

# Sustainable Drainage Assessment

## Discharge to Sewer

The proposed Sustainable Drainage Scheme (SuDS) strategy is comprised of an attenuation tank to attenuate surface water runoff during the 1 in 100 plus 40% climate change event. Surface water will discharge via a new connection to the public surface water sewer, subject to confirmation from the sewer utility provider and the incorporation of SuDS.



*Report prepared for*

By Construction (London) Ltd

*Site Address*

Oak Lawn  
Compton Avenue  
N6 4LB

*Date*

02/07/2026

*Site Area*

1868 m<sup>2</sup>

*Grid Reference*

527276, 187686

*Report Status*

FINAL

*Report Reference*

91118R1

# SuDSmart Design

## Version Control

| Report Version | Date       | Report Author                           | Report Checker & Reviewer           |
|----------------|------------|-----------------------------------------|-------------------------------------|
| 91118R1        | 02/07/2026 | Nathan Montgomery<br>Project Consultant | David South<br>Principal Consultant |

# 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 Detailed Drainage Design has been completed to ensure surface water runoff can be managed effectively over the lifetime of the development.

## SuDS suitability

| Risk                           | Issue                                                            | Result     |
|--------------------------------|------------------------------------------------------------------|------------|
| Runoff destination feasibility | Priority 1: rainwater collected for non-potable use              | Yes        |
|                                | Priority 2: infiltration to ground                               | Low*       |
|                                | Priority 3: discharge to an above ground surface water body      | Low        |
|                                | Priority 4: discharge to surface water sewer                     | High       |
|                                | Priority 5: discharge to combined sewer                          | Medium     |
| Flooding                       | What is the river (fluvial) and/or tidal 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        |

\*Whilst SD50 screening data would suggest a High infiltration potential across the Site, Site Investigation (Simpson TWS, 2025) has confirmed the permeability of the underlying geology to be insufficient to support infiltration SuDS and encountered shallow groundwater during monitoring visits. The potential for infiltration has been reduced to Low.

## Summary of existing and proposed development

The Site is currently used within a residential capacity as a detached property with associated access and landscaping to the rear. Development proposals comprise the demolition and replacement of the existing house (planning ref: HGY/2023/3351).

## National Standard 1: runoff destinations

Options for the destination for the runoff generated on-Site have been assessed in line with the prioritisation set out in DEFRA's national standards for sustainable drainage systems (2025).

### Priority 1: Collection for non-potable use

An assessment of the potential for rainwater collection and re-use across the proposed development has been undertaken, which confirms that there is the potential for the provision of rainwater harvesting measures at the Site. Captured water could be used to water vegetation in order to provide additional amenity and biodiversity benefits.

### Priority 2: Discharge to ground

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

According to GeoSmart's SD50 screening data, the Site has High potential for infiltration. Based on the available hydrogeological information (Section 4) the permeability of the underlying strata is unlikely to be sufficient to accommodate focused infiltration SuDS features, and shallow groundwater may be a concern at the Site.

Site Investigation (Simpson TWS, 2025) identified a shallow groundwater table during monitoring (between 0.70m and 2.00m) and identified the underlying geology at the Site comprises low permeability silty clays.

Infiltration SuDS are not proposed for the Site due to the identified low permeability of the underlying geology and the shallow groundwater table identified at the Site.

### Priority 3: Discharge to above ground surface water body

Ordnance Survey (OS) mapping indicates that there are no surface water features within 100 m of the Site; therefore, discharge to surface water feature is not feasible.

### Priority 4: Discharge to surface water sewer

A Thames Water asset location plan identifies a surface water sewer adjacent to the west of the Site. Given the absence of other suitable discharge routes, discharging surface water to the surface water sewer is the only feasible option.

### Priority 5: Discharge to combined sewer

The Thames Water asset plan identified no combined sewers within the vicinity of the Site hence discharge is not considered feasible.

## Runoff rate and attenuation requirements

Discharging off-Site requires 48.94 m<sup>3</sup> of attenuation to be provided to ensure there is no flooding within the development in all storm events up to and including the 1 in 100 year including a 40% allowance for climate change. This volume is subject to the discharge rate being restricted to 3 l/s (as close to the equivalent Greenfield 1 in 100 year rate as possible, without increasing the potential for blockages).

A detailed drainage layout is included in Appendix B, and the associated calculations and management and maintenance plan are included within Appendices C and D, respectively.

## Recommendations / Next steps

The presence, condition and capacity of the public sewer network should be confirmed with the utility provider and permission to connect gained where required.

## 2. National & local policy context

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### National Guidance

DEFRA – National standards for sustainable drainage systems (SuDS) (2025)

#### *Standard 1: runoff destinations*

A ‘SuDS approach’ shall be adopted to address the management of surface water by the development and where it should be discharged. Runoff shall be treated as a resource and managed in a way that avoids negative impacts of the development on flood risk, the morphology and water quality of receiving waters and the associated ecology.

Runoff from the development shall be discharged to the following final destinations, to the maximum extent practicable, in accordance with the below hierarchy:

- priority 1: collected for non-potable use
- priority 2: infiltrated to ground
- priority 3: discharged to an above ground surface water body
- priority 4: discharged to a surface water sewer, or another piped surface water drainage system
- priority 5: discharged to a combined sewer

Note 1: priority 1 is the highest priority and priority 5 is the lowest.

Note 2: for the purposes of this standard, a combined sewer is a sewer intended to receive both foul sewage and surface runoff and does not include a sewer intended to receive only foul sewage, even if it has the capacity to accommodate additional flows or has an element of surface water in it already.

To utilise a lesser priority final destination, appropriate evidence shall be provided that demonstrates all higher priority final destinations have been utilised to the maximum extent practicable. Higher cost alone shall not be a reason to utilise lower priority final destinations.

Where more than one final destination is utilised, each final destination’s ability to accept runoff shall be maximised in order of priority.

#### *Standard 2: management of everyday rainfall (interception)*

Apply a ‘SuDS approach’ so that at least the first 5mm of rainfall for the majority of rainfall events does not result in runoff from the site to surface waters or piped drainage systems.

Evidence shall be provided that the approach to managing runoff from ‘everyday’ rainfall has been developed alongside and in support of the management of runoff quality (standard 4) and the delivery of amenity and biodiversity benefits (standards 5 and 6).

### *Standard 3: management of extreme rainfall and flooding*

A 'SuDS approach' shall be adopted to address the management of development runoff during extreme rainfall, including allowances for climate change and urban creep to:

- protect people and property on the development from flooding of the surface water drainage system
- mitigate any increased flood risk to people and property adjacent to or downstream of the development
- protect the receiving water body from morphological damage or minimise the impact on sewer capacity

When discharging to an infiltration feature, the system shall be appropriately sized to accommodate the design event based on ground conditions and contributing areas.

When discharging to an above ground surface water body, sewer or other piped drainage system, the surface water runoff (rate and volume) for the 1% annual exceedance probability (AEP) event shall be controlled to ensure the runoff from the development does not increase flood risk elsewhere.

When discharging to an above ground surface water body, sewer or other piped drainage system, the surface water runoff rate for the 50% AEP event shall be controlled to ensure development runoff from an event of this magnitude has no negative impact.

Any flooding from the surface water drainage system for events up to the 1% AEP event shall be managed within the development.

Any flooding from off-site sources for the 1% AEP event should be managed on site or safely routed through the site, ensuring any downstream risks are not increased compared to the pre-development scenario.

The risks (both on and off the development) associated with flooding from the surface water drainage system for exceedance events greater than the 1% AEP event shall be appropriately managed.

### *Standard 4: water quality*

Apply a 'SuDS approach' that protects surface waters, groundwater and coastal waters by managing the quality of the surface water runoff to adequately address water quality risks from the development.

The proposed SuDS management train(s) shall be based on a robust water quality risk assessment, appropriate to the pollution hazard and sensitivity of receiving waters, reflecting industry recognised guidance or other quantitative assessment as agreed with the approving body and permitting requirements.

### *Standard 5: amenity*

A 'SuDS approach' shall be adopted that maximises benefits for amenity through the creation of multi-functional places and landscapes.

### *Standard 6: biodiversity*

A 'SuDS approach' shall be adopted to ensure the surface water drainage system maximises biodiversity benefits throughout the development lifecycle.

The surface water drainage system shall add biodiversity value by:

- creating diverse, self-sustaining, resilient local ecosystems which contribute to net gains in biodiversity
- supporting and promoting natural local habitat and species, for example, through local nature recovery strategies (LNRS)
- contributing to the delivery of local biodiversity strategies
- contributing to habitat connectivity

### *Standard 7: design of drainage for construction, operation, maintenance, decommissioning and structural integrity*

A 'SuDS approach' shall be adopted to ensure that surface water drainage systems are designed so they can be easily and safely constructed, operated and maintained taking account of the need to minimise negative impacts on natural resources and the environment.

The designer shall provide a management and maintenance plan that supports the design objectives detailed in standards 1 to 6 and ensures the performance of the surface water drainage system with regards to runoff destinations, everyday and extreme rainfall, water quality, amenity and biodiversity is maintained throughout the lifetime of the development.

Surface water drainage design shall examine for the likelihood and consequences of potential failure scenarios that may occur during the operation phase and safely manage the associated risks.

The surface water drainage system shall be designed to ensure structural integrity of all components under anticipated loading conditions for the design life of the development so that it does not affect the structural integrity of any existing or proposed components within, or adjacent to, the development.

### *Urban creep*

Within developments an urban creep uplift factor shall be applied by adding a percentage increase to the calculated area of the impermeable area within the property curtilages. This shall be 10% for all developments unless there are no external private permeable spaces, for example, flats and apartments, when it shall be 0%.

### *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 ( $\geq 3.3\%$  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 1. 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.

## Regional drainage policy

### London Plan - Policy SI3 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

### Haringey Local Plan Strategic Policies (2013 – 2026)

Increased flood risk due to anticipated changes in the climate also requires the Council to consider measures for adapting to climate change and focus on minimising the flood risk in the area. Hard and soft landscaping associated with new development must take account of sustainable land management practices and managing the risk of flooding by applying Sustainable Urban Drainage Systems (SUDS) in order to improve water attenuation, quality and amenity. The provision of green features, including green roofs, provides opportunities to reduce runoff rates and enhance biodiversity, and are fully encouraged in both new development and retrofitting in older buildings.

#### **SP5: WATER MANAGEMENT AND FLOODING**

The Council will require all development in Haringey to be water efficient during construction and operation and to reduce all forms of food risk. All developments shall:

Improve the water environment, water quality and drainage systems;

- Minimise water use and illustrate how development would contribute to general and flash flooding;
- Take account of flood risk vulnerability classification as set out in paragraph 100 of the NPPF and will apply the NPPF Sequential Test and Exception Test;
- Implement measures to prevent (or mitigate as last resort) local surface water and downstream flooding;
- Implement Sustainable Drainage Systems from strategic to individual site level to improve water attenuation, quality and amenity;
- Restore and enhance the Blue Ribbon Network including Pymmes Brook, Moselle Brook, the River Lee and its tributaries, deculverting wherever feasible, to improve water quality and amenity of these waterways and to help reduce food risk (in line with London River Action Plan); and
- Require higher resilience and levels of flood protection for critical infrastructure to ensure the protection of essential services such as water and power. In order to facilitate this, the Council:
- Has carried out a joint SFRA (Strategic Flood Risk Assessment) Stage 1 for the whole borough;
- Has carried out a Sequential Test for the Areas of Development (Growth Areas and Areas of Change);

- Is carrying out, in association with other north London boroughs in the Drain London sub-region, a Surface Water Management Plan to identify issues with drainage networks and the effects of new development.

## 3. Site analysis

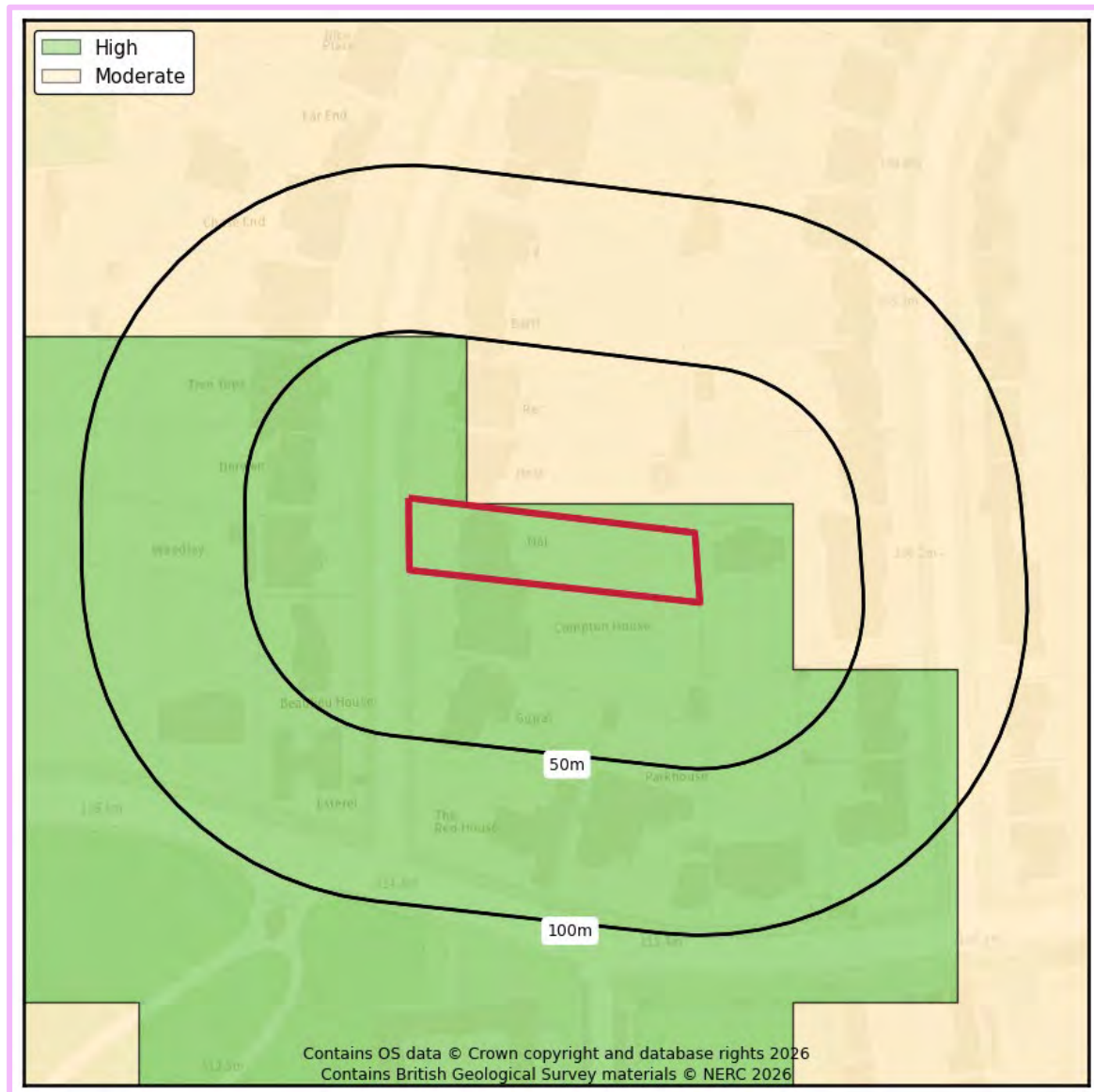
### Site location

Figure 1. Aerial Imagery (Bluesky, 2026)



## Infiltration suitability

**Figure 2. SuDS infiltration suitability (SD50) map (GeoSmart, 2026)**



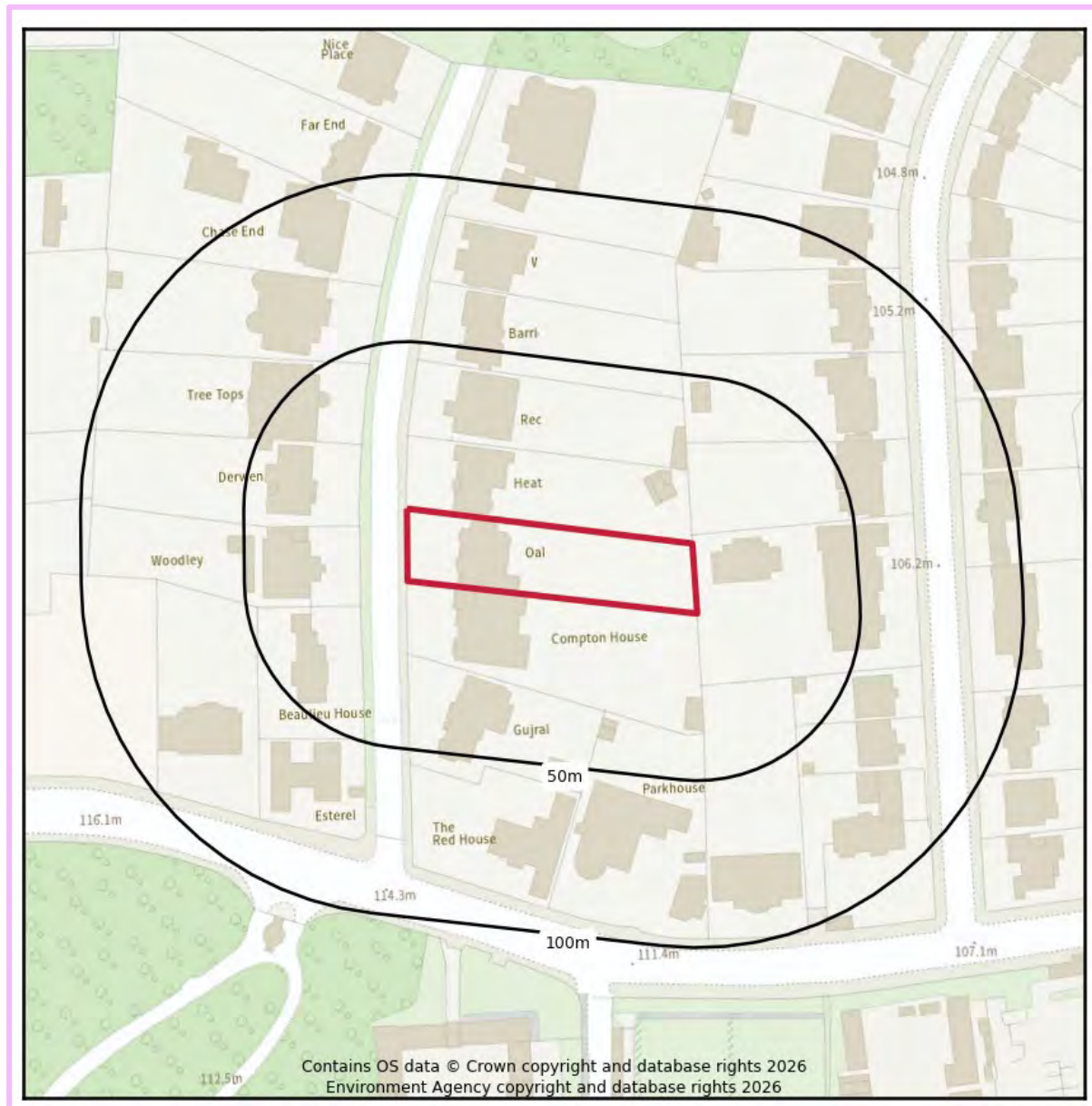
According to GeoSmart's SD50 mapping, there is a High potential for infiltration SuDS across the Site. It is likely that the underlying geology at the Site has high permeability and an infiltration SuDS scheme should be possible at the Site.

However, site investigation undertaken by Simpson TWS identified shallow groundwater (between 0.70 and 2.00mbgl following monitoring) and low permeability clay/silt deposits at the Site, limiting the potential for infiltration SuDS. After analysis, the infiltration potential has been reduced to Low.



## Land designations

**Figure 4. Source protection zone map (EA, 2026)**

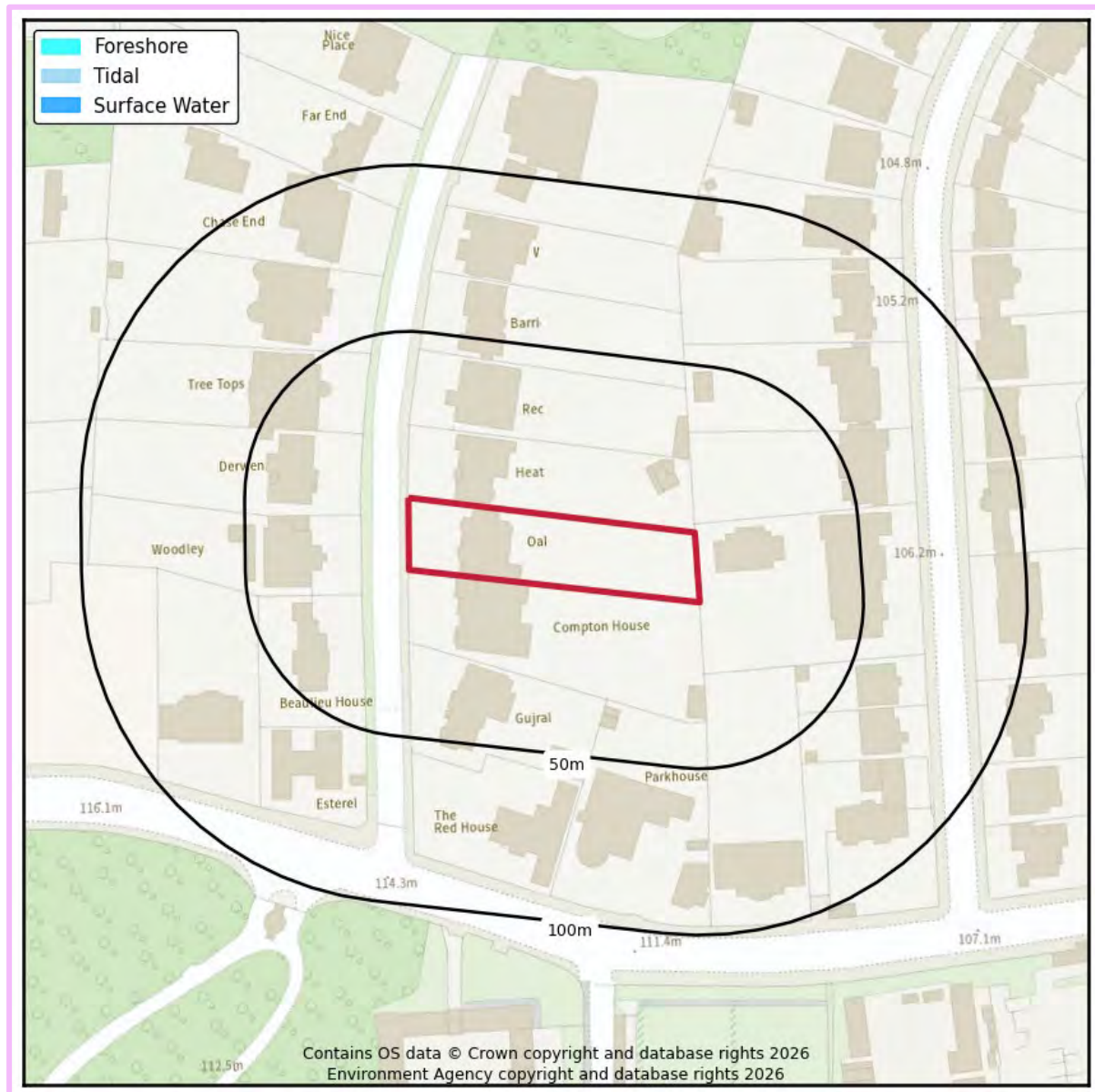


According to DEFRA's Magic Map, the Site is not located within a groundwater Source Protection Zone (SPZ). The mapping also confirms that the Site is within 250m of the Hampstead Heath SSSI.

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.

## Surface water features

**Figure 5. Surface water features map (EA, 2026)**

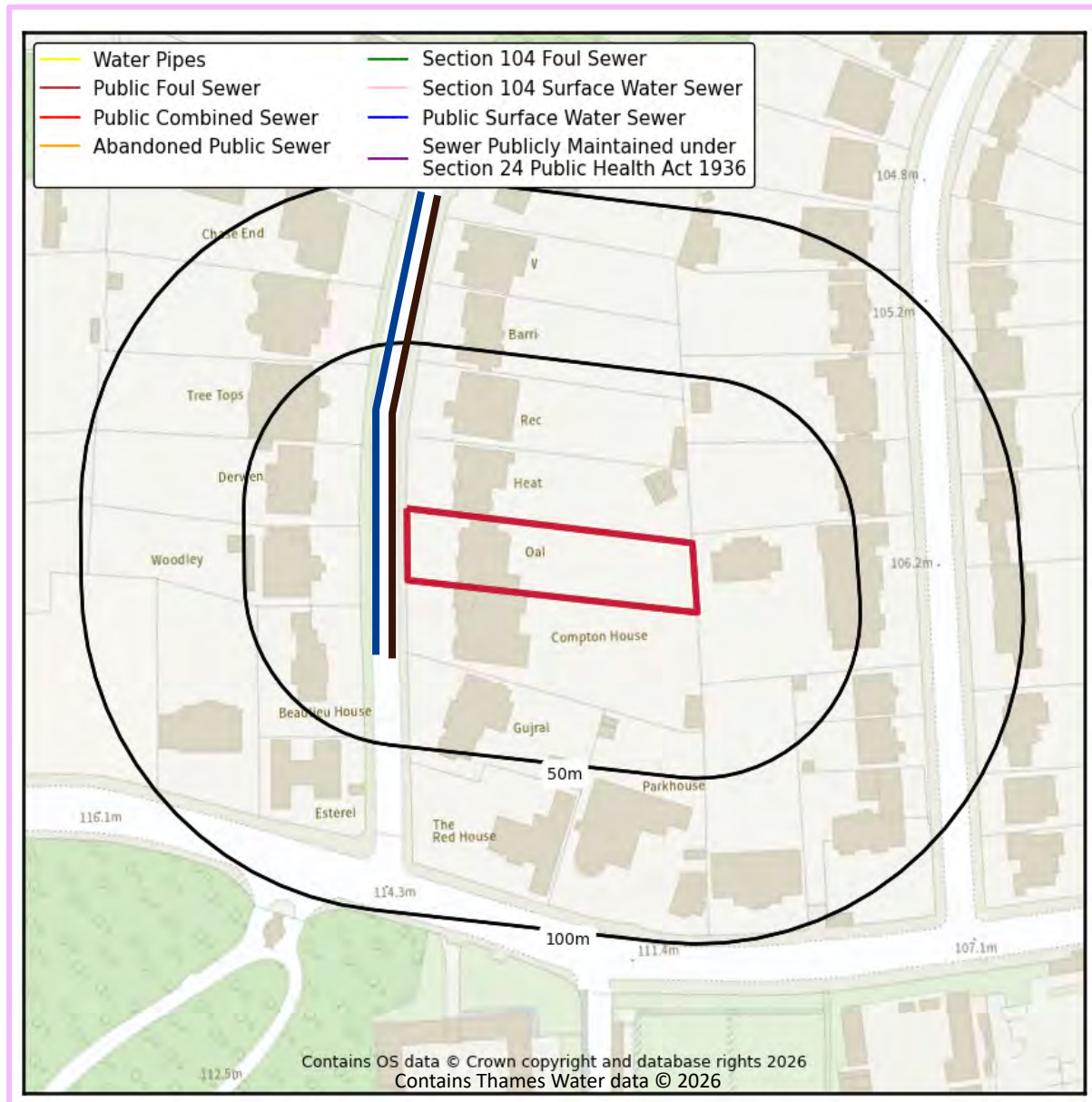


Ordnance Survey (OS) mapping indicates that there are no surface water features within 100 m of the Site. Therefore, discharge to surface water feature is not feasible.

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 potentially unmapped surface water features.

## Sewer features

**Figure 6. Sewer features map (OS & Thames Water, 2026)**

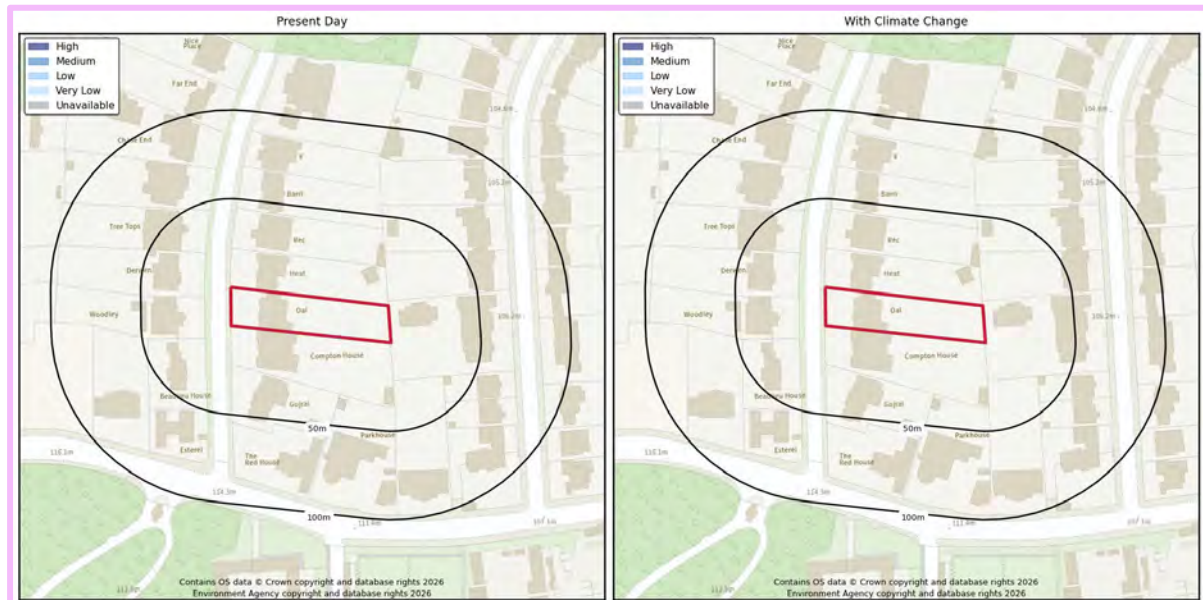


A Thames Water asset location plan identifies a surface water sewer adjacent to the west of the Site, where discharging surface water is likely to be appropriate.

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.

## Flood risk

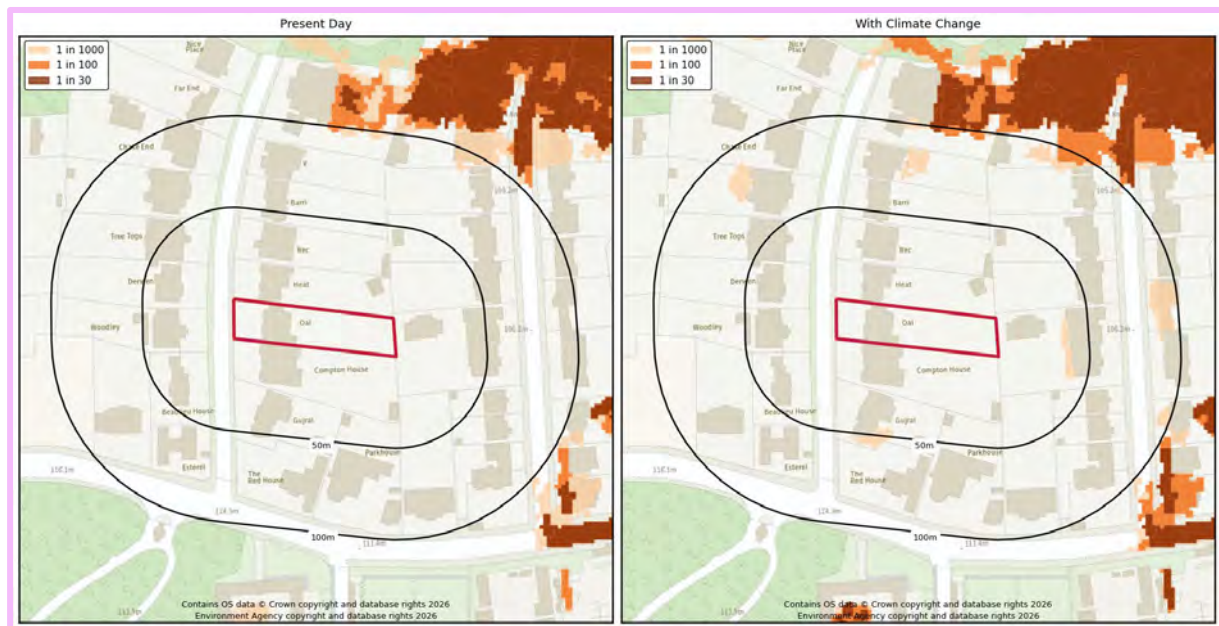
**Figure 7. Risk of flooding from rivers & sea map (EA, 2026)**



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 during both the present day and climate change (2036 to 2069) scenarios, with less than 0.1% annual probability of flooding. Therefore, the SuDS design is unlikely to be affected.

Further analysis could be undertaken by contacting the Local Council and the EA to confirm the risk and the associated flood depths.

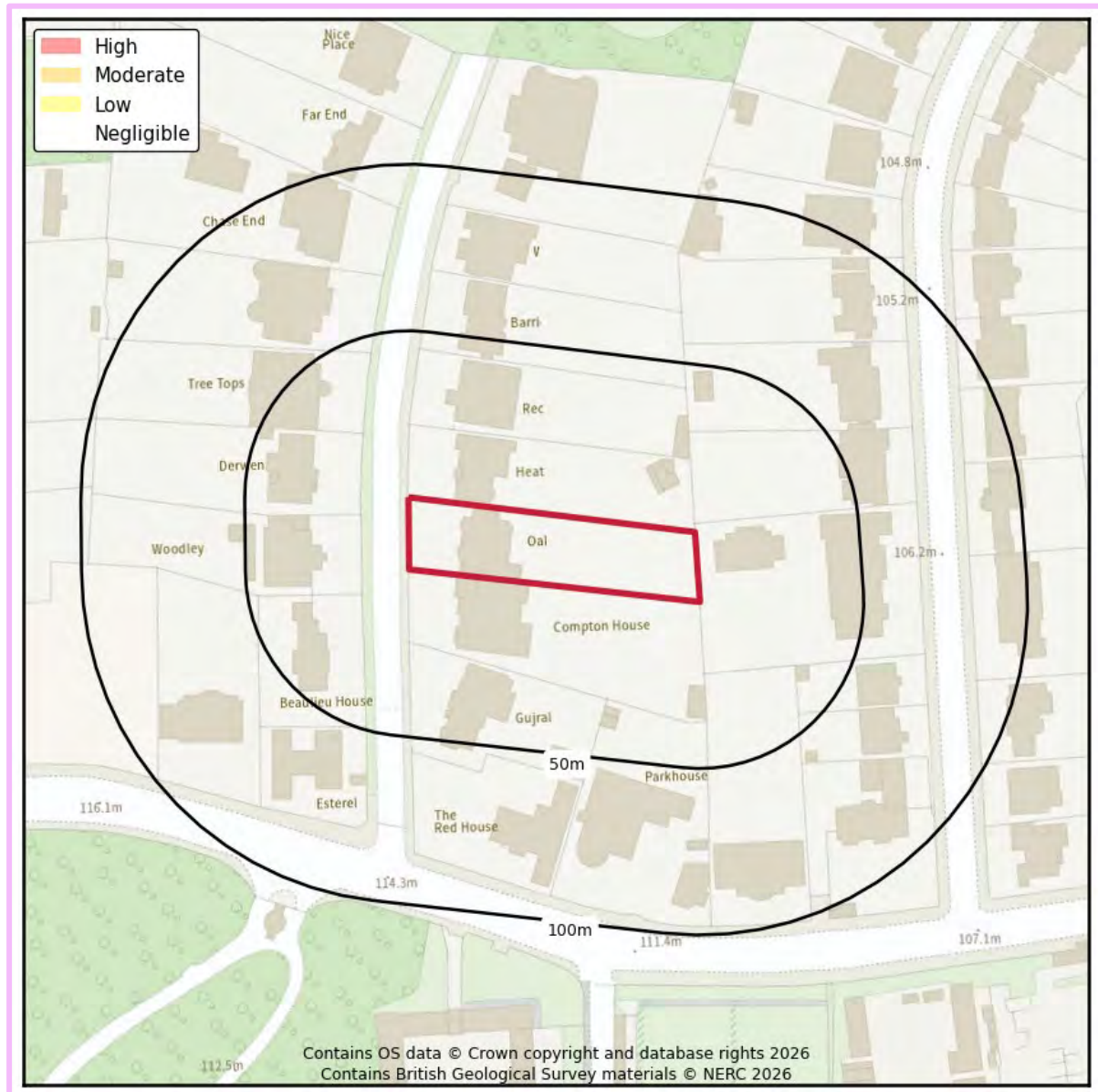
**Figure 8. Risk of surface water flooding map (EA, 2026)**



The EA's Risk of Flooding from Surface Water (RoFSW) mapping confirms the Site is considered to be at Very Low risk of surface water flooding during both the present day and climate change (2070s) scenarios.

The above map shows the extent 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 during the present day and climate change scenarios.

**Figure 9. Groundwater Flood Risk Map (GeoSmart, 2026)**



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.

## 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 Oak Lawn, Compton Avenue, Hampstead ('the Site'). The Site is located within a setting of predominantly residential land use.

### Development

The Site is currently used within a residential capacity as a detached property with associated access and landscaping to the rear. Development proposals comprise the demolition and replacement of the existing house (planning ref: HGY/2023/3351).

### Geology, permeability, and thickness

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

**Table 2. Site Geology**

| Geology present on-Site            |                                | Likely to be permeable? |
|------------------------------------|--------------------------------|-------------------------|
| Superficial geology<br>(Figure 11) | No superficial deposits mapped | N/A                     |
| Bedrock geology<br>(Figure 12)     | Bagshot Sand (BGS)             | ✓                       |

A review of the BGS borehole database (BGS, 2026) indicates that there are no relevant boreholes within the vicinity of the Site from which the mapped geology can be confirmed.

However, Site Investigation as part of the BIA (Simpson, 2025) identified the underlying geology generally consists of silty clay and made ground which is unlikely to have sufficient capacity for infiltration SuDS. Full borehole records were not available as part of the report, but confirm the general ground conditions consist of:

- Topsoil to a maximum depth of 0.15mbgl;
- Made Ground (BH1 only) to a maximum depth of 0.55mbgl;
- Silty / very silty sandy clay to a depth of 8.00mbgl

Therefore, on the basis of site-specific investigation, infiltration is not considered to be feasible due to the presence of low permeability silty clays.

**Figure 10. Superficial Geology (BGS, 2026)**

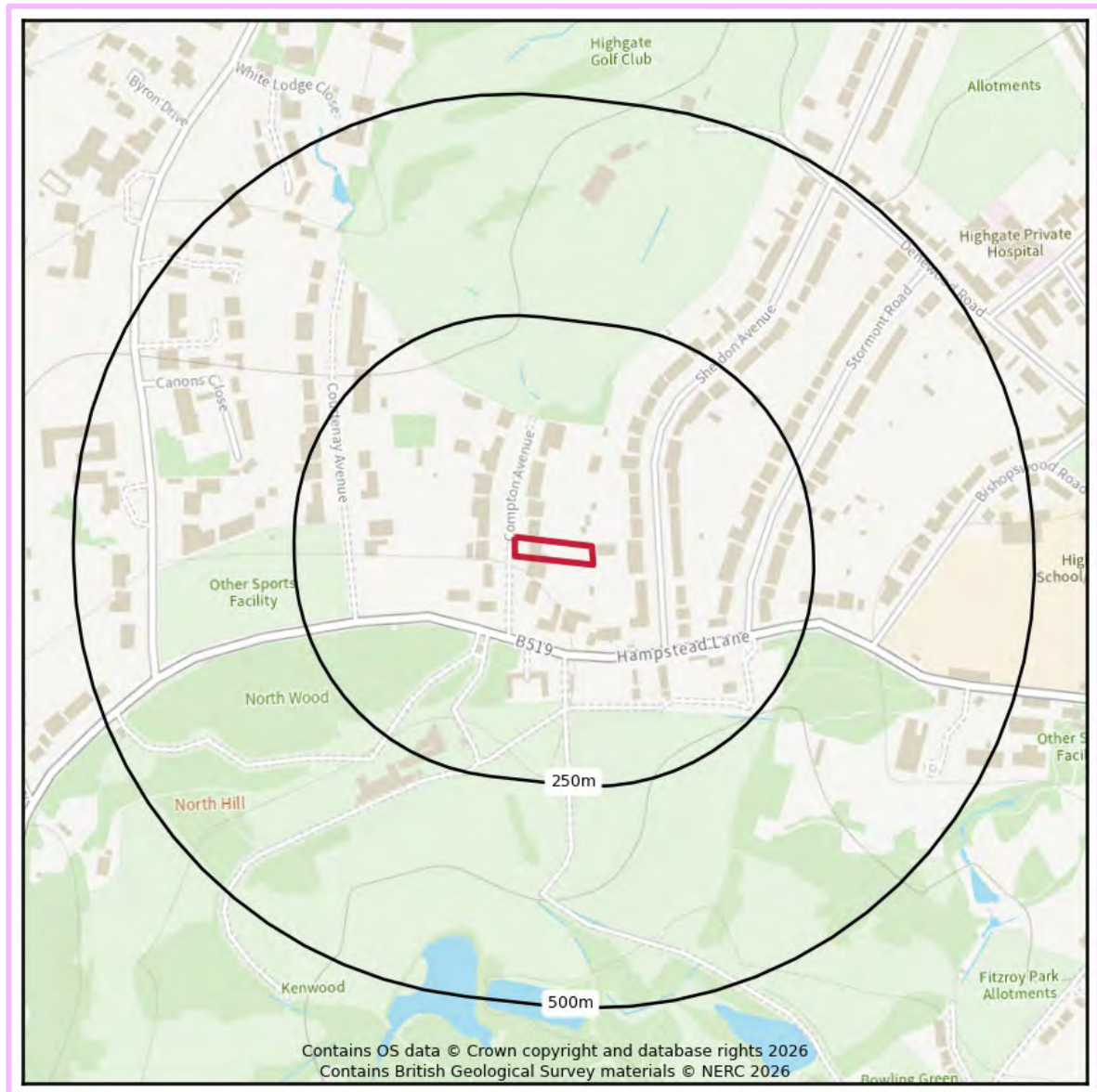
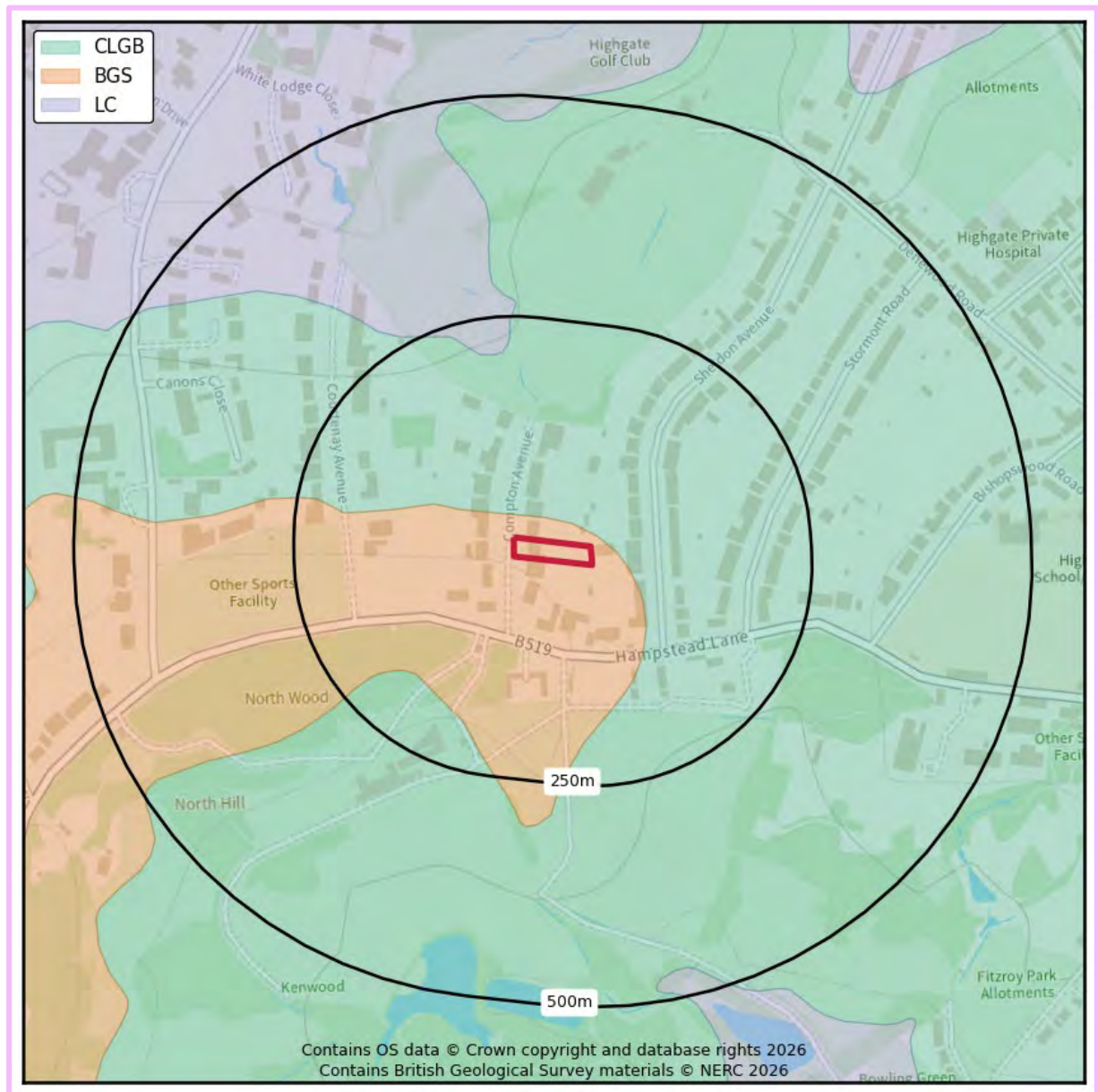


**Figure 11. Bedrock Geology (BGS, 2026)**



## Depth to groundwater

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

No nearby BGS borehole records mapped within the same geological strata are available, however groundwater monitoring undertaken at the Site recorded groundwater between 0.70 and 2.00m (Simpson TWS, 2025).

Infiltration SuDS are not proposed due to the shallow groundwater identified at the Site during groundwater monitoring.

## Ground conditions

Infiltration SuDS are not proposed, hence a detailed review of ground conditions is not required.

## Water quality

The Site does not lie within an SPZ and infiltration is not proposed. Further consultation with the water company is unlikely to be required.

# 5. Runoff destination

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## National Standard 1: runoff destinations

Options for the destination for the runoff generated on-Site have been assessed in line with the prioritisation set out in DEFRA's national standards for sustainable drainage systems (2025).

### Priority 1: Collection for non-potable use

An assessment of the potential for rainwater collection and re-use across the proposed development has been undertaken, which confirms that there is the potential for the provision of rainwater harvesting measures at the Site. Captured water could be used to water vegetation in order to provide additional amenity and biodiversity benefits.

### Priority 2: Discharge to ground

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

According to GeoSmart's SD50 screening data, the Site has High potential for infiltration. However, based on the available hydrogeological information (Section 4) the permeability of the underlying strata is unlikely to be sufficient to accommodate focused infiltration SuDS features, and shallow groundwater may be a concern at the Site.

Site Investigation (Simpson TWS, 2025) identified a shallow groundwater table during monitoring (between 0.70m and 2.00m) and identified the underlying geology at the Site comprises low permeability silty clays.

Infiltration SuDS are not proposed for the Site due to the identified low permeability of the underlying geology and the shallow groundwater table identified at the Site.

### Priority 3: Discharge to above ground surface water body

Ordnance Survey (OS) mapping indicates that there are no surface water features within 100 m of the Site; therefore, discharge to surface water feature is not feasible.

### Priority 4: Discharge to surface water sewer

A Thames Water asset location plan identifies a surface water sewer adjacent to the west of the Site. Given the absence of other suitable discharge routes, discharging surface water to the surface water sewer is the only feasible option.

### Priority 5: Discharge to combined sewer

The Thames Water asset plan identified no combined sewers within the vicinity of the Site hence discharge is not considered feasible.

## 6. Storage, volume and peak flow rate

### Urban creep

According to Paragraph 3.3 of the DEFRA National standards for SuDS, urban creep should be taken into account as part of the SuDS design. Urban creep accounts for the potential for impermeable areas to increase over the lifespan of a development, such as extensions to proposed building footprints and increases in patio areas.

Therefore, in accordance with the required allowance for a Site with external private permeable spaces, a 10% urban creep allowance has been applied to the proposed impermeable areas.

### Surface water runoff

An increase in impermeable areas on-Site will result in greater rainfall runoff. A reduction in runoff will help mitigate flood risk both on and off-Site.

**Table 3. Change in impermeable area associated with the development**

| Total Site area                                                                                                         | 1868 m <sup>2</sup>                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Impermeable area (and as a percentage of the total area of the proposed development footprint of 1868 m <sup>2</sup> )† |                                                                                                                                                  |
| Pre-development                                                                                                         | Post-development                                                                                                                                 |
| 300 m <sup>2</sup> (16%)                                                                                                | 903 m <sup>2</sup> (48%)†                                                                                                                        |
| Impermeable land use:<br>300 m <sup>2</sup> existing dwelling<br><br>Permeable land use:<br>landscaped areas            | New impermeable land use:<br>430 m <sup>2</sup> new dwelling, 391 m <sup>2</sup> hardstanding<br><br>New permeable land use:<br>landscaped areas |

† An additional 10% Urban Creep uplift factor has been applied to the post-development impermeable area in order to account for the potential for impermeable areas to increase over the lifespan of the development.

Storage requirements for an attenuation SuDS scheme for the development footprint are set out below.

**Table 4. Storage requirements for the proposed development**

| Attenuation scenario           | Attenuation required (m <sup>3</sup> ) | Explanation                                                                                                                                                                     |
|--------------------------------|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 in 100 year including 40% CC | 48.94*                                 | Attenuation required to ensure surface water runoff is attenuated in all storm events up to and including the 1 in 100 year event including a 40% allowance for climate change. |

## Peak discharge rates

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 runoff is disposed of via infiltration, there will be no discharge off-Site.

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.

**Table 5. Peak discharge rates associated with the development**

| Rainfall event                | Greenfield runoff rates (l/s) | Existing runoff rates <sup>1</sup> (l/s) | Potential runoff rates without attenuation (l/s) | Potential minus existing (l/s) |
|-------------------------------|-------------------------------|------------------------------------------|--------------------------------------------------|--------------------------------|
| QBAR                          | 0.95                          | N/A                                      | N/A                                              | N/A                            |
| 6 hour 1 in 1 year            | 0.81                          | 1.27                                     | 1.66                                             | 0.39                           |
| 6 hour 1 in 10 year           | 1.53                          | 2.27                                     | 2.94                                             | 0.67                           |
| 6 hour 1 in 30 year           | 2.12                          | 3.01                                     | 3.94                                             | 0.93                           |
| 6 hour 1 in 100 year          | 3.02                          | 4.07                                     | 5.33                                             | 1.26                           |
| 6 hour 1 in 100 year + 20% CC | N/A                           | N/A                                      | 6.39                                             | 2.32                           |
| 6 hour 1 in 100 year + 40% CC | N/A                           | N/A                                      | 7.46                                             | 3.39                           |

<sup>1</sup> Assumes 100% runoff from impermeable surfaces. Assumes Greenfield runoff from permeable surfaces calculated using the loH124 method.

Relevant national, regional and local planning policy has been consulted in Section 2 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 3 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.

**Table 6. Total discharge volumes associated with the development**

| Rainfall event                | Greenfield runoff volume (m <sup>3</sup> ) | Existing runoff volume <sup>2</sup> (m <sup>3</sup> ) | Potential runoff volume without attenuation (m <sup>3</sup> ) | Potential minus existing (m <sup>3</sup> ) |
|-------------------------------|--------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------|
| QBAR                          | 25.11                                      | N/A                                                   | N/A                                                           | N/A                                        |
| 6 hour 1 in 1 year            | 23.25                                      | 27.46                                                 | 35.92                                                         | 8.46                                       |
| 6 hour 1 in 10 year           | 41.88                                      | 49.05                                                 | 63.48                                                         | 14.43                                      |
| 6 hour 1 in 30 year           | 55.01                                      | 64.98                                                 | 85.00                                                         | 20.03                                      |
| 6 hour 1 in 100 year          | 74.47                                      | 87.95                                                 | 115.07                                                        | 27.11                                      |
| 6 hour 1 in 100 year + 20% CC | N/A                                        | N/A                                                   | 138.08                                                        | 50.13                                      |
| 6 hour 1 in 100 year + 40% CC | N/A                                        | N/A                                                   | 161.09                                                        | 73.14                                      |

<sup>2</sup> Assumes 100% runoff from impermeable surfaces. Assumes Greenfield runoff from permeable surfaces, as calculated using the loH124 method.

## 7. 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.

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

**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).             |

**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    |

## 8. Background information

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### Health and safety considerations for SuDS

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

### 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](http://geosmartinfo.co.uk).

### 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 (2024). For the impermeable surfaces, it has been assumed that 100% runoff will occur (calculations provided in Appendix C). 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 runoff will be disposed of via 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 effect.

## 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.

## 9. References and glossary

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**Simpson TWS (2025)** Basement impact assessment. Job no. P23-1102

## 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.                                                                                                                                                                                                                                                                                          |

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Source Protection Zone (SPZ)      **Areas where groundwater supplies are at risk from potentially polluting activities and accidental releases of pollutants. They are a policy tool used to control activities close to water supplies intended for human consumption.**

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Treatment      **Improving the quality of water by physical, chemical and/or biological means.**

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

## Data sources

|                                                                   |                                                                                                                                                                                                            |
|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aerial Photography                                                | <p>Contains Ordnance Survey data © Crown copyright and database right 2026</p> <p>BlueSky copyright and database rights 2026</p>                                                                           |
| Bedrock & Superficial Geology                                     | <p>Contains British Geological Survey materials © NERC 2026</p> <p>Ordnance Survey data © Crown copyright and database right 2026</p>                                                                      |
| Flood Risk (RoFRS/Pluvial/Surface Water Features/SPZ)             | <p>Environment Agency copyright and database rights 2026</p> <p>Ordnance Survey data © Crown copyright and database right 2026</p>                                                                         |
| Flood Risk (Groundwater) and SuDS infiltration suitability (SD50) | <p>GeoSmart, BGS &amp; OS</p> <p>GW5 (v2.4) Map (GeoSmart, 2026)</p> <p>Contains British Geological Survey materials © NERC 2026</p> <p>Ordnance Survey data © Crown copyright and database right 2026</p> |
| Sewer Location                                                    | <p>Contains Ordnance Survey data © Crown copyright and database right 2026</p> <p>Contains Thames Water search data 2026</p>                                                                               |
| Topographic Data                                                  | <p>OS LiDAR/EA</p> <p>Contains Ordnance Survey data © Crown copyright and database right 2026</p> <p>Environment Agency copyright and database rights 2026</p>                                             |

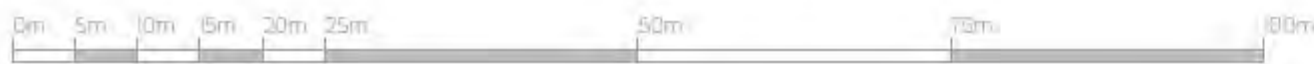
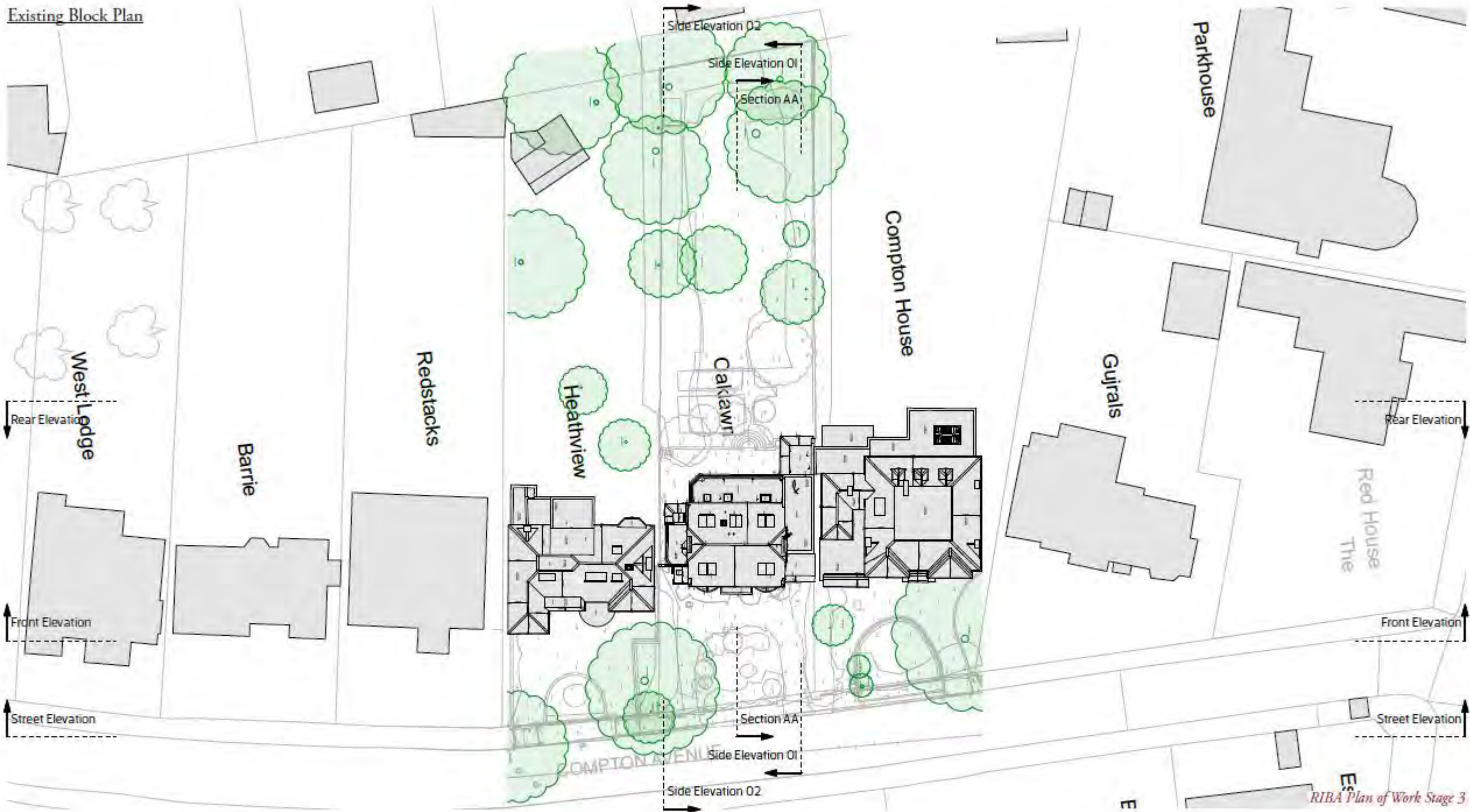
## 10. Appendices

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# Appendix A

## Site plans

# Existing Block Plan



Christopher Tredway Architects

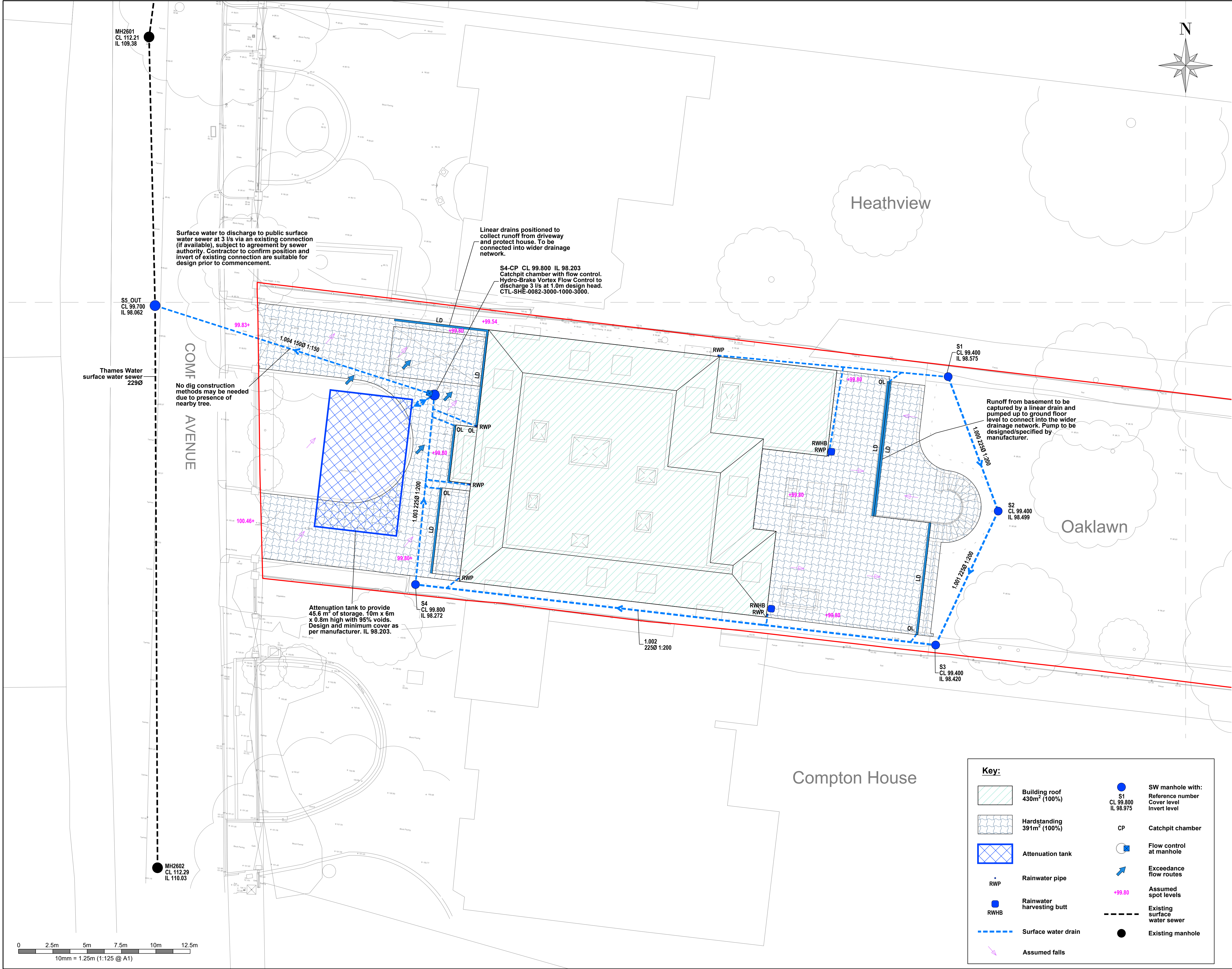
3rd Floor, 175-176 Tottenham Court Road, London W1T 7NX  
 E Mail: [office@christredway.co.uk](mailto:office@christredway.co.uk) Phone: +44 (0)20 7101 9336

## Oak Lawn, Compton Avenue

Site: Oak Lawn, Compton Avenue, Hampstead, London N6 4LB  
 Title: Existing Block Plan  
 Date: 08/12/2025  
 Job No: 139  
 Drawing No: 139 / S\_01  
 Revision: /  
 Scale: 1:500 @ 100% A3 L  
 © Christopher Tredway Architects Ltd 2025

## Appendix B

Detailed surface water drainage layout



**Notes:**

- Do not scale from this drawing.
- All dimensions are in millimeters unless otherwise stated.
- This drawing to be read in conjunction with all other relevant drawings and documents.
- All drainage to be constructed to SSG Design and Construction Guidance, current British standards and building regulations and other relevant standards.
- Exact locations of rain water downpipes and other internal drainage down pipes to be confirmed by architect / M&E engineer. Rain water pipe connections to have rodding access, sump and grated cover. Above ground drainage and pipes to be designed by M&E engineer.
- Contractor to confirm locations of existing services prior to commencement on site and to arrange for any necessary diversions, lowering or protection works as required.
- All specialist drainage components such as attenuation tank and flow control to be designed and installed as per manufacturers requirements.
- Cover levels to be confirmed by landscape architect. Cover levels and invert levels are in meters unless otherwise stated. If cover levels change from assumed then drainage design should be re-assessed, especially in regards to extreme events.
- Extent of linear drainage channel to perimeter of building and thresholds to highway boundary to be confirmed by architect, design as per manufacturer. Linear channels to have rodding access, sump and grated cover. Linear drains to manufacturer design.
- Private surface water pipes to be 100Ø with minimum fall of 1:100 unless otherwise stated.
- Access chamber cover class A15 for garden and patio, B125 for driveway, C250 for lightly trafficked roads or small private carparks.
- As the site has previously been developed an existing suitable discharge point may already be present on the site. A survey of existing drainage should be undertaken to confirm.
- Design is for planning purposes only and not for construction. Design should be confirmed prior to construction to ensure all available information is considered and any assumed information should be verified.
- Design should be reviewed in light of any additional information or on validation or otherwise of any assumptions.
- The design incorporates the use of a pump. If the electricity or pump fails the property could flood. When the pump manufacturer is confirmed the head flow curve should be incorporated into the design and the design reviewed.

**Drainage Strategy**

- Drainage strategy consists of rain water harvesting butts, attenuation tanks and controlled discharge to the public surface water sewer.
- Surface water will discharge to public surface water sewer via new connection subject to agreement by Thames Water.
- The Site was previously developed and so an existing connection to the nearby sewer may already exist and should be reused where appropriate.
- Discharge rate will be controlled by hydrobrake to 3 l/s, subject to approval.

|      |          |               |      |      |
|------|----------|---------------|------|------|
| PL01 | 02.07.26 | Initial issue | DS   | MG   |
| Rev  | Date     | Detail        | Drwn | Chkd |

Client:

By Construction (London) Ltd

Project:

Oak Lawn, Compton Avenue

Drawing Title:

Proposed Surface Water Drainage Layout

Suite 1, 1 Bellstone Court, Bellstone, Shrewsbury, SY1 1JB

|                                      |                             |                            |
|--------------------------------------|-----------------------------|----------------------------|
| Drawn by: <div>DS</div>              | Checked by: <div>MG</div>   | Date: <div>July 2026</div> |
| Scale: <div>1:125 @ A1</div>         | Status: <div>Planning</div> |                            |
| Drawing No: <div>91118-500-001</div> | Issue: <div>PL01</div>      |                            |

## Appendix C

### Causeway Flow surface water drainage calculations

### Design Settings

|                                      |        |                                    |               |
|--------------------------------------|--------|------------------------------------|---------------|
| Rainfall Methodology                 | FEH-22 | Minimum Velocity (m/s)             | 1.00          |
| Return Period (years)                | 2      | Connection Type                    | Level Soffits |
| Additional Flow (%)                  | 0      | Minimum Backdrop Height (m)        | 0.200         |
| CV                                   | 0.750  | Preferred Cover Depth (m)          | 0.600         |
| Time of Entry (mins)                 | 5.00   | Include Intermediate Ground        | ✓             |
| Maximum Time of Concentration (mins) | 30.00  | Enforce best practice design rules | ✓             |
| Maximum Rainfall (mm/hr)             | 50.0   |                                    |               |

### Nodes

| Name  | Area<br>(ha) | T of E<br>(mins) | Cover<br>Level<br>(m) | Diameter<br>(mm) | Easting<br>(m) | Northing<br>(m) | Depth<br>(m) | Invert<br>Level<br>(m) |
|-------|--------------|------------------|-----------------------|------------------|----------------|-----------------|--------------|------------------------|
| 1     | 0.020        | 5.00             | 99.400                | 600              | 527275.237     | 187695.195      | 0.825        | 98.575                 |
| 2     |              |                  | 99.400                | 600              | 527286.350     | 187684.800      | 0.901        | 98.499                 |
| 3     | 0.020        | 5.00             | 99.400                | 600              | 527273.381     | 187675.908      | 0.980        | 98.420                 |
| 4     | 0.021        | 5.00             | 99.800                | 600              | 527243.925     | 187679.459      | 1.528        | 98.272                 |
| 5     | 0.022        | 5.00             | 99.800                | 1200             | 527245.297     | 187693.258      | 1.597        | 98.203                 |
| 5_OUT |              |                  | 99.700                | 600              | 527225.122     | 187699.714      | 1.638        | 98.062                 |

### Links

| Name  | US<br>Node | DS<br>Node | Length<br>(m) | ks (mm) /<br>n | US IL<br>(m) | DS IL<br>(m) | Fall<br>(m) | Slope<br>(1:X) | Dia<br>(mm) | T of C<br>(mins) | Rain<br>(mm/hr) |
|-------|------------|------------|---------------|----------------|--------------|--------------|-------------|----------------|-------------|------------------|-----------------|
| 1.000 | 1          | 2          | 15.217        | 0.600          | 98.575       | 98.499       | 0.076       | 200.0          | 225         | 5.28             | 50.0            |
| 1.001 | 2          | 3          | 15.725        | 0.600          | 98.499       | 98.420       | 0.079       | 200.0          | 225         | 5.56             | 50.0            |
| 1.002 | 3          | 4          | 29.669        | 0.600          | 98.420       | 98.272       | 0.148       | 200.0          | 225         | 6.10             | 50.0            |
| 1.003 | 4          | 5          | 13.867        | 0.600          | 98.272       | 98.203       | 0.069       | 200.0          | 225         | 6.35             | 50.0            |
| 1.004 | 5          | 5_OUT      | 21.183        | 0.600          | 98.203       | 98.062       | 0.141       | 150.0          | 150         | 6.78             | 49.1            |

| Name  | Vel<br>(m/s) | Cap<br>(l/s) | Flow<br>(l/s) | US<br>Depth<br>(m) | DS<br>Depth<br>(m) | Σ Area<br>(ha) | Σ Add<br>Inflow<br>(l/s) | Pro<br>Depth<br>(mm) | Pro<br>Velocity<br>(m/s) |
|-------|--------------|--------------|---------------|--------------------|--------------------|----------------|--------------------------|----------------------|--------------------------|
| 1.000 | 0.921        | 36.6         | 2.7           | 0.600              | 0.676              | 0.020          | 0.0                      | 41                   | 0.538                    |
| 1.001 | 0.921        | 36.6         | 2.7           | 0.676              | 0.755              | 0.020          | 0.0                      | 41                   | 0.538                    |
| 1.002 | 0.921        | 36.6         | 5.4           | 0.755              | 1.303              | 0.040          | 0.0                      | 58                   | 0.664                    |
| 1.003 | 0.921        | 36.6         | 8.3           | 1.303              | 1.372              | 0.061          | 0.0                      | 73                   | 0.747                    |
| 1.004 | 0.818        | 14.5         | 11.0          | 1.447              | 1.488              | 0.083          | 0.0                      | 98                   | 0.899                    |

### Simulation Settings

|                      |          |                            |      |                        |      |
|----------------------|----------|----------------------------|------|------------------------|------|
| Rainfall Methodology | FEH-22   | Skip Steady State          | ✓    | 2 year (l/s)           | 3.2  |
| Rainfall Events      | Singular | Drain Down Time (mins)     | 240  | 100 year (l/s)         | 12.2 |
| Summer CV            | 0.750    | Additional Storage (m³/ha) | 20.0 | Check Discharge Volume | x    |
| Winter CV            | 0.840    | Starting Level (m)         |      |                        |      |
| Analysis Speed       | Normal   | Check Discharge Rate(s)    | ✓    |                        |      |

### Storm Durations

|    |    |    |     |     |     |     |     |     |     |     |      |
|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440 |
|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|

| Return Period<br>(years) | Climate Change<br>(CC %) | Additional Area<br>(A %) | Additional Flow<br>(Q %) |
|--------------------------|--------------------------|--------------------------|--------------------------|
| 2                        | 0                        | 10                       | 0                        |
| 30                       | 0                        | 10                       | 0                        |
| 100                      | 0                        | 10                       | 0                        |
| 100                      | 40                       | 10                       | 0                        |

#### Pre-development Discharge Rate

|                        |            |                              |      |
|------------------------|------------|------------------------------|------|
| Site Makeup            | Brownfield | Time of Concentration (mins) | 5.00 |
| Brownfield Method      | MRM        | Betterment (%)               | 75   |
| Contributing Area (ha) | 0.083      | Q 2 year (l/s)               | 3.2  |
| PIMP (%)               | 100        | Q 100 year (l/s)             | 12.2 |
| CV                     | 0.750      |                              |      |

#### Node 5 Online Hydro-Brake® Control

|                          |        |                         |                                |
|--------------------------|--------|-------------------------|--------------------------------|
| Flap Valve               | x      | Objective               | (HE) Minimise upstream storage |
| Replaces Downstream Link | x      | Sump Available          | ✓                              |
| Invert Level (m)         | 98.203 | Product Number          | CTL-SHE-0082-3000-1000-3000    |
| Design Depth (m)         | 1.000  | Min Outlet Diameter (m) | 0.100                          |
| Design Flow (l/s)        | 3.0    | Min Node Diameter (mm)  | 1200                           |

#### Node 5 Depth/Area Storage Structure

|                             |                      |                          |                      |                           |                          |
|-----------------------------|----------------------|--------------------------|----------------------|---------------------------|--------------------------|
| Base Inf Coefficient (m/hr) | 0.00000              | Safety Factor            | 2.0                  | Invert Level (m)          | 98.203                   |
| Side Inf Coefficient (m/hr) | 0.00000              | Porosity                 | 0.95                 | Time to half empty (mins) | 160                      |
| <b>Depth<br/>(m)</b>        | <b>Area<br/>(m²)</b> | <b>Inf Area<br/>(m²)</b> | <b>Depth<br/>(m)</b> | <b>Area<br/>(m²)</b>      | <b>Inf Area<br/>(m²)</b> |
| 0.000                       | 60.0                 | 60.0                     | 0.800                | 60.0                      | 82.0                     |
|                             |                      |                          | 0.801                | 0.0                       | 82.0                     |

**Results for 2 year +10% A Critical Storm Duration. Lowest mass balance: 99.08%**

| Node Event        | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status |
|-------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|--------|
| 15 minute winter  | 1       | 10          | 98.620    | 0.045     | 3.1          | 0.0366        | 0.0000     | OK     |
| 15 minute winter  | 2       | 11          | 98.542    | 0.043     | 3.0          | 0.0123        | 0.0000     | OK     |
| 15 minute winter  | 3       | 11          | 98.481    | 0.061     | 6.0          | 0.0447        | 0.0000     | OK     |
| 15 minute winter  | 4       | 11          | 98.352    | 0.080     | 9.1          | 0.0466        | 0.0000     | OK     |
| 180 minute winter | 5       | 120         | 98.331    | 0.128     | 3.7          | 7.4911        | 0.0000     | OK     |
| 180 minute winter | 5_OUT   | 120         | 98.101    | 0.039     | 2.2          | 0.0000        | 0.0000     | OK     |

| Link Event<br>(Upstream Depth) | US Node | Link  | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|--------------------------------|---------|-------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute winter               | 1       | 1.000 | 2       | 3.0           | 0.559          | 0.083    | 0.0826        |                    |
| 15 minute winter               | 2       | 1.001 | 3       | 3.0           | 0.434          | 0.083    | 0.1104        |                    |
| 15 minute winter               | 3       | 1.002 | 4       | 6.0           | 0.566          | 0.164    | 0.3156        |                    |
| 15 minute winter               | 4       | 1.003 | 5       | 9.2           | 1.116          | 0.252    | 0.1441        |                    |
| 180 minute winter              | 5       | 1.004 | 5_OUT   | 2.2           | 0.586          | 0.150    | 0.0784        | 15.5               |

**Results for 30 year +10% A Critical Storm Duration. Lowest mass balance: 99.77%**

| Node Event        | US<br>Node | Peak<br>(mins) | Level<br>(m) | Depth<br>(m) | Inflow<br>(l/s) | Node<br>Vol (m³) | Flood<br>(m³) | Status     |
|-------------------|------------|----------------|--------------|--------------|-----------------|------------------|---------------|------------|
| 15 minute winter  | 1          | 10             | 98.657       | 0.082        | 9.7             | 0.0667           | 0.0000        | OK         |
| 15 minute winter  | 2          | 10             | 98.576       | 0.077        | 9.5             | 0.0218           | 0.0000        | OK         |
| 120 minute winter | 3          | 94             | 98.567       | 0.147        | 6.0             | 0.1075           | 0.0000        | OK         |
| 120 minute winter | 4          | 94             | 98.567       | 0.295        | 9.2             | 0.1724           | 0.0000        | SURCHARGED |
| 120 minute winter | 5          | 94             | 98.566       | 0.363        | 11.8            | 21.2300          | 0.0000        | SURCHARGED |
| 120 minute winter | 5_OUT      | 82             | 98.108       | 0.046        | 3.0             | 0.0000           | 0.0000        | OK         |

| Link Event<br>(Upstream Depth) | US<br>Node | Link  | DS<br>Node | Outflow<br>(l/s) | Velocity<br>(m/s) | Flow/Cap | Link<br>Vol (m³) | Discharge<br>Vol (m³) |
|--------------------------------|------------|-------|------------|------------------|-------------------|----------|------------------|-----------------------|
| 15 minute winter               | 1          | 1.000 | 2          | 9.5              | 0.763             | 0.260    | 0.1903           |                       |
| 15 minute winter               | 2          | 1.001 | 3          | 9.4              | 0.591             | 0.257    | 0.2514           |                       |
| 120 minute winter              | 3          | 1.002 | 4          | 6.0              | 0.524             | 0.164    | 0.9969           |                       |
| 120 minute winter              | 4          | 1.003 | 5          | 8.5              | 0.738             | 0.231    | 0.5515           |                       |
| 120 minute winter              | 5          | 1.004 | 5_OUT      | 3.0              | 0.642             | 0.208    | 0.0991           | 34.5                  |

**Results for 100 year +10% A Critical Storm Duration. Lowest mass balance: 99.83%**

| Node Event        | US<br>Node | Peak<br>(mins) | Level<br>(m) | Depth<br>(m) | Inflow<br>(l/s) | Node<br>Vol (m³) | Flood<br>(m³) | Status     |
|-------------------|------------|----------------|--------------|--------------|-----------------|------------------|---------------|------------|
| 180 minute winter | 1          | 140            | 98.716       | 0.141        | 3.0             | 0.1149           | 0.0000        | OK         |
| 180 minute winter | 2          | 140            | 98.716       | 0.217        | 3.0             | 0.0614           | 0.0000        | OK         |
| 180 minute winter | 3          | 140            | 98.716       | 0.296        | 6.0             | 0.2165           | 0.0000        | SURCHARGED |
| 180 minute winter | 4          | 140            | 98.716       | 0.444        | 8.7             | 0.2596           | 0.0000        | SURCHARGED |
| 180 minute winter | 5          | 140            | 98.715       | 0.512        | 11.4            | 29.9418          | 0.0000        | SURCHARGED |
| 30 minute winter  | 5_OUT      | 62             | 98.108       | 0.046        | 3.0             | 0.0000           | 0.0000        | OK         |

| Link Event<br>(Upstream Depth) | US<br>Node | Link  | DS<br>Node | Outflow<br>(l/s) | Velocity<br>(m/s) | Flow/Cap | Link<br>Vol (m³) | Discharge<br>Vol (m³) |
|--------------------------------|------------|-------|------------|------------------|-------------------|----------|------------------|-----------------------|
| 180 minute winter              | 1          | 1.000 | 2          | 3.0              | 0.554             | 0.082    | 0.4977           |                       |
| 180 minute winter              | 2          | 1.001 | 3          | 3.0              | 0.426             | 0.082    | 0.6216           |                       |
| 180 minute winter              | 3          | 1.002 | 4          | 5.7              | 0.465             | 0.156    | 1.1800           |                       |
| 180 minute winter              | 4          | 1.003 | 5          | 8.1              | 0.699             | 0.223    | 0.5515           |                       |
| 180 minute winter              | 5          | 1.004 | 5_OUT      | 3.0              | 0.642             | 0.208    | 0.0991           | 51.6                  |

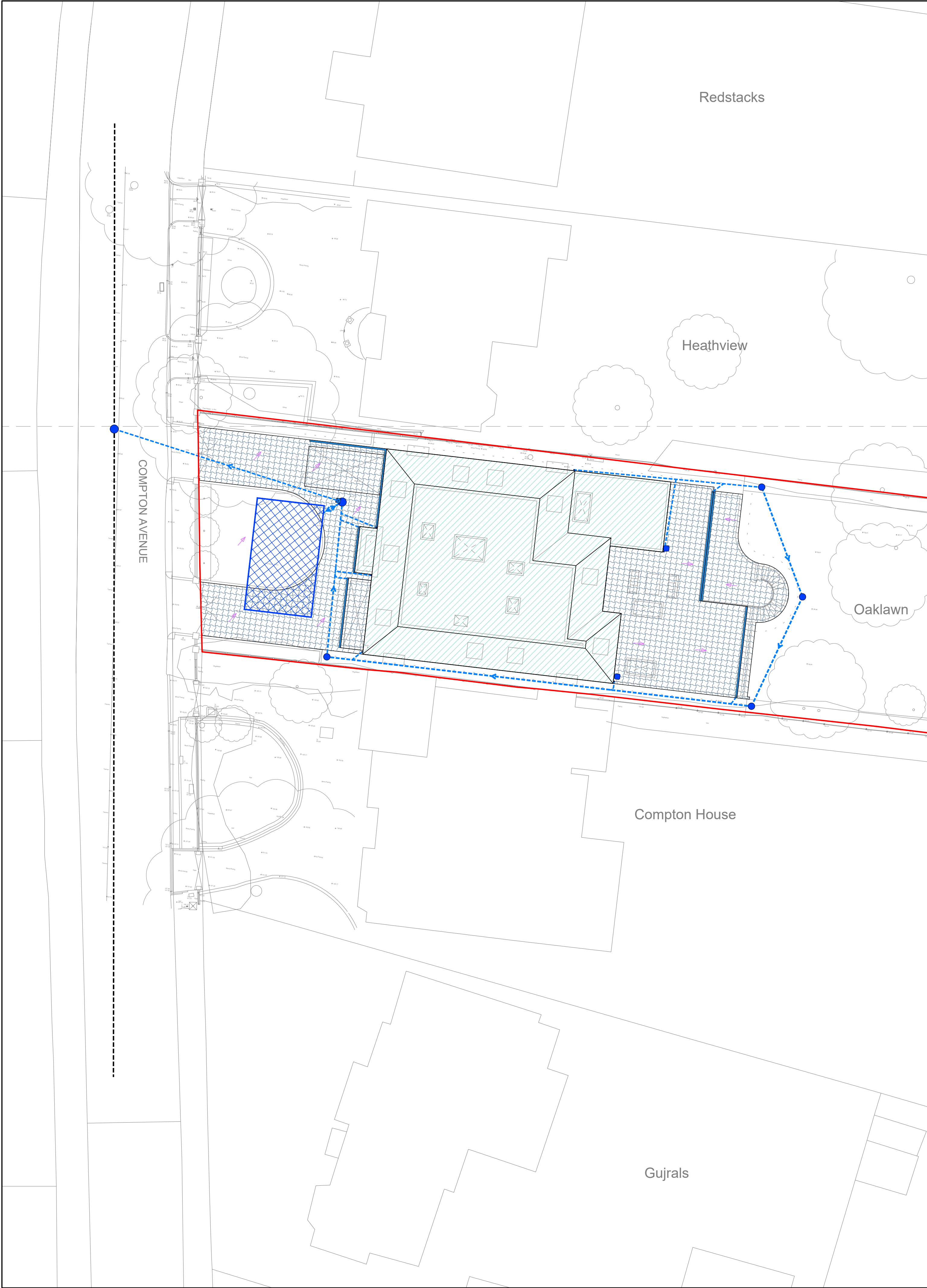
**Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.79%**

| Node Event        | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 180 minute winter | 1       | 172         | 99.215    | 0.640     | 4.2          | 0.5225        | 0.0000     | FLOOD RISK |
| 180 minute winter | 2       | 172         | 99.215    | 0.716     | 4.0          | 0.2027        | 0.0000     | FLOOD RISK |
| 180 minute winter | 3       | 172         | 99.215    | 0.795     | 7.5          | 0.5820        | 0.0000     | FLOOD RISK |
| 180 minute winter | 4       | 164         | 99.215    | 0.943     | 11.4         | 0.5516        | 0.0000     | SURCHARGED |
| 180 minute winter | 5       | 164         | 99.215    | 1.012     | 15.7         | 47.0792       | 0.0000     | SURCHARGED |
| 960 minute summer | 5_OUT   | 510         | 98.108    | 0.046     | 3.0          | 0.0000        | 0.0000     | OK         |

| Link Event<br>(Upstream Depth) | US Node | Link  | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|--------------------------------|---------|-------|---------|---------------|----------------|----------|---------------|--------------------|
| 180 minute winter              | 1       | 1.000 | 2       | 4.0           | 0.592          | 0.109    | 0.6052        |                    |
| 180 minute winter              | 2       | 1.001 | 3       | 3.7           | 0.433          | 0.102    | 0.6254        |                    |
| 180 minute winter              | 3       | 1.002 | 4       | 7.2           | 0.443          | 0.196    | 1.1800        |                    |
| 180 minute winter              | 4       | 1.003 | 5       | 11.2          | 0.747          | 0.305    | 0.5515        |                    |
| 180 minute winter              | 5       | 1.004 | 5_OUT   | 3.0           | 0.642          | 0.208    | 0.0991        | 62.9               |

## Appendix D

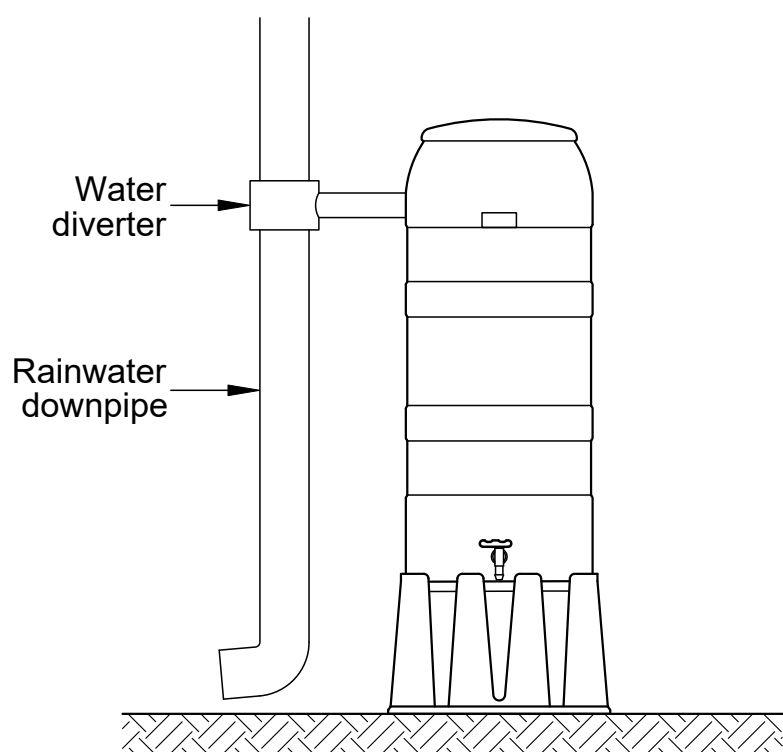
### Management & maintenance plan



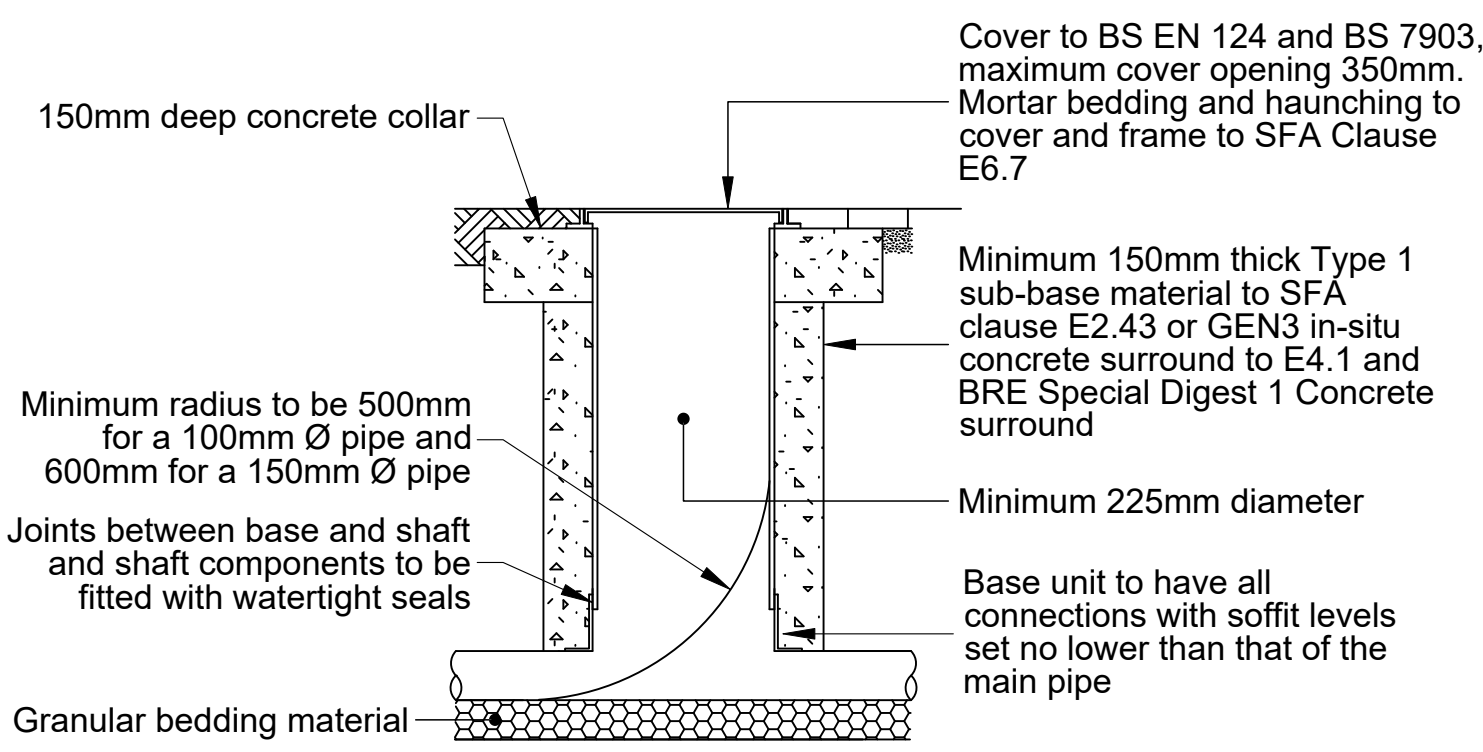
|  | Asset Type                                                 | Maintenance Schedule (and Frequency)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Party Responsible                                                                                                            |
|--|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
|  | Underground drainage pipe network and manholes / catchpits | <p>Regular maintenance:</p> <ul style="list-style-type: none"><li>Remove sediment and debris from pre-treatment devices and floor of inspection tube or chamber (annually)</li><li>Cleaning of gutters and any filters on downpipes (annually)</li><li>Trimming any roots that may be causing blockages (annually or as required)</li></ul> <p>Monitoring:</p> <ul style="list-style-type: none"><li>Inspect silt traps and note rate of sediment accumulation (monthly in the first year and then annually)</li></ul>                                                                                                                                    | Privately owned and maintained by house owners or specialist asset management company as agreed / appointed by house owners. |
|  | Attenuation tank                                           | <p>Regular maintenance:</p> <ul style="list-style-type: none"><li>Remove litter and debris from inlets and outlets (monthly)</li><li>Trimming any roots and surrounding grass blockages (as required)</li></ul> <p>Monitoring:</p> <ul style="list-style-type: none"><li>Inspect inlets, outlets and overflows for blockages (monthly or after a heavy storm)</li><li>Inspect inlets and outlets for silt accumulation (half yearly)</li><li>Inspect infiltration surfaces for compaction and ponding (monthly)</li><li>Survey inside of tank for sediment build-up and remove (annually or as required)</li></ul>                                        |                                                                                                                              |
|  | Linear drainage channel                                    | <p>Regular maintenance:</p> <ul style="list-style-type: none"><li>Remove sediment and debris from grating, channel and sump (monthly or as required)</li><li>Trimming any roots and surrounding grass blockages (as required)</li></ul> <p>Monitoring:</p> <ul style="list-style-type: none"><li>Inspect inlets and outlets for blockages or silt accumulation (monthly or after a heavy storm)</li></ul>                                                                                                                                                                                                                                                 |                                                                                                                              |
|  | Hydrobrake                                                 | <p>Regular maintenance:</p> <ul style="list-style-type: none"><li>Remove silts from the Hydrobrake chamber sump (annually)</li><li>Remove any debris obstructing the inlet, outlet or control ensuring the emergency drain down mechanism if replaced correctly (annually)</li></ul> <p>Monitoring:</p> <p>Inspect the hydrobrake control from the surface for signs of blockage or damage (as required)</p> <ul style="list-style-type: none"><li>Inspect the Hydrobrake chamber sump for build up of silt and the inlet and outlet for debris (annually)</li><li>Check the emergency drain down mechanism is in good working order (annually)</li></ul> |                                                                                                                              |
|  | Rainwater harvesting water butt                            | <p>Regular maintenance:</p> <ul style="list-style-type: none"><li>Clean tank, inlets, outlets, gutters, roof drain filters and withdrawal devices (annually or as required)</li><li>Empty water butt and clean interior, removing any sludge, algae or sediments (annually or as required)</li></ul> <p>Monitoring:</p> <ul style="list-style-type: none"><li>Inspect tank for debris and sediment build up (annually and following poor performance)</li><li>Inspect inlets, outlets and overflow (annually and following poor performance)</li></ul>                                                                                                    |                                                                                                                              |

- Notes:**
- Do not scale from this drawing.
  - All dimensions are in millimeters unless otherwise stated.
  - This drawing to be read in conjunction with all other relevant drawings and documents.
  - All drainage to be constructed to SSG Design and Construction Guidance, current British standards and building regulations and other relevant standards.
  - Exact locations of rain water downpipes and other internal drainage down pipes to be confirmed by architect / M&E engineer. Rain water pipe connections to have rodding access, sump and grated cover. Above ground drainage and pipes to be designed by M&E engineer.
  - Contractor to confirm locations of existing services prior to commencement on site and to arrange for any necessary diversions, lowering or protection works as required.
  - All specialist drainage components such as attenuation tank and flow control to be designed and installed as per manufacturers requirements.
  - Cover levels to be confirmed by landscape architect. Cover levels and invert levels are in meters unless otherwise stated. If cover levels change from assumed then drainage design should be re-assessed, especially in regards to extreme events.
  - Extent of linear drainage channel to perimeter of building and thresholds to highway boundary to be confirmed by architect, design as per manufacturer. Linear channels to have rodding access, sump and grated cover. Linear drains to manufacturer design.
  - Private surface water pipes to be 100Ø with minimum fall of 1:100 unless otherwise stated.
  - Access chamber cover class A15 for garden and patio, B125 for driveway, C250 for lightly trafficked roads or small private car parks.
  - As the site has previously been developed an existing suitable discharge point may already be present on the site. A survey of existing drainage should be undertaken to confirm.
  - Design is for planning purposes only and not for construction. Design should be confirmed prior to construction to ensure all available information is considered and any assumed information should be verified.
  - Design should be reviewed in light of any additional information or on validation or otherwise of any assumptions.
  - The design incorporates the use of a pump. If the electricity or pump fails the property could flood. When the pump manufacturer is confirmed the head flow curve should be incorporated into the design and the design reviewed.

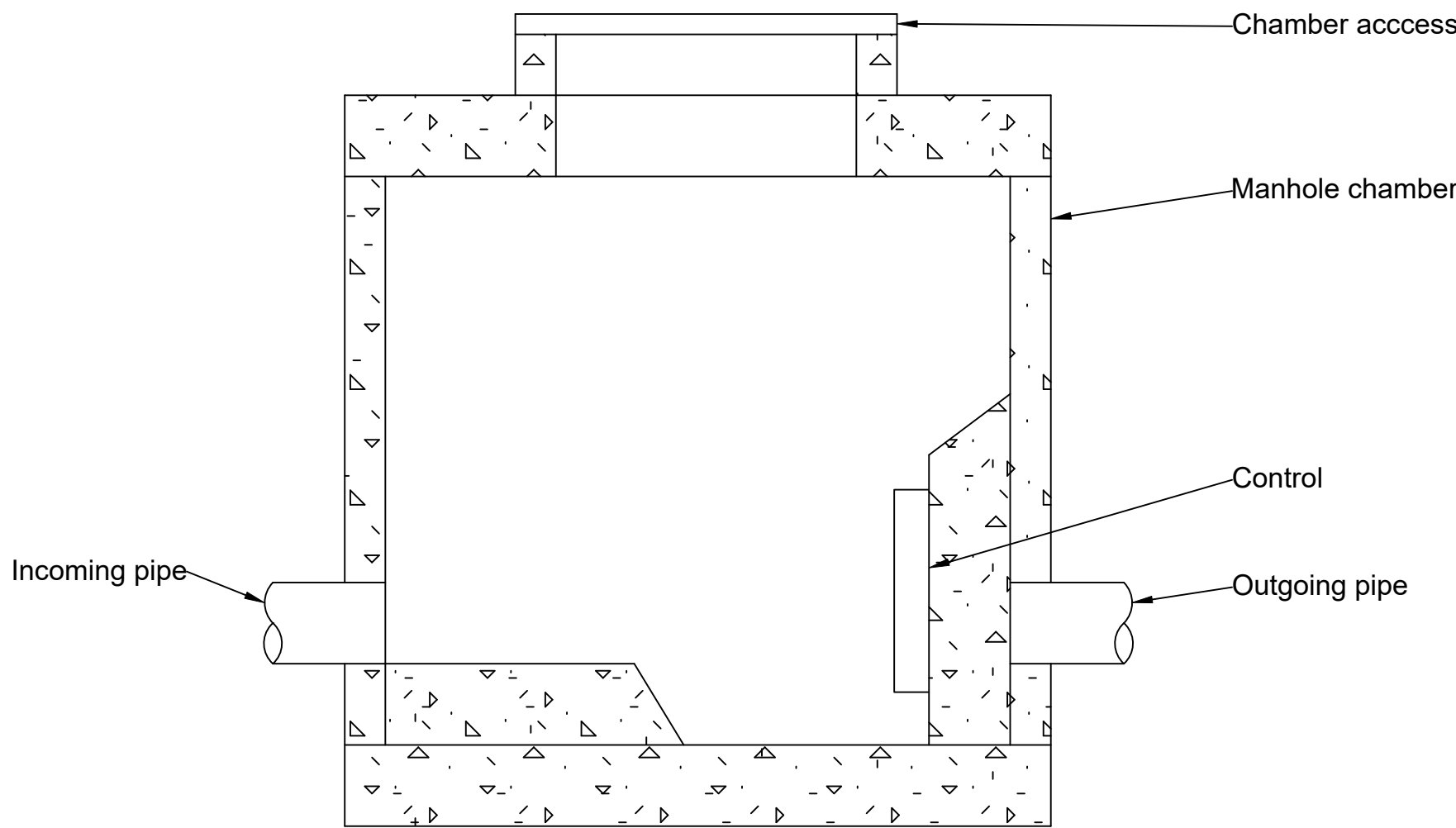
|                                                                                       |             |               |          |      |
|---------------------------------------------------------------------------------------|-------------|---------------|----------|------|
| PL01                                                                                  | 02.07.26    | Initial issue | DS       | MG   |
| Rev                                                                                   | Date        | Detail        | Drwn     | Chkd |
| Client:                                                                               |             |               |          |      |
| By Construction (London) Ltd                                                          |             |               |          |      |
| Project:                                                                              |             |               |          |      |
| Oak Lawn, Compton Avenue                                                              |             |               |          |      |
| Drawing Title:                                                                        |             |               |          |      |
| Management and Maintenance Plan                                                       |             |               |          |      |
|  |             |               |          |      |
| Suite 1, 1 Bellstone Court, Bellstone, Shrewsbury, SY1 1JB                            |             |               |          |      |
| Drawn by:                                                                             | Checked by: | Date:         |          |      |
| DS                                                                                    | MG          | July 2026     |          |      |
| Scale:                                                                                |             |               | Status:  |      |
| N.T.S                                                                                 |             |               | Planning |      |
| Drawing No:                                                                           |             |               | Issue:   |      |
| 91118-500-002                                                                         |             |               | PL01     |      |



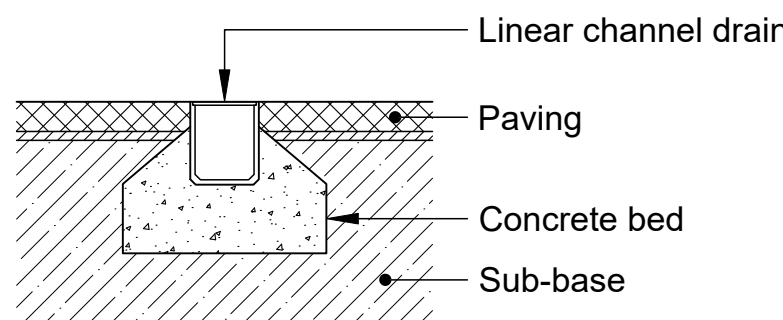
Typical Rain Water Harvest Butt



Typical Inspection Chamber  
(Driveways, paved areas)

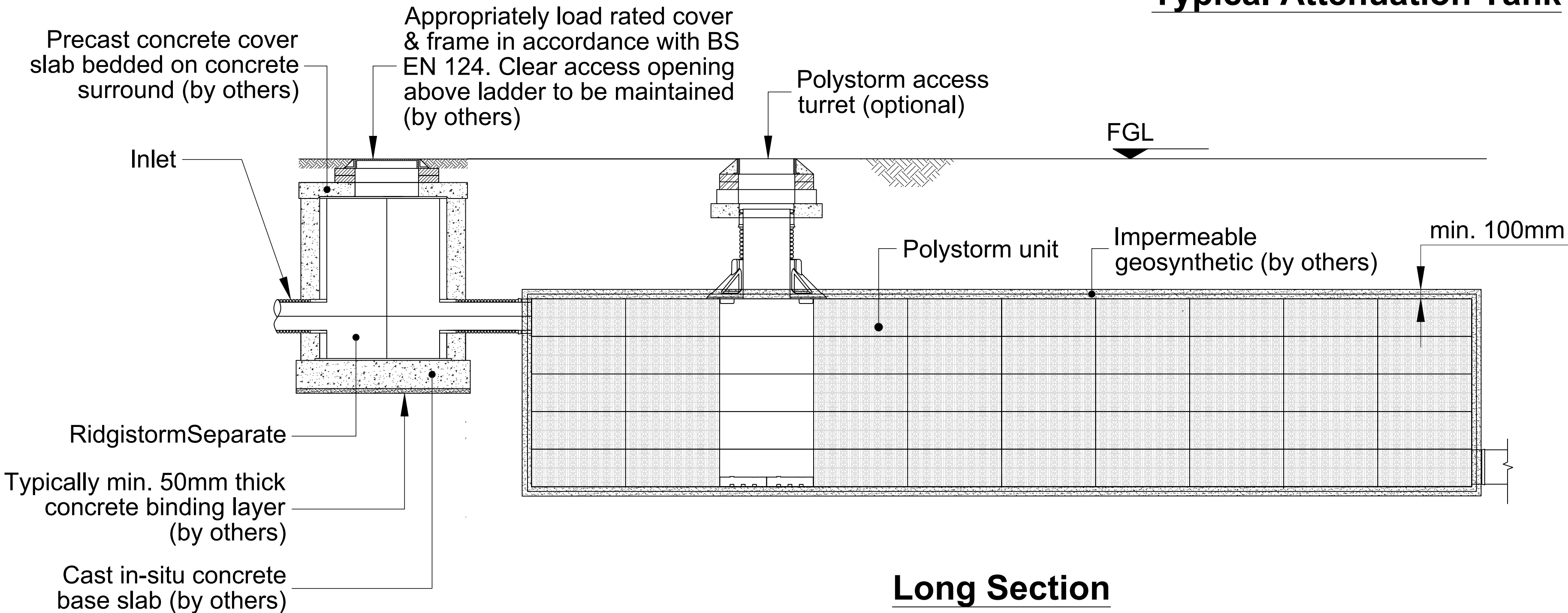


Typical control chamber  
(Design to be specified by manufacturer)

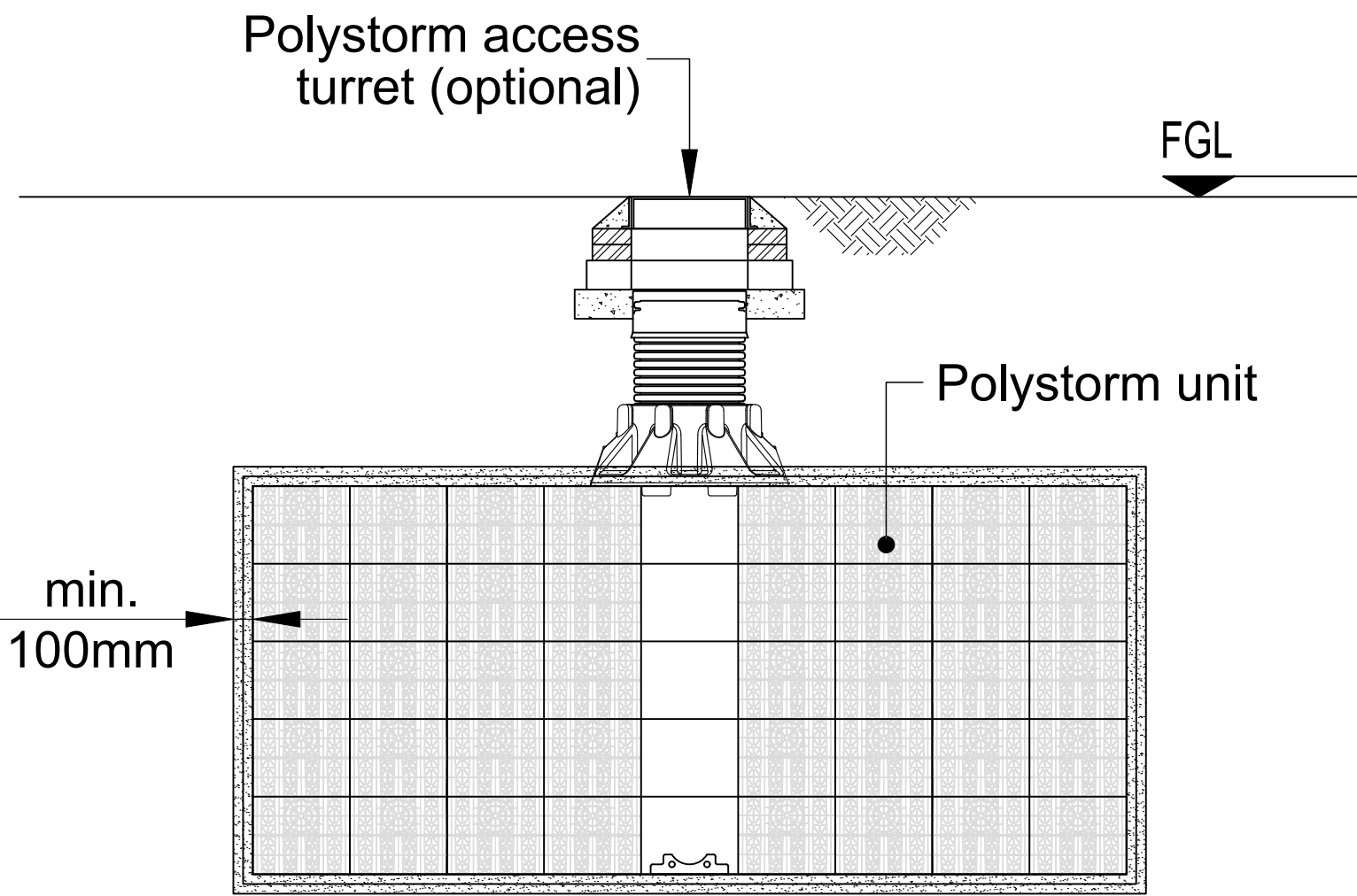


Typical linear drain

Typical Attenuation Tank



Long Section



Cross Section

- Notes:**
- Do not scale from this drawing.
  - All dimensions are in millimeters unless otherwise stated.
  - This drawing to be read in conjunction with all other relevant drawings and documents.
  - All drainage to be constructed to SSG Design and Construction Guidance, current British standards and building regulations and other relevant standards.
  - Exact locations of rain water downpipes and other internal drainage down pipes to be confirmed by architect / M&E engineer. Rain water pipe connections to have rodding access, sump and grated cover. Above ground drainage and pipes to be designed by M&E engineer.
  - Contractor to confirm locations of existing services prior to commencement on site and to arrange for any necessary diversions, lowering or protection works as required.
  - All specialist drainage components such as attenuation tank and flow control to be designed and installed as per manufacturers requirements.
  - Cover levels to be confirmed by landscape architect. Cover levels and invert levels are in meters unless otherwise stated. If cover levels change from assumed then drainage design should be re-assessed, especially in regards to extreme events.
  - Extent of linear drainage channel to perimeter of building and thresholds to highway boundary to be confirmed by architect, design as per manufacturer. Linear channels to have rodding access, sump and grated cover. Linear drains to manufacturer design.
  - Private surface water pipes to be 100Ø with minimum fall of 1:100 unless otherwise stated.
  - Access chamber cover class A15 for garden and patio, B125 for driveway, C250 for lightly trafficked roads or small private car parks.
  - As the site has previously been developed an existing suitable discharge point may already be present on the site. A survey of existing drainage should be undertaken to confirm.
  - Design is for planning purposes only and not for construction. Design should be confirmed prior to construction to ensure all available information is considered and any assumed information should be verified.
  - Design should be reviewed in light of any additional information or on validation or otherwise of any assumptions.
  - The design incorporates the use of a pump. If the electricity or pump fails the property could flood. When the pump manufacturer is confirmed the head flow curve should be incorporated into the design and the design reviewed.

|                                                                                       |             |               |          |      |
|---------------------------------------------------------------------------------------|-------------|---------------|----------|------|
| PL01                                                                                  | 02.07.26    | Initial issue | DS       | MG   |
| Rev                                                                                   | Date        | Detail        | Drwn     | Chkd |
| Client:                                                                               |             |               |          |      |
| By Construction (London) Ltd                                                          |             |               |          |      |
| Project:                                                                              |             |               |          |      |
| Oak Lawn, Compton Avenue                                                              |             |               |          |      |
| Drawing Title:                                                                        |             |               |          |      |
| Cross Sections                                                                        |             |               |          |      |
|  |             |               |          |      |
| Suite 1, 1 Bellstone Court, Bellstone, Shrewsbury, SY1 1JB                            |             |               |          |      |
| Drawn by:                                                                             | Checked by: | Date:         |          |      |
| DS                                                                                    | MG          | July 2026     |          |      |
| Scale:                                                                                |             |               | Status:  |      |
| N.T.S                                                                                 |             |               | Planning |      |
| Drawing No:                                                                           |             |               | Issue:   |      |
| 91118-500-003                                                                         |             |               | PL01     |      |

## Appendix E

### Thames Water Asset Location Plan

Geosmart Information Ltd  
Suite 9-11  
1st Floor  
Old Bank  
SHREWSBURY  
SY1 1HU

**Search address supplied** Oak Lawn  
Compton Avenue  
London  
N6 4LB

**Your reference** 91118

**Our reference** ALS/ALS Standard/2026\_5350571

**Search date** 29 June 2026

### Keeping you up-to-date

#### Price Changes from 1 June 2026

With inflation continuing to influence costs, our prices for all searches will increase by around **4.3%** from **1 June 2026**. We've based this increase on **Retail Price Index (RPI)**.

You can view the new prices here: [thameswater.co.uk/property-searches](https://thameswater.co.uk/property-searches)

If you have any questions, our customer experience team is here to help on **0800 009 4540**.



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



[property.searches@thameswater.co.uk](mailto:property.searches@thameswater.co.uk)  
[thameswater.co.uk/propertysearches](https://thameswater.co.uk/propertysearches)



0800 009 4540

**Search address supplied:** Oak Lawn, Compton Avenue, London, N6 4LB

Dear Sir / Madam

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

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

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

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

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

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

### Contact Us

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

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

Email: [property.searches@thameswater.co.uk](mailto:property.searches@thameswater.co.uk)

Web: [thameswater.co.uk/propertysearches](http://thameswater.co.uk/propertysearches)

## Waste Water Services

**Please provide a copy extract from the public sewer map.**

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

For your guidance:

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

## Clean Water Services

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

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

# Asset Location Search



## Property Searches

For your guidance:

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

### Further contacts:

#### Waste Water queries

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

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

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

Tel: 0800 009 3921  
Email: [developer.services@thameswater.co.uk](mailto:developer.services@thameswater.co.uk)

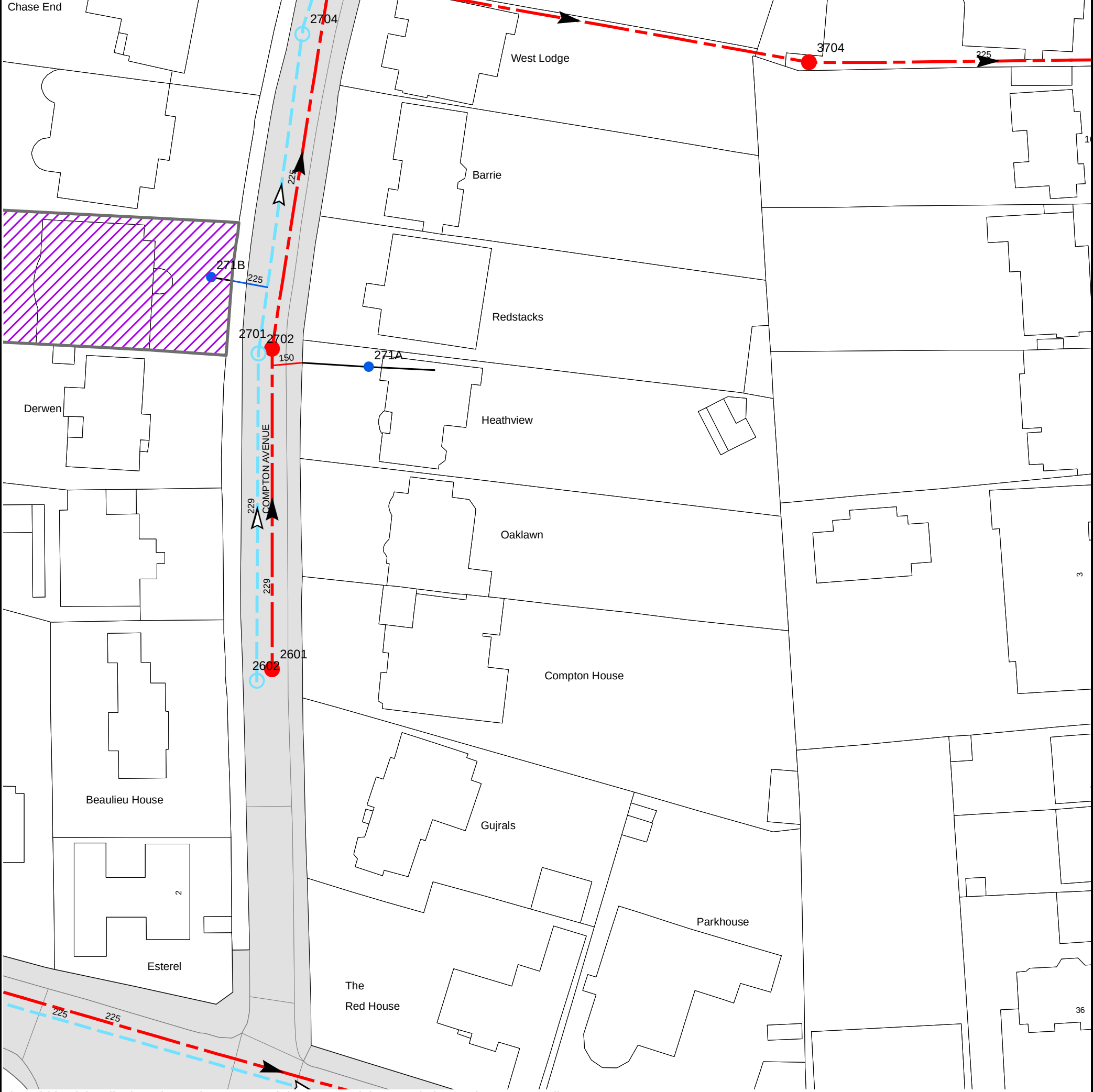
#### Clean Water queries

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

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

Tel: 0800 009 3921  
Email: [developer.services@thameswater.co.uk](mailto:developer.services@thameswater.co.uk)

Asset Location Search Sewer Map - ALS/ALS Standard/2026 5350571



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 527278,187686  
The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

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

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

| Manhole Reference                                                                                                                                                                                                                                                                                                                                                                                                      | Manhole Cover Level | Manhole Invert Level |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------|
| 2601                                                                                                                                                                                                                                                                                                                                                                                                                   | 112.21              | 109.38               |
| 2704                                                                                                                                                                                                                                                                                                                                                                                                                   | 104.98              | 102.46               |
| 3704                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 271B                                                                                                                                                                                                                                                                                                                                                                                                                   | 107.02              | 105.08               |
| 2602                                                                                                                                                                                                                                                                                                                                                                                                                   | 112.29              | 110.03               |
| 271A                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                 | n/a                  |
| 2702                                                                                                                                                                                                                                                                                                                                                                                                                   | 107.64              | 105.10               |
| 2701                                                                                                                                                                                                                                                                                                                                                                                                                   | 107.51              | 104.47               |
| 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 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 (eg. rain water from roofs, driveways 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.
- Trunk Sewer:** A strategic sewer which collects either foul or surface water flow from a number of subsidiary catchments and transfers this flow to a pumping station, river outfall or 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**
- Gulley:** These sewers are generally maintained by the relevant highway authority.

## Sewer Fittings

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

- Air Valve**
- Dam Chase**
- Fitting**
- Meter**
- Vent**

## Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer.

- Ancillary**
- Drop Pipe**
- Control Valve**
- Weir**

## End Items

End symbols appear at the start or end of the sewer pipe. eg. 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**
- Undefined End**
- Outfall**

0800 009 4540

[property.searches@thameswater.co.uk](mailto:property.searches@thameswater.co.uk)

[thameswater.co.uk/propertysearches](https://thameswater.co.uk/propertysearches)

## Other Symbols

Symbols used on maps that 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 and agreements etc.

- Agreement/Adoption**
- Operational Site**
- Chamber**
- Awaiting Ordnance Survey data**

## Ducts or Crossings

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

- Casement**
- Subway**
- Conduit Bridge**
- 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.

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|                                                                 |  |
|-----------------------------------------------------------------|--|
| Asset Location Search Water Map - ALS/ALS Standard/2026_5350571 |  |
|-----------------------------------------------------------------|--|



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 527278, 187686.

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

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



# Asset Location Search Water Key

## Water Pipes

(Operated and maintained by Thames Water)

- 4" CI** **Distribution Main:** The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.
- 16" CI** **Trunk Main:** A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.
- 3" CI** **Supply Main:** A supply main indicates that the water main is used as a supply for a single property or group of properties.
- 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**
- Network 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**

- 0800 009 4540
- property.searches@thameswater.co.uk
- thameswater.co.uk/propertysearches

## Operational Sites

- Booster Station**
- Other**
- Pumping Station**
- Service Reservoir**
- Shaft Inspection**
- Treatment Works**
- Unknown**
- Water Tower**

## Other Symbols

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

## Other Water Pipes

(Not operated and maintained by Thames Water)

- Other Water Company Main:** Occasionally other water company water pipes may overlap the border of our clean water area. These mains are denoted in purple and in most cases have the owner of the pipe displayed along them.
- Private Main:** Indicates that the 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.

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## Disclaimer

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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.

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## 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](mailto: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 1, 1 Bellstone Court, Bellstone, SY1 1JB.

Tel: 01743 298 100

Email: [info@geosmartinfo.co.uk](mailto: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.

## 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](mailto:admin@tpos.co.uk)

You can get more information about the PCCB from [www.propertycodes.org.uk](http://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](mailto: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:

Liz Lloyd

Finance Manager

GeoSmart Information Limited

Suite 1

1 Bellstone Court

Bellstone, Shrewsbury, SY1 1JB

Tel: 01743 298 100

[support@geosmartinfo.co.uk](mailto:support@geosmartinfo.co.uk)

# 11. Terms and conditions, CDM regulations and data limitations

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**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/>