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FORMER ROYAL OAK INN, 80 WATERLOO ROAD, CLITHEROE

FLOOD RISK ASSESSMENT



Prepared for:

Lewis Mitchell Solicitors

Report Ref: BEK-23052-1

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Project Quality Assurance Information Sheet

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Unless explicitly agreed otherwise, in writing, this report has been prepared under BEK's limited standard Terms and Conditions as included within our proposal to the Client.

The report needs to be considered in the light of the BEK proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

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1. INTRODUCTION

1.1 Appointment

- 1.1.1 BEK Enviro Limited (BEK) has been commissioned by Lewis Mitchell Solicitors to prepare a Flood Risk Assessment for the conversion and minor extension of a former public house to a commercial office building at the former Royal Oak Inn, Waterloo Road, Clitheroe (hereafter referred to as 'the site') to assess potential risks associated with flood risk to the development for commercial use.

1.2 Background

- 1.2.1 A site specific flood risk assessment provides and appraisal of flood risk both within the application site and any potential impact that the development will have on flood risk elsewhere and provide recommendations for mitigation measures which may be included within the design of the development to reduce the overall risk of flooding.
- 1.2.2 An initial assessment indicates that the primary source of flood risk to the development is from Pendleton Brook/Pimlico Brook located approximately 60 m west of the site at its closest point.

1.3 Objective and Scope of Work

- 1.3.1 The objective of this report is to evaluate the issues in regard to flood risk at the application site i.e. proposed extension and conversion of former public house to offices.
- 1.3.2 To achieve the objective BEK will undertake the following:
- Suitability of the proposed development in accordance with current planning policy
 - Identify the risk to both the development and people from all forms of flooding
 - Review the relevant background information for the site, including:
 - National Planning Policy Framework
 - Planning Practice Guidance
 - Building Regulations Approved Document H
 - Environment Agency Flood Mapping
 - Ribble Valley Borough Council Strategic Flood Risk Assessment (April 2017)
 - BGS – Historic Borehole Logs
 - Cranfield University Soilscapes Viewer
 - Recommendation of appropriate measures to mitigate against flooding both within the proposed development, and neighbouring land and property.

1.4 National Planning Policy Framework

1.4.1 The requirements for undertaking site specific flood risk assessments are generally as set out in the Planning Practice Guide – Flood Risk & Coastal Change.

1.4.2 Site specific flood risk assessment should always be proportionate to the degree of flood risk and make use of information already available. A flood risk assessment should also be appropriate to the scale, nature and location of the development.

1.5 Sequential & Exception Test

1.5.1 The objective of the Sequential Test is to steer new development to areas of the lowest probability of flooding, this takes into account the flood zones and the flood risk vulnerability classification of developments.

1.5.2 The Environment Agency flood map indicates that the proposed development site is within Flood Zone 3.

1.5.3 Proposals for the application site involve the change of use of a former public house to offices including the demolition of canopies and a plant room to be replaced with a small extension.

1.5.4 The proposed commercial building is located within Flood Zone 3. In accordance with Table 2 'Flood Risk Vulnerability Classification' of the Technical Guidance to the National Planning Policy Framework, commercial sites are defined as 'less vulnerable' development.

Flood Risk Vulnerability Classification		Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zone	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test Required	✓	✓
	Zone 3a	Exception Test Required	✓	x	Exception Test Required	✓
	Zone 3b	Exception Test Required	✓	x	x	x

Table 1: Flood Risk Vulnerability and Flood Zone Compatibility

1.5.5 'Less Vulnerable' developments within flood zone 3 are considered appropriate development. Furthermore, it is noted that the sequential test need not be applied if the following applies:

- Your development is a minor development
- Your development involves a change of use (e.g. from commercial to residential) unless your development is a caravan, camping chalet, mobile home or park home site

1.5.6 As such the proposed development does not require a sequential/exceptions test as it is a change of use/minor development.

1.6 Climate Change

1.6.1 The National Planning Policy (NPPF) sets out how the planning system should help minimise vulnerability and provide resilience to the impacts of climate change.

1.6.2 Due to the development having a proposed life span in excess of 50 years, located within flood Zone 3 and classified as a less vulnerable development then central allowances i.e. 36% should be applied to peak river flow to account for climate change over the lifetime of the development.

Ribble Management Catchment	Central	Higher	Upper
2020's	16%	19%	27%
2050's	23%	29%	44%
2080's	36%	46%	71%

Table 2: Peak River Flow Allowance

1.6.3 Furthermore, 50% should be applied to rainfall intensity when developing the drainage strategy, to account for climate change over the lifetime of the development.

Ribble Management Catchment	Central	Upper End
2050's	25%	40%
2070's	35%	50%

Table 3: Peak Rainfall Intensity Allowance

1.7 Sustainable Drainage Systems (SUDS)

1.7.1 The key planning objectives in the NPPF are to appraise, manage and where possible, reduce flood risk.

1.7.2 Lancashire County Council is the lead local flood authority and therefore statutory consultee for surface water flood risk in relation to planning applications. They are the appropriate body to assess applicants/developers surface water drainage proposals and the Local Planning Authority should consult the Lead Local Flood Authority as necessary during determination of applications.

- 1.7.3 Sustainable Urban Drainage Systems (SUDS) are designed to reduce the potential impact of new and existing developments with respect to surface water drainage discharges, thereby providing a suitable way of achieving some of these objectives.
- 1.7.4 Furthermore, the NPPF and Building Regulations Approved Document H encourages developers to use SUDS wherever possible. The Flood and Water Management Act 2010 also reinforces the requirements for SUDS to be implemented where practicable.
- 1.7.5 The proposals are for the change of use of an existing building to office with a small extension which is not classified as 'major' development. As such the inclusion of SUDS which the detailed design is not considered mandatory however it is recommended that SUDS are included within the proposed drainage scheme at the site.
- 1.7.6 Part H of the Building Regulations requires that surface water should be discharged from new development in accordance with the following hierarchy in order of preference:
- Infiltration to the ground via soakaway
 - To a watercourse
 - To a public surface water sewer
 - To a public combined sewer

1.8 Limitations

- 1.8.1 The conclusions and recommendations presented in this report are the result of our professional interpretation of the information currently available. BEK reserves the right to amend the conclusions and recommendations if further information becomes available.
- 1.8.2 However, it should be noted that much of the information has been derived from reports written by others and BEK takes no responsibility for the accuracy of that information. Notwithstanding the above, the reports reviewed have all been written by professional environmental consultants with a duty of care to provide relevant and accurate information.

1.9 Local Planning Policy

- 1.9.1 The following policy relating to flood risk has been taken from the Ribble Valley Borough Council Core Strategy 2008-2028 A Local Plan for Ribble Valley Adopted Version.

Policy DME6: Water Management

Development will not be permitted where the proposal would be at an unacceptable risk of flooding or exacerbate flooding elsewhere.

Applications for development should include appropriate measures for the conservation, protection and management of water such that development contributes to:

1. Preventing pollution of surface and / or groundwater
2. Reducing water consumption
3. Reducing the risk of surface water flooding (for example the use of sustainable drainage systems (suds))

As a part of the consideration of water management issues, and in parallel with flood management objectives, the authority will also seek the protection of the borough's water courses for their biodiversity value.

All applications for planning permission should include details for surface water drainage and means of disposal based on sustainable drainage principles. The use of the public sewerage system is the least sustainable form of surface water drainage and therefore development proposals will be expected to investigate and identify more sustainable alternatives to help reduce the risk of surface water flooding and environmental impact.

2. SITE LOCATION & DESCRIPTION

2.1 Site Location

2.1.1 The site is located to the east of Waterloo Road and the north of Salthill Road, Clitheroe. The site is accessed from Waterloo Road and is located close to the centre of Clitheroe and approximately 13 km north-west of the town of Burnley and 15 km north-east of the town of Blackburn.

2.1.2 The National Grid Reference for the centre of the site is 374685,442117. The site location is shown on BEK Drawing No 23052-1, a copy of which is presented in Appendix E.

2.2 Existing Site Layout

2.2.1 The whole site occupies a roughly rectangular plot of land of approximately 220 m². The site comprises an existing two storey building covering the majority of the site. The general layout of the site is presented on BEK Drawing No 23052-1 (see Appendix E).

2.2.2 The site is generally flat with the existing building covering the majority of the site. The north and west of the site is occupied by hardstanding areas.

2.3 Surrounding Land Use

2.3.1 The site is located in a predominantly residential/commercial area of Clitheroe. The site is generally surrounded by residential properties to the north-east, east, west and south. A car park is located to the north of the site.

2.4 Proposed Site Layout

2.4.1 The proposed development plans are for the change of use of an existing building formerly used as a public house on the ground floor with living accommodation on the first floor to an office building with a small two storey extension in the north-east of the site following demolition of a canopy and a plant room.

2.4.2 A copy of the proposed development plan is included within Appendix A of this report with an extract included below:

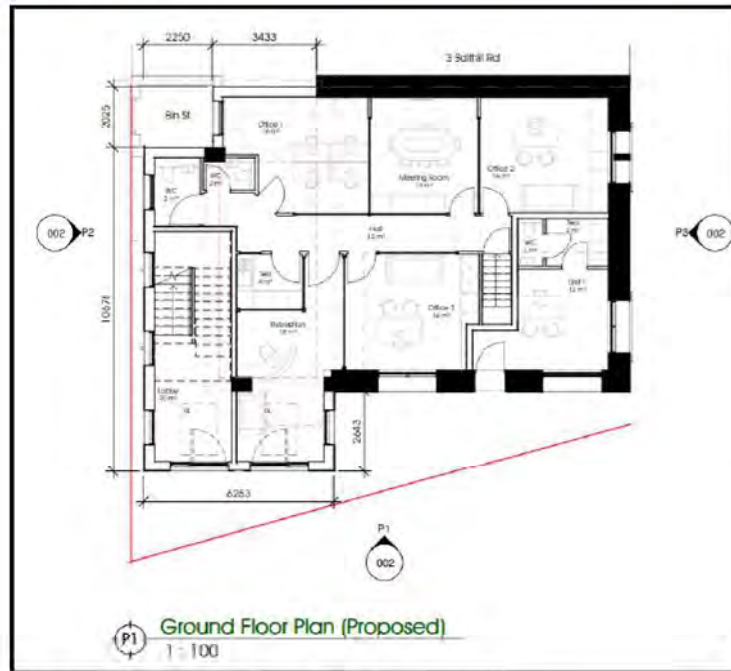


Figure 1: Ground Floor Plan (Proposed)

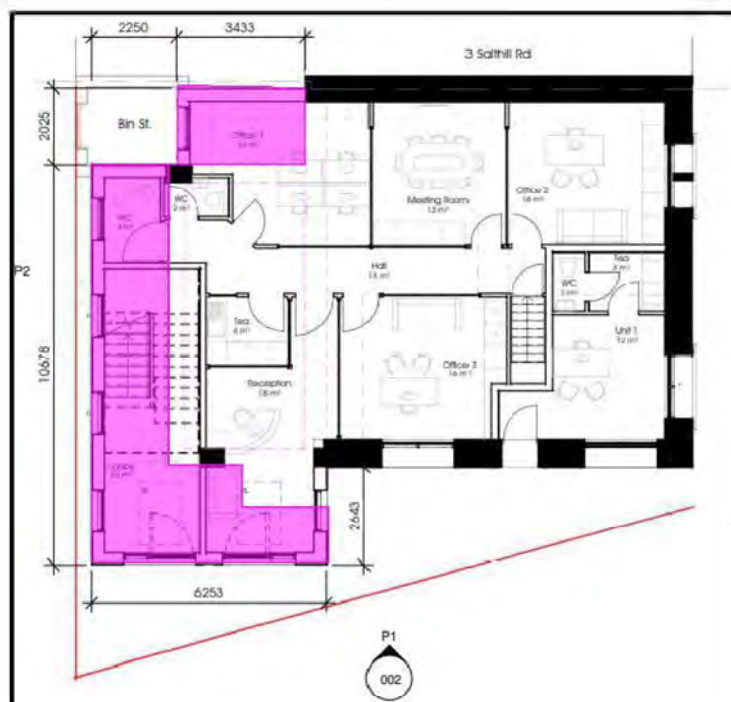


Figure 2: Proposed Ground Floor Plan (extension highlighted)

3. HISTORIC FLOODING

3.1 Internet Search

- 3.1.1 An internet search of flooding within the vicinity of the site at Clitheroe produces a newspaper article in the Lancashire Telegraph dating from 6th February 2022 titled 'Firefighters called to help with flooding in Clitheroe'. The following information is taken from the article:

'Crews from Clitheroe fire and Padiham Fire were mobilised to reports of flooding in the Taylor Street area of Clitheroe. Crews helped divert water back in to the river and assisted local residents who were affected'.

- 3.1.2 The article indicates that flooding impacted the Taylor Street area of the town which is located approximately 200 m south-east of the site at its closest point. As such it is not considered that the Royal Oak Inn was not affected during this event.

3.2 Environment Agency Historic Flood Information

- 3.2.1 The Environment Agency historic flood outline information indicates that the development site is outside the extent of the historic flood outlines and outside the extent of recorded flood outlines.

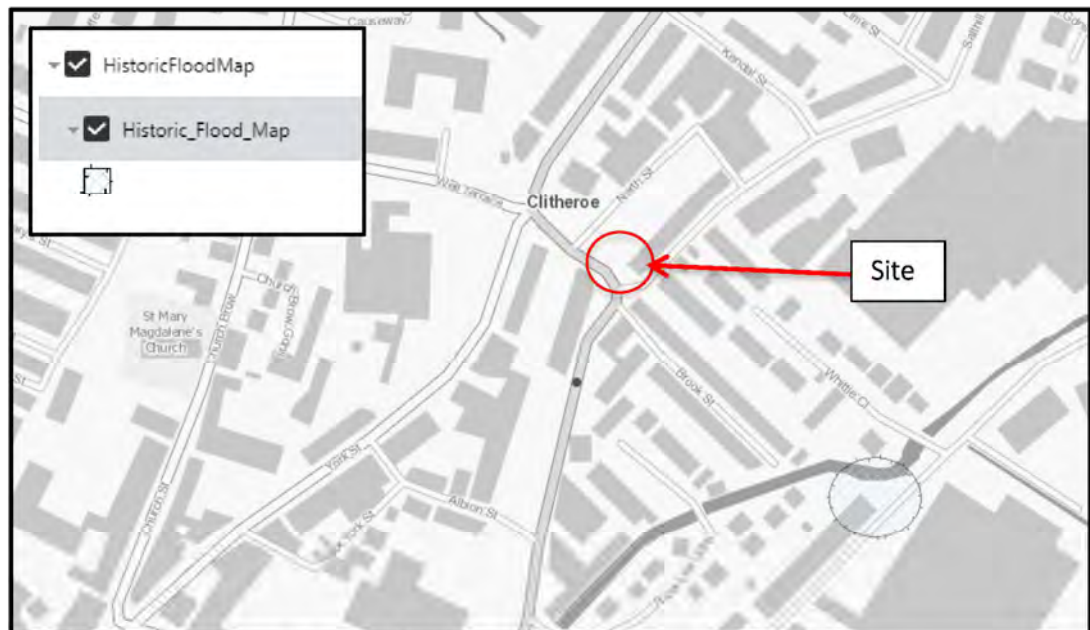


Figure 3: Environment Agency Historic Flood Map

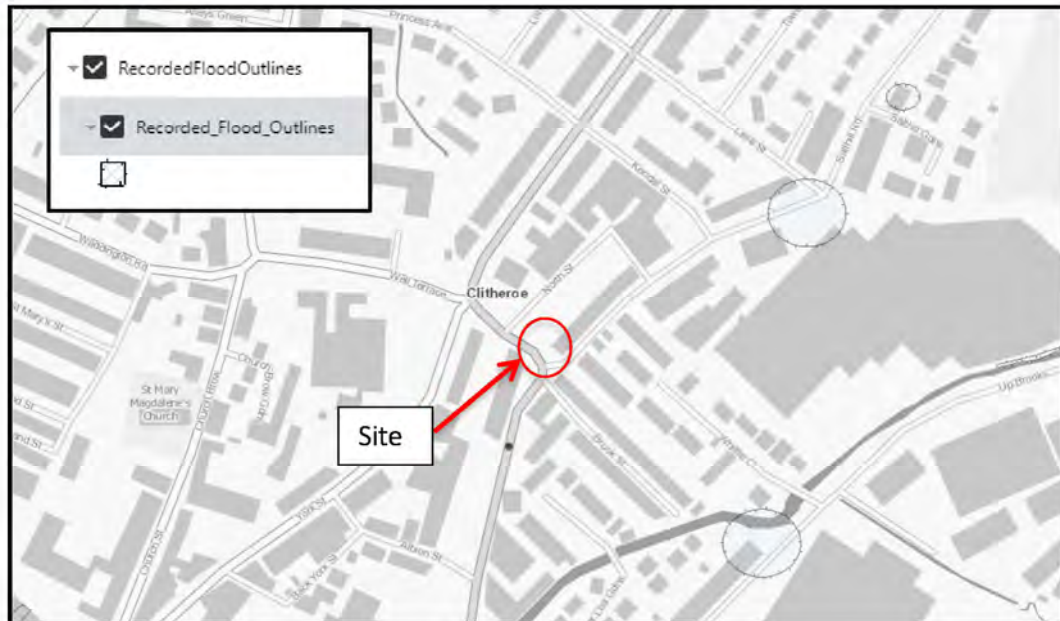


Figure 4: Environment Agency Recorded Flood Outlines

3.3 Environment Agency Site Specific Flood Information

3.3.1 The Environment Agency modelled flood information indicates that they have no records of flooding at the site as shown within the following figure:

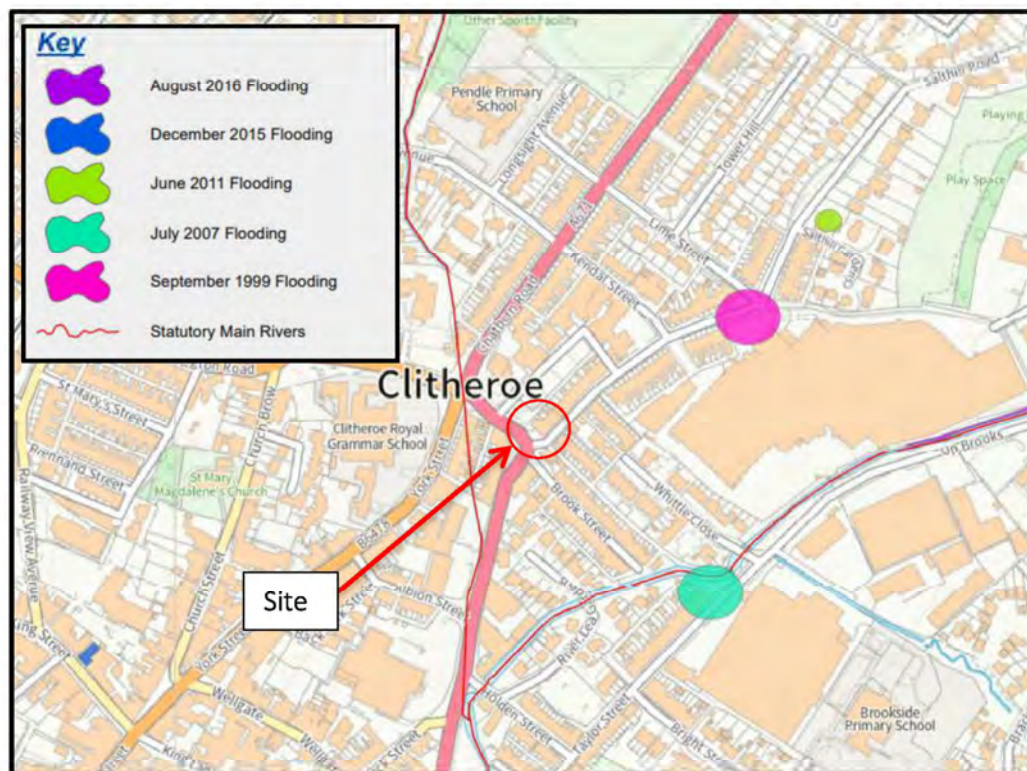


Figure 5: Environment Agency Historic Flood Map

4. SOURCES OF FLOOD RISK

4.1 Environment Agency Flood Map

4.1.1 The Environment Agency Flood Map shown within the Figure below confirms that the proposed development site is located wholly within Flood Zone 3 as shown within the figure below:



Figure 6: Environment Agency Flood Map

Key

-  Selected point
-  Flood zone 3
-  Flood zone 3: areas benefitting from flood defences
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Flood storage area

4.1.2 Flood Zone 3 is the high flood risk area and is assessed as having a greater than 1% annual probability of river flooding.

4.1.3 As the site is shown to be located within Flood Zone 3 (high flood risk area) this will be examined further within Section 5 of this report.

4.2 Reservoir Flooding

- 4.2.1 The Environment Agency flooding from Reservoirs map identifies that the proposed development is outside of the extent of flooding following a breach of a reservoir. As shown within the figure below:

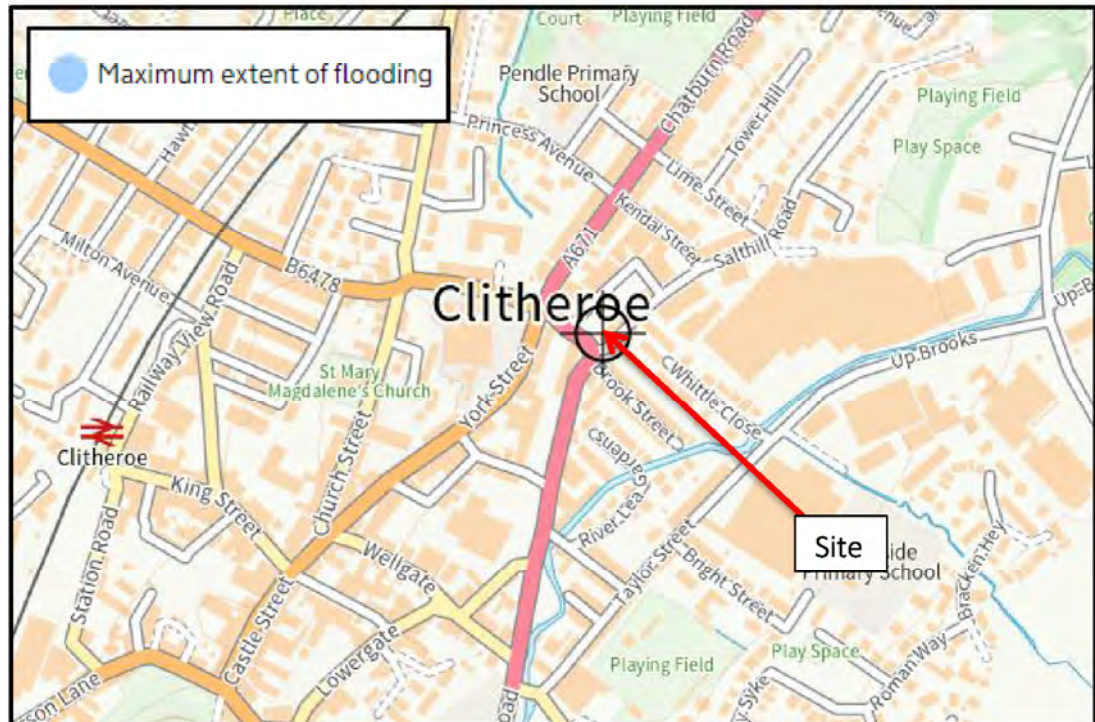


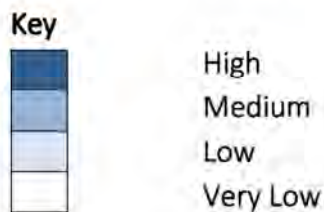
Figure 7: Environment Agency Extent of flooding from Reservoirs Map

4.3 Pluvial: Surface Water Flooding

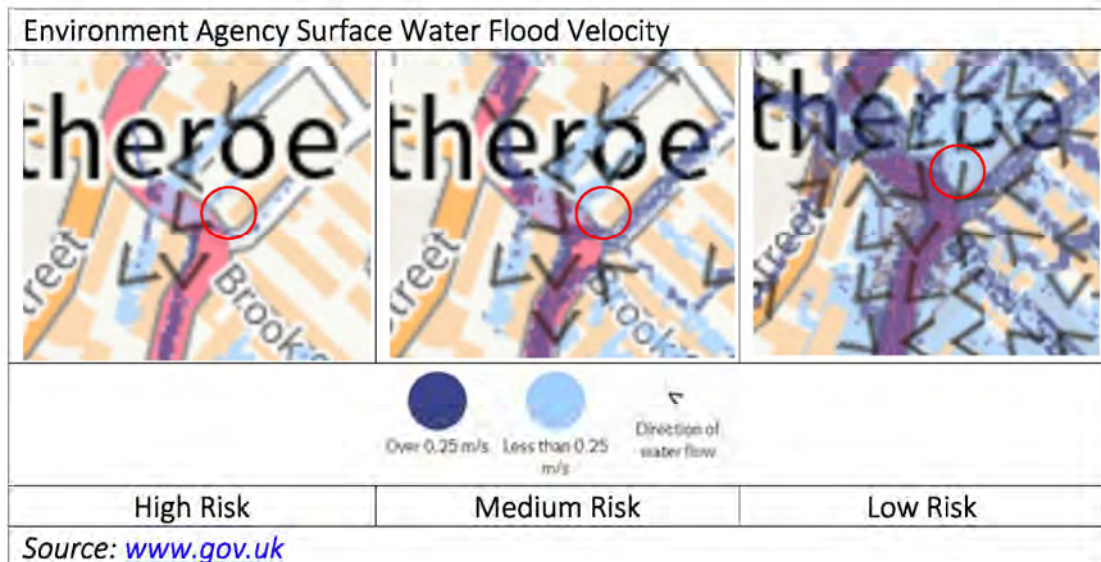
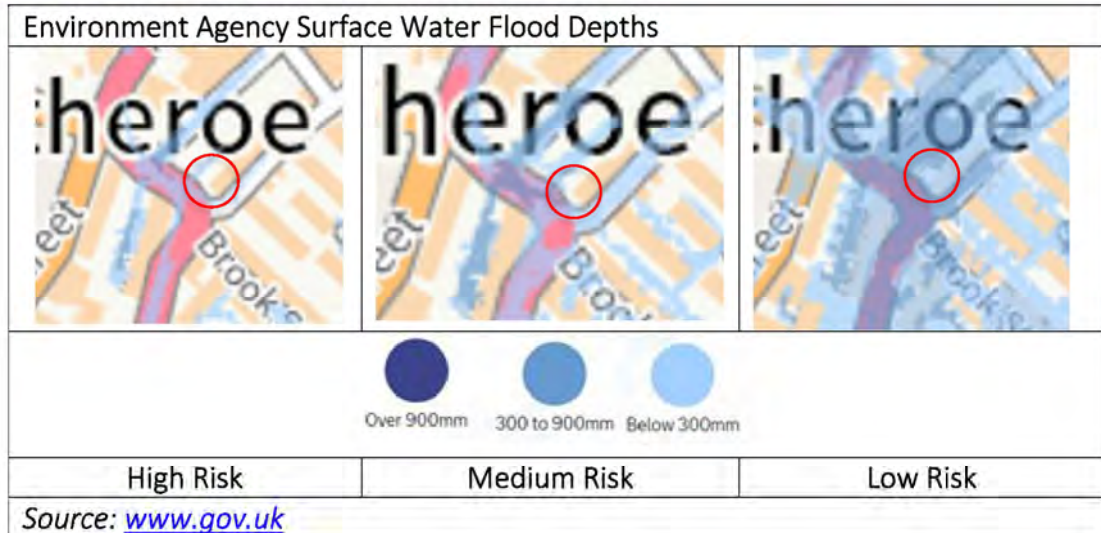
- 4.3.1 The Environment Agency Surface Water Flood Map indicates that the site is generally at low, risk of surface water flooding with areas of medium and high risk in close proximity to the site.
- 4.3.2 Low risk means that each year there is a chance of flooding of between 0.1% and 1%. Medium risk means that this area has a chance of flooding of between 1% and 3.3% each year. High risk means that this area has a chance of flooding of greater than 3.3%. Flooding from surface water is difficult to predict as rainfall location and volume are difficult to forecast. In addition, local features can greatly affect the chance and severity of flooding.



Figure 8: Environment Agency Flood Risk from Surface Water Map



- 4.3.3 Due to the scale and nature of surface water flooding it would be difficult to pinpoint the specific reason for surface water flooding at the site. However it is likely to be a mixture of low-lying topography and a lack of capacity/drainage infrastructure within the immediate vicinity of the application site.



- 4.3.4 An assessment has been undertaken to determine flood depths and velocities within the curtilage of the redline boundary of the proposed development for a range of events as shown above.

Pluvial/Overland Flow: Conclusion

- 4.3.5 During the high probability risk event (i.e. most frequent) the site is not shown to be at risk of surface water flooding however there are areas of flooding (below 300 mm) associated with Salthill Road to the south and Waterloo Road to the west. During the medium risk event the site is again shown to be flood free however there are areas of flooding with depths between 300 – 900 mm associated with Waterloo Road to the west. The velocities associated with the flooding on Salthill Road and Waterloo Road are over 0.25 m/s during the medium probability event.
- 4.3.6 During the low probability risk event (i.e. least frequent) the surface water flood risk is shown to encompass all of the site and are shown to be below 300 mm with areas of 300 to 900 mm to the north, south and west of the development site. The flood

velocities are generally over 0.25 m/s on Waterloo Road and Salthill Road during the low probability event however the site is shown to have depths of less than 0.25 m/s.

4.3.7 It is noted that the existing building would remain flood free during the high and medium probability events with depths of flooding during the low probability event immediately generally shown to be less than 300 mm at the site with areas of 300 – 900 mm close to the site.

4.3.8 The proposed development is for the change of use of the former public house with minor extension and therefore the development is classified as 'minor development' which is a household or non-domestic extension with a floor space of no more than 250 m². As such the finished floor levels of the building (and extension) will remain the same (no lower than existing levels) however it is proposed that additional flood resistance/resilience measures are considered necessary in order to reduce the risk of both fluvial and surface water flooding to the site.

4.4 Groundwater

4.4.1 Groundwater flooding is caused by the emergence of water originating from beneath the ground. The water may emerge from either point or diffuse locations. The occurrence of groundwater is usually very local.

4.4.2 The Ribble Valley Strategic Flood Risk Assessment states that:

'Groundwater flooding is not considered by the Environment Agency to be a significant flood risk factor in the Ribble Valley Borough Council area'.

4.4.3 As such the risk from groundwater flooding to the site is considered to be low and is not considered in more detail.

5. QUANTITATIVE FLOOD RISK ASSESSMENT

5.1 Environment Agency Flood Data

5.1.1 Modelled flood data has been provided by the Environment Agency for a range of return periods including the defended 1 in 100 year, 1 in 100 year plus 30% climate change, 1 in 100 year plus 35% climate change, 1 in 100 year plus 70% climate change and 1 in 1000 year scenarios.

5.1.2 The data has been provided from the Mearley Brook 2018 study with fluvial flood depth maps provided for the above scenarios. Extracts of which are provided below:

1 in 100 year Defended Scenario

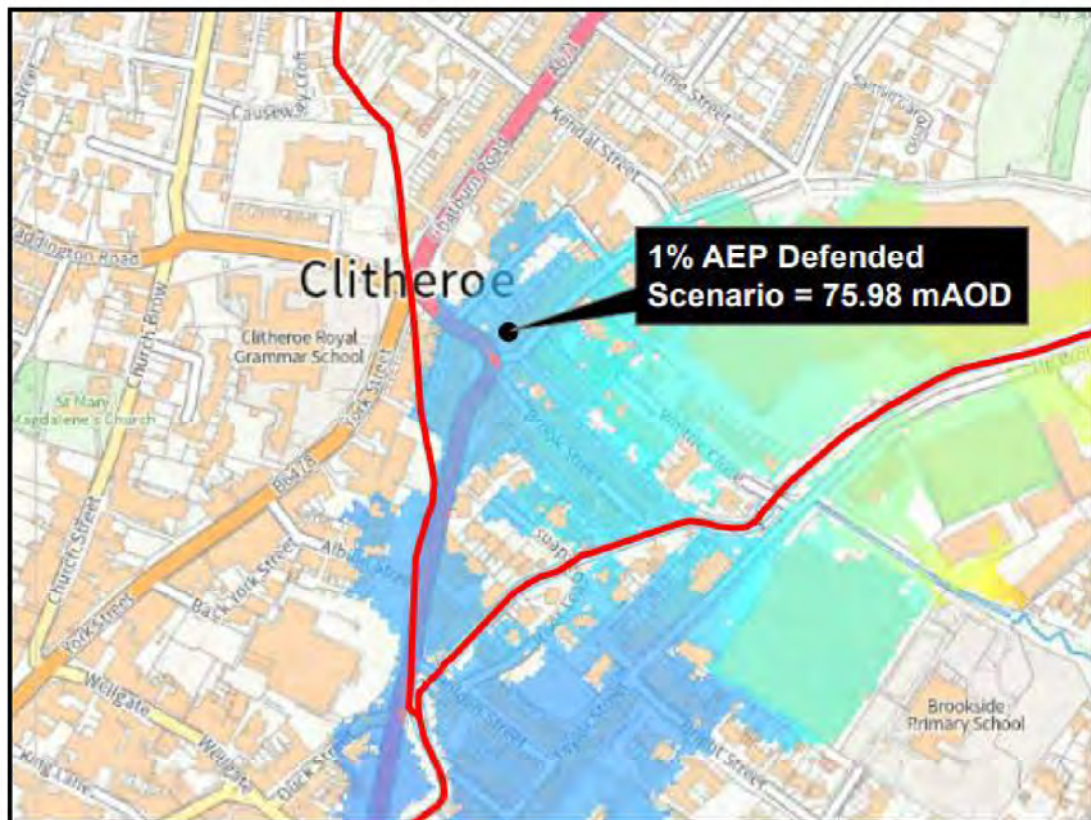


Figure 9: Environment Agency Modelled Depths (1% Defended)

5.1.3 The modelled flood depth at the site during the 1 in 100 year defended scenario is 75.98 mAOD.

1 in 100 year plus 30% Climate Change Defended Scenario

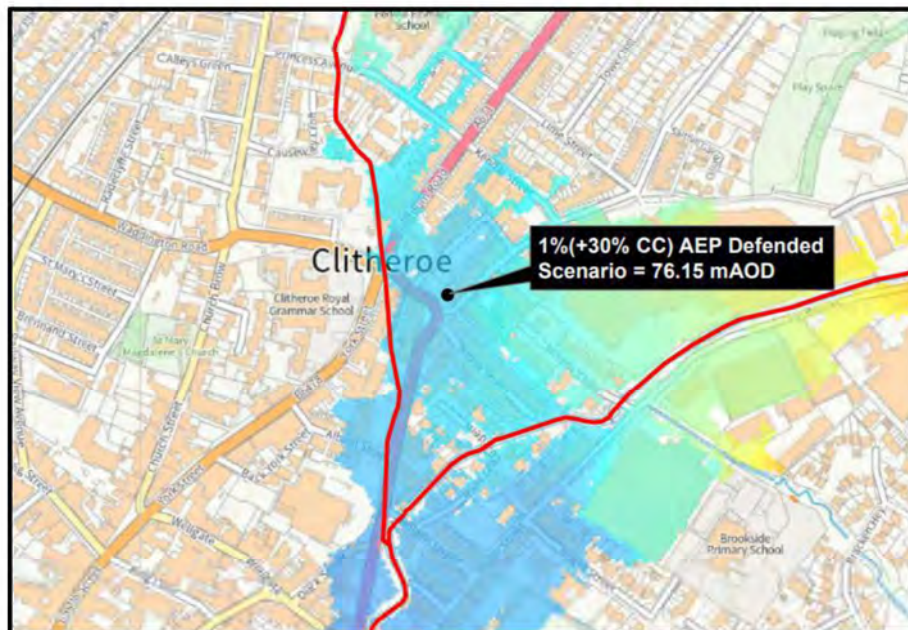


Figure 10: Environment Agency Modelled Depths (1% + 30% CC Defended)

- 5.1.4 The modelled flood depth at the site during the 1 in 100 year + 30% defended scenario is 76.15 mAOD.

1 in 100 year plus 35% Climate Change Defended Scenario

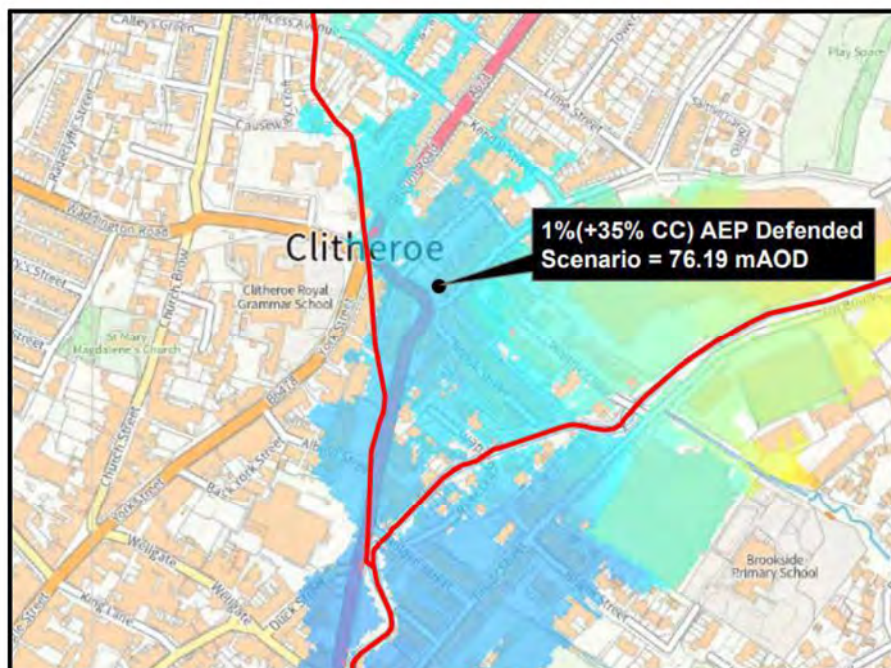


Figure 11: Environment Agency Modelled Depths (1% + 35% CC Defended)

- 5.1.5 The modelled flood depth at the site during the 1 in 100 year + 35% defended scenario is 76.19 mAOD.

1 in 100 year plus 70% Climate Change Defended Scenario

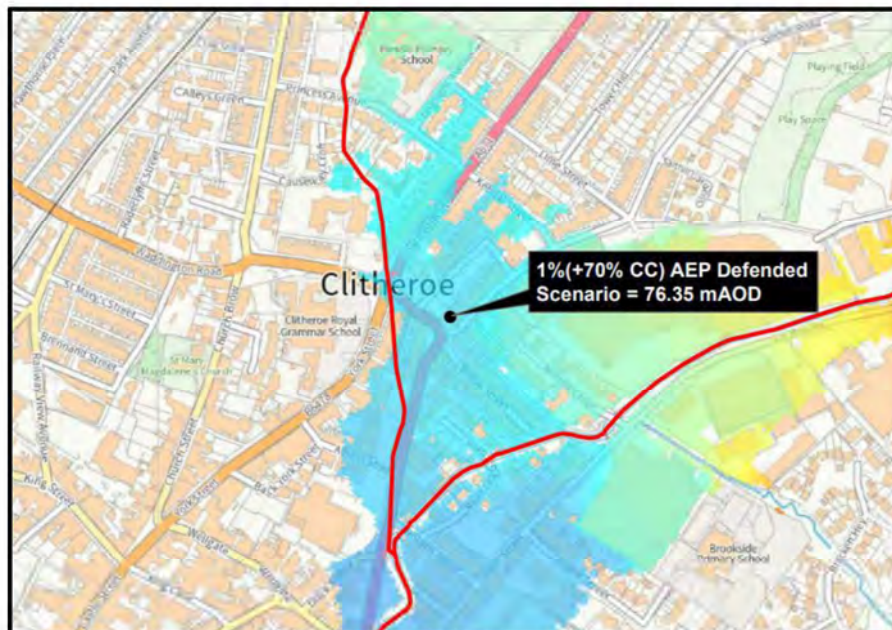


Figure 12: Environment Agency Modelled Depths (1% + 70% CC Defended)

- 5.1.5 The modelled flood depth at the site during the 1 in 100 year + 70% defended scenario is 76.35 mAOD.

1 in 1000 Defended Scenario

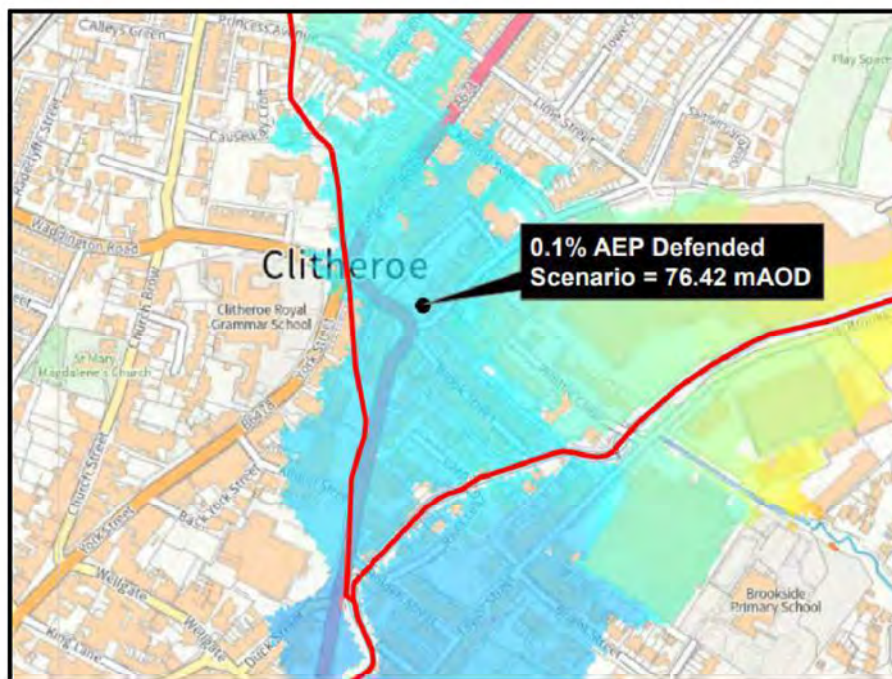


Figure 13: Environment Agency Modelled Depths (0.1% Defended)

- 5.1.5 The modelled flood depth at the site during the 1 in 1000 year defended scenario is 76.42 mAOD.

1 in 100 year plus 36% Climate Change Defended Scenario

- 5.1.6 A flood depth at the development site for the 1 in 100 year plus 36% climate change event has not been provided however the difference between the 1 in 100 year + 30% climate change level and the 1 in 100 year plus 35% climate change level is 0.04 m. As such it is assumed that the 1 in 100 year plus 36% climate change flood level is approximately 76.20 mAOD. This level has been used as the design flood level for the site.

	Return Period					
	1 in 100 year (1% AEP)	1 in 100 year + CC (1% + 30% CC AEP)	1 in 100 year + CC (1% + 35% CC AEP)	Assumed 1 in 100 year + CC (1% + 36% CC AEP)	1 in 100 year + CC (1% + 70% CC AEP)	1 in 1000 year (0.1% AEP)
Flood Level (mAOD)	75.98	76.15	76.19	76.20	76.35	76.42

Table 4: Flood Level Data for Development Site

- 5.1.7 A topographical survey of the site has not been undertaken however LIDAR data indicates that level of the footpath adjacent to the entrance to the site is 76.03 mAOD:



Figure 14: Lidar Data

5.2 Fluvial Flooding: Conclusions

- 5.2.1 A review of the Environment Agency modelled flood data and the topographical LIDAR data for the site indicates that the site would experience flooding during the 1 in 100 year plus 30% climate change, 1 in 100 year plus 35% climate change, 1 in 100 year plus 36% climate change, 1 in 100 year plus 70% climate change and extreme 1 in 1000

year flood event. As such specific mitigation measures will be required within the proposed development to mitigate the risks associated with flooding at the development site.

- 5.2.2 Environment Agency standing advice for changes of use/minor extensions within Flood Zone 3 indicates that a plan showing finished floor levels and the estimated flood levels should be provided with floor levels set no lower than existing floor levels or 300 mm above the estimated flood level. Flood resistant materials should be used up to at least 300 mm above the estimated flood level. As such flood resistance/resilience measures are included within Section 7 of this report.

6. SURFACE WATER DRAINAGE

- 6.0.1 The proposed development is for the change of use of an existing public house to create commercial offices with a small extension of approximately 37m² (on existing areas of hardstanding).
- 6.0.2 The existing public house is positively drained and as such it is proposed that the conversion will re-utilise the existing drainage system serving the site.

7. MITIGATION MEASURES

7.1 Finished Development Levels

- 7.1.1 The Environment Agency Flood Map indicates that the site is located wholly within Flood Zone 3. In accordance with Environment Agency Standing Advice for change of use/minor extensions finished floor levels should be set no lower than existing floor levels or 300 mm above the estimated flood level.
- 7.1.2 As such it is proposed that finished floor levels are set at the existing level and flood resistant materials are retrofitted to the proposed development to a level of 300 mm above the estimated flood level. The 1 in 100 year plus 36% climate change flood level is estimated to be 76.20 mAOD therefore it is proposed that flood resistance measures are installed to a minimum level of 76.50 mAOD.
- 7.1.3 It is noted that 76.50 mAOD is approximately 0.47 m above the existing finished floor levels of the building.

7.2 Flood Resilience/Resistance Measures

- 7.2.1 It is not considered viable to raise finished floor levels of the existing building therefore it is recommended that flood resistance/resilient design is incorporated into the building.
- 7.2.2 Such measures are put forward in accordance with BS 851188-1:2019+A1:2021 (November 2021) and CIRIA Property Flood Resilience Code of Practice.
- 7.2.3 It is considered prudent that flood resilience/resistance measures for the building should be incorporated to a minimum level of 300 mm above the design flood level therefore should be installed to a minimum level of 76.50 mAOD.
- 7.2.4 Identified below are a range of typical flood proofing measures which may, where appropriate be incorporated into the new building.
- 7.2.5 Full details of manufacturer's or suppliers of flood protection equipment may be obtained from the Flood Protection Association (website: www.thefpa.org.uk).
- 7.2.6 Flood Resilience/Resistance Measures to be potentially incorporated into the proposed redevelopment of the site:
- Careful consideration of materials: use low permeability materials to limit water penetration if dry proofing required. Consider applying a water-resistant coating.
 - Avoid use of gypsum plaster and plasterboards; use more flood resistant linings (e.g. hydraulic lime, ceramic tiles). Avoid use of stud partition walls.

- Wall sockets will be raised to as high as is feasible and practicable in order to minimise damage if flood waters inundate the property i.e. no lower than 76.50 mAOD
- Any wood fixings on ground floor will be robust and/or protected by suitable coatings in order to minimise damage during a flood event.
- Airbricks will be raised to as high as is feasible and practicable.
- Storage of any materials or possessions that may be susceptible to flood damage should be stored as high as possible to limit the damage caused in the event of a flood.
- Avoid fitted carpets on ground floor.
- Locate electrical, gas and telephone equipment and systems no lower than 76.50 mAOD
- Use non return valves on all surface water and foul sewer connections from the building to prevent backflow in the event of a flood.

7.2.7 Keeping water out of buildings, or limiting ingress of floodwater, is recommended when considering flood protection measures. Excluding water will help to reduce damage to the internal fabric of the building and its contents. Such measures are referred to as dry proofing and include:

- Temporary flood barriers
- Measures to reduce seepage through walls and floors
- The installation of non-return valves on sewers

7.2.8 Proprietary flood doors and windows or demountable barrier systems; and airbrick covers etc... can be very effective in preventing or reducing the volume of flood water entering through doors and other external openings in walls, such as windows and airbricks, as long as a good quality product is installed in accordance with the manufacturer's instructions.

7.2.9 Although flood barriers may not totally prevent the ingress of water into a building, they can provide valuable time in which to move people, vehicles, expensive equipment and other essential items to higher levels before flood water rises inside the building.

7.2.10 Flood barriers on wall openings can also reduce the amount of contaminated silt and debris entering the property. Water that seeps through the ground or walls is likely to be filtered to some extent and therefore is usually cleaner than floodwater entering larger openings such as gaps around doors and airbricks.

7.2.11 There are a number of suppliers and various types of flood doors, barriers and other flood protection equipment which may be utilised at the development site. An example of which is shown below:



Figure 15: Propriety Flood Barrier (<https://www.jtatkinson.co.uk/floodgate-door-barrier>)

7.3 Access and Egress

- 7.3.1 In accordance with the requirements set out within the National Planning Policy Framework, it is essential to ensure that the route into and out of the application site will not present a danger to people during a flood event. However it is recognized that the change of use of the site from public house (with sleeping accommodation on first floor) to commercial offices will reduce the flood risk vulnerability of the site following development.
- 7.3.2 The Environment Agency flood map shows that the access route into and out of the site is located in Flood Zone 3. As such it is considered prudent that occupiers of the proposed offices evacuate the site prior to onset of flooding and as such the site owner/managers should sign up to receive Environment Agency Flood Warnings and Alerts.

7.4 Flood Warnings & Alerts

- 7.4.1 The development site is located within an Environment Agency Flood Warning area as shown within the Figure below:

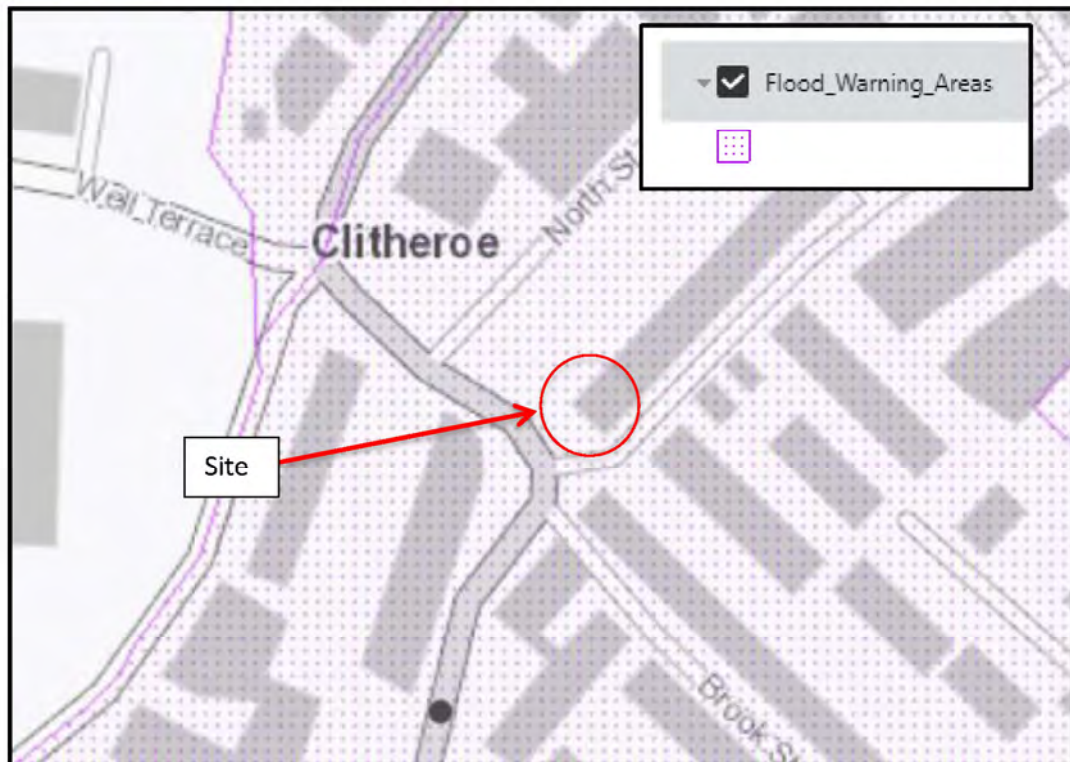


Figure 16: Environment Agency Flood Warning Area Map

- 7.4.2 Due to the location of the site, it is advised that owners and staff of the proposed offices sign up to receive flood warnings and alerts.
- 7.4.3 The Flood Warnings Service is a free service which enables the Environment Agency to send a direct message when flooding is expected and may affect the development. Flood warnings are designed to provide businesses and residents the time to prepare for flooding. Flood warnings can be sent by telephone, mobile, email SMS test message or fax.
- 7.4.4 The Environment Agency also provides a **Floodline 0345 988 1188** service, where occupants can listen to recorded flood warning information for the area or speak to an operator for advice 24 hours a day.
- 7.4.5 If flooding is forecast, they are able to issue warnings using a set of three different warning types:
- **Flood Alert** – Flooding is possible. Be prepared.
 - **Flood Warning** – Flooding is expected. Immediate action is required.
 - **Severe Flood Warning** – Severe flood warning. Danger to life.
- 7.4.6 Flood warnings are issued via a variety of media including:
- **On the flood warnings website** – view up-to-date information about flood warnings in force, monitor the river or sea levels in your area and check out the latest flood risk forecast for the county.

- **Telephone Floodline 0345 988 1188** – listen to recorded information on the latest warnings and predictions or speak to an operator for more general information 24 hours a day. Environment Agency operators can also provide a quick dial number which gives you faster access to information for your area.
- **Television and Radio** – Environment Agency warnings may be played on television and in radio broadcasts.
- **Flood Wardens** – in some areas Flood Wardens are there to alert and support their local community when a flood warning is issued. Call Floodline 0345 988 1188 to find out if this service is available in this area.
- **Sirens/loudwailers** – in some areas the Environment Agency uses loudhailers or siren systems to warn people that a flood warning has been issued. Call Floodline 0345 988 1188 to find out if this type of service operates in your area.
- **Flood warning feeds** – Flood warning (RSS) feeds shows national and regional flood warnings in force and are updated every 15 minutes. The feeds contain a brief summary and link to the full information on the Environment Agency website.

7.5 Evacuation Plan

- 7.5.1 It is highly recommended that the owners/managers of the offices sign up to receive flood warnings and develop an evacuation plan from the site to a safe area away from Flood Zone 3, in the event that a 'flood warning' is issued by the Environment Agency.
- 7.5.2 It is noted that during evacuation, staff should be directed away from the building onto Waterloo Road and then travel north-westerly towards Well Terrace to a potential rendezvous point close to Clitheroe Royal Grammar School Sixth Form Centre.

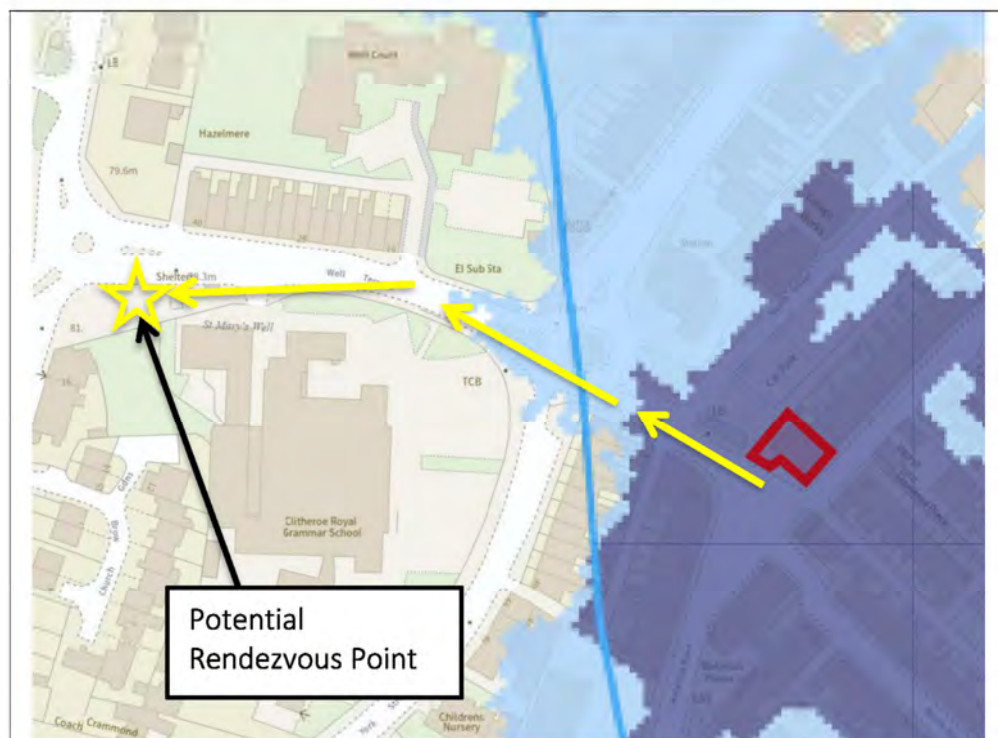


Figure 17: Potential Flood Evacuation Route

- 7.5.3 Practical advice is available from the Environment Agency website: <https://www.gov.uk/government/publications/preparing-your-business-for-flooding> and Appendix D of this report includes the Environment Agency Guide to preparing your business for flooding which is recommended to be completed by the site owners/occupiers.

7.6 Compensatory Flood Storage

- 7.6.1 The site is located within Flood Zone 3 and therefore would be anticipated to flood during the 1 in 100 year plus climate change flood event.
- 7.6.2 The proposed development is for the change of use and minor extension of the existing building to create offices and therefore it is anticipated that the minor extension will not significantly reduce the flood storage capacity in the area and will not significantly impact on the risk of flooding to adjacent properties. As such it is proposed that compensatory flood storage is not required at the development site.

8. CONCLUSIONS & RECOMMENDATIONS

- 8.1 The proposed development at the former Royal Oak Inn, 80 Waterloo Road, Clitheroe is for the change of use and minor extension of the former public house to commercial offices.
- 8.2 The site is shown to be located within Flood Zone 3 of the Environment Agency Flood Map. Environment Agency modelled flood data confirms that the site is in located within Flood Zone 3 and as such flood resistance/resilience measures are required.
- 8.3 The primary sources of flood risk to the site is identified to be from fluvial flooding (Pendleton Brook/Pimlico Brook).
- 8.4 Environment Agency surface water flood maps indicate that the site is at risk from surface water flooding with depths of less 300 mm close to/adjacent the site during the worst case scenario and therefore flood resilience/resistance measures are required.
- 8.5 Secondary sources such as artificial water sources and groundwater flooding have been investigated and are deemed to present a very low risk of flooding to the site.
- 8.6 The proposed development is for the change of use of an existing building with minor extension therefore it is proposed that surface water will discharge as per the existing situation.
- 8.7 As part of the proposed change of use development floor levels will remain as existing however flood resilience/resistance measures should be incorporated into the redevelopment to a level 300 mm above the 1 in 100 year plus 36% climate change flood level i.e. to a level of 76.50 mAOD.
- 8.8 It is considered prudent that the site owner/users of the proposed offices sign up to receive Environment Agency Flood Warnings and practice evacuation of the occupants of the building to a safe place of refuge following receipt of an Environment Agency flood warning.
- 8.9 Due to the change of use of the proposed development with minor extension the volume of flood storage lost as a result of development is considered negligible therefore no flood compensatory storage is proposed.
- 8.10 As such the proposed change of use with minor extension development will be safe for the lifetime of the development and will not increase the risk of flooding downstream of the site.

APPENDIX A

Existing & Proposed Development Plans



E1 Ground Floor Plan (Existing)
1:100



E2 First Floor Plan (Existing)
1:100



E3 Existing Site Plan
1:500



P Location Plan
1:1250



P1 Ground Floor Plan (Proposed)
1:100



P2 First Floor Plan (Proposed)
1:100



P3 Second Floor Level (Proposed)
1:100



Note:
Do not scale drawing. All dimensions and levels to be checked on site and any discrepancies to be reported immediately before the commencement of work. Drawing to be made in conformity with all relevant standards and specifications.

aldrock
architects • planners • engineers

CIAT RICS

PROJECT NAME & LOCATION
Rush Close B9, Chorley

DATE
Issued and Proposed Plans

PROJECT NO	DRAWING NO	REV	DATE	CHECKED BY
AM63	001		27/03/23	

PREPARED BY
PLANNING
DATE
27/03/23

APP 1 (1) 1/20/2020 (1) 1/20/2020
APP 2 (1) 1/20/2020 (1) 1/20/2020
APP 3 (1) 1/20/2020 (1) 1/20/2020
APP 4 (1) 1/20/2020 (1) 1/20/2020
APP 5 (1) 1/20/2020 (1) 1/20/2020
APP 6 (1) 1/20/2020 (1) 1/20/2020
APP 7 (1) 1/20/2020 (1) 1/20/2020
APP 8 (1) 1/20/2020 (1) 1/20/2020
APP 9 (1) 1/20/2020 (1) 1/20/2020
APP 10 (1) 1/20/2020 (1) 1/20/2020



Notes:
Do not scale drawing. All dimensions and levels to be checked on site and any discrepancies to be reported immediately before the commencement of work. Drawing to be read in conjunction with all relevant drawings and specifications.



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SUN 04/04/00 09:00

Feeling and Proposed Revisions

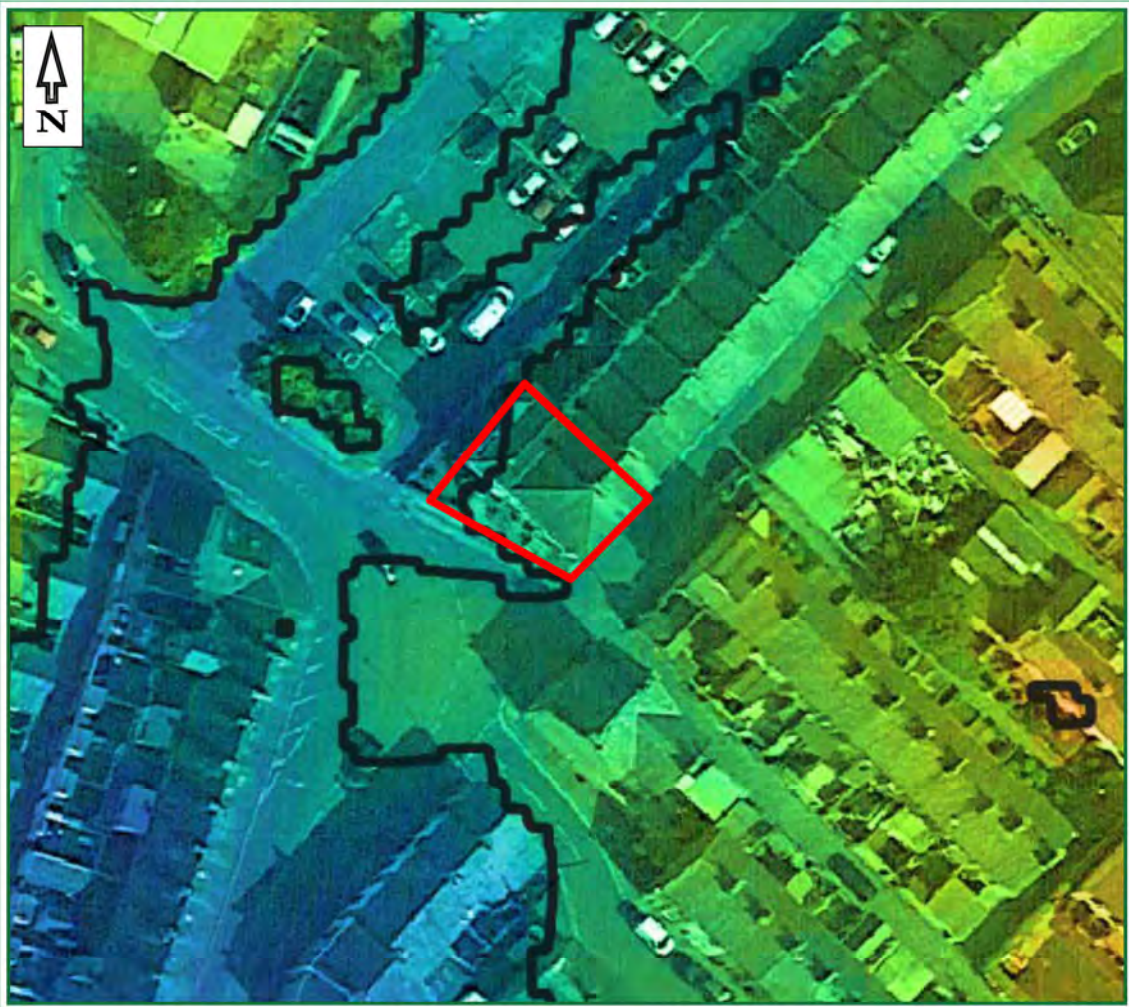
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AM63	002		JB	77
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			()	()

JOHN A. CHAMBERLAIN FOUND JOHN (1960) BROOKLYN, N.Y. BLACK STONE EST. 1980		100% PUNISHING NAVE 27/02/23
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DATE	DATE
PLANNING	27 AUG 23

APPENDIX B

LIDAR Mapping



LEGEND



REV	DESCRIPTION	DATE	BY



BS&B ENVIRONMENTAL CONSULTING ENGINEERS
Suite One, No 3 Mitton Road Business Park,
Mitton Road, Whalley, Lancashire, BB7 9YE
Tel: 01254 377 622
Email: m.buckley@bs&benviro.co.uk
Web: www.bs&benviro.co.uk

CLIENT:
LEWIS MITCHELL SOLICITORS

JOB TITLE:
FORMER ROYAL OAK, WATERLOO
ROAD, CLITHEROE

DRAWING TITLE:
LIDAR DATA

SCALE A3. NTS	DRAWN BY. D.E.	APPROVED BY. M.B.	DATE. 21/04/23
DRAWING No. 23052-3	REV. -		

APPENDIX C

Environment Agency Modelled Flood Data

Flood risk assessment data



Location of site: 374685 / 442119 (shown as easting and northing coordinates)

Document created on: 14 April 2023

This information was previously known as a product 4.

Customer reference number: HM149VA2G625

Map showing the location that flood risk assessment data has been requested for.



How to use this information

You can use this information as part of a flood risk assessment for a planning application. To do this, you should include it in the appendix of your flood risk assessment.

We recommend that you work with a flood risk consultant to get your flood risk assessment.

Included in this document

In this document you'll find:

- how to find information about surface water and other sources of flooding
- information on the models used
- definitions for the terminology used throughout
- flood map for planning (rivers and the sea)
- historic flooding
- flood defences and attributes
- information to help you assess if there is a reduced flood risk from rivers and the sea because of defences
- modelled data
- climate change modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice

Not included in this document

This document does not include a Flood Defence Breach Hazard Map.

If your location has a reduced flood risk from rivers and sea because of defences, you need to request a Flood Defence Breach Hazard Map and information about the level of flood protection offered at your location from the Cumbria and Lancashire Environment Agency team at inforequests.cmlnc@environment-agency.gov.uk. This information will only be available if modelling has been carried out for breach scenarios.

Include a site location map in your request.

Surface water and other sources of flooding

Use the [long term flood risk service](#) to find out about the risk of flooding from:

- surface water
- ordinary watercourses
- reservoirs

For information about sewer flooding, contact the relevant water company for the area.

About the models used

Model name: Mearley Brook 2018

Scenario(s): Defended fluvial, defences removed fluvial, defended climate change fluvial

Date: 1 December 2017

These models contain the most relevant data for your area of interest.

Terminology used

Annual exceedance probability (AEP)

This refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood which is calculated to have a 1% chance of occurring in any one year, is described as 1% AEP.

Metres above ordnance datum (mAOD)

All flood levels are given in metres above ordnance datum which is defined as the mean sea level at Newlyn, Cornwall.

Flood map for planning (rivers and the sea)

Your selected location is in flood zone 3.

Flood zone 3 shows the area at risk of flooding for an undefended flood event with a:

- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

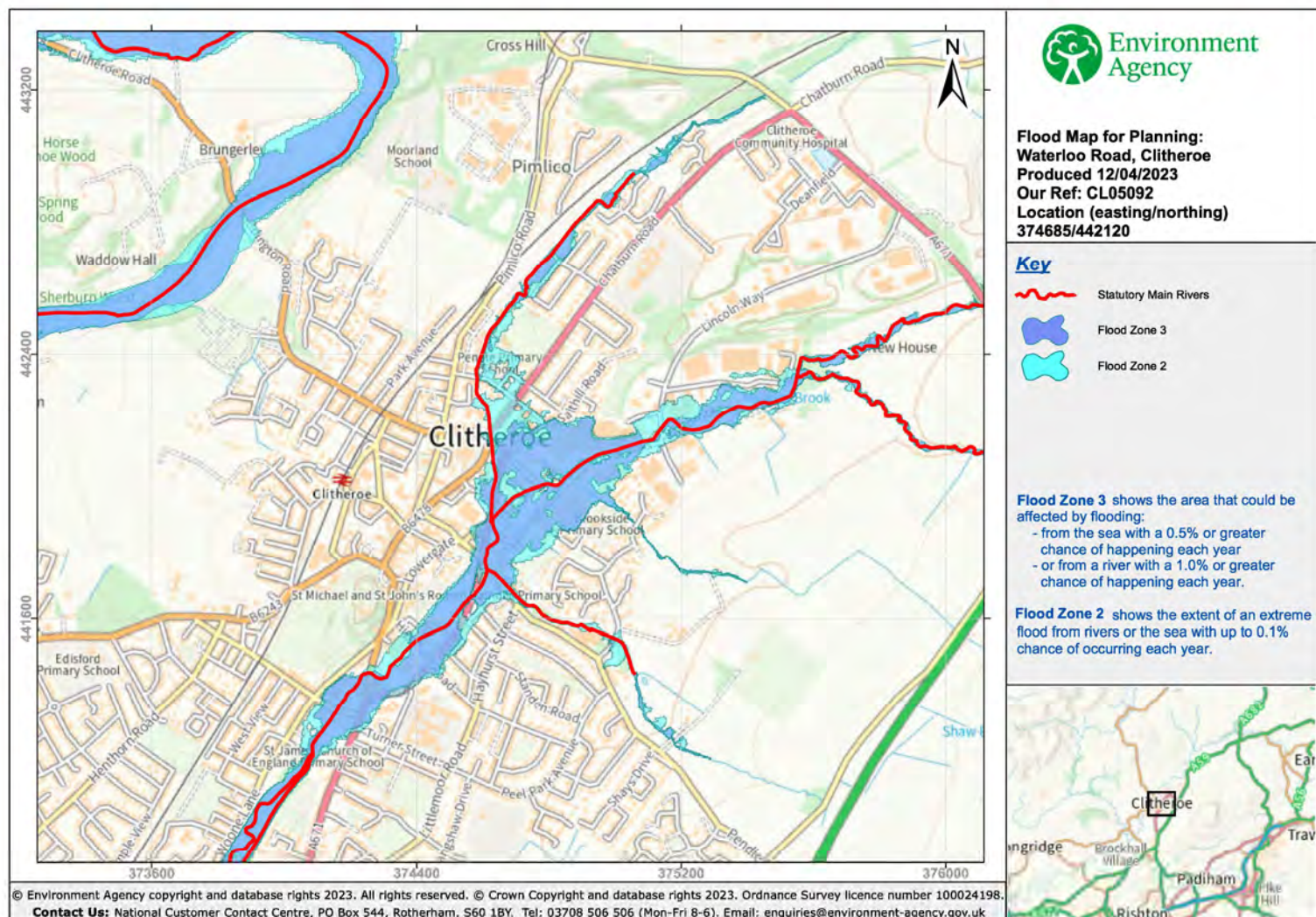
Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- between a 0.1% and 0.5% probability of occurring in any year for flooding from the sea
- between a 0.1% and 1% probability of occurring in any year for fluvial (river) flooding

It's important to remember that the flood zones on this map:

- refer to the land at risk of flooding and do not refer to individual properties
- refer to the probability of river and sea flooding, ignoring the presence of defences
- do not take into account potential impacts of climate change

This data is updated on a quarterly basis as better data becomes available.



Historic flooding

This map is an indicative outline of areas that have previously flooded. Remember that:

- our records are incomplete, so the information here is based on the best available data
- it is possible not all properties within this area will have flooded
- other flooding may have occurred that we do not have records for
- flooding can come from a range of different sources - we can only supply flood risk data relating to flooding from rivers or the sea

You can also contact your Lead Local Flood Authority or Internal Drainage Board to see if they have other relevant local flood information. Please note that some areas do not have an Internal Drainage Board.

[Download recorded flood outlines in GIS format](#)

Flood defences and attributes

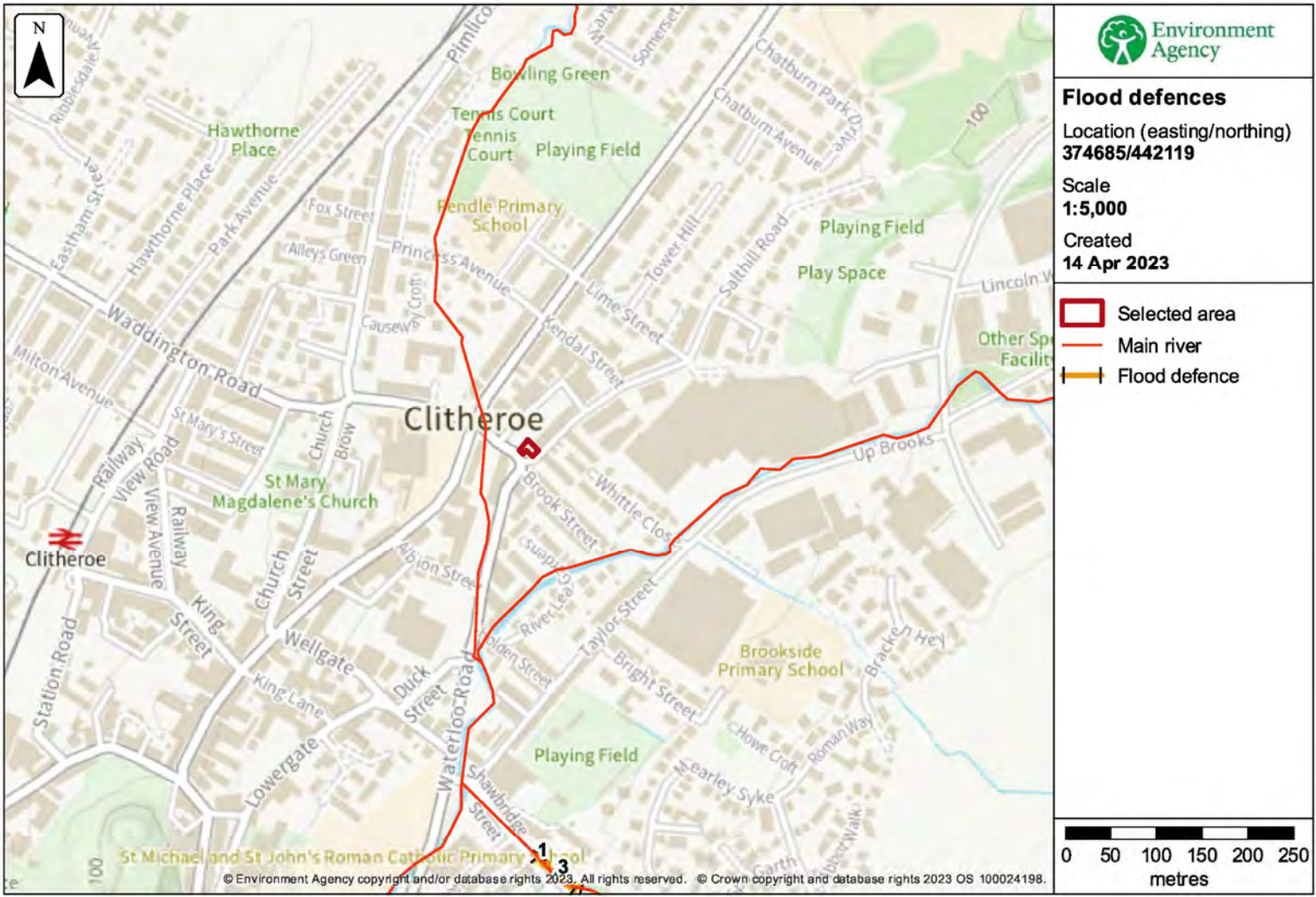
The flood defences map shows the location of the flood defences present.

The flood defences data table shows the type of defences, their condition and the standard of protection. It shows the height above sea level of the top of the flood defence (crest level). The height is in mAOD which is the metres above the mean sea level at Newlyn, Cornwall.

It's important to remember that flood defence data may not be updated on a regular basis. The information here is based on the best available data.

Use this information:

- to help you assess if there is a reduced flood risk for this location because of defences
- with any information in the modelled data section to find out the impact of defences on flood risk



Flood defences data

Label	Asset ID	Asset Type	Standard of protection (years)	Current condition	Downstream actual crest level (mAOD)	Upstream actual crest level (mAOD)	Effective crest level (mAOD)
1	536674	Flood Gate		Fair	77.10	77.10	77.10
2	148786	Wall	10	Fair	78.25	79.30	78.25
3	150181	Engineered High Ground	10	Fair	78.10	79.90	78.10

Any blank cells show where a particular value has not been recorded for an asset.

Modelled data

This section provides details of different scenarios we have modelled and includes the following (where available):

- outline maps showing the area at risk from flooding in different modelled scenarios
- modelled node point map(s) showing the points used to get the data to model the scenarios and table(s) providing details of the flood risk for different return periods
- map(s) showing the approximate water levels for the return period with the largest flood extent for a scenario and table(s) of sample points providing details of the flood risk for different return periods

Climate change

The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

The Environment Agency will incorporate the new allowances into future modelling studies. For now, it's your responsibility to demonstrate that new developments will be safe in flood risk terms for their lifetime.

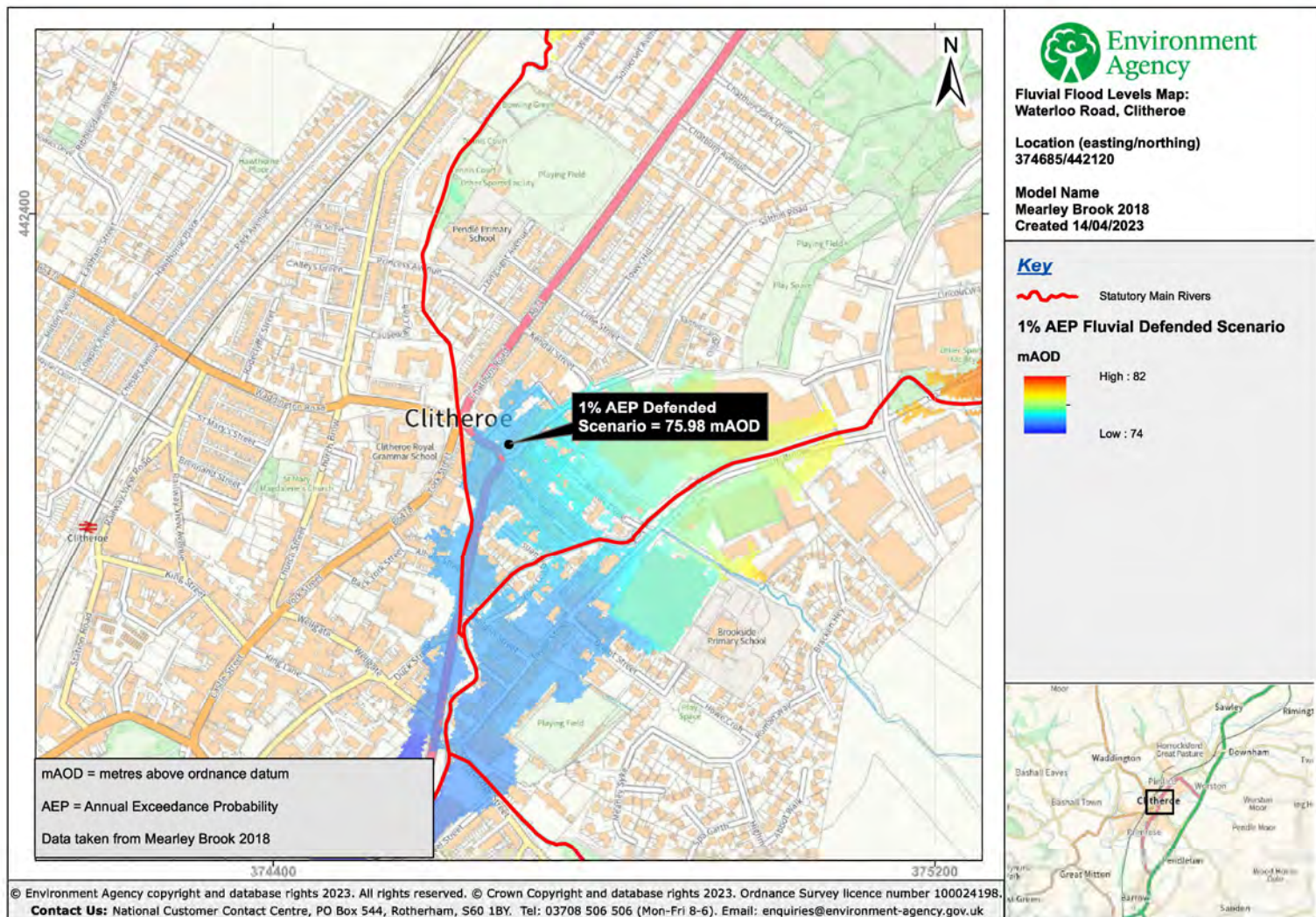
Modelled scenarios

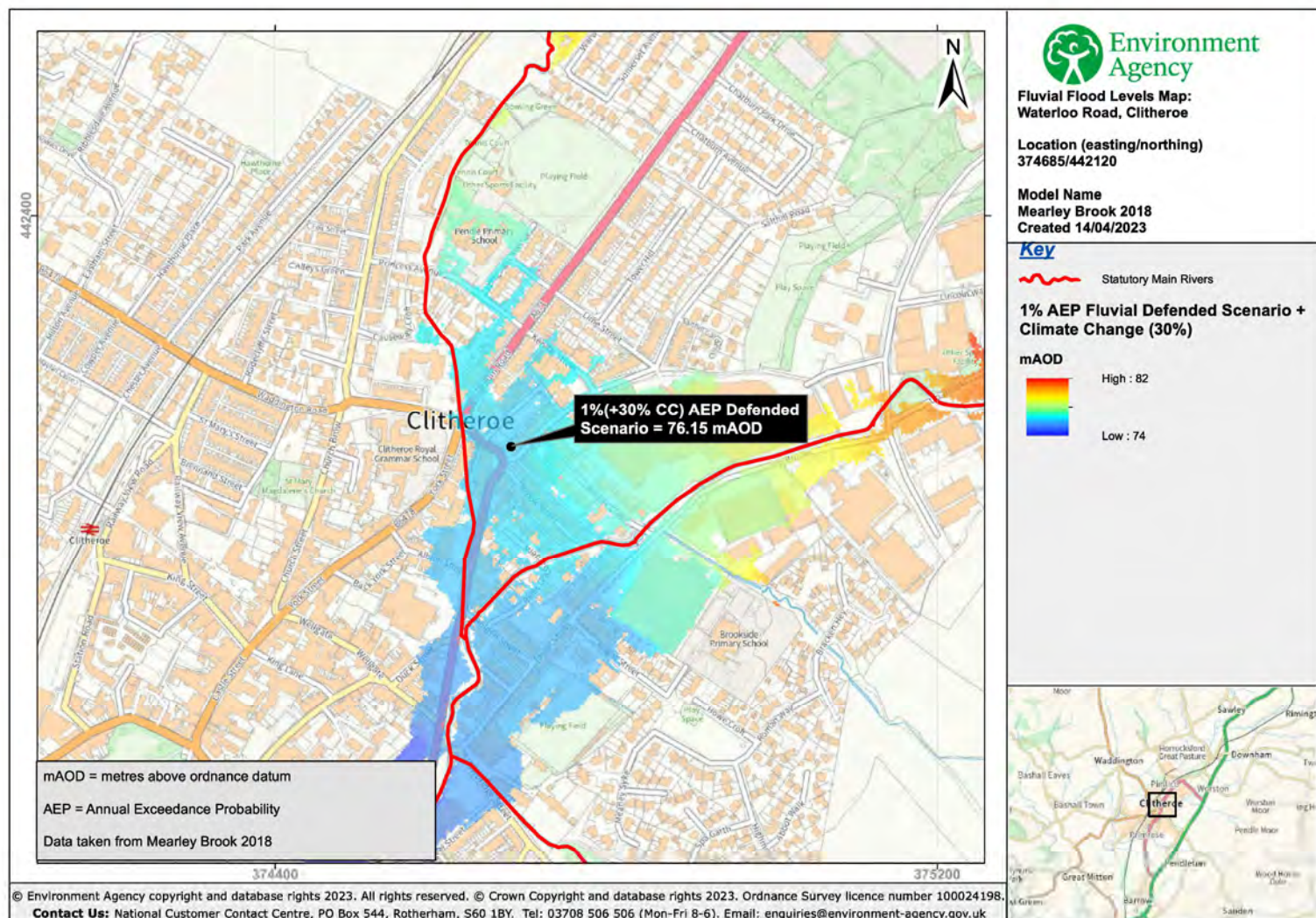
The following scenarios are included:

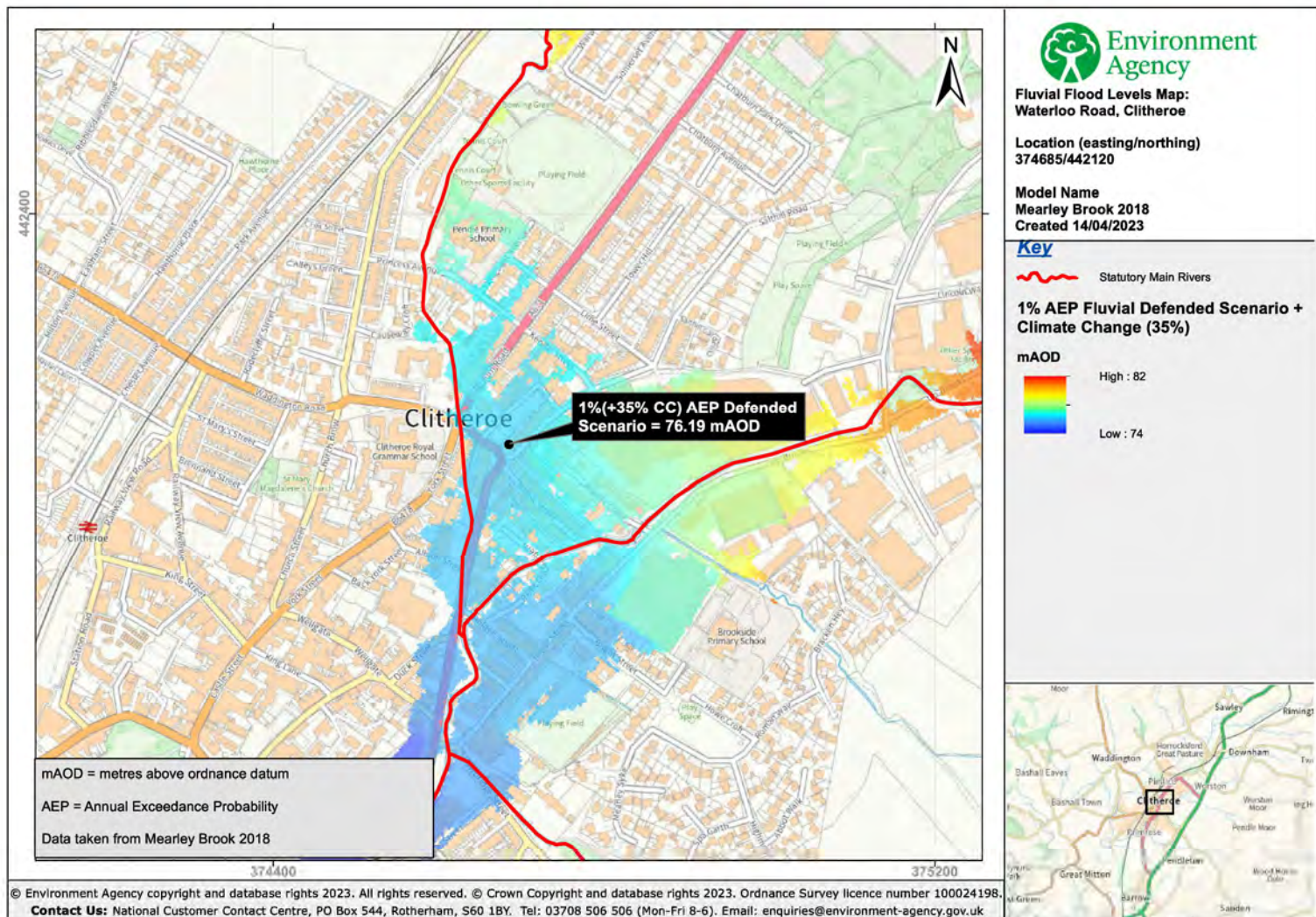
- Defended modelled fluvial: risk of flooding from rivers where there are flood defences
- Defences removed modelled fluvial: risk of flooding from rivers where flood defences have been removed
- Defended climate change modelled fluvial: risk of flooding from rivers where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled fluvial: risk of flooding from rivers where flood defences have been removed, including estimated impact of climate change

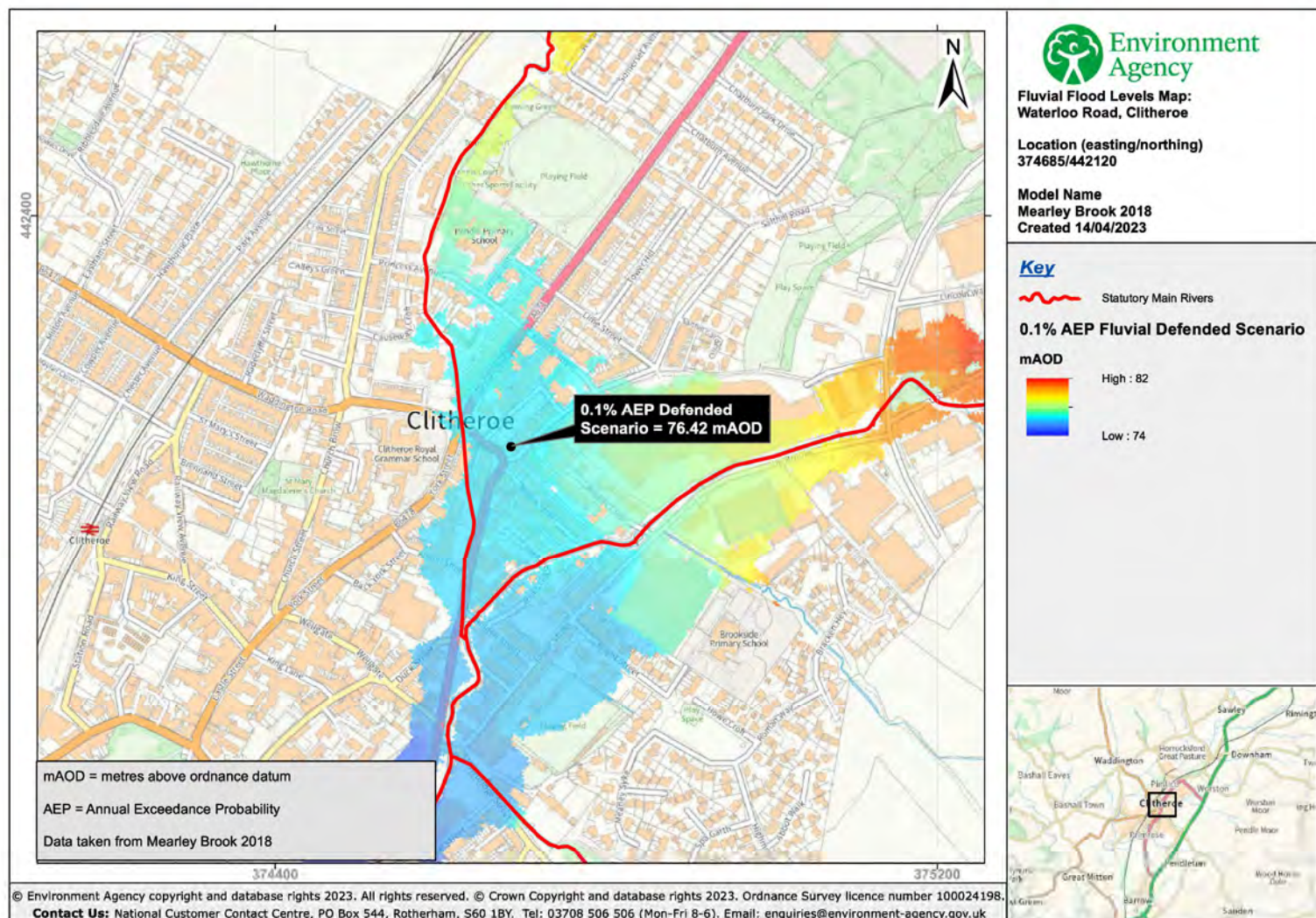
DEFENDED(D)/UNDEFEN DED(U)/CLIMATE CHANGE(CC)		AEP (%)	WATER LEVEL (mAOD)	FLOW (cumecs)
NODE ID				
PIML01_0421	Mearley2018_D	5	75.92	2.92
PIML01_0421	Mearley2018_U	5	75.90	2.92
PIML01_0421	Mearley2018_D_35%CC	1	76.57	5.52
PIML01_0421	Mearley2018_D	1	76.18	4.23
PIML01_0421	Mearley2018_U	1	76.15	4.23
PIML01_0421	Mearley2018_D_30%CC	1	76.56	5.36
PIML01_0421	Mearley2018_D_70%CC	1	76.65	6.47
PIML01_0421	Mearley2018_D	0.1	76.67	6.78
PIML01_0421	Mearley2018_U	0.1	76.65	6.79
PIML01_0421	Mearley2018_D_30%CC	0.1	76.74	7.28
PIML01_0392	Mearley2018_D	5	75.87	3.31
PIML01_0392	Mearley2018_U	5	75.81	3.31
PIML01_0392	Mearley2018_D_35%CC	1	76.68	5.88
PIML01_0392	Mearley2018_D	1	76.31	4.77
PIML01_0392	Mearley2018_U	1	76.21	4.77
PIML01_0392	Mearley2018_D_30%CC	1	76.66	5.82
PIML01_0392	Mearley2018_D_70%CC	1	76.77	6.08
PIML01_0392	Mearley2018_D	0.1	76.80	6.12
PIML01_0392	Mearley2018_U	0.1	76.79	6.37
PIML01_0392	Mearley2018_D_30%CC	0.1	76.88	6.24
PEBR01_03801	Mearley2018_D	5	78.13	14.57
PEBR01_03801	Mearley2018_U	5	78.13	14.57
PEBR01_03801	Mearley2018_D_35%CC	1	78.47	22.25
PEBR01_03801	Mearley2018_U	1	78.37	19.12
PEBR01_03801	Mearley2018_D	1	78.37	19.12
PEBR01_03801	Mearley2018_D_30%CC	1	78.46	21.88
PEBR01_03801	Mearley2018_D_70%CC	1	78.57	24.83
PEBR01_03801	Mearley2018_U	0.1	78.57	26.37
PEBR01_03801	Mearley2018_D	0.1	78.57	26.37
PEBR01_03801	Mearley2018_D_30%CC	0.1	78.64	29.42
PEBR01_03737	Mearley2018_D	5	77.55	14.77
PEBR01_03737	Mearley2018_U	5	77.55	14.77
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PEBR01_03737	Mearley2018_U	1	77.85	17.98
PEBR01_03737	Mearley2018_D	1	77.85	17.99
PEBR01_03737	Mearley2018_D_30%CC	1	77.98	19.88
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PEBR01_03737	Mearley2018_U	0.1	78.04	23.38
PEBR01_03737	Mearley2018_D	0.1	78.04	23.38
PEBR01_03737	Mearley2018_D_30%CC	0.1	78.10	25.45
PEBR01_03624	Mearley2018_D	5	76.61	14.77
PEBR01_03624	Mearley2018_U	5	76.60	14.77
PEBR01_03624	Mearley2018_D_35%CC	1	77.14	22.42
PEBR01_03624	Mearley2018_U	1	76.85	19.70
PEBR01_03624	Mearley2018_D	1	76.86	19.70
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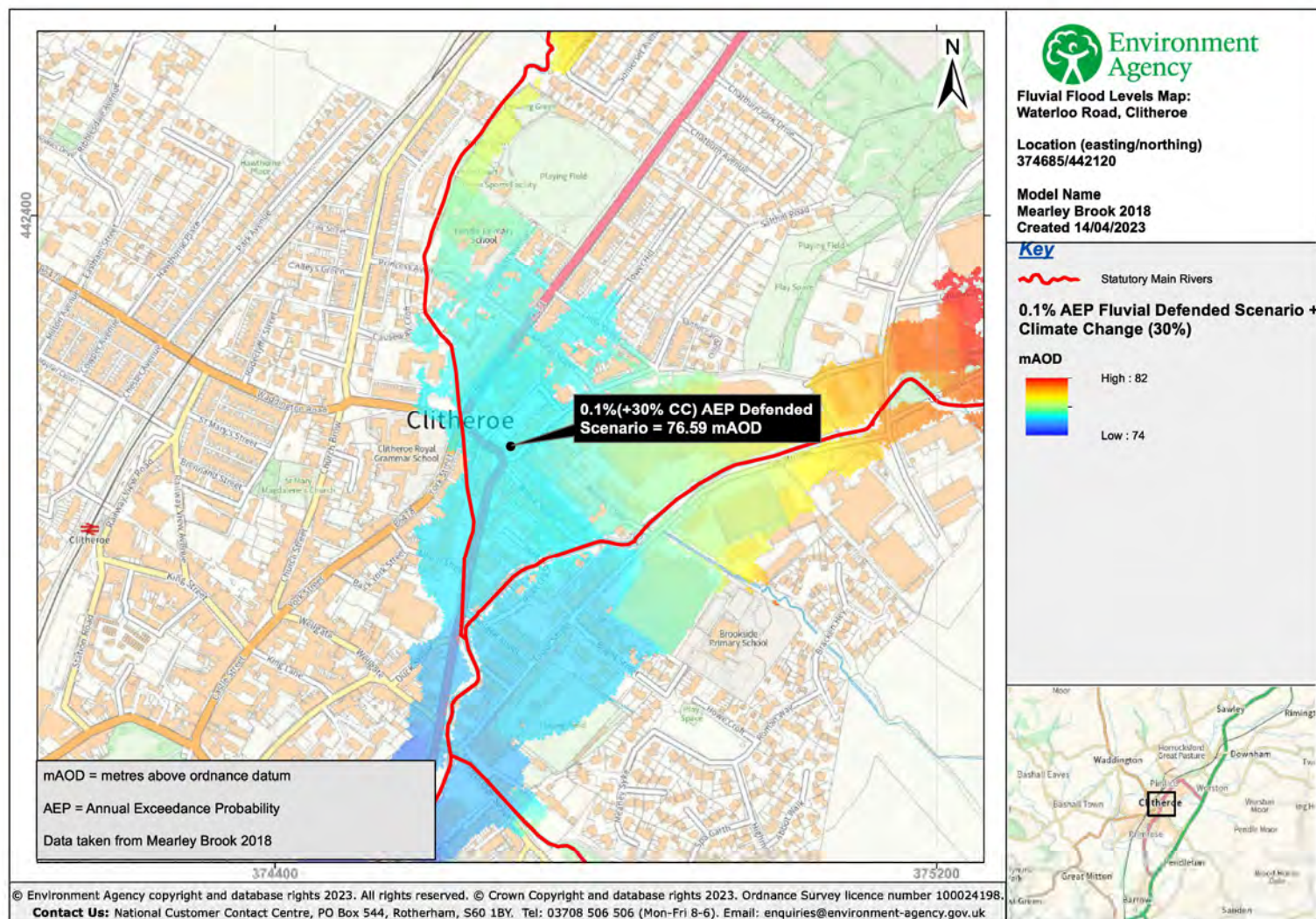
PEBR01_03624	Mearley2018_D_70%CC	1	77.28	25.16
PEBR01_03624	Mearley2018_U	0.1	77.36	24.99
PEBR01_03624	Mearley2018_D	0.1	77.36	24.95
PEBR01_03624	Mearley2018_D_30%CC	0.1	77.52	24.99
PEBR01_03592	Mearley2018_D	5	76.19	16.47
PEBR01_03592	Mearley2018_U	5	76.17	16.47
PEBR01_03592	Mearley2018_D_35%CC	1	76.46	26.81
PEBR01_03592	Mearley2018_U	1	76.35	22.25
PEBR01_03592	Mearley2018_D	1	76.35	22.25
PEBR01_03592	Mearley2018_D_30%CC	1	76.45	26.34
PEBR01_03592	Mearley2018_D_70%CC	1	76.52	29.82
PEBR01_03592	Mearley2018_U	0.1	76.55	31.02
PEBR01_03592	Mearley2018_D	0.1	76.55	31.03
PEBR01_03592	Mearley2018_D_30%CC	0.1	76.62	34.01
PEBR01_03563	Mearley2018_D	5	76.19	16.52
PEBR01_03563	Mearley2018_U	5	76.18	16.53
PEBR01_03563	Mearley2018_D_35%CC	1	76.46	26.34
PEBR01_03563	Mearley2018_U	1	76.37	22.08
PEBR01_03563	Mearley2018_D	1	76.38	22.06
PEBR01_03563	Mearley2018_D_30%CC	1	76.46	25.92
PEBR01_03563	Mearley2018_D_70%CC	1	76.52	29.16
PEBR01_03563	Mearley2018_U	0.1	76.53	30.37
PEBR01_03563	Mearley2018_D	0.1	76.53	30.38
PEBR01_03563	Mearley2018_D_30%CC	0.1	76.56	33.37
PEBR01_03475	Mearley2018_D	5	75.94	15.90
PEBR01_03475	Mearley2018_U	5	75.92	15.99
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PEBR01_03475	Mearley2018_U	1	76.04	19.39
PEBR01_03475	Mearley2018_D	1	76.05	19.23
PEBR01_03475	Mearley2018_D_30%CC	1	76.12	20.64
PEBR01_03475	Mearley2018_D_70%CC	1	76.20	21.57
PEBR01_03475	Mearley2018_U	0.1	76.22	21.92
PEBR01_03475	Mearley2018_D	0.1	76.24	21.57
PEBR01_03475	Mearley2018_D_30%CC	0.1	76.37	21.56
PEBR01_03418	Mearley2018_D	5	75.84	15.97
PEBR01_03418	Mearley2018_U	5	75.81	16.05
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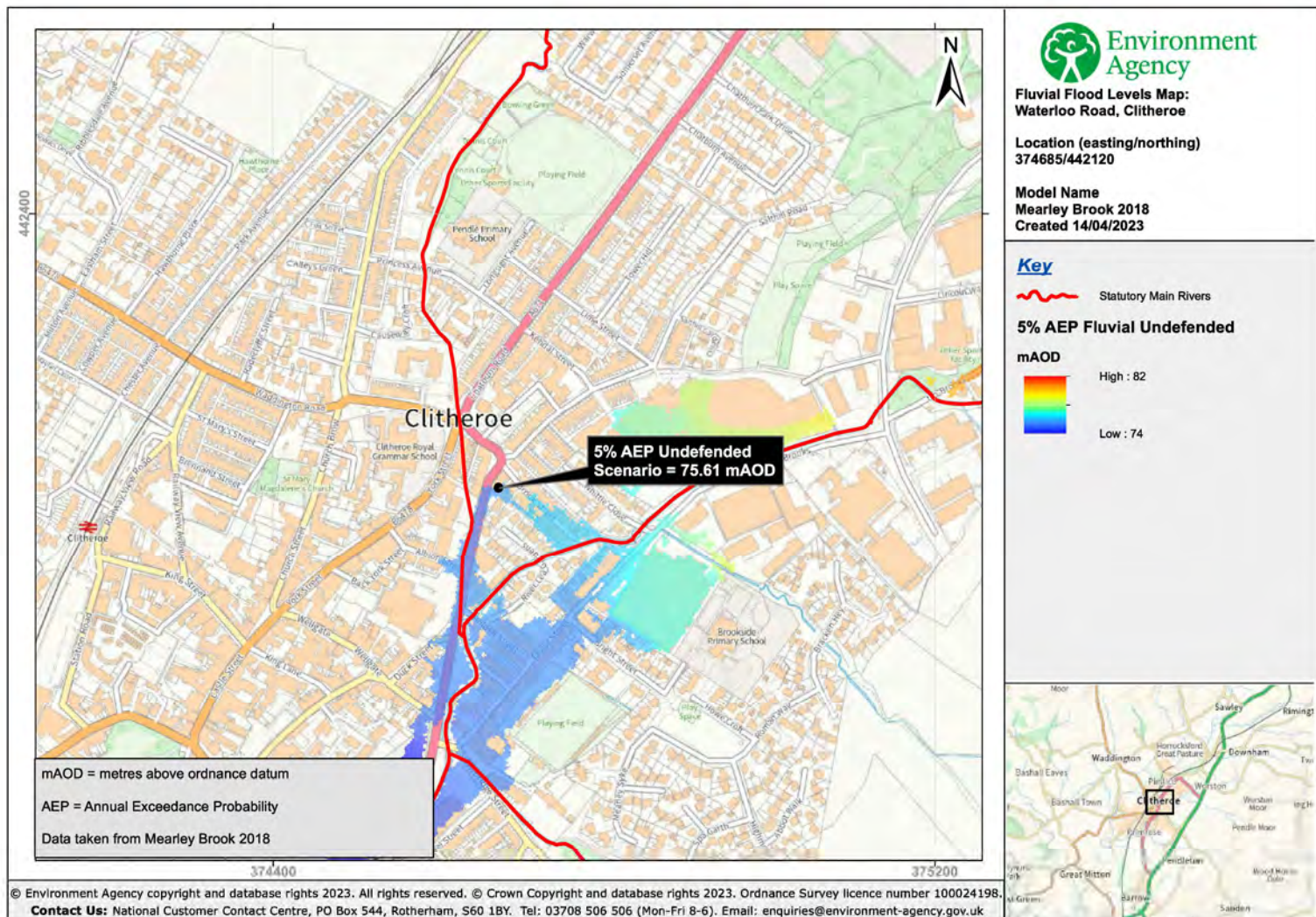


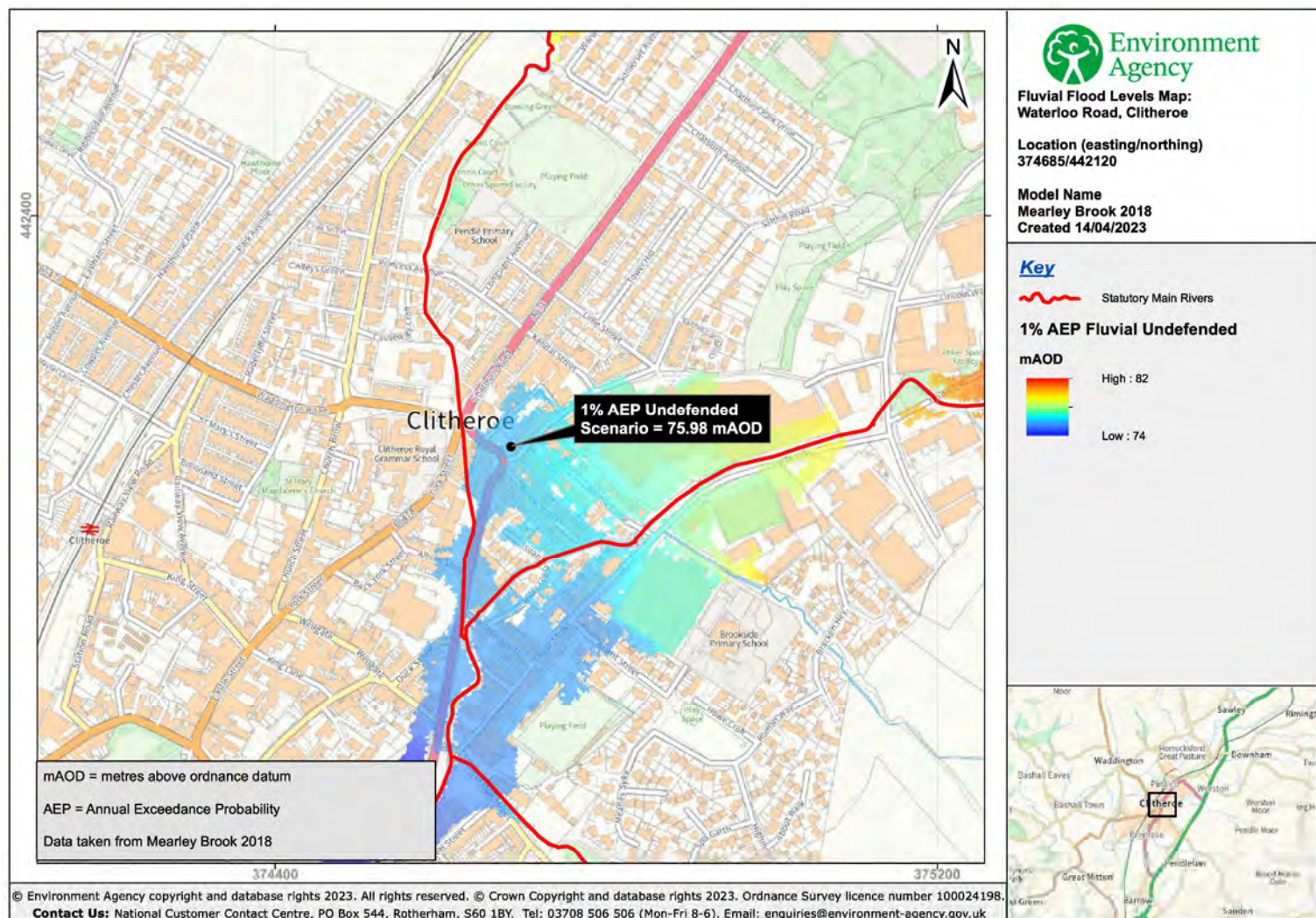


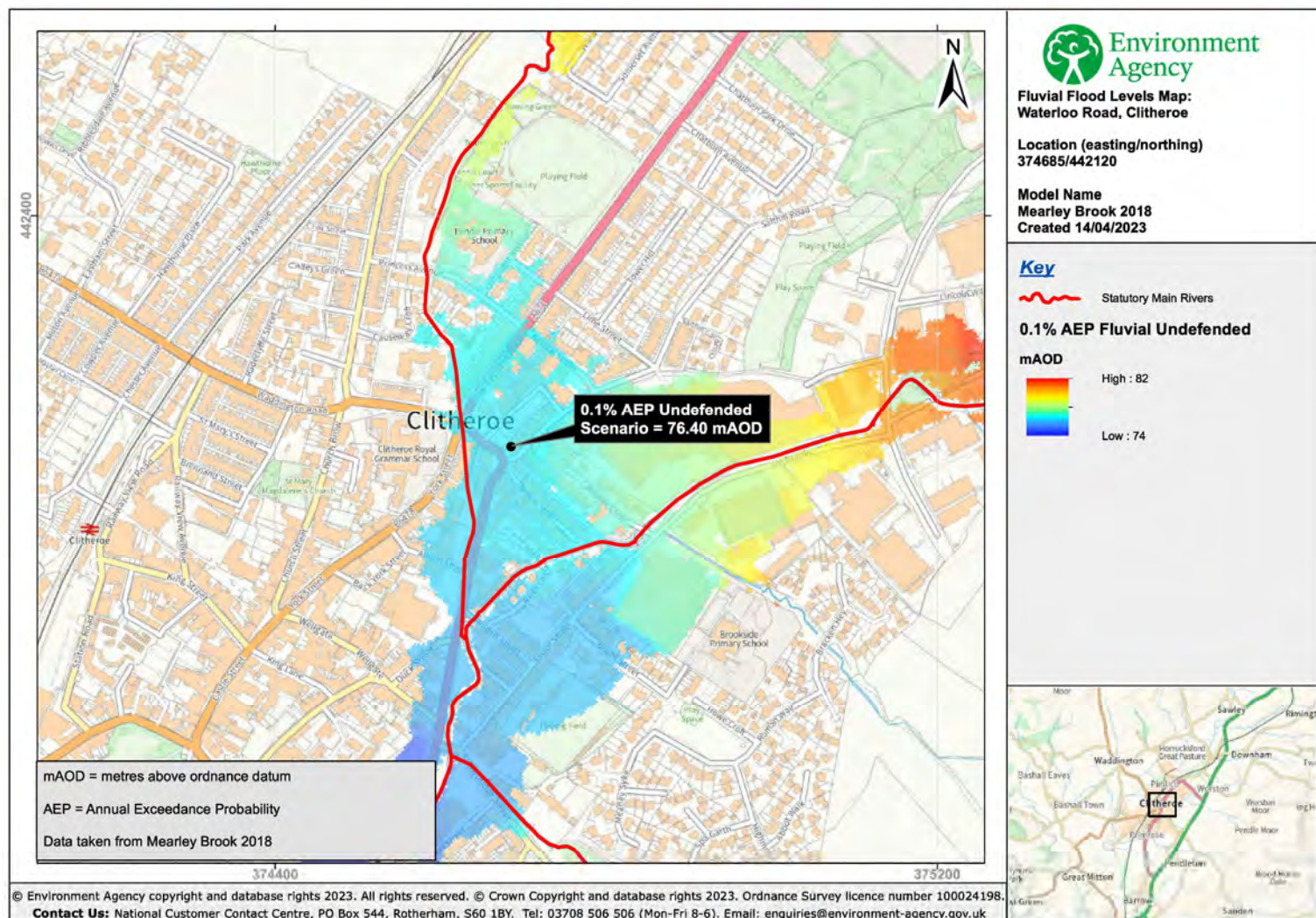












Strategic flood risk assessments

We recommend that you check the relevant local authority's strategic flood risk assessment (SFRA) as part of your work to prepare a site specific flood risk assessment.

This should give you information about:

- the potential impacts of climate change in this catchment
- areas defined as functional floodplain
- flooding from other sources, such as surface water, ground water and reservoirs

About this data

This data has been generated by strategic scale flood models and is not intended for use at the individual property scale. If you're intending to use this data as part of a flood risk assessment, please include an appropriate modelling tolerance as part of your assessment. The Environment Agency regularly updates its modelling. We recommend that you check the data provided is the most recent, before submitting your flood risk assessment.

Flood risk activity permits

Under the Environmental Permitting (England and Wales) Regulations 2016 some developments may require an environmental permit for flood risk activities from the Environment Agency. This includes any permanent or temporary works that are in, over, under, or nearby a designated main river or flood defence structure.

[Find out more about flood risk activity permits](#)

Help and advice

Contact the Cumbria and Lancashire Environment Agency team at inforequests.cmblnc@environment-agency.gov.uk for:

- [more information about getting a product 5, 6, 7 or 8](#)
- general help and advice about the site you're requesting data for

APPENDIX D

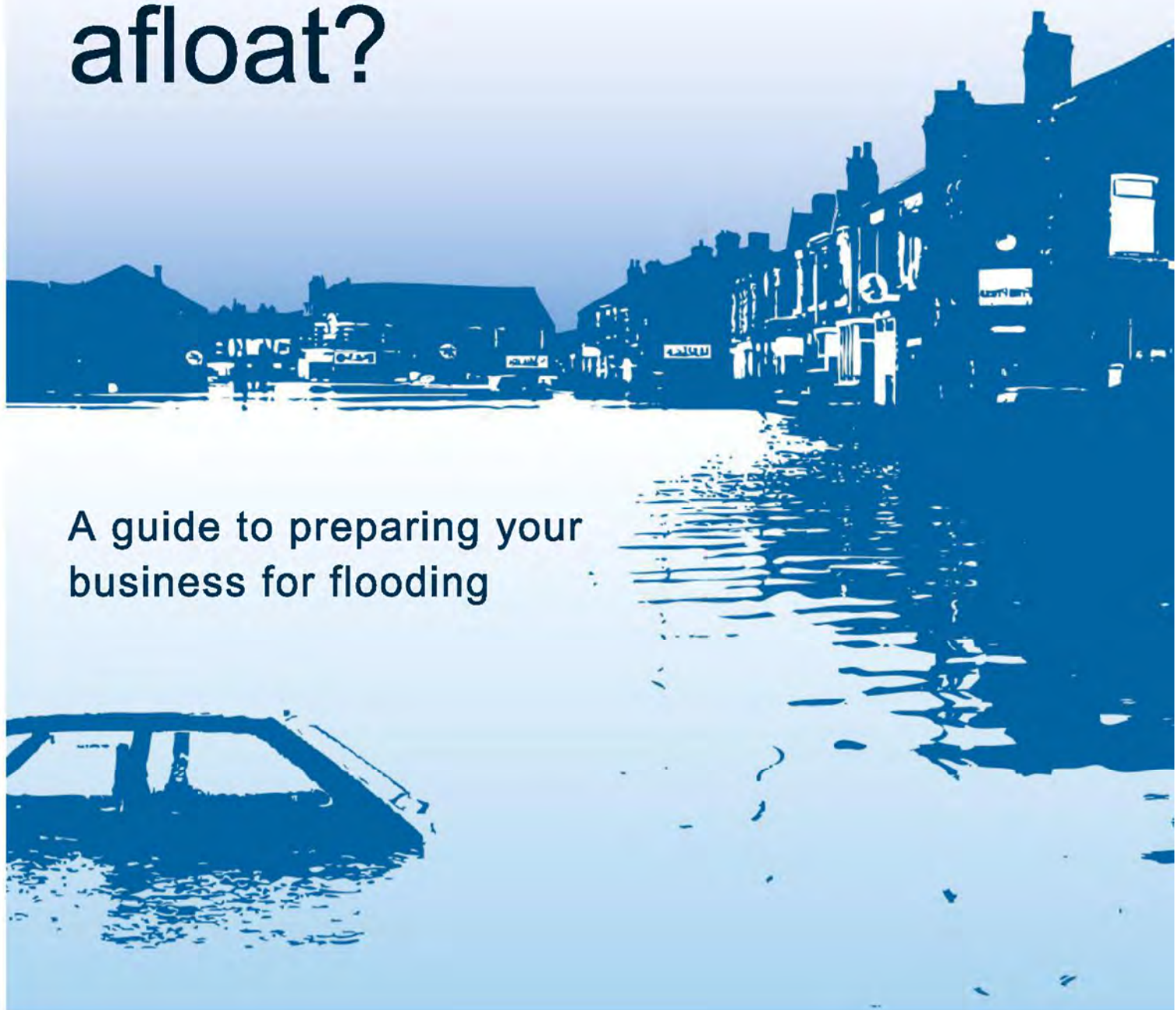
Environment Agency Business Flood Plan Guidance



Environment
Agency

would your business stay afloat?

A guide to preparing your
business for flooding



Flooding is the most common and widespread natural disaster in the UK. Since 1998 there has been at least one serious flood every year. Businesses like yours are more likely to be flooded than destroyed by fire. As our climate changes we can expect to see more extreme weather – and more floods.

We aim to reduce the likelihood of flooding by managing land, rivers, coastal systems and flood defences. While we do everything we can to reduce the chance of flooding, it is a natural process and can never be completely eliminated.

By taking action to prepare in advance for flooding, most businesses can save between 20 and 90 per cent on the cost of lost stock and movable equipment, as well as some of the trouble and stress that goes with such an event.

This is a simple guide to some of the easy actions that you can take to make sure that your business is as well prepared as possible.

It tells you about how to find out if your business is at risk, our flood warning service and what our flood warning codes mean. It also has a simple template to use to design a flood plan for your company.

For more information about flooding, visit our website at **www.gov.uk/flood** or call Floodline on **0345 988 1188**.

Make sure that your business is prepared for flooding.

How do I find out if my business is at risk from flooding?

There are two quick and easy ways for you to find out if you're at risk.

call us on
0345 988 1188

Our Floodline service is open 24 hours, calls are charged at local rate. By taking your postcode, our operators will check and see if your business is in a flood risk area.

Look at our website
www.gov.uk/flood

You need to be aware of flooding and keep an eye on the water levels and weather situation at all times. You can do this by checking the flood forecasts and the river and sea levels on our website.

Our online flood map uses the latest technology and data gathered over many years to give the most accurate view of flooding in your area.

By entering your postcode you can find out if your business is at risk. Areas at risk from flooding are shown in dark blue and areas at risk from extreme flooding in light blue.

My business is at risk from flooding. What should I do now?

Start preparing now. If the weather conditions are right, flooding can happen at any time.

Remember, floods can happen at any time and any day – make sure you provide a number that can be contacted at all times – even out of working hours.

Sign up for flood warnings.

The first thing you should do is find out if you can receive flood warnings. In areas of high flood risk, we offer a service called Floodline Warnings Direct. This is a free, 24 hour service that sends automated flood warnings by telephone, SMS text, email, fax or pager.

To find out if you can receive this service, call Floodline on 0345 988 1188.

If your business isn't in an area covered by our warnings you can still check the latest flood warnings in force on our website.

When the situation is serious, flood warnings will also be broadcast on local television and radio news.

What practical steps can I take to protect my business?

Now that you've checked your risk and found out about flood warnings, it's time to start thinking about preparing a flood plan specifically for your business.

Taking simple steps can go a long way to protecting your business from flooding. Preparing a flood plan could:

- Significantly reduce financial losses, damage to property and business interruption;
- Help compliance with regulatory requirements (for example, Occupier's Liability Act 1984);
- Reduce exposure to civil or criminal liability;
- Enhance your company's image and credibility with employees, customers, suppliers and the community;
- Help fulfil your moral responsibility to protect employees, the community and the environment;
- Help you to obtain insurance cover.

What is a flood plan?

Just as many businesses have health and safety policies and contingency plans for an emergency, they should also have flood plans.

A flood plan is a written document that outlines how your business will respond to a flood.

This might include a list of steps you will take in case of a flood and the order you will take them in. It could also include the purchase of flood products and insurance.

A written plan can make information **easy** to access during a flood, **easy** to communicate to staff, and **easy** to remember.

Small businesses should make sure there is a plan of action in case of flooding. As the business owner, this may be your responsibility.

If your business is **medium sized**, flood preparation might be the responsibility of a team of people from different areas of the business.

If your business decides to have a flood planning team, this could be led by the business owner or Managing Director.

The leader of the flood planning team will need to let staff know about the plan once it is finished.

All members of the team should also keep a copy of important flood contacts at home for easy access.

Key areas to consider in your flood plan are:

- human resources;
- maintenance/facilities;
- finance and purchasing.

Once you have completed your plan don't forget about it. Look at it regularly and make sure it is up to date and in the event of a flood **use it**.



business flood plan



A written flood plan is recommended for businesses.

It should include:

- A list of important contacts, including Floodline, building services, suppliers and evacuation contacts for staff;
- A description or map showing locations of key property, protective materials and service shut-off points;
- Basic strategies for protecting property, preventing business disruption and assisting recovery;
- Checklists of procedures that can be quickly accessed by staff during a flood.

If a flood is imminent, your main priority is to make sure that your staff are safe. However there may be other actions that you can take to prepare your building and it's contents to minimise damage and post-flood repair and restoration costs.

Business flood plan

Flood plan for _____ dated _____

Registered address _____

Postcode _____

Staff contact list

Name	Address	Telephone/mobile	Emergency contact	Emergency telephone and address

Note staff who may require assistance in the event of a flood.

Name	Office location

Key locations

Service cut-off	Description of location
Electricity	
Gas	
Water	

Answer the following if applicable

	Description of location	How to protect from a flood (for example, move, cover, tie down)
First Aid Kit		
Oil based products (gasoline, oil, cooking oil etc.)		
Chemicals (including cleaning products)		

Protective actions

Identify stock, equipment and possessions that may need special protective measures, and describe the actions you will take to prevent damage in the event of a flood. We have suggested items and ways to protect them, but make sure you follow through on your plans.

think about:

- Computers;
- Tables / heavy furniture;
- Vehicles;
- Paper files;
- Electrical items;
- Chairs / stools;
- Databases;
- Soft furnishings;
- Computer files;
- Staff files.

ways to protect items

- Make a copy of important documentation and store in safe location;
- Raise items above ground level;
- Buy flood protection products;
- Buy new flood-resistant items;
- Move items to a safer location if possible – to an upper level of the building or off site.

Valuable item	Protective action	New location (if applicable)	Done
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐

Suggested basic building materials to help protect your property

If materials are not needed, leave the relevant section blank

Materials	Used for	Items to protect / where to use	Storage location	Done
Sand and sand bags (unfilled), shovel	Creating flood barriers (used with plastic sheeting)			☐
Tools – hammer, nails, saw	Boarding up doors, windows and openings, creating shelves			☐
Wood – plywood, blocks of wood	Boarding up doors, windows and openings, creating shelves			☐
Sturdy plastic sheeting	Sandbag barriers, pulling up around furniture and appliances			☐
Strong plastic bags	Putting around legs of tables and chairs			☐
Pallets	Raising stored stock above flood level			☐
Emergency power generator	Maintaining function of air conditioning units (can help dry out a building), running fridges and freezers, medical equipment if appropriate			☐

Identify people who can help you before, during and after a flood, and what they can do.

We have suggested ways they might be able to help, but you'll need to discuss this with them.

Name	Address	Telephone day	Telephone evening	Mobile

Ways people can help

- assistance with installing flood products;
- assistance with transporting stock/materials to new location if possible;
- provision of emergency storage;
- provision of emergency supplies or medical support if required.

discussion guide

This discussion guide sums up the key areas of flood planning. Some of this information can be found in this pack to help get you started.



Research

- Look at your existing business policies, and think about whether they are appropriate in the event of a flood.

Staff

- Make a list of **employees' contact details in the event of an evacuation**. This might include mobile telephone numbers, or numbers for their home or the home of a friend or relative;
- Think about staff who **may need special assistance** in the event of a flood (for example, elderly, deaf, blind etc.)

Security procedures

- **Locking windows, doors and setting the alarm**. You might need more than one person to help do this;
- Insurance policies – **Are you insured for flood damage**, business interruption and lost revenue?
- Employee manuals – You might **add flood safety to staff information packs**, or adapt job descriptions to include flood warden duties;
- Hazardous materials plan – You must ensure that **chemicals, oils and other substances in your possession are kept safe** and do not contaminate flood water;
- Health and safety assessment – Plan to **check the functioning of flood products and flood warning systems regularly**, just as you do for fire safety equipment.

Check codes and regulations that might apply to your business in the event of a flood. The following could provide guidance on the right actions to take:

- Occupational health and safety regulations;
- Environmental regulations.



Important contacts

Make a list of important telephone numbers, including contacts for gas, electricity, water and telephone providers.

Key locations

- **Know the location** of cut-off points for gas, electricity and water. Ideally, these should be marked on a map that is stored with your flood plan;
- Know the location of chemicals, oils or other materials that could be dangerous or contaminate flood water. These should be stored safe from floods and other damage.

Protective actions

- Note key stock, equipment and possessions that may need special protection from flood water;
- Consider things you may need during or after a flood (for example, sandbags, plastic sheeting, loudspeaker);
- See if it's **possible to move key operations**, such as shipping or customer services, to another building.

Suppliers and external links

- Identify products and services you won't need in the event of a flood, or which suppliers may not be able to provide. **Make back-up plans** or arrangements for short-notice cancellation of deliveries;
- Consider contracting in advance with companies whose help you may need after a flood.

business checklist

Are you prepared for flooding?

If you answer no to any of the questions overleaf, there may be more you can do to protect your business.

The individual sections will give you valuable information on effective actions you can take to prepare for a flood.



If you can answer yes, please ☒, otherwise leave blank for no.

Know if you're at risk

- ☐ Do you know if you're at risk of flooding?
- ☐ Are flood warnings available in your area?
- ☐ Do you know how you can receive flood warnings?

Preparing a flood plan

- ☐ Do you know how your business will respond to a flood?
- ☐ Do you have a list of useful numbers including Floodline, local authority and insurance company?
- ☐ Do you know how to shut off your gas/electric/water supplies?
- ☐ Are your stock, fittings and valuable equipment stored above flood level?
- ☐ Have you developed flood contingency plans with suppliers and/or clients?
- ☐ Can you call someone to help you in the event of a flood?

Staff training and evacuation

- ☐ Are you aware of correct flood safety procedures for you and your staff?
- ☐ Have you trained your staff on flood safety procedures?
- ☐ Can your staff work quickly and efficiently to protect your business in the event of a flood?

Protecting your property

- ☐ Have you installed flood protection products?
- ☐ Do you have a stockpile of useful materials including plywood, plastic sheeting, sandbags (unfilled), sand, nails, hammer, shovel, blocks of wood and a saw?
- ☐ Have you installed non return valves in your toilets and drains?
- ☐ Do you and your staff have high ground where you can park your cars?
- ☐ Are your electrical sockets above flood level?
- ☐ Do you have computer equipment in the basement?

Flood insurance

- ☐ Do you have sufficient insurance cover in the event of a flood situation?
- ☐ Do you know what information your insurer will require to support a claim?

Evacuation

- ☐ Do you have an easy way to let your staff know about an evacuation?
- ☐ Do you know which roads will stay open in your area during a flood?
- ☐ Have you identified where staff can shelter in the event of a flood?
- ☐ Could you control staff panic during a flood?

understand your flood warning codes

Our warning service has three types of warnings - Flood Alert, Flood Warning and Severe Flood Warning - that will help you prepare for flooding and take necessary actions.

ONLINE FLOOD RISK FORECAST

What it means

Be aware.
Keep an eye on the weather situation.

When it's used

Forecasts of flooding on the Environment Agency website are updated at least once a day.

What to do

- Check weather conditions.
- Check for updated flood forecasts on our website.



FLOOD ALERT

What it means

Flooding is possible.
Be prepared.

When it's used

Two hours to two days in advance of flooding.

What to do

- Be prepared to act on your flood plan.
 - Prepare a flood kit of essential items.
 - Monitor local water levels and the flood forecast on our website.
-



FLOOD WARNING

What it means

Flooding is expected.
Immediate action required.

When it's used

Half an hour to one day
in advance of flooding.

What to do

- Move staff, stock and valuables to a safe place.
 - Turn off gas, electricity and water supplies if safe to do so.
 - Put flood protection equipment in place.
-



SEVERE FLOOD WARNING

What it means

Severe flooding.
Danger to life.

When it's used

When flooding poses a
significant risk to life.

What to do

- Stay in a safe place with means of escape.
 - Be ready should you need to evacuate.
 - Co-operate with the emergency services.
 - Call 999 if you are in immediate danger.
-

WARNING NO LONGER IN FORCE

What it means

No further flooding is
currently expected in
you area.

When it's used

When river or sea
conditions begin to
return to normal.

What to do

- Be careful. Flood water may still be around for several days.
 - If you've been flooded, ring your insurance company as soon as possible.
-

useful contacts

Fill in the contact details you may need if your business floods. Keep it in a safe place, where you can hold of it quickly.

	Company name	Telephone number/s
Environment Agency Floodline		0345 988 1188
Electricity supplier and meter number		
Gas supplier and meter number		
Water supplier and meter number		
Telephone provider		
Local authority emergency services		
Insurance company 24-hour number and policy number		
Insurance agent		
Local radio station for news alerts and weather updates		
Companies that may be able to help you after a flood		
Electrician		
Plumber		
Builder		
Equipment repair/suppliers		
Security services		
Water pumping services		
Emergency power suppliers		

**Would you like to find out more about us,
or about your environment?**

Then call us on

08708 506 506* (Mon-Fri 8-6)

email

enquiries@environment-agency.gov.uk

or visit our website

www.gov.uk/environment-agency

incident hotline 0800 80 70 60 (24hrs)

floodline 0345 988 1188 (24hrs)

*** Weekday Daytime calls cost 8p plus up to 6p/min from BT Weekend Unlimited. Mobile and other providers' charges may vary.**

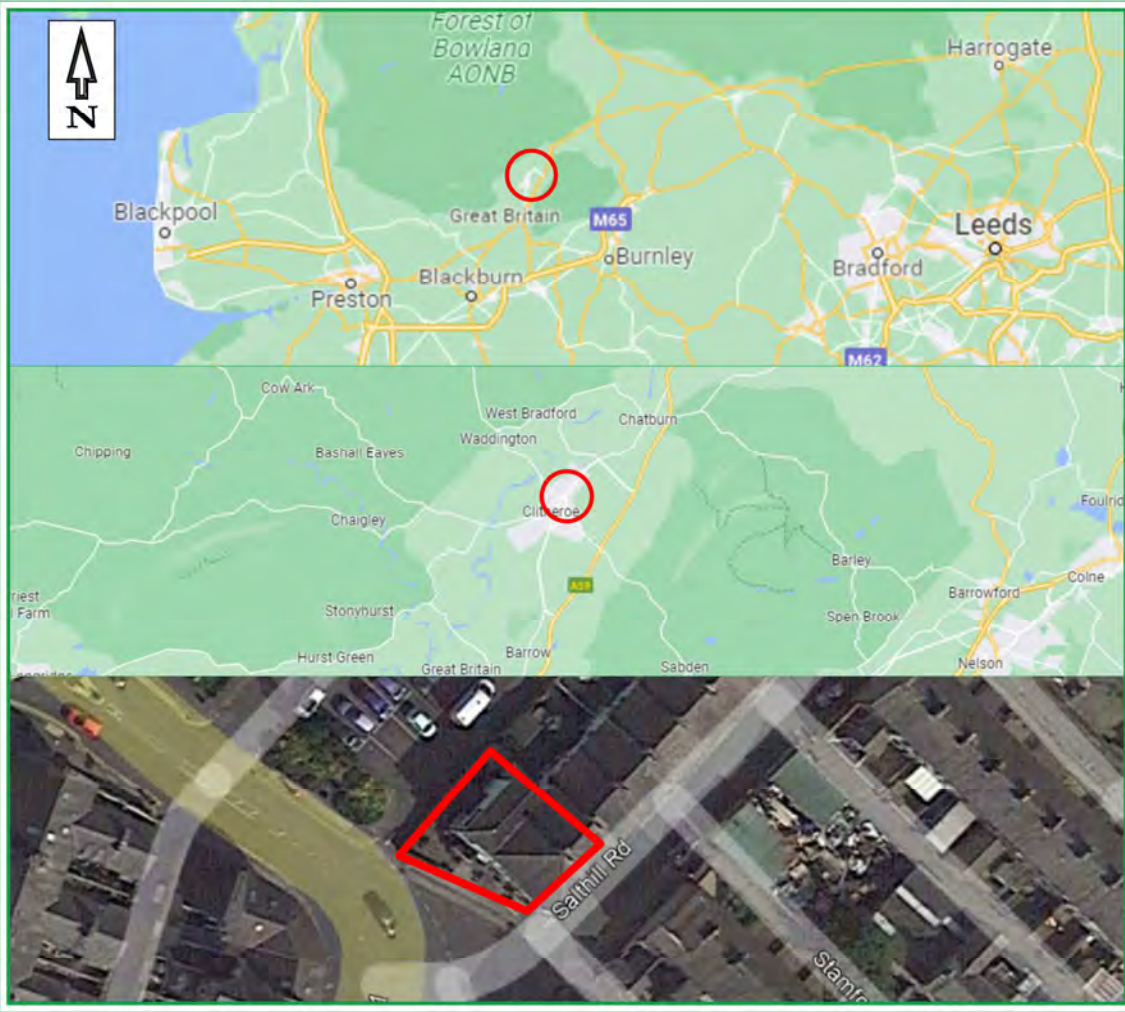


Environment first: Are you viewing this on-screen?

Please consider the environment and only print if absolutely necessary. If you're reading a paper copy, please don't forget to reuse and recycle if possible.

APPENDIX E

Drawings



LEGEND

— SITE LOCATION

REV	DESCRIPTION	DATE	BY



B&K ENVIRONMENTAL CONSULTING ENGINEERS
Suite One, No 3 Mitton Road Business Park,
Mitton Road, Whalley, Lancashire, BB7 9YE
Tel: 01254 377 622
Email: mbuckley@b-bekenviro.co.uk
Web: www.bekenviro.co.uk

CLIENT:
LEWIS MITCHELL SOLICITORS

JOB TITLE:
FORMER ROYAL OAK, WATERLOO ROAD, CLITHEROE

DRAWING TITLE:
SITE LOCATION PLAN

SCALE: A3. NTS	DRAWN BY: D.E.	APPROVED BY: M.B.	DATE: 06/04/23
DRAWING No. 23052-1			REV.



LEGEND

— SITE FOOTPRINT

REV	DESCRIPTION	DATE	BY



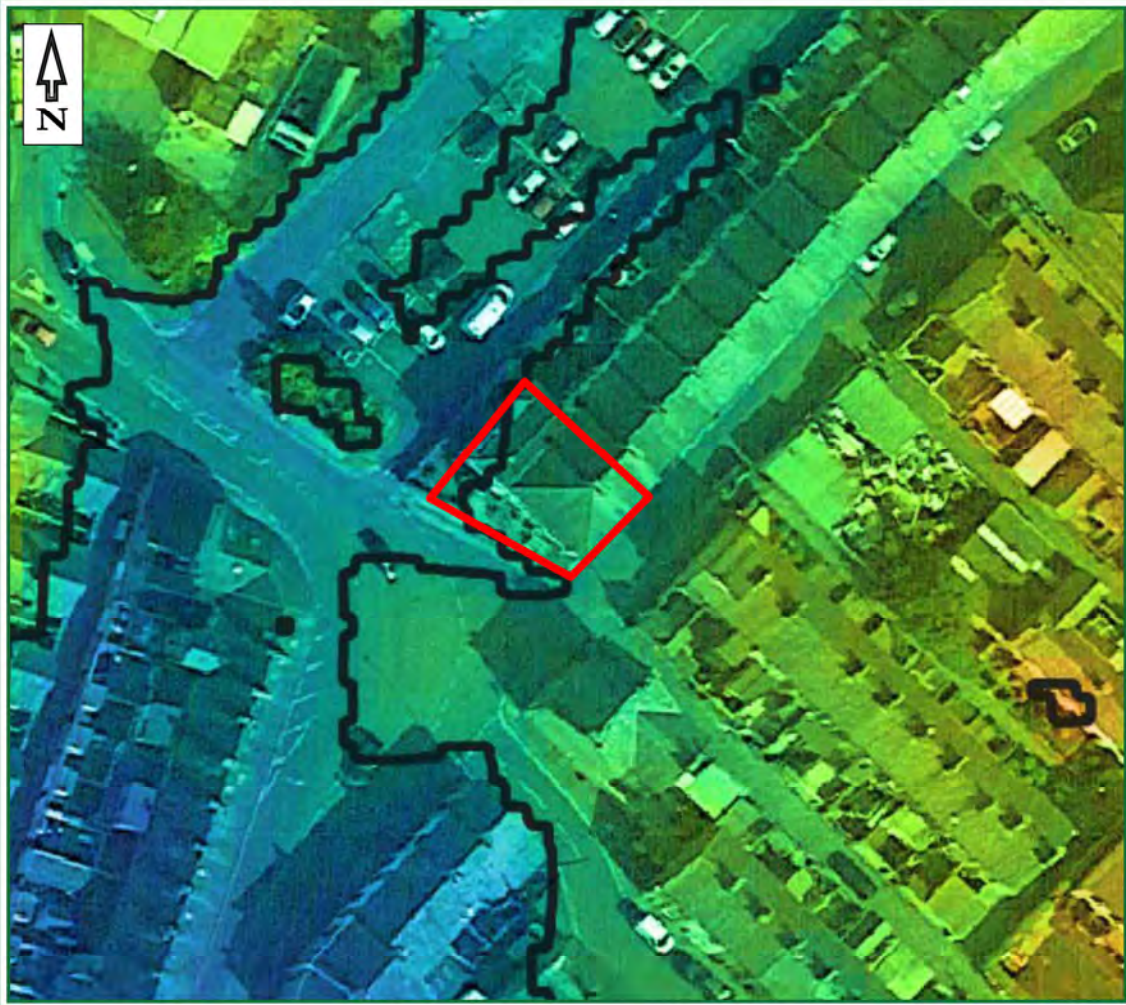
000 ENVIRONMENTAL CONSULTING ENGINEERS
Suite One, No 3 Mitton Road Business Park,
Mitton Road, Whalley, Lancashire, BB7 9YE
Tel: 01254 377 622
Email: mbuckley@bekenviro.co.uk
Web: www.bekenviro.co.uk

CLIENT.
LEWIS MITCHELL SOLICITORS

JOB TITLE.
FORMER ROYAL OAK, WATERLOO
ROAD, CLITHEROE

DRAWING TITLE.
SITE LAYOUT PLAN

SCALE. A3. NTS	DRAWN BY. D.E.	APPROVED BY. M.B.	DATE. 06/04/3
DRAWING No. 23052-2			REV. -



LEGEND



REV	DESCRIPTION	DATE	BY



BS&B ENVIRONMENTAL CONSULTING ENGINEERS
Suite One, No 3 Mitton Road Business Park,
Mitton Road, Whalley, Lancashire, BB7 9YE
Tel: 01254 377 622
Email: m.buckley@bskbenviro.co.uk
Web: www.bskenviro.co.uk

CLIENT:
LEWIS MITCHELL SOLICITORS

JOB TITLE:
FORMER ROYAL OAK, WATERLOO
ROAD, CLITHEROE

DRAWING TITLE:
LIDAR DATA

SCALE A3. NTS	DRAWN BY. D.E.	APPROVED BY. M.B.	DATE. 21/04/23
DRAWING No. 23052-3	REV. -		