

# Flood Risk Assessment

2 Pear Tree Cottage, The Street, Crudwell, Wiltshire, SN16  
9ES

27 February 2026

William Cook



# Document Control

|                  |                                                                                        |
|------------------|----------------------------------------------------------------------------------------|
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## Contents

|   |                                     |    |
|---|-------------------------------------|----|
| 1 | Introduction.....                   | 2  |
| 2 | Site Overview.....                  | 4  |
| 3 | Past Flooding.....                  | 7  |
| 4 | Flood Risk Evaluation.....          | 9  |
| 5 | Flood Risk in Planning Context..... | 18 |
| 6 | Conclusion.....                     | 22 |

## Appendices

|            |                      |
|------------|----------------------|
| Appendix A | Site Location        |
| Appendix B | Proposed Development |
| Appendix C | EA Response          |

## Distribution

William Cook

Client





## Executive Summary

Ashfield Flood Risk Solutions ("Ashfield") were commissioned by William Cook ("the client") to undertake a Flood Risk Assessment ("FRA"), for 2 Pear Tree Cottage, The Street, Crudwell, Wiltshire, SN16 9ES ("the site"). This report has been prepared in support of a retrospective planning application seeking consent for the shepherd's hut in use as a holiday letting. The proposed shepherd's hut is to be raised approximately 0.35m above external ground levels.

The Environment Agency's (EA) Risk of Flooding from River and Seas (RoFRS) mapping indicates that the shepherd's hut is projected to be at risk of fluvial flooding across the medium and low probability scenarios in the present day scenario. However, the flood depths are projected to be less than 0.2m across both modelled scenarios. When accounting for climate change, fluvial flooding is projected to encroach upon the shepherd's hut footprint in the high probability scenario and at the shepherd's hut in the medium and low probability scenarios. Flood depths across the high, medium and low probability scenarios at the shepherd's hut are projected to be less than 0.2m when accounting for climate change. Ashfield requested the latest flood model data from the EA that relates to the site. Unfortunately, in this instance, the EA do not hold any detailed flood risk modelling in this location (Ref: EIR2026/04135). The overall risk of fluvial flooding is moderate.

The EA's Risk of Flooding from Surface Water (both present day and accounting for climate change) mapping, indicates that the site is not projected to be at risk of flooding from surface water across high, medium and low probability scenarios. There have been no historical accounts of flooding reported at or within the vicinity of the site. Therefore, the overall risk of surface water flooding affecting the site is low.

The risk of flooding from groundwater and artificial sources is low, with the risk of tidal and reservoir failure being negligible at the proposed shepherd's hut.

The development is classified as 'more vulnerable' and located within Fluvial Flood Zone 2. The following key design principles outlined in Section 5.3 and summarised below should be incorporated into the design to enhance the flood resilience of the site:

- **Raising of Shepherd's Hut:** Wherever practicable, the shepherd's hut should be raised 0.5m above external ground levels. This will provide shepherd's hut with a 0.3m freeboard allowance above the projected flood depths at the site.

These recommendations seek to negate any outstanding flood risk in line with Communities and Local Government Guidance. This report therefore demonstrates that by incorporating the recommended key design principles, the shepherds hut:

- Is suitable in the location proposed and will be adequately flood resistant and resilient;
- Is unlikely to place additional persons at risk of flooding upon the implementation of an appropriate Flood Warning and Evacuation Plan; and
- Is unlikely to increase flood risk elsewhere as a result of the proposed development through the loss of floodplain storage, impedance of flood flows or increase in surface water runoff.



# 1 Introduction

## 1.1 Authorisation and Context

Ashfield Flood Risk Solutions ("Ashfield") were commissioned by William Cook ("the client") to undertake a Flood Risk Assessment ("FRA"), for 2 Pear Tree Cottage, The Street, Crudwell, Wiltshire, SN16 9ES ("the site"). The site location is illustrated in Figure 1.

This report has been prepared in support of a retrospective planning application seeking consent for the shepherd's hut in use as a holiday letting. The existing and proposed plans can be seen within Appendix A for context and will be discussed further in Section 1.3. The details of standard limitations of this report are included within Section 1.5.

Figure 1 - Site Location



## 1.2 Aim and Objectives

The aim of this assessment is to provide a site-specific appraisal of flood sources, hazards, and mitigation options, aligned with current technical guidance. It follows the National Planning Policy Framework (NPPF) as the core framework for evaluating and managing flood risk. The objectives of this assessment are:

- Assess whether the proposed development is likely to be affected by flooding now and in the future because of Climate Change; and,
- Where required, present flood mitigation measures necessary to keep the proposed development and occupants safe.



## 1.3 Development Proposals

Retrospective planning permission is being sought for the construction of a single-storey shepherd's hut for use as a holiday letting. The shepherd's hut comprises of a single storey building, with sleeping accommodation, kitchen and bathroom. The total developed footprint of approximately 12m<sup>2</sup>. The proposed shepherd's hut is to be raised approximately 0.35m above external ground levels.

## 1.4 Information Sources

To prepare this FRA, the following information sources and general guidance documents have been used:

- National Planning Policy Framework (NPPF), Flood Risk and Coastal Change Planning Practice;
- Proposed Shepherd's Hut (Ref: 7807-GA-20) – Hookmason Consulting, April 2021;
- Proposed Shepherd's Hut elevations – William Cook, date unknown;
- Wiltshire Council Preliminary Flood Risk Assessment (PFRA) – Wiltshire Council, June 2011;
- Wiltshire Council PFRA Addendum – Wiltshire Council, December 2017;
- Wiltshire Council Strategic Flood Risk Assessment (SFRA) Level 1 – JBA Consulting, November 2024
- Wiltshire Council Strategic Flood Risk Assessment (SFRA) Level 2 – JBA Consulting, February 2025
- Wiltshire Council Local Flood Risk Management Strategy (LFRMS) – Wiltshire Council, April 2015;
- 1m resolution LiDAR data – downloaded online February 2026;
- Environment Agency interactive flood maps – accessed online February 2026; and,
- British Geological Survey (BGS) Drift & Geology Maps - accessed online February 2026.

## 1.5 Report Limitations

This assessment of flood risk is based on the latest available open government flood mapping data. The site boundary has been supplied by the client and the assessment of risk is based on this. This report has been prepared with due care and diligence in accordance with industry best practice and guidance. The conclusions are valid only to the extent that the information provided to Ashfield was accurate and complete at time of receipt.



## 2 Site Overview

### 2.1 Site Setting

The site is located in the postcode SN16 9ES and occupies an area of approximately 947.5m<sup>2</sup> (0.095 ha). The site is located in the village of Crudwell, Wiltshire. The site comprises a residential dwelling and is accessed the A429, adjacent to the western site boundary. Surrounding land uses are summarised in Table 1.

Table 1 - Surrounding land uses

|       |                        |
|-------|------------------------|
| North | Residential dwellings. |
| West  |                        |
| East  | Green spaces.          |
| South |                        |

### 2.2 Site Topography

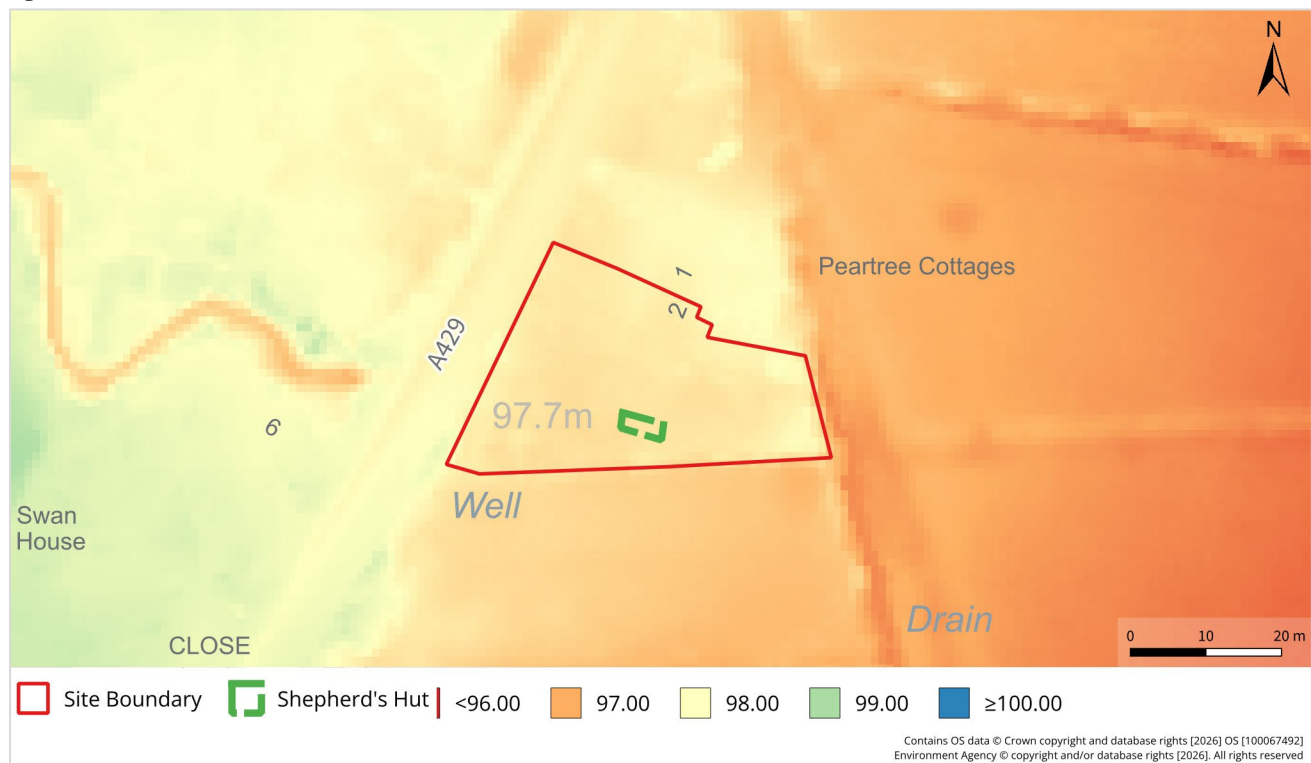
In the absence of a topographic survey, 1m resolution Light Detection and Ranging (LiDAR) data has been downloaded for the site and local area. A visual illustration of the LiDAR is presented in Figure 2.

The LiDAR data indicates that ground levels across the wider area generally fall towards the east. Within the site boundary, the highest ground level (98.07mAOD) is located along the eastern boundary adjacent to a land drain, while the lowest ground level (97.61mAOD) occurs in the south-western part of the site. Overall, ground levels across the site vary by approximately 0.46m.

At the proposed shepherd's hut location, ground levels range from 97.71mAOD along the southern side to 97.61mAOD along the western side. As previously stated, the shepherd's hut will be raised approximately 0.35m above existing external ground levels. Accordingly, finished floor levels will be set at a minimum of 97.96mAOD.



Figure 2 - LiDAR Derived Ground Levels



## 2.3 Local Hydrology

The nearest Environment Agency (EA) designated Main River to the site is an unnamed tributary of a Braydon Brook located approximately 156m east of the site. This flows in an easterly direction towards its confluence with the Braydon Brook approximately 565m east of the site.

The Braydon Brook, another EA Main River, is located approximately 356m north of the site. This flows in a southeasterly direction towards its confluence with the Swill Brook approximately 3.07m southeast of the site.

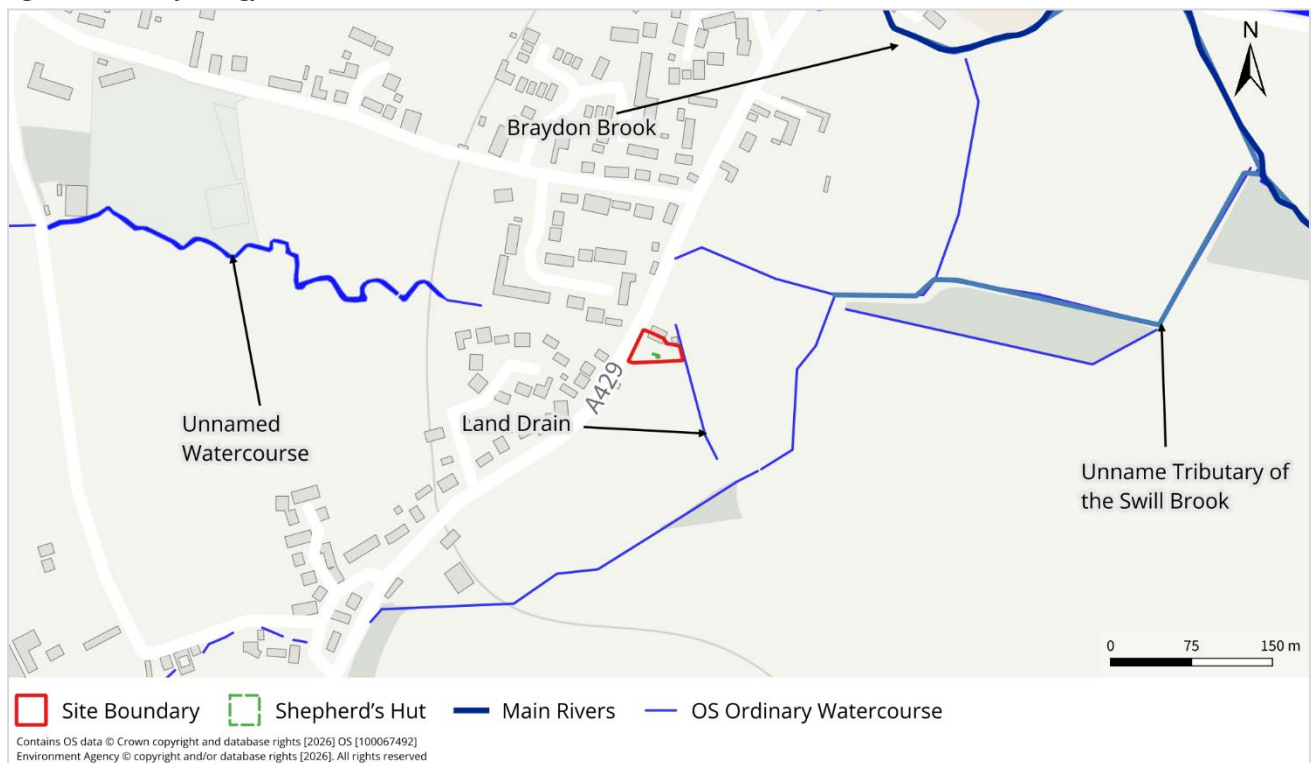
The nearest ordinary watercourse to the site is an unnamed watercourse that is culverted beneath the site. The nearest section of open channel of this watercourse are located approximately 102m to the east and approximately 152.84m to the west of the site. This unnamed watercourse flows in an easterly direction towards its confluence with the unnamed tributary of the unnamed Main River.

There is a land drain adjacent to the site's eastern boundary. This land drain is understood to connect to the Braydon Brook. The site is located approximately 24km east of the nearest tidal extent. Local hydrological features are illustrated in Figure 3 for reference.

The site is located within the Gloucestershire and the Vale Management Catchment, which is located within the Thames River Basin District.



Figure 3 - Local Hydrology



## 2.4 Local Drainage

Conversations held with the client confirmed that the site has a private drainage network that connects to an onsite septic tank. The shepherd's hut is currently connected to the septic tank.

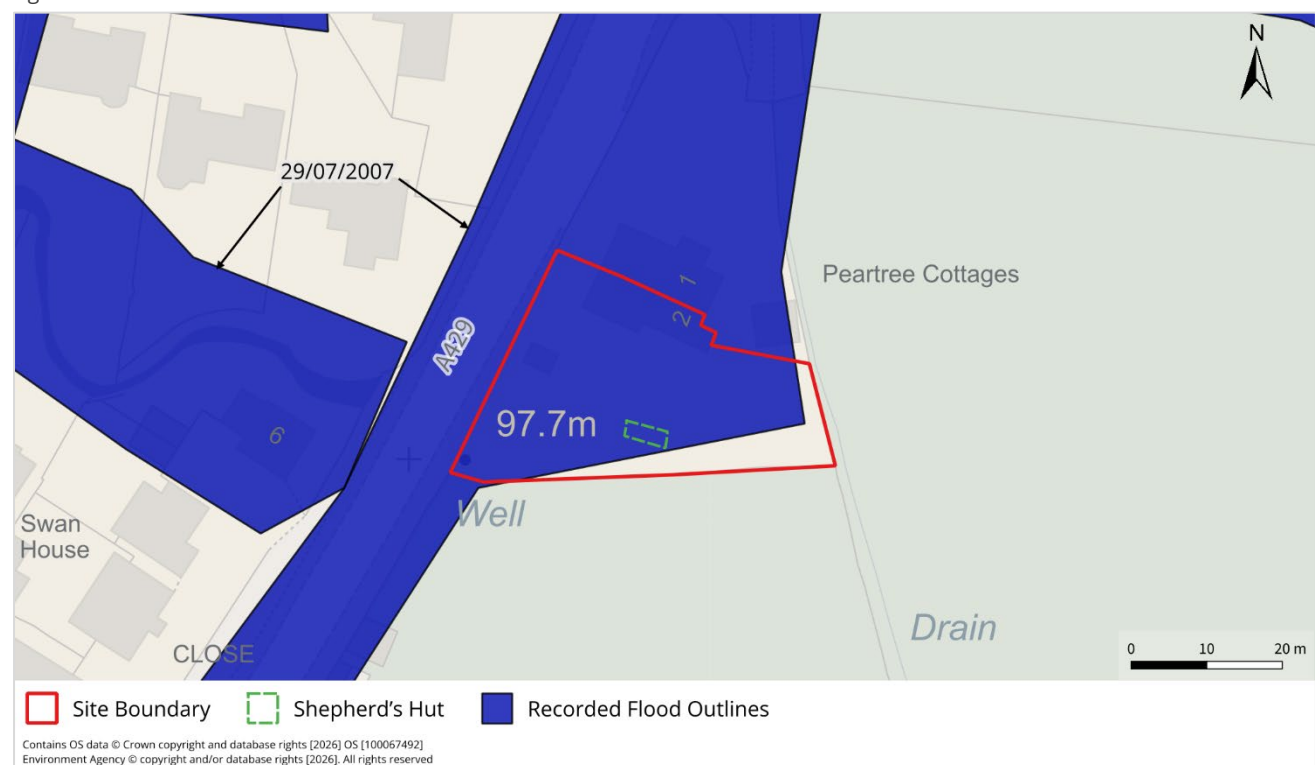


## 3 Past Flooding

### 3.1 National Records

The EA Recorded Flood Outlines dataset is a compilation of historical flood events that have occurred across England over the past century. Figure 4 indicates that flooding was recorded at the site in July 2007. The cause of this flooding event was reported to be the fluvial flooding from the unnamed watercourse exceeding its channel capacity. As the EA Recorded Flood Outlines are rigid within this area, the accuracy of this flooding extent is considered to be poor.

Figure 4 - EA Recorded Flood Outlines



### 3.2 Local Authority and Strategic Flood Information

Table 2 - Information sources used

| Information Source   | On Site                                                                                                                                                                                                                                         | Within 250m |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| PFRA (2011)          | 31 properties flooded in the village of Crudwell. No further information was provided on the source and year of this incident, and it could not be confirmed if the site was impacted by this event. It is likely that this was the 2007 event. | -           |
| PFRA Addendum (2017) | -                                                                                                                                                                                                                                               | -           |
| Level 1 SFRA (2024)  | -                                                                                                                                                                                                                                               | -           |
| Level 2 SFRA (2025)  | -                                                                                                                                                                                                                                               | -           |



| Information Source                          | On Site | Within 250m                  |
|---------------------------------------------|---------|------------------------------|
| Local Flood Risk Management Strategy (2015) | -       | Mentions same event as PFRA. |

### 3.3 Additional Information

A review of a BBC News article revealed that in July 2019, a team of volunteers spent the weekend clearing the stream that flooded the village of Crudwell in 2007. This was an attempt to alleviate flooding and prevent another incident similar to the 2007 flood.

#### Historic Flooding Summary

The EA Recorded Flood Outlines dataset indicates the site was impacted by fluvial flooding in 2007. Online documents indicate that flooding has occurred within the area in which the site is located; however, it could not be confirmed if the site was impacted by this flooding event.



## 4 Flood Risk Evaluation

The following sections provide an evaluation of the flood risk posed to the site. Consideration is given to the severity of flood risk to the site as a whole, making use of existing flood mapping, local strategic studies and available topographic information.

### 4.1 Tidal Flood Risk

Tidal flood risk affects coastlines, estuaries, and tidal rivers, often during high tides or heavy rain. These floods can cover low-lying land or overwhelm defences. As discussed in Section 2.3, the site is located approximately 24km east of the nearest tidal extent.

#### Tidal Risk Summary

The site is located approximately 24km east of the nearest tidal extent. In summary, the overall risk to the site from tidal flooding is Negligible. No further consideration is deemed necessary as part of this report.

### 4.2 Fluvial Flood Risk

Fluvial flood risk comes from rivers and streams when they overflow, usually after heavy rain or long periods of wet weather. As discussed in Section 2.3, the nearest Main River to the site is an unnamed tributary of the Braydon Brook located approximately 155.79m east of the site. The Braydon Brook is another EA Main River located approximately 355.63m north of the site. There is an unnamed watercourse that is culverted beneath the site. The nearest open channels of this water course are located approximately 101.88m to the east and approximately 152.84m to the west of the site.

#### Flood Defences

The nearest flood defences to the site are located approximately 337m along the southern bank of the unnamed watercourse to the north. This is identified to comprise natural high ground, that has a Standard of Protection (SoP) up to a 1 in 2 year flooding event.

No flood defences were identified along the banks of the unnamed tributary, unnamed watercourse and land drain.

#### Hazard Assessment – Present Day

This section considers the Risk of Flooding from Rivers and Sea (RoFRS) dataset. This is a probabilistic national dataset that shows the likelihood of flooding at a property or location. It combines national-scale models, local model outputs (where available), and flood defence information. It does not just assume defences always work, it considers their Standard of Protection and their condition. Assets in poorer condition have a higher probability of failure, which is captured using fragility curves (showing how likely a defence is to fail under certain water levels). The result is a risk category (very low, low, medium, high).

The Risk of Flooding from Rivers and Sea (RoFRS) mapping (Figure 5) indicates there is a medium ( $\geq 1\%$  -  $< 3.3\%$ ) annual probability of flooding affecting the external areas of the site and the shepherd's hut from fluvial sources. Figure 6 provides further indication of the annual probability of specific depths.



Figure 5 - RoFRS Present Day

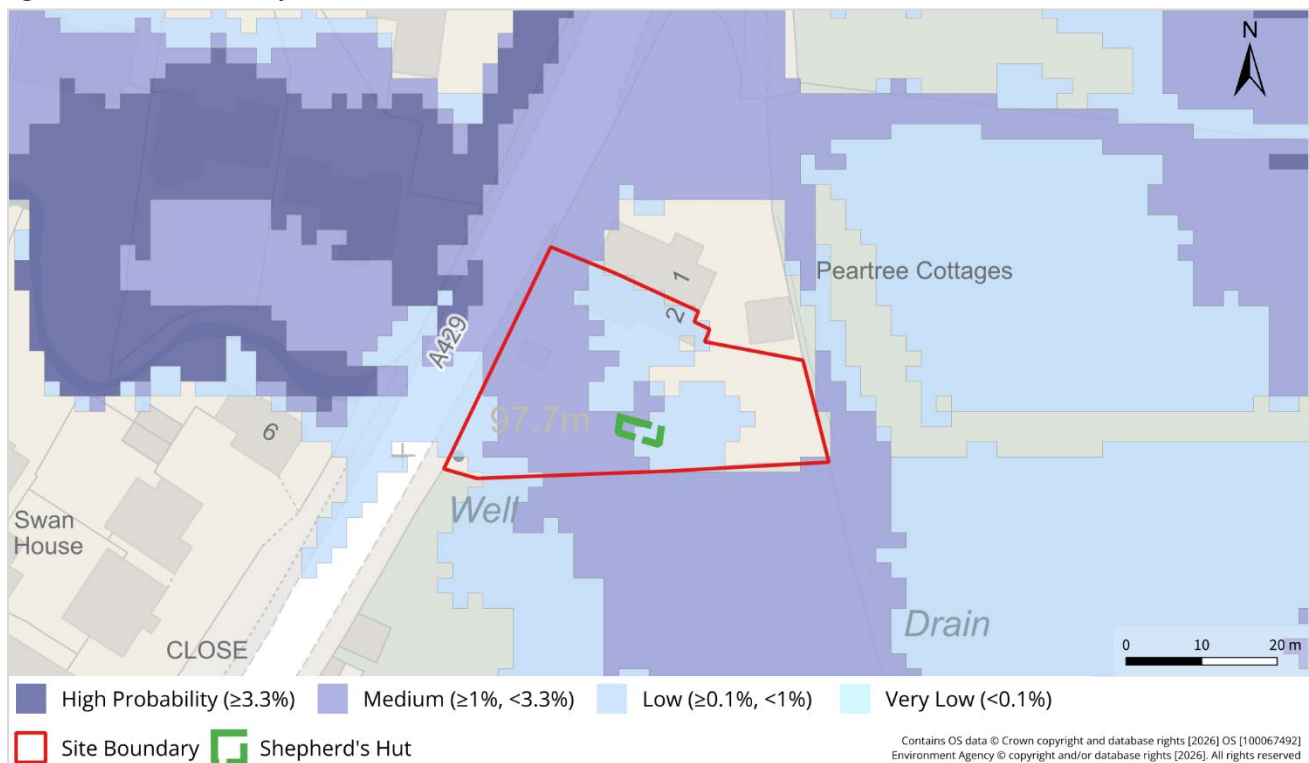
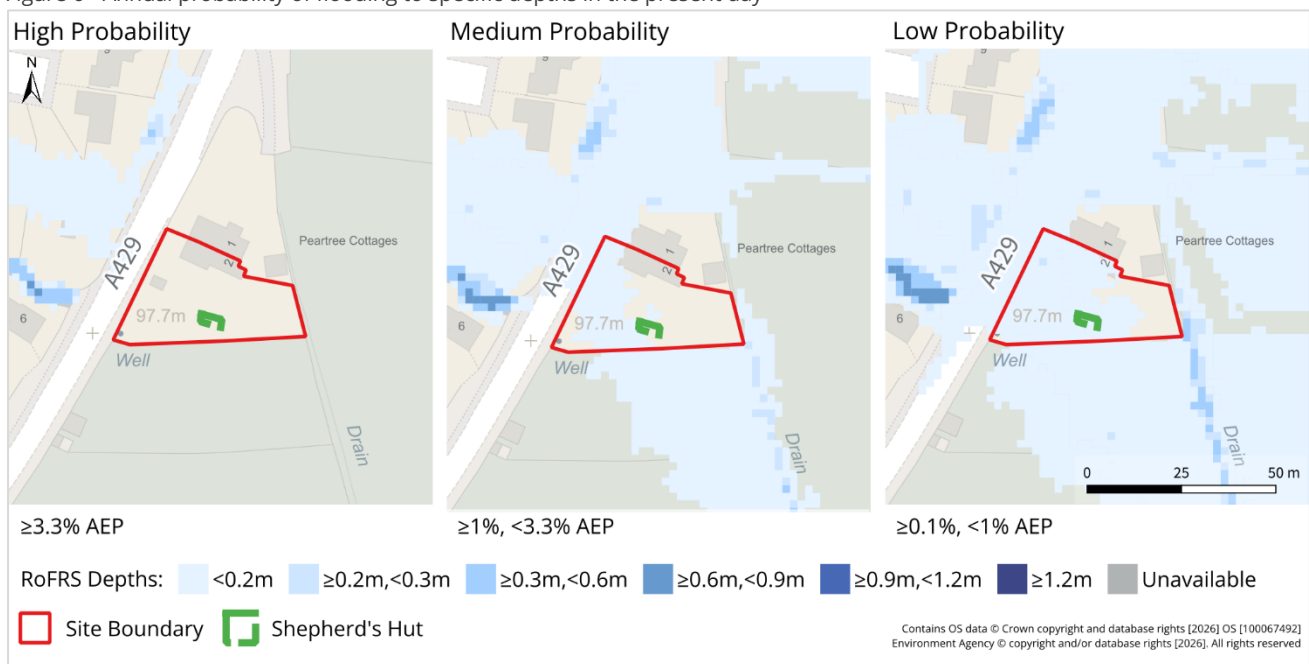


Figure 6 - Annual probability of flooding to specific depths in the present day



The maximum fluvial flood depth is projected to be less than 0.2m during the medium and low probability scenarios, affecting the external areas and the location of the proposed shepherd's hut.

The projected flood depths across the site for each annual probability in the present day can be seen within Table 3.



Table 3 - Projected flood depths across different annual probabilities in the present day

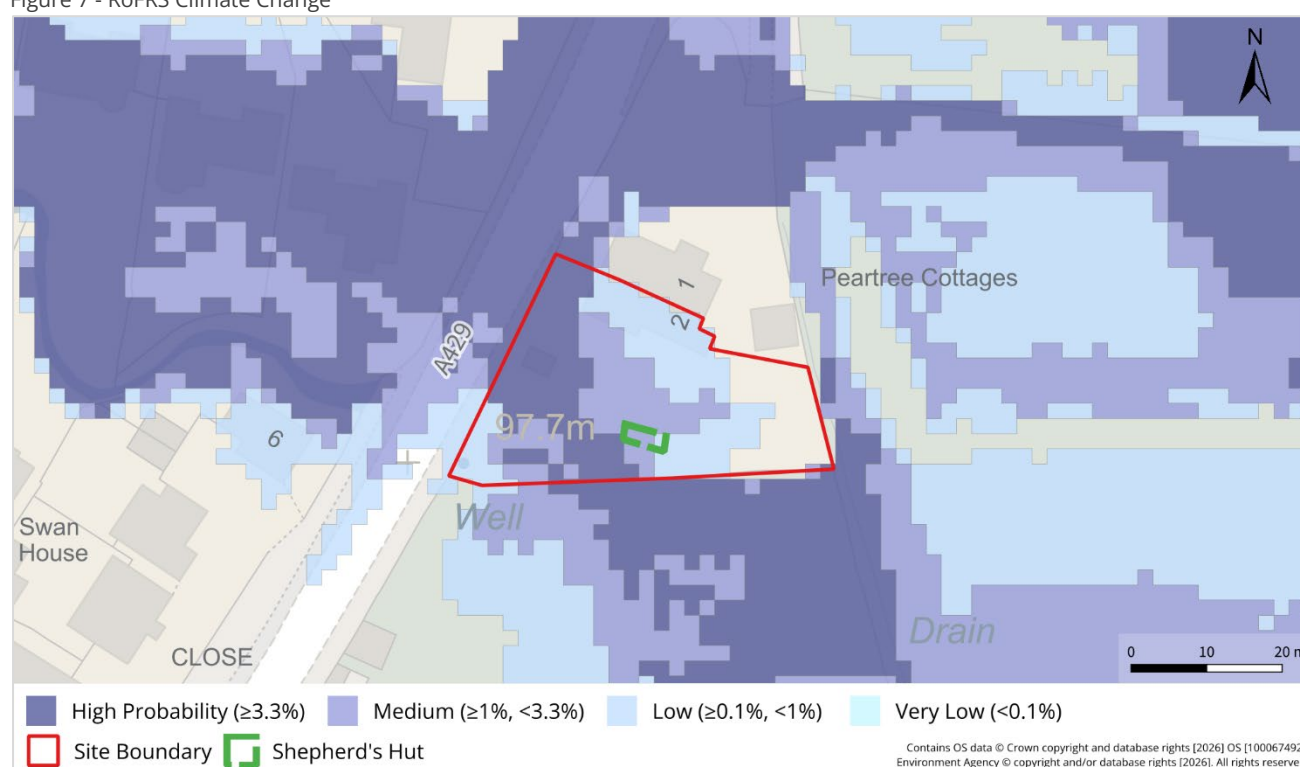
| Area/Building  | High Probability Depth (m) | Medium Probability Depth (m) | Low Probability Depth (m) |
|----------------|----------------------------|------------------------------|---------------------------|
| Shepard's Hut  | -                          | <0.2m                        | <0.2m                     |
| External Areas | -                          | <0.2m                        | <0.2m                     |

## Hazard Assessment – Climate Change

This section considers the potential impacts of climate change on fluvial flood risk. The projected flood depths are based on the latest UK Climate Projections (UKCP18) from the Met Office, using a high greenhouse gas emissions pathway (RCP 8.5). The scenarios applied here are centred on the 2050s epoch and use allowances that account for increased river flows and, where relevant, higher sea levels<sup>1</sup>.

The RoFRS climate change mapping (Figure 7) indicates there is a high ( $\geq 3.3\%$ ) annual probability of flooding affecting the external areas at the site and the shepherd's hut from fluvial sources when accounting for climate change. Figure 8 provides further indication of the annual probability of specific depths.

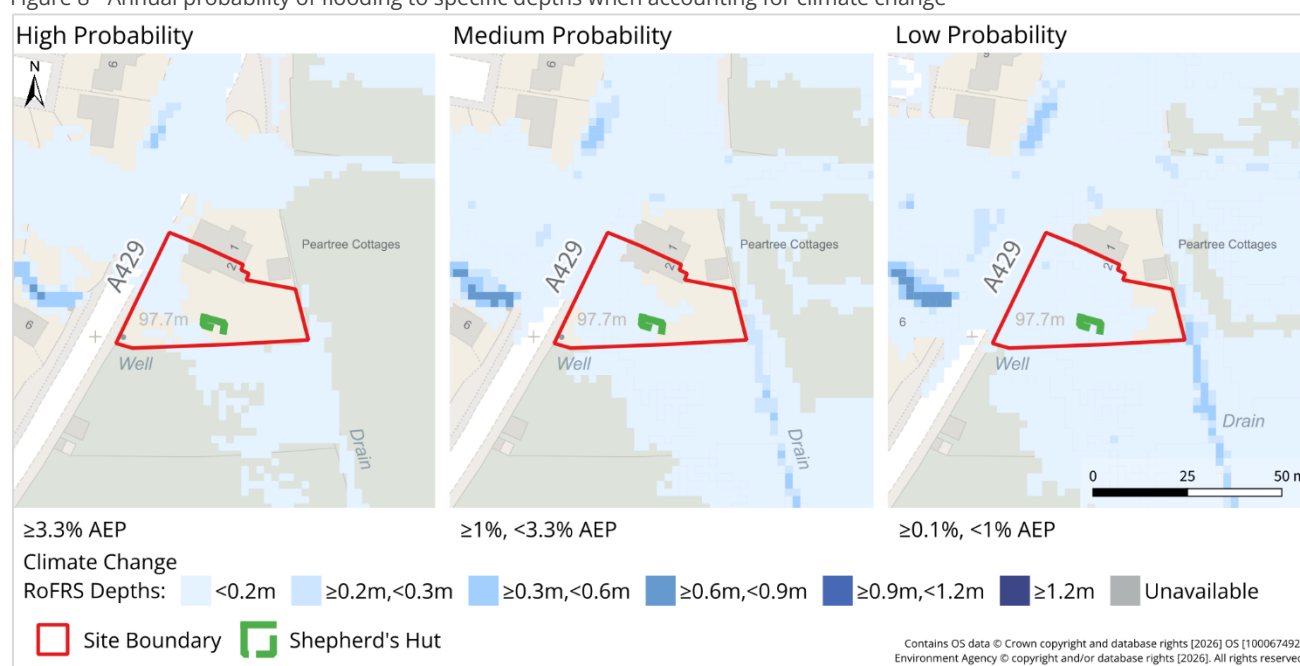
Figure 7 - RoFRS Climate Change



<sup>1</sup> Central allowance for fluvial flows (2040–2069, '2050s epoch') and higher central allowance for coastal flooding (2036–2065)



Figure 8 - Annual probability of flooding to specific depths when accounting for climate change



The maximum fluvial flood depth is projected to be less than 0.2m across the high, medium and low probability scenarios affecting the external areas and the shepherd's hut. The shepherd's hut is shown to only been encroached upon by fluvial flooding in the high probability scenario.

The projected flood depths across the site for each annual probability when accounting for climate change can be seen within Table 4.

Table 4 - Projected flood depths across different annual probabilities when accounting for climate change

| Area/Building  | High Probability Depth (m) | Medium Probability Depth (m) | Low Probability Depth (m) |
|----------------|----------------------------|------------------------------|---------------------------|
| Shepard's Hut  | <0.2m*                     | <0.2m                        | <0.2m                     |
| External Areas | <0.2m                      | <0.2m                        | <0.2m                     |

\*Flood depths are projected to only encroach upon the Shepard's Hut footprint

## Enhanced Flood Model Data

Ashfield requested the latest flood model data from the EA that relates to the site. Unfortunately, in this instance, the EA do not hold any detailed flood risk modelling in this location (Ref: EIR2026/04135). Therefore, they were unable to provide modelled flood levels and extents for the site.

### Fluvial Risk Summary

The EA's RoFRS mapping, indicates that the shepherd's hut is projected to be at risk of fluvial flooding across the medium and low probability scenarios. However, the flood depths are projected to be less than 0.2m across both modelled scenarios. When accounting for climate change fluvial flooding is projected to encroach upon the shepherd's hut footprint in the high probability scenario and impacted the proposed building flooding in the medium and low probability scenarios. Flood depths across the high, medium and low probability scenarios at the shepherd's hut are projected to be less than 0.2m. Therefore, the overall risk of fluvial flooding is Moderate. Further considerations are made within Section 5 to help mitigate against this identified risk in the long-term.



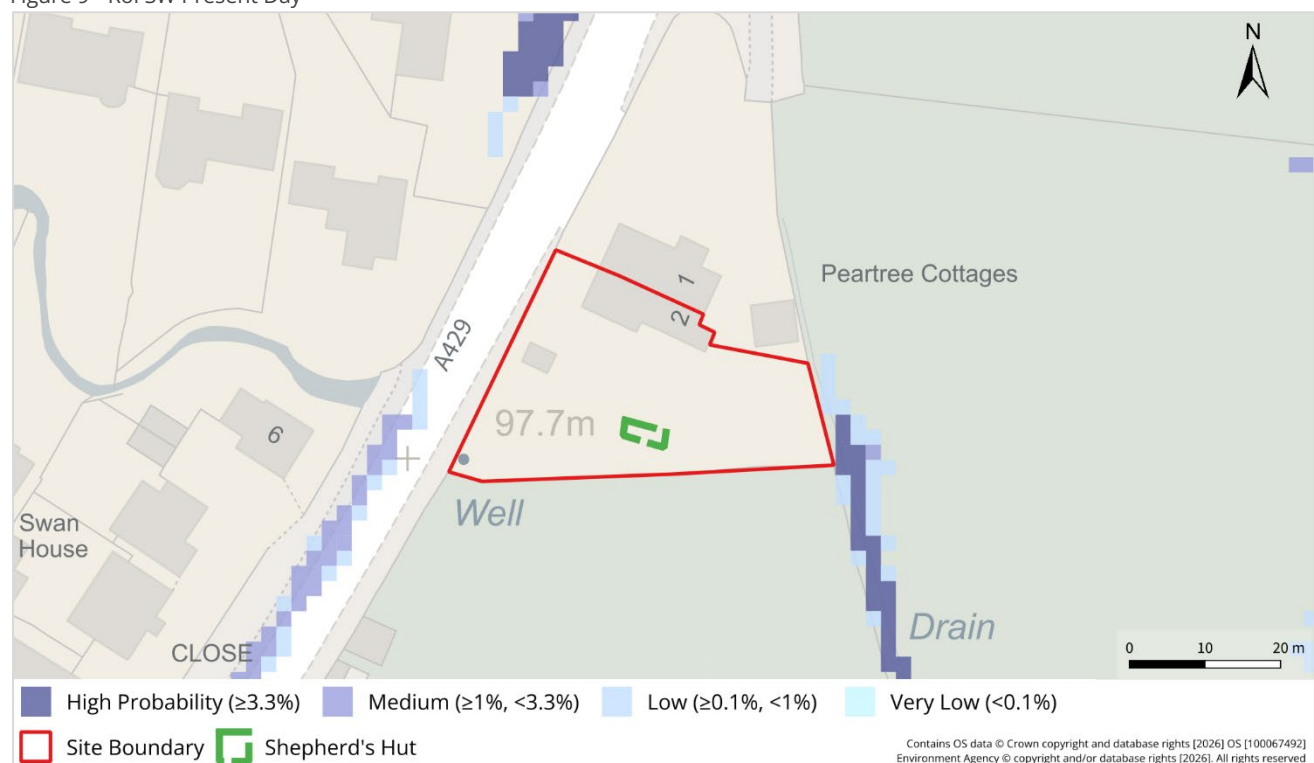
## 4.3 Surface Water Flooding

Surface water flooding occurs when local drainage networks are overwhelmed during an extreme rainfall event, causing water to flow over the surface and follow gravity to the lowest point where it often pools. Surface water flood maps rely on simplified modelling, which can misrepresent risk at the scale of a single site. This report adds contextual interpretation to provide a more accurate, site-specific view.

### Hazard Assessment – Present Day

The Risk of Flooding from Surface Water (RoFSW) mapping (Figure 9) indicates there is a high ( $\geq 3.3\%$ ) annual probability surface water flooding encroaching upon the site's southeastern boundary. The shepherd's hut is not projected to be at risk of surface water flooding across the high, medium and low probability scenarios.

Figure 9 - RoFSW Present Day



### Hazard Assessment – Climate Change

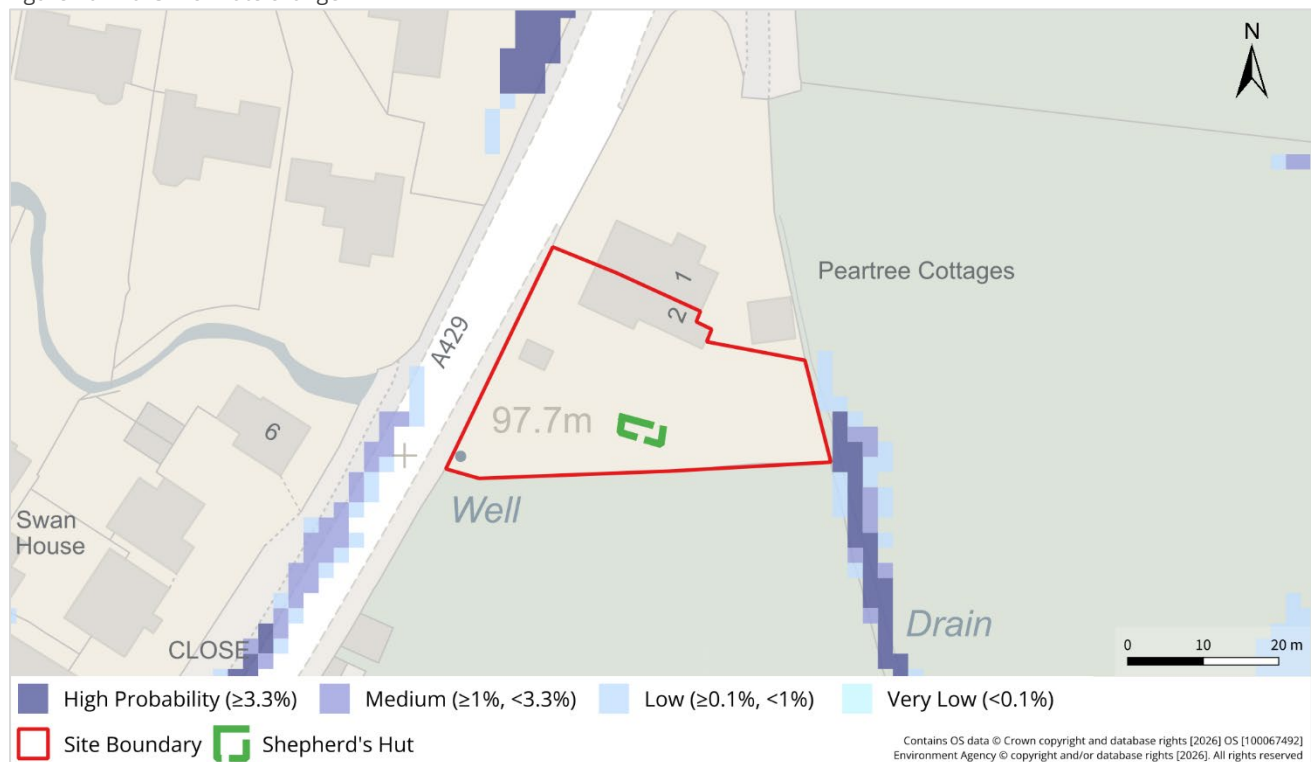
This section considers the potential impacts of climate change on surface water flood risk. The projected flood depths are based on the latest UK Climate Projections (UKCP18) from the Met Office, using a high greenhouse gas emissions pathway (RCP 8.5). The scenarios applied here are centred on the 2050s epoch and use allowances that account for increased peak rainfall intensity<sup>2</sup>.

The RoFSW climate change mapping (Figure 10) indicates there is a high ( $\geq 3.3\%$ ) annual probability surface water flooding encroaching upon the site's southeastern boundary when accounting for climate change. The shepherd's hut is not projected to be at risk of surface water flooding across the high, medium and low probability scenarios when accounting for climate change.

<sup>2</sup> Central allowance for the 2050s epoch (2040-2060) for risk of flooding from surface water



Figure 10 - RoFSW climate change



#### Surface Water Risk Summary

The EA's RoFSW (both present day and accounting for climate change) mapping, indicates that the site is not projected to be at risk of flooding from surface water across high, medium and low probability scenarios. There have been no historical accounts of flooding reported at or within the vicinity of the site. Therefore, the overall risk of surface water flooding affecting the site is Low. No further consideration is deemed necessary as part of this report.

## 4.4 Groundwater

Flooding from a groundwater source often occurs during or following a period of prolonged wet weather within areas that are low lying underlain by permeable rocks (aquifers). When aquifers are at their maximum holding potential, flooding at surface level can occur from beneath the ground.

Groundwater as a sole flooding mechanism is often regarded as low risk as it often relies on a coinciding rainfall, or flood event from an additional source to become a flood risk. The main contributory factor that will enhance the risk of groundwater flooding, is prolonged periods of high rainfall, which result in the groundwater saturation level rising to the point where it reaches the surface.

Online BGS mapping shows the bedrock geology beneath the site to comprise Forest Marble Formation-Mudstone. This is defined by the EA as a 'Principal' aquifer. These are layers of rock or drift deposits that have high intergranular and/or fracture permeability, meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale.

The bedrock is not shown to be overlain by any superficial deposits.



The nearest borehole (Ref. ST99SW24) to the site with the same underlying geology containing groundwater information is located approximately 829.69m north of the site location, which has a depth of approximately 4.6m below ground level (bgl). Groundwater is shown to have been struck at approximately 1.20mbgl.

The SFRA (2024), indicates that the southern boundary has been identified as being within an area that is at risk of groundwater flooding to both surface and subsurface assets along the southern boundary, which may affect the shepherd's hut. Groundwater may emerge at significant rates and has the capacity to pond within any topographic low spots. The northern boundary is at a low risk of groundwater flooding. Susceptibility does not define the likelihood of flooding, but rather the susceptibility of the underlying geology to groundwater fluctuation to ground surface.

No further information regarding the susceptibility of groundwater flooding at the site was provided within any of the listed documents.

#### Groundwater Summary

The SFRA identified an area along the site's southern boundary that could be susceptible to flooding. The shepherd's hut is indicated to encroach into the area of risk from groundwater flooding; however, the scale and resolution of the mapping is a limitation for the groundwater analysis. The overall risk of groundwater flooding affecting the shepherd's hut is Low as the shepherd's hut is raised 0.35m above external ground levels. No further consideration is deemed necessary as part of this report.

## 4.5 Artificial Sources

Flood risk from artificial sources would include the failure of man-made drainage or water supply network. Although the likelihood of such an occurrence is highly unpredictable, it is recommended that any proposed designs for the site take into account the location of any existing below ground services, in order to avoid any inadvertent flooding taking place during the construction phase and in the future.

Upon review of the relevant online documents discussed in Section 1.4 of this report, it was indicated that there have been no reportable instances of historic sewer flooding located at or within the vicinity of the site.

#### Artificial Sources Summary

The overall risk of flooding from artificial sources affecting the site is Low. Further considerations are made within Section 5 in relation to keeping this risk to a low designation in the long-term.

## 4.6 Reservoir Failure

Assessment of risk of a reservoir failure may be interpreted as the extent of flooding that would occur, should any reservoir that has a capacity larger than 25,000m<sup>3</sup>, suffer a catastrophic failure. Mapping of this nature is described by the Environment Agency as a very worst-case scenario, with a flood event of this type being extremely unlikely to occur. The EA Risk of Flooding from Reservoir Failure mapping (Figure 11) is based on two extents:

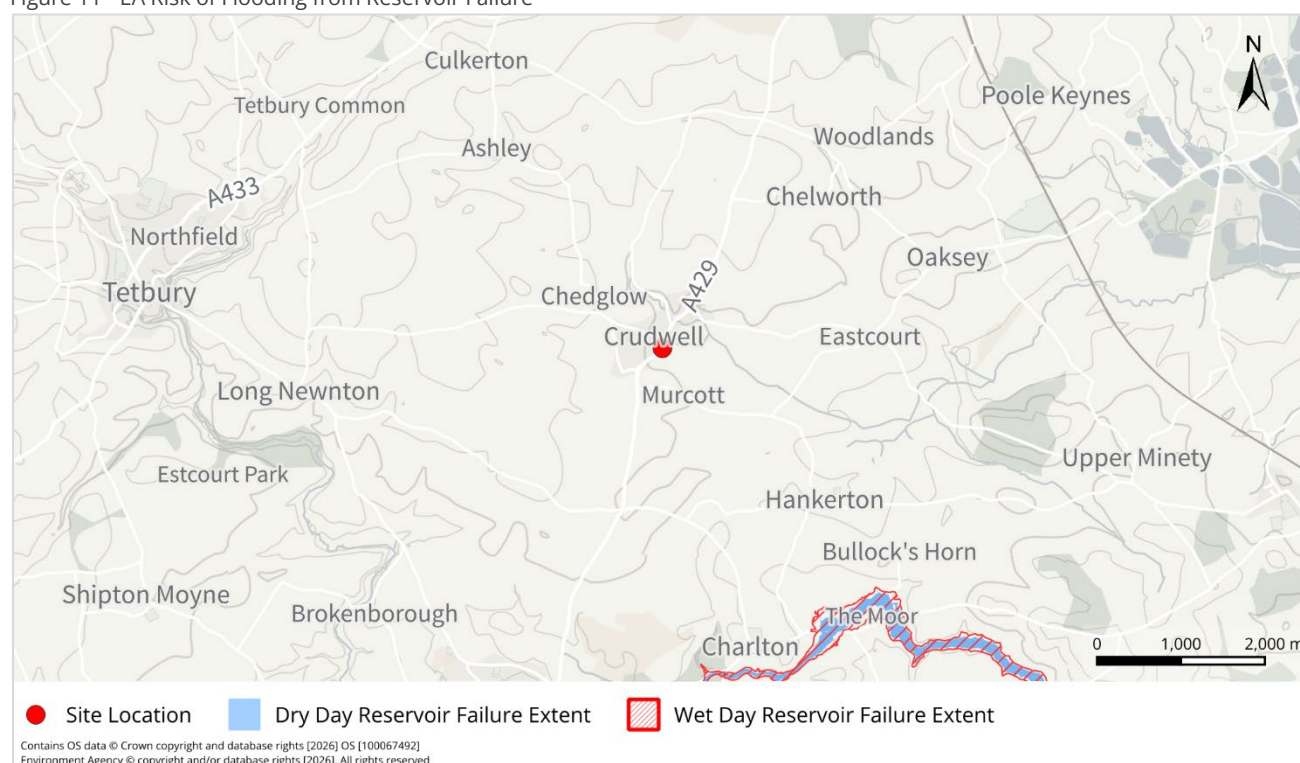
- **Wet Day (National)** - This data shows the individual flood extents for all large, raised reservoirs in the event that they were to fail and release the water held on a "wet day" when local rivers had already overflowed their banks.



- **Dry Day (National)** - This data shows the individual flood extents for all large, raised reservoirs in the event that they were to fail and release the water held on a “dry day” when local rivers are at normal levels.

The EA Risk of Flooding from Reservoir Failure mapping shows that the site is located outside of both the wet and dry day risk in the reservoir failure extents. The nearest wet day and dry day extent is located 3.63km to the south-east.

Figure 11 - EA Risk of Flooding from Reservoir Failure



### Reservoir Failure Summary

Current legislation states all reservoirs are inspected regularly and the likelihood of failure occurring is low. The overall risk of flooding from reservoir failure affecting the site is therefore Negligible. No further consideration is deemed necessary as part of this report.

## 4.7 Summary of Flood Sources

Table 5 provides a summary of the classification of risk to the site from all flood sources and indicates where further considerations are required in the context of the proposed development.

Table 5 - Flood Risk Summary

| Flood Source  | Overall Risk Classification | Additional Considerations |
|---------------|-----------------------------|---------------------------|
| Fluvial       | Moderate                    | See Section 5.            |
| Tidal         | Negligible                  | None.                     |
| Surface Water | Low                         | None.                     |
| Groundwater   | Low                         | None.                     |



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|                    |            |                |
|--------------------|------------|----------------|
| Artificial Sources | Low        | See Section 5. |
| Reservoir Failure  | Negligible | None.          |



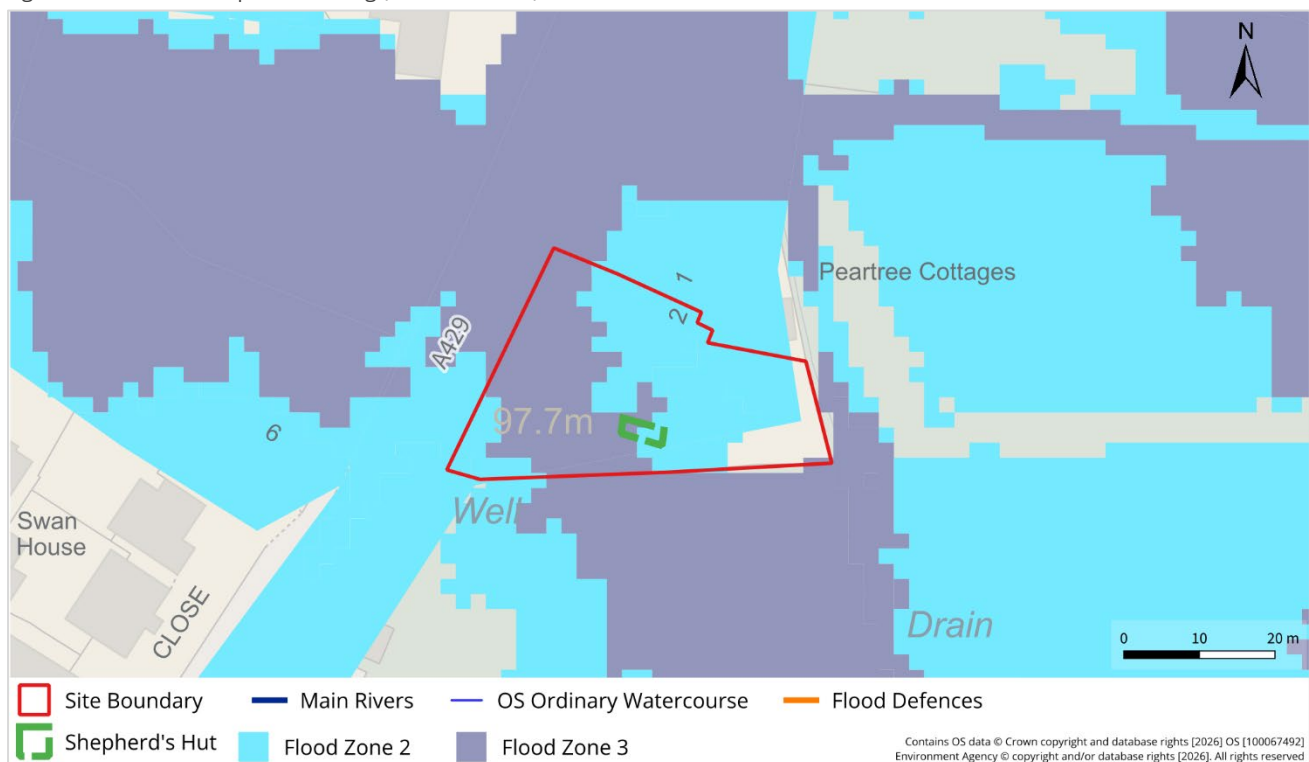
## 5 Flood Risk in Planning Context

The following sections describe the identified flood hazard in the context of the proposed development and provide recommendations, where required, for the mitigation or reduction of those risks to enable safe development and comply with local and national guidance.

### 5.1 EA Flood Map for Planning

The EA Flood Map for Planning (FMFP) (Rivers and Sea) divides the floodplain into risk-based categories and provides an indication of flood risk for the site for the purpose of planning. The EA FMFP (Figure 12) indicates that the proposed development is partially located in Flood Zone 3 (>1% AEP) and Flood Zone 2 (1% - 0.1% AEP). The Flood Zones for planning shown the 'undefended' scenario, where any flood defences in the locality are not represented within the mapping.

Figure 12 - EA Flood Map for Planning (Rivers and Sea)



This site's location in Flood Zone 3 (>1% AEP) will be discussed further in context of development viability in Section 5.3.

### 5.2 Development Viability

The EA classifies different types of development according to their perceived vulnerability to flood risk. The proposed development is understood to comprise the construction of a single-storey shepherd's hut for use as a holiday letting.



Based on the EA vulnerability classification system outlined in Annex 3 of the Planning Practice Flood Risk and Coastal Change Guidance, the development would be classed as more vulnerable. Based on the vulnerability classification and the site's location within Flood Zone 3, discussion on how the development meets the exception test can be seen within Section 5.5 of this report.

## 5.3 The Design Flood

The Planning Practice Guidance identifies that new developments should be designed to provide adequate flood risk management, mitigation, and resilience against the 'design flood' for their lifetime.

The source of the risk at the development is fluvial and therefore, based on government guidance, the design flood event is the 1%AEP. This FRA will therefore consider the 1% AEP event for assessing flood risk to the development and potential mitigation measures. To account for climate change, this assessment also considers climate change allowances for the Gloucestershire and the Vale management catchment in line with current EA published regional allowances.

Table 6 identifies the relevant peak river flow allowances from this management catchment.

Table 6 - Peak River Flow Allowances<sup>3</sup>

| Allowance Category | Total potential change anticipated for the '2020s' (2015 to 2039) | Total potential change anticipated for the '2050s' (2040 to 2069) | Total potential change anticipated for the '2080s' (2070 to 2115) |
|--------------------|-------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------|
| Upper End          | 33%                                                               | 43%                                                               | 84%                                                               |
| Higher Central     | 17%                                                               | 19%                                                               | 41%                                                               |
| Central            | 11%                                                               | 11%                                                               | 26%                                                               |

The site is located within Flood Zone 3. The development is classified as more vulnerable and it has an anticipated lifespan (75 years) that falls within the '2080s'. Therefore, in line with the NPPF the central allowance should be considered, equating to an additional 26% on flow volumes atop of the 1% annual probability (1 in 100 year) predicted flood event.

In the absence of flood model data that relates to the site held by the EA, the EA's RoFRS climate change mapping has been used to assess future flood risk at the site. It is understood that this mapping is based on the application of the Central climate change allowance for fluvial flows for the 2050s epoch. Due to the lack of flood model data the depths for the 1 in 100 year plus climate change have been used for recommendations in Section 5.4.

### Climate Change Summary

To ensure that the development is designed adequately for its lifetime, the EA's RoFRS climate change 1 in 100 year plus climate change will be considered further within Section 5.4. This is due to the lack of flood model data available for the site.

<sup>3</sup> <https://environment.data.gov.uk/hydrology/climate-change-allowances/river-flow>



## 5.4 Recommendations

It is recommended that, based on the current design proposals, the following design principles should be incorporated to demonstrate its long-term resilience to flood risk. This follows a hierarchical approach considering finished floor level, external ground levels and Property Flood Resilience (PFR).

### Development Levels

This FRA has been informed by government derived LiDAR data, which has informed the levels discussed in Table 7.

Table 7 - Design flood and finished levels

|                      |                                                                                                                                                                                                                                                                                                       |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Design Flood Level   | As a conservative approach, flood depths (0.2m) from the 1 in 100 year plus climate change event (RoFRS) has been added to the greatest ground level adjacent proposed shepherd's hut (97.71mAOD) to determine the Design Flood Level for the proposed shepherd's hut (97.71mAOD + 0.2m = 97.91mAOD). |
| Finished Floor Level | The minimum proposed floor level of the shepherd's hut is 97.96mAOD, which is elevated above a conservative Design Flood Level (97.91mAOD) by 0.04m.                                                                                                                                                  |
| External Levels      | External levels should be profiled away from the proposed building footprint and towards the nearest drainage point.                                                                                                                                                                                  |

### Flood Resilience & Resistance

The following recommendations are provided to further enhance the flood resilience of the proposed development and support rapid recovery in the unlikely event of flooding. The proposed shepherd's hut is not considered to be at risk during either the design flood event or the extreme 1 in 1000 year flood event, including allowances for climate change. As the proposed shepherd's hut will be elevated above the predicted flood depths, the measures outlined below are precautionary in nature and represent good practice rather than mitigation required to address flood risk.

- **Raising of Shepherd's Hut:** Wherever practicable, the shepherd's hut should be raised 0.5m above external ground levels. This will provide shepherd's hut with a 0.3m freeboard allowance above the projected flood depths at the site.

## 5.5 Impact on Flooding Elsewhere

As stated previously the EA vulnerability classification system indicates that the shepherd's hut is classified as a more vulnerable. The shepherd's hut is in the most sequentially preferable location in terms of access into the site and on edge of Flood Zone 3. Therefore, is deemed to be located within a suitable area.

The exception test needs to be followed when a development is located within Flood Zone 3 and is classed as more vulnerable.

As per the NPPF, the Exception Test requires two additional elements to be satisfied before allowing development to be allocated or permitted in situations where suitable sites at lower risk of flooding are not available following application of the sequential test.

It should be demonstrated that:



- **Part 1:** development that has to be in a flood risk area will provide wider sustainability benefits to the community that outweigh flood risk; and
- **Part 2:** the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

**Part 1:** The proposed development comprises a single-storey shepherd's hut for holiday accommodation, supporting rural diversification and contributing to the local tourism economy through sustainable, small-scale visitor accommodation. The low-intensity proposal is compatible with the rural setting and delivers wider community sustainability benefits. Flood risk has been incorporated into the design, with a minimum finished floor level of 97.96mAOD set above the conservative design flood level of 97.91mAOD. As a result, the development is not considered to be at risk during the design flood event or the extreme 1 in 1000 year flood event, including climate change allowances. Given the small scale of the proposal (12m<sup>2</sup>), its economic benefits, and the absence of increased flood risk elsewhere, the wider sustainability benefits outweigh the residual flood risk and Part 1 of the Exception Test is satisfied.

**Part 2:** As the shepherd's hut will be elevated on raised legs and that there will be no displacement. Therefore, the shepherd's hut will not increase flood risk or flood levels too the neighbouring areas. Part 2 of the Exception Test is therefore satisfied.

## 5.6 Safe Access and Egress

It is recommended that the client sign up to the EAs flood alert service. The site is located within Flood Alert Area 061WAF23UpThTrbs. In the event a flood alert is issued to the area the shepherd's hut should be evacuated and all occupants escorted to the residential dwelling located on the site. A Flood Warning and Evacuation Plan (FWEP) should be implemented at the site to ensure the safety of all users of the shepherd's hut.



## 6 Conclusion

This Flood Risk Assessment has been prepared in support of planning application for the shepherd's hut in use as a holiday letting.

The shepherd's hut has been assessed for flood risk from a variety of flood sources. There is a moderate risk of fluvial flooding at the shepherd's hut. The risk of flooding from surface water, groundwater, artificial sources is low, with the risk of tidal and reservoir failure being negligible.

The development is classified as 'more vulnerable' and located within Fluvial Flood Zone 2. The following key design principles outlined in Section 5.3 and summarised below should be incorporated into the design to enhance the flood resilience of the site:

- **Raising of Shepherd's Hut:** Wherever practicable, the shepherd's hut should be raised 0.5m above external ground levels. This will provide shepherd's hut with a 0.3m freeboard allowance above the projected flood depths at the site.

These recommendations seek to negate any outstanding flood risk in line with Communities and Local Government Guidance. This report therefore demonstrates that by incorporating the recommended key design principles, the shepherds hut:

- Is suitable in the location proposed and will be adequately flood resistant and resilient;
- Is unlikely to place additional persons at risk of flooding upon the implementation of an appropriate Flood Warning and Evacuation Plan; and

Is unlikely to increase flood risk elsewhere as a result of the proposed development through the loss of floodplain storage, impedance of flood flows or increase in surface water runoff.



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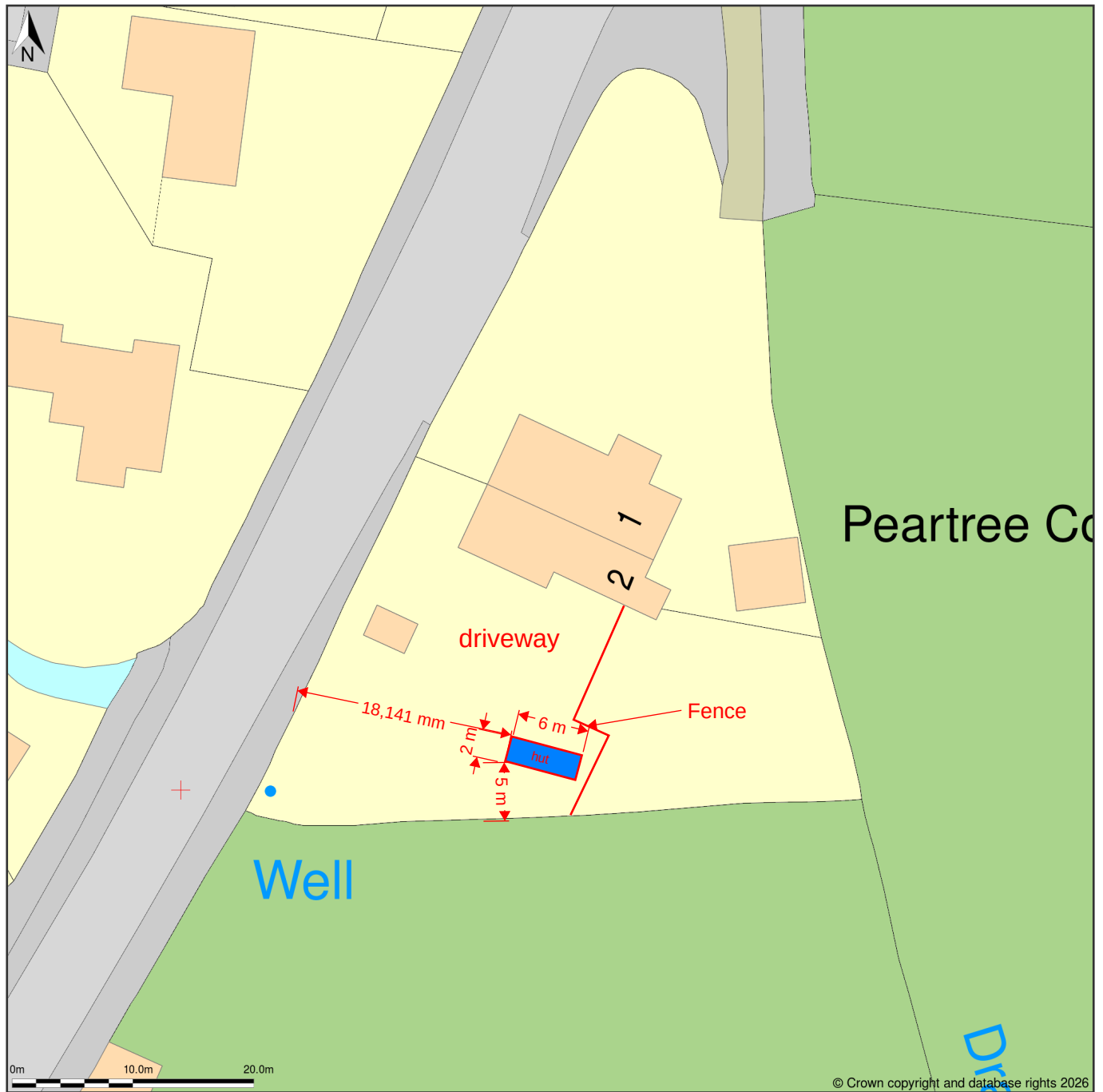
## Appendices



## Appendix A

### Site Location

## 2, Pear Tree Cottages, The Street, Crudwell, Wiltshire, SN16 9ES



Site Plan (also called a Block Plan) shows area bounded by: 395133.05, 192415.08, 395223.05, 192505.08 (at a scale of 1:500), OSGridRef: ST95179246. The representation of a road, track or path is no evidence of a right of way. The representation of features as lines is no evidence of a property boundary.

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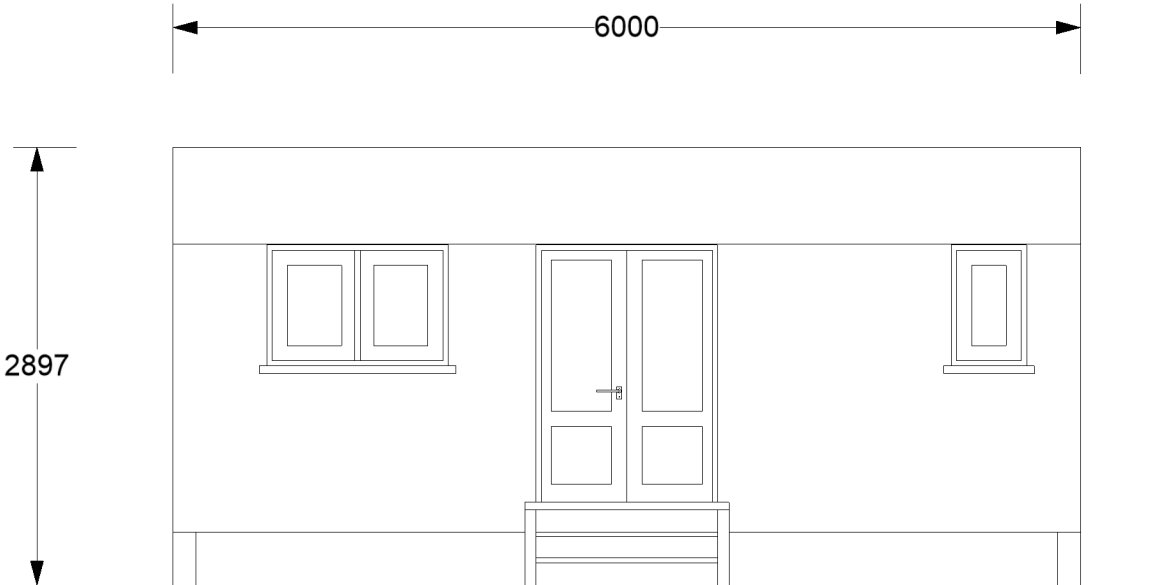
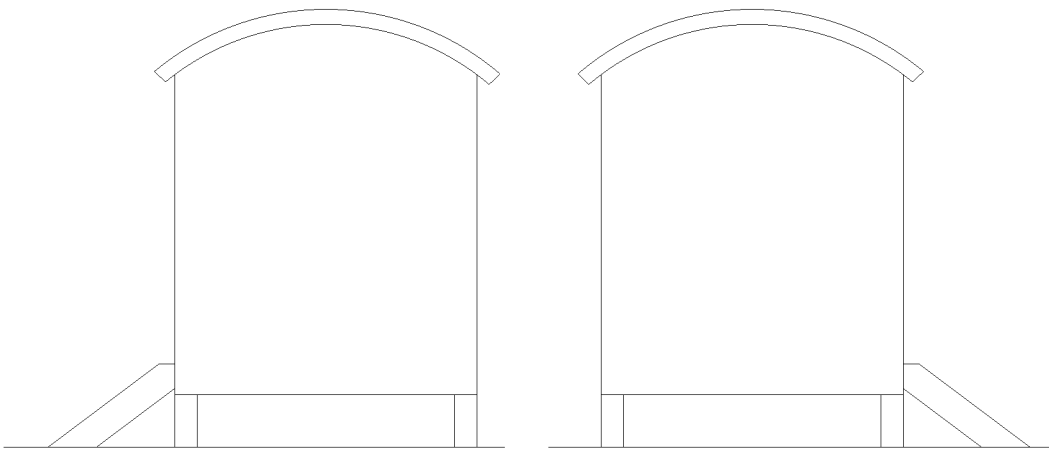
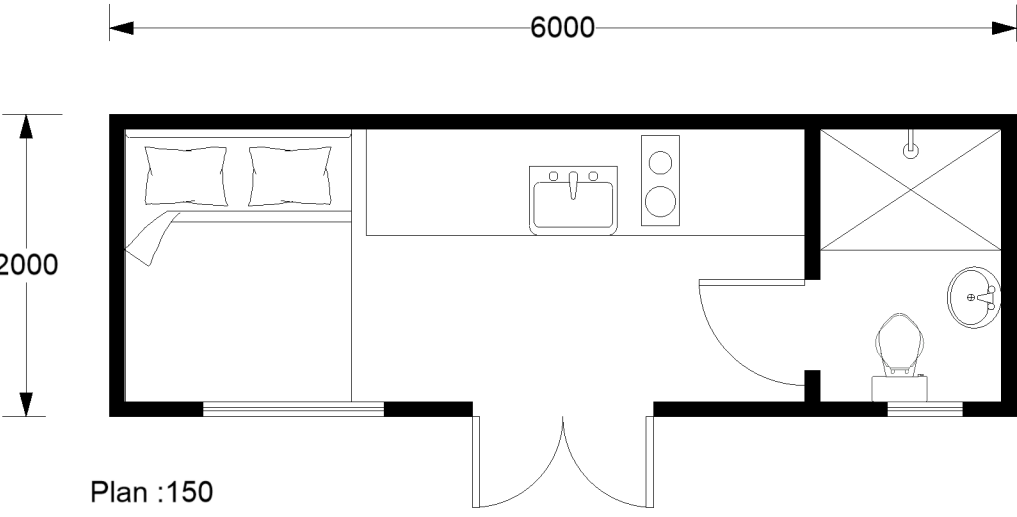
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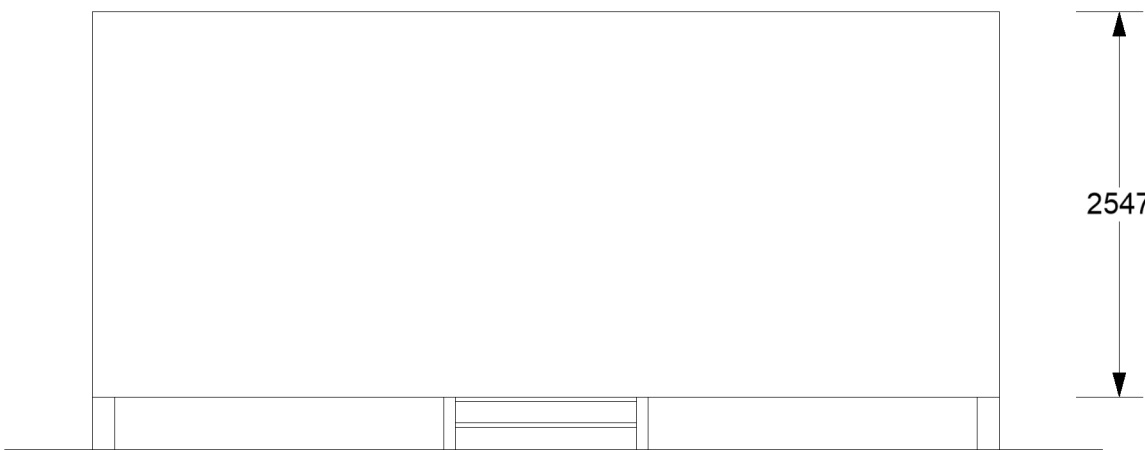
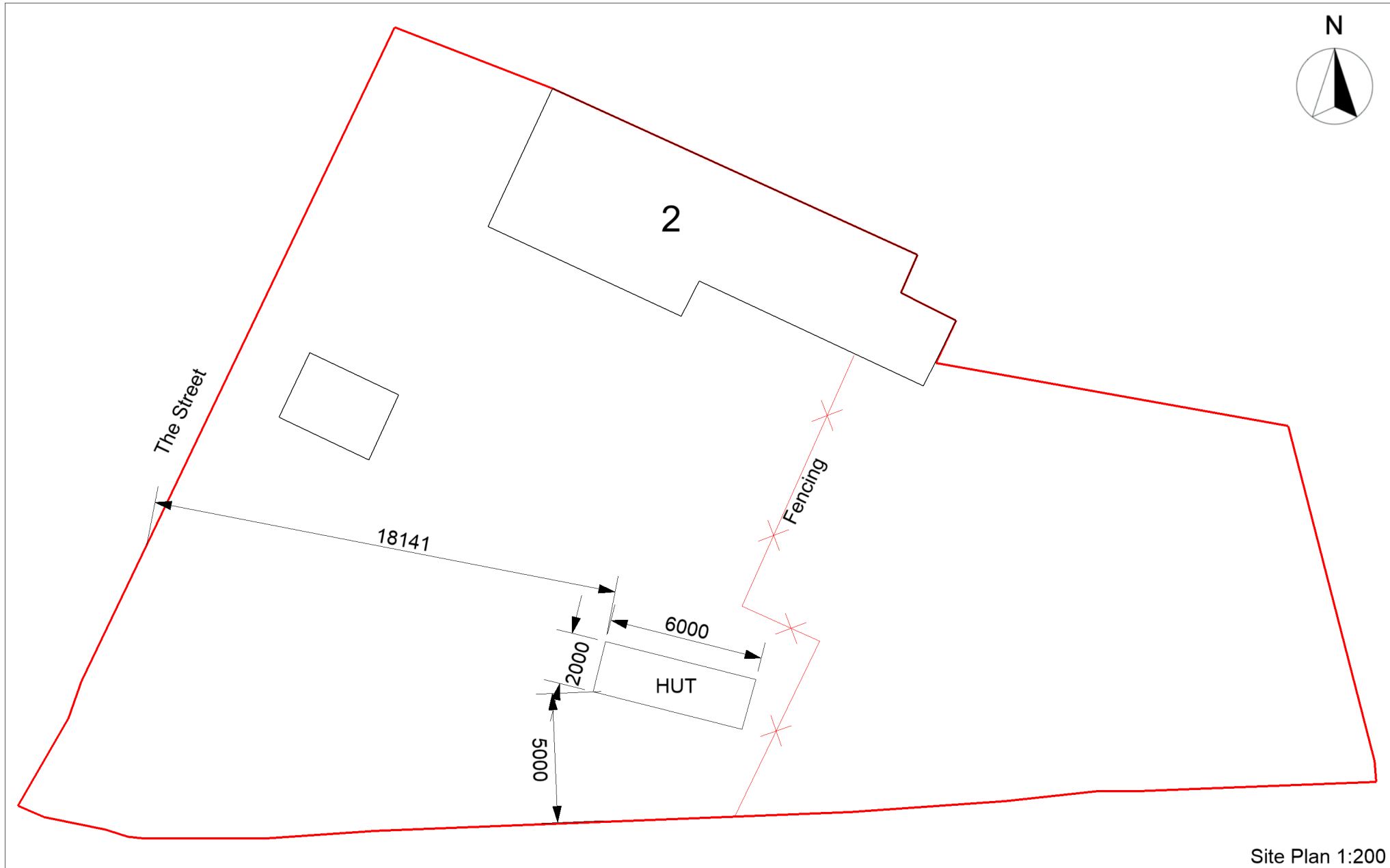
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## Appendix B

### Proposed Development



Front Elevation 1:50



Rear Elevation 1:50

2 Pear Tree Cottage, The Street  
Crudwell, Wiltshire,  
SN16 9ES



## Appendix C

### EA Response

Evan Harries  
enquiries@ashfieldfloodrisk.com

Our ref: EIR2026/04135

Date: 27 February 2026

Dear Evan

**RE: Environmental Information Regulations: EIR2026/04135**

Thank you for your email requesting Products 4, 5, 6, 7 and 8.

Unfortunately, we do not have any detailed flood risk modelling in this location. Therefore, we are unable to provide modelled flood levels and extents for your site.

The Flood Map for Planning in this location is based on the New National Model (NNM) published in March 2025. The flood levels or depth data is not currently available for all of the locations identified as at risk. Alternatively, you could contact us again at a later date when we might be in a position to provide flood depth associated with our New National Flood Risk Assessment system.

Developers using Environment Agency data will need to assess whether it is appropriate for their intended use. This includes any data displayed on the Flood Map for Planning, downloaded from <https://environment.data.gov.uk/>, or provided through requests for information.

When producing a Flood Risk Assessment (FRA), additional detailed modelling may be required in some cases to inform any future planning application taking into account the scale, nature and location of development. This is more likely if a development is sensitive, if there are gaps or low confidence in existing evidence; or where new evidence suggests flood risks are very different to existing information. Developers should refer to the [River modelling: technical standards and assessment - GOV.UK](#) for further guidance on how to produce a hydraulic model alongside [Flood risk assessments: applying for planning permission - GOV.UK](#). Where new hydraulic model(s) are produced to prepare FRAs, the Environment Agency may ask to review these to ensure they are fit for purpose.

Where an FRA is able to demonstrate that Environment Agency data is conservative, developers may be able to use this alongside any site-specific evidence (e.g. updated surveyed ground levels) to derive flood levels. In such cases, the onus is on the developer to provide any new evidence (which may include the need for new hydraulic modelling) as part of an FRA.

You can access the new Flood Map for Planning service, published 25 March 2025, to view and export maps for your site at:

[Flood map for planning - GOV.UK](#)

You can find more information on the long term risk of flooding for this location on our website:

[Check the long term flood risk for an area in England - GOV.UK](#)

You can find the historic flood map for this location via the link below:

<https://data.gov.uk/dataset/historic-flood-map1>

You can find recorded flood outlines for this location via the link below:

<https://data.gov.uk/dataset/recorded-flood-outlines1>

You can find out the risk of flooding from surface water for this location via the link below:

[Risk of Flooding from Surface Water](#)

You may be interested in the following guidance / information publicly available:

- **‘Planning Practice Guidance’** - provides information about planning considerations in areas at risk of flooding.  
<https://www.gov.uk/government/collections/planning-practice-guidance>
- ‘Planning applications: assessing flood risk’ - information about completing Flood Risk Assessments. <https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications>
- **‘Site specific flood risk assessment: Checklist’** – a checklist to help ensure you have considered all the relevant factors in your flood risk

assessment. <https://www.gov.uk/guidance/flood-risk-and-coastal-change#Site-Specific-Flood-Risk-Assessment-checklist-section>

- **‘Using modelling for flood risk assessments’** – provides information regarding the use of modelling in flood risk assessments when applying for planning permission. <https://www.gov.uk/guidance/using-modelling-for-flood-risk-assessments>

Please be aware that from 20th July 2021 the climate change allowances required in flood risk assessments have been updated. Please see <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances#contents> for more information.

I hope that we have correctly interpreted your request. Please refer to our Open Government Licence for the permitted use of the supplied data:  
<http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>

**Please be aware that many of our datasets are now available online. Simply visit [environment.data.gov.uk](https://environment.data.gov.uk)**

We respond to requests for recorded information that we hold under the Freedom of Information Act 2000 (FOIA) and the associated Environmental Information Regulations 2004 (EIR).

Please get in touch if you have any further queries or contact us within two months if you'd like us to review the information we have sent.

Kind Regards

Customers and Engagement Team – Thames Area



# Thank you

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