

FLOODSOLUTIONS

Commercial



Overall Opinion
FURTHER ACTION



Argyll's Overview

The Site is located within an area which is susceptible to surface water (pluvial) flooding.

However, buildings and contents insurance should be available at standard terms.

A prudent purchaser should ask the vendor whether there has been any historical flooding and confirm the availability of building and contents insurance. You may also want to carry out further assessment and management of flood risk (see pages 3 & 4).



Report on:

Sample Site, Sample Street, London

Report prepared for:

Sample

Report Reference:

Sample

Report date:

20 March 2014

Client Reference:

Sample

National Grid Reference:

530416,180579



Site Location

Report prepared on

Sample Site, Sample Street, London

Site Area (m²)

6,783.20

Current Use

Commercial

Proposed Use

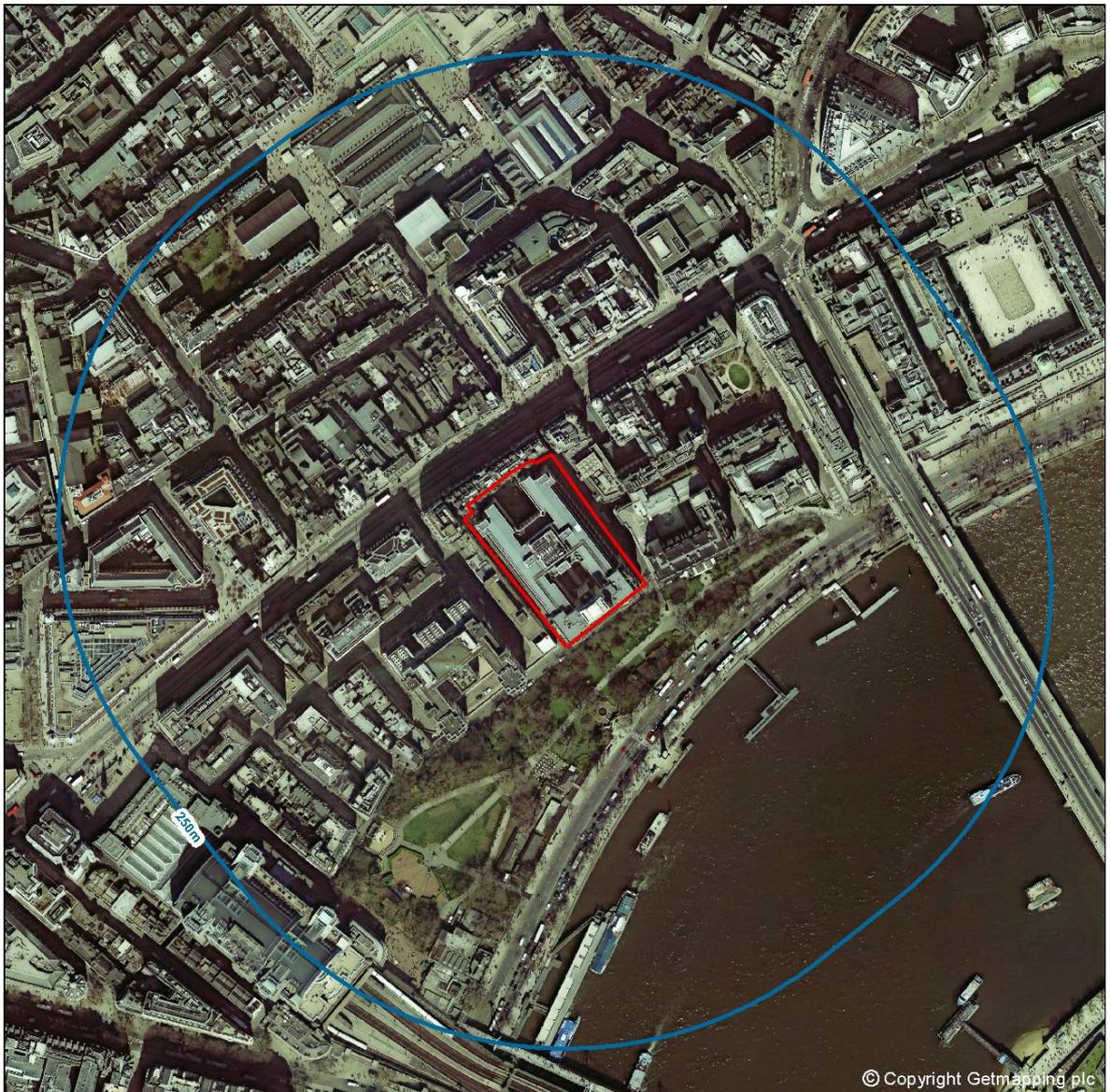
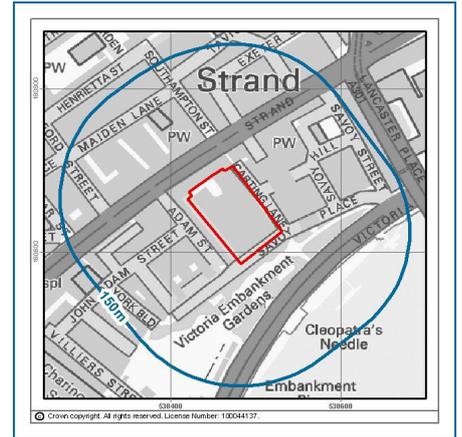
Commercial

Report Author

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Telephone: 0845 458 5250

Estimated Building Coverage (%)

75.00

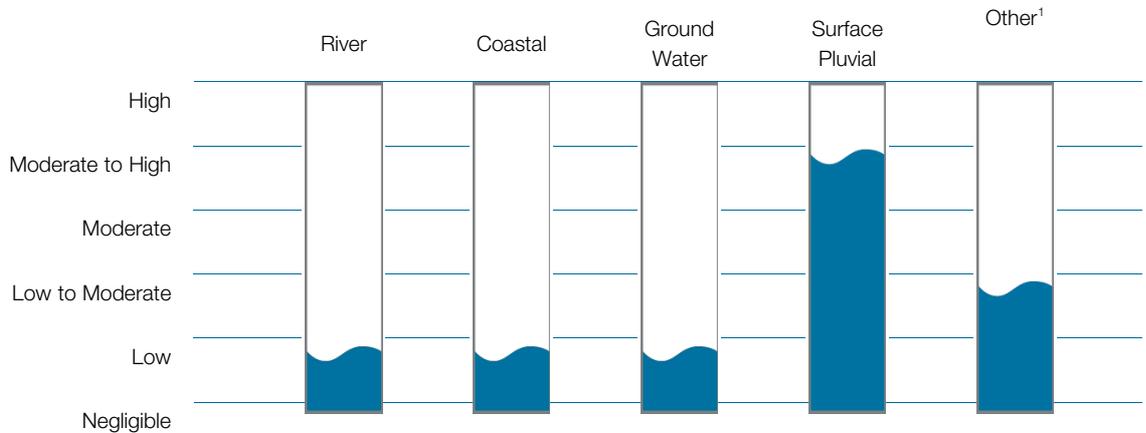




Flood Risk Screening

Risk	Issue	Evaluation
1. Insurability	Is the Site likely to be insurable at standard terms?	No
2. Development	If development is proposed would a detailed Flood Risk Assessment be required?	Yes (Full)
3. Flooding	What is the overall risk of flooding, assuming defences fail or are absent or over-topped?	High
4. Flood Defences	Are there existing flood defences that might benefit the Site?	Yes
5. Effect	What is the risk of flooding when these defences are operational?	Moderate to High

Flood Analysis



Argyll's Comment



The Site is lies in Flood Zone 3, but there are raised flood defences along the banks of the River Thames which should offer protection against a tidal flood event. This is why the risk rating for coastal (tidal) flooding differs when looked at with and without defences.

The Site, overall, has a moderate to high risk of surface water flooding. Closer analysis of the data from JBA Consulting indicates that 31.3% of the Site is at risk and that 8.7% of the Site area is at high risk. The expected depth of flooding in this part of the site is likely to be greater than 1m. Improvements in Site drainage might be able to reduce this risk, but you would need expert advice on this. This is also generally considered too deep to be controlled by flood resistance measures, so you may wish to consider flood resilience measures instead. More details are given on Page 6.

Although the data suggests that the Site may not be insurable at standard terms, owing to the overall location and nature of the property, enquiries to the Site vendor may indicate there has not previously been any difficulty obtaining insurance and it would be prudent to request the current premium for buildings and contents insurance with the Site vendor.

¹Other factors influencing flood risk include historic flood events, geological indicators of flooding, proximate surface water features and elevation above sea level.



Recommendations

1. As the Site is at an increased risk of flooding, we recommend that you contact us to discuss the next steps that will assist in further clarifying the risk of flooding at the Site. This may involve carrying out a more detailed assessment (a FLOODSOLUTIONS Consult Report). This will review additional site specific data (not available from UK-wide databases) and raise enquiries of statutory bodies (Environment Agency, Local Authority etc.). Such an assessment would identify more accurately the risk of flooding and review the standard of existing defences. It could provide a specification and budget cost estimate for a full Flood Risk Assessment to meet the requirement of National Planning Policy Framework (NPPF), should this be required and/or suggestions for flood resistance/resilience measures. Please contact us so we can discuss your requirements and, if necessary, provide a quotation.
2. It would be prudent to ask the vendor to confirm whether or not they are aware of any previous flooding at the Site.



Other Flood-Related Issues

Riparian Ownership

Is there a Main River located within or adjacent to the Site? **NO**
 Is there a drainage channel located within or adjacent to the Site? **NO**
 Is there a canal located within or adjacent to the Site? **NO**

Argyll's Comment



A riparian owner describes anyone who owns a property where there is a watercourse within or adjacent to the boundaries of their property.

Under common law, a riparian owner has rights and responsibilities relating to the stretch of watercourse that falls within or beside the boundaries of their land. Their primary responsibility is to keep the watercourse free of any obstructions that could hinder normal water flow. If the riparian owner fails to carry out their responsibilities, this could result in civil action.

A riparian owner should also check before carrying out any works near to the edge of a river, as such works may be subject to byelaws. If infringed, this could lead to enforcement action by the Environment Agency.

There is a presumption that the boundary between properties abutting a watercourse is the centre line of that watercourse. To confirm whether this is the case, a solicitor should check the deeds or the Index Map.

The Environment Agency has published useful guidance "Living on the edge" for owners of land or property alongside a watercourse. Sometimes, the Environment Agency or other organisations managing flood risk, may have statutory rights of access to properties which adjoin a watercourse. This may be for maintenance, repair or rebuilding of any part of the watercourse or for access to or repair of monitoring equipment.

Development Control

Is there a Main River or canal located within 250m of the Site? **YES**

Argyll's Comment



Sites which lie close to (but do not adjoin) a watercourse, may be subject to planning controls should redevelopment be considered. The Environment Agency are normally consulted regarding any development within 20m of a Main River and Internal Drainage Boards should be similarly contacted regarding developments close to drainage channels. Navigation authorities are normally consulted regarding any development within 250m of a canal, although this varies on a site by site basis.

The Environment Agency should also be contacted with regards to development (other than minor development) in Flood Zones 2 and 3.

Sewer Flooding

Has the Site or local sewer network been subject to sewer flooding? **No**

Argyll's Comment



"No" - Information has been made available from your local water and sewerage provider and no instances of sewer flooding were reported.

In times of extreme rainfall events sewers can overflow and cause local flooding. Ofwat's 'DG5 - At Risk Registers' record properties that have flooded from sewers and are at risk of flooding again, with separate registers for internal and external flooding. The At Risk Registers are maintained by each of the ten water and sewerage companies in England and Wales and details of properties subject to sewer flooding are normally kept for between two and five years. These registers are not necessarily complete as not all episodes of past flooding may be recorded. The answer to this question is based on replies given by the relevant water and sewerage provider to specific enquiries. The response provided is based on the information held. Sometimes, the water and sewerage provider is unable to confirm whether the Site has flooded, but provides a response based on all properties connected to a local sewer network (normally up to ten houses). This is due to the way in which the data is collected.

Dam and Reservoir Failure

Could the Site be affected by dam or reservoir failure? **NO**

**Argyll's
Comment**



The answer is based on detailed models provided by JBA Consulting. These predict the areas liable to flood around approximately 1700 key dams and reservoirs across England and Wales (if that dam or reservoir were to fail).

Risk Management Options

Flooding can usually be managed by the installation of flood protection measures either on/within the building(s) or across the Site. Flood protection measures can be divided into two categories; flood resistance and flood resilience. Both flood resistance and flood resilience solutions can be integrated with design proposals for new build properties or retro-fitted to existing properties. Specific flood protection packages can often include both resistance and resilience measures. What is suitable will depend on a number of factors including flood source, likely flood depths, property design and age.

Research conducted by CLG Sustainable Buildings Division and the Environment Agency revealed that installing flood resistance measures may be inappropriate where likely flooding will be deep. Certain types of building construction are unable to resist the pressure load placed on the exterior skin of the building by retained flood waters. Generally a flood depth between 0.6m and 1.0m above ground level is used as a benchmark to decide whether to consider flood resilience measures rather than rely on flood resistance measures. This is dependent on the age and construction of the property.

Guideline Costs for Resistance Measures

Building Feature	Cost Estimate for Baffles (+ VAT)
Standard 900mm single door	£750
Standard 1800mm double entrance door	£950
Large roller shutter door up to 2745mm span	£1420 including channel
Standard garage door	£1400 - £1575
Standard window up to 1240mm span	£750
Large window 1240mm to 2150mm span	£550 - £700
Single air brick	£60 - £90
Double air brick	£80 - £230
Building Feature	Cost Estimate for Tanking (+ VAT)
Tanking of basement, walls, or floors	£25 - £50 per metre ²
System Component	Cost Estimate for Plumbing (+ VAT)
Simple non-return valve	£35 - £170
Sophisticated non-return valve	£670 - £900

The costs above are for indicative budget purposes only. They are based on installing components of a standard design and colour. If the Site requires bespoke products, these are likely to cost more (for example, if the Site is in a conservation area, different colours may be required).

If you require a property specific assessment of which measures are suitable, and a more accurate cost appraisal, Argyll will need to complete a FLOODSOLUTIONS Consult Report. This report normally costs from £500 to £1000 (plus VAT) and provides more detailed information on the likelihood and, in particular, the depth of all potential types of flooding. Argyll can also arrange for one of a panel of specialist contractors to provide a tailored estimate for flood protection measures.

Tabular Summary

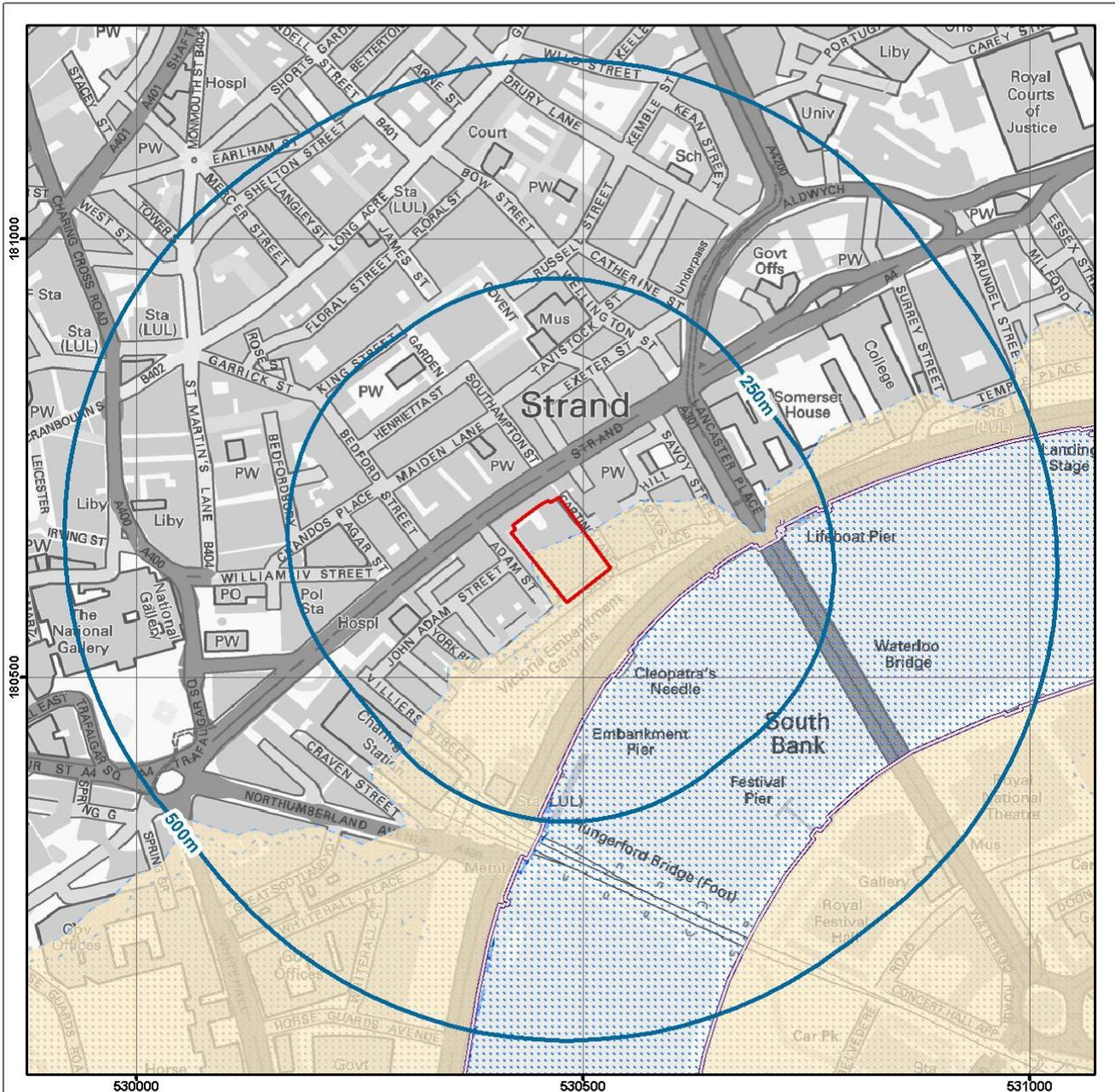
Flooding

Current Flood Risk	Source	On-site	1-250m	251-500m
Flooding From Rivers or Sea	EA	YES	YES	YES
Flooding From Rivers or Sea (in an Extreme Flood)	EA	YES	YES	YES
Areas Benefiting from Flood Defences	EA	YES	YES	YES
Flood Storage Areas	EA	-	-	-
Flood Defences	EA	-	YES	YES
NAFRA Data	EA	YES	YES	YES
Groundwater Flooding Risk	ESI	YES	YES	YES
Surface Water Flooding (1:75 year rainfall event)	JBA	YES	YES	YES
Surface Water Flooding (1:200 year rainfall event)	JBA	YES	YES	YES
Surface Water Flooding (1:1000 year rainfall event)	JBA	YES	YES	YES
Dam or Reservoir Failure	JBA	-	-	-
Detailed River Network	EA	-	YES	YES
Historical Flooding	Source	On-site	1-250m	251-500m
Historical Flood Events	EA	-	-	-
Geological Indicators of Flooding	BGS	YES	YES	YES
Other Flood Information	Source	Reply		
Height of Site Above Sea Level	OS	11.4m		
Distance of Site Boundary to Nearest Water Feature	OS	77.5m		

Tabular Summary Explanation

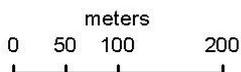
Argyll has carefully selected a range of datasets which are considered appropriate for the intended use of this report. Each dataset is searched to a set radius from the Site boundary and the tabular summary is divided into different search bands accordingly. If a database is searched and information is found, then the number of records available are detailed in the table above. If the database was searched and no data was found, then a zero will be present. If a database was not searched then the abbreviation N/A will be found, indicating this information was not available at the radius searched.

Flooding from Rivers or Sea



Environment Agency

- Client Site
- Defended Areas
- Flood Defences
- Flood Zone 2
- Flood Storage
- Flood Zone 3



* - Not all features in legend may be present in above map

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Flooding from Rivers or Sea

Flooding from River or Sea (Flood Zone 3)

Details	Distance	Reply or Direction
Are there any flood plains within 500m?	<501m	YES
Type: Tidal Models, Source: Environment Agency, Head Office, Boundary Accuracy: As Supplied.	On Site	N/A

Flooding from River or Sea in an Extreme Flood (Flood Zone 2)

Details	Distance	Reply or Direction
Are there any flood plains (extreme flood) within 500m?	<501m	YES
Type: Tidal Models, Source: Environment Agency, Head Office, Boundary Accuracy: As Supplied.	On Site	N/A



The Site (or part of it) is at a high risk of flooding from rivers and the sea, as defined by the Environment Agency's Flood Map. The risk of annual flooding is greater than 1% (from rivers) or greater than 0.5% (from the sea). Properties in Flood Zone 3 may have difficulty in obtaining flood insurance (most insurers will only cover risks of less than 1.33% annual probability). All development proposals would need to be accompanied by a Flood Risk Assessment, in accordance with NPPF. Developments such as emergency services stations, basement dwellings and caravans, mobile homes and park homes for permanent residential use, etc. are not compatible with this level of risk. Significant planning constraints would apply to such developments as residential, care homes, hotels, short-let caravan parks, camping, etc. Parts of the Site may be within an area of land where water has to flow or be stored in times of flood (>5% annual risk of flooding) within which severe planning constraints apply. It is recommended that a Flood Solutions Consult Report is undertaken to further define the flood risk issues and potential development constraints.

Flood Defences

Details	Distance	Reply
Are there any flood defences within 500m?	<501m	YES



The Site is more than 5m above the base level at a flood defence. There may therefore be a small residual risk of flooding should the protection standard of the defences be exceeded (and the defences overtopped) or should the defence line fail. Reference should be made to the assessment of 'Areas Benefiting from Flood Defences' to ascertain whether the Site could potentially be at risk.

Areas Benefiting from Flood Defences

Details	Distance	Reply
Does the Site or any areas within 500m benefit from flood defences?	<501m	YES



The Site is within an Area Benefiting from a Flood Defence, as defined by the Environment Agency. There is therefore a residual risk that the Site may flood if the protection standard of the defences is exceeded, or if the defences should fail. It is recommended that further investigations are undertaken into the standard of these defences. Please contact us for further information.

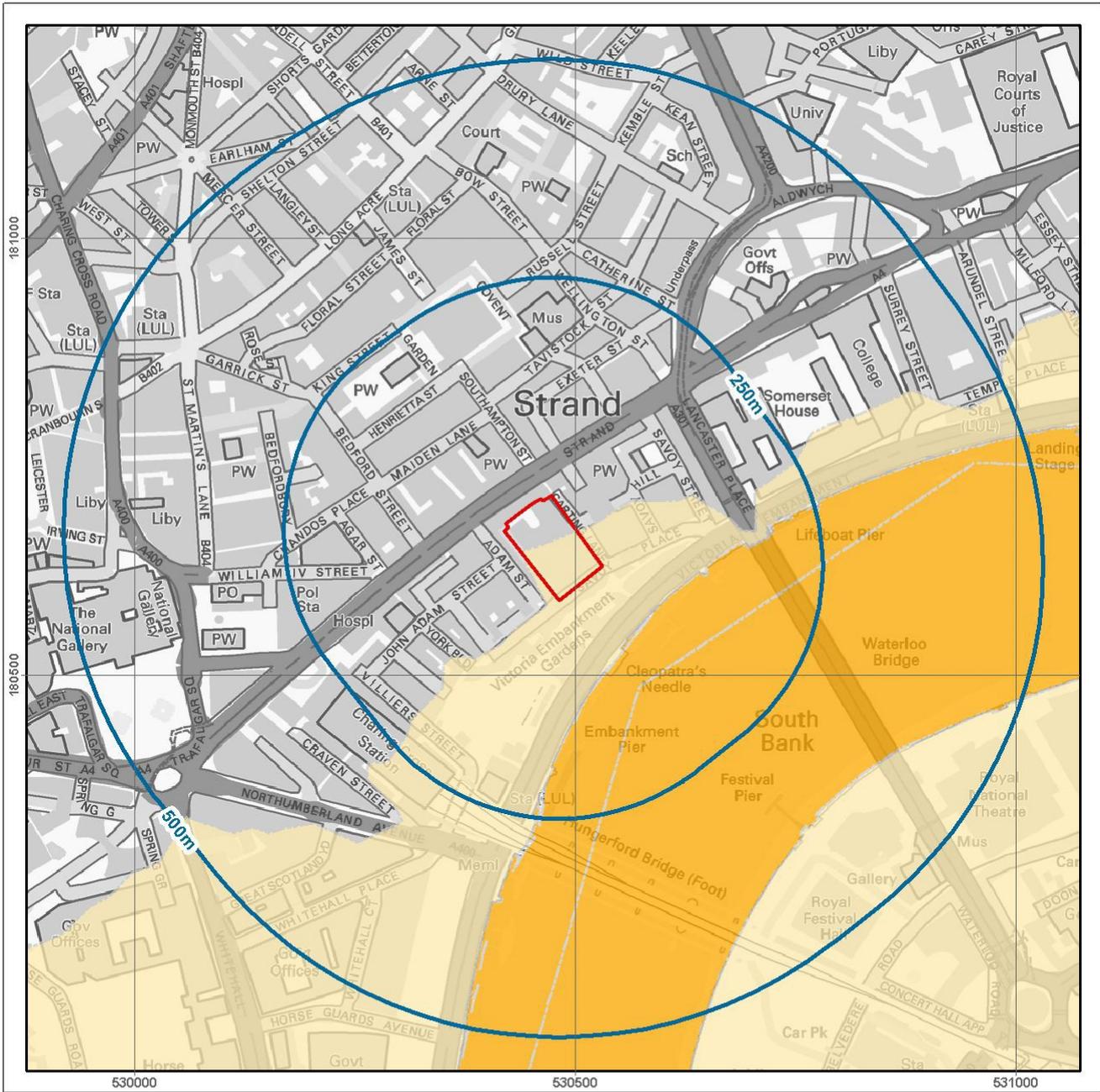
Flood Storage Areas

Details	Distance	Reply
Are there any flood storage areas within 500m?	<501m	NO



The Site is over 500m from a Flood Storage Area (FSA) as defined by the Environment Agency. These areas store flood water during flood events. It is unlikely that any FSA presents any associated flood risk to the Site.

Environment Agency National Flood Risk Assessment (NAFRA)



NaFRA

- + Client Site
- + No Result
- + Low
- + Moderate
- + Significant



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Environment Agency National Flood Risk Assessment (NaFRA)

NaFRA Property Flood Likelihood Database

Details	Distance	Reply
What is the flood likelihood category for the Site?	On Site	Low

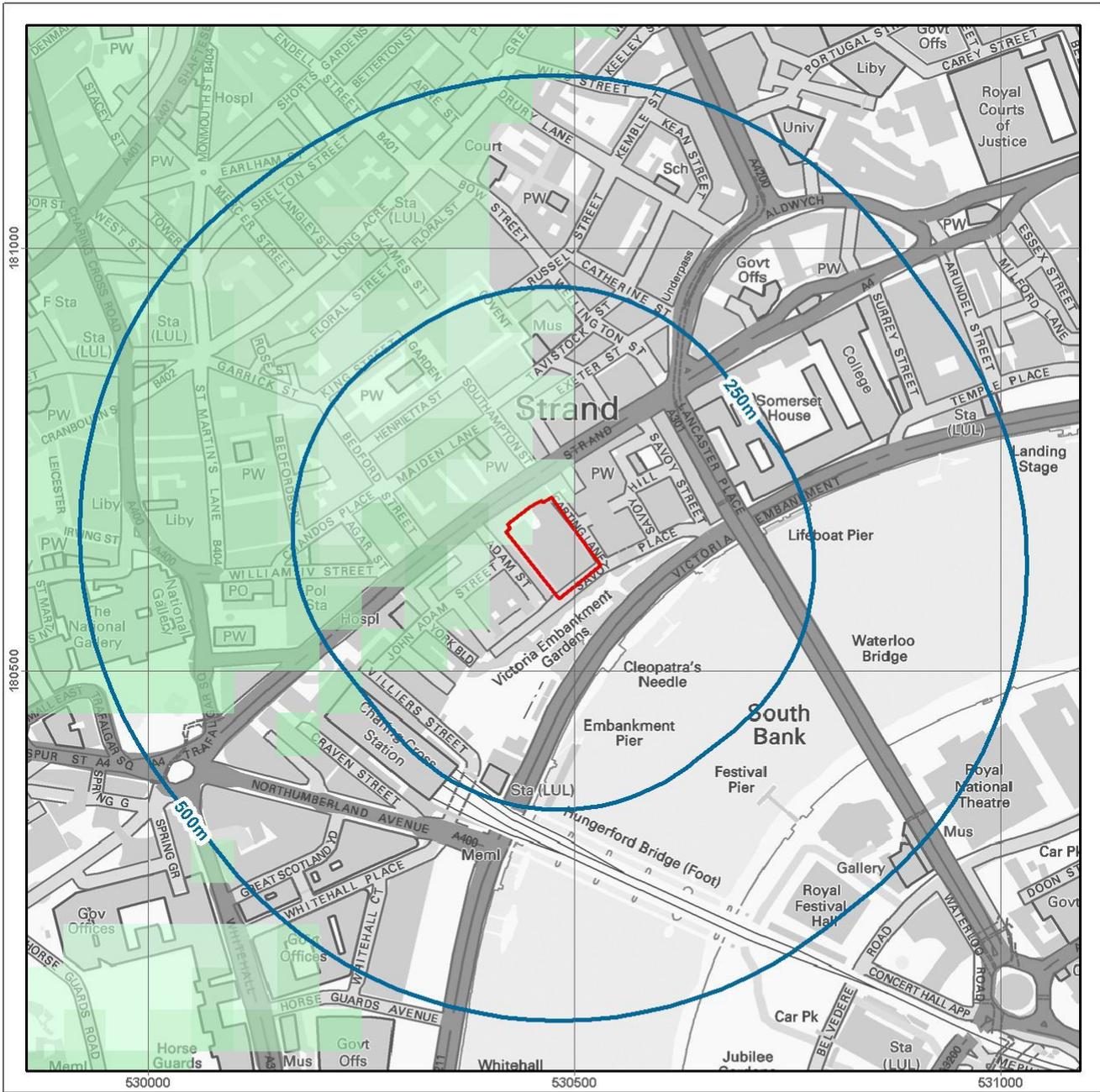


The Site (or part of it) has been defined as being at Low Flood Risk within the Environment Agency's National Flood Risk Assessment. This classification relates to the locality as a whole, rather than the individual Site and relates only to the risk of coastal or river flooding. This classification should not raise difficulties in obtaining flood insurance for properties on the Site.

Environment Agency Data

The data in the NaFRA Property Flood Likelihood Database is sourced from the Environment Agency's National Receptor Dataset (NRD). The information provided includes the flood likelihood category low, moderate, or significant according to the NaFRA flood likelihood analysis. Some areas may be classified as having no result. This occurs where there is no output data from the analysis used to produce NaFRA, but the area falls within the extreme flood outline (with a 0.1% or 1 in 1000 chance of flooding in any year).

Groundwater Flooding Risk



Groundwater Flooding Risk Rating

-  Client Site
-  High Risk
-  Moderate Risk
-  Low Risk



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Groundwater Flooding Risk

Groundwater Flooding Risk

Details	Distance	Reply
What is the risk of groundwater flooding at the Site?	On Site	Low



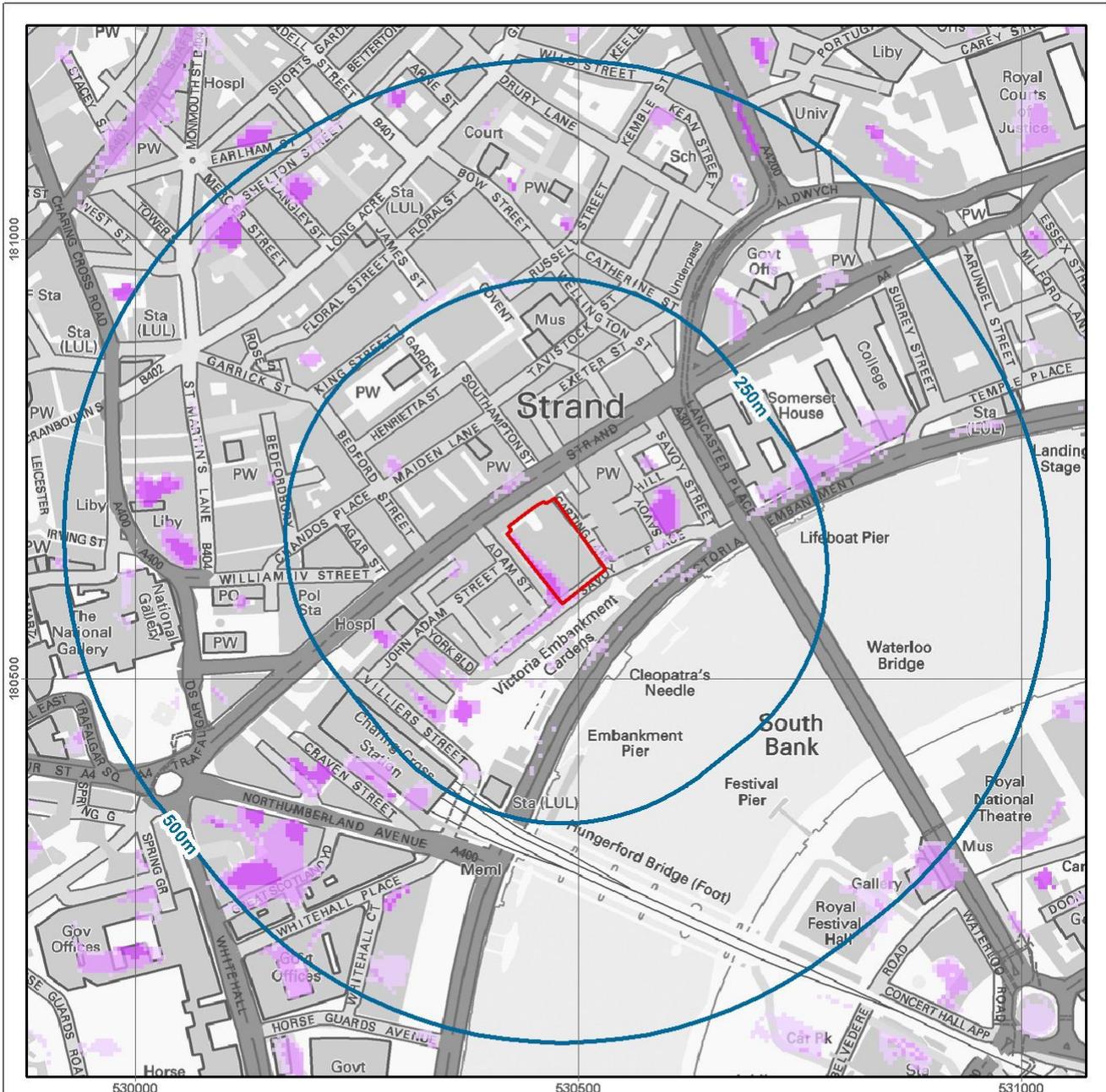
Information from ESI indicates that there is a low risk of groundwater flooding in this area with a return period of 1 in 200 years. There will be a remote possibility that incidence of groundwater flooding could lead to damage to property or harm to other sensitive receptors at, or near, this location. For sensitive land uses further consideration of site topography, drainage, and historical information on flooding in the local area should be undertaken by a suitably qualified professional. Should there be any flooding it is likely to be limited to seepages and waterlogged ground, damage to basements and subsurface infrastructure, and should pose no significant risk to life. Surface water flooding, however, may be exacerbated when groundwater levels are high.

ESI Data

ESI provides data to Argyll in relation to groundwater flooding. Through research and development, building on their expertise in addressing groundwater flooding issues for the Environment Agency and other clients in the UK, ESI has developed algorithms and calibrated predictions of the risk of groundwater flooding occurring in England and Wales. This differs from other suppliers of data regarding groundwater flooding which only report on the susceptibility of groundwater flooding. Susceptibility merely has to be identified, whereas risk must be quantified. The resulting map is a 50x50m classification of groundwater flooding risk into four categories (Negligible, Low, Moderate and High). ESI's classifications are based on the level of risk, combining severity and uncertainty that a site will suffer groundwater flooding within a return period of about 200 years.

The map is a general purpose indicative screening tool, and is intended to provide a useful initial view for a wide variety of applications. However, it does not provide an alternative to a site specific assessment, and a detailed risk assessment should be used for any site where the impact of groundwater flooding would have significant adverse consequences.

Surface Water Flooding (1:200 year rainfall event)



Surface Water Risk

-  Client Site
-  10cm - 30cm depth
-  30cm - 1m depth
-  1m + depth



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Surface Water Flooding

Surface Water Flooding

Details	Distance	Reply
What is the risk of surface water flooding at the Site following a 1 in 75 year rainfall event?	On Site	High
What is the risk of surface water flooding at the Site following a 1 in 200 year rainfall event?	On Site	High
What is the risk of surface water flooding at the Site following a 1 in 1000 year rainfall event?	On Site	High



JBA Consulting Data

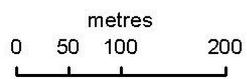
Surface Water Flooding - Information regarding the risk of natural surface water or pluvial flooding. The risk is classified by JBA into four categories, negligible, low (more than 0.1m), medium (more than 0.3m) and high (more than 1m) which reflect varying depths of potential surface water flooding during a range of rainfall events including 1:75 year, 1:200 year and 1:1000 year events.

Historical Flooding



Historical Flooding

-  Client Site
-  Historic Floods
-  Geo Indicators



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Historical Flooding

Historical Flood Events

Details	Distance	Reply
Have any historical flood events occurred at the Site or within 500m?	<501m	NO



The Environment Agency's records have no indication of past flooding within 500m of the Site. As these records are not comprehensive, it may still be prudent to ask the relevant authorities and the Site owner whether they are aware of any previous flooding at the Site or in the surrounding area.

Environment Agency Data

Historical Flood Outlines - The EA has collated extensive records (including outlines) of flooding from rivers, the sea, or groundwater which have occurred in England and Wales since c.1950. This information comes from various sources including maps, aerial photographs and private records. It is not necessarily comprehensive.

Geological Indicators of Flooding

Details	Distance	Reply or Direction
Are there any geological deposits which indicate the Site may have been flooded in the past?	<26m	YES
Geological Indicators	On Site	N/A

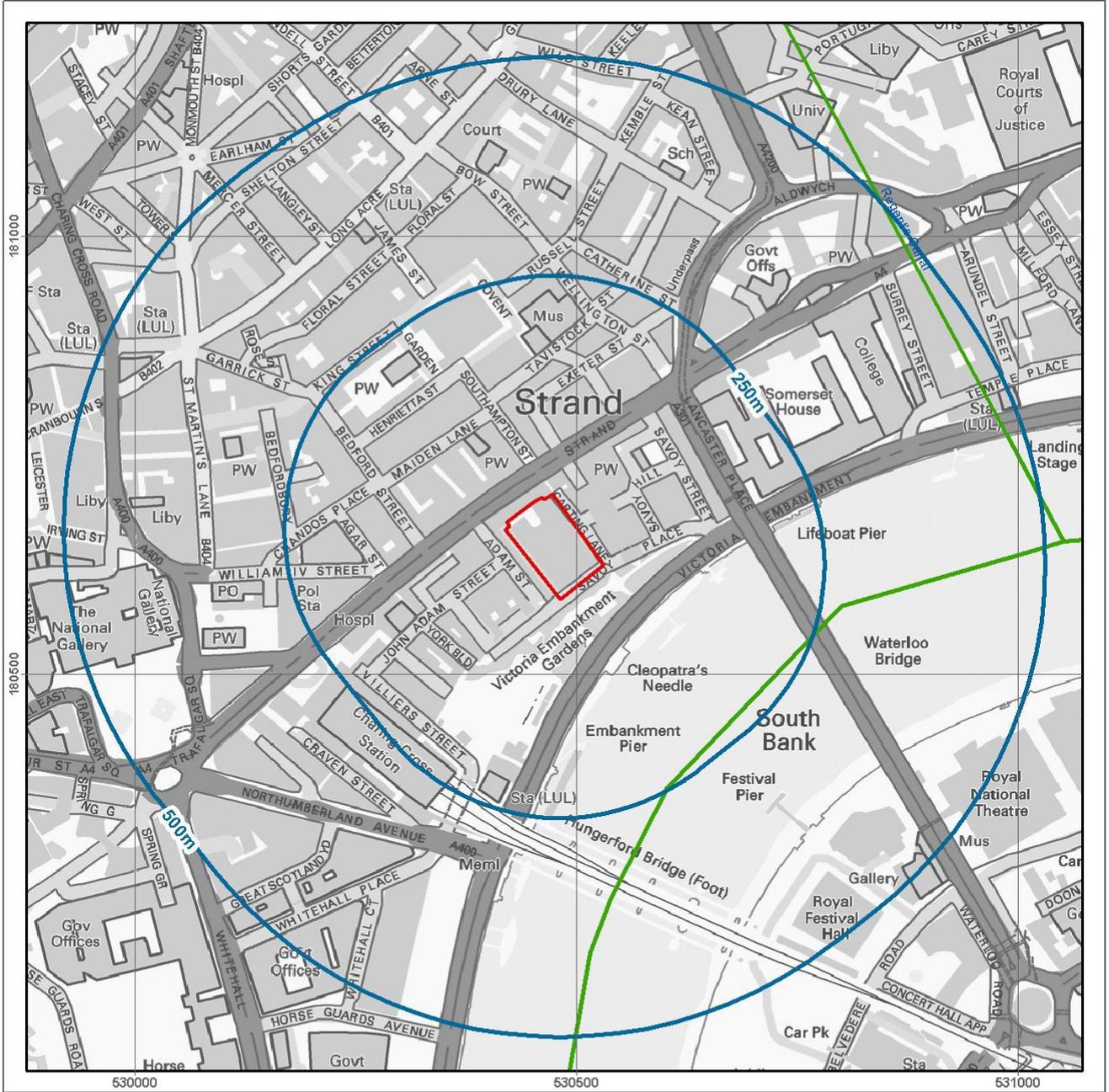


Data from the British Geological Survey (BGS) indicates that the type of deposits in the locality of the Site are of the type normally associated with floodplains. However, this data should only be considered as complementary to the Environment Agency's Flood Map. This BGS data does not indicate the likelihood of flooding, since such deposits may be due to flood events which occurred thousands of years ago. Refer to the other assessments in this report for an overall assessment of flood risk.

British Geological Survey Data

Geological Indicators of Flooding – The BGS Geological Indicators of Flooding (GIF) data set is a digital map based on the BGS Digital Geological Map of Great Britain at the 1:50,000 scale (DiGMapGB-50). It was produced by characterising Superficial (Drift) Deposits on DiGMapGB-50 in terms of their likely vulnerability to flooding, either from coastal or inland water flow and reflects areas which may have flooded in the recent geological past. This normally relates to flooding which happened many thousands of years ago.

Detailed River Network



Detailed River Network

- | | |
|---|--|
|  Client_Site |  Underground River |
|  Primary River |  Extended Culvert |
|  Secondary River |  D/S of High Water Mark |
|  Tertiary River |  D/S Seaward Extension |
|  Lake/Reservoir |  Canal |



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Detailed River Network

Detailed River Network

Details	Distance	Reply or Direction
Is there any information from the EA's Detailed River Network within 500m?	<501m	YES
River Name: , Watercourse Name: Thames (Tidal), Is The Feature a Main River?: YES, Is The Feature a Drain?: NO.	227.6	SE
River Name: Regent's Canal, Watercourse Name: , Is The Feature a Main River?: NO, Is The Feature a Drain?: NO.	472.3	NE



The Site is more than 5m above canal or drainage channel identified by the Environment Agency's detailed river network. Although this suggests a low risk of flooding, other assessments of risk within this report should be consulted.

Environment Agency Data

This data was derived from Ordnance Survey Mastermap (the UK's most detailed digital mapping) and shows the centre-lines of the river network (rivers, drains and streams) in England and Wales. Where relevant, it assigns attributes such as river type and designation (i.e. Main River status). It can be important to know this because certain statutory bodies must be consulted about development proposals near to a Main River, canal or drainage channel.

Other Information

Height Above Sea Level

Details	Distance	Reply
Minimum height of the Site above sea level	On Site	8.8m
Average height of the Site above sea level	On Site	11.4m
Maximum height of the Site above sea level	On Site	13.3m



The Site is at a relatively high elevation above sea level. However, this is not in itself indicative of the absence of flood risk and reference should be made to other assessments within this report.

Distance to Water Features

Details	Distance	Reply or Direction
Are there any water features within 500m?	<501m	YES
Nearest surface water feature	77.5m	SE



The Site is more than 5m above a water feature (as shown on the Ordnance Survey maps). Although this suggests a low risk of flooding, other assessments of risk within this report should be consulted.

Dam or Reservoir Failure

Details	Distance	Reply
Is there a risk of the Site being affected by the failure of a nearby dam or reservoir?	On Site	NO



Neither the Site nor areas near to it will be likely to flood if a dam or reservoir in the surrounding area failed.

JBA Consulting Data

Dam or Reservoir Failure – JBA has modelled approximately 1700 dams and reservoirs across the UK which are considered to pose the greatest risks to people and property. These models are able to predict the areas likely to flood on all sides of a feature, should an element of it fail e.g. a wall, dam or earth bund.

Glossary

Business Continuity Plan

A business continuity plan is a strategic plan of action for a business to implement in an emergency (i.e. flood event). This plan ensures a business can continue to operate during emergency situations and reduces the risk of suffering avoidable losses. For example, it may cover such items as emergency accommodation and computer back up off site.

Flood Evacuation Plan

A flood evacuation plan sets out clear steps to ensure the safe evacuation of staff during a flood. It will form part of the Business Continuity Plan.

Coastal Flooding

Coastal flooding is the inundation of land areas along the coast caused by sea water rising above normal tidal conditions. Coastal flooding can arise from a combination of high tides, wind induced tidal surge, storm surge created by low pressure and wave action.

Flood Resistance Measures

These measures are designed to prevent flood water from entering the buildings on Site.

Flood Resilience Measures

These measures are intended to make buildings more resilient to flood damage so that they recover more quickly from flooding. They are not designed to prevent flood water entering the property.

Flood Risk Assessment

A full Flood Risk Assessment (FRA) Report is a bespoke report required under NPPF for any development site within Environment Agency Flood Zones 2 or 3 and/or any development site larger than 1 hectare. These reports are generally prepared following liaison with the Local Planning Authority and the application of the sequential test.

Flood Zone 1

The area where flooding from rivers or sea is very unlikely as defined by the Environment Agency. There is less than 0.1% (1 in 1000) chance of flooding occurring each year.

Flood Zone 2

The area of medium probability of flooding as defined by the Environment Agency – a flood with an annual chance of occurring of between 1% (1 in 100) to 0.1% (1 in 1000) for river flooding and 0.5% (1 in 200) to 1% (1 in 1000) for coastal flooding.

Flood Zone 3a

The area of high probability of flooding as defined by the Environment Agency – a flood with an annual chance of occurring of 1% (1 in 100) or greater for river flooding and 0.5% (1 in 200) or greater for coastal flooding.

Flood Zone 3b

The boundary between 3a and 3b is a planning decision made by the Local Authority. This information is usually in the strategic flood risk assessment. This area is a functional floodplain as defined by the Environment Agency. It is an area which is designed to flood – a flood return period of 1 in 20 or less.

Groundwater Flooding

Groundwater flooding occurs when ground water levels increase sufficiently for the water table to intersect the ground surface. Groundwater flooding can occur in a variety of geological settings including valleys and in areas underlain by chalk, and in river valleys with thick deposits of alluvium and river gravels.

NPPF

This relates to the National Planning Policy Framework and the associated Technical Guidance.

Pluvial (Surface Water) Flooding

Pluvial flooding results from rainfall running over ground before entering a watercourse or sewer. It is usually associated with high intensity rainfall events (typically greater than 30mm per hour) but can also occur with lower intensity rainfall or melting snow where the ground is already saturated, frozen, developed (for example in an urban setting) or otherwise has low permeability.

Rainfall Event

A period of rainfall that is expected to occur on average once every 'X' years. A rainfall event is also measured in terms of duration (hours or days) and the intensity of the event may differ depending upon where it occurs.

Return Period

Return periods are a measure of how likely flooding is to occur. They are commonly expressed as a ratio (for example 1 in 75 or 1:75). This means that this level of flooding is expected once in every 75 years.

River Flooding

River flooding mainly happens when the river catchment (that is the area of land that feeds water into the river and the streams that flow into the main river) receives greater than usual amounts of water (for example through rainfall or melting of snow). The amount of runoff depends on the soil type, catchment steepness, drainage characteristics, agriculture and urbanisation as well as the saturation of the catchment. The extra water causes the level of the water in the river to rise above its banks or retaining structures.

Useful Contacts

Name and Address		Telephone/Fax/Email
Argyll Environmental Limited Lees House 21-33 Dyke Road Brighton BN1 3FE www.argyllenvironmental.com		General enquiries 0845 458 5250 Fax 0845 458 5260 info@argyllenviro.com
Environment Agency National Customer Contact Centre (NCCC) PO Box 544 Templeborough Rotherham S60 1BY www.environment-agency.gov.uk		General enquiries 08708 506 506 Floodline 0845 988 1188 enquiries@environment-agency.gov.uk
British Geological Survey Enquiry Service British Geological Survey Kingsley Dunham Centre Keyworth Nottingham NG12 5GG www.bgs.ac.uk	 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL	General enquiries 0115 936 3143 Fax 0115 936 3276
(For advice on flood insurance) British Insurance Brokers' Association 8th Floor John Stow House 8 Bevis Marks London EC3A 7JB		Consumer helpline 0870 950 1790
JBA Risk Management - Head Office South Barn Broughton Hall Skipton North Yorkshire BD23 3AE		General enquiries 01756 799 919 Fax 01756 799 449 info@jbarisk.com

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Flood Risk Screening Methodology

The FloodSolutions Commercial report is a desktop flood risk screening report, designed to enable property professionals to assess the risk of flooding at commercial sites. It examines three areas; how flood risk affects the availability of insurance for a site; how flood risk affects the potential to redevelop a site; and the overall risk of flooding at a site (taking into account any flood defences present). The report considers current Government guidance including the National Planning Policy Framework (NPPF) and the agreement between insurance companies and central Government. The report has been produced and quality-checked by qualified flood risk specialists using the data contained in this report.

Front Page Overview

In this section Argyll will summarise if any significant flood risks have been identified and whether insurance is likely to be available at Standard Terms.

The following table describes the possible outcomes of the report:

Assessment	Risk Rating and Meaning
PASSED 	Low and Low to Moderate - The Site is not considered to be at a significant risk of flooding. Insurance is likely to be available at standard terms.
PASSED 	Moderate - The Site is located within an area which is at risk of flooding. In most cases insurance should be available at standard terms. However, this will be dependent on site specific factors and we recommend contacting your insurance broker before proceeding with any transaction.
FURTHER ACTION 	Moderate to High and High - The Site is located within an area which is at risk of flooding and as a result insurance may not be available at standard terms. However, this will be dependent on site specific factors and we recommend contacting your insurance broker before proceeding with any transaction.

Insurance Availability

Argyll provides an indication of whether the Site is likely to be insurable for flood risk at standard terms. The answer to Question1 (on page 3) is based on consideration of NaFRA data supplied by the Environment Agency and surface water flooding data supplied by JBA Consulting. This data is used by a significant proportion of the insurance industry to help determine the suitability of a Site for insurance, although they may access additional information which could affect their assessment.

Under the Association of British Insurers' Revised Statement of Principles on the Provision of Flooding Insurance (July 2008), the general policy of member companies is that flood insurance for domestic properties and small businesses should continue to be available for as many customers as possible until 1st July 2013, by which time a longer term solution should be implemented. The premiums charged and other terms will reflect the risk of flooding but insurance will be available:

- 1) for properties where the flood risk is not significant (generally defined as no worse than 1.33% or 1-in-75 years annual probability of flooding); and
- 2) to existing domestic property and small business customers at significant risk, providing the Environment Agency has announced plans to reduce that risk within five years, such as improving flood defences. (The commitment to offer cover will extend to the new owner of any applicable property subject to satisfactory information about the new owner).

However, for significant risk areas where no improvements in flood defences are planned, and in all cases other than domestic properties and small businesses, insurers cannot guarantee to provide cover, but will examine the risks on a case-by-case basis. The implementation of the revised Statement of Principles depends on action from the Government and is continually reviewed by insurers. In addition, the revised Statement of Principles does not apply to properties built after 1st January 2009. Different guidance applies to these (see Climate Change – Guidance on Insurance Issues for New Developments from www.abi.org.uk).

The responses to the question 'Is the Site likely to be insurable at standard terms?' assume the Site is an existing domestic property or small business and makes no allowance for previous claims arising from any type of flooding, nor for non-flood related risks such as subsidence.

Response	Meaning
Yes	The Site is likely to be considered acceptable by insurance companies at standard terms and flood insurance should not be difficult to obtain. No further action required.
No	The Site is not likely to be considered acceptable by insurance companies at standard terms, on the basis of current information. Further work may be required in order to obtain acceptable insurance terms for the flood risk. This could include a more detailed risk assessment or the use of accredited products, flood resilient materials and temporary defences to defend the property.

Development Risk

Argyll comments on whether a full or partial Flood Risk Assessment (FRA) would be required in accordance with National Planning Policy Framework (NPPF). The answer to Question 2 (on page 3) is indicative only and is based on the size of the Site (as supplied by the client) and the information in the data section of this report.

NPPF sets out Government policy on development and flood risk. Its aims are to ensure that flood risk is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas of highest risk. Where new development is exceptionally necessary, NPPF aims to make it safe, without increasing flood risk elsewhere, and, where possible, reducing flood risk overall.

A separate Drainage Impact Assessment may be required in addition to an FRA to demonstrate that development of the Site will not adversely affect flood risk elsewhere.

Response	Meaning
Yes (Full)	If the Site was redeveloped, a full Flood Risk Assessment is likely to be required which should include a Drainage Impact Assessment.
Yes (Drainage)	If the Site was redeveloped, a full Flood Risk Assessment may not be required however, given the size of the Site, a Drainage Impact Assessment may be necessary.
No	If the Site was to be redeveloped, no further flood assessment is likely to be required.

Flood Risk Rating

Argyll provides an overall flood risk rating based on an assessment of the data provided within this report. It does so by asking two questions:

3. What is the overall risk of flooding, assuming flood defence fail or are absent or overtopped?

The answer to Question 3 (page 3) provides a worst case scenario assuming there are either no defences in the area, that any defences in the area could fail, primarily as a result of river or coastal flooding, or are overtopped by excessive flood volumes.

4. Are there existing flood defences which might benefit the Site?

The answer to Question 4 (page 3) is based on the presence of any flood defences in the dataset provided by the Environment Agency within 500m of the Site. It should be noted that a residual risk of flooding may be present if such defences failed. Flood defences do not generally protect the Site against groundwater and surface water flooding.

If defences are present within 500m, a further question is asked (also on page 3):

5. What is the risk of flooding when these defences are operational?

This assesses the risk from flooding, assuming these defences work as intended and neither fail nor are overtopped.

Questions 3 and 5 are answered by one of six standard responses:

Response	Meaning
Negligible	The overall flood risk rating for the Site is assessed to be 'Negligible'. Existing datasets do not indicate any risk at the Site itself, or any feature within the locality of the Site, which would be expected to pose a threat of flooding. It is not considered that any further investigations are necessary in regard to flood risk.
Low	The overall flood risk rating for the Site is assessed to be 'Low'. Although large sites (over 1 ha) would require a Drainage Impact Assessment to accompany any planning application, it is not considered necessary to undertake any other further investigations into the flood risk to the Site.
Low to Moderate	The overall flood risk rating for the Site is assessed to be 'Low to Moderate'. The presence of such features as flood defences, flood storage areas and watercourses within the locality of the Site suggests that there may be a risk of flooding to the Site itself. Further investigations could be undertaken to further assess this risk.
Moderate	The overall flood risk rating for the Site is assessed to be 'Moderate'. Information from existing datasets suggests that there are certain features which may present a risk to the Site and its occupants. Further assessment would normally be suggested as a prudent measure to clarify the risk of flooding at the Site.
Moderate to High	The overall flood risk rating for Site is assessed to be 'Moderate to High'. Information from existing datasets suggests that there are certain features which may present a significant risk to the Site and its occupants. Further assessment is usually recommended in order to clarify the risk of flooding at the Site.
High	The overall flood risk rating for Site is assessed to be 'High', with a consequent risk to life and property. This means that existing datasets reveal significant flood risk issues which need to be addressed. Further assessment is usually recommended in order to clarify the risk of flooding at the Site.

Flood Analysis

The flood risk gauges provide a more detailed analysis of the risk from each of the four main types of flooding – river, coastal, groundwater and surface water. In addition, a fifth gauge provides an analysis of other factors (i.e. historic flood events, geological deposits which are indicative of past flooding, proximity to surface water features and elevation above sea level) that may affect the overall flood risk. For surface water flooding, only the risk rating generated from the 1:200 year rainfall event data is included in the overall risk assessment. The data on 1:75 year and 1:1000 year rainfall events is provided for information only. For further information on each of these types of flooding, please refer to the Argyll FloodSolutions User Guide.

This analysis takes into account any existing flood defences that are intended to protect the Site and assumes that these work as designed. The analysis also takes into account the other information contained in those data sections of the report which are relevant to that particular type of flooding. The assessment of the risk as shown in the flood gauge should therefore take priority over the information in the individual data sections of the report.

Limitations of the Report

The FloodSolutions Commercial report has been designed to satisfy basic flood-related environmental due-diligence enquiries for commercial properties. It is a desktop review of information provided by the client and from selected private and public databases. It does not include a site investigation, nor are specific information requests made of the regulatory authorities for any relevant information (other than local water and sewerage providers). Therefore, Argyll cannot guarantee that all issues of concern will be identified by this report, or that the data and information supplied to it by third parties is accurate and complete.

This report includes an assessment of surface water flooding which examines the risk of the general drainage network overflowing during periods of extreme rainfall. This report does not make a detailed site-specific assessment of the suitability of the existing drainage on the Site. If this is required, then a site survey should be considered. The assessment of pluvial flooding does not take into account particular local or temporary factors that may cause surface water flooding such as the blockage or failure of structures on or within watercourses, drains, foul sewers, water mains, canals and other water infrastructure; and any history of drains flooding at the Site or in the locality. Surface water flooding can occur before surface water reaches the general drainage network, for example on hills and inclines.

The NaFRA dataset provided by the Environment Agency does take account of failure of flood defences but does not take into account particular local or temporary factors such as blockage. Environment Agency data does not include flood risk from very small catchments as models of such small scale catchments are not considered to be reliable for UK-wide flood risk assessments. The potential impact of climate change on flood risk to the Site would require further study.

When answering any questions within this report, current applicable legislation is taken into account.

The data used in this report may have inherent limitations and qualifications. Further details are set out in the FloodSolutions User Guide which is available free of charge from our website www.argyllenvironmental.com , or by calling one of our technical team on 0845 458 5250.

This report is provided under The Argyll Environmental Terms and Conditions for Flood Solutions Reports, a copy of which is available on our website, www.argyllenvironmental.com , or by calling one of our technical team on 0845 458 5250



Important Consumer Protection Information

This search has been produced by Argyll Environmental Ltd, Lees House 21-23 Dyke Road, Brighton, BN1 3FE. Telephone: 0845 458 5250, Fax: 08456 458 5260, e-mail: orders@argyllenviro.com which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered 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.

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Firms which subscribe to the Search Code will:

- display the Search Code logo prominently on their search reports
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- handle complaints speedily and fairly
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- 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 compensation of up to £5,000 to you if he finds that you have suffered actual loss as a result of your search provider failing to keep to the Code.

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

TPOs Contact Details:

The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Email: admin@tpos.co.uk

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

PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE



Complaints procedure

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.

Complaints should be sent to:

Legal Director
Argyll Environmental Ltd
Lees House
21-23 Dyke Road
Brighton
BN1 3FE

Telephone: 0845 458 5250
Email: orders@argyllenvironmental.com

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

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.