further.

Figure 8. Risk of surface water flooding map (EA,2024)



GeoSmart have undertaken an assessment of the risk of flooding from surface water (pluvial) sources within the vicinity of the Site using the EA's Risk of Flooding from Surface Water (RoFSW) mapping. The EA's mapping confirms the Site is considered to be at Very Low risk of surface water flooding.

The above map shows the extent and depth of flooding during the >3.3% annual probability (AEP) (1 in 30 year – High risk), 3.3 – 1% AEP (1 in 100 year – Medium risk) and 1 – 0.1% AEP (1 in 1000 year – Low risk) events. This confirms that there are no areas of the Site which would be affected by surface water flooding.

A separate Flood Risk Assessment has been undertaken (ref: 82632), where the potential risks to the development are discussed further.

Figure 9. Groundwater flood risk (GW5) map (GeoSmart, 2024)

GeoSmart have undertaken an assessment of the risk of flooding from groundwater within the vicinity of the Site. GeoSmart's Groundwater Flood Risk Screening (GW5) map confirms the Site has a Negligible risk of groundwater flooding during a 1% annual probability (1 in 100 year) event.

A separate Flood Risk Assessment has been undertaken (ref: 82632), where the potential risks to the development are discussed further.

4 Site context

Site information

The purpose of this report is to assess the potential for disposing of surface water through a Sustainable Drainage System (SuDS) for the site of 16 Strawberry Hill, Twickenham, Richmond upon Thames, TW1 4PT (the Site). The Site is located in Twickenham in a setting of residential use. The land slopes to the south from 11.30 mAOD to 10.28 mAOD in landscaped areas of the development along the northern boundary. This is based on EA elevation data obtained for the Site to a 1 m resolution with a vertical accuracy of ±150 mm. Site plans and drawings are provided in Appendix A.

Development

The Site was formerly used within a residential capacity as student accommodation. At present there is a three-storey dwelling with twenty-one bedrooms and landscaped areas. Development proposals comprise the change of use of the existing student accommodation to a single-family dwelling with no increase in impermeable area.

Geology, permeability and thickness

British Geological Survey (BGS) national superficial and bedrock geology mapping confirms the geological formations underlying the Site and each formation may have a range of permeability.

Table 2. Site Geology

Geology present on-Site		Potentially permeable?
Superficial geology (Figure 11)	Kempton Park Gravel Member – Sand and Gravel (KPGR)	✓
Bedrock geology (Figure 12)	London Clay Formation – Clay and Silt (LC)	X

The permeability of the underlying material at the Site shown within the BGS mapping is variable ranging from high to low and confirmation of the infiltration capacity is recommended.

The BGS website was used to extract ground information from the most relevant borehole records to the Site (ref: TQ17SE240). This borehole is located approximately 440 m to the northeast of the Site at an elevation of 6.9 mAOD (based on LiDAR data) compared to ground

levels on-Site of between 11.30 mAOD and 10.28 mAOD. It is noted that this borehole is located a significant distance from the Site, however it has been included in this report as it is located in an area with the same mapped geology as the Site.

The borehole record confirms the underlying geology is comprised of Topsoil to a depth of 0.5 m below ground level (bgl), underlain by clayey sand with gravel (Kempton Park Gravel Member) to a depth of 2.25 m bgl, underlain by silty clay (London Clay Formation) to a depth of 8 m bgl where the borehole terminates.

Infiltration SuDs are proposed into relatively thin permeable superficial deposits underlain by a low permeability formation.

The soil infiltration coefficient must be sufficient to accommodate the constraints on the dimensions of the soakaway and its emptying time.

Depth to groundwater

The SuDS system should be designed to operate in periods of extreme groundwater levels.

Relevant borehole records did not report groundwater strikes during boring to a depth of 8 m bgl in July 1982. This is subject to seasonal variations and the significant distance of the borehole to the Site.

According to borehole data and GeoSmart's Groundwater Flood Risk (GW5) map, shallow groundwater is unlikely to be an issue at the Site.

Figure 10. Superficial Geology (BGS, 2024)

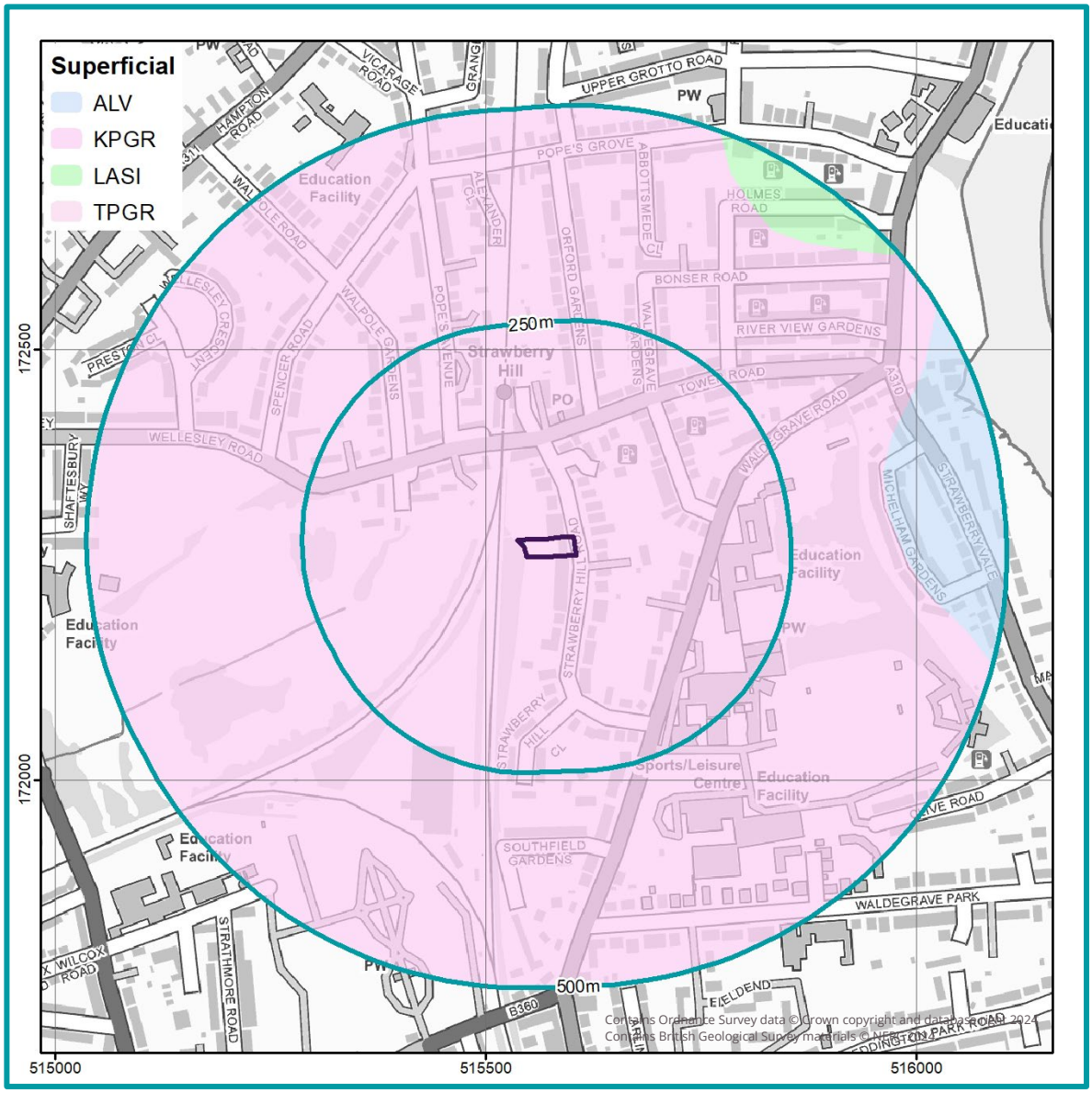


Figure 11. Bedrock Geology (BGS, 2024)

Ground conditions

Infiltration SuDS features are not proposed at the Site, therefore a detailed investigation into the ground conditions is not required.

Water quality

The Site does not lie within an SPZ and infiltration features are not proposed. Therefore, for the purposes of the sustainable drainage assessment, further consideration of the historical land uses (and any associated contamination risks) is not considered necessary.

5 National & local policy context

National Guidance

CIRIA SuDS Manual (C753) (2015)

A development should utilise sustainable drainage systems (SUDS) unless there are practical reasons for not doing so, and should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible in line with the following drainage hierarchy:

1. Use infiltration techniques, such as porous surfaces in non-clay areas,
2. attenuate rainwater in ponds or open water features for gradual release,
3. attenuate rainwater by storing in tanks or sealed water features for gradual release,
4. discharge rainwater direct to a watercourse,
5. discharge rainwater to a surface water sewer / drain,
6. discharge rainwater to the combined sewer.

Defra - Sustainable Drainage Systems: Non-statutory technical standards for sustainable drainage systems (2015)

Peak Flow control

For developments which were previously developed, the peak runoff rate from the development to any drain, sewer or surface water body for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event must be as close as reasonably practicable to the greenfield runoff rate from the development for the same rainfall event, but should never exceed the rate of discharge from the development prior to redevelopment for that event.

For greenfield developments, the peak runoff rate from the development to any highway drain, sewer or surface water body for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event should never exceed the peak greenfield runoff rate for the same event.

Volume control

Where reasonably practicable, for developments which have been previously developed, the runoff volume from the development to any highway drain, sewer or surface water body in the 1 in 100 year, 6 hour rainfall event must be constrained to a value as close as is reasonably practicable to the greenfield runoff volume for the same event, but should never exceed the runoff volume from the development site prior to redevelopment for that event. The runoff volume must be discharged at a rate that does not adversely affect flood risk.

The drainage system must be designed so that, unless an area is designated to hold and/or convey water as part of the design, flooding does not occur on any part of the Site for a 1 in 30 year rainfall event.

Ministry of Housing, Communities & Local Government – National Planning Practice Guidance: Flood risk assessments: climate change allowances (2022)

The Peak rainfall intensity allowances section provides advice on the increased rainfall effects on river levels and land and urban drainage systems. As of May 2022, the applicable climate change allowance is defined by specific Management Catchment for the 1 in 30 (≥ 3.3% AEP) and 1 in 100 (< 3.3 to 1% AEP) year event.

As the Site is located within the London Management Catchment the following climate change allowances are applicable.

Table 3. London Management Catchment peak rainfall allowances

London Management Catchment	3.3% Annual exceedance rainfall event		1% Annual exceedance rainfall event	
	2050s	2070s	2050s	2070s
Central	20%	20%	20%	25%
Upper end	35%	35%	40%	40%

The drainage system should be designed to make sure there is no increase in the rate of runoff discharged from the Site for the upper end allowance.

Where on-Site flooding for the upper end allowance presents a significant flood hazard (for example, depths and velocities of surface water runoff cause a significant danger to people), you will need to take further mitigation measures to protect people and property (for example, raising finished floor levels). As a minimum, there should be no significant flood hazard to people from on-Site flooding for the central allowance.

Sub-national Drainage Policy (i.e. county/London plan level)

London Plan - Policy SI13 Sustainable drainage (2021)

Lead Local Flood Authorities should identify – through their Local Flood Risk Management Strategies and Surface Water Management Plans – areas where there are particular surface water management issues and aim to reduce these risks. Increases in surface water run-off outside these areas also need to be identified and addressed. Development proposals should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible. There should also be a preference for green over grey features, in line with the following drainage hierarchy:

1. Rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation);

2. Rainwater infiltration to ground at or close to source;
3. Rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens);
4. Rainwater discharge direct to a watercourse (unless not appropriate);
5. Controlled rainwater discharge to a surface water sewer or drain;
6. Controlled rainwater discharge to a combined sewer.

Development proposals for impermeable surfacing should normally be resisted unless they can be shown to be unavoidable, including on small surfaces such as front gardens and driveways.

Drainage should be designed and implemented in ways that promote multiple benefits including increased water use efficiency, improved water quality, and enhanced biodiversity, urban greening, amenity and recreation.

Development proposals should aim to get as close to greenfield run-off rates as possible depending on Site conditions. The well-established drainage hierarchy set out in this policy helps to reduce the rate and volume of surface water run-off. Rainwater should be managed as close to the top of the hierarchy as possible. There should be a preference for green over grey features, and drainage by gravity over pumped systems. A blue roof is an attenuation tank at roof or podium level; the combination of a blue and green roof is particularly beneficial, as the attenuated water is used to irrigate the green roof.

For many sites, it may be appropriate to use more than one form of drainage, for example a proportion of rainwater can be managed by more sustainable methods, with residual rainwater managed lower down the hierarchy. In some cases, direct discharge into the watercourse is an appropriate approach, for example rainwater discharge into the tidal Thames or a dock. This should include suitable pollution prevention filtering measures, ideally by using soft engineering or green infrastructure. In addition, if direct discharge is to a watercourse where the outfall is likely to be affected by tide-locking, suitable storage should be designed into the system. However, in other cases direct discharge will not be appropriate, for example discharge into a small stream at the headwaters of a catchment, which may cause flooding. This will need to be assessed on a case-by-case basis, taking into account the location, scale and quality of the discharge and the receiving watercourse. The maintenance of identified drainage measures should also be considered in development proposals.

Local Policy

London Borough of Richmond upon Thames Planning Guidance Document Delivering SuDS in Richmond (2016)

For a planning application the following information should be submitted along with a completed application checklist (See Appendix 1):

A diagram of the proposed scheme showing the outline design of SuDS for the site. This should show where areas drain to, the flow routes for water through the system, where water will be stored and the volume of storage provided for the design rainfall event, the location, capacity and details of flow controls and the discharge point. Exceedance routes should also be indicated or explained.

Description of likely geology below the site as described below;

Description of existing topography of the site and natural or existing surface water drainage flows and how these have been allowed for in the design;

The proposed destination for the surface water as below;

If discharging surface water to a public sewer, developers will be required to provide evidence with the application that capacity exists in the public sewerage network to serve their development in the form of written confirmation. If discharging to infiltration then the developer will need to provide evidence that the site is suitable. This will require a site investigation including infiltration tests (see the 'SuDS Manual');

Landscaping plans for any open surface features showing how they are integrated into the overall landscape design for the development;

Health and safety checklist for the scheme (see Susdrain website);

Demonstrate how interception losses are provided through the provision of SuDS techniques, which absorb water or allow small volumes to soak into the ground. This means that there should be no runoff for the majority of rainfall events up to 5mm depth (i.e. around 50% of all rainfall events). This is achieved by using systems that allow water to soak into the ground, soil or stone layers and allowing for evapotranspiration. Interception losses occur in the top parts of the system or only require low infiltration rates in the soil below, and therefore can be provided even if the ground is not suitable for full infiltration. This is only a small volume of water so is achievable on most if not all sites in Richmond;

Supporting calculations to demonstrate the system has sufficient capacity. The calculations should be accompanied by a summary as shown in the table below. This can be included on the diagram of the scheme;

Supporting justification for the treatment provision within the system (see the 'SuDS Manual');

Explanation of the amenity and biodiversity provision within the system and the basis for the design of these aspects. Whilst these are one of the benefits of SuDS, they may not be provided on all smaller developments (especially single houses);

Explanation of the maintenance requirements for the system (what to do and the frequency) along with an indication of how lack of maintenance affects the performance of the system (hydraulic and water quality). Indication of the likely annual cost of maintenance.

London Borough of Richmond upon Thames Local Plan (2018)

Sustainable drainage

The Council will require the use of Sustainable Drainage Systems (SuDS) in all development proposals. Applicants will have to demonstrate that their proposal complies with the following:

1. A reduction in surface water discharge to greenfield run-off rates wherever feasible.

2. Where greenfield run-off rates are not feasible, this will need to be demonstrated by the applicant, and in such instances, the minimum requirement is to achieve at least a 50% attenuation of the site's surface water runoff at peak times based on the levels existing prior to the development.

6 Storage, volume and peak flow rate

Table 4. Change in impermeable area associated with the development

Total Site area	1276 m^2
Impermeable area (and as a percentage of the total area of the proposed development footprint of 205 m^2) *	
Pre-development	Post-development
205 m^2 (100%)	205 m^2 (100%)
Impermeable land use: Existing student accommodation building	New impermeable land use: 0 m^2 internal modifications to the existing building

*Only the area intended for building development has been considered for the calculations. As the remainder of the Site is undergoing no change as a result of the development, these areas are assumed to drain as existing.

Guidance

"The drainage system must be designed so that, unless an area is designated to hold and/or convey water as part of the design, flooding does not occur on any part of the site for a 1 in 30 year rainfall event' and 'flooding does not occur during a 1 in 100 year rainfall event in any part of: a building (including a basement); or in any utility plant susceptible to water (e.g. pumping station or electricity substation) within the development"

(Defra, March 2015, non-statutory guidance).

Peak discharge rates

The table below presents peak discharge rates for a range of storm events used to assess the impact of the proposed development and select the maximum permitted discharge rate. Further information on the calculation and control of peak discharge rates is provided in Section 12 'Background Information'.

Table 5. Peak discharge rates associated with the development

Rainfall event	Greenfield runoff rates (l/s)	Existing runoff rates[1] (l/s)	Potential runoff rates without attenuation (l/s)	Potential minus existing (l/s)
QBAR	0.03	N/A	N/A	N/A
6 hour 1 in 1 year	0.03	0.24	0.24	0.00
6 hour 1 in 10 year	0.05	0.41	0.41	0.00
6 hour 1 in 30 year	0.07	0.54	0.54	0.00
6 hour 1 in 100 year	0.10	0.69	0.69	0.00
6 hour 1 in 100 year + 20% CC	N/A	N/A	0.83	0.14
6 hour 1 in 100 year + 40% CC	N/A	N/A	0.97	0.28

[1] Assumes 100% runoff from impermeable surfaces. Assumes Greenfield runoff from permeable surfaces calculated using the IoH124 method.

Relevant national, regional and local planning policy has been consulted in Section 5 to determine restrictions on runoff from previously developed and greenfield sites. In some cases, greenfield rates may be requested, but in practice it is difficult to restrict discharge rates at any one control point to less than 1 l/s, without increasing the risk of any potential blockages occurring in the drainage network.

Total discharge volumes

The table below presents discharge volumes for a range of storm events used to assess the impact of the proposed development and calculate the required storage volumes. Further information on the calculation of total discharge volumes is provided in Section 11 'Methodology and Limitations'.

Table 6. Total discharge volumes associated with the development

Rainfall event	Greenfield runoff volume (m^3)	Existing runoff volume[2] (m^3)	Potential runoff volume without attenuation (m^3)	Potential minus existing (m^3)
QBAR	2.27	N/A	N/A	N/A
6 hour 1 in 1 year	1.57	5.25	5.25	0.00
6 hour 1 in 10 year	2.73	8.85	8.85	0.00
6 hour 1 in 30 year	3.48	11.59	11.59	0.00
6 hour 1 in 100 year	4.48	14.93	14.93	0.00
6 hour 1 in 100 year + 20% CC	N/A	N/A	17.91	2.99
6 hour 1 in 100 year + 40% CC	N/A	N/A	20.90	5.97

[2] Assumes 100% runoff from impermeable surfaces. Assumes Greenfield runoff from permeable surfaces calculated using the IoH124 method.

7 Runoff destination

Options for the destination for the runoff generated on-Site have been assessed in line with the prioritisation set out in the Building Regulations Part H document (HM Government, published in 2010 and updated in 2015) and Defra's Non-statutory Technical Standards for SuDS (2015).

Flow attenuation using infiltration SuDS (discharge to ground) is generally the preferred option. If discharge to ground is not available, runoff discharge to surface water is the other preferred method. Only if these two options are impractical should discharge to the sewer network be considered.

Discharge to ground

The Site has high potential for infiltration, with permeable underlying Kempton Park Gravel Member. Based on the available borehole information and groundwater flood risk mapping high groundwater levels are unlikely to be an issue at the Site.

There are no known issues identified relating to Site contamination or the presence of a SPZ.

As the development is a change of use and involves internal modifications to the existing building, there will be no increase in impermeable area and, as such, infiltration features are not proposed.

Discharge to surface watercourse

OS mapping indicates that there are no surface water features located within 100 m of the Site. Discharge to a surface water feature is therefore not considered to be feasible.

Discharge to sewer

GeoSmart has undertaken an assessment of the location of sewer features within the vicinity of the Site. There is a public surface water sewer, located adjacent to the east of the Site, therefore discharge to sewer is likely to be appropriate.

Discharge to sewer is not likely to be the optimum sustainable drainage option for the new development area. It is understood that the existing Site drainage is to the sewer and this may continue for parts of the Site outside the development footprint. If required consultation with the local sewer undertaker should be undertaken. Discharge to sewer would only be accepted if it can be demonstrated that none of the above options are reasonably practical. Discharge would have to be controlled and on-Site attenuation would be required.

The topographic gradient on the Site falls to the west away from the existing drainage network along Strawberry Hill Road. It would be difficult to drain the majority of the Site under gravity to the existing sewer network.

8 Water quality

A key requirement of any SuDS system is that it protects the receiving water body from the risk of pollution. This can be effectively managed by an appropriate "train" or sequence of SuDS components that are connected in series. The frequent and short duration rainfall events are those that are most loaded with potential contaminants (silts, fines, heavy metals and various organic and inorganic contaminants). Therefore, the first 5-10 mm of rainfall (first flush) should be adequately treated with SuDS.

The minimum number of treatment stages will depend on the sensitivity of the receiving water body and the potential hazard associated with the proposed development SuDS Manual (CIRIA, 2015). The proposed development is a combination of Very Low (roof water) to Low hazard (runoff from car parking and road). The Site does not lie within an SPZ and therefore additional treatment stages are not required.

Table 7. Level of hazard

Hazard	Source of hazard
Very Low	Residential roof drainage
Low	Residential, amenity uses including low usage car parking spaces and roads, other roof drainage.
Medium	Commercial, industrial uses including car parking spaces and roads (excluding low usage roads, trunk roads and motorways).
High	Areas used for handling and storage of chemicals and fuels, handling of storage and waste (incl. scrap-yards).

The recommended minimum number treatment stages suggested for the different runoff waters identified for the proposed development is highlighted in the table below.

Table 8. Minimum number of treatment stages for runoff

		Sensitivity of the receiving water body		
		Low	Medium	High
Hazard	Low	1	1	1
	Med	2	2	2
	High	3	3	3

9 Proposed SuDS strategy

Sustainable drainage systems

As the proposed development comprises of internal modifications to the existing building, it will result in no increase in impermeable area and no attenuation volume is required. Therefore, surface water should be managed by the existing drainage network. The current drainage system should be inspected and maintained in perpetuity of the existing and proposed development over its projected lifespan.

Consideration should be made to the adoption of rainwater harvesting measures to reduce the volume of water entering the sewer system.

SuDS Strategy:

Table 9. Proposed SuDS sizing (dimensions) and attenuation volumes

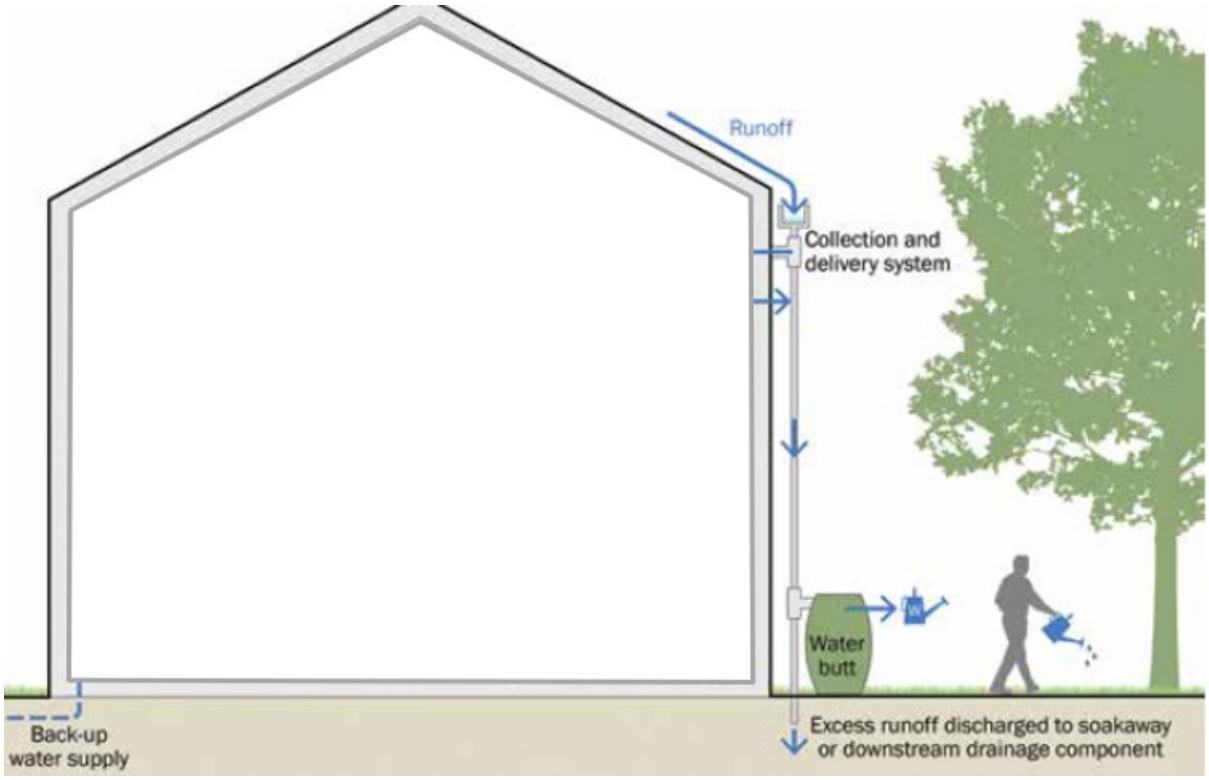
Rainwater Harvesting	To comply with London Plan policy opportunities for rainwater harvesting should be explored where feasible. In terms of attenuation storage within this SuDS scheme, the volume of run-off which could be attenuated by rainwater harvesting has not been considered.
Total Attenuation Provided	0 m^3
Total Attenuation Required	0 m^3

Rainwater harvesting

To comply with London Plan policy, rainwater harvesting features should be utilized where feasible.

Due to the relatively insignificant amounts of attenuation provided by rainwater harvesting tanks in this instance and the requirement to retain water for non-potable uses such garden maintenance, the volume of run-off which could be attenuated by rainwater harvesting has not been considered within the report.

Roof run-off is generally less polluted than run-off from road surfaces but can still generate pollutants such as sediments. Pollutants would be captured by the collection and filtration system and, by reducing the volume of run-off generated from the Site. Primary screening devices are used to prevent leaves and other debris from entering the butt and first flush devises can be designed to divert the first part of the rainfall away from the main storage tank and can pick up most of the dirt, debris and contaminates that collect on a residential roof.



Modified from Figure 11.3 of the CIRIA SuDS Manual (C753) (2015)

10 SuDS maintenance

Regular maintenance is essential to ensure effective operation of the SuDS features over the intended lifespan of the proposed development. The SuDS Manual (C753) (CIRIA, 2015) provides a maintenance schedule for SuDS with details of the necessary required actions as shown in the Table below.

Table 10. SuDS operation and recommended maintenance requirements

Asset type	Maintenance schedule (and frequency)
Underground drainage pipe network	Regular maintenance: • Remove sediment and debris from pre-treatment devices and floor of inspection tube or chamber (annually). • Cleaning of gutters and any filters on downpipes (annually). • Trimming any roots that may be causing blockages (annually or as required). Monitoring: • Inspect silt traps and note rate of sediment accumulation (monthly in the first year and then annually).
Rainwater Harvesting	Regular maintenance: • Inspection of tank for debris and sediment build up (annually and following poor performance). • Inspection of inlets, outlets, overflow areas, pumps and filters (annually and following poor performance). • Cleaning of tank, inlets, outlets, gutters, roof drain filters and withdrawal devices (annually or as required). Remedial actions: • Repair or overflow erosion damage or damage to tank and associated components (as required)

Client checklist

A drainage strategy has been recommended as suitable on the basis of the information provided. Prior to installation of the Site drainage system it is recommended that the client carries out the following checks to confirm the development proposals. GeoSmart would be able to support with any updates required to the drainage scheme, please contact us and we would be happy to provide you with a proposal to undertake the work.

Table 11. Potential SuDS limitations

Conditions in Non-Statutory Technical Standards (Defra, 2015), limitations to infiltration SuDS	Do these conditions arise at the Site?
Is the surface runoff greater than the rate at which water can infiltrate into the ground?	
Is there an unacceptable risk of ground instability?	
Is there an unacceptable risk of mobilising contaminants?	
Is there an unacceptable risk of pollution to groundwater?	
Is there an unacceptable risk of groundwater flooding?	
Is the infiltration system going to create a high risk of groundwater leakage to the combined sewer?	

Table 12. SuDS design considerations

Confirm that potential flooding on-Site in excess of the design storm event and exceedance flow routes have been considered.	
Review options for the control of discharge rates (e.g. hydrobrake).	
Confirm the owners/adopters of the drainage system. Consider management options for multiple owners.	
Is there an unacceptable risk of pollution to groundwater?	
Review access and way leave requirements.	
Review maintenance requirements.	

Health and safety considerations for SuDS

GeoSmart reports may include outline strategies or designs to support with development plans. Any drawings or advice provided do not comprise any form of detailed design. Implementation of any conceptual scheme options may constitute 'Construction Work' as defined by CDM Regulations (2015).

The CDM Regulations place specific Health and Safety duties on those commissioning, planning and undertaking construction works. If you are uncertain what this means you should seek the advice of your architect, builder or other competent professional.

GeoSmart does not provide health and safety advisory services but we are required to advise you of your general responsibilities under CDM (visit http://geosmartinfo.co.uk/knowledge-hub/cdm-2015/ for more information).

Please remember that detailed design work should be undertaken by a competent professional who might be your engineer, architect, builder or another competent party.

11 Methodology and limitations of study

This report assesses the feasibility of infiltration SuDS and alternative drainage strategies in support of the Site development process. From April 6th 2015 SuDS are regulated by Local Planning Authorities and will be required under law for major developments in all cases unless demonstrated to be inappropriate. What is considered appropriate in terms of costs and benefits by the Planning Authority will vary depending on local planning policy, and Site setting. The Lead Local Flood Authority will require information as a statutory consultee on major planning applications with surface water drainage implications. The National Planning Policy Framework requires that new developments in areas at risk of flooding should give priority to the use of SuDS and demonstrate that the proposed development does not increase flood risk downstream to third parties.

How was the suitability of SuDS estimated for the Site?

There are a range of SuDS options available to provide effective surface water management that intercept and store excess runoff. When considering these options, the destination of the runoff should be assessed using the order of preference outlined in the Building Regulations Part H document (HM Government, 2010) and Defra's National Standards for SuDS (2015):

1. Discharge to the ground;
2. Discharge to a surface water body;
3. Discharge to a surface water sewer;
4. Discharge to a local highway drain; and
5. Discharge to a combined sewer.

Data sets relating to each of the potential discharge options have been analysed to assess the feasibility of each option according to the hierarchy set out above. Hydrogeological characteristics for the Site are assessed in conjunction with the occurrence of SPZ's to assess infiltration suitability. The Site has been screened to determine whether flood risk from groundwater, surface water, fluvial or coastal sources may constrain SuDS. The distance to surface water bodies and sewers has been reviewed gauge whether these provide alternative options.

GeoSmart SuDS Infiltration Suitability Map (SD50)

The GeoSmart SuDS Infiltration Suitability Map (SD50) screens the suitability for infiltration drainage in different parts of the Site and indicates where further assessment is recommended. In producing the SuDS Infiltration Suitability Map (SD50), GeoSmart used data from the British Geological Survey on groundwater levels, geology and permeability to screen

for areas where infiltration SuDS may be suitable. The map classifies areas into 3 categories of High, Medium and Low suitability for infiltration SuDS. This can then be used in conjunction with additional data on Site constraints to give recommendations for SuDS design and further investigation.

The primary constraint on infiltration potential is the minimum permeability of the underlying material and in some cases the range in permeability may be considerable, ranging down to low. The map classifies these areas as moderate infiltration suitability requiring further investigation. In cases where the thickness of the receiving permeable horizon is less than 1.5 meters then additional Site investigation is recommended. If the Site is at risk of groundwater flooding for up to the 1% annual occurrence the map classifies these areas as moderate infiltration suitability requiring further investigation.

The GeoSmart SuDS Infiltration Suitability Map (SD50) is a national screening tool for infiltration SuDS techniques but a Site specific assessment should be used before final detailed design is undertaken. Further information on the GeoSmart SuDS Infiltration Suitability Map (SD50) is available at geosmartinfo.co.uk

How is the suitability to discharge to sewers and watercourses calculated?

The suitability to discharge to discharge to sewers and watercourses has been calculated using the distance from the Site to both. For example, where the Site is within 50 m of a surface water body. Discharge to surface water is potentially appropriate subject to land access arrangements and a feasibility assessment. Where the Site is within 50 m of a sewer, discharge to sewer is potentially appropriate subject to land access arrangements and a feasibility assessment. The utility company should be contacted to agree connection feasibility and sewer capacity.

Further information relating to sewers available in the area can be found in Appendix C.

What is a Source Protection Zone?

The Environment Agency have defined Source Protection Zones (SPZs) for 2000 groundwater sources such as wells, boreholes and springs used for public drinking water supply. These zones show the risk of contamination from any activities that might cause pollution in the area. The closer the activity, the greater the risk. The maps show three main zones (inner, outer and total catchment) and a fourth zone of special interest, which is occasionally applied. The zones are used to set up pollution prevention measures in areas which are at a higher risk. The shape and size of a zone depends on the condition of the ground, how the groundwater is removed, and other environmental factors. Inner zone (Zone 1) is defined as the 50 day travel time from any point below the water table to the source (minimum radius of 50 metres). Outer zone (Zone 2) is defined by a 400 day travel time. Total catchment (Zone 3) is defined as the area around a source within which all groundwater recharge is presumed to be discharged at the source.

How was surface water runoff estimated from the Site?

In accordance with The SuDS Manual (C753) (CIRIA, 2015), the Greenfield runoff from the Site has been calculated using the IoH124 method and is assumed representative of the runoff generated on the undeveloped surfaces that are affected by the proposed development. The method used for calculating the runoff complies with the NPPF (MHCLG, 2023). For the impermeable surfaces, it has been assumed that 100% runoff will occur (calculations provided in Appendix B). Rainfall data is derived from the Flood Estimation Handbook (FEH), developed by NERC (2009). Only areas affected by the proposed development are considered in the flow and volume calculations. Permeable areas that remain unchanged are not included in the calculations as it is assumed these will not be actively drained and attenuated.

What is the peak discharge rate?

An estimation of peak runoff flow rate and volume is required to calculate infiltration, storage and discharge requirements. The peak discharge rate is the maximum flow rate at which surface water runoff leaves the Site during a particular storm event, without considering the impact of any mitigation such as storage, infiltration or flow control. Proposed discharge rates (with mitigation) should be no greater than existing rates for all corresponding storm events. If all drainage is to infiltration there will be no discharge off-Site. Discharging all flow from Site at the existing 1 in 100 event would increase flood risk during smaller events. Flow restriction is generally required to limit the final discharge from Site during all events as a basic minimum to the green field QBAR rate. A more complex flow restriction which varies the final discharge rate from the Site depending on the storm event will reduce the volume of storage required on-Site. Drainage to infiltration SuDS is subtracted from the total discharge off-Site to achieve a beneficial net affect.

What is the total discharge volume?

The total discharge volume is calculated on the basis of the surface water runoff that has the potential to leave the Site as a result of the assumed 6 hour duration design storm event. The runoff is related to the underlying soil conditions, impermeable cover, rainfall intensity and duration of the storm event. The total volume generated by the current Site is compared to the potential total volume from the developed Site (not taking into consideration any mitigation). The difference provides the minimum total volume that will need to be stored and infiltrated on-Site or released at a controlled rate. Guidance indicates that the total discharge volume should never exceed the runoff volume from the development Site prior to redevelopment for that event and should be as close as is reasonably practicable to the Greenfield runoff volume.

12 Background SuDS information

SuDS control surface water runoff close to where it falls. SuDS are designed to replicate, as closely as possible, the natural drainage from the Site before development to ensure that the flood risk downstream does not increase as a result of the Site being developed, and that the Site will have satisfactory drainage under current and likely future climatic conditions. SuDS provide opportunities to reduce the causes and impacts of flooding; remove pollutants from urban runoff at source; and combine water management with green space with benefits for amenity, recreation and wildlife. Government planning policy and planning decisions now include a presumption in favour of SuDS being used for all development Sites, unless they can be shown to be inappropriate.

For general information on SuDS see our website: http://geosmartinfo.co.uk/

Infiltration SuDS

Government policy for England is to introduce sustainable drainage systems (SuDS) via conditions in planning approvals. Guidance indicates that capturing rainfall runoff on-Site and infiltrating it into the ground (infiltration SuDS) is the preferred method for managing surface water without increasing flood risk downstream.

The greatest benefit to general flood risk is if all runoff is infiltrated on-Site, however, this may not be feasible due to physical and economic constraints in which case infiltration may be considered as a part of an integrated drainage solution. The final design capacity for an infiltration SuDS system depends on the Site constraints and the requirements of the individual Planning Authority and the Lead Local Flood Authority.

The capacity of the ground to receive infiltration depends on the nature, thickness and permeability of the underlying material and the depth to the high groundwater table. The final proportion of the Site drained by infiltration will depend on topography, outfall levels and a suitable drainage gradient. It is important to note that, even if the whole Site cannot be drained by infiltration, the use of partial infiltration is encouraged, with the remainder of runoff discharged via other SuDS systems.

Types of infiltration SuDS

Infiltration components include infiltration trenches, soakaways, swales and infiltration basins without outlets, rain gardens and permeable pavements. These are used to capture surface water runoff and allow it to infiltrate (soak) and filter through to the subsoil layer, before returning it to the water table below.

An infiltration trench is usually filled with permeable granular material and is designed to promote infiltration of surface water to the ground. An infiltration basin is a dry basin or depression designed to promote infiltration of surface water runoff into the ground. Soakaways are the most common type of infiltration device in the UK where drainage is often connected to over-sized square or rectangular, rubble-filled voids sited beneath lawns.

According to the guidance in Building Research Establishment (BRE) Digest 365 (2016) a soakaway must be able to discharge 50% of the runoff generated during a 1 in 10 year storm event within 24 hours in readiness for subsequent storm flow. This is the basic threshold criteria for a soakaway design and the internal surface area of the proposed soakaway design options should be calculated on this basis by taking into account the soil infiltration rate for the Site.

Developers need to ensure their design takes account of the construction, operation and maintenance requirements of both surface and subsurface components, allowing for any machinery access required.

SuDS maintenance and adoption

Regular maintenance is essential to ensure effective operation of the soakaway(s) over the intended lifespan of the proposed development. A maintenance schedule for SuDs is required. Sewerage undertakers or Local Authorities may adopt SuDS and will require maintenance issues to be dealt with in accordance with their Management Plan. If the SuDS will not be adopted other provision is required with associated financial implications. Maintenance is a long-term obligation requiring the upkeep of all elements of the SuDS, including mechanical components (e.g. pumps), as well as inspections, regular maintenance and repair.

Additional background SuDS information can be found on our website: http://geosmartinfo.co.uk/

13 Further information

The following table includes a list of additional products by GeoSmart:

Additional GeoSmart Products			
	Additional assessment: EnviroSmart Report		Provides a robust desk-based assessment of potential contaminated land issues, taking into account the regulatory perspective. Our EnviroSmart reports are designed to be the most cost effective solution for planning conditions. Each report is individually prepared by a highly experienced consultant conversant with Local Authority requirements. Ideal for pre-planning or for addressing planning conditions for small developments. Can also be used for land transactions. Please contact info@geosmartinfo.co.uk for further information.

14 References and glossary

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Ministry of Housing, Communities & Local Government. (2022). National Planning Policy Guidance (NPPG).

GeoSmart Information

Glossary

General terms

Attenuation	Reduction of peak flow and increased duration of a flow event.
Combined sewer	A sewer designed to carry foul sewage and surface water in the same pipe.
Detention basin	A vegetated depression, normally is dry except after storm events, constructed to store water temporarily to attenuate flows. May allow infiltration of water to the ground.
Evapotranspiration	The process by which the Earth's surface or soil loses moisture by evaporation of water and by uptake and then transpiration from plants.
FEH	Flood Estimation Handbook, produced by Centre for Ecology and Hydrology, Wallingford (formerly the Institute of Hydrology).
Filter drain or trench	A linear drain consisting of a trench filled with a permeable material, often with a perforated pipe in the base of the trench to assist drainage, to store and conduct water, but may also be designed to permit infiltration.
First flush	The initial runoff from a site or catchment following the start of a rainfall event. As runoff travels over a catchment it will collect or dissolve pollutants, and the "first flush" portion of the flow may be the most contaminated as a result. This is especially the case for intense storms and in small or more uniform catchments. In larger or more complex catchments pollution.
Flood plain	Land adjacent to a watercourse that would be subject to repeated flooding under natural conditions (see Environment Agency's Policy and practice for the protection of flood plains for a fuller definition).
Greenfield runoff	This is the surface water runoff regime from a site before development, or the existing site conditions for brownfield redevelopment sites.
Impermeable surface	An artificial non-porous surface that generates a surface water runoff after rainfall.
Permeability	A measure of the ease with which a fluid can flow through a porous medium. It depends on the physical properties of the medium, for example grain size, porosity and pore shape.

Runoff	Water flow over the ground surface to the drainage system. This occurs if the ground is impermeable, is saturated or if rainfall is particularly intense.
Sewerage undertaker	This is a collective term relating to the statutory undertaking of water companies that are responsible for sewerage and sewage disposal including surface water from roofs and yards of premises.
Soakaway	A subsurface structure into which surface water is conveyed to allow infiltration into the ground.
Treatment	Improving the quality of water by physical, chemical and/or biological means.

The terms included in this glossary have been taken from CIRIA (2015) guidance.

GeoSmart Information

Data Sources

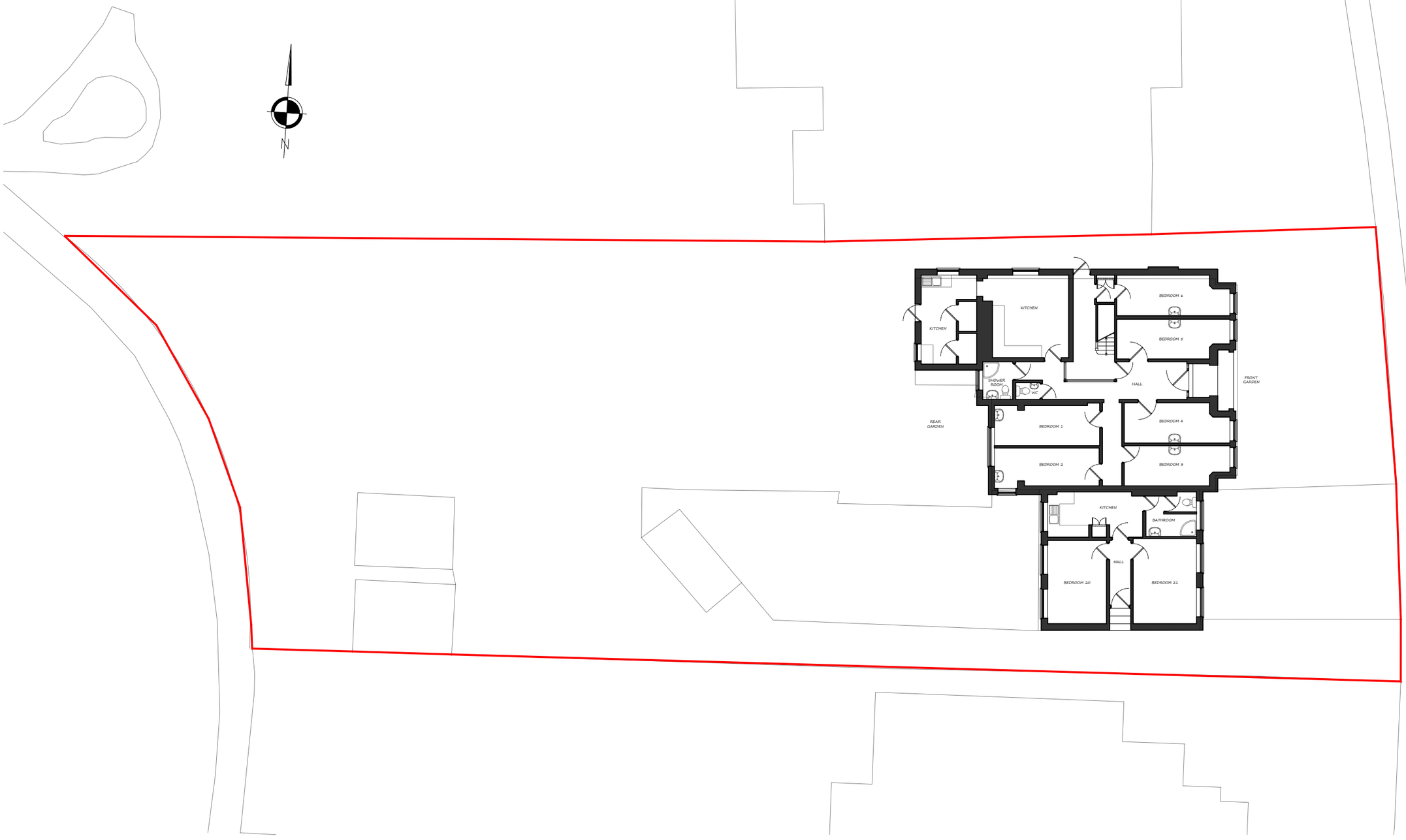
Aerial Photography	Contains Ordnance Survey data © Crown copyright and database right 2024 BlueSky copyright and database rights 2024
Bedrock & Superficial Geology	Contains British Geological Survey materials © NERC 2024 Ordnance Survey data © Crown copyright and database right 2024
Flood Risk (RoFRS/Pluvial/Surface Water Features/SPZ)	Environment Agency copyright and database rights 2024 Ordnance Survey data © Crown copyright and database right 2024
Flood Risk (Groundwater) and SuDS infiltration suitability (SD50)	GeoSmart, BGS & OS GW5 (v2.4) Map (GeoSmart, 2024) Contains British Geological Survey materials © NERC 2024 Ordnance Survey data © Crown copyright and database right 2024
Sewer Location	Contains Ordnance Survey data © Crown copyright and database right 2024 Contains Thames Water Regulated Drainage and Water Search data 2024
Topographic Data	OS LiDAR/EA Contains Ordnance Survey data © Crown copyright and database right 2024 Environment Agency copyright and database rights 2024

15 Appendices

GeoSmart Information

Appendix A

Site plans



EXISTING BLOCK PLAN 1:200

1:100

2m 0 2m 4m 6m

mza planning
planning permission without the headaches

14 Devonshire Mews
Chiswick
London, W4 2HA

T. 0844 500 5050
office@mzaplanning.com

Title: **EXISTING BLOCK PLAN**

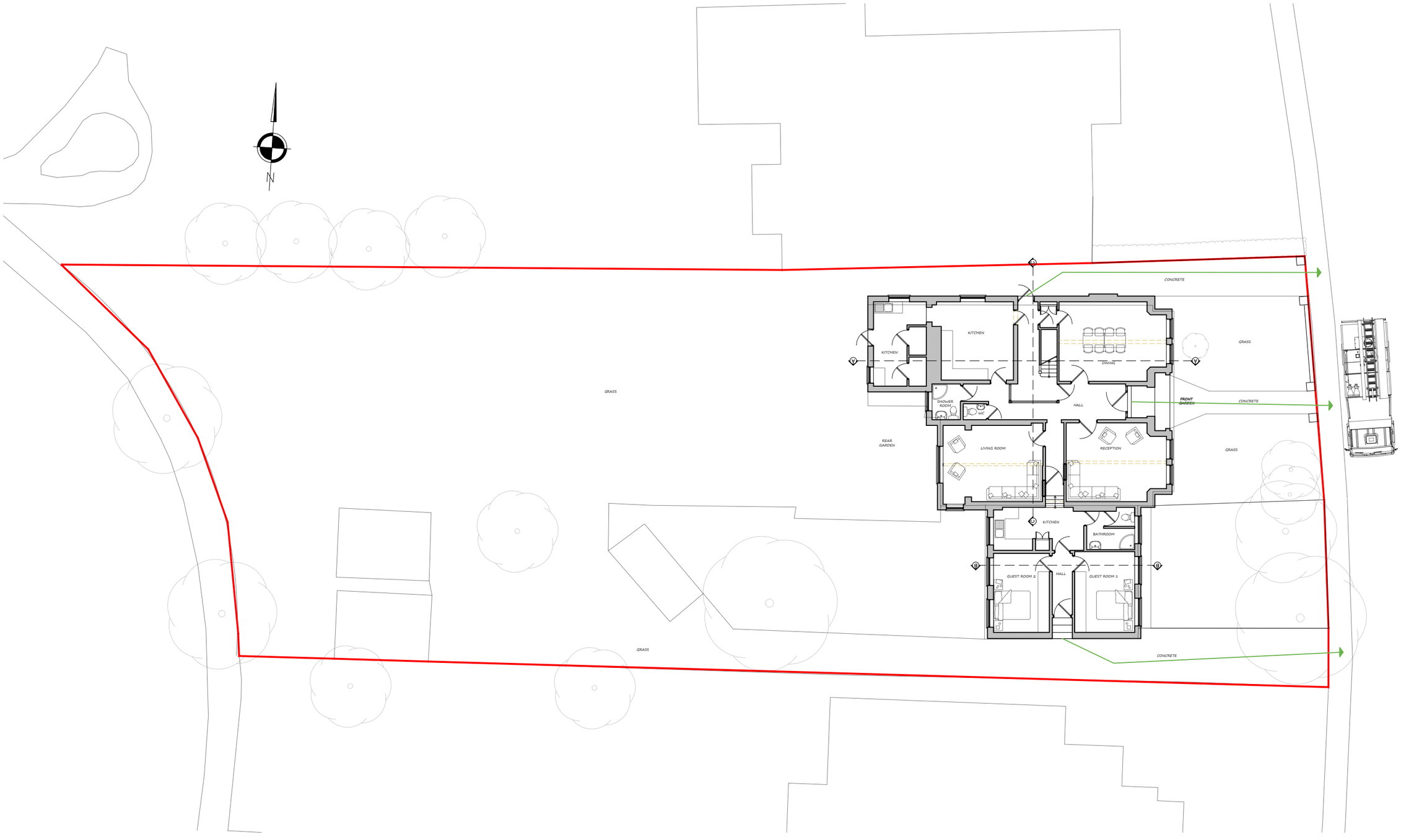
Dwg.No: 591-EXT-06

REV : ORIGINAL

Project: 16 Strawberry Hill Road
Twickenham
TW1 4PT

Date: 27-06-24

Scale: as noted @ A3



PROPOSED BLOCK PLAN 1:200

1:100

2m 0 2m 4m 6m

mza planning
planning permission without the headaches

14 Devonshire Mews
Chiswick
London, W4 2HA

T. 0844 500 5050
office@mzaplanning.com

Title: **PROPOSED BLOCK PLAN**

Dwg.No: 591-PROP-15

REV : ORIGINAL

Project: 16 Strawberry Hill Road
Twickenham
TW1 4PT

Date: 27-06-24

Scale: as noted @ A3

GeoSmart Information

Appendix B

Rainfall runoff calculations

Input parameters for run-off calculations		
Country	England	
Total site area	1276	m^2
Area proposed for development	204	m^2
Current permeable ground cover	0	m^2
Current impermeable ground cover	204	m^2
Proposed permeable ground cover	0	m^2
Proposed impermeable ground cover	204	m^2
Urban Creep Allowance	0%	
Final impermeable ground cover	204	m^2
SPR	0.3	
SAAR	599	mm
Region	6	
Climate change factor	40%	
Discharge Rate (l/s)	1.0	
Run-off coefficient	100%	

Current impermeable area as % of total	100%
Proposed impermeable area as % of total	100%
Change in permeable area (m2)	0
Change in impermeable area (m2)	0
Change in impermeable area as % of total	0%

Rainfall event	Greenfield run-off rates (l/s)	Existing run-off rates(l/s)	Potential run-off rates without attenuation (l/s)	Potential minus exisiting (l/s)
QBAR	0.03	N/A	N/A	N/A
6 hour 1 in 1 year	0.03	0.24	0.24	0.00
6 hour 1 in 10 year	0.05	0.41	0.41	0.00
6 hour 1 in 30 year	0.07	0.54	0.54	0.00
6 hour 1 in 100 year	0.10	0.69	0.69	0.00
6 hour 1 in 100 year + 20% CC	N/A	N/A	0.83	0.14
6 hour 1 in 100 year + 40% CC	N/A	N/A	0.97	0.28

Rainfall event	Greenfield run-off volume (m^3)	Existing run-off volume (m^3)	Potential run-off volume without attenuation (m^3)	Potential minus existing (m^3)
QBAR	2.27	N/A	N/A	N/A
6 hour 1 in 1 year	1.57	5.25	5.25	0.00
6 hour 1 in 10 year	2.73	8.85	8.85	0.00
6 hour 1 in 30 year	3.48	11.59	11.59	0.00
6 hour 1 in 100 year	4.48	14.93	14.93	0.00
6 hour 1 in 100 year + 20% CC	N/A	N/A	17.91	2.99
6 hour 1 in 100 year + 40% CC	N/A	N/A	20.90	5.97

GeoSmart Information

Appendix C

Thames Water Asset Location Plan

Asset Location Search

Thames Water Property Searches

GeoSmart Information Ltd
1st Floor Old Bank Buildings
Suite 9-11Bellstone
SHREWSBURY
SY1 1HU

Search address supplied 16
Strawberry Hill Road
Twickenham
TW1 4PT

Your reference 82632

Our reference ALS/ALS Standard/2024_5023250

Search date 19 July 2024

Notification of Price Changes

From 1st April 2024 Thames Water Property Searches will be increasing the prices of its CON29DW Residential and Commercial searches along with the Asset Location Search. Costs will rise in line with RPI as per previous years, which is sat at 6%.

Customers will be emailed with the new prices by February 28th 2024.

Any orders received with a higher payment prior to the 1st April 2024 will be non-refundable. For further details on the price increase please visit our website at www.thameswater-propertysearches.co.uk.

Thames Water Utilities Ltd
Property Searches, PO Box 3189, Slough SL1 4WW

searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk

0800 009 4540

Asset Location Search

Property Searches

Search address supplied: 16, Strawberry Hill Road, Twickenham, TW1 4PT

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, 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 address below:

Thames Water Utilities Ltd
Property Searches
PO Box 3189
Slough
SL1 4WW

Email: searches@thameswater.co.uk
Web: www.thameswater-propertysearches.co.uk

Asset Location Search

Thames Water Property Searches

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.

This report 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.

Payment for this Search

A charge will be added to your suppliers account.

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. For further information please contact our Customer Centre on Tel: 0845 920 0800. Alternatively, a survey can be arranged, for a fee, through our Customer Centre on the above number.

If you have any questions regarding sewer connections, budget estimates, diversions, building over issues or any other questions regarding operational 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

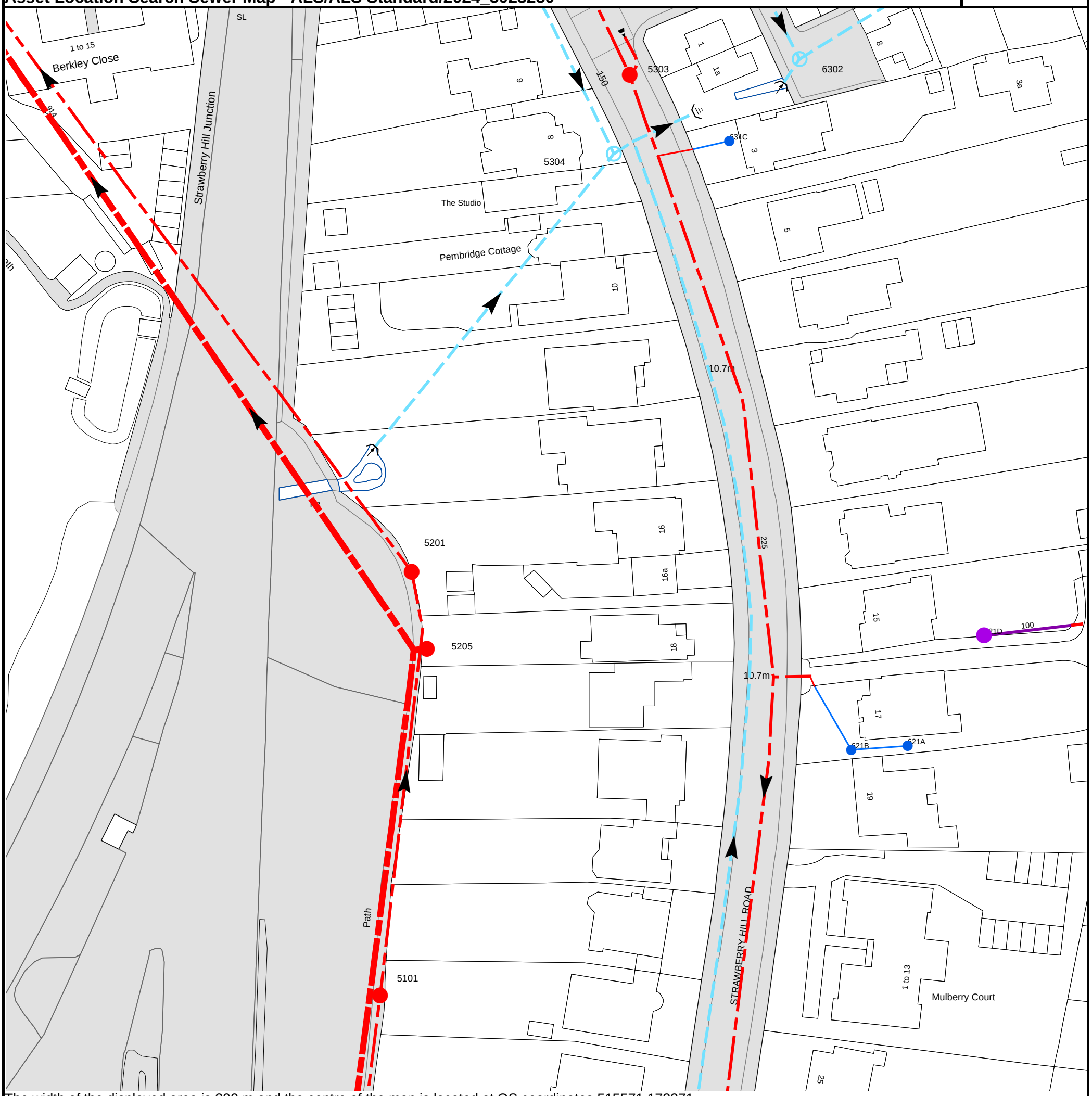
Clean Water queries

Should you require any advice concerning clean water operational issues or 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

Asset Location Search Sewer Map - ALS/ALS Standard/2024_5023250



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 515571,172271

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.

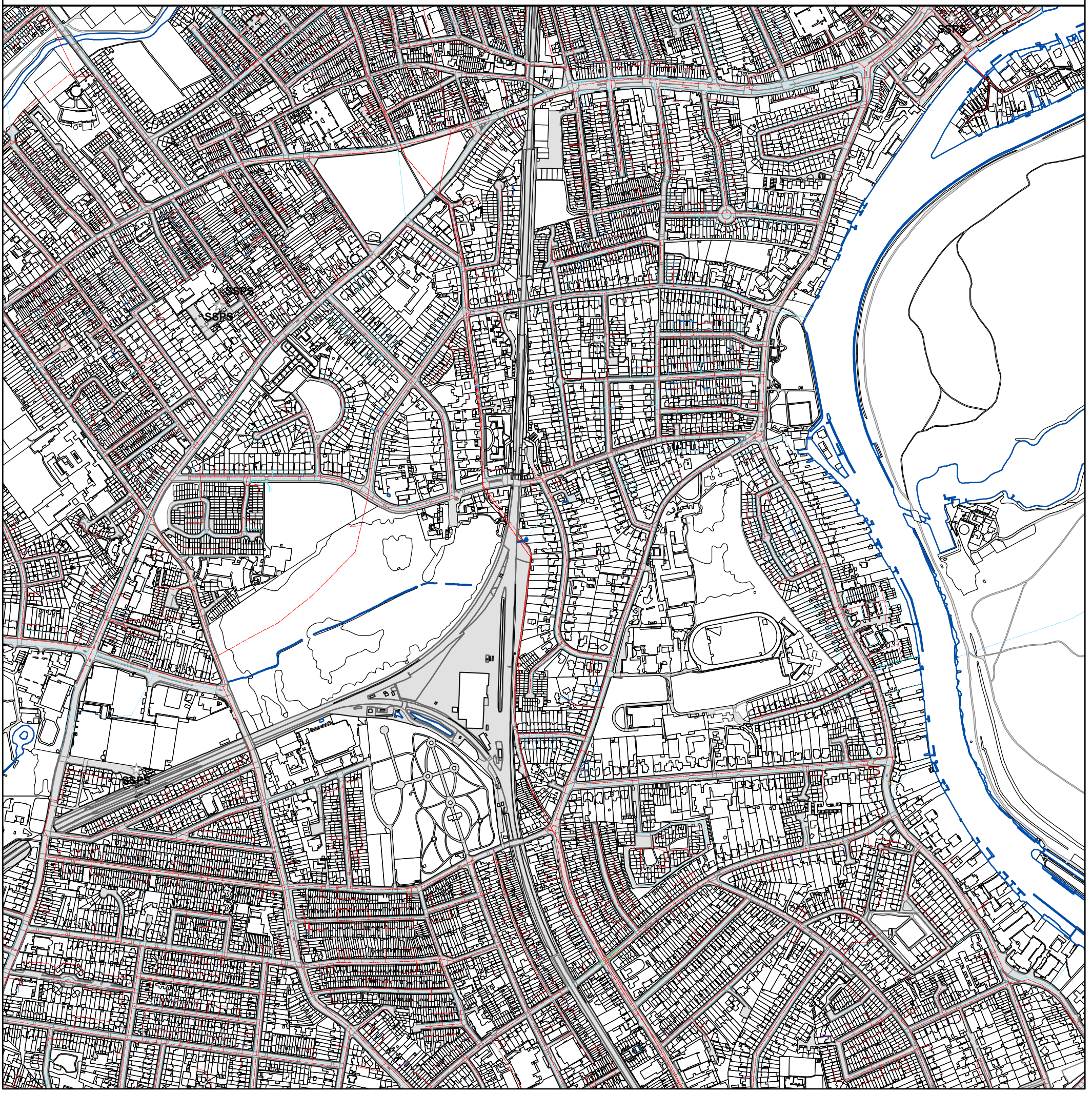
NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
5304	n/a	n/a
5303	n/a	n/a
631C	n/a	n/a
6302	n/a	n/a
621B	n/a	n/a
621A	n/a	n/a
621D	n/a	n/a
5101	n/a	n/a
5205	10.84	n/a
5201	n/a	n/a

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 with the sanction of the Controller of H.M Stationary Office License Number 10019345

ALS/ALS Standard/2024_5023250



0 45 90 180 270 360
Meters

Scale:	1:7160
Width:	2000m
Printed By:	Skrishna1
Print Date:	19/07/2024
Map Centre:	515571,172271
Grid Reference:	TQ1572SE

Comments:

ALS/ALS Standard/2024_5023250

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

REFERENCE	COVER LEVEL	INVERT LEVEL
311A		
021A	11.76	10.46
031B	11.293	9.882
92WP		
21ZT		
87VW		
87VT		
87VV		
22ZX		
0804	10.46	9.36
951A		
461A		
471A		
8101	8.99	7.06
321D		
15XS		
891A		
24ZT		
071A		
061A		
961I		
821F		
821H		
651I		
651K		
171A		
93RZ		
59YX		
98ZP		
84ZX		
87ZN		
59YV		
72ZT		
7302	10.59	6.88
71XV		
0701	9.14	2.68
68YW		
61ZT		
60YW		
6004	9.47	6.84
73ZY		
9603	8.17	5.89
9609	9.2	7.7
9203		
59TV		
6110		
64YP		
86EZ		
89YW		
99WR		
1406		
85XT		
8205		
55YW		
85WV		
0902	8.37	6.87
85QY		
99ZY		
69YS		
62NC		
60ZS		
0104	7.43	5.34
6302	16.39	14.26
80WQ		
88WY		
76YR		
02HJ		
10ND		
8801		
6401		
6301	16.4	13.78
91XW		
5106		
59WP		
8702		
8704		
88QW		
001A	8.98	7.27
19NF		
12LE		
805B	10.15	8.23

REFERENCE	COVER LEVEL	INVERT LEVEL
0303	11.19	9.85
031A	11.635	10.34
031C	11.129	9.702
041D		
87VS		
87VR		
88ZP		
22ZY		
21ZV		
802B	10.45	9.09
951B		
461B		
671G		
321C		
68SW		
9102	13.52	10.98
891B		
241D		
841A		
961H		
161B		
821G		
821I		
651J		
9403	5.14	2.33
171B		
93SP		
57XY		
99ZP		
86ZW		
59ZV		
6904	15.81	13.18
72ZV		
78TW		
03LM		
0202	4.97	3.67
68TV		
6906	10.83	8.98
6004	11.03	8.82
61QV		
94YX		
91WP		
9402	6.13	3.39
92VP		
6303		
6401		
62QS		
89YV		
9608	9.68	8.16
1109	7.31	4
65WW		
85WT		
1903	6.8	5.51
62ZP		
80SZ		
8102	8.79	7.24
98ZQ		
90ZR		
69TQ		
6504	15.99	13.02
61YW		
08MF		
6201	16.37	15.45
8702		
76WT		
0801	8.9	6.51
10NC		
21NK		
69WQ		
65XT		
99XT		
96TT		
5105		
5001	10.99	9.77
86WW		
86VT		
81YY		
80ZW		
11MJ		
802A	10.77	8.26
76YT		

ALS/ALS Standard/2024_5023250

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

REFERENCE	COVER LEVEL	INVERT LEVEL
7705		
7605		
7503	10.9	9.43
502A	10.82	8.43
804B	10.57	8.94
08MC		
66YS		
6703		
70YX		
79XS		
02MJ		
0404		
1102	5.07	3.91
1901	8.79	6.05
10MJ		
71XT		
8203		
89ZX		
08HM		
52KJ		
08KM		
802B	10.76	7.84
79WS		
99ZQ		
6201		
0903	8.9	6.35
1504		
78TP		
7401	9.91	6.3
92YZ		
0203	4.94	3.54
01NF		
9508	6.68	5.18
9507		
9202		
90ZY		
64YQ		
69ZW		
6607	11.45	-4.11
88RS		
89VW		
1104	7.3	3.5
66VZ		
7606		
79XY		
76WW		
93WT		
07NM		
66ZS		
66ZR		
62TQ		
95ZT		
9301	4.98	3.61
56XV		
54ZT		
61VZ		
57ZQ		
03MF		
55YX		
68ZS		
801B	10.06	6.27
96ZT		
9104	8.84	4.47
1405		
5205	10.84	
89VX		
7102	9.07	5.93
76XQ		
88XX		
81XQ		
81WZ		
89YX		
68VR		
72WZ		
6003	10.84	8.28
64ZW		
80VV		
63ZW		
69XQ		
5005	10.93	10.37
55ZS		

REFERENCE	COVER LEVEL	INVERT LEVEL
70WW		
7902	10.11	8.54
76ZV		
71RQ		
0102		
1502		
60ZS		
70ZX		
78RX		
79ZT		
02HK		
89VT		
1106	5.07	3.14
19MM		
10NE		
8701		
86ZY		
0701		
801A	8.58	6.6
02MF		
08LC		
7403		
55YX		
64ZX		
1501	8.33	5.24
1521	8.31	5.98
7307	10.62	9.07
7703		
70XX		
92ZY		
09LL		
6106		
9603	9.19	7.08
92XX		
9701	8.96	2.75
53ZY		
69ZV		
6801	8.7	
88YY		
88RR		
8401		
65XW		
65XV		
78XR		
76XS		
93WV		
02NE		
64ZP		
68WS		
61RY		
60ZX		
91WR		
91WS		
59TP		
5901	11.17	9.34
56ZY		
7103	9.5	7.27
57YX		
6001	10.14	7.65
99ZT		
96VQ		
90ZW		
96TR		
53ZQ		
85TS		
80VP		
72YX		
85YW		
80ZP		
86QX		
84XQ		
67YT		
69ZX		
5001	7.75	
6501	10.56	8.93
65WY		
8105	8.75	4.79
68VY		
93ZW		
55YY		
12LC		

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REFERENCE	COVER LEVEL	INVERT LEVEL
7001	9.49	7.52
79TR		
79TY		
79TV		
806B	8.57	2.5
08NC		
7905	9.88	7.67
805B	8.92	5.95
02FJ		
02FH		
0305	5.11	2.55
6404		
6703		
60XX		
66YZ		
68VS		
96TZ		
96ZX		
96ZW		
62TY		
65YR		
68ZP		
98XY		
88RZ		
1103		
1002	7.52	5.02
78WW		
6601	15.93	12.27
5003	10.76	9.23
65YY		
91YW		
91ZR		
6005	10.78	9.92
69XY		
1506		
53ZR		
88YN		
1701		
80YV		
6204		
69XZ		
65WY		
801B	11.42	8.92
7701		
71QZ		
7001	11.12	8.77
9704	8.83	5.41
03LC		
0101		
6305		
91YS		
8303	9.42	5.55
85VT		
8204		
8107	8.92	6.8
78TY		
71SS		
72YW		
02NF		
0208	4.97	2.71
61QR		
9202		
95XW		
901B	10.3	7.8
79SR		
64XZ		
61YP		
62ZT		
61TY		
6601		
9301		
6802	15.42	12.73
1101	5.07	3.77
7201	11.23	7.22
61PY		
6903	15.73	13.36
67WW		
0901	8.77	6.33
01LN		
6003	9.43	7.43
61QX		

REFERENCE	COVER LEVEL	INVERT LEVEL
73ZV		
79WV		
70VY		
86QY		
01NH		
72WW		
78TQ		
02HN		
02MM		
02HH		
01LE		
6109		
6401		
6903	11	7.97
67YV		
60XZ		
96ZQ		
96ZP		
68WW		
6705		
65WS		
68ZQ		
9902		
67YR		
10MK		
7202	10.99	8.23
6304	16.39	14.39
56YW		
6002	10.15	7.03
99SR		
9607	8.78	6.94
66ZT		
65WV		
8706		
59WS		
8104	8.98	6.39
1805		
19NE		
981F		
6505	15.95	12.93
6503	16.01	13.87
52ZV		
7002	9.48	7.82
71QX		
01MG		
7904	9.87	7.94
02JM		
00NJ		
62VR		
9702	9.46	5.8
501B	11.19	8.42
85VS		
85WP		
8406		
1517		
70ZY		
7701		
93YQ		
07NL		
65XQ		
68XR		
9703	9.04	4.93
98SR		
78YP		
71SQ		
69YZ		
61YT		
6301		
62ZQ		
67WV		
9002		
1902	8.9	6.32
1112	7.35	4.93
61PT		
1307		
6605		
61YZ		
02ML		
0205	4.96	3.84
68RR		
62YY		

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REFERENCE	COVER LEVEL	INVERT LEVEL
95YT		
92XX		
6701		
6108		
88YS		
99VZ		
10NM		
1006		
9602	8.91	2.78
9610	8.6	7.22
6506	10.55	9.2
69ZQ		
90XR		
5109		
60ZT		
6102	9.22	6.14
9103	8.07	6.03
92XQ		
6001		
5702		
8301		
66ZQ		
89ZS		
90WY		
204B	12.22	10.41
85VW		
5101		
55ZR		
8506	9.8	7.53
98XX		
98YS		
61YP		
60ZR		
75YR		
70WQ		
7603	11.13	9.58
01NF		
72XQ		
19MN		
61YY		
5607		
7305		
70YS		
86ZS		
1904		
6102		
64ZV		
8002	8.97	7.8
52DE		
5001		
70ZS		
9001		
02JF		
1103		1.98
61VT		
68VN		
90ZX		
1808		
8602		
86WQ		
86VQ		
7903	10.36	8.32
78WX		
87ZR		
54ZS		
5606	16.38	15.11
71WV		
9101		
65ZX		
61SP		
01MC		
59XX		
6107		
61WR		
69XT		
9106	8.36	4.89
92XS		
6502	16.07	13.94
62MH		
62MC		
61XQ		

REFERENCE	COVER LEVEL	INVERT LEVEL
92ZY		
6601		
64YZ		
85SX		
99WP		
1004	7.46	5.3
1809		
1305		
98RY		
93ZV		
6302		
99YZ		
1802	5.71	4.4
6904	10.96	
61WW		
6001	11.1	7.75
9304	4.97	3.19
9606	8.84	6.8
6005		
89ZQ		
65WQ		
89ZV		
8202		
202B	12.17	10.58
8301		
52YV		
5101		
5107	8.42	7.12
88TW		
98XW		
99VT		
61YV		
1403		
7306		
7602	11.09	8.98
70WT		
0006	8.01	5.57
1503		
531C		
65XY		
7303		
7302		
71XX		
00NM		
52YT		
6703	16.52	14.86
55YT		
1203	8.2	3.44
5009		
59YQ		
7104	9.07	6.19
0109	8.78	6.93
02HF		
6114	9.48	6.7
6704		
803A	8.57	7.05
1108		5.39
8404	9.15	6.82
86WP		
86VR		
76YX		
76YP		
86YW		
5008		
5501	16	14.12
7806	11.37	8.17
9705	8.89	5.79
02MM		
69ZS		
62ZW		
802A	8.92	6.94
54ZR		
67ZV		
68VW		
9105	8.31	4.83
9605	8.95	2.78
9302	4.99	3.49
6501	15.94	13.94
61YT		
6603	15.94	12.71
0112	7.54	5.65

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REFERENCE	COVER LEVEL	INVERT LEVEL
92XZ		
1204	8.11	3.81
19NH		
72XX		
7501	3	
0522	8.17	6.27
65XZ		
67WY		
9506		
98TV		
91WT		
85RS		
88YX		
6602		
69WW		
6116	9.33	5.34
98SX		
08NL		
00NE		
5002	10.9	9.66
52CL		
54ZT		
88YR		
89XP		
89XR		
80WR		
89SX		
52DJ		
5010		
85RV		
76WY		
02NH		
0405	5.04	2.07
02KM		
62ZR		
78TZ		
9406	6.14	4.43
66ZX		
67YP		
6905		
89TW		
86RW		
89TR		
98ZV		
99ZW		
61YX		
501B	9.82	7.43
7601	11.52	8.83
70XT		
80VW		
88YZ		
89TV		
60ZQ		
93WW		
6602		
78RY		
92XW		
02JK		
5703	17.03	14.96
6402		
6303	16.4	14.03
6901	15.8	13.28
90XS		
99TP		
1803	5.91	4.67
501B		
59VP		
8705		
81WY		
1806	6.81	5.35
76WV		
70WY		
0001	8.02	6.13
01NL		
79ZW		
2108	7.01	3
2401		
3001		
4409		
4301		
86XZ		

REFERENCE	COVER LEVEL	INVERT LEVEL
92XP		
1904	8.75	6.24
72VW		
7203		
0501	8.14	5.63
6302		
68WT		
9303	4.96	3.26
95YQ		
9201		
8201		
89TZ		
68TY		
6103	9.26	6.51
6503	10.72	8.47
802A	10.07	7.18
91XV		
01LD		
09NL		
53ZP		
5003		
5502	16.81	
8103	8.7	6.1
89XQ		
89XS		
88WW		
80XT		
59ZS		
59YT		
88WT		
72ZR		
01LH		
03MM		
0201	5.05	3.52
62VS		
78TX		
91WV		
60ZY		
6907		
65XV		
80ZX		
86RZ		
9404		
99ZV		
11NL		
7101	11.25	7.41
7602		
7404	9.86	7.98
80VQ		
85XZ		
88ZS		
65ZR		
801B	10.8	7.52
65WX		
02ND		
71YS		
0101	8.74	4.27
02HL		
5410		
67WT		
6003		
55ZT		
96SY		
91XP		
19LJ		
5201		
86WR		
80ZN		
1407		
76XR		
73ZW		
85QS		
08HJ		
79YW		
2702	6.1	4.3
22MM		
2204		3.38
22ML		
2103		
8805		
7205		

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REFERENCE	COVER LEVEL	INVERT LEVEL
75ZR		
78XS		
02MF		
0702		
7701		
77ZQ		
0802	12.36	9.46
0502		
49ZW		
46YV		
6208		
66TT		
0201		
01TP		
0301	11.7	9.99
33ZT		
30XP		
32VT		
4511		
4402		
9204		
3902	10.17	7.82
3402		
32TQ		
44ZR		
95XS		
98TP		
2407		9.08
31XT		
7402		
7102		
301A	15.12	11.66
87XV		
75YW		
76WS		
65ZS		
0401	11.37	9.54
09NK		
19YX		
0805	10.32	9.46
0106		
4404	6.06	2.81
3104		
3603		
31YR		
98WT		
98YQ		
25YS		
001A	7.38	2.03
84YS		
84VP		
8302		
8403		
86TX		
7602	14.62	12.32
86YZ		
81ZR		
86ZX		
8304		
15ZW		
1509		
15ZT		
2104		
70ZR		
7003		
7901	15.77	12.57
0601		
0302		
04ZR		
09VW		
07XT		
0102		
51YS		
9805	11.73	10.67
98YR		
90VY	11.49	10.17
85ST		
4110		
2404		
1403	11.5	8.52
1110	7.15	5.09

REFERENCE	COVER LEVEL	INVERT LEVEL
7303	10.61	6.49
7107	9.05	6.83
0802	8.33	5.96
7512	15.34	
7506	15.48	
7002		
00WZ		
1003		
49ZY		
701A	16	12.67
6001	15.13	13.6
91YN		
0902	10.79	8.35
01YV		
3504	10.59	8.36
30XV		
30XZ		
4504		
40YT		
99VT		
0905		
3003	9.87	5.55
31ZV		
4108		
8807		
9401		
21WS		
26TS		
7903		
74ZV		
77YP		
81ZZ		
1404	11.26	9.03
76XP		
6206		
66YR		
01RW		
05ZQ		
65XS		
01RX		
22NC		
4303		
32XZ		
3804	9.99	8.17
9205	13.17	10.95
9304	13.21	11.92
9707	12.29	10.73
3503	10.76	7.99
1111	7.28	5.28
801A	14.21	12.23
89ZW		
84XP		
85ZP		
86TW		
7804	15.28	12.17
8305		
8201		
88ZX		
87ZV		
12ZR		
14YV		
2305	10.81	9.31
6804	13.8	12.46
71VZ		
7004		
0007		
04VX		
0801		
0705		
01SP		
00VR		
59ZV		
55ZV		
97YX		
98WX		
60WS		
98WQ		
4206		
2213		4.78
12TP		
1703		

ALS/ALS Standard/2024_5023250

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REFERENCE	COVER LEVEL	INVERT LEVEL
8202		
87ZY		
1710	10.57	9.05
6501		
1402	11.85	8.88
16ZS		
1703	10.49	8.71
4804	10.4	-5.74
4702		
47YW		
94XQ		
94YX		
92YQ		
3302	9.37	7.9
6404		
61WS		
68TQ		
9511	8.58	5.77
91XX		
96ZW		
5402	5.28	2.73
2106		
1301		
22AB		
71TW		
1101		
1709	10.49	8.5
98VR		
0101		
01WP		
9102	8.01	4.46
9510	7.64	5.16
02MD		
97XV		
9403		
602B		
38ZY		
42SP		
4901	10.3	9.13
9303	13.3	11.5
9203	12.48	10.69
3911	10.09	-6.02
38ZV		
8705	15.06	12.77
86YQ		
22NE		
62YX		
64YZ		
61PW		
7102		
71ZY		
56ZQ		
58ZS		
5702		
4604		
94ZS		
9306		
96YT		
4102		
2207	7.71	1.99
10YS		
14ZT		
46YY		
5804	10.78	
88SV		
97YW		
3803	9.9	
7504	15.99	14.17
7812		
81ZQ		
87TY		
8903	14.12	
201A		
202B	11.68	10.36
7501	16.13	13.58
02VX		
14YX		
4101		
5102		
9703	12.77	10.86
8601		

REFERENCE	COVER LEVEL	INVERT LEVEL
8402		
01TS		
00NC		
7505	15.36	
1601		
12YX		
12IS		
47YV		
42XP		
7502	16.07	13.45
90ZY		
99XQ		
3301	9.37	7.64
5406		
6113	9.48	5.62
61VV		
61CY		
96XZ		
9408	5.68	2.69
9502	8.26	2.82
2808	5.12	3.87
1801		
1507		
76YY		
76XY		
19YW		
60WT		
0203	11.63	10.53
04WV		
04WY		
9201	4.99	3.85
02MN		
03NE		
97XX		
7704	15.91	13.78
0104		
3504		
42ST		
9201	14.2	11.31
95XW		
91XT		
30ZR		
3102		
84YQ		
87RZ		
61RX		
6603		
61PR		
78VV		
70YV		
72WV		
58ZQ		
5601	10.66	9.06
102A		
4603		
9005		9.49
9305		
22MN		
2002		
0105		
16YP		
15YQ		
5103	8.61	6.79
88SX		
9003		
2503		
3906		
7601	14.85	13.94
7001	11.78	10.64
87XR		
8501	16.02	12.65
84YZ		
5301		
7101	11.6	10.24
07YP		
14WQ		
59ZT		
44ZS		
9705	12.99	11.03
8103		
84ZX		

ALS/ALS Standard/2024_5023250

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

REFERENCE	COVER LEVEL	INVERT LEVEL
8706	14.5	12.16
8601	14.91	13.57
2901	5.18	3.75
51ZT		
5108	8.97	6.83
8505	8.76	6.78
80SR		
8303	15	12.69
8503	14.58	12.75
86ZQ		
3105		
75ZS		
22ZQ		
8303		
8504	10.27	8.54
1508		
2304	10.97	7.85
84YS		
8703		
0902		
02KD		
74YT		
8204		
8202		
701A		
88PZ		
12GT		
59ZY		
94YS		
93YV		
95WP		
95WW		
4201		
8306		
54ZY		
5704	10.91	
3501		
3605		
2603		
23YV		
7813	14.78	12.46
78XZ		
7404	15.23	
8702	15.1	12.51
302A		
2603		
25YX		
2406		
76XV		
1401	10.78	9.39
1402	10.78	9.14
09NJ		
99TZ		
0607	11.03	9.21
08WW		
11VQ		
1203		
7507	15.96	
86ZW		
14YT		
15XP		
6112	9.28	6.86
6702		
66YX		
84YR		
96ZV		
901A	8.85	6.49
83YT		
90WQ		
9011		
2201		
2307	11.06	7.92
2602		
88ZS		
88YV		
05ZS		
7702	15.74	13.56
7103	11.38	10.18
23ZY		
72YQ		
02FF		

REFERENCE	COVER LEVEL	INVERT LEVEL
88RQ		
3604		
57YQ		
5304	8.59	5.72
80TV		
80TT		
1810		
88YX		
84YT		
2107		
76ZV		
76ZW		
85ZX		
94XX		
81ZV		
1505		
2601	10.43	6.87
86RP		
88TP		
01NM		
77ZR		
7505	15.68	14.46
8306		
81ZX		
80ZW		
1702	10.51	6.99
1502		
9207		
9911		
9501	8.79	6.37
95YX		
4801	10.36	7.76
42AW		
8002	12.36	9.74
5602	10.59	9.01
8411		
30ZS		
8806		
23ZY		
24YP		
7901	13.42	11.89
701B	15.38	13.25
7601		
84YX		
21SP		
2504		
26TW		
2502		
1301	10.82	9.43
19WX		
5505		
99VR		
0402	11.21	9.89
0403	11.17	10.13
15ZY		
1001		
7503		
502A	10.14	7.7
81YY		
17WQ		
61TS		
65YT		
6301		
6203		
92YT		
9202	4.96	3.36
8509		
92XY		
91YW		
32ZT		
2306	11	7.74
2007		
4603		
8305	14.89	12.83
00YR		
01ST		
59VV		
7902	13.69	12.08
75ZX		
75YZ		
01ME		

ALS/ALS Standard/2024_5023250

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REFERENCE	COVER LEVEL	INVERT LEVEL
0403		
01LF		
0807	8.29	7.2
60ZQ		
6502	10.73	9.52
6506	10.01	5.16
68VV		
08SY		
00ZX		
98VT		
66YW		
66YP		
88ST		
83ZW		
8301		
2403	10.8	9.07
3302	10.65	9.21
83YW		
2801		
7102	11.43	10.08
78ST		
79XX		
7604	11.36	9.68
7702		
12TV		
2102		
75ZQ		
0604	10.84	9.43
12AK		
6704	15.87	14.63
94ZY		
95ZX		
04XT		
02XV		
0505		
9001		
9504	13.05	11.25
93XV		
9005	11.1	9.45
04ZT		
4106		
2306	10.86	9.39
88XY		
00XY		
01YP		
1201		
7603	15	13.1
1503		
14ZQ		
7506		
601A		
8502	14.92	13.32
88RW		
47YT		
95WV		
91XY		
902A	8.79	7.12
2802	5.43	4.11
5714	11.92	-4.31
5707		
86RY		
2805	10.27	7.72
38ZX		
84YS		
0803	10.56	8.05
2001	5.64	2.7
06YZ		
0605	10.87	8.9
6607		
09WV		
07XY		
01TW		
0703		4.6
9403	12.7	11.07
6115	9.39	6.34
90XQ		
96TY		
94YZ		
4307		
4107		
4902	10.29	9.46

REFERENCE	COVER LEVEL	INVERT LEVEL
0705		
01MF		
60ZP		
66YV		
6104	9.53	6.94
6405		
79XW		
08TW		
94XT		
1204		
6209		
68YY		
8904	12.74	9.79
88VV		
84XN		
3301	10.66	8.88
8602	15.5	11.88
8502		
88ST		
7006		
7201		
71WY		
7504	11.21	9.23
12VQ		
46ZY		
7401		
02VQ		
1704	10.49	8.99
6203		
66XZ		
99TR		
92ZR		
04XV		
0904		
52XP		
91ZS		
9904	10.88	9.19
97ZX		
04ZS		
02XR		
8907	12.64	11.04
80ZT		
80XS		
01VY		
0901		
19MC		
7105	9.05	6.48
14YS		
4008	9.77	7.29
3601		
65ZV		
8507		
86YZ		
95VZ		
98ZR		
96ZT		
91ZP		
21NM		
5303		
5801	10.89	
85WX		
3503		
4602	10.46	-5.57
7814		
05ZT		
05YZ		
06YY		
12PV		
6502		
04ZV		
01SQ		
0108		
90WS		
9708	11.98	10.54
68YV		
9401		
96XP		
4712	10.34	6.36
4802		
4501		
9501		

ALS/ALS Standard/2024_5023250

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REFERENCE	COVER LEVEL	INVERT LEVEL
32ZX		
30XR		
3103	9.97	4.43
8804		
88VY		
2701		
2804	10.13	8.32
25XX		
85WV		
8504	15.92	13.92
8508		
74YV		
71WW		
00YQ		
0603		
51YY		
01KN		
9409		
9503	6.95	5.9
99XX		
02HM		
56YP		
53ZX		
69YW		
68ZR		
86YW		
94YY		
4701	10.65	7.05
7906		
77ZP		
96XZ		
93ZV		
2202		
2305		8.18
702A		
08RW		
12WS		
11XW		
1003	8.55	5.9
7601		
7106	9.03	5.04
79RQ		
0404		
7510	15.46	
9701	12.96	10.68
88WT		
90VZ		
97ZP		
2405	10.11	8.89
71SY		
71SV		
8001	12.36	10.93
83XV		
28ZQ		
7103		
8407		
2110	10.44	
97ZT		
3101		
30XS		
81ZY		
88YT		
2403	11.36	9.38
7507	15.36	
71SP		
42WX		
5706		
5802	10.8	
5305		
53ZW		
902A	9.21	6.77
1801	7.23	5.03
18NL		
8803	12.36	10.46
501B		
23YX		
24YS		
8705		
86YX		
1205		
3903	9.85	8.01

REFERENCE	COVER LEVEL	INVERT LEVEL
38ZW		
3109		
38YV		
88YS		
2802		
303B	11.09	7.73
2308		
84YY		
81ZP		
8901	14.22	12.41
85ZW		
7603		
05YX		
0103		
901B		
5904	11.38	10.21
21ML		
9407	5.56	3.66
0301	5.1	3.12
91ZR		
09MC		
5703	10.89	
68TW		
6002	10.87	8.01
84XQ		
88VZ		
9405		
4009	9.86	7.04
7204		
9405		
9710	11.46	10.3
99ZT		
2806	10.24	7.79
25XZ		
0401	12.35	10.45
09XW		
1504		
2401	10.81	8.52
71XP		
7703		
79RR		
0110	7.79	5.11
42RW		
0603	11.08	9.36
9501	12.96	11.31
88QZ		
94YT		
2402	10.66	8.29
10MH		
7602	15.5	13.83
76YS		
83XX		
14YR		
7401		
7104		
8302		
93ZT		
98ST		
30WY		
8002		
86ZY		
88VQ		
25YT		
7811	14.69	13.07
78WW		
5110	9.19	7.08
5705	10.84	
5701		
5304		
59XS		
85TQ		
18NM		
81ZS		
83ZY		
2801	10.25	8.37
24WY		
5902		
8703		
87ZY		
41XY		
8409		

ALS/ALS Standard/2024_5023250

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REFERENCE	COVER LEVEL	INVERT LEVEL
2301	10.83	9.05
301B	11.08	
80ZM		
2408		
7511	15.41	
7802	15.48	13.18
04WQ		
02WR		
01TT		
14ZY		
12TY		
5905	11.37	-4.58
91WR		
07YX		
7809	15.05	13.09
1302		
68YX		
1405	11.48	8.12
1602		
12QS		
25YZ		
6803	13.98	
74YS		
00ZW		
08TZ		
95XP		
8408		
17YR		
1501		
15XX		
1510		
42VV		
7005		
71XV		
6901	13.6	11.18
66YW		
60WR		
61RQ		
71ZY		
00YP		
00NK		
56XW		
5703	11.96	9.39
60ZW		
46ZW		
93ZZ		
3910	9.89	-5.96
4707	10.34	6.73
5202		
4708	10.49	8.36
94XW		
4506		
4503		
42SS		
4007		
91VP		
9801	11.97	10.16
3505		
32TY		
42QY		
62ZW		
9202		
94XS		
95XT		
9806	11.77	10.68
2401	10.89	29.25
03ZX		
101A		
05YY		
0804		
41XZ		
9902	11.89	9.54
9510		
92XZ		
95ZW		
11ZY		
3904	9.82	7.46
8401		
81ZT		
71YW		
02XY		

REFERENCE	COVER LEVEL	INVERT LEVEL
22AD		
85SV		
21WQ		
2309		
71XS		
0602	10.71	9.25
08XR		
08RY		
0107		
14ZX		
5004		
9508		
92YN		
0303	12.42	10.67
81YZ		
65YZ		
1802		
11XZ		
11ZV		
12PY		
28ZV		
6103		
9004	11.2	8.48
07YZ		
42ZX		
88ZV		
8308		
1502		
15XY		
1803		
18XY		
4503		
71TR		
74YP		
66YS		
6704		
60WQ		
71ZX		
09WQ		
01SS		
56YV		
5115		
59SV		
42WT		
51YW		
94XP		
4703	10.62	7.34
59YT		
31YY		
6002	15.14	12.85
9711	11.35	9.87
4605		
4501	10.89	
42RS		
42ZV		
9509	6.62	4.59
9406		
3901	10.07	-5.89
47XW		
6507		
9206		
9404		
98RT		
9012	11.73	10.58
23ZX		
25YR		
001B		
03ZY		
0906		
0402	12.34	10.21
4001	9.81	7.46
98QX		
90VX		
92ZP		
92XX		
3601		
3506		
8410		
74YQ		
351O		
01VX		

ALS/ALS Standard/2024_5023250

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REFERENCE	COVER LEVEL	INVERT LEVEL
01YQ		
32RQ		
3402	11.04	8.4
94YW		
9103		
80VY		
89TQ		
25YS		
18NK	6.81	5.35
3501	10.79	6.61
7503		12.88
76WP		
87XS		
86ZR		
25XY		
71XR		
101B		
25ZY		
7806	14.88	11.73
7007		
8501		
93ZY		
7807	15.2	12.34
8604		
1904	10.35	7.33
12QT		
2702		
7904		
78YR		
0606	10.71	9.25
12QR		
1403	10.76	9.64
24XV		
2002	10.1	6.74
32AS		
84TY		
8309		
8102		
1102		
08TX		
6101	11.38	10.33
7603	15.44	11.88
96YY		
201B		
2803	10.3	7.86
21VP		
2601		
3602		
7903	13.64	12.14
15XV		
14ZP		
00ZY		
7403	15.34	12.33
0601		
01MH		
0207	5.03	2.85
6601		
68SY		
62YV		
7401		
79ZV		
76ZT		
9509		
07YY		
0304		
4709	10.57	8.63
9709	11.79	10.48
7504	15.33	
4002		
47ZV		
91ZV		
94WX		
0704	12.25	10.14
6603		
93XX		
0704		
32TR		
4301		
4403		
9512	8.15	7.25
93XT		

REFERENCE	COVER LEVEL	INVERT LEVEL
34ZY		
2203		
7402		
98TT		
47YS		
8701	9.74	6.51
80TW		
1107		3.97
71XZ		
3104		
7805	15.05	12.06
84YY		
1701	10.43	8.69
8601		
70ZW		
76YW		
2604		
6702	15.96	12.62
74XS		
78XW		
8101		
7808	15.3	13.18
8503	8.72	5.77
12LF		
15YV		
2304	10.76	9.39
71TS		
76WR		
02TP		
1706	10.56	9.03
12PX		
86WV		
2505		
30YQ		
86ZY		
8901	12.82	11.67
8902		
84WS		
17ZW		
4702	10.61	6.26
7902	15.79	13.36
9204	12.68	10.78
96YW		
9302	12.47	11.04
25ZX		
2402	10.76	8.59
24YW		
32ZR		
8405		
15XT		
04VS		
7703	15.36	13.52
7508		
02KH		
804A	8.54	2.39
60ZS		
62YS		
60YX		
6504	10.71	8.8
79XT		
6503	15.38	
9503	12.88	11.51
0301		
09XT		
4601		
5006	11.59	
9705	11.78	10.21
47ZS		
47ZT		
4202		
91ZX		
0501		
66YQ		
9103		
93XW		
0804	8.38	5.57
32VP		
4304	10.68	-5.19
47YR		
9502	13.11	10.99
01YX		

ALS/ALS Standard/2024_5023250

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REFERENCE	COVER LEVEL	INVERT LEVEL
3401	11.25	9.5
4803	10.18	6.45
4401	11.24	9.56
9601	8.79	2.8
4208		
66YX		
88YR		
0004		
09ZR		
00VV		
4109		
46ZQ		
46ZS		
98VQ		
9901	11.74	9.39
9903	11.74	10.53
12EW		
14YQ		
1903	10.34	7.54
1101		
802B	14.01	10.62
84YT		
84ZY		
01YY		
3505	10.38	8.9
22BH		
99TQ		
2402		
2107		
27ZY		
3603		
3601		
351P		
441G		
2210		5.21
3405		
2703		
5101		
5301	5.2	2.57
031A		
911A		
75YZ		
351E		
2302	8.39	5.29
731C		
081A		
751C		
8001		
9002		
821E		
751A		
95ZR		
821A		
941B		
141F		
951C		
32WQ		
951E		
76ZT		
161C		
801B		
131E		
111B		
321G		
681D		
11TR		
321F		
631A		
661B		
341L		
04YV		
86QQ		
86QR		
661G		
76ZW		
061C		
90ZY		
131R		
751B	9.48	8.5
711C		
71VR		

REFERENCE	COVER LEVEL	INVERT LEVEL
42TN		
4601		
4303		
98TP		
6606		
65ZR		
88QV		
0703	11.16	9.42
0904	10.85	9.02
4207		
2303	10.84	9.1
4203		
42VY		
601B		
9706	12.35	10.74
92XQ		
12VR		
12TW		
17ZX		
19YQ		
8704		
8703	14.45	11.85
03ZT		
0701	11.1	9.84
22BD		
2001	10.02	7.96
3404		
3002		
2102		
2403		
2303		
3003		
451E		
451A		
3105		
3402		
2301	8.42	4.49
3602		
2705	7.28	4
031B		
3102		
25ZX		
2304		
731B		
4410	8.36	4.85
75ZV		
1401	11.83	9.76
9001		
011H		
851A		
101D		
011G		
241B		
89RY		
35ZV		
32VR		
32VY		
76ZS		
76ZV		
76ZR		
01ML		
101R		
74XY		
751D		
321E		
71YZ		
321H		
631I		
9802	11.53	9.87
341M		
04YW		
86QP		
04YT		
791C		
76YZ		
90ZV		
90ZW		
203A	12.36	10.32
711B		
361D		
71VP		

ALS/ALS Standard/2024_5023250

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REFERENCE	COVER LEVEL	INVERT LEVEL
741A		
401B		
231F		
631J		
131L		
0008		
131G		
75ZX		
79ST		
42VZ		
97ZY		
79XV		
02KC		
5803	10.87	
7702		
0702		
9002		
9101	13.12	10.53
89VS		
71RP		
62MD		
86TZ		
85VQ		
74ZY		
8802	10.08	7.29
87XQ		
99XT		
1301		
4003	9.76	6.83
70YT		
561E		
01MM		
09NE		
08NK		
1106		4.3
65XX		
83ZW		
72ZX		
90ZV		
64ZW		
841A		
62ZT		
6002		
9910	10.85	8.41
01SW		
80TP		
99WQ		
4101		
2807	5.11	3.74
3403	8.54	3.7
95WR		
69YY		
11TX		
2103		
6701		
56ZS		
07YW		
7702		
9604	9.7	7.57
99TX		
1105		3.63
54ZV		
7402		
41ZW		
15YP		
95XQ		
9304		
231I		
0201	11.91	10.21
6101		
94XW		
04XQ		
10NH		
9704	12.99	11.03
351I		
5405		
4309		
301A		
4308		
521B		
531C		

REFERENCE	COVER LEVEL	INVERT LEVEL
351D		
271F		
851C		
271G		
97ZT		
5104		
131F		
1005	8.59	6.5
88YW		
80XP		
95ZP		
02MK		
7705	15.75	13.74
94ZR		
74YS		
1104	4.99	3.08
9402	13.4	11.52
601A		
69ZT		
60ZW		
61TQ		
72ZP		
42WQ		
52DH		
8304	14.87	12.72
08NH		
6802	10.7	8.21
7509	15.46	
0108		
2801	5.2	4.17
91XS		
59YW		
7810	15.24	13.1
1205	8.17	4.52
85XV		
2109	7.49	3.15
00NH		
5903	11.18	9.83
79VV		
92YW		
841G		
92YM		
64YS		
2602		
62XX		
14ZQ		
8703		
5004		
00TZ		
4302		
01LJ		
21RW		
00XX		
901B	10.05	8.2
5708		
87SX		
87XT		
09VX		
11VV		
71VX		
09YP		
1105	5.07	3.29
02LH		
4710	10.23	7.47
77YQ		
9901		
7303		
89VP		
2212	7.64	4.36
1201	8.13	1.52
8602		
66WP		
86YR		
951A		
5407		
4303		
4302		
4304		
431A		
531B		
841C		

ALS/ALS Standard/2024_5023250

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

REFERENCE	COVER LEVEL	INVERT LEVEL
4401	8.45	2.96
7101	9.45	7.18
441A		
691A		
52YW		
76YQ		
081B		
261A		
451B		
081C		
921B		
96XT		
0903	10.69	8.9
56ZP		
131S		
12OR		
64ZR		
381B		
52DK		
02NK		
70YP		
85WQ		
421B		
78SR		
74XZ		
80ZS		
02YT		
85ZS		
01WX		
90XX		
131B		
01VP		
201A	12.62	10.46
841C		
1302		
131T		
831C		
961D		
261A		
821C		
9203		
971E		
78SQ		
531A		
821B		
87ZR		
77RX		
751B		
77TT		
78ZW		
87YP		
77WS		
77YW		
87YW		
77TQ		
77TZ		
76WZ		
87YR		
861D		
861F		
771B		
651C		
841B		
861C		
9802	14.14	12.17
8701	14.85	12.64
881A		
671A		
011A		
801C		
941D		
8405		
491A		
141B		
661A		
961B		
951B		
251A		
851B		
441I		
861C		

REFERENCE	COVER LEVEL	INVERT LEVEL
3802	9.96	6.5
441B		
81ZT		
701A		
42AR		
081C		
76XZ		
251A		
081B		
981E		
101B		
95XQ		
8310		
0304	4.98	3.2
3801	10.13	6.63
95WY		
381A		
381C		
0111	7.63	5.05
8106	8.86	5.62
66ZQ		
66YY		
331B		
56ZV		
97VV		
08WS		
90WX		
43ZW		
01TX		
30WX		
11TW		
73YS		
12QV		
01ND		
101P		
3103		
1303		
71TT		
89SW		
83XP		
0203		
93XY		
78ZR		
521A		
87YV		
77TX		
751A		
76WV		
77VR		
77TR		
78YW		
861A		
77WR		
77QP		
68ZR		
78WZ		
77QR		
76XQ		
861E		
771A		
8603		
77WX		
671A		
9801	14.85	12.64
8704	14.88	12.85
981A		
981B		
671B		
941B		
801E		
6602	16.06	12.31
941A		
491B		
671C		
961A		
961C		
9602	8.24	5.85
251B		
651D		
451D		
861D		

ALS/ALS Standard/2024_5023250

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

REFERENCE	COVER LEVEL	INVERT LEVEL
861E		
061D		
811A		
091A		
861B		
0703	12.53	10.42
0803	14.27	11.45
921C		
77VP		
78YZ		
081A		
621A		
00XV		
241C		
75ZW		
671D		
0803	7.96	5.66
241A		
081A		
6403		
12LJ		
1206	8.13	5.06
62QR		
92ZQ		
54ZV		
73YR		
93WX		
69XV		
9703	12.35	10.43
14ZS		
03ZR		
7403		
2105		
7202		
6402		
12FV		
72XS		
82ZR	19.99	18.93
09YY		
3502		
12DX		
22LH		
9702	13.72	11.28
0302	12.44	10.44
1804	7.21	4.83
9601		
3604		
8605		
12CY		
7101		
19YT		
02HE		
06ZW		
00NH		
961A		
961C		
811B		
751C	9.89	7.62
631K		
631F		
101H		
731A		
741A		
101A		
831D		
341F		
531B		
531C		
9404		
461C		
461E		
931A		
631C		
631E		
7301		
341G		
051A		
051C		
77RV		
87ZW		
061D		

REFERENCE	COVER LEVEL	INVERT LEVEL
94ZX		
061F		
811B		
861A		
0805	14.21	11.41
0701	12.55	10.06
981D		
77QT		
76WX		
77RZ		
83WZ		
68XV		
681A		
75YV		
541E		
451A		
2101		
181B		
181A		
5002		
80ZY		
7502		
91YR		
62VP		
79XP		
75ZS		
00NF		
321I		
9704	11.99	10.28
9505	13.21	11.46
95ZY		
1506		
6505	10.72	9.48
52DF		
65WV		
4405	5.7	2.77
60WP		
98QW		
85TP		
08TQ		
83YX		
89SY		
30WR		
25XW		
3101		
04ZW		
5408		
803A	10.59	8.51
0703		
25YP		
90VW		
95YP		
00NM		
001A		
961B		
811A		
631A		
101I		
6303		
101G		
00XS		
731B		
8307	15.07	12.86
200A		
831E		
531A		
631A		
531D		
9405		
461D		
99YP		
631B		
631D		
7304		
7302		
341H		
051B		
35ZX		
87XX		
42AI		
131C		

ALS/ALS Standard/2024_5023250

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

REFERENCE	COVER LEVEL	INVERT LEVEL
341I		
411A		
061E		
761A		
4209	4.53	3.29
931B		
19NC		
19LM		
531A		
261B		
78VR		
771B		
361A		
681F		
691B		
481C		
43ZQ		
961A		
85WW		
091C		
781A		
78ZQ		
78XT		
6802	16.18	12.91
671E		
661D		
861A		
09VV		
89YZ		
761A		
95ZT		
791A		
341R		
93WV		
93WS		
671F		
231B		
801A		
2302	10.88	8.74
271A		
871B		
97ZS		
651A		
101C		
71XX		
72ZW		
71XW		
84XX		
121A		
631B		
7604		
271B		
761N		
02ZP		
241A		
241C		
11TQ		
071A		
011D		
22YW		
841D		
841F		
22WY		
011C		
22YZ		
7002		
98ZQ		
981A		
85WX		
861C		
861E		
171C		
12SV		
42XQ		
431C	0	-1.8
441D		
341B		
19NK		
6101	9.54	6.53
601A		
621D		

REFERENCE	COVER LEVEL	INVERT LEVEL
351F		
411B		
841A		
4204	4.55	2.59
4210	4.07	2.59
781A		
19LN		
19NM		
9301	12.66	11.3
261D		
771A		
651G		
361C		
6503		
361B		
4711	10.4	7.61
721A		
851A		
091B		
771C		
78XY		
68YX		
78XP		
261A		
661C		
761F		
3502		
99ZS		
89ZP		
081A		
701B		
861D		
341S		
93WW		
231A		
271B		
23YT		
801B		
66XW		
871A		
75ZQ		
92ZV		
161B		
761J		
72ZV		
71XZ		
71YQ		
161A		
151B		
7707		
271A		
271E		
02ZQ		
02ZT		
241B		
4502		
131D		
651E		
22YT	0	
90ZP		
841E		
42SW		
011B		
6705		
151C		
621A		
98ZP		
981B		
861B		
861D		
01NE		
161F		
061B		
011E		
441C		
341A		
411C		
63ZP		
301A		
621C		
751E		

ALS/ALS Standard/2024_5023250

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REFERENCE	COVER LEVEL	INVERT LEVEL
751F		
7801	15.44	13.83
961B		
70ZP		
0113	7.46	4.22
93ZR		
4408		
361C		
361E		
461F		
671B		
761M		
9202	12.13	10.22
031A		
021B		
62QQ		
51ZY		
79WW		
131I		
3501		
251B		
32MK		
0206	4.96	3.95
251C		
831B		
761E		
94YV		
91XP		
911A		
731D		
731F		
83WX		
631C		
851E		
91ZY		
321A		
65WT		
851D		
791D		
531B		
461B		
761H		
861I		
971B		
861F		
861H		
851F		
75YR		
081B		
741A		
83XT		
0806	8.18	6.25
83XR		
131J		
131A		
921B		
92ZY		
361B		
181A		
361C		
971C		
5401	5.58	4.05
551E		
681G		
5505	16.14	13.2
681C		
681A		
081D		
02VZ		
151F		
101L		
971D		
331B		
541A		
851G		
80WW		
3401		
481B		
721B		
541D		
1202	8.28	3.34

REFERENCE	COVER LEVEL	INVERT LEVEL
841C		
961A		
36ZV		
251H		
661A		
6801		
361A		
361D		
351A		
341A		
72WP		
15YT		
921A		
471B		
6105		
62VY		
791B		
36ZX		
86WT		
251G		
461A		
54XZ		
951A		
351C		
831A		
761G		
351B		
91WX		
731C		
731E		
831A		
631B		
631D		
761I		
1304		
681A		
65WS		
851B		
791E		
151D		
94XP		
081D		
971A		
651B		
861G		
711A		
761K		
051A		
751B		
661F		
83XS		
94XQ		
1903	8.71	2.23
251F		
231C		
921A		
361A		
351A		
18YS		
231B		
921A		
711C		
551H		
62ME		
781B		
681B		
62MF		
601A		
151E		
101M		
93SR		
031D		
331C		
541B		
55YR		
4302		
481A		
731A		
101A		
191A		
12ZS		

ALS/ALS Standard/2024_5023250

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

REFERENCE	COVER LEVEL	INVERT LEVEL
84XY		
94YT		
201B		
121A		
061F		
741C		
741F		
1201	5.07	2.95
811H		
501C		
071B		
231D		
891A		
901A		
231B		
21TT		
981D		
621B		
361F		
901A		
361B		
821F		
791F		
981H		
92VS		
92TT		
781C		
001A		
22UV		
261E		
80XR		
171A		
151B		
151D		
911B		
91WV		
91TX		
761D		
221A		
22OW		
681E		
13ZW		
11YW		
111A		
9004		
1707	10.38	8.27
0002		
761B		
741B		
3602		
761O		
341D		
061E		
99XZ		
93ST		
93WR		
93SQ		
99XV		
93SV		
93VZ		
381G		
99XY		
381D		
42PY		
741E		
42AH		
32MJ		
841B		
93RW		
92YR		
99YS		
381H		
66ZX		
381E		
451F		
1202		
6704	16.55	12.41
431A		
061G		
18ZN		
871C		

REFERENCE	COVER LEVEL	INVERT LEVEL
84XV		
94YV		
711B		
121B		
741B		
741D		
741G		
9401	5.85	2.17
811I		
501D		
061K		
961G		
721A		
601B		
21TV		
1505		
621A		
05YY		
681B		
461H		
601C		
821I		
981G		
92TS		
92TQ		
92TR		
94YR		
22IY		
841A		
6205		
171B		
621B		
151C		
431B		
911C		
201F		
91WT		
761L		
661E		
061H		
94YP		
19NL		
11ZW		
991A		
681C		
941D		
941C		
7404		
741C		
351B		
861F		
211A		
99XX		
93WP		
42PV		
93RV		
93ZQ		
93ZS		
961E		
83ZY		
93VT		
93SS		
95ZQ		
32ML		
92YV		
42AJ		
7009		
92YQ		
42PP		
741H		
95ZP		
381F		
93RX		
551A		
551B		
431A		
92ZX		
871D		
19XP		
721C		
60YW		

ALS/ALS Standard/2024_5023250

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REFERENCE	COVER LEVEL	INVERT LEVEL
69RX		
35ZT		
60XR		
60XT		
011C		
331A		
80YY		
761C		
24ZW		
011F		
761B		
011B		
021B		
56XS		
11MM		
11NE		
11NC		
01MJ		
22QZ		
22SQ		
22RW		
721D		
841B		
651F		
931A		
52DM		
88VS		
961B		
751E		
271C		
141G		
651B		
641A		
101K		
78TT		
041A		
151H		
841C		
151G		
651H		
651E		
651D		
141A		
61ZY		
60ZY		
61ZW		
71VT		
71VQ		
71ZW		
781B		
71WP		
71WW		
71WT		
71TP		
161E		
961C		
761A		
11XT		
131M		
131O		
891B		
32KN		
361E		
671A		
831B		
02WP		
611A		
651I		
651K		
231D		
831D		
831A		
00NL		
35ZW		
461G		
361F		
151A		
981E		
131C		
361G		
141D		

REFERENCE	COVER LEVEL	INVERT LEVEL
69XS		
35ZN		
60XQ		
01MH		
741D		
60XP		
80YZ		
24ZV		
21YS	0	0
351A		
011A		
021A		
19YS		
11NG		
11MH		
11MN		
01MK		
01NK		
22RT		
22UY		
22RZ		
011A		
661A		
671H		
681D		
101O		
761Q		
1007	5.16	3.58
751F		
041C		
52YT		
641B		
65XZ		
461D		
02VV		
6306		
041B		
151I		
52YS		
651G		
651C		
89RZ		
88VV		
61ZX		
60ZW		
71VS		
71VR		
71VV		
261F		
651F		
71WS		
71WV		
751C		
55YQ		
08NE		
81ZR		
11XS		
121D		
131N		
131P		
701A		
32NC		
32VX		
671B		
831F		
631H		
631G		
651J		
131H		
351H		
831E		
831C		
09NM		
35ZY		
00NK		
231C		
681B		
131B		
131Q		
161D		
621A		

ALS/ALS Standard/2024_5023250

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

REFERENCE	COVER LEVEL	INVERT LEVEL
001B		
171D		
42PW		
141A		
071B		
671I		
701B		
561A		
561C		
80YS		
441E		
20YW		
321J		
321L		
321N		
321P		
321R		
321T		
121E		
22XQ		
42TS		
401A		
071D		
1905	10.52	7.07
841B		
79VX		
69XP		
94ZX		
711D		
811D		
93YX		
051A		
03YW		
03YS		
061H		
061I		
061J		
751D		
251J		
081E		
871F		
341C		
54ZV		
54ZW		
3204		
92WQ		
251C		
56YZ		
92VX		
211B		
361G		
92VY		
92YS		
92VZ		
54ZT		
68XZ		
211D		
731A		
861B		
861C		
1501		
801A	10.34	8.61
081G		
691C		
9804	11.35	9.79
601E		
201C		
121C		
21YP		
84XT		
891C		
0807		
0810		
12YV		
51NH		
51NJ		
94ZT		
44YT		
44YV		
44YR		
52NE		

REFERENCE	COVER LEVEL	INVERT LEVEL
94YW		
171E		
841D		
971F		
071C		
501A		
951D		
561B		
561D		
80YT		
801A		
20YZ		
321K		
321M		
321O		
321Q		
321S		
12WZ		
121F		
42TT		
42TW		
261C		
901B	10.77	7.95
0403	5.2	2.79
691B		
69WZ		
94ZQ		
401D		
811C		
811E		
94ZP		
01XQ		
03YT		
60ZQ		
051B		
161A		
601D		
341B		
091A		
871E		
251I		
491C		
54ZX		
54ZY		
4208		
261B		
5002	9.52	7.51
56YY		
92WR		
21TS		
361H		
1906	5	3.2
92YZ		
5302		
68XY		
511A		
911A		
571A		
051B		
851H		
68YQ		
081F		
081H		
691D		
601B		
60XS		
6801	15.42	12.81
131K		
33ZW		
101N		
0806		
0808		
94ZS		
62KL		
51NF		
08SZ		
44YW		
44ZP		
44YS		
961F		
701B		

ALS/ALS Standard/2024_5023250

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

REFERENCE	COVER LEVEL	INVERT LEVEL
701C		
351J		
13ZV		
84ZW		
12ZQ		
0809		
42GT	0	0
321A		
351K		
351M		
3401		
971G		
7304		6.48
341D		
671D		
7301	10.68	6.5
8203		
1404		
711B		
63ZQ		
971C		
811F		
8104		
971E		
341J		
641A		
22DY		
241D		
141H		
221B		
941A		
241J		
051F		
661I		
66ZV		
341E		
091C		
271A		
161G		
161C		
86PX		
081E		
081G		
99YQ		
241E		
241G		
241I		
091E		
21YQ		
00WV		
00WQ		
841E		
22XR		
931B		
321A		
151F		
7706		
661J		
681D		
771D		
771A		
461C		
29NH		
241E		
301B		
771C		
881B		
771E		
961J		
771C		
6701	16.52	12.46
96ZS		
42AK		
711E		
751D		
691E		
691H		
401F		
76ZP		
7803	15.38	12.28
6702	16.45	12.59

REFERENCE	COVER LEVEL	INVERT LEVEL
12ZP		
351G		
84XR		
94YQ		
84XZ		
891D		
42AF	0	0
331A		
351L		
92VW		
651A		
351N		
83ZY		
671C		
341Q		
271D		
981F		
711A		
711C		
971B		
971D		
811G		
141E		
971F		
341K		
281A		
501B		
56YX		
711A		
151E		
051D		
051E		
661H		
66ZW		
651H		
091B		
091D		
161B		
161H		
22XT		
2106		
081F		
081H		
99YR		
241F		
241H		
00WY		
091F		
00WW		
00VS		
00WX		
22XP		
32MN		
7001		
421C		
65XY		
751F		
681C		
4604		
7705		
771B		
29NJ		
29NF		
231E		
7704		
0901		
681E		
691F		
91WZ		
161A		
70XR		
96ZT		
01RZ		
951A		
751E		
691G		
401E		
771D		
77ZY		
78XT		
191B		

ALS/ALS Standard/2024_5023250

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

REFERENCE	COVER LEVEL	INVERT LEVEL
191C		
161D		
601B		
201I		
251A		
78XR		
78XQ		
691B		
0306	4.99	2.42
131D		
301C	8.83	-3.73
9504	6.97	4.26
201D		
201G		
87SP		
87SS		
87ST		
971A		
031F		
32KL		
061G		
12SW		
741B		
85ZQ		
85WY		
2101	7.02	2.01
2105	7.19	1.67
2104		1.8
2001		
891E		
6502		
891F		
901B		
961C		
541A		
921B		
581A		
71WR		
441A		
96WY		
86PW		
681E		
351C		
71YP		
64ZS		
05ZY		
903A	9.2	7.37
02ZW		
42RT		
70ZT		
32XR		
86XV		
6703	16.57	12.41
88VX		
341P		
731B		
11ML		
011I		
621C		
691E		
261H		
881C		
931C		
711E		
521D		
801A		
541C		
411D		
351C		
981I		
841H		
661C		
021B		
251D		
161F		
161H		
281B		
281D		
261J		
121C		
851C		

REFERENCE	COVER LEVEL	INVERT LEVEL
98RR		
601A		
201H		
671A		
951B		
78XS		
691A		
351D		
9507	6.79	2.09
13ZV		
6509	10.16	-3.86
2004		
201E		
201J		
87SQ		
87SR		
871A		
031E		
321U		
32KK		
121C		
641B		
841G		
84YQ		
231A		
102B	7.05	1.78
101B	7.21	1.86
2209	7.33	1.59
87SV		
6501		
90TX		
90TZ		
12SY		
361I		
541B		
921C		
361H		
751A		
3202	10.59	3.91
86PZ		
101J		
981C		
881A		
56XX		
7513		
68SR		
61YW		
77WW		
32XT		
02ZR		
521A		
72ZR		
81ZL		
341O		
341N		
531A		
01LC		
011J		
621D		
261G		
261I		
881D		
711D		
521C		
521E		
691C		
341A		
351B		
941E		
011K		
531D		
021A		
021C		
161E		
161G		
881A		
281C		
271H		
451G		
681F		
671C		

ALS/ALS Standard/2024_5023250

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

REFERENCE	COVER LEVEL	INVERT LEVEL
671D		
631C		
911B		
271I		
271K		
621B		
981J		
741C		
741F		
321W		
261L		
261M		
331D		
331F		
671F		
351D		
351F		
931E		
351R		
821L		
821N		
821P		
071A		
431D		
061B		
171H		
101S		
171J		
951C		
911H		
921D		
911K		
631L		
271D		
171M		
061D		
231E		
231H		
101T		
851D		
061F		
611B		
611D		
061I		
771D		
771H		
181B		
851E		
171D		
171F		
171G		
061L		
941G		
051J		
051C		
051E		
451B		
461E		
341U		
751H		
751J		
061K		
071E		
751G		
261N		
051F		
621B		
741G		
671K		
031H		
781B		
181C		
441A		
44YU		
871H		
621D		
741F		
771E		
901C		
071A		
761T		

REFERENCE	COVER LEVEL	INVERT LEVEL
671E		
931D		
201K		
271J		
271L		
861G		
251K		
741D		
321V		
271M		
161I		
331C		
331E		
741C		
671G		
351E		
351G		
351Q		
171C		
821M		
821O		
061A		
071B		
421E		
171G		
651L		
171I		
051G		
911G		
911I		
911J		
921B		
171L		
271E		
061C		
061E		
231F		
231I		
101U		
051H		
611A		
611C		
171N		
771E		
771G		
181A		
051I		
211E		
171E		
421B		
991B		
941F		
951D		
991C		
051D		
171O		
451C		
341T		
751G		
751I		
691I		
971I		
061L		
361D		
741E		
421D		
621A		
961K		
091G		
031G		
781A		
891G		
751K		
871G		
871I		
621C		
771F		
901B		
761C		
761U		
761S		

ALS/ALS Standard/2024_5023250

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REFERENCE	COVER LEVEL	INVERT LEVEL
761R		
741I		
741G		
761A		
551D		
731D		
111A		
101W		
111H		
211A		
111M		
121A		
111Q		
101Y		
111I		
111F		
111J		
111P		
211D		
221B		
201A		
101Z		
111K		
111E		
211L		
201L		
112B		
201E		
111R		
211R		
112D		
102G		
102C		
201J		
211Q		
111T		
211M		
211O		
201O		
201F		
201I		
112K		
112L		
201K		
211K		
112E		
111U		
201S		
102B		
102E		
111X		
112H		
211I		
201H		
341X		
331G		
841H		
611F		
231L		
231K		
181B		
171H		
241K		
621C		
621E		
661K		
661L		
831D		
431B		
701C		
351S		
141C		
591A		

REFERENCE	COVER LEVEL	INVERT LEVEL
761V		
651M		
661A		
661B		
551C		
211C		
111O		
111C		
111G		
111D		
211E		
211F		
111N		
201C		
111B		
101X		
101V		
201B		
221A		
211B		
111L		
211G		
201D		
201G		
112J		
211H		
121B		
112M		
201Q		
201N		
201M		
112P		
211P		
211S		
111Y		
112G		
111Z		
111S		
112C		
111V		
211J		
211N		
111W		
211T		
112Q		
102A		
112F		
112I		
112A		
112N		
102F		
201P		
201R		
112O		
341V		
831B		
831C		
611E		
231J		
102H		
181C		
161J		
621D		
621F		
641C		
661M		
831E		
241L		
031B		
541F		
141D		
141E		
591B		

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

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

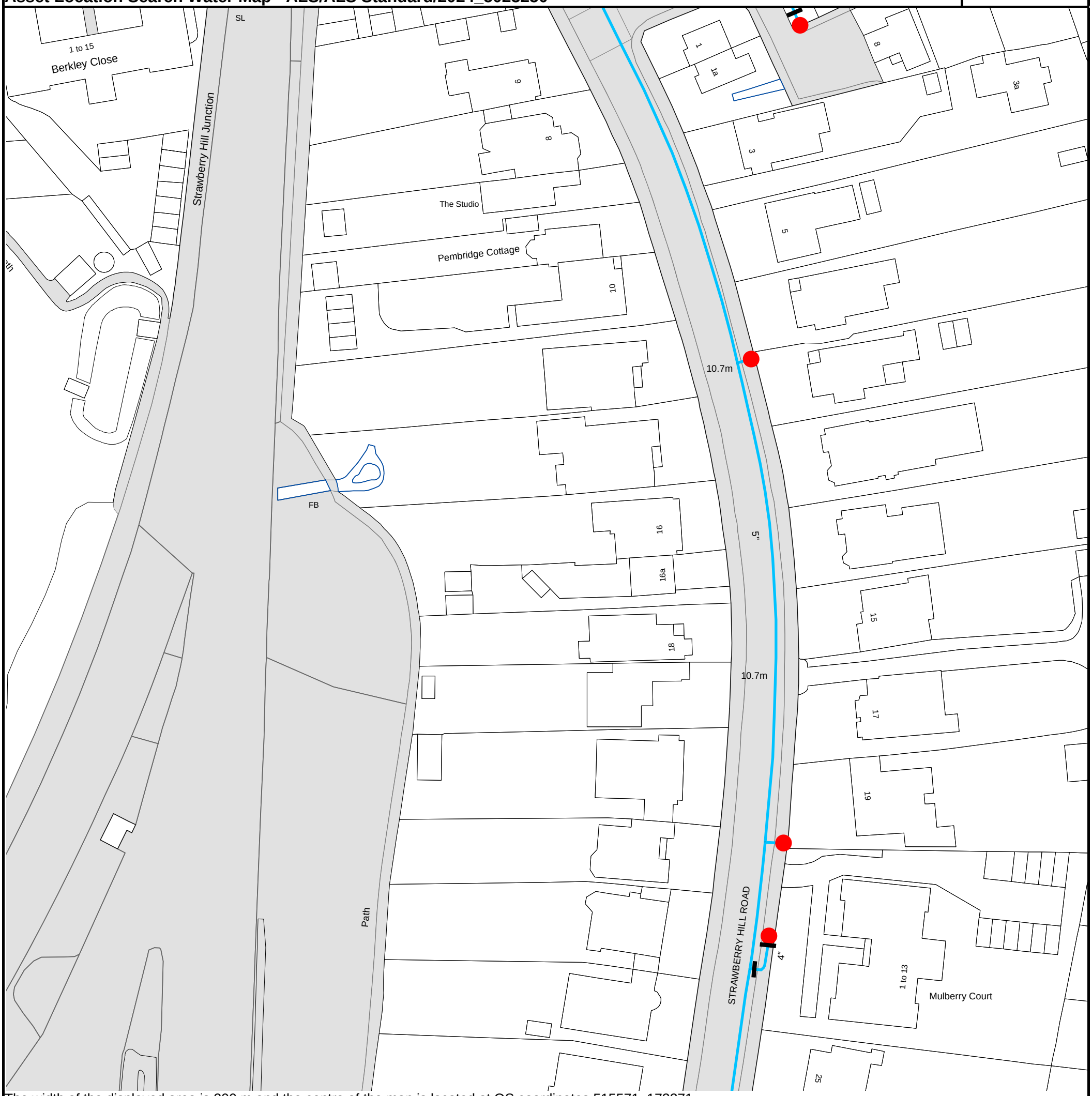
Ducts may contain high voltage cables. Please check with Thames Water.

- Conduit Bridge
- Subway
- Tunnel

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.
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.

Asset Location Search Water Map - ALS/ALS Standard/2024_5023250



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 515571, 172271.

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.

Asset Location Search - Water Key

Water Pipes (Operated & Maintained by Thames Water)

Distribution Main: The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.

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.

Supply Main: A supply main indicates that the water main is used as a supply for a single property or group of properties.

Fire Main: Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.

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: Indiates 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.

Payment Terms and Conditions

All sales are made in accordance with Thames Water Utilities Limited (TWUL) standard terms and conditions unless previously agreed in writing.

1. All goods remain in the property of Thames Water Utilities Ltd until full payment is received.
2. Provision of service will be in accordance with all legal requirements and published TWUL policies.
3. All invoices are strictly due for payment within 14 days of the date of the invoice. Any other terms must be accepted/agreed in writing prior to provision of goods or service or will be held to be invalid.
4. Penalty interest may be invoked by TWUL in the event of unjustifiable payment delay. Interest charges will be in line with UK Statute Law 'The Late Payment of Commercial Debts (Interest) Act 1998'.
5. Interest will be charged in line with current Court Interest Charges, if legal action is taken.
6. A charge may be made at the discretion of the company for increased administration costs.

A copy of Thames Water's standard terms and conditions are available from the Commercial Billing Team (cashoperations@thameswater.co.uk).

We publish several Codes of Practice including a guaranteed standards scheme. You can obtain copies of these leaflets by calling us on 0800 980 8800.

If you are unhappy with our service, you can speak to your original goods or customer service provider. If you are still not satisfied with the outcome provided, we will refer the matter to a Senior Manager for resolution who will provide you with a response.

If you are still dissatisfied with our final response, and in certain circumstances such as you are buying a residential property or commercial property within certain parameters, The Property Ombudsman will investigate your case and give an independent view. The Ombudsman can award compensation of up to £25,000 to you if he finds that you have suffered actual financial loss and/or aggravation, distress, or inconvenience because of your search not keeping to the Code. Further information can be obtained by visiting www.tpos.co.uk or by sending an email to admin@tpos.co.uk.

If the Goods or Services covered by this invoice falls under the regulation of the 1991 Water Industry Act, and you remain dissatisfied you can refer your complaint to Consumer Council for Water on 0300 034 2222 or write to them at Consumer Council for Water, 1st Floor, Victoria Square House, Victoria Square, Birmingham, B2 4AJ.

Ways to pay your bill

Credit Card	**BACS Payment**	**Telephone Banking**
Please Call **0800 009 4540** quoting your invoice number starting CBA or ADS	Account number **90478703** Sort code **60-00-01** A remittance advice must be sent to: **Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW.** or email **ps.billing@thameswater.co.uk**	By calling your bank and quoting: Account number **90478703** Sort code **60-00-01** and your invoice number

Disclaimer

This report has been prepared by GeoSmart in its professional capacity as soil, groundwater, flood risk and drainage specialists, with reasonable skill, care and diligence within the agreed scope and terms of contract and taking account of the manpower and resources devoted to it by agreement with its client and is provided by GeoSmart solely for the internal use of its client.

The advice and opinions in this report should be read and relied on only in the context of the report as a whole, taking account of the terms of reference agreed with the client. The findings are based on the information made available to GeoSmart at the date of the report (and will have been assumed to be correct) and on current UK standards, codes, technology and practices as at that time. They do not purport to include any manner of legal advice or opinion. New information or changes in conditions and regulatory requirements may occur in future, which will change the conclusions presented here.

This report is confidential to the client. The client may submit the report to regulatory bodies, where appropriate. Should the client wish to release this report to any other third party for that party's reliance, GeoSmart may, by prior written agreement, agree to such release, provided that it is acknowledged that GeoSmart accepts no responsibility of any nature to any third party to whom this report or any part thereof is made known. GeoSmart accepts no responsibility for any loss or damage incurred as a result, and the third party does not acquire any rights whatsoever, contractual or otherwise, against GeoSmart except as expressly agreed with GeoSmart in writing.

For full T&Cs see http://geosmartinfo.co.uk/terms-conditions

Further information

Information on confidence levels and ways to improve this report can be provided for any location on written request to info@geosmart.co.uk or via our website. Updates to our model are ongoing and additional information is being collated from several sources to improve the database and allow increased confidence in the findings. Further information on groundwater levels and flooding are being incorporated in the model to enable improved accuracy to be achieved in future versions of the map. Please contact us if you would like to join our User Group and help with feedback on infiltration SuDS and mapping suggestion.

Important consumer protection information

This search has been produced by GeoSmart Information Limited, Suite 9-11, 1st Floor, Old Bank Buildings, Bellstone, Shrewsbury, SY1 1HU.

Tel: 01743 298 100

Email: info@geosmartinfo.co.uk

GeoSmart Information Limited is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.

The Search Code:

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom.
- sets out minimum standards which firms compiling and selling search reports have to meet.
- promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals.
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.
- By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Search Code will:

- display the Search Code logo prominently on their search reports.
- act with integrity and carry out work with due skill, care and diligence.
- at all times maintain adequate and appropriate insurance to protect consumers.
- conduct business in an honest, fair and professional manner.
- handle complaints speedily and fairly.
- ensure that products and services comply with industry registration rules and standards and relevant laws.
- monitor their compliance with the Code.

GeoSmart Information

Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award up to £5,000 to you if the Ombudsman finds that you have suffered actual financial loss and/or aggravation, distress or inconvenience as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs contact details:

The Property Ombudsman scheme

Milford House

43-55 Milford Street

Salisbury

Wiltshire SP1 2BP

Tel: 01722 333306

Fax: 01722 332296

Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk.

Please ask your search provider if you would like a copy of the search code

Complaints procedure

GeoSmart Information Limited is registered with the Property Codes Compliance Board as a subscriber to the Search Code. A key commitment under the Code is that firms will handle any complaints both speedily and fairly. If you want to make a complaint, we will:

- Acknowledge it within 5 working days of receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk.

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision. Complaints should be sent to:

Martin Lucass

Commercial Director

GeoSmart Information Limited

Suite 9-11, 1st Floor,

Old Bank Buildings,

Bellstone, Shrewsbury, SY1 1HU

Tel: 01743 298 100

martinlucass@geosmartinfo.co.uk

16 Terms and conditions, CDM regulations and data limitations

Terms and conditions can be found on our website:

http://geosmartinfo.co.uk/terms-conditions/

CDM regulations can be found on our website:

http://geosmartinfo.co.uk/knowledge-hub/cdm-2015/

Data use and limitations can be found on our website:

http://geosmartinfo.co.uk/data-limitations/