

SuDS Report

November 2025



Eaton Court,
104-112 Oxford Road,
Reading,
RG1 7NG

BMR Property Group

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The content of this report is based on information available as of November 2025, the validity of the statements made may therefore vary over time as planning guidance / policies and the evidence base change.

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1 Introduction

- 1.1 This Flood Risk Assessment (FRA) and SuDS Drainage strategy has been prepared to support application for Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG (hereafter referred to as 'the site'). A site location plan is enclosed in **Appendix A**.
- 1.2 Proposals include a vertical extension of three additional floors to the building fronting Oxford Road. While these works form part of a wider scheme to redevelop the entire site, this application relates exclusively to the vertical extension of this building.
- 1.3 The proposed site layout is enclosed in **Appendix B**.
- 1.4 The EA Flood Map for Planning shows the site is located within Flood Zone 1. Areas in Flood Zone 1 are defined as having a less than a 0.1% (1 in 1000) annual probability of river flooding.
- 1.5 The site is shown to not be at risk of surface water flooding. However, Oxford Road, to the south, is shown to be at risk up to depths of 200mm.
- 1.6 The contents of this SuDS report are based on the advice set out in the National Planning Policy Framework (NPPF) published in December 2024, Annex 3: Flood risk vulnerability classification, also from the NPPF and PPG 'Guidance for Flood Risk and Coastal Change', updated in August 2022.
- 1.7 This report is based on the Environment Agency flood maps, geology mapping, OS mapping, topographic survey, Strategic Flood Risk Assessment, and national & local policy.
- 1.8 This document includes the following sections:
 - Section 2 - describes the relevant policy;
 - Section 3 – provides a site description and background information;
 - Section 4 – review any potential sources of flooding;
 - Section 5 – outlines any required mitigation measures;
 - Section 6 – details the proposed drainage strategy;
 - Section 7 – outlines maintenance and management schedules; and
 - Section 8 - summarises and concludes the report.

2 Policy Context

Introduction

2.1 This section sets out the policy context. This report is based on the advice set out in the National Planning Policy Framework (NPPF) last updated December 2024 and the Planning Practical Guidance (PPG) updated in August 2022.

2.2 Paragraph 181 of the NPPF discusses the use for site-specific flood-risk assessments and what the assessment should demonstrate:

“When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:

a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;

b) the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;

c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;

d) any residual risk can be safely managed; and

e) safe access and escape routes are included where appropriate, as part of an agreed emergency plan.”

2.3 Paragraph 181 footnote 63 of the NPPF states:

“A site-specific flood risk assessment should be provided for all developments in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.”

2.4 The flood zones are defined as:

- Flood Zone 1 - less than a 0.1% (1 in 1000) annual probability of river or tidal flooding.
- Flood Zone 2 - between a 0.1% and 1% (1 in 1000 and 1 in 100) annual probability of river flooding; or between a 0.1% and 0.5% (1 in 1000 and 1 in 200) annual probability of flooding from tidal sources.
- Flood Zone 3a- This zone comprises land assessed as having a 1% (1 in 100) or greater annual probability of river flooding; and for tidal flooding at least a 0.5% (1 in 200) annual probability of flooding from tidal sources.

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- Flood Zone 3b - This zone comprises land where water has to flow or be stored in times of flood. This classification is usually classified as land which had a 3.33% (1 in 30) annual probability of flooding.
- 2.5 Paragraph 170 discusses the suitability of development location, particularly with regards to future risks induced by climate change:
- “Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.”*
- 2.6 Paragraph 175 states:
- “The sequential test should be used in areas known to be at risk now or in the future from any form of flooding, except in situations where a site-specific flood risk assessment demonstrates that no built development within the site boundary, including access or escape routes, land raising or other potentially vulnerable elements, would be located on an area that would be at risk of flooding from any source, now and in the future (having regard to potential changes in flood risk).”*
- 2.7 Paragraph 182 of the NPPF discusses the application of sustainable drainage systems:
- “Applications which could affect drainage on or around the site should incorporate sustainable drainage systems to control flow rates and reduce volumes of runoff, and which are proportionate to the nature and scale of the proposal. These should provide multifunctional benefits wherever possible, through facilitating improvements in water quality and biodiversity, as well as benefits for amenity. Sustainable drainage systems provided as part of proposals for major development should:*
- a) take account of advice from the Lead Local Flood Authority;*
 - b) have appropriate proposed minimum operational standards; and*
 - c) have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development.”*
- 2.8 The site is located within Flood Zone 1. Areas in Flood Zone 1 are defined as having a less than a 0.1% (1 in 1000) annual probability of river flooding.
- 2.9 The EA Flood Map has been enclosed in **Appendix C**.

Local Policy

Reading Borough Local Plan (Adopted November 2019)

- 2.10 This document sets out our planning policies for development in Reading up to 2036.
- 2.11 Policy EN18 Flooding and Sustainable Drainage Systems states:

“Development will be directed to areas at lowest risk of flooding in the first instance, following the Sequential and Exceptions Test set out in the NPPF, and taking into account the effects of climate change. It will consider flooding from all sources, including fluvial, surface water, groundwater and sewer flooding. Where development in areas at risk of flooding is necessary, it will not reduce the capacity of the flood plain to store floodwater, impede the flow of floodwater or in any way increase the risks to life and property arising from flooding. Wherever possible, development should be designed to reduce flood risk, both on- and off-site.

All major developments must incorporate sustainable drainage systems (SuDS) as appropriate and in line with the Government’s Technical Standards. Smaller schemes are encouraged to incorporate SuDS, where possible. Runoff rates should aim to reflect greenfield conditions and, in any case, must be no greater than the existing conditions of the site. Schemes should ensure that the movement of water through vertical infiltration as well as horizontal run-off does not worsen contamination effects. Wherever possible, SuDS provision should maximise ecological benefits, link into the existing Green Network, incorporate tree planting and landscaping and avoid damage to existing significant trees, including through changes to the site hydrology. All new developments in areas of flood risk should give priority to SuDS.”

Reading Borough Council Strategic Flood Risk Assessment (SFRA) November 2024

- 2.12 The SFRA assess all sources of flood risk across the borough and this information should be used for strategic planning and flood risk management.
- 2.13 Appendix 1-A Fluvial Flood Map confirms the site is located in Flood Zone 1.
- 2.14 Appendix 2 Surface Water Flood Maps confirms the site is at risk of surface water flooding.
- 2.15 Appendix 4B confirms the bedrock geology at the site is Seaford Chalk.
- 2.16 Appendix 5 confirms the site is not considered to be at risk of reservoir flooding.
- 2.17 Appendix 6 shows that there are no recorded flood outlines within close proximity to the site.
- 2.18 Table 4 within the SFRA shows Thames Water Sewer Flooding Incidents. The site’s postcode region (RG1) has 7 external flooding and 7 internal flooding sewer recorded incidents. It is worth noting that the previous SFRA (June 2017), identified 51-100 recorded incidents of sewer flooding within the site’s postcode area.

3 Existing Site Assessment

Site Description

- 3.1 This SuDS drainage strategy has been prepared to support an application for a vertical extension of three additional floors to the building fronting Oxford Road at Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG.
- 3.2 A site location plan is enclosed in **Appendix A** and the proposed site plans are enclosed in **Appendix B**.
- 3.3 The site is located in the centre of Reading and is bound by a doctor's surgery and car park to the north, Eaton Place to the east, Oxford Road to the south, and Bond House hotel to the west.

Local Watercourses

- 3.4 The River Kennet, an EA Main River, is located approximately 660m southeast of the site. The River Thames, also an EA Main River is located approximately 1km northeast of the site.

Site Levels

- 3.5 The topographic survey is enclosed in **Appendix D**.
- 3.6 Levels across the site are relatively flat, with levels along the southern perimeter of the building ranging from 43.83mAOD in the west to 43.92mAOD in the east, and levels along the northern perimeter of the building ranging from 43.93mAOD in the northeastern corner to 43.98mAOD in the west.

Geology

- 3.7 British Geological Survey (BGS) online mapping shows the site to be located on a bedrock of Seaford Chalk Formation and Newhaven Chalk Formation (undifferentiated) – chalk, with superficial deposits of Taplow Gravel Member – sand and gravel.
- 3.8 There are multiple borehole records to the east, the other side of Eaton Place Road. The nearest borehole, adjacent to the site (Ref SU77SW1108) recorded sand and gravel up to depths of 7m, followed by chalk up to depths of 37.5m, with water struck at a depth of 6.1m.
- 3.9 The DEFRA Magic Map shows the site is located beyond the extents of Source Protection Zone III
- 3.10 The DEFRA Magic Map shows the site is located within a principle bedrock aquifer designation zone and is located within a Secondary A aquifer designation zone for superficial deposits
- 3.11 The DEFRA Magic Map shows the site is located in a medium-high groundwater vulnerability area of soluble rock.

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Sewer Records

- 3.12 Sewer records obtained from Thames Water are enclosed in **Appendix E**.
- 3.13 A 225mm diameter surface water sewer runs southerly down Eaton Place, to the east of the site, before running westerly along Oxford Road, to the South of the site. The nearest surface water manhole (MH Ref. 8352) is contained within Oxford Road, and has a cover level of 43.59mAOD, and an invert level of 42.11mAOD.
- 3.14 A foul water sewer network runs alongside this surface water network, with the nearest manhole (MH Ref. 8301) having a cover level of 43.69mAOD and an invert level of 40.28mAOD.
- 3.15 It is assumed that existing drainage on site is served by one of these networks.

4 Potential Sources of Flooding

Fluvial

- 4.1 The site is shown to be located in Flood Zone 1 on the Flood Map for Planning. Areas in Flood Zone 1 are defined as having a less than a 0.1% (1 in 1000) annual probability of river flooding. The source of flooding at the site is the River Kennet, an EA Main River.
- 4.2 The EA Flood Map has been enclosed in **Appendix C**.

Surface Water

- 4.3 The Long-Term Flood Map and the risk of flooding from surface water (RoFSW) data was updated in January 2025.
- 4.4 The RoFSW products are an assessment of where surface water flooding may occur when rainwater does not drain away through the normal drainage systems or soak into the ground but lies on or flows over the ground instead. It includes information about flooding extents and depths. Risk is displayed as one of three likelihood categories:
 - High - greater than or equal to 1 in 30 (3.3%) chance of flooding in any year
 - Medium – Less than 1 in 30 (3.3%) but greater than or equal to 1 in 100 (1%) chance of flooding in any given year
 - Low – Less than 1 in 100 (1%) but greater than or equal to 1 in 1000 (0.1%) chance of flooding in any given year
- 4.5 As well as present day risk of flooding from surface water, climate change scenarios have been produced to indicate the predicted impacts of climate change on future flood risk. The climate change allowances are based on the latest UK Climate Projections (UKCP18) from the Met Office, using the Representative Concentration Pathway (RCP) 8.5. A near-term epoch (2040 – 2060 “2050s” epoch) and central allowances are being used initially.
- 4.6 For the purpose of this flood risk assessment, the RoFSW the Climate Change 1 2040-2060 data set has been used.
- 4.7 Figure 1 in **Appendix E** shows the risk of surface water flooding at any depth. In this scenario, the site is not shown to be at risk of flooding. There is a small amount of high risk towards the eastern perimeter of the site boundary, with this area of flooding bordering the building to the east of the site. The northern part of the wider development area is shown to be at low to high flood risk, with flooding concentrated around a topographical low point near the centre of the site. Oxford Road, to the south, is shown to have a low to medium risk of flooding.

- 4.8 Figure 2 in **Appendix E** shows the risk of surface water flooding exceeding 200mm, up to 300mm. In this scenario, Oxford Road is shown to be primarily at no risk of flooding with a few modelled pixels of low risk. The levels of risk to the east and north of the site previously identified remain at the same risk level.
- 4.9 Figure 3 in **Appendix E** shows the risk of surface water flooding exceeding 300mm, up to 600mm. Within this scenario, the site is shown to not be at risk of flooding. The area to the north is still shown to be at medium to high risk of flooding around the identified low point.

Reservoir

- 4.10 The site is not considered to be at risk of reservoir flooding. A copy of the Reservoir Flood Map is enclosed in **Appendix F**.

Groundwater

- 4.11 There is no information regarding groundwater flooding within the SFRA. However, the site is remaining hardstanding and the proposal is for units on the second floor and above. Therefore, the site is not considered to be at risk from groundwater flooding.

Sewer

- 4.12 The SFRA shows that the site's postcode region (RG1) has 7 external flooding and 7 internal flooding sewer recorded incidents.
- 4.13 As there is no additional impermeable area and no changes to the building footprint, the existing surface water drainage system will continue to serve the proposed use. Therefore, no additional runoff will be directed to the onsite drainage as a result of the development and thus there is no increased risk of localised onsite sewer flooding.

5 Mitigation Measures

- 5.1 The proposals are for a vertical roof extension therefore the new residents will be safe from any sources of flooding within the new apartments.
- 5.2 However, as identified in Section 4, there is a risk of surface water flooding that has been identified around the building to be extended, including within the proposed area of car parking which located to the front of the building, and in Oxford Road.
- 5.3 The depth of the flooding is generally identified to be below 200mm and the level of risk generally 'low risk'.
- 5.4 As a result, under design flood conditions (1% AEP plus climate change as indicated by a medium surface water flood risk), both the car park and a route west along Oxford Road will not be impacted by flooding.
- 5.5 Flood warning measures, are therefore proposed to be limited to a section within the new residents' welcome pack, identifying the risk of surface water flooding and recommending a safe access and egress route as being, out of the front entrance of the building and west along Oxford Road. The text should make it clear that no attempt should be made to either walk or drive through flood water of any depth.

6 Proposed Drainage Strategy

Relevant SuDS Policy

- 6.1 SuDS mimic natural drainage patterns and provide a method of surface water drainage which can decrease the quantity of water discharged and hence reduce the risk of flooding. SuDS design should meet the “four pillars” of SuDS which are: Water Quantity, Water Quality, Amenity and Biodiversity, wherever possible.
- 6.2 In decreasing order of preference, the preferred means of disposal of surface water runoff is:
- Discharge to ground.
 - Discharge to a surface water body.
 - Discharge to a surface water sewer.
 - Discharge to a combined sewer.

Site-Specific SuDS

- 6.3 The various SuDS methods need to be considered in relation to site-specific constraints. Several SuDS options are available to reduce or temporarily hold back the discharge of surface water runoff. Table 6.1 outlines the constraints and opportunities to each of the SUDS devices in accordance with the hierarchical approach outlined in The SuDS Manual CIRIA C753. It also indicates what could and could not be incorporated within the development, based upon site-specific criteria.

Device	Description	Constraints / Comments	Appropriate
Living roofs (source control)	Provide soft landscaping at roof level which reduces surface water runoff.	A green roof is proposed.	Yes
Infiltration devices & Soakaways (source control)	Store runoff and allow water to percolate into the ground via natural infiltration.	No suitable location on site for soakaways. Geology not considered suitable for shallow infiltration.	No
Pervious surfaces (source control)	Storm water is allowed to infiltrate through the surface into a storage layer, from which it can either infiltrate and/or slowly release to sewers.	No suitable location onsite	No

Rainwater harvesting (source control)	Reduces the annual average rate of runoff from the site by reusing water for non-potable uses e.g. toilet flushing, recycling processes.	Not suitable location onsite	No
Swales (permeable conveyance)	Broad shallow channels that convey / store runoff, and allow infiltration (ground conditions permitting).	No suitable location onsite	No
Filter drains & perforated pipes (permeable conveyance)	Trenches filled with granular materials (to take flows from adjacent impermeable areas) that convey runoff while allowing infiltration.	Infiltration is not proposed	No
Filter Strips (permeable conveyance)	Wide gently sloping areas of grass or dense vegetation that remove pollutants from run-off from adjacent areas.	Infiltration is not proposed	No
Infiltration basins (end of pipe treatment)	Depressions in the surface designed to store runoff and allow infiltration.	Infiltration is not proposed	No
Wet ponds & constructed wetlands (end of pipe treatment)	Provide water quality treatment & temporary storage above the permanent water level.	No suitable location onsite	No
Attenuation Underground (end of pipe treatment)	Oversized pipes or geo-cellular tanks designed to store water below ground level.	No suitable location onsite	No
Raingardens	Rain gardens are relatively small depressions in the ground that can act as infiltration points for roof water and other 'clean' surface water.	No suitable location onsite	No

Table 6.1 Site Specific SuDS

Consideration of SuDS Hierarchy

- 6.4 Proposals include the construction of an additional three floors to the existing building, and as such, there is to be no additional roof area.
- 6.5 It is assumed that surface water runoff from the site currently discharges unrestricted into the nearby adopted Thames Water surface water sewer, to the east or the south of the south.
- 6.6 It is therefore proposed to utilise this existing drainage network currently serving the site.

Surface Water Drainage Design Parameters

- 6.7 The following design parameters have been used in the SuDS design.

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- Climate Change Allowance – The 2070s ‘Upper End’ Climate Change allowance is 40% and shall be applied to the hydraulic drainage network design.
- Storm Events - The Hydraulic Model shall be run for a 1:2yr Storm Event, 1:30yr Storm Event, 1:30yr + 40% Climate Change Event, 1:100yr Storm Event and 1:100yr + 40% Climate Change Storm Event.
- Rainfall Data – FEH2022 Rainfall Data has been used in this assessment.
- The CV value for Winter and Summer storms has been set to 1.0
- A 5 min time of entry has been used
- All SuDS features to have a half drain time within 24hrs (1440mins)

Pre-Development Runoff Rates and Discharge Volumes – Greenfield sites

- 6.8 As the proposed development does not add any additional roof area, an improvement to the current drainage situation is proposed through the implementation of two green roofs.
- 6.9 The proposed works involve the construction of an additional three floors to the existing building. The roof for this extension consists of two flats roofs, with areas of 344m² and 224m². The surrounding existing roof, which will remain unchanged, has an area of 150m². This impermeable area has also been included in the hydraulic calculations.
- 6.10 As there is no suitable location on site to implement other SuDS features, the green roofs on the flat roof areas represents an improvement over the existing drainage arrangement.
- 6.11 It is assumed that surface water runoff from the site currently discharges unrestricted into the existing surface water sewer located to the east or the south of the site.
- 6.12 Greenfield runoff rates were estimated using the FEH method on the Causeway Flow software. The results of which are included in **Appendix H**. The proposed green roof area of the site is 0.0713ha, therefore the following greenfield runoff rates for a range of storm events have been scaled accordingly:
- 1 in 1 year – 0.7 l/s/ha – 0.050 l/s
 - 1 in 2 year – 0.9 l/s/ha – 0.064 l/s
 - 1 in 30 year – 2.7 l/s/ha – 0.19 l/s
 - 1 in 100 year – 3.7 l/s/ha – 0.26 l/s
 - Discharge Volume for 1:100yr 360min Storm: 11.12m³

Pre-Development Runoff Rates and Discharge Volumes – Brownfield Sites

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- 6.13 As mentioned above, we are looking to improve a betterment of the existing roof area using two green roofs.
- 6.14 To calculate the existing runoff rates, a 'dummy' existing drainage network, based on information from topographical data has been modelled for a range of storm events using Causeway Flow. The runoff rates results are contained in **Appendix I** and include the brownfield runoff volume for a 1:100yr 360min Storm Event. These are summarised below:
- 1 in 2 year – 10.2 l/s
 - 1 in 30 year – 33.5 l/s
 - 1 in 30 year +40%CC – 45.0 l/s
 - 1 in 100 year – 42.2 l/s
 - 1 in 100 year +40%CC – 52.2 l/s
- 6.15 Causeway Flow FEH-22 Method was used to calculate the 1:100yr 360min Storm Event Discharge Volume for 0.0713ha, totalling a discharge volume of 49.2m³.

Post Development Runoff Rate

- 6.16 A green roof has been modelled, with an indicative rate of 12.6l/s provided for the 1 in 100yr +40%CC storm event. This provides a 39.6l/s betterment on the existing situation in design rainfall conditions.

Proposed SuDS Strategy

- 6.17 It is proposed to utilise green roofs on the newly proposed flat roof areas, to offer an improvement on the existing situation on site. These green roofs will provide water quality, water quantity, amenity and biodiversity benefits, meeting all 4 Pillars of SuDS.
- 6.18 The Causeway Flow Hydraulic Model Outputs are included in **Appendix J** and the proposed SuDS Layout is included in **Appendix K**. The calculations are outline only and the calculate rate may change depending on the final chosen green roof system.
- 6.19 The green roofs will be located on the proposed flat roofs, treating and attenuating runoff here before connecting into the existing surface water drainage system.
- 6.20 The Causeway Flow Hydraulic Model Outputs demonstrate the proposed green roofs will provide a betterment on the existing situation to manage all storm events up to and including a 1 in 100 + 40%CC storm event.
- 6.21 An example specification for a green roof is included in **Appendix L**.

Long Term Storage

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- 6.22 The post development discharge volume is lower than the existing brownfield discharge volume, therefore long-term storage is not required.

Half Drain Times

- 6.23 As previously mentioned, the green roofs proposed to manage runoff have been modelled as a hydrographs on Causeway Flow. This hydraulic modelling software does not generate half drain time outputs for hydrographs, and therefore a half drain time for this feature cannot be provided.
- 6.24 During the detailed design phase, it is anticipated that the selected green roof supplier will provide site-specific, detailed calculations to determine both the half drain times and maximum storage capacities of the proposed devices.

Exceedance Event

- 6.25 The proposed surface water drainage strategy is designed to accommodate a 1:100yr + 40% Climate Change Storm Event. In the unlikely event that an exceedance event occurs, flood waters would flow away from the building, in a northerly direction behind the site, and in a southerly direction towards Oxford Road.
- 6.26 An Exceedance Route Plan is included in **Appendix K**.

Water Quality

- 6.27 The proposed drainage strategies are to meet the water quality requirements set out by Table 26.2 of the CIRIA SuDS Manual C753 which sets out the specific pollution hazard indices for residential roofs and low traffic roads in Table 6.2 below.

Land Use	Hazard Level	Pollution Hazard Indices		
		Suspended Solids	Metals	Hydrocarbons
Residential Roofs	Very low	0.2	0.2	0.05
Pollution Mitigation Required		0.2	0.2	0.05

Table 6.2 Land Use Pollution Hazard Ratings. Extracted from the CIRIA SuDS Manual C753 Simple Index Approach Tool.

- 6.28 Table 6.3 below shows that the proposed green roofs meets the required pollution mitigation indices.

SuDS Component	Pollution Mitigation Indices		
	Suspended Solids	Metals	Hydrocarbons
Green Roof	0.8	0.7	0.9

Table 6.3 SuDS Component Pollution Mitigation for Green Roofs Extracted and adapted from the CIRIA SuDS Manual C753 Simple Index Approach Tool.

7 Maintenance of Development Drainage

- 7.1 The maintenance of the SuDS features will remain the responsibility of the site owner or an appointed maintenance company. The site owner/appointed management company will be responsible for maintaining the proposed green roof.
- 7.2 Regular inspections and maintenance should be carried out for each of these elements, particularly after periods of heavy rainfall. Maintenance tasks and frequencies for green roofs are detailed in the CIRIA SUDS Manual (C753) and have been summarised below in Table 7.1.

Maintenance Schedule	Required Action	Typical Frequency
Regular Inspections	Inspect all components including soil substrate, vegetation, drains, irrigation systems (if applicable), membranes and roof structure for proper operation, integrity of waterproofing and structural stability.	Annually and after severe storms.
	Inspect soil substrate for evidence of erosion channels and identify any sediment sources.	Annually and after severe storms.
	Inspect drain inlets to ensure unrestricted runoff from the drainage layer to the conveyance or roof drain system.	Annually and after severe storms.
	Inspect underside of roof for evidence of leakage.	Annually and after severe storms.
Regular Maintenance	Remove debris and litter to prevent clogging of inlet drains and interference with plant growth.	Six monthly and annually or as required.
	During establishment (i.e. one year), replace dead plants as required.	Monthly (but usually responsibility of manufacturer)
	Post establishment, replace dead plants as required (where >5% of coverage)	Annually (in autumn).
	Remove fallen leaves and debris from deciduous plant foliage.	Six monthly or as required.
	Remove nuisance and invasive vegetation, including weeds.	Six monthly or as required.
	Mow grasses, prune shrubs and manage other planting (if appropriate) as required – clippings should be removed and not allowed to accumulate.	Six monthly or as required.
Remedial Actions	If erosion channels are evident, these should be stabilised with extra soil substrate similar to the original material, and sources of erosion damage should be identified and controlled.	As required.
	If drain inlet has settled, cracked or moved, investigate and repair as appropriate.	As required.

Table 7.1: Maintenance tasks for green roofs (Source: CIRIA C753, The SuDS Manual)

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- 7.3 It is recommended that during the first 12 months of operation all SuDS and drainage features are visually inspected on a monthly basis to determine any seasonal patterns this includes all SuDS features, inspection chambers, inlets and outlets. This will determine whether or not the recommended service intervals set out by CIRIA in the figures above will be sufficient for maintenance beyond the first year.
- 7.4 After the first 12 months, the maintenance schedule should be designed to at least meet the requirements set out by CIRIA based on the outcome of the monitoring.

Gutters and Downpipes

- 7.5 It is good practice to ensure that these are occasionally inspected to ensure they are in good order and free of leaves & debris. Once every 6 months should be sufficient.

8 Conclusion

- 8.1 This SuDS drainage strategy has been prepared to support application for three-floor vertical extension to the building fronting Oxford Road, at Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG.

Flood Risk Summary

- 8.2 The proposals are for a vertical roof extension therefore the new residents will be safe from all sources of flooding within the new apartments.
- 8.3 However, as identified in Section 4, there is a risk of surface water flooding that has been identified around the building to be extended, including within the proposed area of car parking which located to the front of the building, and in Oxford Road.
- 8.4 The depth of the flooding is generally identified to be below 200mm and the level of risk generally 'low risk'.
- 8.5 As a result, under design flood conditions (1% AEP plus climate change as indicated by a medium surface water flood risk), both the car park and a route west along Oxford Road will not be impacted by flooding.
- 8.6 Flood warning measures, are therefore proposed to be limited to a section within the new residents' welcome pack, identifying the risk of surface water flooding and recommending a safe access and egress route as being, out of the front entrance of the building and west along Oxford Road. The text should make it clear that no attempt should be made to either walk or drive through flood water of any depth.

SuDS Summary

- 8.7 It is assumed that surface water runoff from the site currently discharges unrestricted into one of the surrounding existing surface water sewers, located to the east or the south of the site.
- 8.8 The proposed development does not add any additional roof area.
- 8.9 It is proposed to utilise two green roofs on the newly proposed flat roof area, to offer an improvement on the existing situation on site. These green roofs will provide water quality, water quantity, amenity and biodiversity benefits, meeting all 4 Pillars of SuDS.
- 8.10 The maintenance tasks have been outlined in the report.

Conclusion

- 8.11 It is concluded that there are no reasons on flood risk or surface water drainage grounds as to why permission should not be granted.

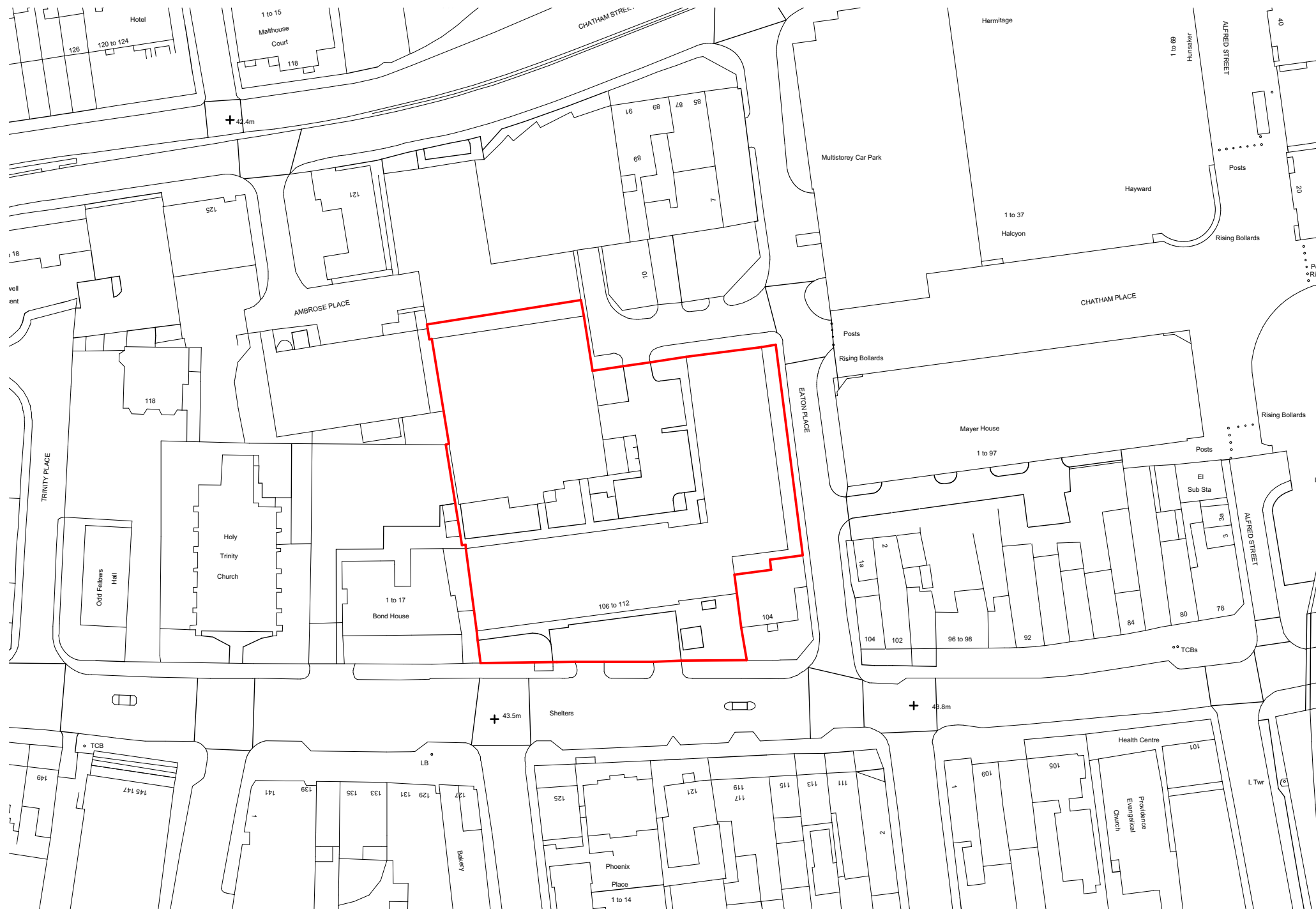
SuDS | Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG

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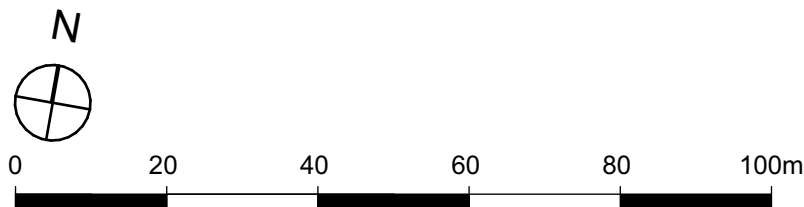
Appendix: A – Location Plan

SuDS | Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG



Site Location Plan

Scale 1:1000@A3



PLEASE NOTE: All drawing information is indicative and subject to further design development & detail design. Position and extent of all utilities (overground & underground), easements, topographical features & trees to be confirmed and subject to further surveys. Exact site boundary position TBC through land registry plan and further on site investigations. Layout design is drawn for feasibility & discussion purposes only and has been based on PDF survey information that is subject to a full measured building survey.



Project	rg+p prj. reference
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Eaton Court, Reading 103-225

Status

Pre-App

Client _____

BMR Property Group

Package

/ Existing Building

Sheet Title

Site Location Plan

Scale

Date _____

12.05.2025

Drawn by _____ Checked by _____

Drawing reference	Revision
000 000 000 000	

103-225_(SK)200

London | Birmingham | Leicester
0203 237 0381 | 0121 300 0071 | 0116 204 5800

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Notes:
All designs should be constructed in strict accordance with building regulations

In addition any materials, components and fixings in/or connected to a façade should be non-combustible if the top storey of the building is above 11m.

All dimensions to be checked on site. Do not scale off this drawing for construction purposes.

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Fig. 1. $\text{H}_2 + \text{D}_2$ reaction at $\text{H}_2 + \text{D}_2$.

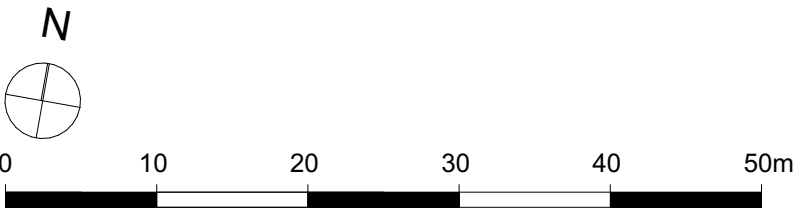
Appendix: B – Proposed Site Plans

SuDS | Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG



Proposed Ground Floor Plan

Scale 1:500@A3



Accommodation Schedule - Planning

Level	Storey Height (m)	1B1P		1B2P		2B3P		2B4P		3B5P		Amenity, Refuse & Cycle	Total Units	Total Beds	GIA (m2)	NSA (m2)	NSA/GIA
		40m²	NSA	50m²	NSA	61m²	NSA	70m²	NSA	86m²	NSA						
GF	-	-	-	-	-	-	-	-	-	-	-	156m²	-	-	-	-	-
01	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
02	0	m²	2	115m²	2	127m²	2	154m²	2	88m²	1	22m²	7	13	561m²	484m²	86%
03	1	46m²	3	167m²	0	m²	0	m²	1	94m²	1	0	5	7	320m²	307m²	96%
Total	0.00	1	46m²	5	281m²	2	127m²	2	154m²	2	183m²	178m²	12	20	881m²	792m²	90%
Mix			8.3%		41.7%		16.7%		16.7%		16.7%						

Please note all apartments are minimum NDSS areas.
Please note this does not include the separate permitted development application.

Total Units	12
Total Cycle Spaces	42
Total Car Parking Spaces	89 & 10 Visitor Spaces

Revision:	Date:	Drawn:	Check:
A	Updated to client comments.	30.04.25	EAB JW1
B	Draft removed.	08.05.25	EAB JW1
C	Updated to comments, status updated to planning.	17.07.25	EAB JW1
D	Updated to comments after redesign of Class AA.	22.09.25	EAB RTM/LBU
E	Updated units to deck access.	08.10.25	EAB JER/RTM
F	Updated to comments.	03.11.25	EAB RTM/LBU

- Key:
- Application Site Boundary
 - Proposed Bin Store (Fortnight Collection)
 - Proposed Cycle Store

PLEASE NOTE: All drawing information is indicative and subject to further design development & detail design. Position and extent of all utilities (overground & underground), easements, topographical features & trees to be confirmed and subject to further surveys. Exact site boundary position TBC through land registry plan and further on site investigations. Layout design is drawn for feasibility & discussion purposes only and has been based on PDF survey information that is subject to a full measured building survey.

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Structural capacity of the existing building to support residential conversion and associated loadings;

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Services coordination, including drainage, vertical risers, and ventilation routes;

Access and inclusivity, including potential lift upgrades and Part M compliance;

Waste and cycle storage arrangements;

Assessment of hazardous materials (e.g., asbestos) within the existing fabric.

All elements remain subject to detailed technical input, further surveys, and compliance with current planning and building regulations.

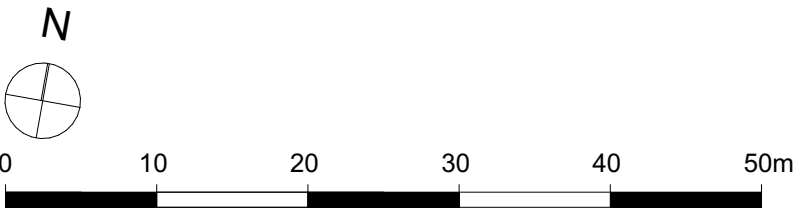


Project	rg+p prj. reference
Eaton Court, Reading	103-225
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Client	BMR Property Group
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Sheet Title	Proposed Ground Floor Plan
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EAB	JW1
Drawing reference	Revision
103-225_(SK)101F	
London Birmingham Leicester 0203 327 0381 0121 309 0071 0116 204 5800 rg+p.co.uk - design@rg+p.co.uk	
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Proposed First Floor Plan

Scale 1:500@A3



Accommodation Schedule - Planning

Level	Storey Height (m)	1B1P		1B2P		2B3P		2B4P		3B5P		Amenity, Refuse & Cycle	Total Units	Total Beds	GIA (m ²)	NSA (m ²)	NSA/GIA
		40m ²	NSA	50m ²	NSA	61m ²	NSA	70m ²	NSA	86m ²	NSA						
GF	-	-	-	-	-	-	-	-	-	-	-	156m ²	-	-	-	-	-
01	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
02	0	m ²	2	115m ²	2	127m ²	2	154m ²	1	88m ²	-	22m ²	7	13	561m ²	484m ²	86%
03	1	46m ²	3	167m ²	0	m ²	0	m ²	1	94m ²	-	0	5	7	320m ²	307m ²	96%
Total	0.00	1	46m ²	5	281m ²	2	127m ²	2	154m ²	2	183m ²	178m ²	12	20	881m ²	792m ²	90%
Mix			8.3%		41.7%		16.7%		16.7%		16.7%						

Please note all apartments are minimum NDSS areas.
Please note this does not include the separate permitted development application.

Total Units	12
Total Cycle Spaces	42
Total Car Parking Spaces	89 & 10 Visitor Spaces

Revision:	Date:	Drawn:	Check:
A	Updated to client comments.	30.04.25	EAB JW1
B	Draft removed.	08.05.25	EAB JW1
C	Updated to comments, status updated to planning.	17.07.25	EAB JW1
D	Updated to comments after redesign of Class AA.	22.09.25	EAB RTM/LBU
E	Updated units to deck access.	08.10.25	EAB JER/RTM
F	Updated to comments.	03.11.25	EAB RTM/LBU

Key:

Application Site Boundary

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Access and inclusivity, including potential lift upgrades and Part M compliance;

Waste and cycle storage arrangements;

Assessment of hazardous materials (e.g., asbestos) within the existing fabric.

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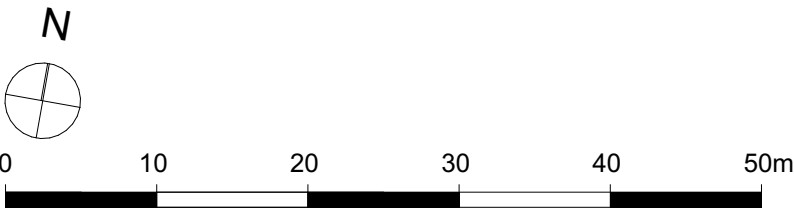


Project	rg+p prj. reference
Eaton Court, Reading	103-225
Status	Planning
Client	BMR Property Group
Package	/ Planning
Sheet Title	Proposed First Floor Plan
Scale	1:500@A3
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Drawing reference	Revision
103-225_(SK)102F	
London Birmingham Leicester 0203 327 0381 0121 309 0071 0116 204 5800 rg+p.co.uk - design@rg+p.co.uk	
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Proposed Second Floor Plan

Scale 1:500@A3



Accommodation Schedule - Planning

Level	Storey Height (m)	1B1P		1B2P		2B3P		2B4P		3B5P		Amenity, Refuse & Cycle	Total Units	Total Beds	GIA (m ²)	NSA (m ²)	NSA/GIA
		40m ²	NSA	50m ²	NSA	61m ²	NSA	70m ²	NSA	86m ²	NSA						
GF	-	-	-	-	-	-	-	-	-	-	-	156m ²	-	-	-	-	-
01	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
02	0	m ²	2	115m ²	2	127m ²	2	154m ²	1	88m ²	-	22m ²	7	13	561m ²	484m ²	86%
03	1	46m ²	3	167m ²	0	m ²	0	m ²	1	94m ²	-	0	5	7	320m ²	307m ²	96%
Total	0.00	1	46m ²	5	281m ²	2	127m ²	2	154m ²	2	183m ²	178m ²	12	20	881m ²	792m ²	90%
Mix		8.3%		41.7%		16.7%		16.7%		16.7%							

Please note all apartments are minimum NDSS areas.
Please note this does not include the separate permitted development application.

Total Units	12
Total Cycle Spaces	42
Total Car Parking Spaces	89 & 10 Visitor Spaces

Revision:	Date:	Drawn:	Check:
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E	Updated units to deck access.	08.10.25	EAB JER/RTM
F	Updated to comments.	03.11.25	EAB RTM/LBU

- Key:
- Application Site Boundary
 - 1B1P
 - 1B2P
 - 2B3P
 - 2B4P
 - 3B5P

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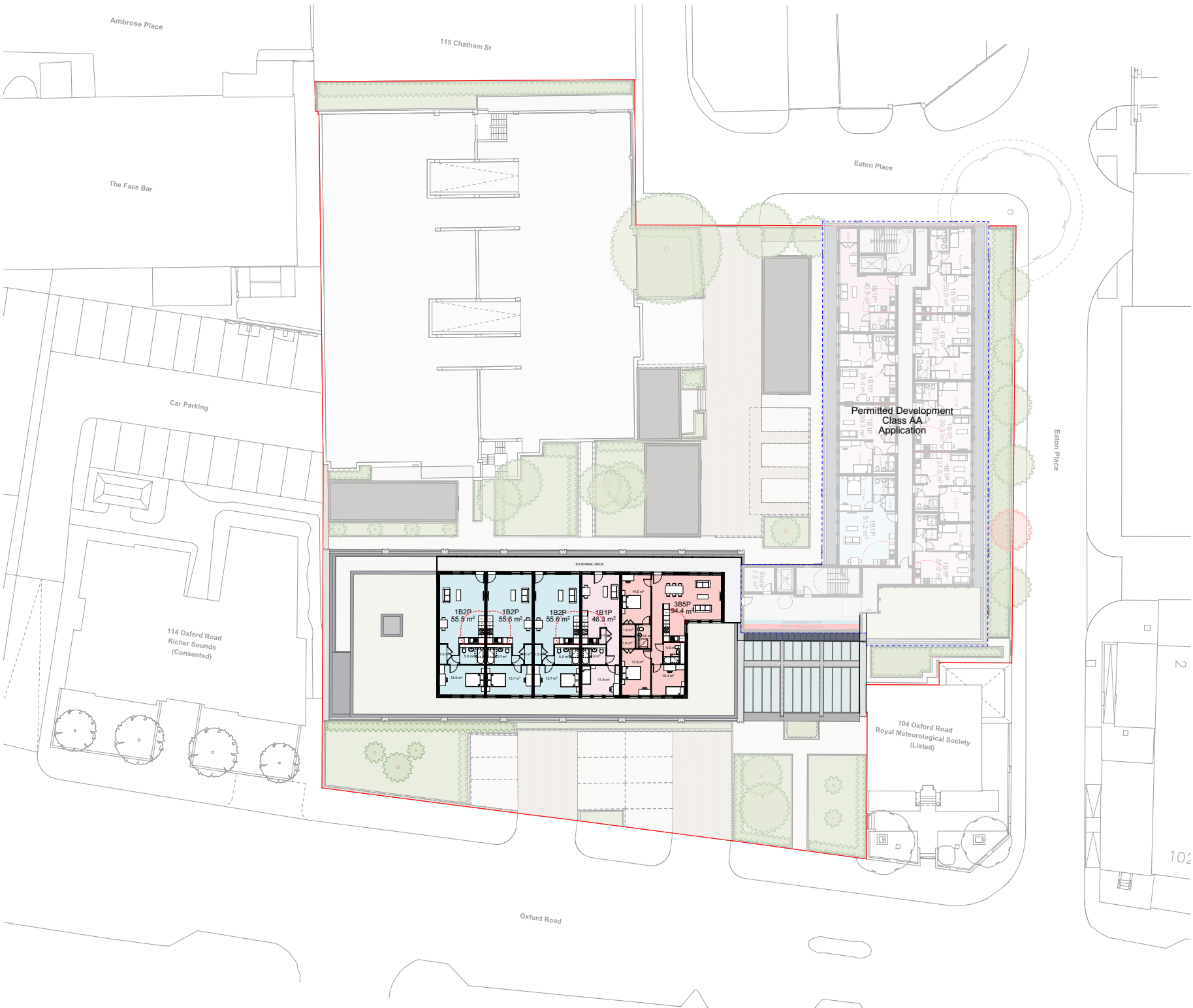
Waste and cycle storage arrangements;

Assessment of hazardous materials (e.g., asbestos) within the existing fabric.

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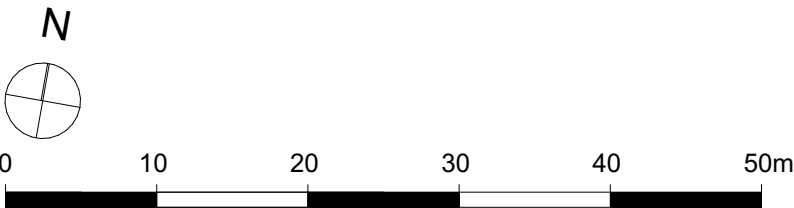


Project	rg+p prj. reference
Eaton Court, Reading	103-225
Status	Planning
Client	BMR Property Group
Package	/ Planning
Sheet Title	Proposed Second Floor Plan
Scale	1:500@A3
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EAB	JW1
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103-225_(SK)103F	
London Birmingham Leicester 0203 327 0381 0121 309 0071 0116 204 5800 rg+p.co.uk - design@rg+p.co.uk	
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Proposed Third Floor Plan

Scale 1:500@A3



Accommodation Schedule - Planning

Level	Storey Height (m)	1B1P		1B2P		2B3P		2B4P		3B5P		Amenity, Refuse & Cycle	Total Units	Total Beds	GIA (m ²)	NSA (m ²)	NSA/GIA
		40m ²	NSA	50m ²	NSA	61m ²	NSA	70m ²	NSA	86m ²	NSA						
GF	-	-	-	-	-	-	-	-	-	-	-	156m ²	-	-	-	-	-
01	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
02	0	m ²	2	115m ²	2	127m ²	2	154m ²	1	88m ²	-	22m ²	7	13	561m ²	484m ²	86%
03	1	46m ²	3	167m ²	0	m ²	0	m ²	1	94m ²	-	0	5	7	320m ²	307m ²	96%
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Please note all apartments are minimum NDSS areas.
Please note this does not include the separate permitted development application.

Total Units	12
Total Cycle Spaces	42
Total Car Parking Spaces	89 & 10 Visitor Spaces

Revision:	Date:	Drawn:	Check:
A	Updated to client comments.	30.04.25	EAB JW1
B	Draft removed.	08.05.25	EAB JW1
C	Updated to comments, status updated to planning.	17.07.25	EAB JW1
D	Updated to comments after redesign of Class AA.	22.09.25	EAB RTM/LBU
E	Updated units to deck access.	08.10.25	EAB JER/RTM
F	Updated to comments.	03.11.25	EAB RTM/LBU

Key:

- Application Site Boundary
- 1B1P
- 1B2P
- 2B3P
- 2B4P
- 3B5P

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Waste and cycle storage arrangements;

Assessment of hazardous materials (e.g., asbestos) within the existing fabric.

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Project	rg+p prj. reference
Eaton Court, Reading	103-225

Status	
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Client	
BMR Property Group	

Package	/ Planning
Sheet Title	

Proposed Third Floor Plan	
Scale	

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Date	

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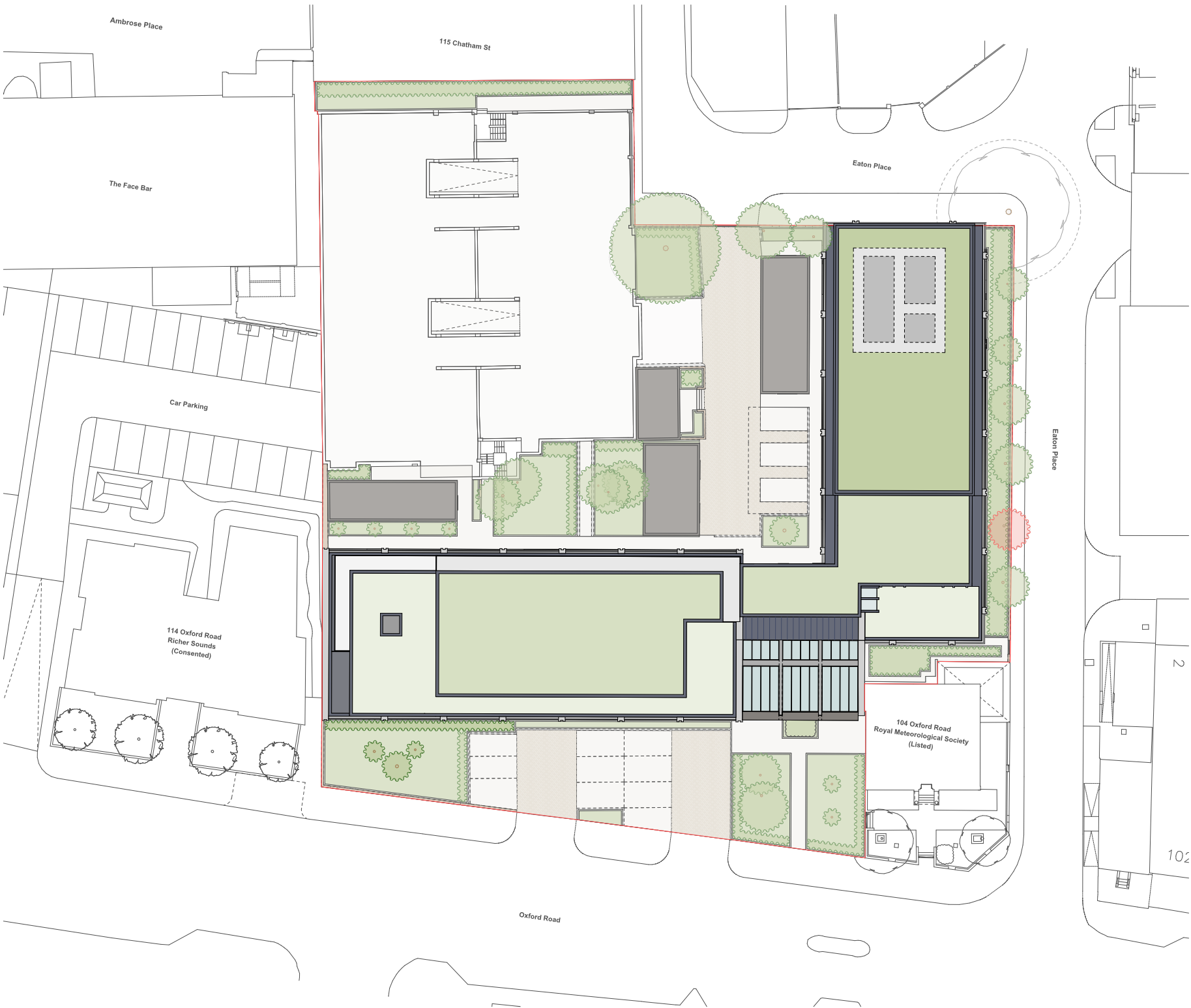
EAB	JW1
Drawing reference	Revision

103-225_(SK)104F	
London Birmingham Leicester	

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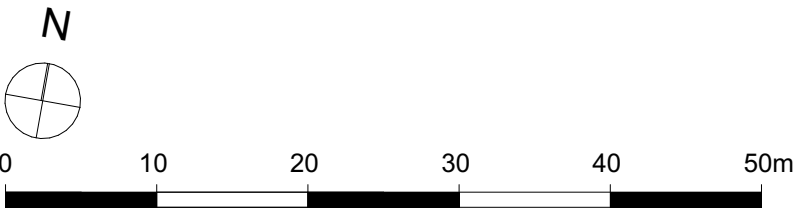
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Proposed Site Plan

Scale 1:500@A3



Accommodation Schedule - Planning

Level	Storey Height (m)	1B1P		1B2P		2B3P		2B4P		3B5P		Amenity, Refuse & Cycle	Total Units	Total Beds	GIA (m2)	NSA (m2)	NSA/GIA
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01	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
02	0	m²	2	115m²	2	127m²	2	154m²	1	88m²	-	22m²	7	13	561m²	484m²	86%
03	1	46m²	3	167m²	0	m²	0	m²	1	94m²	-	0	5	7	320m²	307m²	96%
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Mix			8.3%		41.7%		16.7%		16.7%		16.7%						

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A	Updated to comments after redesign of Class AA.	22.09.25	EAB RTM/LBU
B	Updated units to deck access.	08.10.25	EAB JER/RTM
C	Updated to comments.	03.11.25	EAB RTM/LBU

Key:
 Application Site Boundary

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Project	rg+p prj. reference
Eaton Court, Reading	103-225
Status	
Planning	
Client	
BMR Property Group	
Package	
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EAB	JW1
Drawing reference	Revision
103-225_(SK)110C	
London Birmingham Leicester 0203 327 0381 0121 309 0071 0116 204 5800 rg+p.co.uk - design@rg+p.co.uk	
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Appendix: C – Flood Map for Planning

SuDS | Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG

Flood map for planning

Your reference
Unspecified

Location (easting/northing)
470886/173426

Created
4 August 2025 08:49

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following**:

- bigger than 1 hectare (ha)
- in an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

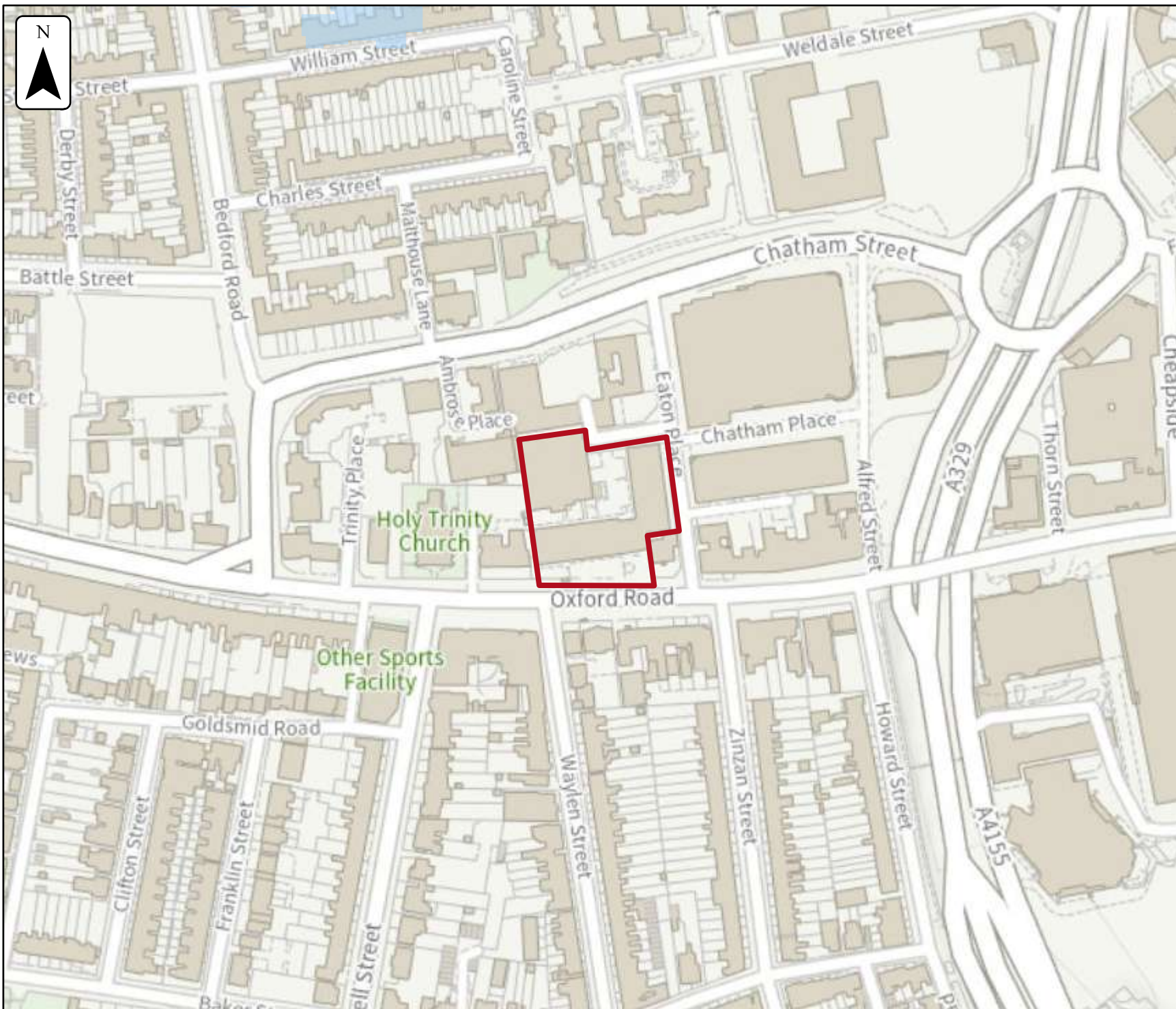
Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3>

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2025 AC0000807064. <https://flood-map-for-planning.service.gov.uk/os-terms>



Flood map for planning

Your reference

Unspecified

Location (easting/northing)

470886/173426

Scale

1:2,500

Created

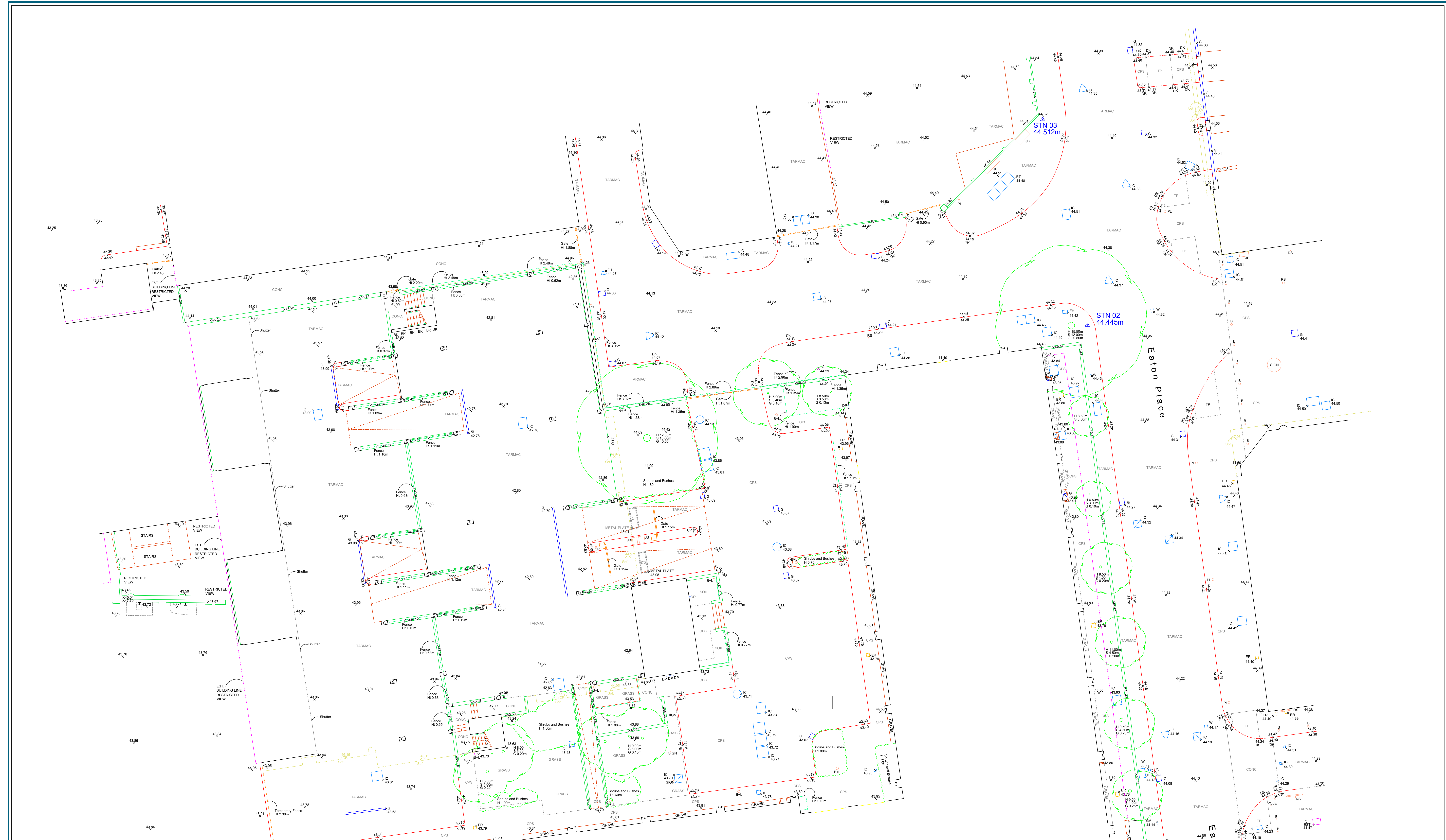
4 Aug 2025 08:49

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area


0 20 40 60m

Appendix: D – Topographical Survey

SuDS | Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG



Sources:

Levels are related to Ordnance Survey
Datum via GPS Observations

Survey location is related to Ordnance
Survey Grid via GPS Observations.

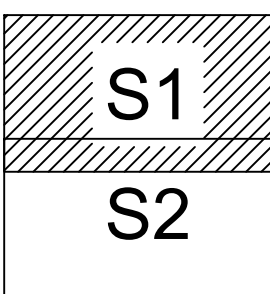
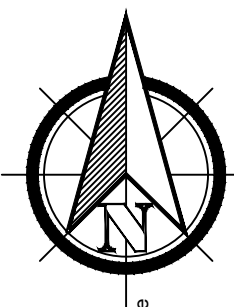
All information contained in this drawing
(including digital data) should be checked and
verified prior to any fabrication or construction.

Stations:

STN01 - 470928.862, 173394.232, 43.807
STN02 - 470920.418, 173459.714, 44.445
STN03 - 470916.832, 173476.193, 44.512

Key:

A/C	Air Conditioning Unit	PO	Post
B	Bollard	RL	Ridge Level
BP	Brick Paving	SRFC	Surface Change
BT	BT Inspection Cover	S/O	Smoke Outlet
CATV	Cable Television Inspection Cover	SV	Stop Valve
CPS	Concrete Paving Slab	TCB	Telephone Call Box
DK	Dropped Kerb	TP	Tactile Paving
DP	Down Pipe	W	Water Inspection Cover
EL	Eaves Level	WM	Water Meter
FH	Fire Hydrant	CH	Cole Hole
G	Gully		
GP	Gate Post		
IC	Inspection Cover		
ILB	Illuminated Bollard		
IRS	Illuminated Road Sign		
JB	Junction Box		
LP	Lamp Post		
MH	Man Hole Cover		
PB	Post Box		
PL	Pavement Light		



Project: Eaton Court, Reading

Title: Topographic Survey
Sheet 1

Drawn By: SB

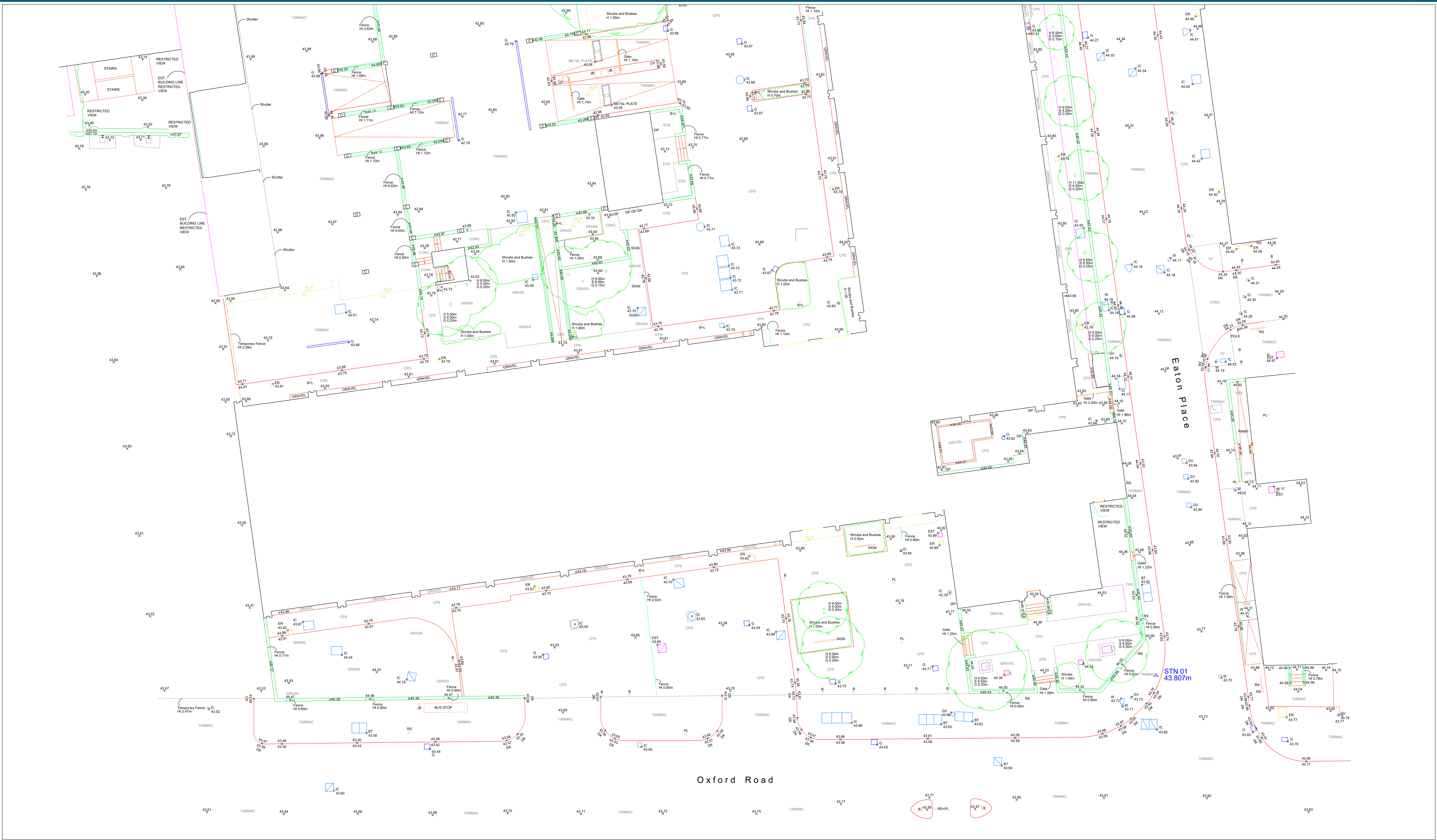
Scale: 1:100 @ A0

Date: October 2018

Dwg No: LS2043/T/01

Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB,
0207 836 5828
www.point2surveyors.com





Sources:

Levels are related to Ordnance Survey
Datum via GPS Observations

Survey location is related to Ordnance
Survey Grid via GPS Observations.

All information contained in this drawing
(including digital data) should be checked and
verified prior to any fabrication or construction.

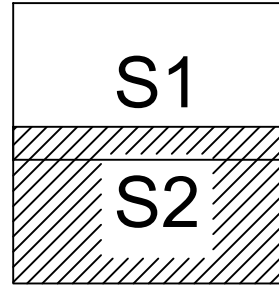
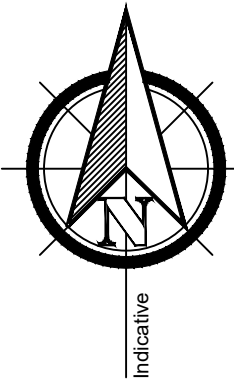
Stations:

STN01 - 470928.862, 173394.232, 43.807
STN02 - 470920.418, 173459.714, 44.445
STN03 - 470916.832, 173476.193, 44.512

Key:

A/C Air Conditioning Unit
B Bollard
BP Brick Paving
BT BT Inspection Cover
CATV Cable Television Inspection Cover
CPS Concrete Paving Slab
DK Dropped Kerb
DP Down Pipe
EL Eaves Level
FH Fire Hydrant
G Gully
GP Gate Post
IC Inspection Cover
ILB Illuminated Bollard
IRS Illuminated Road Sign
JB Junction Box
LP Lamp Post
MH Man Hole Cover
PB Post Box
PL Pavement Light

PO Post
RL Ridge Level
SRFC Surface Change
S/O Smoke Outlet
SV Stop Valve
TCB Telephone Call Box
TP Tactile Paving
WM Water Meter
CH Cole Hole



Project: Eaton Court, Reading

Title: Topographic Survey
Sheet 2

Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB,
0207 836 5828
www.point2surveyors.com



Drawn By: SB

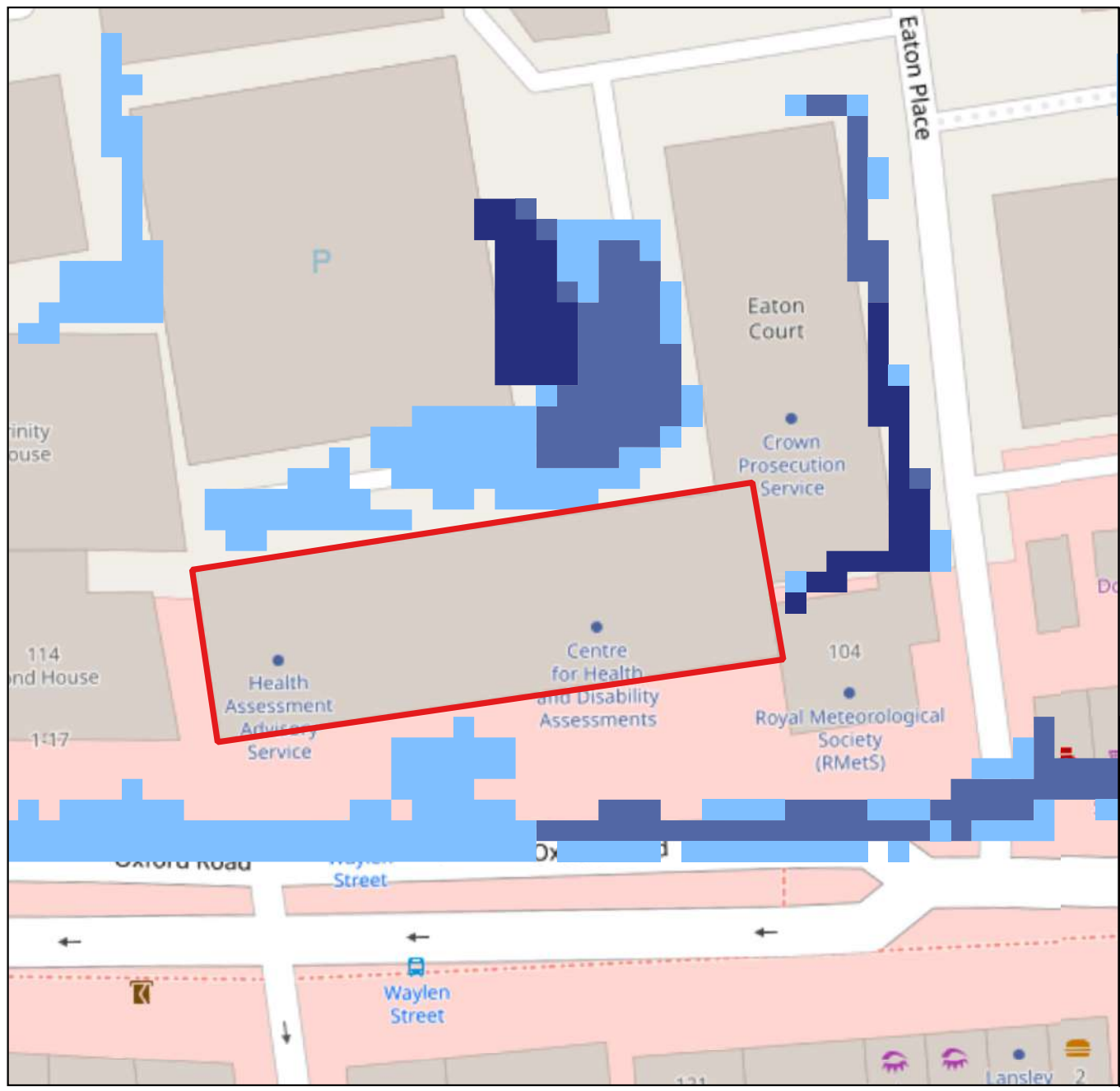
Scale: 1:100 @ A0

Date: October 2018

Dwg No: LS2043/T/02

Appendix E – Surface Water Flood Maps

SuDS | Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG



Surface Water Flood Risk

Eaton Court, Oxford Road

Risk of surface water flooding, inclusive of climate change (2050s), at any depth

 Site

Flood Likelihood Category

 Low

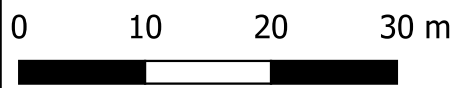
 Medium

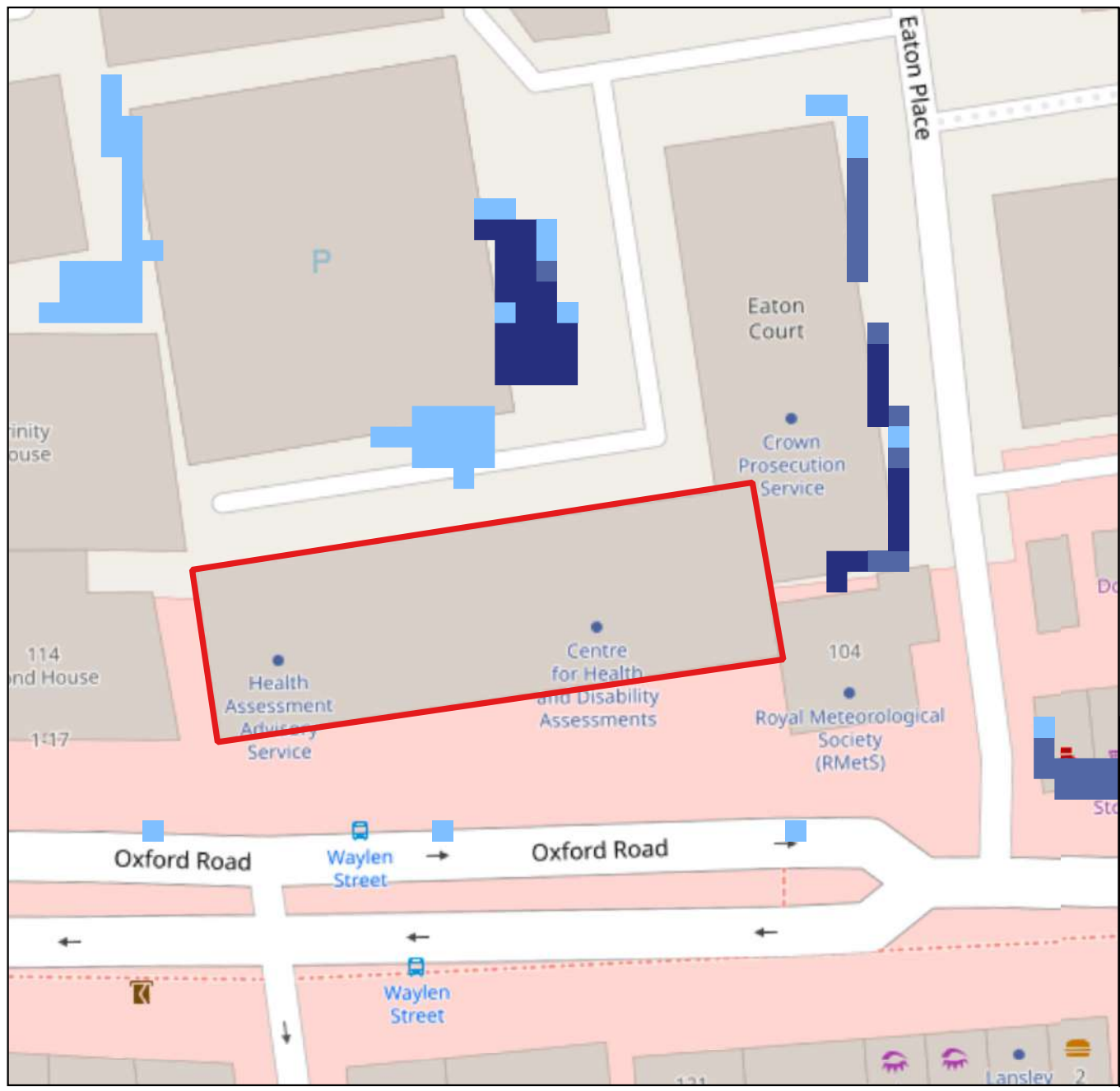
 High



EAS Transport Planning
1st Floor Millers House
Roydon Road
Stanstead Abbots
SG12 8HN

Map Source: OpenStreetMap





Surface Water Flood Risk

Eaton Court, Oxford Road

Risk of surface water flooding, inclusive of climate change (2050s), at depths exceeding 200mm (up to 300mm)

 Site

Flood Likelihood Category

 Low

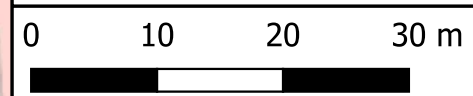
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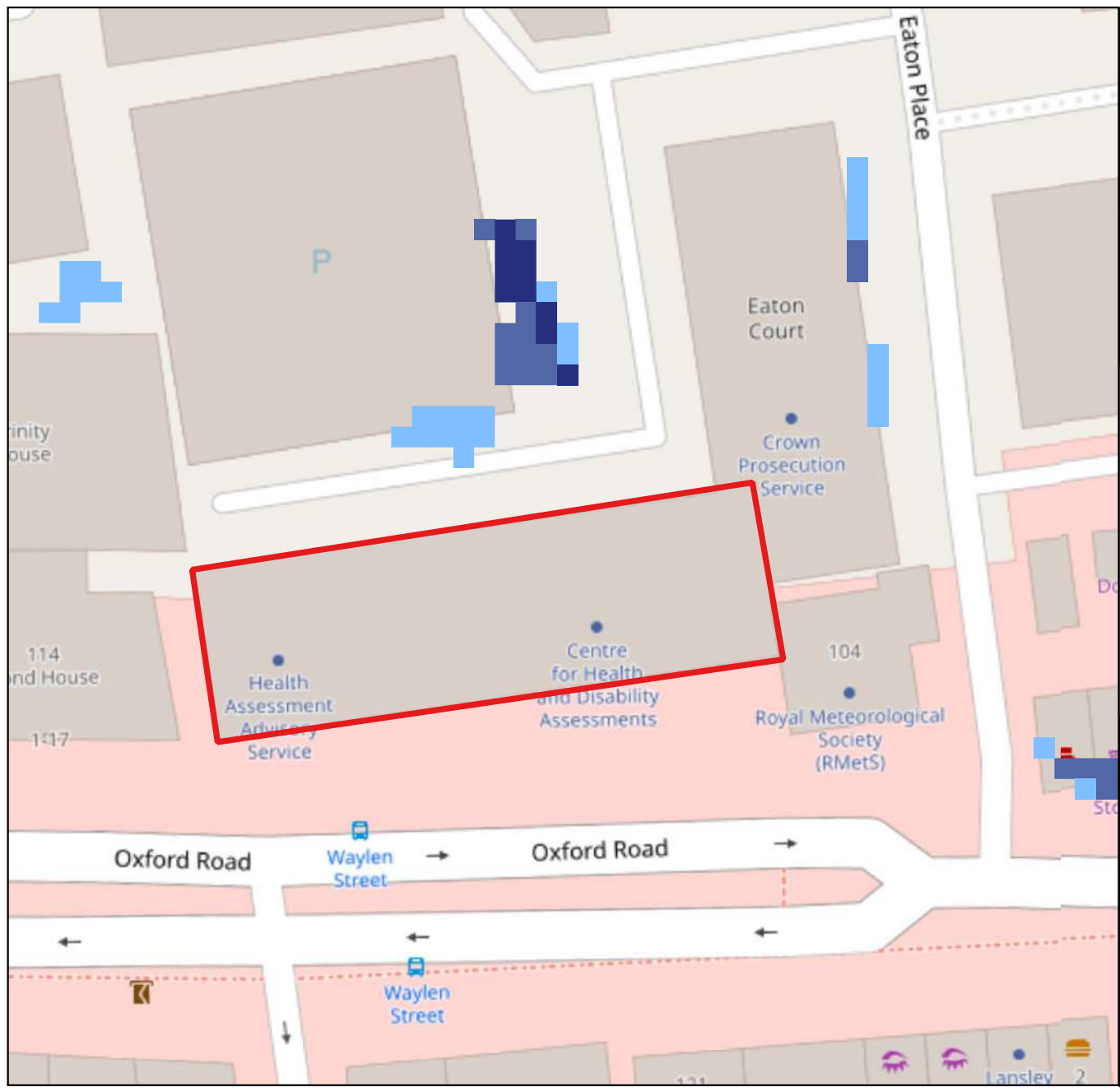
 High



EAS Transport Planning
1st Floor Millers House
Roydon Road
Stanstead Abbots
SG12 8HN

Map Source: OpenStreetMap





Surface Water Flood Risk

Eaton Court, Oxford Road

Risk of surface water flooding, inclusive of climate change (2050s), at depths exceeding 300mm (up to 600mm)

 Site

Flood Likelihood Category

 Low

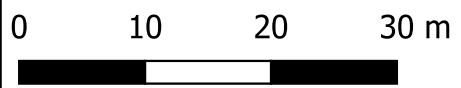
 Medium

 High



EAS Transport Planning
1st Floor Millers House
Roydon Road
Stanstead Abbots
SG12 8HN

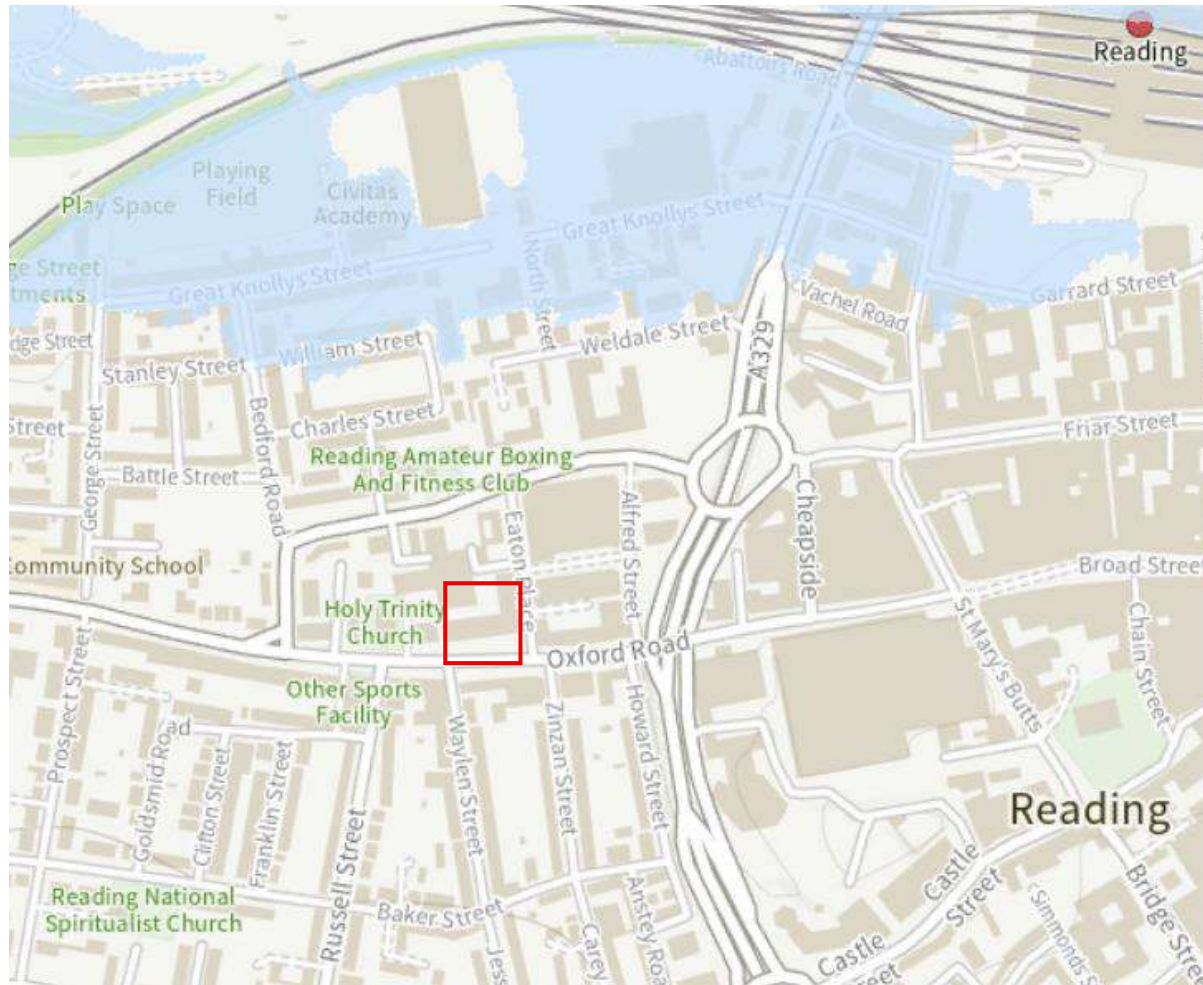
Map Source: OpenStreetMap



Appendix F – Reservoir Flood Map

SuDS | Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG

Risk of Reservoir Flooding



Reservoirs map



Appendix G – Thames Water Sewer Mapping

SuDS | Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG

EAS
EAS TRANSPORT PLANNING, FIRST
STANSTEAD ABBOTTS
SG12 8HN

Search address supplied Eaton Court
Eaton Court
104-112
Oxford Road
Reading
Berkshire
RG1 7NG

Your reference Eaton Court 104-112 Oxford Road

Our reference ALS/ALS Standard/2025_5204227

Search date 4 August 2025

Keeping you up-to-date

Notification of price changes

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

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

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



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



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



0800 009 4540

Search address supplied: Eaton Court, Eaton Court, 104-112, Oxford Road, Reading, Berkshire, RG1 7NG

Dear Sir / Madam

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

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

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

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

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

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

Contact Us

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

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

Email: property.searches@thameswater.co.uk

Web: thameswater.co.uk/propertysearches

Waste Water Services

Please provide a copy extract from the public sewer map.

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

For your guidance:

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

Clean Water Services

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

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

also arrange for a full flow and pressure test to be carried out for a fee.

For your guidance:

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

Further contacts:

Waste Water queries

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

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

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

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

Clean Water queries

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

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

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



The 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 before any works are undertaken. Crown copyright Reserved

Scale: 1:717
Width: 200m
Printed By: SEswara1
Print Date: 04/08/2025
Map Centre: 470865,173404
Grid Reference: SU7073SE

Comments:

ALS/ALS Standard/2025_5204227

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

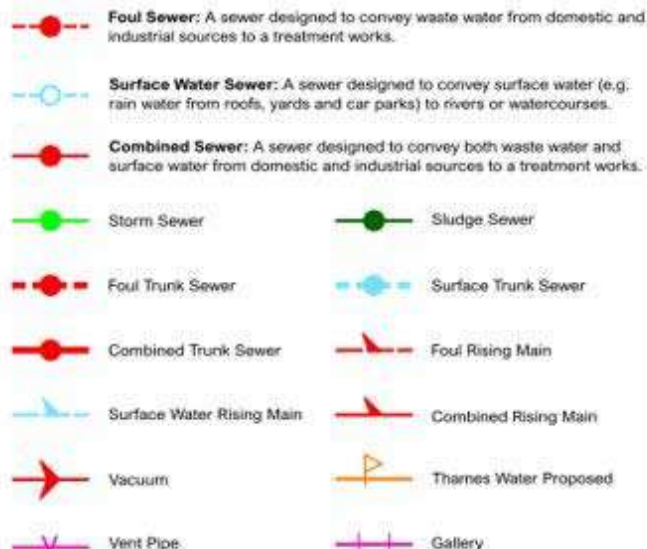
REFERENCE	COVER LEVEL	INVERT LEVEL
9302	43.82	40.7
9351	43.81	42.63
8351	43.41	41.75
8451	42.54	41.01
7405	43.21	
9451	44.41	43.25
7403	41.94	
7301	45.47	40.68
9452	44.36	43.14
9454	44.32	42.95
83NK		
8301	43.69	40.28
941A		
831A		
8302	43.5	40.22
9301	43.87	
731C		
83KJ		
731E		
841C	43.95	41.72

REFERENCE	COVER LEVEL	INVERT LEVEL
9403	44.2	41.3
8352	43.59	42.11
83MJ		
9402	44.35	41.7
7359		
9455	44.15	42.77
9401	44.4	42.22
7351	45.51	43.06
9453	44.4	43.06
7404	42.75	39.79
7463		
931A		
941B		
8353		
941C		
941D		
731B		
731A		
841D	44	41.68

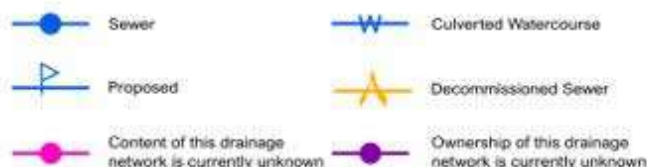


Asset Location Search - Sewer Key

Public Sewer Types (Operated and maintained by Thames Water)



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



Notes:

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

Sewer Fittings

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



Operational Controls

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



End Items

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



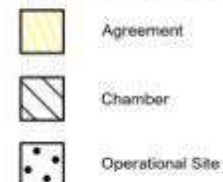
Other Symbols

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



Areas

Lines denoting areas of underground surveys, etc.



Ducts or Crossings



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

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



The 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 before any works are undertaken. Crown copyright Reserved

Scale: 1:717
Width: 200m
Printed By: SEswara1
Print Date: 04/08/2025
Map Centre: 470865,173404
Grid Reference: SU7073SE

Comments:



Asset Location Search - Water Key

Water Pipes (Operated & Maintained by Thames Water)

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

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

Valves

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

Hydrants

- Single Hydrant

Meters

- Meter

End Items

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

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

Operational Sites

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

Other Symbols

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

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

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

Appendix H – Greenfield Runoff Rates

SuDS | Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG

**Design Settings**

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	100	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	1.000	Preferred Cover Depth (m)	1.200
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		

Simulation Settings

Rainfall Methodology	FEH-22	Drain Down Time (mins)	1440	30 year (l/s)	2.7
Rainfall Events	Singular	Additional Storage (m ³ /ha)	0.0	100 year (l/s)	3.7
Summer CV	1.000	Starting Level (m)		Check Discharge Volume	✓
Winter CV	1.000	Check Discharge Rate(s)	✓	100 year 360 minute (m ³)	156
Analysis Speed	Normal	1 year (l/s)	0.7		
Skip Steady State	x	2 year (l/s)	0.9		

Storm Durations

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

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
30	40	0	0
100	0	0	0
100	40	0	0

Pre-development Discharge Rate

Site Makeup	Greenfield	Betterment (%)	0
Greenfield Method	ReFH2	Q 1 year (l/s)	0.7
Region	England, Wales, NI	Q 2 year (l/s)	0.9
Include Baseflow	✓	Q 30 year (l/s)	2.7
Positively Drained Area (ha)	1.000	Q 100 year (l/s)	3.7

Pre-development Discharge Volume

Site Makeup	Greenfield	Return Period (years)	100
Greenfield Method	ReFH2	Storm Duration (mins)	360
Region	England, Wales, NI	Betterment (%)	0
Include Baseflow	✓	Runoff Volume (m ³)	156
Positively Drained Area (ha)	1.000		

Appendix I – Brownfield Runoff Rates

SuDS | Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG

Design Settings

Rainfall Methodology	FEH-22	Maximum Time of Concentration (mins)	30.00	Preferred Cover Depth (m)	1.200
Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0	Include Intermediate Ground	✓
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00	Enforce best practice design rules	✓
CV	1.000	Connection Type	Level Soffits		
Time of Entry (mins)	5.00	Minimum Backdrop Height (m)	0.200		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.024	5.00	43.800	1200	-41.428	59.299	1.425
2	0.024	5.00	43.800	1200	25.310	59.086	1.818
3	0.024	5.00	43.800	1200	89.072	59.086	2.194
4			43.800	1200	153.046	58.661	2.571

Links (Results)

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.000	39.8	4.3	1.200	1.593	0.024	0.0	50	0.657
1.001	1.001	39.8	8.7	1.593	1.969	0.048	0.0	71	0.801
1.002	1.001	39.8	13.0	1.969	2.346	0.072	0.0	88	0.897

Simulation Settings

Rainfall Methodology	FEH-22	Winter CV	1.000	Drain Down Time (mins)	1440	Check Discharge Rate(s)	x
Rainfall Events	Singular	Analysis Speed	Normal	Additional Storage (m³/ha)	0.0	Check Discharge Volume	x
Summer CV	1.000	Skip Steady State	x	Starting Level (m)			

Storm Durations

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

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0	100	0	0	0
30	0	0	0	100	40	0	0
30	40	0	0				

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	11	42.421	0.046	3.9	0.0524	0.0000	OK
15 minute summer	2	12	42.045	0.063	7.5	0.0715	0.0000	OK
15 minute summer	3	12	41.684	0.078	10.7	0.0883	0.0000	OK
15 minute summer	4	12	41.306	0.077	10.2	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	3.8	0.515	0.094	0.5006	
15 minute summer	2	1.001	3	7.0	0.667	0.176	0.6807	
15 minute summer	3	1.002	4	10.2	0.840	0.255	0.7739	5.0

Results for 30 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	11	42.458	0.083	12.1	0.0941	0.0000	OK
15 minute summer	2	11	42.103	0.121	23.7	0.1373	0.0000	OK
15 minute summer	3	12	41.767	0.161	34.6	0.1824	0.0000	OK
15 minute summer	4	12	41.382	0.153	33.5	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	11.8	0.689	0.297	1.1738	
15 minute summer	2	1.001	3	23.0	0.882	0.577	1.6618	
15 minute summer	3	1.002	4	33.5	1.129	0.841	1.8962	15.7

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	11	42.475	0.100	16.9	0.1132	0.0000	OK
15 minute summer	2	11	42.134	0.152	33.3	0.1720	0.0000	OK
15 minute summer	3	12	41.880	0.274	48.6	0.3101	0.0000	SURCHARGED
15 minute summer	4	12	41.406	0.177	45.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	16.5	0.745	0.416	1.5222	
15 minute summer	2	1.001	3	32.4	0.932	0.813	2.1784	
15 minute summer	3	1.002	4	45.0	1.182	1.132	2.3466	22.0

Results for 100 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	11	42.471	0.096	15.7	0.1086	0.0000	OK
15 minute summer	2	11	42.126	0.144	30.9	0.1630	0.0000	OK
15 minute summer	3	12	41.824	0.218	45.1	0.2463	0.0000	OK
15 minute summer	4	12	41.401	0.172	42.2	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	15.3	0.733	0.386	1.4348	
15 minute summer	2	1.001	3	30.0	0.924	0.754	2.0800	
15 minute summer	3	1.002	4	42.2	1.180	1.060	2.3013	20.4

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.56%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	42.491	0.116	22.0	0.1316	0.0000	OK
15 minute summer	2	12	42.379	0.397	43.4	0.4489	0.0000	SURCHARGED
15 minute summer	3	12	42.052	0.446	56.8	0.5041	0.0000	SURCHARGED
15 minute summer	4	12	41.419	0.190	52.2	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	21.5	0.791	0.540	2.0180	
15 minute summer	2	1.001	3	35.2	0.962	0.886	2.5359	
15 minute summer	3	1.002	4	52.2	1.324	1.313	2.4146	28.5

Appendix J – Causeway Flow Outputs

SuDS | Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG

Design Settings

Rainfall Methodology	FEH-22	Maximum Time of Concentration (mins)	30.00	Preferred Cover Depth (m)	1.200
Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0	Include Intermediate Ground	✓
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00	Enforce best practice design rules	✓
CV	1.000	Connection Type	Level Soffits		
Time of Entry (mins)	5.00	Minimum Backdrop Height (m)	0.200		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
1	0.034	5.00	43.800	600	-19.161	65.901	1.350	42.450
2	0.023	5.00	43.800	600	29.003	66.036	1.450	42.350
3	0.014	5.00	43.800	600	40.092	66.242	1.550	42.250
4			43.800	600	52.341	66.401	1.650	42.150

Links (Results)

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.005	17.8	6.1	1.200	1.300	0.034	0.0	61	0.912
1.001	1.005	17.8	10.3	1.300	1.400	0.057	0.0	82	1.042
1.002	1.005	17.8	12.8	1.400	1.500	0.071	0.0	95	1.093

Simulation Settings

Rainfall Methodology	FEH-22	Winter CV	1.000	Drain Down Time (mins)	1440	Check Discharge Rate(s)	x
Rainfall Events	Singular	Analysis Speed	Detailed	Additional Storage (m³/ha)	0.0	Check Discharge Volume	x
Summer CV	1.000	Skip Steady State	x	Starting Level (m)			

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0	100	0	0	0
30	0	0	0	100	40	0	0
30	40	0	0				

Node 1 Design Modifiers (Hydrograph)

Overrides Design Area	✓	Depression Storage Area (m²)	344	Evapo-transpiration (mm/day)	3
Overrides Design Additional Inflow	x	Depression Storage Depth (mm)	5		
		Applies to All storms			

Node 2 Design Modifiers (Hydrograph)

Overrides Design Area	✓	Depression Storage Area (m²)	224	Evapo-transpiration (mm/day)	3
Overrides Design Additional Inflow	x	Depression Storage Depth (mm)	5		
		Applies to All storms			

Node 4 Surcharged Outfall

Overrides Design Area	x	Depression Storage Area (m²)	0	Evapo-transpiration (mm/day)	0
Overrides Design Additional Inflow	x	Depression Storage Depth (mm)	0		
		Applies to All storms			

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
0	0.150	180	0.150	360	0.150	540	0.150	720	0.150	900	0.150	1080	0.150	1260	0.150	1440	0.000
60	0.150	240	0.150	420	0.150	600	0.150	780	0.150	960	0.150	1140	0.150	1320	0.150		
120	0.150	300	0.150	480	0.150	660	0.150	840	0.150	1020	0.150	1200	0.150	1380	0.150		

Node 1 Online Orifice Control

Flap Valve	x	Replaces Downstream Link	x	Diameter (m)	0.022
Downstream Link	1.000	Invert Level (m)	42.450	Discharge Coefficient	0.600

Node 2 Online Orifice Control

Flap Valve	x	Invert Level (m)	42.350	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.022		

Results for 2 year Critical Storm Duration. Lowest mass balance: 91.71%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	1	42.450	0.000	0.0	0.0000	0.0000	OK
15 minute summer	2	1	42.350	0.000	0.0	0.0000	0.0000	OK
15 minute winter	3	8	42.303	0.053	2.1	0.0151	0.0000	OK
15 minute summer	4	1	42.300	0.150	2.1	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	0.0	0.000	0.000	0.0000	
15 minute summer	2	1.001	3	0.0	0.000	0.000	0.0277	
15 minute winter	3	1.002	4	1.9	0.155	0.109	0.1160	1.0

Results for 30 year Critical Storm Duration. Lowest mass balance: 97.19%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	1	42.450	0.000	0.0	0.0000	0.0000	OK
15 minute summer	2	1	42.350	0.000	0.0	0.0000	0.0000	OK
15 minute summer	3	10	42.315	0.065	7.1	0.0185	0.0000	OK
15 minute summer	4	1	42.300	0.150	7.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	0.0	0.000	0.000	0.0000	
15 minute summer	2	1.001	3	0.0	0.000	0.000	0.0369	
15 minute summer	3	1.002	4	7.0	0.520	0.396	0.1249	3.1

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 97.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	1	42.450	0.000	0.0	0.0000	0.0000	OK
15 minute summer	2	1	42.350	0.000	0.0	0.0000	0.0000	OK
15 minute summer	3	10	42.333	0.083	9.9	0.0235	0.0000	OK
15 minute summer	4	1	42.300	0.150	9.8	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	0.0	0.000	0.000	0.0000	
15 minute summer	2	1.001	3	0.0	0.000	0.000	0.0499	
15 minute summer	3	1.002	4	9.8	0.667	0.551	0.1379	4.3

Results for 100 year Critical Storm Duration. Lowest mass balance: 97.82%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	1	42.450	0.000	0.0	0.0000	0.0000	OK
15 minute summer	2	1	42.350	0.000	0.0	0.0000	0.0000	OK
15 minute summer	3	10	42.328	0.078	9.2	0.0219	0.0000	OK
15 minute summer	4	1	42.300	0.150	9.1	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	0.0	0.000	0.000	0.0000	
15 minute summer	2	1.001	3	0.0	0.000	0.000	0.0459	
15 minute summer	3	1.002	4	9.1	0.635	0.513	0.1339	3.9

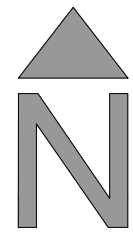
Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.44%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	1	42.450	0.000	0.0	0.0000	0.0000	OK
15 minute summer	2	14	42.352	0.002	0.0	0.0006	0.0000	OK
15 minute summer	3	10	42.356	0.106	12.9	0.0299	0.0000	OK
15 minute summer	4	1	42.300	0.150	12.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	1.000	2	0.0	0.000	0.000	0.0002	
15 minute summer	2	1.001	3	-0.1	-0.018	-0.006	0.0673	
15 minute summer	3	1.002	4	12.6	0.791	0.712	0.1542	5.6

Appendix K – SuDS Drainage Design

SuDS | Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG



KEY

- SITE BOUNDARY
- EXISTING BUILDING
- GREEN ROOF (TOTAL AREA: 568m²)
- EXISTING SURFACE WATER MANHOLE
- EXISTING FOUL WATER MANHOLE
- ➔ EXCEEDANCE FLOW ARROW



REV	DATE	BY	DESCRIPTION	CHK	APD
DRAWING STATUS:					
FOR PLANNING					
Ordinance Survey (c) Crown Copyright 2018. All rights reserved. Licence number 100022432					
EAS					
1st Floor Millers House, Roydon Road, Stanstead Abbots, Hertfordshire, SG12 8HN Tel: 01920 871777 www.easfp.co.uk					
CLIENT:					
BMR PROPERTY GROUP					
ARCHITECT:					
PROJECT:					
EATON COURT, 104-112 OXFORD ROAD READING, RG1 7NG					
TITLE:					
SUDS DRAINAGE DESIGN					
SCALE @ A1:		DESIGN DRAWN:		DATE:	
1:100		HB/CA		18/11/2025	
PROJECT No:		DRAWING No:			
6075		SK01 - REV C			

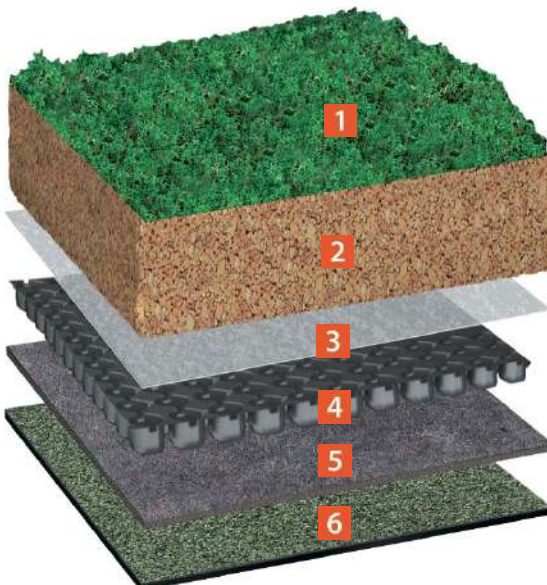
Appendix L – Green Roof Specification

SuDS | Eaton Court, 104-112 Oxford Road, Reading, RG1 7NG

BauderEXTENSIVE SEDUMsubstrate

SB sedum blanket on substrate system

The BauderEXTENSIVE SEDUMsubstrate system is an ideal product for green roofs. Sedum is both frost resistant and drought tolerant and requires little nutrient and minimal maintenance. Laying Bauder's mature SB sedum blanket on an 80mm bed of BauderGREEN SUB-EM UK extensive substrate gives the system the rooting depth and water retention to make it a very resilient green roof finish. The system is fully GRO and FLL compliant. This system is suitable for both new build construction and refurbishment applications on $\leq 5^\circ$ (1:11) pitch.

	Function	Product name	Thickness (mm)	Weight (kg/m ²)	Indicative extensive green roof system - sedum
1	*Vegetation Layer	BauderGREEN SB sedum blanket	28	24	
2	Growing medium	BauderGREEN SUB-EM UK extensive substrate	80	96	
3	Filtration layer	FV 125 filter fleece	1	0.13	
4	Drainage Layer	DSE 20 drainage board	20	8.6	
5	Protection Layer	FSM 600 protection mat	4	3.6	
6	Underlying Waterproofing	Bauder's underlying waterproofing system	Not included	Not included	
System build-up (saturated)			133	132	
*Bauder supply various green roof systems to meet required biodiverse targets and other green roof requirements					
In-depth and up-to-date product specific technical data is available for each element within a system.					
Download from our website bauder.co.uk/technical-centre					
Please note: All green roofs require water during times of drought. Bauder recommend that the watering and maintenance of this roof is considered and addressed during its design.					

System summary



Characteristics of the system

- The SB sedum system is ideally suited when creating low maintenance high aesthetic green roofs.
- The sedum species selected for the blanket are alpine succulents, which are very hardy and drought tolerant, making them ideal as a ground cover for green roofs.
- The system complies with all GRO and FLL guidelines.
- The SUB-EM extensive substrate is a lightweight growing medium for biodiverse green roof planting schemes manufactured to GRO and FLL guidelines and tested to BS8616 (Ideally substrate depths should be 80mm+ to give greater drought resistance).
- DSE 20 is a lightweight water storage and drainage layer made of 100% recycled HDPE.
- FSM 600 is 100% recycled Polyester and polypropylene fibre mix protection layer to prevent mechanical damage to the underlying waterproofing.
- System can be laid on any of the various Bauder waterproofing solutions: Bituminous Membrane, Hot Melt, Single-ply or Cold applied liquid systems.
- Comprehensive guarantee packages to meet project requirements. Bauder's "Green Roof Promise" is available for this system.

Accreditations and approvals



System variations are available to the specifier so that a tailored solution meets the needs of the building. The selection of products should be confirmed with our technical department to ensure suitability for the individual construction requirements of the flat roof.

E: technical@bauder.co.uk

T: 01473 257671

OPTIONS AVAILABLE

Bauder supply a number of green roof solutions for flat and pitched roofs. Including sedum, wildflower and biodiverse vegetation. Further details can be found on our website: <https://www.bauder.co.uk/technical-centre/specification-resources/green-roof-systems>

In depth and up-to-date product specific technical data is available for each component within a system. Download from: [bauder.co.uk/technical-centre](https://www.bauder.co.uk/technical-centre)

System fire performance

BauderEXTENSIVE SEDUMsubstrate system can achieve $B_{ROOF} t4$ when tested as part of a full Bauder warm roof build-up. The systems tested include BTGRS and the green roof system detailed above with 120mm of PIR insulation. Due to our regular fire testing clients are advised to check with Bauder Technical to confirm the latest details of any other system build-ups tested. The full test results are available on request.

The system arrangements tested, verified, and that achieve industry standards for fire performance are defined in the relevant BBA certificate. Please ensure you are aware of which permutations currently have a stated performance against fire by viewing and downloading the BBA certificate from our website [bauder.co.uk/technical-centre](https://www.bauder.co.uk/technical-centre)

Bauder continually tests its systems for fire performance and so if the permutation of products you are specifying is not stated in our latest BBA certificate please contact technical@bauder.co.uk for clarification.