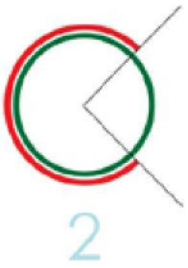


Revised Planning Application following the refusal of Planning Application 130427/F and a pre application enquiry 140591/CE at Land adjacent to Sheepcote, Clifford, Herefordshire, HR3 5HU

Flood Consequences Assessment

and Flood Warning and Evacuation Plan

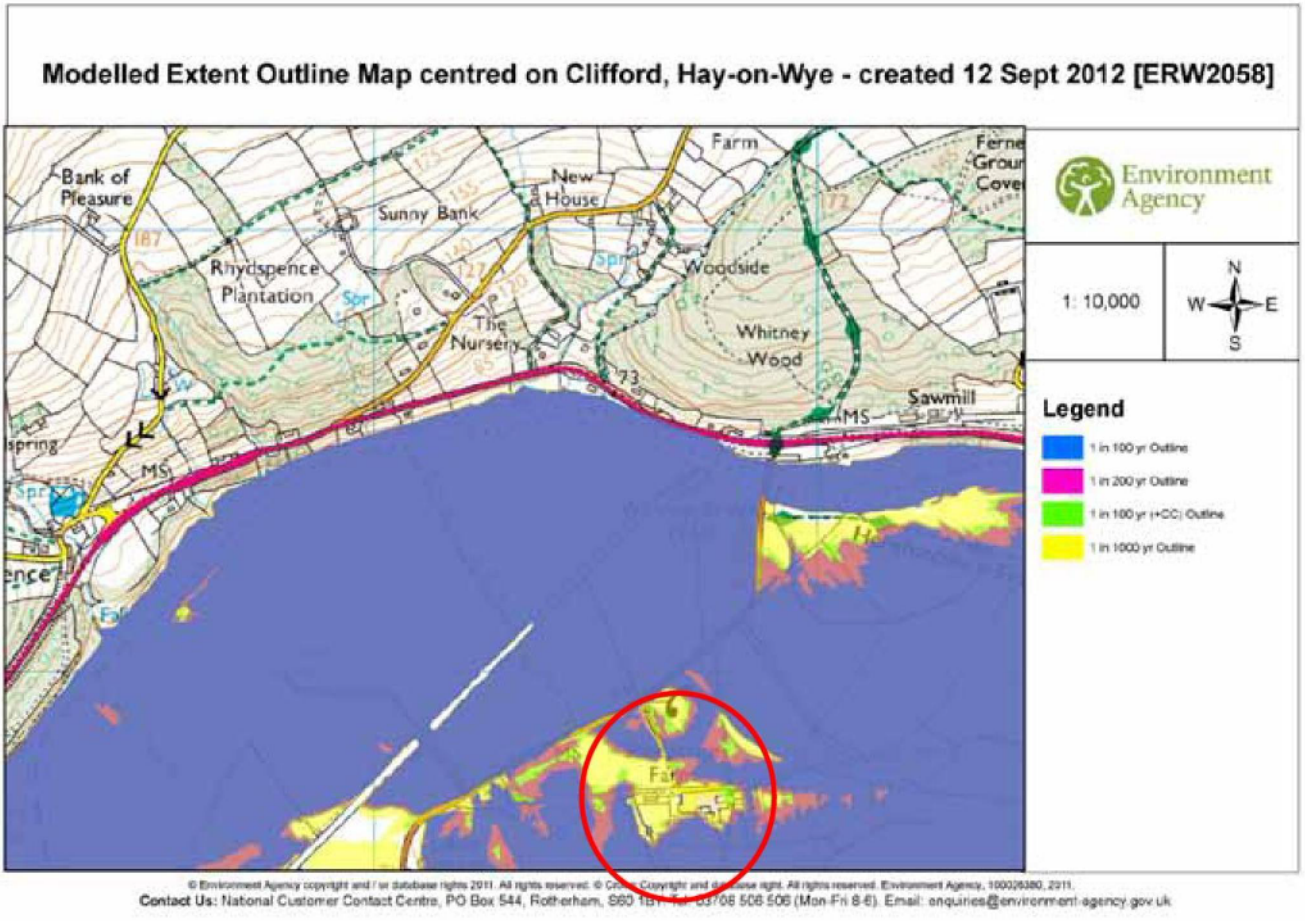
For Callum Mannox and Poppy Talbot
1 Sheepcote Farm
Clifford
Hereford, HR3 5HU

Application for 4 single bed holiday retreats (which meet the legal definition of a caravan), associated parking spaces and ancillary amenity structures at Sheepcote, Clifford, HR3 5HU.

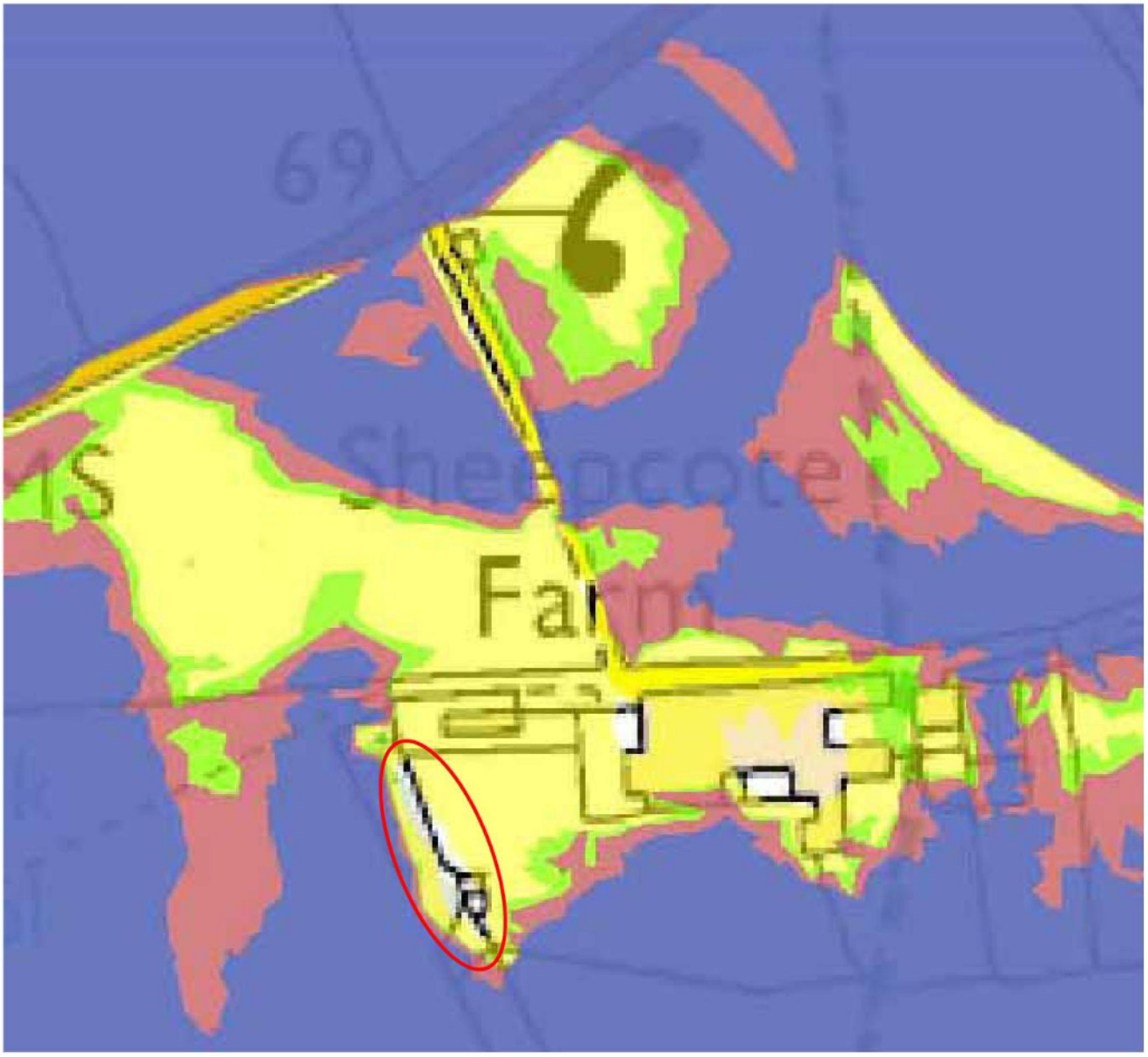
Fluvial Flood Risk

Introduction

The Environment Agency has been approached and the very latest flood modelling data has been obtained. This flood data is yet to be intergraded within the standard EA flood advice maps available on-line, however, we have been informed by the EA that this flood model will be integrated into the generic flood maps in due course. As can be seen from the plan and extract plan below, the site has been deemed as flood free where all new occupied structures are to be located.



Area indicated above extracted in greater detail below.



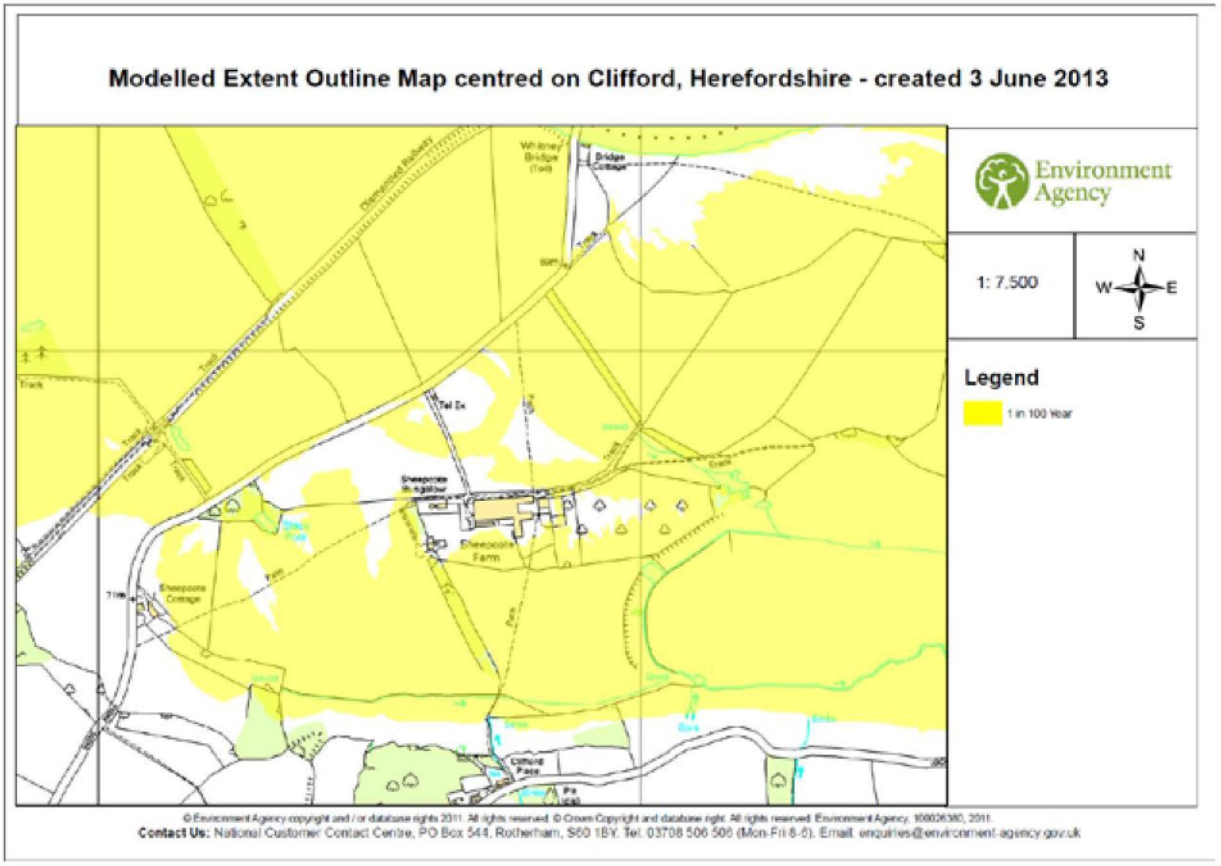
As can be clearly seen from the image above according to flood maps the site where the retreats are to be located is flood free or flood zone 1. The extremities of the overall site area are at the very worst case in zone 2 and outside Zone C3 (the restricted area in terms of Planning Policy).

During the original application the EA objected to the development citing a lack of sufficient information to determine flood risk effectively.

Further discussions with Mrs L Watkins (Herefordshire Flood & Coastal Risk Officer) resolved that further clarification was required to establish 1) that the proposed structures are outside the 1in 100 year flood line and 2) flood depths and risk to persons using the Defra Flood Hazard Ratings – FHR.

1)

Following planning refusal Mrs Watkins kindly supplied a detailed map (below) indicating the 1:100 year flood zone in detail.



When reviewing the above map and the flood levels proposed by the EA flood model it became clear that a significant discrepancy existed between the flood maps and the flood level data. The latter indicating flood levels over 1m higher than the existing ground level of the site and any flood since record began (clearly incorrect). It was suggested that the flood model used to create level data was glass walled within the extensive flood plain triggering false results.

A full and accurate survey of the site has been carried out and the EA (through extensive discussions) have concluded that the flood level for a 1 in 100 year risk is

68.5m AOD. Using this level and the survey we have created a site specific plan as attached (plan number SCH FL01A). The location of the retreats as the magenta outlines on the plan confirm that all proposed structures are outside the 1 in 100 year flood line or flood zone 3, and given they are on stilts 520mm above the ground, the finished floor levels will be between 750mm and 1000mm above the flood level.

Extensive discussions with the Environment Agency have resulted in a letter from them dated the 10th December 2013 (attached at appendix A). Within this letter at page 1 paragraph 3 it is confirmed that the holiday retreats are located partly within flood zones 1 and 2 of the river Wye. At page 1 paragraph 5 it is confirmed that the NPPF states that 'only where there are no reasonably available sites in Flood Zones 1 or 2 should the suitability of sizes in flood zone 3 be considered'. While it is accepted that the periphery of the application site is in flood zone 3, as the legal extent of the applicants land, all of the areas that are to contain vulnerable built structures are in flood zones 1 and 2. It is therefore considered that this application is in full accordance with the NPPF. Furthermore, on page 2 paragraph 4 the EA state the proposed holiday retreats are considered acceptable.

2)

While the location of the retreats is deemed acceptable by the EA, as discussed above, correspondence confirms that the main road at the head of the access road is liable to flooding. A plan attached to the application (number SCH FL01A) identifies that the pedestrian and vehicular egress route is flood free apart from a length of road the site entrance. The survey has established that the flood depth in this area will be no greater than 120mm based on a 1:100 risk.

This evidence has been analysed against the guidance document 'Flood Risks to People, Phase 2' by Defra and the Environment Agency. The flood Hazard rating is established in accordance with the methodology on page 24 as below:

Flood Hazard

The Flood Hazard rating is calculated using the following equation:

$$HR = d \times (v + 0.5) + DF$$

where,

HR = (flood) hazard rating;

d = depth of flooding (m);

v = velocity of floodwaters (m/sec); and

DF = debris factor calculated using Table 3.1

Table 3.1 Guidance on debris factors for different flood depths, velocities and dominant land uses

Depths	Pasture/Arable	Woodland	Urban
0 to 0.25 m	0	0	0
0.25 to 0.75 m	0	0.5	1
d>0.75 m and/or v>2	0.5	1	1

Ref: FD2321/TR1 Table 3.1

In this scenario:

HR= 0.12 x (V+0.5) + 0

V, or the velocity is not on EA recorded for this area, however, Mr Wilfred Harley who has lived on site for nearly 70 years has confirmed that during the floods in 1947 this site did not flood and that flood water was moving but not a raging torrent.

On the basis of this evidence we have calculated V as 1m per second. Therefore:

HR =0.12 x 1.5 + 0 = **0.18**

The following table on page 16 of the guidance document establishes that the flood depths, when related to the flood hazard rating, are no risk to persons. It should be noted that even if the flood water velocity were 2m per second (with a resultant flood hazard rating of 0.3) the flood depths still offer no risk to persons.

d * (v+0.5) + DF

Velocity	Depth 0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50
0.00	0.13	0.25	0.38	0.50	0.63	0.75	0.88	1.00	1.13	1.25
0.50	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50
1.00	0.38	0.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75
1.50	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00
2.00	0.63	1.25	1.88	2.50	3.13	3.75	4.38	5.00	5.63	6.25
2.50	0.75	1.50	2.25	3.00	3.75	4.50	5.25	6.00	6.75	7.50
3.00	0.88	1.75	2.63	3.50	4.38	5.25	6.13	7.00	7.88	8.75
3.50	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
4.00	1.13	2.25	3.38	4.50	5.63	6.75	7.88	9.00	10.13	11.25
4.50	1.25	2.50	3.75	5.00	6.25	7.50	8.75	10.00	11.25	12.50
5.00	1.38	2.75	4.13	5.50	6.88	8.25	9.63	11.00	12.38	13.75

Categories of flood hazard:

	From	To	
Class 1	0.75	1.50	Danger for some
Class 2	1.50	2.50	Danger for most
Class 3	2.50	20.00	Danger for all

Note: The table gives values of flood hazard (= d*(v+0.5) +DF)

The flood depth of 120mm is also confirmed as passable within the guidance note for those walking and all modes of transport as the following extracts.

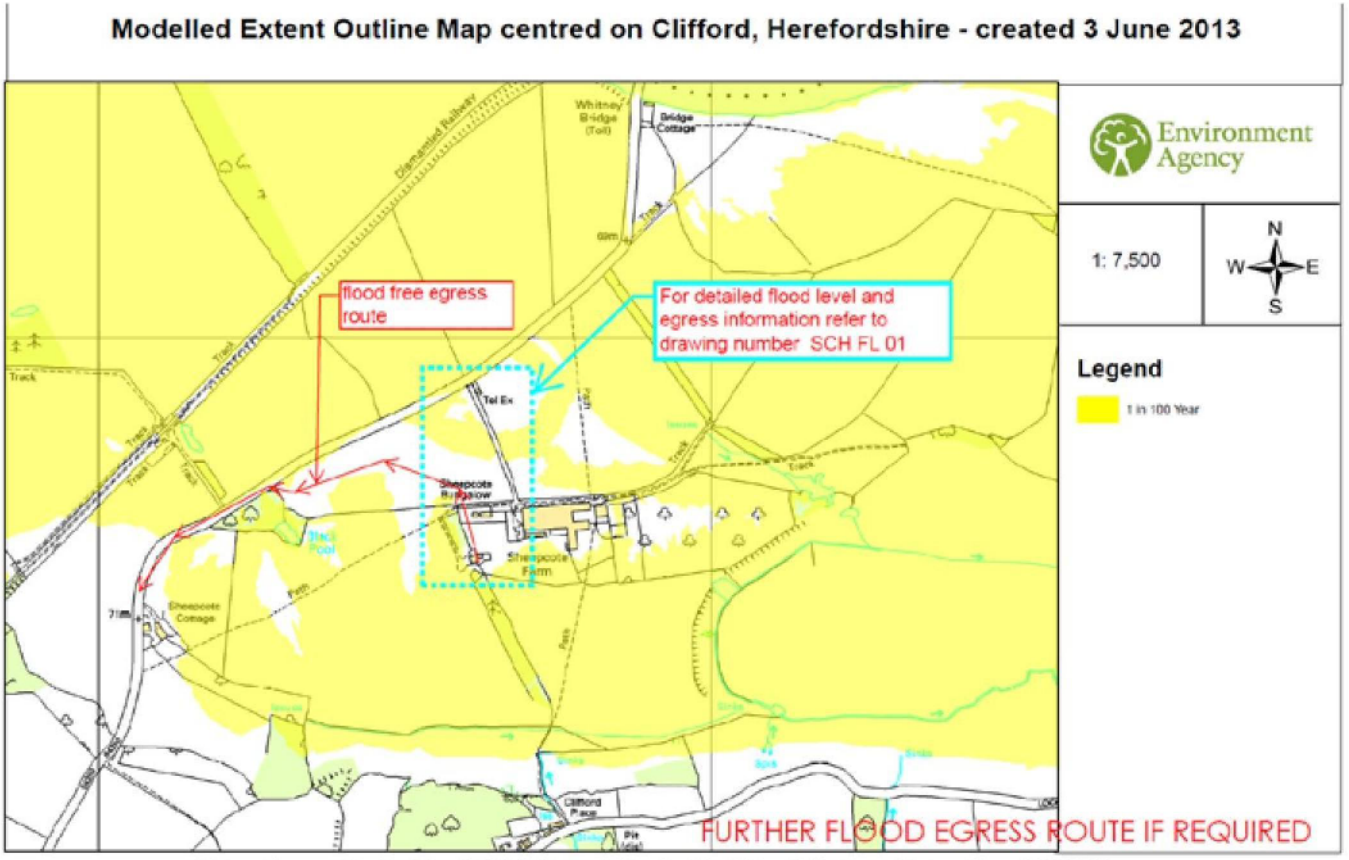
Adults are unable to stand in still floodwater with a depth of about 1.5m or greater, although this is obviously affected by the height of the person. The depth of flowing floodwater where people are unable to stand is much less. For example, some people will be at risk when the water depth is only 0.5m if the velocity is 1m/s (about 2 mph). If the velocity increases to 2m/s (about 4mph), some people will be unable to stand in a depth of water of only 0.3m. Most people will be unable to stand when the velocity is 2m/s and the depth is 0.6m.

Driving vehicles in floodwaters

Many deaths in floods occur because people attempt to drive through or away from floodwater and get swept away or trapped in their cars. Their cars either then get swept away as a result of positive buoyancy or stuck in the floodwater.

Most cars and vans are unstable in 0.5 metres of still water. This depth reduces as the velocity of the water increases. Even large vehicles such as fire engines become unstable in 0.9 metres of still water, and this value also reduces as the velocity of the water increases.

Furthermore, the following diagram also indicates that a flood free egress route is available from the site.



The letter from the EA dated the 10th December 2013 (attached at appendix A) on page 2 paragraph 7 raises concern that flood depth in excess of 600mm could occur between the site and Whitney Bridge, and within paragraphs 8 and 9 on page 2 that as a result the risk will increase to medium. As a result of this increased risk it is suggested that we should seek approval from the Local Authorities Emergency Planners. I feel this request is unreasonably onerous as in times of flood it is very unlikely that drivers will turn towards the river and as in times of potential flood it will be made clear to guests that they should not drive in this direction (as the evacuation plan below). However, to be thorough, we with the applicant have prepared the following flood Evacuation plan in the interests of good practice.

Flood Warning and Evacuation Plan

In accordance with advice received the following plan has been prepared. This plan will be incorporated in full (including all listed plans) within the welcome packs issued to all guests upon arrival.

Proposed
FLOOD WARNING AND EVACUATION PLAN

Sheepcote Holiday Retreats
1 Sheepcote Farm
Clifford
HR3 5HU

Planning Application No: To be confirmed	
Site Address:	**Sheepcote Holiday Retreats 1 Sheepcote Farm Clifford HR3 5HU**
Proposal:	**The construction of 4no Holiday Chalets on raised platforms**
	Flood Risk Assessment above will be Attached
	EA consultation letter at Appendix will be attached
Agent Contact Details:	**CO2 Architects Limited Lower Galfog Llanigon Hereford HR3 5QB**

Document Control
This plan is owned, maintained and updated by Hay Retreats All stakeholders of the plan are asked to inform the above of any changes in circumstances that may materially affect the plan in anyway. Details of any changes should be sent to: Callum Mannox, 1 Sheepcote Farm, Clifford, HR3 5HU. This plan should be reviewed • On first occupation • Every 3 years following first occupation or; • As a result of lessons identified following a flood event or exercise, or; • Following changes of ownership/use of the property or; • Following changes to the Flood Warning process. **Signed:** **Dated:** **Version No:**

FLOOD EMERGENCY PLAN

Introduction

Required Information that will be located in Appendix A: (As attached to the application)

- Site Location Plan (A4, scale 1:1250 with named roads)
- Site Layout Plan

Background Information.

The site for the holiday retreats at Sheepcote near Clifford is a former Hunt Kennels and lies within the curtilage of the applicants residential property. The proposed holiday retreats will nestle into both existing and new woodland. The proposed structures are at the cutting edge of design using timber technology and float above the ground with a very light touch. They will be permanently secured to pad footings but could easily be removed in future with no visual scar in the landscape remaining.

Management Information

- The site will be managed by Hay Retreats and specifically Callum Mannox and his team. A team member will be on site almost 24 hours (they live on site) and will be on call 24 hours a day.

The main contact will be:

Callum Mannox, 1 Sheepcote Farm, Clifford, HR3 5HU.

Mobile number: [redacted]

2. Flood Risk				
Details of the types of flooding the development is at risk from, the source of the potential flooding, warning systems in place, the frequency/ probability of flooding, depth and estimated time from warning to onset of flooding. **Attach a copy of flood risk map(s)**.				
Flood Risk Source	**Warning System in place (Eg the EA's Flood Warnings Direct service, MET Office)**	**Estimated Warning Time (Hrs)**	**Estimated Flood Depth (m AOD)**	**Frequency / Probability of Flooding from this source**
Fluvial Flooding River Wye	EA Flood warning direct	24 hours	Max 68.6 m AOD 200mm	1 in 100 years The site where the Holiday retreats are situate have been deemed flood free by the Environment Agency as attached correspondence dated 10th December 2013. The surrounding fields and access road are at risk of flooding to a depth of 200mm. **Flood waters toward Whitney toll bridge will be deeper and Residents are to be instructed to drive towards Hay on Wye in all potential flood circumstances.**

Advisory - Flood Warnings
The Environment Agency (EA) operate a flood forecasting and warning service in areas at risk of flooding from rivers or the sea, which relies on direct measurements of rainfall, river levels, tide levels, in-house predictive models, rainfall radar data and information from the Met Office. This service operates 24hours a day, 365 days a year. If flooding is forecast, warnings are issued using a set of four easily recognisable codes see page 7.

3. Flood Mitigation Measures

Hard Defence Measures (construction)

The floor levels of the retreats will be set at a minimum of 69.25m AOD 750mm above a 1 in 100 year risk for climate change (68.5m AOD)

The retreats will be bolted to substantial concrete pad footings to ensure they are secure in the event of an unanticipated flood depth.

Soft Defence measures (temporary flood barriers)

These flood measures will not be required, The only flood risk to this project as deemed by the EA is an opportunity for safe site egress in the event of an extreme flood. Mr Mannox (owner and applicant) has already signed up to the EA advance warning notice scheme and on the receipt of such an alert will closely monitor river flood levels and advise residents of the retreats that they may have to vacate the premised. If it is deemed likely that the egress road may flood Mr Mannox can arrange temporary accommodation in the centre of Hay-on-Wye to ensure residents are safely and comfortably evacuation with minimal disruption to their local stay. Mr Mannox and his business partners own 5 holiday homes in the centre of Hay-On-Wye and a personal home large enough to accommodate all guests of the holiday retreat proposal in the event of an emergency.

Signing up to Flood Warning Services

Developers should actively encourage owners/ occupiers to sign up to the Environment Agency's Flood Warning Service (Flood Warnings Direct - FWD)
FWD is a free service that provides flood warnings direct to you by telephone, mobile, email, SMS text message and fax. To sign up to the service, call 0845 988 1188 or visit the EA's web pages.

4. Flood Warning Activation Procedures

WARNINGS		EA recommended actions	SITE		
			Actions	**Communications**	**Responsible person**
 **Flood Alert**	**What it means** Flooding is possible. Be prepared. **When it's used** Two hours to two days in advance of flooding.	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.	If a flood alert is received the river level will be closely monitored and alternative accommodation arrangements options will be clarified with all guests. The option of immediate transfer to alternative accommodation will be offered but will not be mandatory	Each of the four retreats will be equipped with an intercom system so emergencies can be report and instructions given instantly	Management Team living on site to decision of occupant.
 **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.	Move family, pets and valuables to a safe place. Turn off gas, electricity and water supplies if safe to do so. Put flood protection equipment in place.	If a flood warning is received the river level will be closely monitored and alternative accommodation arrangements options will be arranged for with all guests. The option of immediate transfer to alternative accommodation will be offered but will not be mandatory.	Each of the four retreats will be equipped with an intercom system so emergencies can be report and instructions given instantly	Management Team living on site.
 **Severe Flood Warning**	**What it means** Severe flooding. Danger to life. **When it's used** When flooding poses a significant threat to life.	Stay in a safe place with a means of escape. Be ready should you need to evacuate from your home. Co-operate with the emergency services. Call 999 if you are in immediate danger.	If a severe flood warning is received alternative accommodation arrangements will be arranged for all guests. Mandatory and immediate transfer to alternative accommodation in Hay-on-Wye will be carried out.	Each of the four retreats will be equipped with an intercom system so emergencies can be report and instructions given instantly	Management Team living on site.
EA Flood Warnings No longer in force	**What it means** No further flooding is currently expected in your area. **When it's used** When river or sea conditions begin to return to normal.	Be careful. Flood water may still be around for several days. If you've been flooded, ring your insurance company as soon as possible.	River levels will continue to be monitored and all guests will be made aware of what actions will be taken if the alert level increases.	Each of the four retreats will be equipped with an intercom system so emergencies can be report and instructions given instantly	Management Team living on site.
MET Office Weather Warnings	Warnings of heavy rainfall Warnings of severe winter weather e.g. hail, snow, freezing rain.	Consider the impact of this type of weather – e.g. this could lead to surface water flooding, ground water flooding, increased river and sea levels etc	River levels will be monitored and all guests will be made aware of what actions will be taken if the alert level increases.	Each of the four retreats will be equipped with an intercom system so emergencies can be report and instructions given instantly	Management Team living on site.

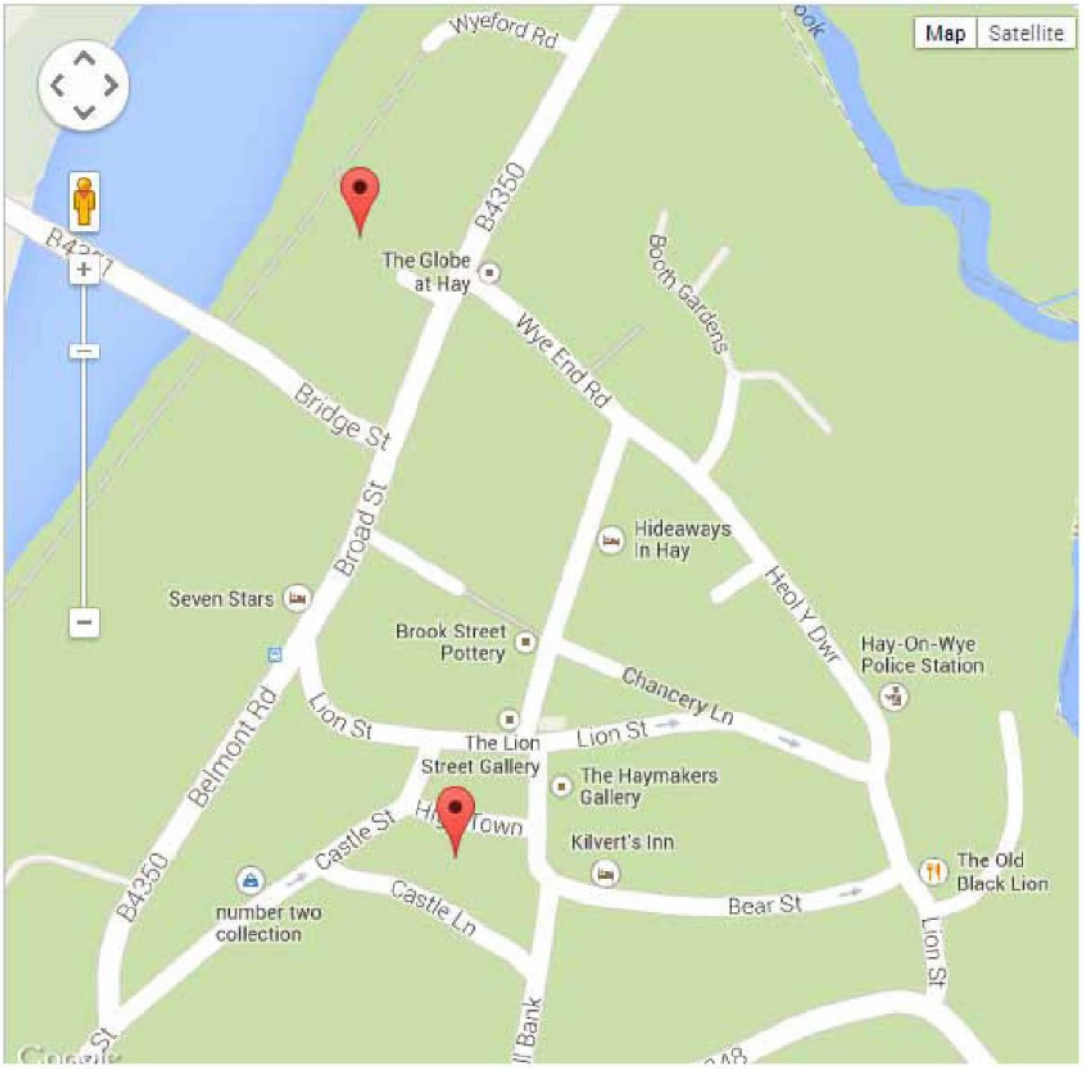
5. Safe Refuge / Rest Centre

- Please insert details of any safe refuges that you have permission to occupy in an emergency and mark on a map.
  Address:

  3 properties at Millbank, Hay-on-Wye

  2 properties at Grove House, Hay-on-Wye

  1 family home at Bank House, Hay-on-Wye



- How many people could be accommodated here? 25

- What resources/ equipment do you have to provide refreshments/feeding/shelter and how long could it sustain evacuees? Full equipped houses and flats.

6. Evacuation

Evacuations will be conducted in the dry and it is understood that flood waters contain hidden dangers and evacuation will no longer be possible but rather a rescue operation by the emergency services.

It will not be assumed that the emergency services will be able to assist with evacuation. It is understood that the focus of any emergency response will be to those who are immediately vulnerable

Consideration will be given to the road network around the site; evacuation routes will be sign posted

The evacuation procedure will include options for the evacuation of all people on site (including those with vulnerabilities). It is assumed that visitors will not have local knowledge and will need to be guided to a safe route/ location.

Recovery

Following a flood there may be environmental hazards, loss of utilities and other issues that may need to be rectified before guests are allowed back into premises. Each retreat and surrounding areas will be checked before the site is re-occupied.

Training and Exercising

All personnel who visit or work at the site will be made aware of this plan and briefed/ trained accordingly. The plan will be exercised on an annual basis – this will be by means of a Table-top exercise or physical testing of the plan.

Flood Warning and Evacuation Plan (FWEP) consultation

The first draft of the FWEP has been kindly been reviewed by the Hereford Emergency planning team in advance of this application, they have issued the following extracted correspondence. For reasons of simplicity and clarity each of the issues raised have been answered in red immediately following each relevant extracted paragraph.

SITE :	Land adjacent to Sheepcote Bungalows, Clifford
TYPE:	Pre-Application Enquiry
DESCRIPTION:	Pre-application in respect of the resubmission of an application for 4 holiday pods/chalets
APPLICATION NO:	P140591/CE
GRID REFERENCE:	OS 325607, 246665

Introduction

This response is in regard to flood risk and land drainage aspects, with information obtained from the following sources:

- Environment Agency (EA) indicative flood maps available through the EA website;
- EA groundwater maps available through the EA website;
- Ordnance Survey mapping;
- Strategic Flood Risk Assessment for Herefordshire;
- Herefordshire Unitary Development Plan - March 2007.

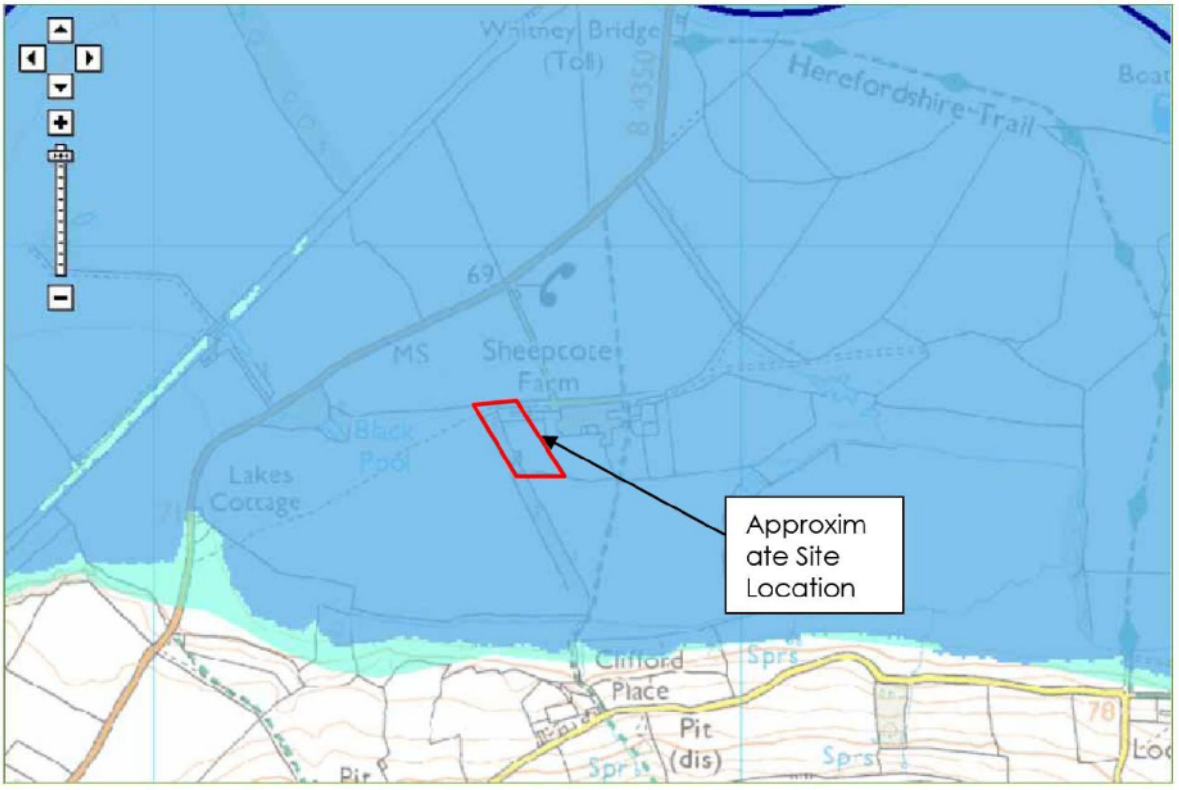
It should be noted that the more extensive data available from the EA, used to inform this FCA and Flood Warning and evacuation plan has not been utilised.

Our knowledge of the development proposals has been obtained from the following sources:

- Application Form;
- Covering letter;
- EA response to draft Flood Risk Assessment (FRA);
- Draft Flood Warning and Evacuation Plan;
- Flood Consequences Assessment;
- Proposed Plans.

Site location

Figure 1: Environment Agency Flood Map for Planning (Rivers and Sea), April 2014



Overview of the Proposal

The Applicant proposes to construct 4 holiday chalets. The proposed development site covers an area of 0.47ha. The EA Flood Map for Planning (Figure 1) shows that the entire site is located in the high risk Flood Zone 3.

As established above, this map is out of date and inaccurate and agreed through discussions by the EA.

The Applicant submitted the FRA. However it considers fluvial flood risk only. There are discrepancies in flood data provided by the Applicant in the FRA, EA response and the Indicative Floodplain Map currently available on the EA website.
The Applicant also submitted Flood Evacuation Plan (FEP).
No information on surface water and foul water drainage has been submitted.

Details of surface water drainage (via soakaways) and foul water drainage (package treatment plant) are included within the Design and Access Statement and on the application forms and plans.

Fluvial Flood Risk

The Applicant has submitted a Flood Risk Assessment (FRA) for this site. In accordance with Environment Agency standing advice and review of the EA Flood Map for Planning, a FRA is required to support the planning application due to the location of areas of the site within Flood Zone 3, as set out in Table 1.

Table 1: Scenarios requiring a FRA.

	Within Flood Zone 3	Within Flood Zone 2	Witihn Flood Zone 1
Site area less than 1ha	FRA required	FRA required	FRA not required
Site area greater than 1ha	FRA required	FRA required	FRA required

However, the Applicant's FRA indicates that the EA Flood Map for Planning may not provide an accurate reflection of fluvial flood risk in this location:

This fact has been established by the EA themselves through conflicting more considered correspondence attached at Appendix A.

1. The Applicant's FRA includes an EA Flood Map dated 12th September 2012 and EA Flood Map dated 3rd June that indicate that the proposed site is located outside of the 1 in 100 year flood outline (i.e. Flood Zone 3) but partially within the medium risk Flood Zone 2 where the annual probability of flooding is between 1 in 100 and 1 in 1000.

   Agreed, please note this plan as attached is now revision A.

2. The Proposed Plans include Flood Risk Plan (drawing SCH FL01) although it is unclear how the 1 in 100 year flood line shown on this plan has been established. Drawings SCH FL01 and SCH P03 also show a slightly different proposed site layout and it is unclear which one is correct. We recommend that this clarified within the planning application.

   The flood level has been established by the EA through detailed discussions and analysis and this level has been plotted against a survey carried out by a specialist survey company PM Consultants in accordance with ISO 9001:2008. Please refer to the application for the latest drawings.

3. The EA response dated 10th December 2013 states that the flood model of the River Wye is being reviewed in order to investigate the difference between mapped flood outlines and tabulated flood level data. The EA provided a flood level of 68.6m AOD for the modelled 1 in100 year event with a 20% climate change allowance.

   Agreed, however planning policy is specific to the 1 in 100 flood risk established at 68.5m AOD.

4. The EA response dated 10th December 2013 also confirmed that the proposed site is located partially within Flood Zone 1 and Flood Zone 2 (and outside of Flood Zone 3) but that the site was surrounded by floodwaters during the 1 in 100 year flood event. Consideration of emergency access and egress with therefore be required and agreed with the Herefordshire Emergency Planners.

   See comments at end of page 8

It is recommended that the Applicant's planning submission is supported by a robust FRA prepared in accordance with NPPF and contains a clear explanation and illustration of the most accurate flood

extents at the site. It is recommended that this is supported by a topographical survey of the site and illustration of proposed access/egress routes to enable assessment of flood water depth.

This has been done as attached to the application and within this report.

The Technical Guidance to NPPF identifies five classifications of flood risk vulnerability and provides recommendations on the compatibility of each vulnerability classification within each of the Flood Zones, as shown in Table 2.

Table 2: Flood risk vulnerability and flood zone compatibility

EA Flood Zone	Essential Infrastructure	Water Compatible	Highly Vulnerable	More vulnerable	Less vulnerable
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	✓	Exception test required	✓	✓
Zone 3a	Exception test required	✓	×	Exception test required	✓
Zone 3b	Exception test required	✓	×	×	×

✓ Development considered acceptable

× Development considered unacceptable

The Technical Guidance to NPPF states that sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan, are to be considered as 'more vulnerable' development.

More vulnerable use is accepted

With reference to Table 2 above, 'more vulnerable' development would be considered appropriate in Flood Zones 1 and 2. However, for 'more vulnerable' development in Flood Zone 3a the Exception Test would need to be passed as discussed below.

It has been established both by the FCA and indeed the Environment Agency that the Holiday retreats are not located in flood zone 3a as discussed thought out this and previous reports. Table 2 confirms that more vulnerable development is considered acceptable in flood zones 1 and 2 without the need for an exception test.

For the Exception Test to be passed, a site-specific FRA must be prepared that demonstrates:

- It is not possible for the development to be located on land with a lower probability of flooding;
- The development provides wider sustainability benefits to the community that outweigh flood risk, and;

- 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.

Whilst NPPF states that the Sequential and Exceptions Tests do not apply to minor developments and change of use sites, NPPF also states that for any proposal involving a change of use to a caravan, camping or chalet site, or to a mobile home site or park home site, the Sequential and Exception Tests should still be applied.

As the proposed structures are not in flood zone 3 it would be grossly unreasonable to require this application for such a minor development to meet a sequential and exception test.

Finished floor levels will need to be raised to protect the proposed development against flood risk. Typically, this would be 0.3m to 0.6m above the predicted (or recorded) 1 in 100 year flood level and allowing for the potential effects of climate change.

As established by this FCA and previous submitted reports the finished floor levels are between 750mm and 1000mm above a 1 in 100 year flood risk.

Additional flood resilience measures will also be required, including a flood warning and evacuation plan and demonstration of safe access and aggress. This should be discussed and agreed with the Herefordshire Emergency Planners.

Included above, and can be amended to include further advice to the reasonable wishes of the Emergency Planners. This can be reserved by planning condition. Concern has been raised regarding the flood waters at the head of the access road and the junction with the main road. This FCA and FWEP has established that guests will have safe egress through flood waters in this location to Hay on Wye through flood waters no deeper that 120mm in the very worst case. It would be unreasonable to consider this of concern when analysis through a flood hazard rating has confirmed the risk to be low (as discussed above).

Surface Water Flood Risk

The EA Surface Water Flood Risk map indicates that the site is not located in area at risk of flooding from surface water. However, this should also be considered in the Applicant's FRA.

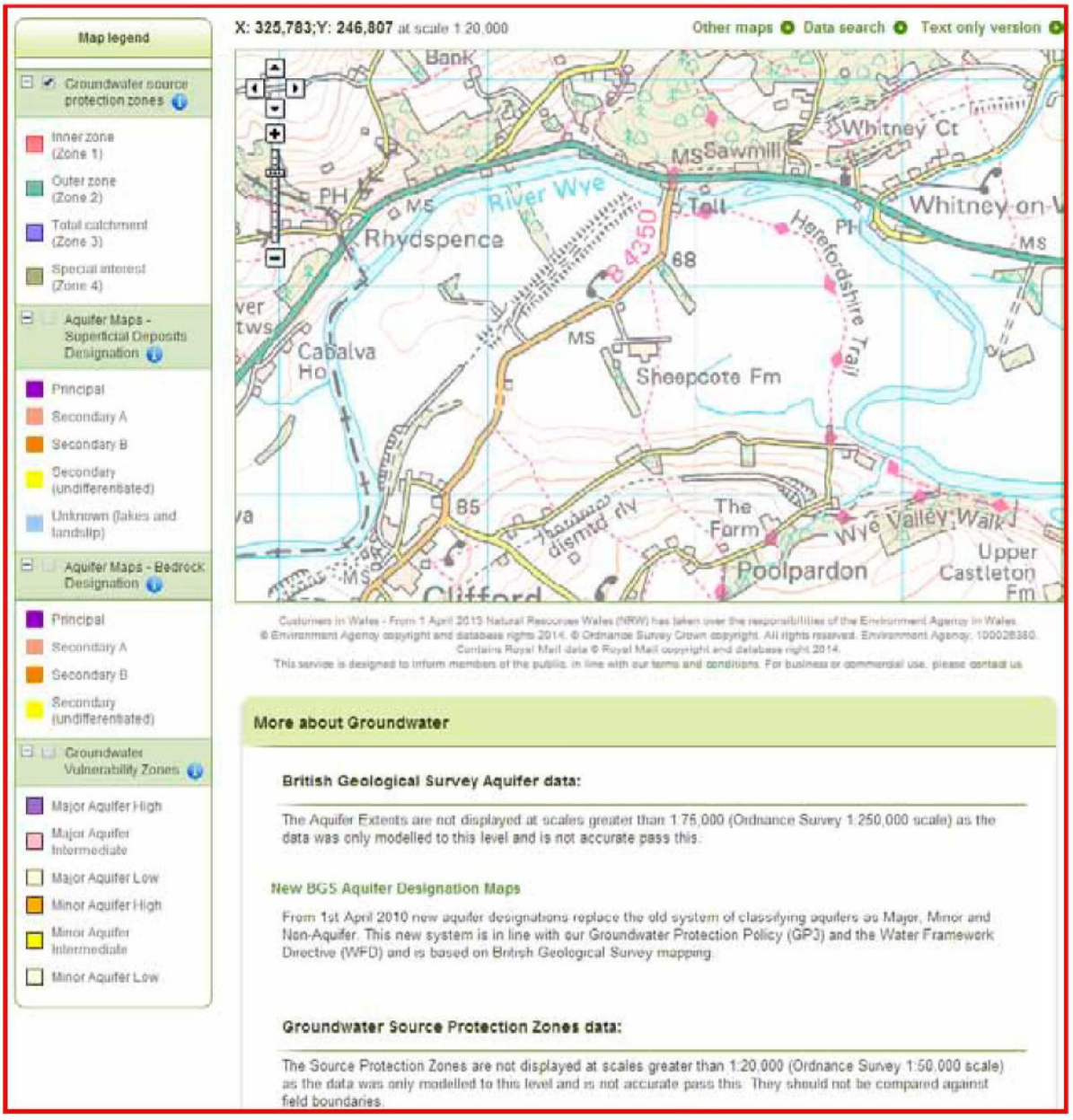
The exclusion of this element from the previous FCA was an oversight. Surface Water flood risk has now been considered and as the land is at no risk from surface water flooding is not considered by this Flood Risk assessment to be an issue worthy of debate. Given the retreats are suspended above the ground on stilts in the unprecedented event of surface water flooding the residents would be safe as would the egress routes which are all on higher ground.

Other Considerations and Sources of Flood Risk

The submitted FRA does not currently comply with the statutory requirements of NPPF and does not provide an assessment of flood risk from all sources. In accordance with the NPPF the following sources of flooding should be considered:

- Fluvial; included
- Tidal, if appropriate; Not applicable in this location
- Groundwater;
-

The following extract from the EA website confirms that this site is at no risk from ground water:



- Surface water; included above
- Sewers; none in the location so not applicable
- Artificial sources such as reservoirs and canals. none in the location so not applicable

The proposed development site is not located in a groundwater Source Protection Zone (SPZ) hence all type of infiltration techniques will be acceptable - subject to review of soil infiltration rates and groundwater levels.

Details are included within the application

Surface Water Drainage

No information of surface water drainage has been submitted with the pre-application enquiry.

The applicant should provide an outline drainage strategy demonstrating how surface water and foul water from the proposed development will be managed.

This is included within the application

The strategy must demonstrate that there is no increased risk of flooding to the site or downstream of the site as a result of development up to the 1 in 100 year event and allowing for the potential effects of climate change over the lifetime of the development.

As the proposal generates no additional surface water as all external surfaces are permeable as existing and water collected on roofs will be discharged to soakaways, there will be no adverse impact on flood risk, indeed as the buildings are on stilts and the large expanse of concrete impermeable surfaces in and around the existing large structure are being removed, the level of surface water and flood water storage capacity will be improved as a result of these proposals.

In accordance with the draft National Standards for Sustainable Drainage and Policy DR4 of the Unitary Development Plan, the drainage strategy should incorporate the use of Sustainable Drainage (SUDS) where possible. The surface water drainage strategy should be designed to mimic the existing drainage of the site. Infiltration measures are to be used unless it is demonstrated that infiltration is infeasible due to the underlying soil conditions or groundwater contamination risks.

This is the case, all paths are made from wood chip and water collected from roofs will be discharged into the ground, the site will become more sustainable regarding the way water is handled as discussed above.

If drainage of the site cannot be achieved successfully through infiltration, the preferred options are (in order of preference): (i) a controlled discharge to a local watercourse, or (ii) a controlled discharge into the public sewer network (depending on availability and capacity). The rate and volume of discharge should be restricted to the pre-development Greenfield values, up to and including the 1 in 100 year event and allowing for the potential effects of climate change. Reference should be made to Defra/EA document 'Preliminary Rainfall Runoff Management for Developments' (Revision E, January 2012) for guidance on calculating Greenfield runoff rates and volumes.

Not applicable as water will be handled through infiltration.

Where infiltration techniques are proposed, the applicant should provide soil infiltration test results to inform the design prior to construction. The applicant should also provide information on groundwater levels as it is recommended that the invert level of a soakaway should be at least 1m above the groundwater level.

Percolation tests have been carried out and no we understand ground water was discovered at the appropriate depths on the site.

We recommend that the applicant should contact Dwr Cymru Welsh Water in regards to foul water discharge (and surface water discharge if infiltration and discharge to a watercourse is found to be not feasible) from the site to check whether it is feasible to connect to the public sewers. If a package treatment plant is proposed, the Applicant should discuss this with the EA.

Not an issue as discussed above.

Summary

These proposals present an opportunity for the enhancement and economic stimulation of the area, this is at the heart of Planning Policy. This report demonstrated that the proposals are safe and flood free. The project will be an exemplar, demonstrating how similar leisure and tourism projects should be implemented. We therefore trust that this application will be approved and indeed supported by all stakeholders.

Thank you.

Appendix A

Mr. S Organ

Our ref: SV/2013/107427/01-L01
Your ref: 130427

Date: 10 December 2013

Dear Mr. Organ

DRAFT FRA IS RELATION TO 5 NO. SINGLE BED HOLIDAY CHALETS, ASSOCIATED PARKING SPACES AND ANCILLARY AMENITY STRUCTURES AT LAND ADJACENT TO SHEEPCOTE, CLIFFORD, HEREFORDSHIRE, HR3 5HU

Thank you for your updated Flood Risk Assessment (FRA), prepared in support of the proposed planning application for 4 holiday chalets on land at Sheepcote Farm.

Please note that although a flood model for the River Wye has been undertaken by consultants commissioned on behalf of the Environment Agency, it is currently being reviewed in order for them to investigate the difference between the flood outlines and the tabulated flood levels. Whilst we would advise the applicant to await the outcome of this review we have assessed the FRA submitted, which is based upon the information currently available, and make the following comments.

Flood Risk: According to our latest flood modelled outlines the site for the proposed holiday retreats are located partly within Flood Zone 1 and 2 of the River Wye. Sheepcote Farm and associated buildings are located within the floodplain and although some parts of it flood, it is on an area of higher ground than the surrounding Wye floodplain, i.e. a dry island. With the exception of the access road (average level >69mAOD), which is above the 1 in 100 year plus 20% (allowance for climate change) flood level (68.6mAOD), the site is completely surrounded by floodwaters during the 1 in 100 year flood event. We have no records to indicate that the site has flooded in the past.

Sequential Test: Paragraph 101 of the National Planning Policy Framework (NPPF) requires decision-makers to steer new development to areas at the lowest probability of flooding by applying a 'Sequential Test'. It states that 'Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower probability of flooding'.

Further detail is provided in the Technical Guidance to the NPPF. This states that 'Only where there are no reasonably available sites in Flood Zones 1 or 2 should the

suitability of sites in Flood Zone 3 be considered, taking into account the flood risk vulnerability of land uses and applying the Exception Test if required (see Paragraph 102 of the NPPF).

Based on the scale and nature of the proposal, which is considered non-major development in accordance with NPPF footnote 10, we would not make any bespoke comments on the Sequential Test, in this instance. The fact that we are not providing comments does not mean that there are no sequential test issues, but we leave this for the LPA to consider. Providing the LPA are satisfied on the Sequential Test we would make the following comments on the FRA.

Flood Risk Assessment (FRA): In the absence of modelled flood levels, you have made an estimate of the 1 in 100 year flood level using historic flood levels, current flood outlines and Lidar, together with anecdotal evidence supplied by Mr Harley (the long standing resident). You have identified that the flood levels range from 68.4mAOD adjacent to the site (using current 1 in 100 year flood outline overlaid on ground survey) and 69mAOD (historic flood record) where the access track meets the lane, as the highest recorded flood levels on the Wye at this location.

We have also carried out our own internal checks using the modelled flood outlines against the Lidar (ground survey) for the area and have identified that the 1 in 100 year River Wye flood level for the site is approximately 68.5mAOD and the 1 in 100 year 20% (allowance for climate change) is 68.6mAOD.

The proposed holiday retreats are located outside the 1 in 100 plus 20% floodplain and the finished floor levels are to be set >600mm above the 1 in 100 year plus 20% flood level of 68.6mAOD and are therefore considered acceptable.

Safe access/egress: Whilst ground levels along the access route from the holiday retreats to the lane have been provided, they do not extend the full route along the lane to land outside the floodplain (moving in a south-westerly direction). Using Lidar survey data we have checked the rest of the route and have identified that the lowest point on the lane is ~68.4mAOD. The average level along the lane is ~68.8mAOD with the level along the whole access track being >69mAOD. There is also a low spot between holiday retreat 1 and the parking area of 68.42mAOD.

Based on the flood information provided, during the 1 in 100 year (68.5mAOD) and 1 in 100 year plus 20% (68.6mAOD) flood events, some sections of the access route will flood to ~100mm to ~200mm, respectively. However, based on the historic record of 69mAOD on the lane (between Whitney Bridge and where the access track joins the lane), the depths of flooding on the lane would be significantly deeper ~600mm.

Although the hazard during the 1 in 100 year and 1 in 100 year plus 20% flood events is identified as Low Risk in accordance with the Defra FHR, based upon the historic flood record we are concerned that this risk will increase to Medium during events that match the historic flood or exceed the 1 in 100 year plus 20% event.

For this reason, we advise you to discuss and seek the approval of the Local Authority's Emergency Planners with regard to the safe access and egress route

from the proposed development. Unless issues of safe access and egress can be resolved with the Emergency Planners and they are satisfied with any subsequent proposals to be put in place to deal with this, then the proposed development is not safe in accordance with the NPPF with regards flood risk.

We do not normally comment on or approve the adequacy of flood emergency response and flood evacuation procedures accompanying development proposals, as we do not carry out these roles during a flood. Our involvement with this development during an emergency will be limited to delivering flood warnings to occupants/users if they sign up to the Flood Warnings Service.

Planning Policy Statement (PPS) Practice Guide, which is extant, (*paragraphs 7.23 to 7.31*) place responsibilities on LPAs to consult their Emergency Planners with regard to specific emergency planning issues relating to new development. In all circumstances where warning and evacuation are significant measures in contributing to managing flood risk, we will expect LPAs to formally consider the emergency planning and rescue implications of new development in making their decisions.

The Flood Evacuation Management Plan should identify a flood level that will initiate evacuation of people and vehicles, and any subsequent closure of the building/car park. This trigger level should be when the access/egress is still 'dry' i.e. flood-free, to avoid any question of what is an acceptable level of flood risk to occupants.

Note: The Flood Zones quoted in the FRA, e.g. C2/C3, are used in Wales under their planning policy - TAN 15. However, this site is in England and therefore falls under English planning policy NPPF and PPS 25. Under this policy the flood outlines for the 1 in 100 year and 1 in 1000 year floodplain are referenced as Flood Zone 3 and 2, respectively. Land outside the 1 in 1000 year floodplain is called Flood Zone 1 and land within the 1 in 20 year (functional) floodplain is known as Flood Zone 3b.

Yours sincerely

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