

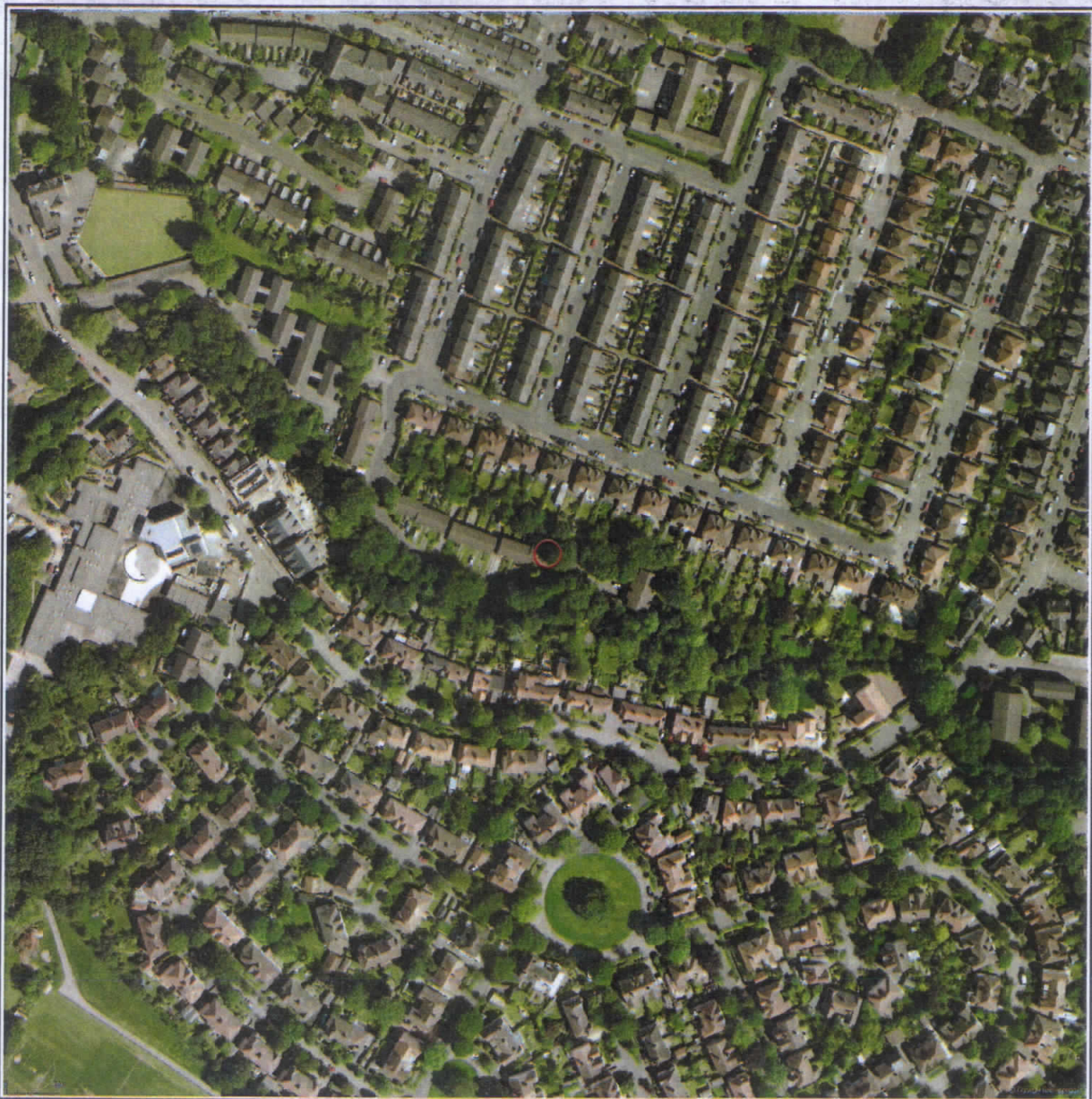
GroundSure Flood

Address: 27, WILLASTON CLOSE, MANCHESTER, M21 8BJ

Date: 1 Oct 2014

Reference: GS-1690745

Index Property Information - Index Property Information - North West



Aerial Photograph Capture date: 02-Jun-2009
Grid Reference: 381528,393262

Table of Contents

GROUNDSURE FLOOD OVERVIEW.....	4
EXPERT ASSESSMENT.....	5
FLOOD RESISTANCE MEASURES FROM WATERTIGHT.....	9
1. ENVIRONMENT AGENCY NAFRA MAP.....	10
FLOODING FROM RIVERS AND THE SEA.....	11
1.1 National Flood Risk Assessment (NaFRA).....	11
1.2 Areas Benefiting from Flood Defences.....	11
1.3 Flood Defences.....	11
1.4 Proposed Flood Defences.....	12
1.5 Areas used for Flood Storage.....	12
2. JBA SURFACE WATER FLOODING MAP.....	15
JBA SURFACE WATER FLOODING.....	16
2.1 JBA Surface Water (Pluvial) Flooding.....	16
3. ENVIRONMENT AGENCY HISTORIC FLOODING MAP.....	18
ENVIRONMENT AGENCY HISTORIC FLOODING.....	19
3.1 Historic Flood Outlines.....	19
BGS GROUNDWATER FLOODING.....	20
4.1 Groundwater Flooding Susceptibility Areas.....	20

GROUNDSURE FLOOD OVERVIEW



Overall Flood Risk

A High overall risk of flooding has been identified within 25m of the centre of the property.



JBA Overall Insurability Index

Green

The property has been rated as Green within JBA's Insurability Index. Green indicates a level of flood hazard such that (subject to terms, applicant's status and individual insurers' approach to risk, and any other factors which may be relevant) insurance covering flood risk may be obtainable relatively easily as part of a standard household insurance contract.

Please note: this rating is only valid for an individual residential property.



NaFRA

High

This indicates the chance of flooding at the site or an area within 25m is 1 in 30 or greater in any given year.

Address

27, WILLASTON CLOSE, MANCHESTER, M21 8BJ

Your Reference

8222



JBA Pluvial

Highly Significant

This indicates that the site or an area within 25m would be expected to be affected by surface water flooding in a 1 in 75 year rainfall event to a depth of greater than 1m.

GroundSure Reference

GS-1690745



Historic Flood Events

The site or an area within 25m has not been subject to historic flooding as recorded by the Environment Agency.

Grid Reference

381528,393262

Client

Index Property Information - North West



Areas Benefiting from Flood Defences

The site or an area within 25m has not been considered to be within an area benefiting from flood defences.

EXPERT ASSESSMENT

OVERVIEW AND GUIDANCE



Overall Flood Risk

GroundSure consider that the area within 25m of the centre of the property has a **High** risk of flooding. Please note this rating is calculated using a weighted assessment of fluvial, coastal and pluvial risk and historic flood events only.

Recommendations

A **High** risk of tidal/fluvial flooding and a **Highly Significant** risk of surface water (pluvial) flooding have been identified within 25m of the centre of the property. Please refer to the individual flood assessment sections below for further specific guidance. Alternatively, flood resistance measures may assist in reducing the flood risk to the property. Please see Flood Resistance Measures section for further details.

Please be aware that this is an automated assessment based upon the highest flood risk found within 25m of the centre of the property. Therefore a purchaser may wish to check the maps provided within this report to confirm whether the flood risk area lies on or in close proximity to the property. If you would like GroundSure to manually assess the property a £35 + VAT fee may be applicable. Please note this manual assessment does not include a site visit.



JBA Overall Insurability Index

Guidance

The property has been rated as **Green** within JBA's Insurability Index. Green indicates a level of flood hazard such that (subject to terms, applicant's status and individual insurers' approach to risk, and any other factors which may be relevant) insurance covering flood risk may be obtainable relatively easily as part of a standard household insurance contract.

Please note that due to the methodology employed to produce the dataset, JBA insurability ratings are only suitable for individual residential properties, and as such any rating given for commercial property should be considered invalid.

EXPERT ASSESSMENT

OVERVIEW AND GUIDANCE



NaFRA

As the site lies within or in close proximity to an area with a High risk rating in the NaFRA database, insurance covering flooding may be more difficult to obtain. It is recommended that quotes are obtained from several insurance companies. Additionally, a purchaser may wish to consider reducing the impact of flooding at the property by installing flood protection measures at the site. Such measures may help reduce the effects of flooding at the property if flood defences are absent or are breached, and may assist in obtaining insurance for the site. Further information on flood protection measures can be obtained by contacting GroundSure. Furthermore, it is recommended that anyone living within an area at High risk signs up to the Environment Agency's Flood Warning Scheme on 0845 988 1188 or at www.environment-agency.gov.uk.

Guidance

The Environment Agency NaFRA database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the likelihood of flood defences overtopping or breaching by considering their location, type, condition and standard of protection.

A number of major insurance companies refer to this information within their risk model, although they may also utilise additional information such as claims histories, which may further influence their decision. Where a High risk of flooding is identified flood risk insurance may be difficult to obtain without further work being undertaken. Property owners of sites within Low and Medium risk areas are still considered to be at risk of flooding and insurance premiums may be increased as a result. Owners of properties within Low, Medium and High risk areas, are advised to sign up to the Environment Agency's Flood Warning scheme. Please see Section 1 for further details.



JBA Pluvial

The study site or an area within 25m of the centre of the study site has been assessed to be at a Highly Significant Risk of surface water (pluvial) flooding. This indicates that this area would be expected to be affected by surface water flooding in a 1 in 75 year rainfall event to a depth of greater than 1m.

Guidance

Surface Water (pluvial) flooding is defined as flooding caused by rainfall-generated overland flow before the runoff enters a watercourse or sewer. In such events, sewerage and drainage systems and surface watercourses may be entirely overwhelmed.

Surface Water (pluvial) flooding will usually be a result of extreme rainfall events, though may also occur when lesser amounts of rain falls on land which has low permeability and/or is already saturated, frozen or developed. In such cases overland flow and 'ponding' in topographical depressions may occur. Please see Section 2 for further details.



Historic Flood Events

The site is not recorded to have been subject to historic flooding. However, the absence of data does not provide a definitive conclusion that the site has never flooded, only that the Environment Agency hold no record of any flooding at the site.

Guidance

Over 21,000 separate events are recorded within this database, dating back to 1947. This data is used to understand where flooding has occurred in the past and provides details as available. Absence of a historic flood event for an area does not mean that the area has never flooded, but only that the Environment Agency do not currently have records of flooding within the area. Equally, a record of a flood footprint in previous years does not mean that an area will flood again, and this information does not take account of flood management schemes and improved flood defences. Please see Section 3 for further details.



Areas benefiting from Flood Defences

The property does not lie in or within 25m of an area the Environment Agency consider to benefit from flood defences. Property-level defences and some older schemes may not be included in the Environment Agency database of areas considered to benefit from flood defences.

Guidance

These are areas that may benefit from the presence of major defences during a 1% fluvial (river) or 0.5% tidal flood event. These areas would flood if the defence were not present, but may not flood because the defence is present.



Proposed Flood Defences

The property does not lie in or within 25m of an area the Environment Agency consider to benefit from proposed flood defences.

Guidance

Flood defences seek to reduce the risk of flooding and to safeguard life, protect property, sustain economic activity and the natural environment. Flood defences are designed to protect against flood events of a particular magnitude, expressed as risk in any one year.



Flooding from Groundwater

There is potential for groundwater flooding to occur below the surface of the study site. Where potential for groundwater flooding of property situated below ground level is indicated, this means that given the geological conditions there may be a groundwater flooding hazard to basements and other below surface infrastructure. Unless other relevant information, e.g. records of previous flooding, suggests groundwater flooding has occurred before in this area you need take no further action in relation to groundwater flooding hazard. If there are records of previous incidences of groundwater flooding, then is recommended that other information e.g. rainfall history, property type, and land drainage information in addition to previous records of flooding be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

Guidance

The BGS Susceptibility to Groundwater Flooding hazard dataset identifies areas where geological conditions could enable groundwater flooding to occur and where groundwater may come close to the ground surface.

The susceptibility data is suitable for use for regional or national planning purposes where the groundwater flooding information will be used along with a range of other relevant information to inform land-use planning decisions. It might also be used in conjunction with a large number of other factors, e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information, to establish relative, but not absolute, risk of groundwater flooding at a resolution of greater than a few hundred metres. The susceptibility data should not be used on its own to make planning decisions at any scale, and, in particular, should not be used to inform planning decisions at the site scale. The susceptibility data cannot be used on its own to indicate risk of groundwater flooding.

FLOOD RESISTANCE MEASURES FROM WATERTIGHT



Watertight International provide the only fully comprehensive Flood Protection System, covering all aspects of domestic property flooding. In areas where insurance was previously unavailable, **Watertight** can enable insurance cover.

Watertight's patented system is based on a simple premise: if all means by which water can enter the property are blocked effectively, your house and contents will be simply safe and dry.

Based on this premise, **Watertight** has collaborated with insurers, builders and surveyors to provide products which exceed current flood safety standards and recommendations.

Homeowners are often left with the responsibility and financial burden of providing protection for their property, in lieu of extensive civil defence projects or the costly upgrading of our archaic, Victorian-era sewerage system. **Watertight** can relieve these burdens.

Watertight's systems are flexible in the face of the enormous range of buildings and building materials common - and not-so-common - to the UK; moreover, **Watertight's** services are comprehensive enough to enable insurance cover in situations where insurance has been tough to come by.

Watertight is an environmentally responsible company, using recycled materials - from old double-glazing to old yoghurt and milk cartons - so 95% of their barriers are sourced from recycled material. Further, all manufacturing is UK-based, meaning distribution distances and carbon footprints are at a bare minimum.

Below is an example list of the sort of flood-prevention materials and techniques **Watertight** can provide to assist in increasing the possibility of insurance for flood-prone properties:

Item	Notes	Guide price*
Sewage Backflow Prevention	Around 50% of flooding events in the UK are caused by backflow flooding; installation of sewage backflow prevention devices can drastically reduce the potentially ravaging effects of backflow flooding.	£150-450
Watertight's Smart Airbricks	A single airbrick - porous bricks in the fabric of a building which allow it to breathe - can allow so much as 50,000 litres of water to pass through it in a single hour. Watertight's Smart Airbricks can provide a modern, intelligent solution to this potentially catastrophic problem.	£250-750
Repointing of damaged brickwork	Houses can easily generate multiple potential ingress points for water; simple modifications such as holes created for satellite dishes can severely exacerbate water intake to a property. Watertight's repointing of damaged brickwork and application of waterproof coating ensures the building's integrity in a flood event and guarantees that all your building's invisible pores are filled.	£500-1000
Demountable flood barriers	Any door is a potential weak spot in flooding, and once breached will allow in the majority of water. Demountable flood barriers provide the most robust protection for any property at risk from flooding, with peace of mind for no extra cost.	£1,500-3,000
Total Protection	A combination of all of the above - ensuring that the entirety of your property is the safest it can possibly be from flood damage.	£2,500-5,000

If you would like to discuss flood protection measures for your property, please contact GroundSure on: 08444 159000, quoting the report reference.

* Guide price is subject to various conditions - for example, the quantity required, the size of the property or the number of access points that need to be accessed.

1. ENVIRONMENT AGENCY NAFRA MAP



Environment Agency NAFRA Legend



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1

FLOODING FROM RIVERS AND THE SEA

1.1

National Flood Risk Assessment (NaFRA)

What is the highest risk of flooding on or within 25m of the centre of the study site?

High

#1	Distance	Direction	NaFRA Flood Risk
1	12.0	S	Medium
2	15.0	S	High

Guidance: NaFRA data for the study site indicates the property or an area within 25m has a High (1 in 30 or greater) chance of flooding in any given year.

1.2

Areas Benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 25m of the study site?

No

Guidance: These are areas that may benefit from the presence of major defences during a 1% fluvial (river) or 0.5% tidal flood event. These areas would flood if the defence were not present, but may not flood because the defence is present.

1.3

Flood Defences

Are there any Flood Defences within 250m of the study site?

No

Guidance: This search consists only of flood defences present in the dataset provided by the Environment Agency.

1.4

Proposed Flood Defences

Are there any Proposed Flood Defences within 250m of the study site?

Yes

Guidance: This search consists only of proposed flood defences present in the dataset provided by the Environment Agency. Please note that proposed flood defence schemes will not influence the current NaFRA ratings for the site until they have been constructed.

1.5

Areas used for Flood Storage

Are there any areas used for Flood Storage within 250m of the study site?

No

Flood Storage Areas are considered part of the functional floodplain, and are areas where water has to flow or be stored in times of flood. Technical Guidance to the National Planning Policy Framework states that only water-compatible development and essential infrastructure should be permitted within flood storage areas, and existing development within this area should be relocated to an area with a lower risk of flooding. Any relevant data is represented on Map 1 - Flood Map for Planning.

Notes on NaFRA data

NaFRA is an assessment of flood risk for England and Wales produced using local data and expertise. It shows the chance of flooding from rivers or the sea presented in categories taking account of flood defences and the condition those defences are in. The NaFRA model uses local water level and flood defence data to model flood risk. It has divided England and Wales into 50m X 50m impact cells. Each cell has been assigned a flood risk likelihood from the categories below:

- | | |
|--|----------|
| • Less than 1 in 1000 (0.1%) chance in any given year | Very Low |
| • Less than 1 in 100 (1%) but greater than or equal to 1 in 1000 (0.1%) chance in any given year | Low |
| • Less than 1 in 30 (3.3%) but greater than or equal to 1 in 100 (1%) chance in any given year | Medium |
| • Greater than or equal to 1 in 30 (3.3%) chance in any given year | High |

Notes on Existing Flood Defences

Flood defences seek to reduce the risk of flooding and to safeguard life, protect property, sustain economic activity and the natural environment. Flood defences are designed to protect against flood events of a particular magnitude, expressed as risk in any one year.

Notes on Proposed Flood Defences

This information is taken from the Environment Agency's database of Areas to Benefit from New and Reconditioned Flood Defences under the Medium Term Plan (MTP). The dataset contains funding allocation for the first financial year (from April). Funding for the following four financial years is not guaranteed, being only indicative, and will be reviewed annually. Projects within the Medium Term Plan qualify for inclusion in this dataset if:

- the investment leads to a change in the current standard of protection (change projects);
- the investment is a replacement or refurbishment in order to sustain the current standard of protection (sustain projects);
- the project has an initial construction budget of £100,000 or more; and
- the project is included within the first five years of the MTP.

The data includes all the Environment Agency's projects over £100K that will change or sustain the standards of flood defence in England and Wales over the next 5 years. It also includes the equivalent schemes for all Local Authority and Internal Drainage Boards. The number of households and areas of land contributing to DEFRA's Outcome Measures (OM) are also attributed i.e. could benefit from major work on flood defences.

These data also contain Intermittence Flood Maintenance Programmes that show the annual maintenance programme of work scheduled to be carried out by the Environment Agency, Local Authority or Internal Drainage Board on flood defences. Data details routine maintenance as well as intermittent work that has been funded for the coming year. The data contains a start and end coordinate defining the relevant river section where work is planned.

Information Warning

Please note that the maps show the areas where investment is being made to reduce the flood and coastal erosion risk and are not detailed enough to account for individual addresses. Individual properties may not always face the same risk of flooding as the areas that surround them. Also, note that funding figures are indicative and any use or interpretation should account for future updates where annual values may change.

Every possible care is taken to ensure that the maps reflect all the data possessed by the Environment Agency and that they have applied their expert knowledge to create conclusions that are as reliable as possible. The Environment Agency consider that they have created the maps as well as they can and so should not be liable if the maps by their nature are not as accurate as might be desired or are misused or misunderstood, despite their warnings. For this reason, they are not able to promise that the maps will always be accurate or completely up to date.

This site includes mapping data licensed from Ordnance Survey used for setting the Environment Agency's data in its geographical context. Ordnance Survey retains the copyright of this material and it can not be used for any other purpose.

Flood Storage Areas

Flood Storage Areas may also act as flood defences. A flood storage area may also be referred to as a balancing reservoir, storage basin or balancing pond. Its purpose is to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel. It may also delay the timing of a flood peak so that its volume is discharged over a longer time interval.

A flood storage area may take the form of a wet or dry reservoir. A wet reservoir is a water storage facility in which storage can be effected by allowing water levels to rise during flood times. A dry reservoir is typically adjacent to a river and comprises an enclosed area that accepts water only at peak times. These areas are also referred to as Zone 3b or 'the functional flood-plain' and has a 5% or greater chance of flooding in any given year, or is designed to flood in the event of an extreme (0.1%) flood or another probability which may be agreed between the Local Planning Authority and the Environment Agency, including water conveyance routes. Development within Flood Storage Areas is severely restricted.

2. JBA SURFACE WATER FLOODING MAP



JBA Surface Water Flooding Legend



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2

JBA SURFACE WATER FLOODING

2.1

JBA Surface Water (Pluvial) Flooding

Surface Water (pluvial) flooding is defined as flooding caused by rainfall-generated overland flow before the runoff enters a watercourse or sewer. In such events, sewerage and drainage systems and surface watercourses may be entirely overwhelmed.

Surface Water (pluvial) flooding will usually be a result of extreme rainfall events, though may also occur when lesser amounts of rain falls on land which has low permeability and/or is already saturated, frozen or developed. In such cases overland flow and 'ponding' in topographical depressions may occur.

What is the risk of pluvial flooding at the centre of the study site?

Negligible

What is the highest risk of pluvial flooding within 25m of the centre of the study site?

Highly Significant

Guidance: This indicates that the site or an area within 25m would be expected to be affected by surface water flooding in a 1 in 75 year rainfall event to a depth of greater than 1m.

Flood data provided by JBA RISK MANAGEMENT LIMITED Copyright © JBA RISK MANAGEMENT LIMITED 2008-2014

The following pluvial (surface water) flood risk records within 50m of the study site are shown on the JBA Surface Water Flooding Map:

Distance	Direction	JBA Flood Risk
12.0	S	Low
17.0	S	Highly Significant
17.0	S	Significant
18.0	S	Low to Moderate
19.0	SW	High
21.0	SE	Low
21.0	SW	Low to Moderate
26.0	SW	Highly Significant
27.0	S	High
28.0	SW	Low
28.0	SE	Low to Moderate
28.0	S	Low to Moderate
30.0	SW	Moderate
32.0	SW	Low to Moderate
32.0	S	Low to Moderate

Distance	Direction	JBA Flood Risk
32.0	S	Moderate
33.0	S	Significant
35.0	SE	Low
35.0	W	Low
35.0	SE	Moderate
36.0	SW	Low
37.0	SW	Low
37.0	SW	Low to Moderate
38.0	S	High
39.0	SE	Moderate
39.0	S	Moderate
40.0	SW	Moderate
40.0	W	Moderate
42.0	SE	Low
42.0	SE	Low to Moderate
42.0	SW	Moderate to High
43.0	SW	Moderate
44.0	W	Low
44.0	SW	Low
46.0	SE	High
46.0	SW	Low
48.0	SE	Significant

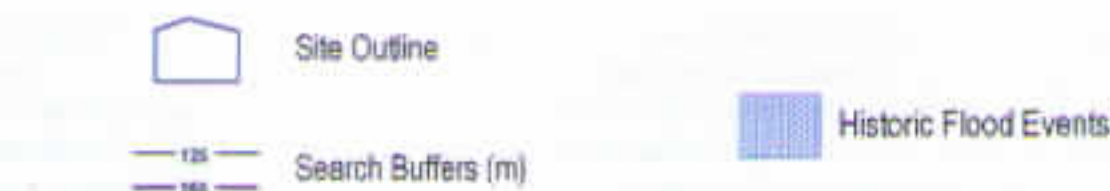
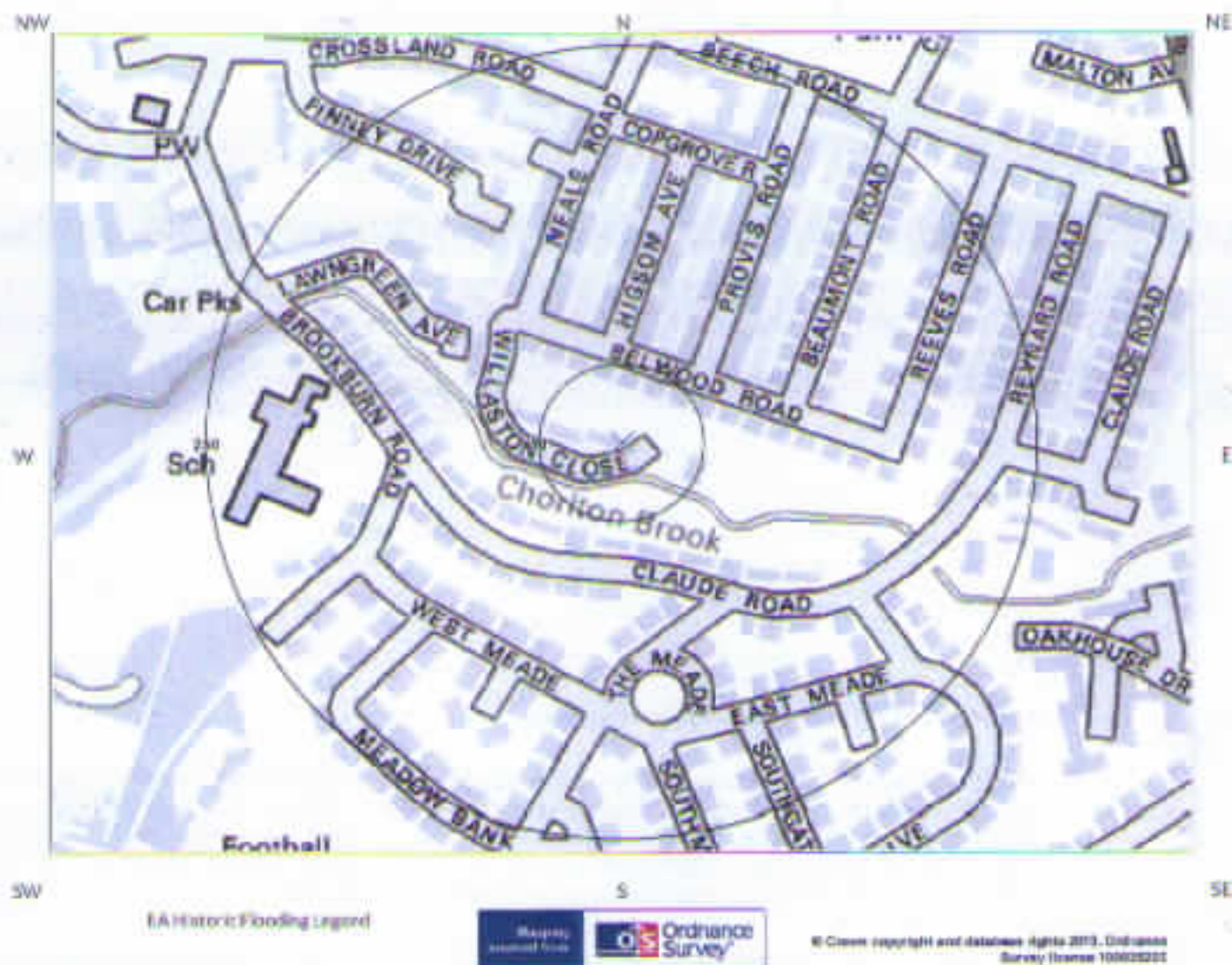
Notes on Surface water (Pluvial) Flooding data:

JBA Risk Management surface water flood map identifies areas likely to flood following extreme rainfall events, i.e. land naturally vulnerable to surface water or "pluvial" flooding. This data set was produced by simulating 1 in 75 year, 1 in 200 year and 1 in 1000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though older ones may even flood in a 1 in 5 year rainstorm event.

The model provides the maximum depth of flooding in each 5m "cell" of topographical mapping coverage. The maps include 7 bands indicating areas of increasing natural vulnerability to surface water flooding. These are:

• Less than 0.1m in a 1 in 1000 year rainfall event	Negligible
• Greater than 0.1m in a 1 in 1000 year rainfall event	Low
• Between 0.1m and 0.3m in a 1 in 200 year rainfall event	Low to Moderate
• Between 0.3m and 1m in a 1 in 200 year rainfall event	Moderate
• Greater than 1m in a 1 in 200 year rainfall event	Moderate to High
• Between 0.1m and 0.3m in a 1 in 75 year rainfall event	High
• Between 0.3m to 1m in a 1 in 75 year rainfall event	Significant
• Greater than 1m in a 1 in 75 year rainfall event	Highly Significant

3. ENVIRONMENT AGENCY HISTORIC FLOODING MAP



3

ENVIRONMENT AGENCY HISTORIC FLOODING

3.1

Historic Flood Outlines

Has the site or any area within 250m been subject to historic flooding as recorded by the Environment Agency?

Yes

This database shows the individual footprint of every flood event recorded by the Environment Agency and previous bodies.

Any records found within the search radius are displayed on Map 3 – Historic Flooding Events.

Notes on Historic Flooding data:

Over 21,000 separate events are recorded within this database, dating back to 1947. This data is used to understand where flooding has occurred in the past and provides details as available. Absence of a historic flood event for an area does not mean that the area has never flooded, but only that the Environment Agency do not currently have records of flooding within the area. Equally, a record of a flood footprint in previous years does not mean that an area will flood again, and this information does not take account of flood management schemes and improved flood defences.

4

BGS GROUNDWATER FLOODING

4.1

Groundwater Flooding Susceptibility Areas

Where land that is prone to groundwater flooding has been built on, the effect of a flood can be costly. Because groundwater responds slowly compared with rivers, floods can last for weeks or even months.

What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Potential below Surface

Guidance: Where potential for groundwater flooding of property situated below ground level is indicated, this means that given the geological conditions there may be a groundwater flooding hazard to basements and other below surface infrastructure. Unless other relevant information, e.g. records of previous flooding, suggests groundwater flooding has occurred before in this area you need take no further action in relation to groundwater flooding hazard. If there are records of previous incidences of groundwater flooding, then it is recommended that other information e.g. rainfall history, property type, and land drainage information in addition to previous records of flooding be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

Notes on Groundwater Flooding

The BGS Susceptibility to Groundwater Flooding hazard dataset identifies areas where geological conditions could enable groundwater flooding to occur and where groundwater may come close to the ground surface.

The susceptibility data is suitable for use for regional or national planning purposes where the groundwater flooding information will be used along with a range of other relevant information to inform land-use planning decisions. It might also be used in conjunction with a large number of other factors, e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information, to establish relative, but not absolute, risk of groundwater flooding at a resolution of greater than a few hundred metres. The susceptibility data should not be used on its own to make planning decisions at any scale, and, in particular, should not be used to inform planning decisions at the site scale. The susceptibility data cannot be used on its own to indicate risk of groundwater flooding.

Groundwater flooding is assessed on a fourfold scale:

- The area is not considered to be prone to groundwater flooding based on rock type.
- There is limited potential for groundwater flooding to occur and further relevant information should be considered to determine this assessment.
- There is potential for groundwater flooding of property situated below the surface such as basements and other below surface infrastructure. Further relevant information should be considered to determine whether groundwater flooding has previously occurred.
- There is potential for groundwater flooding to occur at the surface and groundwater flooding hazard should be considered in all land use planning decisions. Other relevant information should be considered to establish the risk of groundwater flooding to property.