

Flood Risk Assessment

RANCH HOUSE, HEAD DYKE LANE, POULTON-LE-FYLDE

February 2024

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RANCH HOUSE, HEAD DYKE LANE, POULTON-LE-FYLDE

Report Approved by D.W.Hadwin B.Eng(Hons) C.Eng MICE For Keystone Design Associates

Signature.....

Date...... 2nd February 2024......

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Flood Risk Assessment Report

1.0 Introduction

- 1.1 Keystone Design Associates Ltd have been commissioned to carry out a flood risk assessment for the proposed change of use at Ranch House, Head Dyke Lane, Poulton-le-Fylde. The scheme is detailed on the drawings attached as Appendix 1.
- 1.2 The proposal site is an existing two storey property with a single storey annex to the side which comprises of a lounge/dining room, kitchen and two bedrooms both with en-suites. The site is accessed directly off Head Dyke Lane.
- 1.3 The site in general is within Flood Zone 3.
- 1.4 A flood risk assessment is required to be prepared in relation to the development potential of the site and is a requirement of the Environment Agency.

2.0 Development Proposals

- 2.1 The development comprises of the change of use of the existing annex which is currently used in ancillary to the current property to residential.
- 2.2 The access to the development will be directly off Head Dyke Lane.

3.0 Environment Agency and Local Authority Contact

3.1 The Environment Agency's (EA) website allows the review of the potential flood risk for any particular site and an extract of the relative area is included as Appendix 2. The map shows that flood zone 3 covers and surrounds the proposed development. The risk of flooding arises from a potential breach of the river defences.

Flood Risk Assessment Report

4.0 Predicted Flood Levels

- 4.1 This FRA is informed specifically by the Product 4 data supplied by the EA which indicated that the site has no history of flooding. The Product 4 data is attached as Appendix 3.
- 4.2 The predicted flood levels for various events are provided by EA in the Product 4 data which covers a number of modelled scenarios. Data has been taken from the Product 4 Data as attached in appendix 3. The results of which are:

Tidal undefended 1.0% AEP is 5.64m AOD

Tidal undefended 0.5% AEP is 5.72m AOD

Tidal undefended 0.1% AEP is 5.95m AOD

Tidal undefended 0.5% AEP+ Climate Change (20%) + 370mm SLR is 6.12m AOD

Tidal undefended 0.5% AEP+ Climate Change (20%) + 670mm SLR is 6.67m AOD

Tidal undefended 0.5% AEP+ Climate Change (20%) + 970mm SLR is 7.06m AOD

- 4.3 Table 3: sea level allowances from the flood risk assessment: climate change allowances guidance shows that the total potential cumulative rise from 2000 to 2125 anticipated is 1.01m for the North West. The 1 in 200 year flood level is 7.06m AOD including Climate Change and 970mm sea level rise. Therefore, including the cumulative rise it provides a flood level for a 1 in 200 year event + climate change and 970mm SLR of 7.36m AOD.
- In the unlikely event of a breach of the existing flood defences during an extreme return period tidal flood, inundation of the Poulton-le-Fylde area and potentially the development may occur. The flood risk to the development would be dependent upon a number of factors including the magnitude of the event, location and extent of the breach and the timing of the emergency response. It is important to highlight that the likelihood of such a potentially catastrophic event is extremely remote.

5.0 Existing Flood Defence Works

5.1 The site is protected from tidal flooding by defences. The tidal defences are being maintained by the Environment Agency & private owners. A brief description of each of the defence lengths is summarised below.

Asset	Asset Type	Standard	Current
ID		of	Condition
		Protection	
		(Years)	
45543	Engineered High Ground	25	Fair
66553	Engineered High Ground	25	Fair
67081	Engineered High Ground	25	Fair
64202	Engineered High Ground	25	Fair
92306	Engineered High Ground	25	Fair
92140	Engineered High Ground	25	Fair

6.0 Flood Precaution & Limitation Measures

- 6.1 We confirm that the floor level to the proposed is the same or higher than that of the existing building and that the following flood proofing measures will be implemented as part of the scheme.
 - Electrical services, wiring and switches/outlets will be positioned at a minimum height of 900mm above the finished floor levels. Incoming main services are to be terminated at a minimum of 900mm above floor level.
 - Where practicable ovens and other electrical appliances will be positioned on raised floor levels or individual plinths
 - Ground floors should be of a solid construction and to be 150mm thick with a screed finish.
 - All manhole covers shall be lockable.
 - Removable flood water entry barriers will be considered at all entrance doors and windows 1.0m above floor level.

Residents will have access to the Environment Agency's existing flood early warning system; Occupiers will also be issued with guidance on what actions to take in the event of a warning including the closest area of high ground.

Flood Risk Assessment Report

7.0 Conclusion

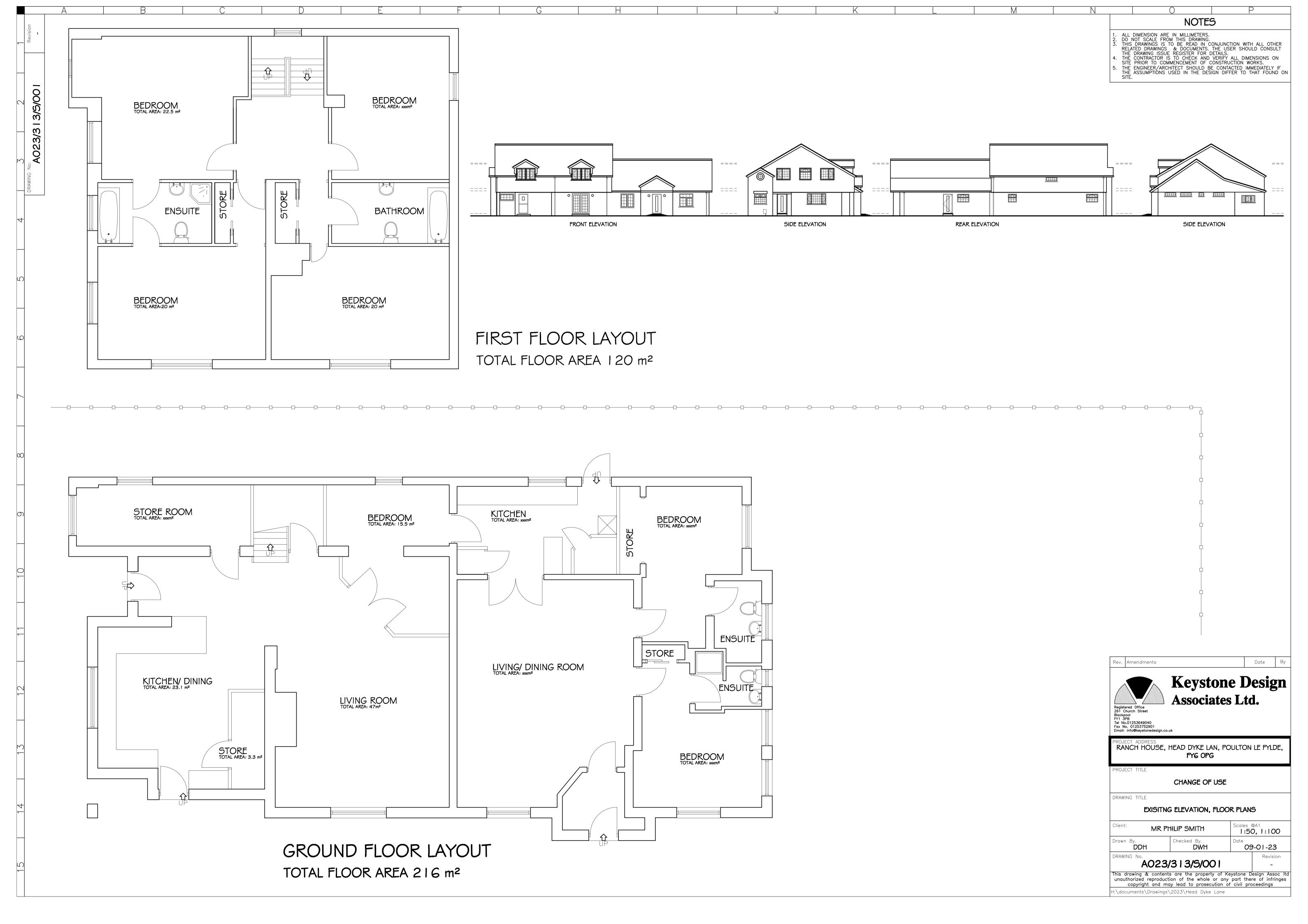
- 7.1 The existing flood defence systems in place together with the strategic plans to maintain them have resulted in no recorded flooding on this site.
- 7.2 The development is for works to an existing property.
- 7.3 The flood mitigation measures will provide additional protection should for any reason a flood occur.
- 7.4 The proposal does not adversely affect flood risk elsewhere. The nature of the site, being fully built up, does not allow for any positive improvement of flood risk elsewhere.
- 7.5 In the unlikely event of a breach of the existing flood defences during an extreme return period tidal flood, inundation of the Poulton-le-Fylde area and potentially the development may occur. The flood risk to the development would be dependent upon a number of factors including the magnitude of the event, location and extent of the breach and the timing of the emergency response. It is important to highlight that the likelihood of such a potentially catastrophic event is extremely remote.
- 7.6 It is considered that there is no immediate risk of flooding to the proposed site.

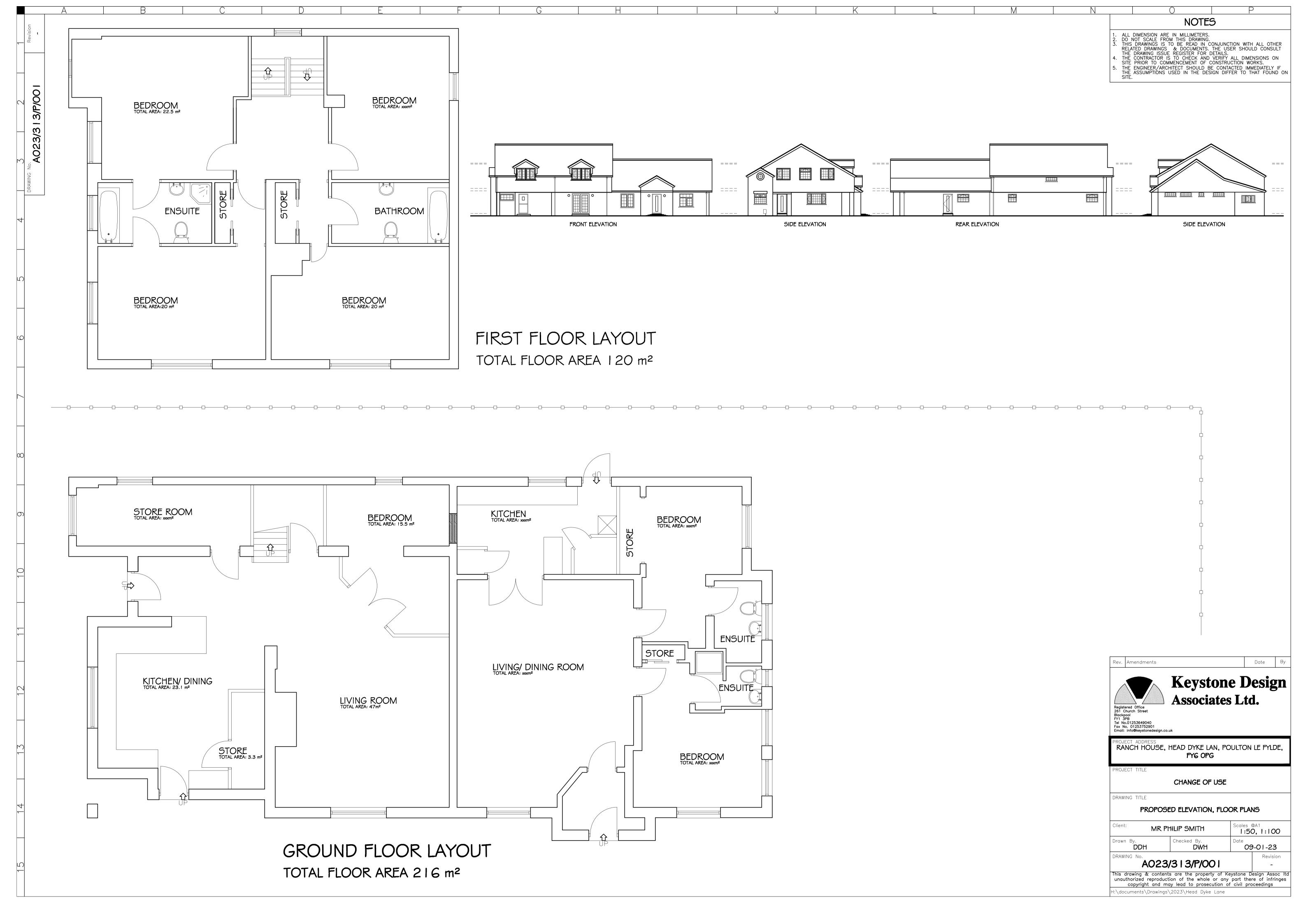
APPENDICES

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1	Proposed Works Drawing
2	Flood Map
3	Flood Risk Data (Product 4)
4	Flood Warning & Evacuation Plan

APPENDIX 1 PROPOSED WORKS DRAWING





APPENDIX 2 FLOOD MAP

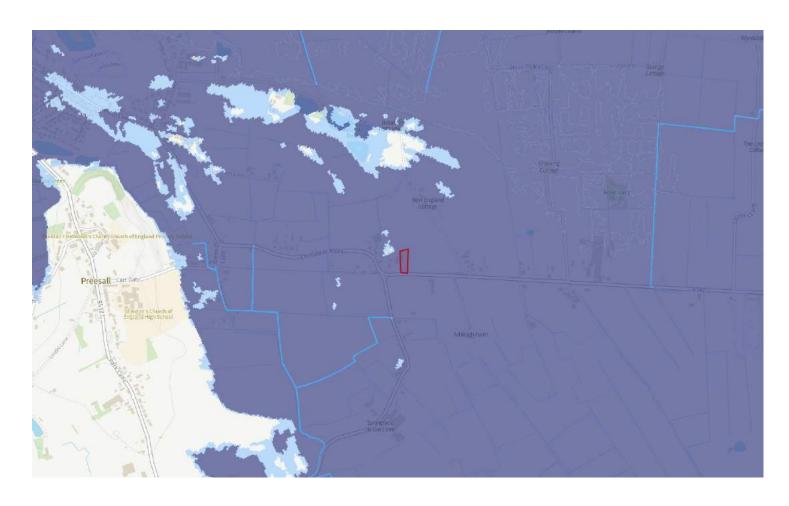


Fig 1 Extract from Environment Agency Flood Map

APPENDIX 3 FLOOD RISK DATA (PRODUCT 4)

Flood risk assessment data



Location of site: 337867 / 447217 (shown as easting and northing coordinates)

Document created on: 2 February 2024

This information was previously known as a product 4.

Customer reference number: JYVGKMCB85R2

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)
- · 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

Information that's unavailable

This document does not contain:

historic flooding

We do not have historic flooding data for this location.

Please note that:

- 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 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.

Surface water and other sources of flooding

Use the <u>long term flood risk service</u> 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: Lune Estuary Tidal 2014

Scenario(s): Defences removed tidal, defended climate change tidal, defences removed

climate change tidal Date: 30 July 2014

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

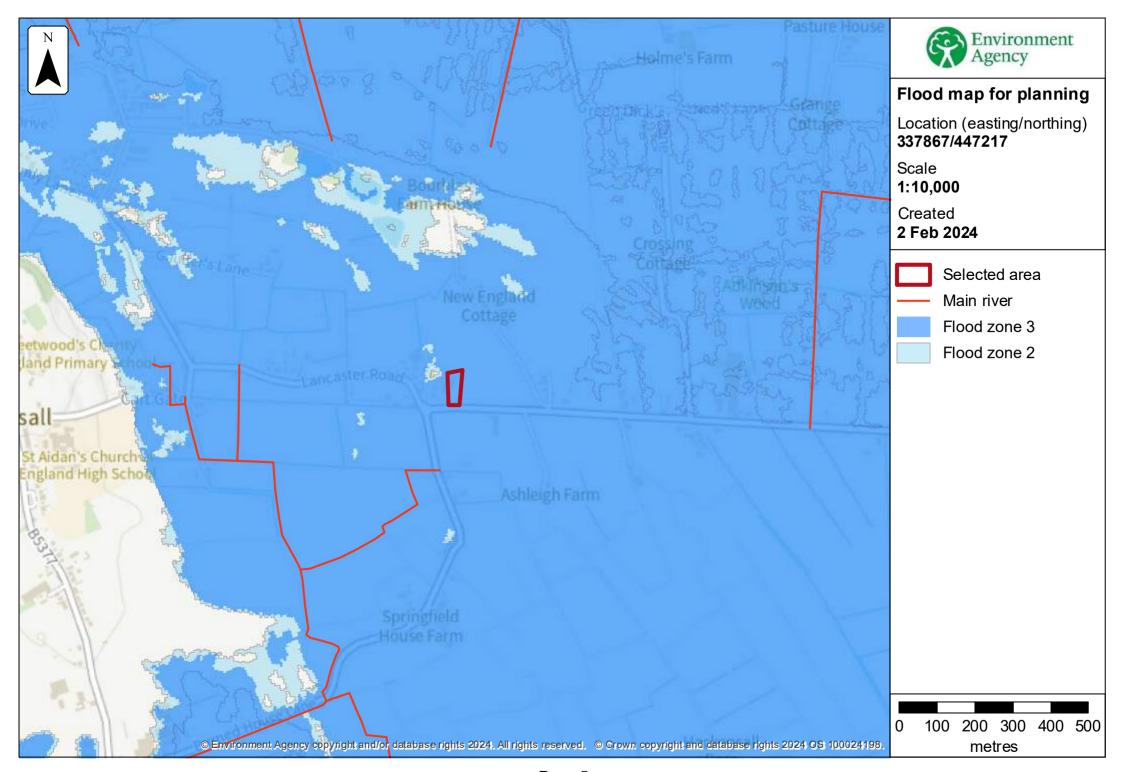
Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- 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.



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Flood defences and attributes

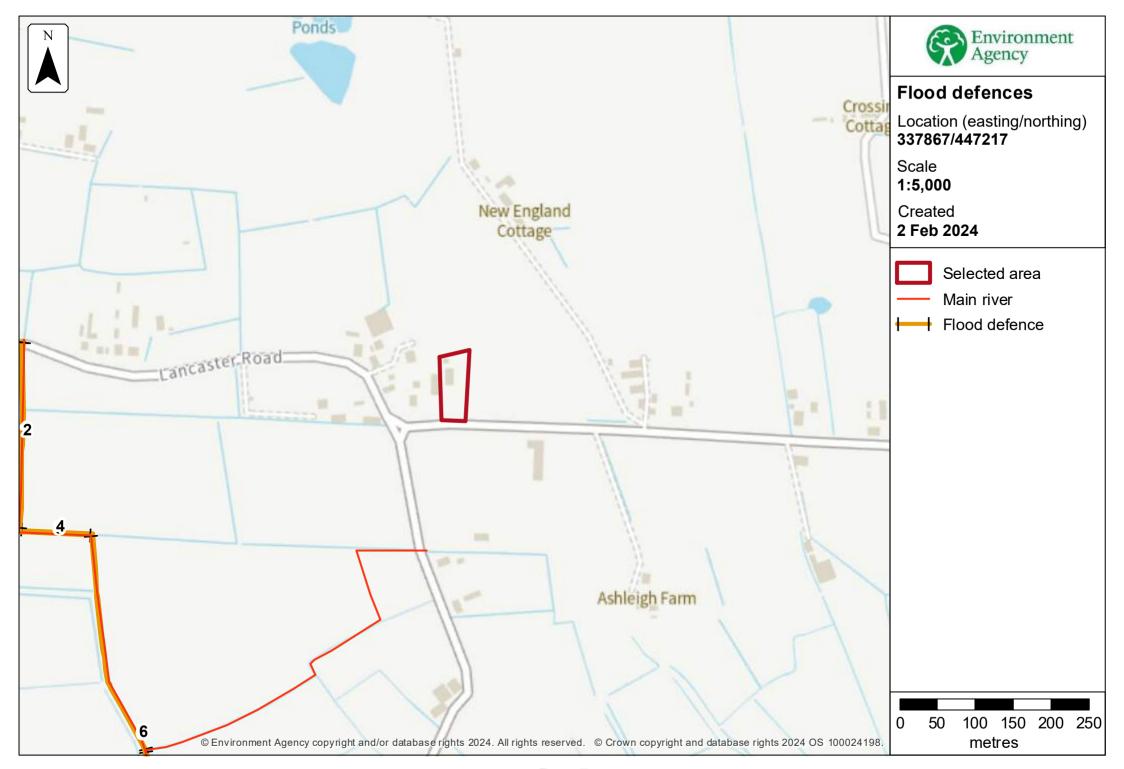
The flood defences map shows the location of the flood defences present.

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



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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	45543	Engineered High Ground	25	Fair			
2	66553	Engineered High Ground	25	Fair			
3	67081	Engineered High Ground	25	Fair			
4	64202	Engineered High Ground	25	Fair			
5	92306	Engineered High Ground	25	Fair			
6	92140	Engineered High Ground	25	Fair			

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

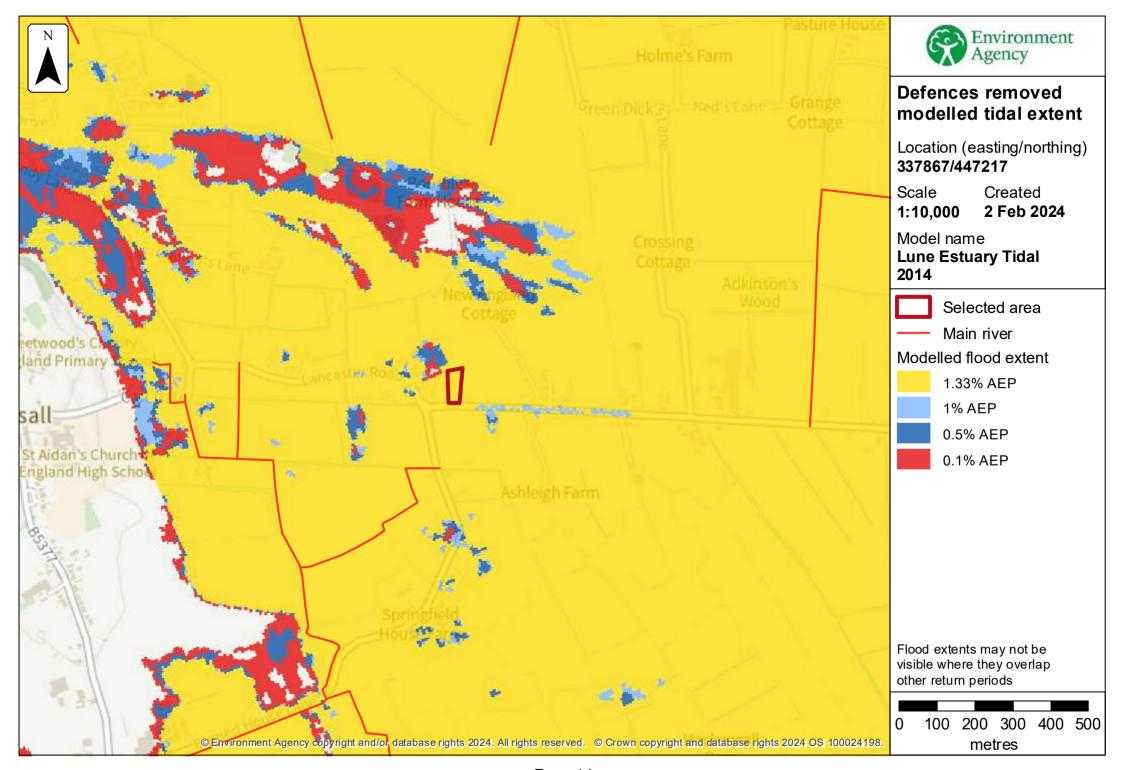
The climate change data included in the models may not include the latest <u>flood risk</u> <u>assessment climate change allowances</u>. Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

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.

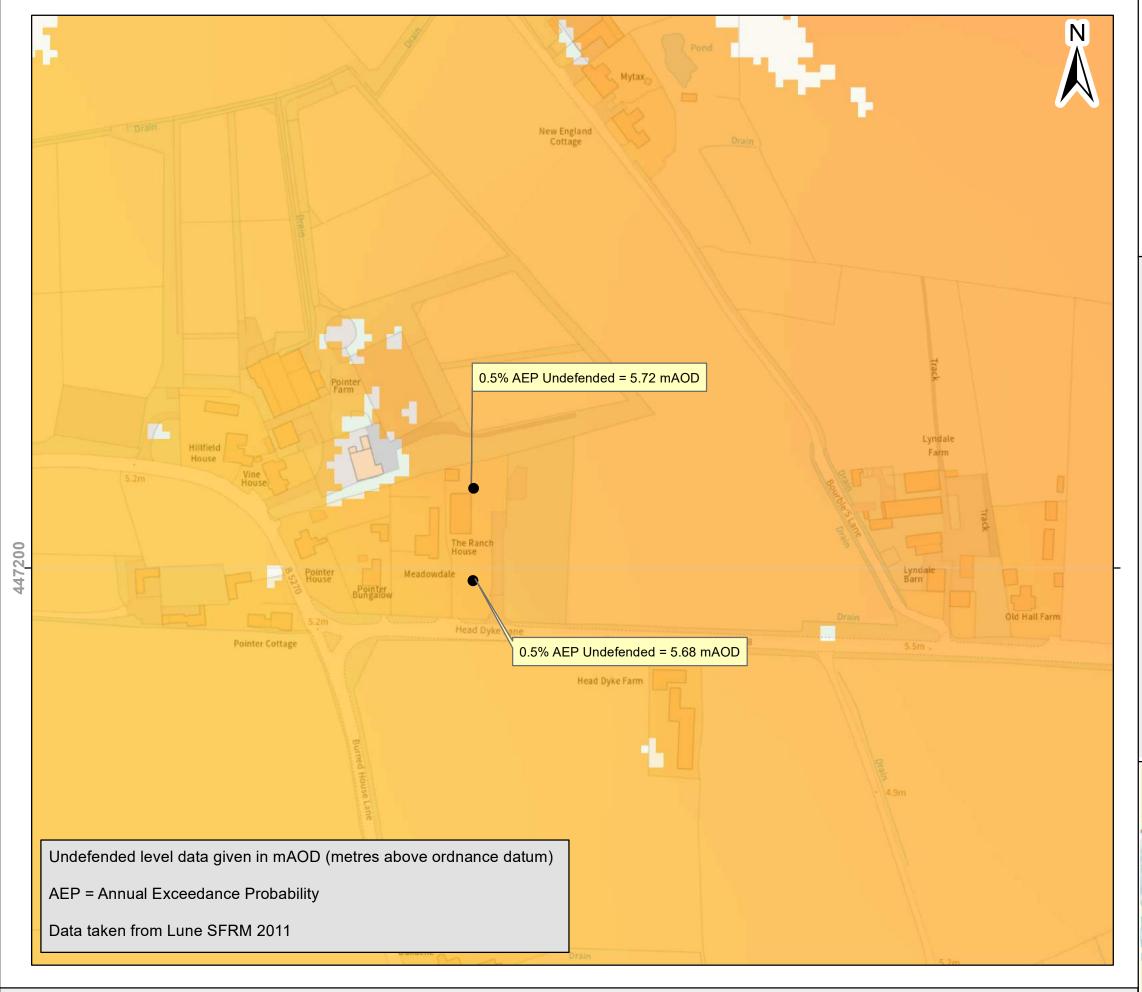
Modelled scenarios

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 modelled tidal: risk of flooding from the sea where there are flood defences
- Defences removed modelled tidal: risk of flooding from the sea 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 climate change modelled tidal: risk of flooding from the sea where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled tidal: risk of flooding from the sea where flood defences have been removed, including estimated impact of climate change



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Key

0.5% AEP Undefended

Value



High: 7

Low : 0

Pilling Lane

Wheel Foot Watercourse

Smallwood Hey

Sponds

Preesall

Preesall

Stalmine

Stalmine

Watercourse

Stalmine

Watercourse

Moor End

Moor End

Wheel Foot Watercourse

Fisher

Smallwood Hey

Scrool

New Lane Wood

Head Dyke

Wood

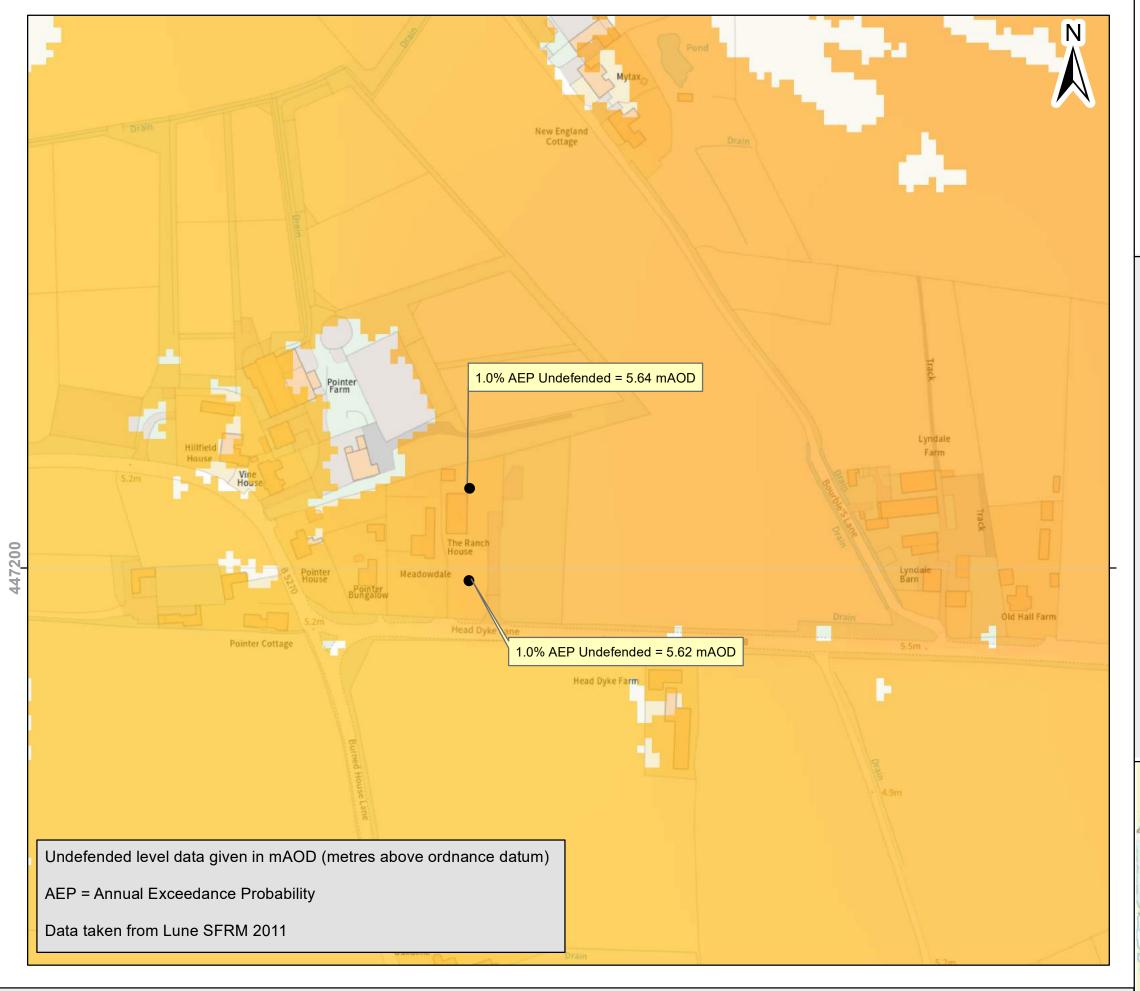
Stalmine

Watercourse

Watercourse

Moor End

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Key

1.0% AEP Undefended

Value

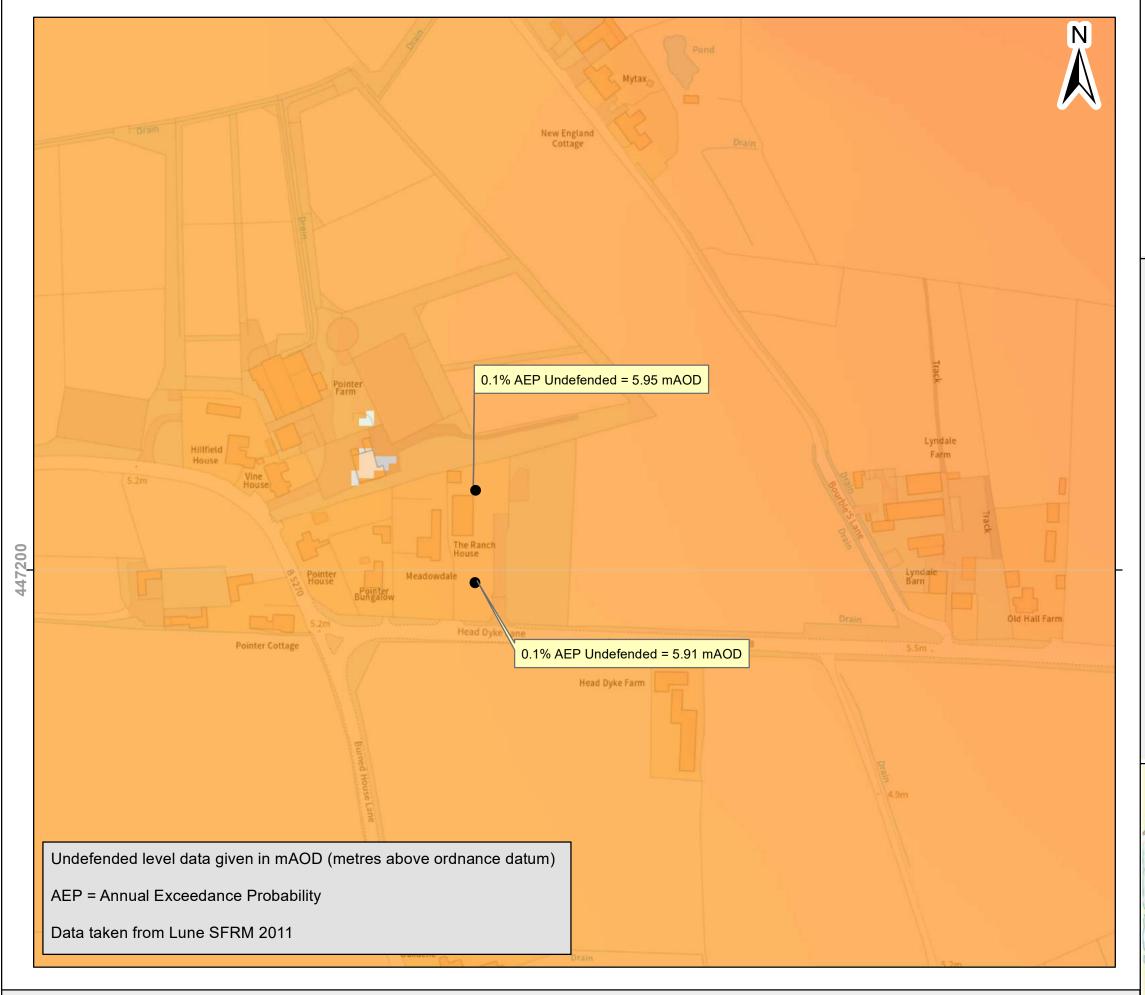


High: 7

Low: 0



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Key

0.1% AEP Undefended

Value



High: 7

Low: 0

Pilling Lane

Wheel Foot Watercourse

Smallwood Hey

Spands

Preesall

Preesall

Stalmine

Stalmine

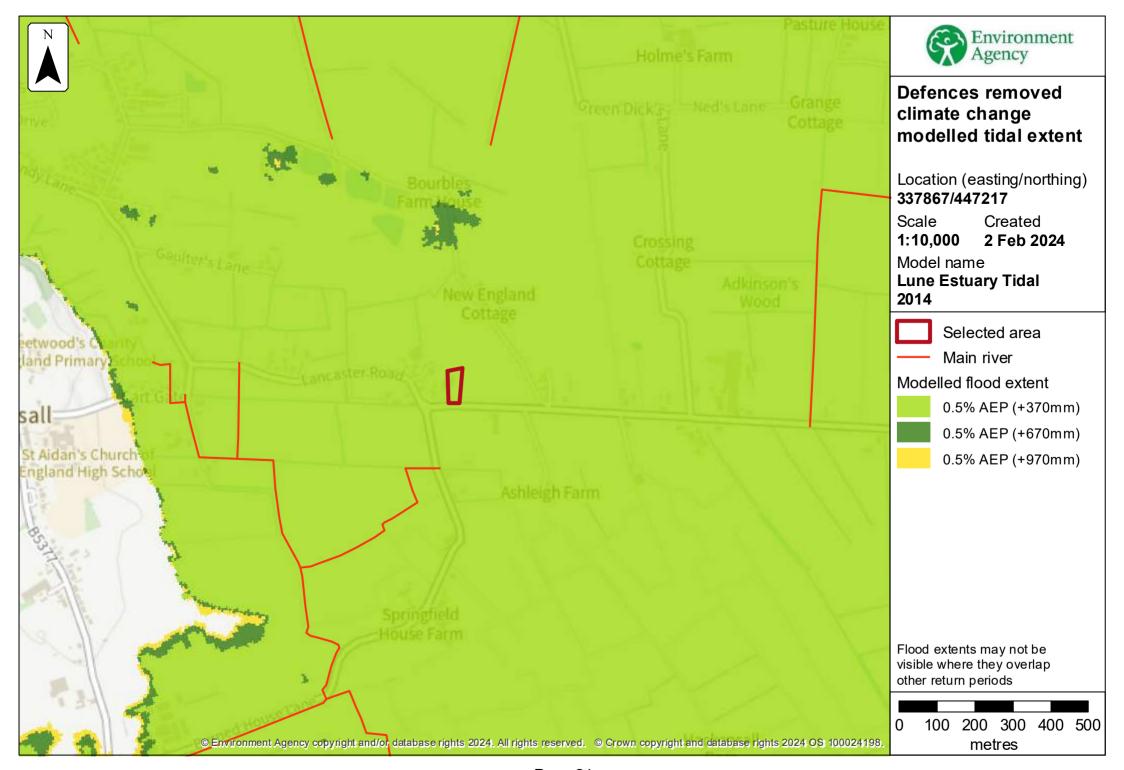
Watercourse

Stalmine

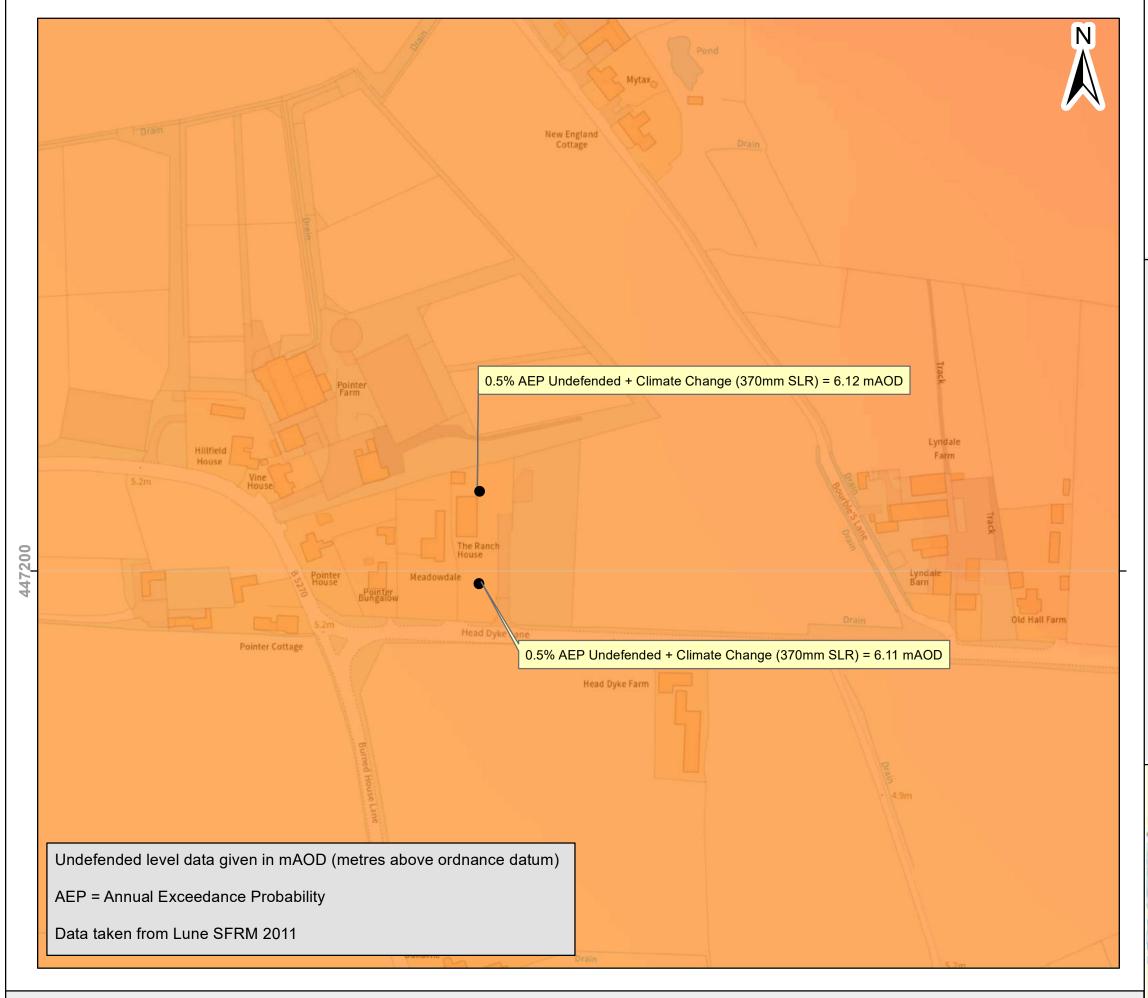
Watercourse

Moor End

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Key

0.5% AEP Undefended + Climate Change (370mm Sea Level Rise)

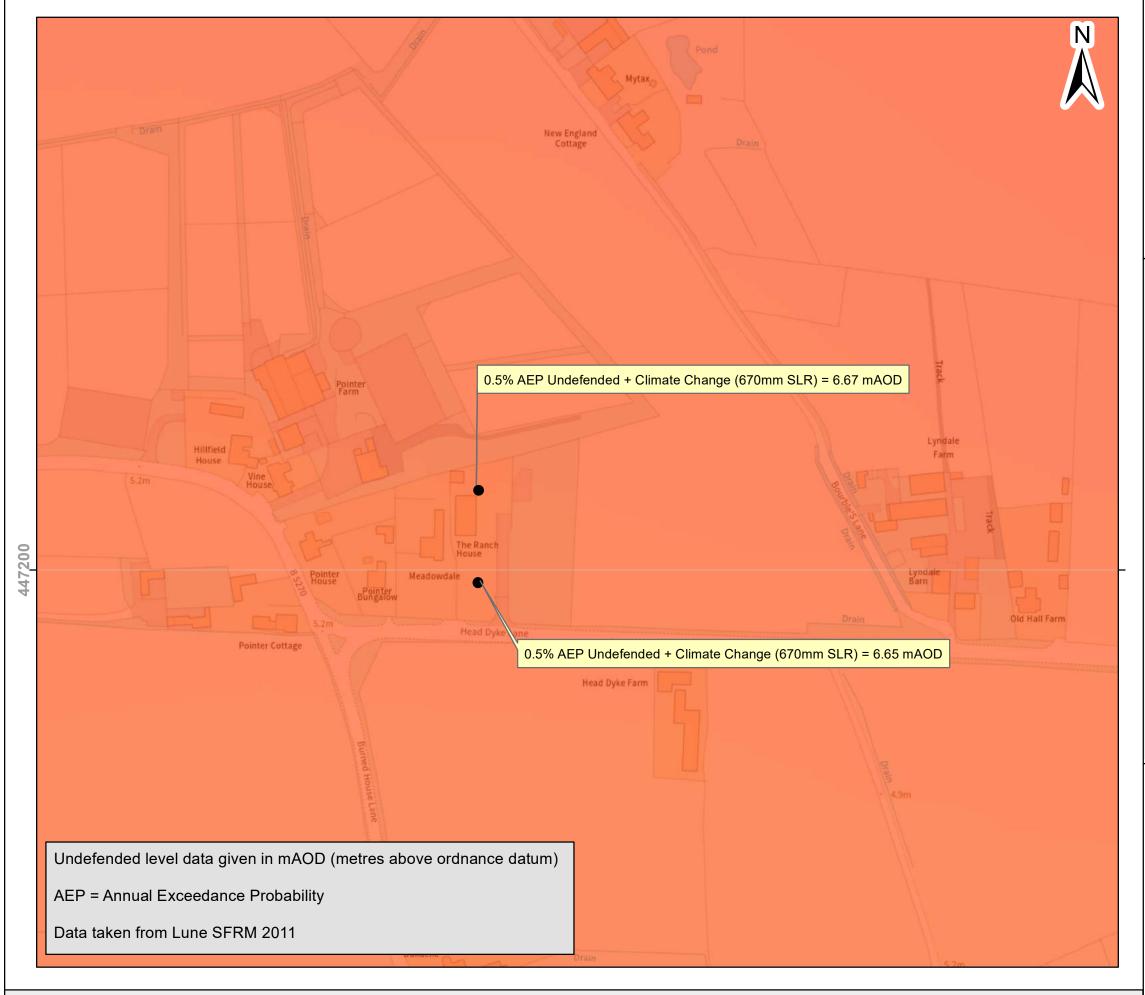


High: 7

Low: 0

Pilling Lane

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Key

0.5% AEP Undefended + Climate Change (670mm Sea Level Rise)

Valu



High: 7

Low : 0

Pilling Lane

Wheel Foot Watercourse

Smallwood Hey

Sponds

Preesall

Scrol

New Lane Wood

Head Dyke
Wood

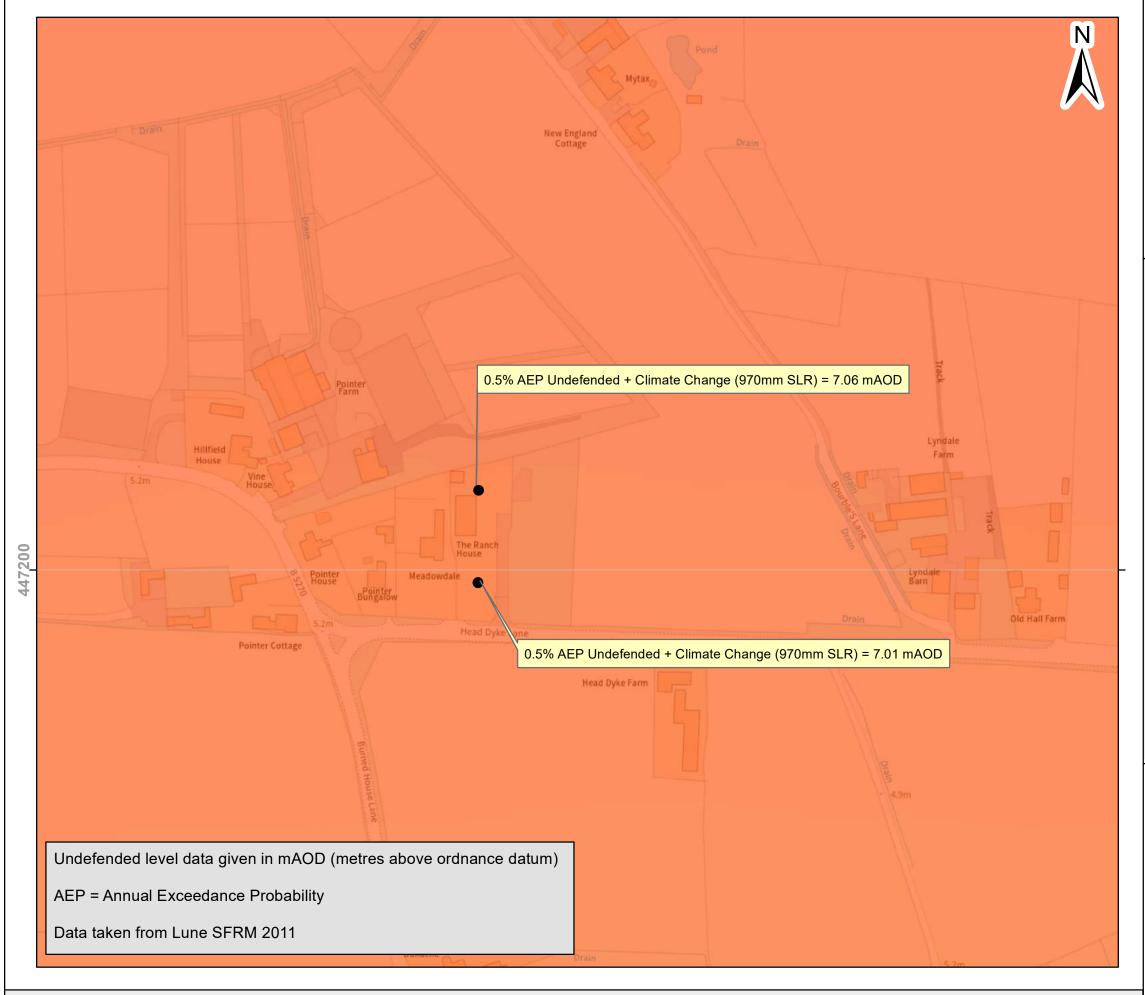
Stalmine

Stalmine

Watercourse

Moor End

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Key

0.5% AEP Undefended + Climate Change (970mm Sea Level Rise)

Valu



High: 7.5

Low : 0

Pilling Lane
Wheel Foot Watercourse

Smallwood Hey

Spandy Spands

Stalmine

Stalmine

Watercourse

Stalmine

Watercourse

Stalmine

Watercourse

Moor End

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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 4 FLOOD WARNING & EVACUATION PLAN



Flood Warning & Evacuation Plan

RANCH HOUSE, HEAD DYKE LANE, POULTON-LE-FYLDE

February 2024

Development House 261 Church Street Blackpool FY1 3PB Tel: 01253 649040 Fax: 01253 752901 Email: info@keystonedesign.co.uk

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- 8. Action to be taken
- 9. Evacuation
- 10. Invacuation
- 11. Stand Down
- 12. Site Re-Occupation
- 13. Useful Sources of Information

Flood Warning & Evacuation Plan

1.0 Introduction

This Flood Warning & Evacuation Plan (FWEP) has been produced by Keystone Design Associates Ltd in respect of the development for the change of use at Ranch House, Head Dyke Lane, Poulton-le-Fylde.

The FWEP captures a summary of the property's flood risk, taking into account flood mitigation measures incorporated in the design of the site and properties, and provides all relevant information, contact details and procedures to prepare for, respond to and recover from a flood event.

This is a plan to ensure the effective evacuation of Ranch House, Head Dyke Lane, Poulton-le-Fylde in the event of a flood.

2.0 Objectives

In the production of this FWEP Keystone Design Associates Ltd have identified the following key objectives:

- To ensure adequate ingress and egress for the emergency services & occupants; and
- Reduce the risk to life and damage to property.

3.0 Description of the Site

The development comprises of a two storey property with a single storey annex to the side situated on Head Dyke Lane, Poulton-le-Fylde between Lancaster Road and Bourble's Lane. The site is accessed directly off Head Dyke Lane and lies within Flood Zone 3.



Flood Warning & Evacuation Plan

4.0 Key Points from Flood Risk Assessment

The development site lies within Flood Zone 3 of the Environment Agency Flood Map, Flood Zone 3 being the zone with risk of 1 in 100 year (1% AEP) or less for fluvial flooding or 1 in 200 year (0.5% AEP) or less for tidal flooding.

5.0 Prevention

The development is for works to an existing property, therefore no further prevention is required.

6.0 Protection

No protection is required as the development is an existing property.

7.0 Preparation

The works will be constructed in accordance with the FRA flood resistance requirements. A copy of this plan will be kept on-site throughout the life of the building.

8.0 Flood Warnings

The following action will be taken for each flood warning.

Warning	Message	Timing	Action
FLOOD ALERT	Flooding is possible. Be prepared.	2 hours to 2 days in advance of flooding.	Be prepared for flooding.Prepare a flood kit.
FLOOD WARNING	Flooding is expected. Immediate action required.	Half an hour to 1 day in advance of flooding.	 Act now to protect your property. Block doors with flood boards or sandbags and cover airbricks and other ventilation holes. Move pets and valuables to a safe place. Keep a flood kit ready. Move any critical equipment and information to a safe location

Flood Warning & Evacuation Plan

SEVERE FLOOD WARNING	Severe flooding. Danger to life.	When flooding poses a significant threat to life and different actions are required.	 Be ready should you need to evacuate from the property. Co-operate with the emergency services and call 999 if you are in immediate danger.
Warning Removed	No further flooding is currently expected for your area.	Issued when a flood warning is no longer in force.	 Flood water may still be around and could be contaminated. If you've been flooded, ring your buildings and contents insurance company as soon as possible.

9.0 Who to Inform and How

The Environment Agency's flood risk early warning system will contact Mr Smith. Mr Smith has also signed up to the Environment Agency Flood Warning Scheme at https://www.gov.uk/sign-up-for-flood-warnings.

Flood Warning & Evacuation Plan

10.0 Action to be taken in the event of an Alarm Raised or Flood Warning received

- 1) If a flood warning is received:
 - a) Raise the alarm and evacuate the property to a point of safety above the flood, this is considered to be St Aidan's Church of England High School, Cart Gate, Preesall, Poulton-le-Fylde, FY6 0NP.
 - b) Contact the Emergency Services (999) if necessary
 - c) If safe to do so, locate and turn off key services e.g. water, gas & electricity.
 - d) Following enquiries/assessment the house should either be invacuated, evacuated or stood down.



Flood Warning & Evacuation Plan

11.0 Evacuation

2) In the unlikely event that evacuation is required, with having received notice from the Environment Agency, evacuation to a point of safety at St Aidan's Church of England High School, Cart Gate, Preesall, Poulton-le-Fylde is necessary. If the site starts to flood whilst the property is occupied, immediate action is for all occupants to go to the first floor and contact the emergency services (999) and await rescue.

12.0 Invacuation

3) If warning has been received but the site has not yet started to flood and the property is occupied, immediate action is to invacuate to the first floor of the property or an area outside of the flood zone.

13.0 Stand Down

Following confirmation from the Environment Agency, the decision can be taken to stand down. In this eventuality, the property should return to normal following the agreed reoccupation procedure.

14.0 Site Reoccupation

Site Reoccupation cannot be done initially following a flood due to contamination from flood water. The owners are to contact their insurers and complete a claim. It is envisaged that the owners insurance will lead to the reinstatement of the property, decontamination and arrange suitable alternative accommodation.

Flood Warning & Evacuation Plan

15.0 Useful Sources of Information

Am I at Risk of Flooding?

http://www.environment-agency.gov.uk/homeandleisure/floods/31650.aspx

Floodline Warnings Direct

https://fwd.environment-agency.gov.uk/app/olr/register

Prepare a Flood Plan for your Business

http://www.environment-agency.gov.uk/business/topics/flooding/32362.aspx

Business Flood Checklist

http://www.environment-agency.gov.uk/business/topics/flooding/32358.aspx

Make an Emergency Flood Plan for your Home

https://www.gov.uk/government/publications/personal-flood-plan

Preparing your home or business for flooding

http://www.environment-agency.gov.uk/homeandleisure/floods/31644.aspx

Improving the flood performance of new buildings: flood resilient construction.

http://www.communities.gov.uk/publications/planningandbuilding/improvingflood

Improving the flood resistance of your home - advice sheets

http://www.ciria.com/flooding/pdf/CIRIA_Advice_sheet_3.pdf

Flood Protection Association (Promote the interests of manufacturers and installers of flood protection equipment and requirements)

https://thefpa.org.uk/

Direct Gov Preparing for emergencies

https://www.gov.uk/government/publications/preparing-for-emergencies/preparing-for-emergencies

UK Resilience

http://www.cabinetoffice.gov.uk/ukresilience.aspx