argyll ENVIRONMENTAL™

FloodSolutions
Consult Commercial

Sample Site, Sample Town, United Kingdom

Report Prepared for:
Sample

Client Reference:
Sample

Report Reference:
AEL-000-FLT-000000

National Grid Reference:
530719, 164670

Report Date:
20 February 2020

Conveyancing Information Executive

The Property Ombudsman

Landmark INFORMATION

Site Location

02

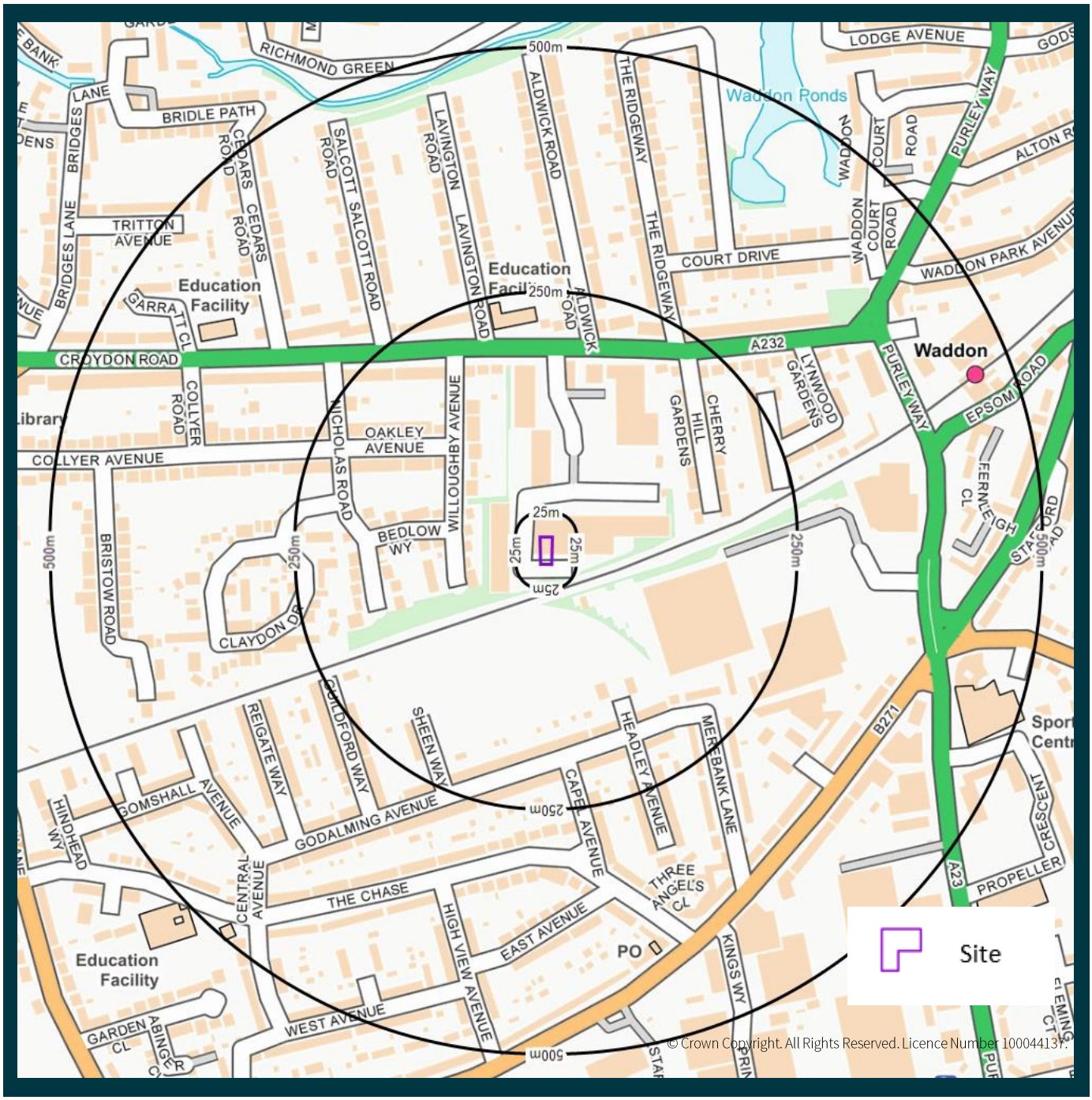
Report Prepared on:
Sample Site, Sample Town, United Kingdom

Current Use:
Office/Retail

Proposed Use:
Office/Retail

Report Author:
Tamsin Jones, BSc (Hons) MSc

Telephone:
0845 458 5250



Professional Opinion

03

Background

The Sitecheck Combined report (Sample Ref) which has been prepared for this site identified a risk of flooding. As a result, we have carried out a detailed manual assessment of these risks.

Any flood risks identified within the 'Others' gauge in the Sitecheck Combined report have been assessed in association with the relevant risk source; river, coastal, groundwater or surface water.

Overall Risk of Flooding

The overall risk of flooding has been identified as **moderate to high.**

Summary

What type of flooding is the Site at risk of?	Surface water and groundwater flooding
Is the building at risk?	Yes
Maximum depth of flooding at the Site?	0.6m
Maximum depth of flooding to the unit?	0.6m
Is access likely to be restricted?	Yes
Have defences been identified in proximity to the site?	No
What should you do next?	Install property level protection measures (See Recommendations)

Insurance

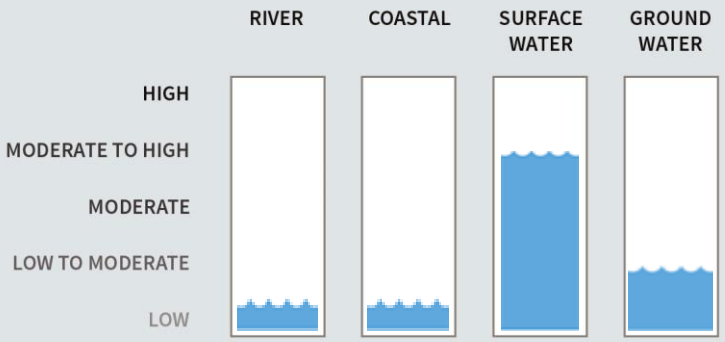
Based on the level of flood risk indicated, obtaining insurance terms may not easily be available without a high premium or excess. We recommend you obtain buildings and contents insurance terms before exchange of contracts.

Professional Opinion

04

Individual Flood Risk Gauges

The gauges below detail the level and type of individual flood risks at the site.



Risk Analysis

Flood type	Risk
River	The Site is at a **low** risk of river flooding. The Site is not anticipated to be at risk of flooding from this source.
Coastal	The Site is at a **low** risk of coastal flooding. The Site is not anticipated to be at risk of flooding from this source.
Surface Water	The Site is at a **moderate to high** risk of surface water flooding. Depths of flooding may reach up to 0.6m and impact upon the south of the Site.
Groundwater	The Site appears to be at a **low to moderate** risk of groundwater flooding. The property is not anticipated to be at a significant risk of flooding from this source.

Recommendations

05

Flooding can usually be managed by the installation of flood protection measures. Flood protection measures can be divided into two categories; flood resistance and flood resilience. Flood resistance measures can usually prevent/minimise the entry of water during a flood event if the depths do not exceed 0.6 m. Where flood depths are above 0.6 m, flood resistance measures are not usually suitable. If flood depths are below 0.6m a combination of flood resistance and resilience measures generally works best.

Argyll's Recommendations

As flooding at the Site is not anticipated to exceed 0.6m we would suggest the installation of flood resistance measures, which are outlined below.

Furthermore, access could be restricted in a storm event. As a result, we recommend preparing for this scenario.

Flood Protection Measures

Flood resistance measures are physical barriers designed to keep water out of your house, such as flood doors, air brick covers and non- return valves.

The flood source, likely depths and building design and age will inform the best choice of protection measures. Other factors will play a part in the decision making process, such as cost, visual impact, ease of deployment and product performance. The best answer for your site will most likely involve a combination of products.

You may need a flood survey to identify which resistance measures are most appropriate. The cost of a survey varies according to the size, location and complexity of the Site, but starts from around £450.00 + VAT. The cost of the survey is usually deducted from the cost of defence measures purchased.

Preparation

We recommend preparing for flooding to allow yourselves time to take action:

- Sign up to the Environment Agency's free flood warning service. For more information, see the Environment Agency's website;
- Develop a business continuity plan to minimise business disruption in the event of a flood and allow efficient recovery.
- Develop a Flood Evacuation Plan to ensure safe access and egress from the Site;
- Ask the vendor, and neighbors, whether they are aware of any previous flood events in the area.

Enquiries

We recommend sending enquiries to the vendor to confirm the extent and depth of any flooding which occurred at the Site. We also recommend making enquiries regarding the availability of buildings and contents insurance. Please contact us if your enquiries give cause for concern.

Drainage

As the source of flooding is from overland run-off, we recommend that you review current drainage provisions at the Site. On Site drainage schemes such as Sustainable Drainage Systems (SuDS) could be implemented to improve drainage provisions and direct flooding to less sensitive areas away from the buildings or operationally sensitive areas.

Surface Water Flooding Analysis

06

Summary and Analysis

Following a review of flood data, the risk of surface water flooding at the site is identified as **moderate to high**. Depths of flooding may reach up to 0.6m and impact upon the south of the Site. This analysis is based on a 1 in 75year flood event.

Historical Flood Events

According to the Environment Agency, no historical flood events have been recorded at or within proximity of the Site.

Flood Depths and Analysis

Modelled surface water flood data has revealed that the Site is anticipated to be at risk of surface water flooding. The area of risk is expected to impact upon the southern extent of the Site, with depths potentially reaching up to 0.6m during a storm event. The risk at the Site is likely to be associated with low lying topography in the area with elevations sloping down towards a railway approximately 12m south.

At the location of the unit there is a slight ramp leading up to the building which may reduce any flood depths entering the unit. However, given the depths identified, property level protection measures are still recommended in order to prevent any ingress of water into the property during a storm event. Please see the recommendations section.

Safe Access/Escape

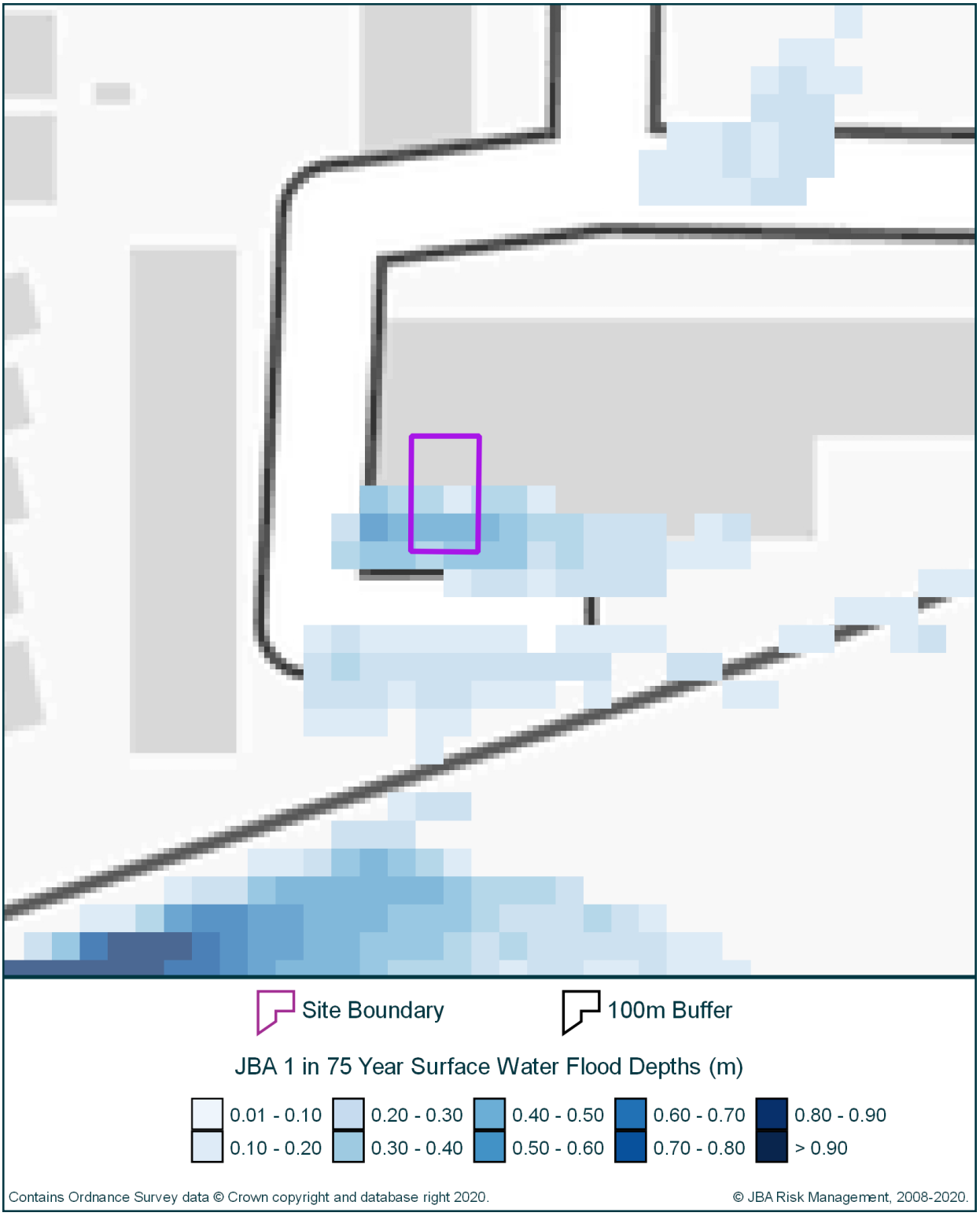
An access road is situated adjacent west which leads on to the A232 to the north. The access road may be restricted during a storm event.

Due to the flood risks identified it would be prudent to ensure a safe route from the Site in anticipation of a flood event. Please see recommendations.

Surface Water Flooding Depth Map

07

The map below shows the likely flood depths anticipated to impact the Site and surrounding area. Please see the surface water Flooding Analysis section, which details the likely impacts of the flood water depths shown. Our recommendations section provides the appropriate next steps.



Please note these depths are indicative and should not be used for the formal design of flood defences/resilience measures.

Groundwater Flooding Analysis

08

Summary

The Site appears to be at a low to moderate risk of groundwater flooding. The property is not anticipated to be at a significant risk of flooding from this source. This analysis is based on a 1 in 100 year return period event.

Please see glossary for additional information on terminology.

Argyll's Analysis

Owing to the elevation of the Site above the water table and the permeability of the underlying geology, the Site and the wider area are at a low to moderate risk of groundwater flooding. This will be more of a problem if the building has a cellar or basement.

Additional Flooding Considerations

09

Development Control

The National Planning Policy Framework (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. Any Sites within 50m of a Main River where development is proposed are required to consult with the Environment Agency prior to the submission of any planning application.

Riparian Ownership

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: **https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/454562/LIT_7114.pdf**.

Sometimes, the EA 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.

Flood Evacuation and Planning

Where a flood risk has been identified, creating and implementing a business continuity plan is integral to an organisation's ability to respond to an incident and continue operations. It should provide actions for how it intends to operate in the wake of a flood event, and how it intends to revert to 'business as usual'.

Flood Protection Measures

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. 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, and builidng 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 (usually greater than 0.60m). Certain types of building construction are unable to resist the pressure load placed on the exterior skin of the building by retained flood waters. This is dependent on the age and construction of the building.

Sewer Flooding

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.

Glossary

10

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 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.

Flood Resistance Measures

These measures are designed to prevent flood water from entering the house and external areas at the 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 Site.

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

An area of low probability of flooding as defined by the Environment Agency – a flood return period of 1 in 1,000 or more.

Flood Zone 2

An area of medium probability of flooding as defined by the Environment Agency – a flood return period between 1 in 100 to 1 in 1,000 for river flooding and 1 in 200 to 1 in 1,000 for coastal flooding.

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 situation and reduces the risk of suffering available losses. For example, it may cover such items as emergency accommodation and computer back up off Site.

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.

National Planning Policy Framework (NPPF)

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

Surface Water Flooding

Surface water 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.

Return Period

A common way of expressing how likely a flood event is to occur is 'return period'. For example, a 1:100 year event has a 1% likelihood of occurring in any given year, whereas a 1:200 year event has a 0.5% likelihood of occurring in any given year. The 1:200 event would be expected to result in a greater extent of flooding than the 1:100 event, as it would be more severe, but the likelihood of it occurring is lower.

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.

RoFRS (Risk of Flooding from River and Sea)

A dataset provided by the Environment Agency, which takes into account defences to assess the risk of flooding in an area.

Data Providers

11

Please see below the contact details of all those referred to within this report. For all other queries please contact:

Argyll Environmental Ltd
1st Floor
98 – 99 Queens Road Brighton
BN1 3XF

If you require any assistance, please contact our customer services team on:

0845 458 5250

or by email at:

orders@argyllenviro.com

or visit:

www.argyllenvironmental.com

Contact	Name	Address	Contact details
1	**Landmark Information Group**	Imperium Imperium Way Reading RG2 0TD	**T:** 0844 844 9966 **E:** helpdesk@landmark.co.uk
2	**Environment Agency National Customer Contact Centre (NCCC)**	PO Box 544 Templeborough Rotherham S60 1BY	**General:** 08708 506 506 **Floodline:** 0845 988 1188 **E:** enquiries@environmentagency. gov.uk www.environment-agency.gov.uk
4	**Geosmart Information**	PO Box 544 Templeborough Rotherham S60 1BY	**T:** 01743 276 150 **E:** info@geosmartinfo.co.uk
5	**JBA Risk Management - Head Office**	JBA Risk Management Ltd No. 1 Broughton Park Old Lane Broughton Skipton North Yorkshire BD23 3AQ	**T:** 01756 799 919 **F:** 01756 799 449 **E:** info@jbarisk.com

Flood Risk Screening Methodology 12

The FloodSolutions Consult Commercial report is a desktop flood risk screening report, designed to enable property professionals and commercial property buyers to understand the risk of flooding at the SIte.

The report outlines the overall risk of flooding, provides a clear summary of flood risk issues and the expected impact to the Site. Specific steps to mitigate the impact of a flood event are included, as well as an indication of how flood risk affects the availability of insurance for the Site. The report has been produced and quality-checked by a qualified consultant using the data contained in this report.

Overall Risk of Flooding

Argyll provides an overall flood risk rating based on an assessment of the data provided within this report.

Response	Meaning
Low	The overall flood risk rating for the Site is assessed to be 'Low'. This is because we consider there to be minimal or no risk of flooding. It is not considered necessary to undertake any other further investigation 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'. Our analysis has revealed potential flood risks to the Site. However, any resulting flooding would be expected to be infrequent, or have low predicted depths. It is not considered necessary to undertake any other further investigations into the flood risk to the Site.
Moderate	The overall flood risk rating for the Site is assessed to be 'Moderate'. Our analysis has revealed that the depths of expected flooding may present a risk to the Site. Please refer to our recommendations at the front of the report.
Moderate to High	The overall flood risk rating for the Site is assessed to be 'Moderate to High'. Our analysis has revealed that the depths of expected flooding may present a significant risk to the Site and its occupants. Please refer to our recommendations at the front of the report.
High	The overall flood risk rating for the Site is assessed to be 'High'. Our analysis has revealed significant flood depths at the Site and associated issues which need to be addressed as they are likely to impact the Site and its occupants. Please refer to our recommendations at the front of the report.

Flood Risk Screening Methodology

Insurance Availability

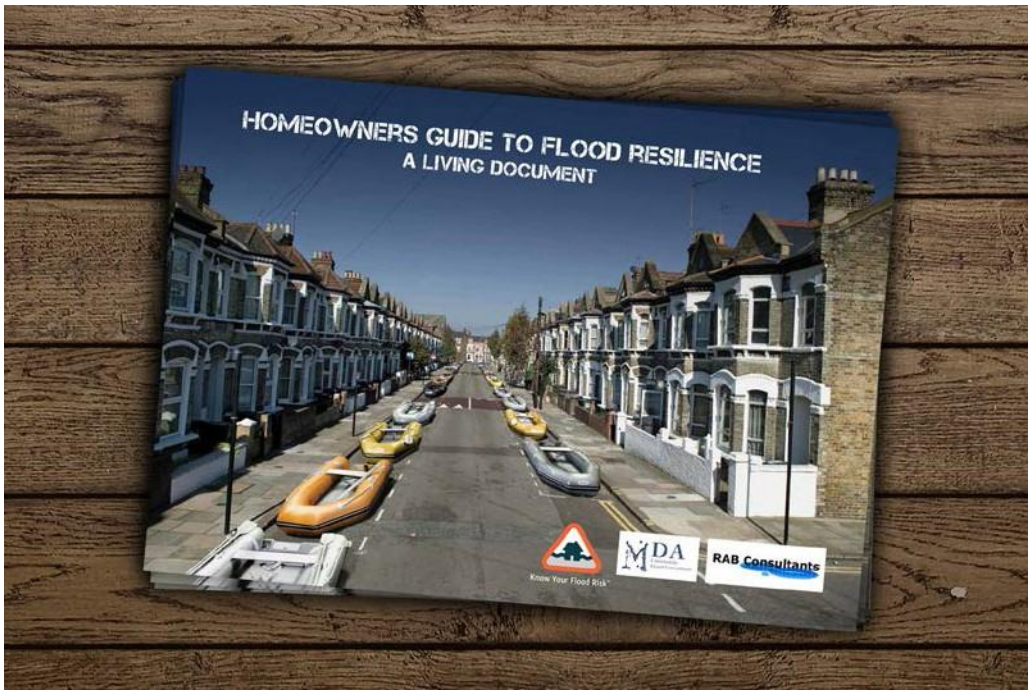
The response to the 'Insurance' question on the overview page does not take into account previous claims arising from any type of flooding, nor for non-flood related risks such as subsidence. Based on the data assessed within this report, an indication of whether the Site is likely to be insurable for flood risk is provided. Our opinion does not take into account any historic episodes of flooding or previous insurance claims arising from flooding at the Site.

For some properties, it is possible to reduce the risk of flooding by installing flood protection measures (either flood resistance or flood resilience measures). If these measures are appropriate to the Site, and have been installed properly, then an insurer may offer better terms.

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, surface water and groundwater. For river and coastal flooding, the overall assessment is generated from JBA Risk Management 1:100year rainfall event data in conjunction with Environment Agency RoFRS and Flood Zone data. For surface water flooding, the overall assessment is generated from JBA Risk Management 1:200year and 1:75year rainfall event data. For groundwater, the overall assessment is generated from Geosmart Information's GW5 map.

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.



Further details of such measures can be found on page 4 or at **www.knowyourfloodrisk.co.uk/sites/default/files/FloodGuide_ForHomeowners.pdf**

Flood Risk Screening Methodology 14

Limitations of the Report

This report has been published by Argyll Environmental "Argyll". It has been prepared on the understanding that it is to be used for an individual commercial property transaction.

This report is neither a guarantee of the physical condition of the subject site nor a substitute for any physical investigation or inspection.

Whilst every effort is made to ensure the details in the report are correct, Argyll cannot guarantee the accuracy or completeness of such information or data, nor identify all the factors that may be relevant. If you are a private individual using this report Argyll recommends that you discuss its contents in full with your professional advisor.

Terms and Conditions

This report is provided under Argyll Environmental Limited Conditions of Contract for SiteSolutions and FloodSolutions Reports, July 2013, Version 3.3, a copy of which is available on our website, https://lmkargyll2.s3.amazonaws.com/s3fs-public/tc_dp_3-3_new_address.pdf.

Consumer Protection

Important Consumer Protection Information

This search has been produced by Argyll Environmental Ltd, 1st Floor, 98 – 99 Queens Road, Brighton, BN1 3XF. Telephone**: 0845 458 5250**, Email: **orders@argyllenviro.com**. Argyll adheres to the Conveyancing Information Executive (CIE) standards.

The Standards:

- Conveyancing Information Executive Members shall act in a professional and honest manner at all times in line with the Conveyancing Information Executive Standards and carry out the delivery of the Search with integrity and due care and skill.
- Compliance with the Conveyancing Information Executive Standards will be a condition within the Conveyancing Information Executive Member's Terms and Conditions.
- Conveyancing Information Executive Members will promote the benefits of and deliver the Search to the agreed standards and in the best interests of the customer and associated parties.
- The standards can be seen here: http://www.conveyinfoexec.com

Complaints

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

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

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

Complaints Procedure

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
1st Floor
98 – 99 Queens Road
Brighton
BN1 3XF
Tel: 0845 458 5250
Email: orders@argyllenviro.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,
Email: admin@tpos.co.uk

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