Full Planning Applications: Flood Risk and Drainage Checklist

Application details

SITE:	Monksbury Court Barns, Monkhide Village Road, Monkhide, Herefordshire HR8 2TU
DESCRIPTION:	Demolition of 2 no. agricultural buildings. Proposed 4 no. dwellinghouses with garages, landscaping and associated works.
APPLICATION NO:	223128
GRID REFERENCE:	OS 362005, 244306
APPLICANT:	L.T.F Properties Ltd.
AGENT	Mr Ben Greenaway
DATE OF THIS RESPONSE:	10/11/2023

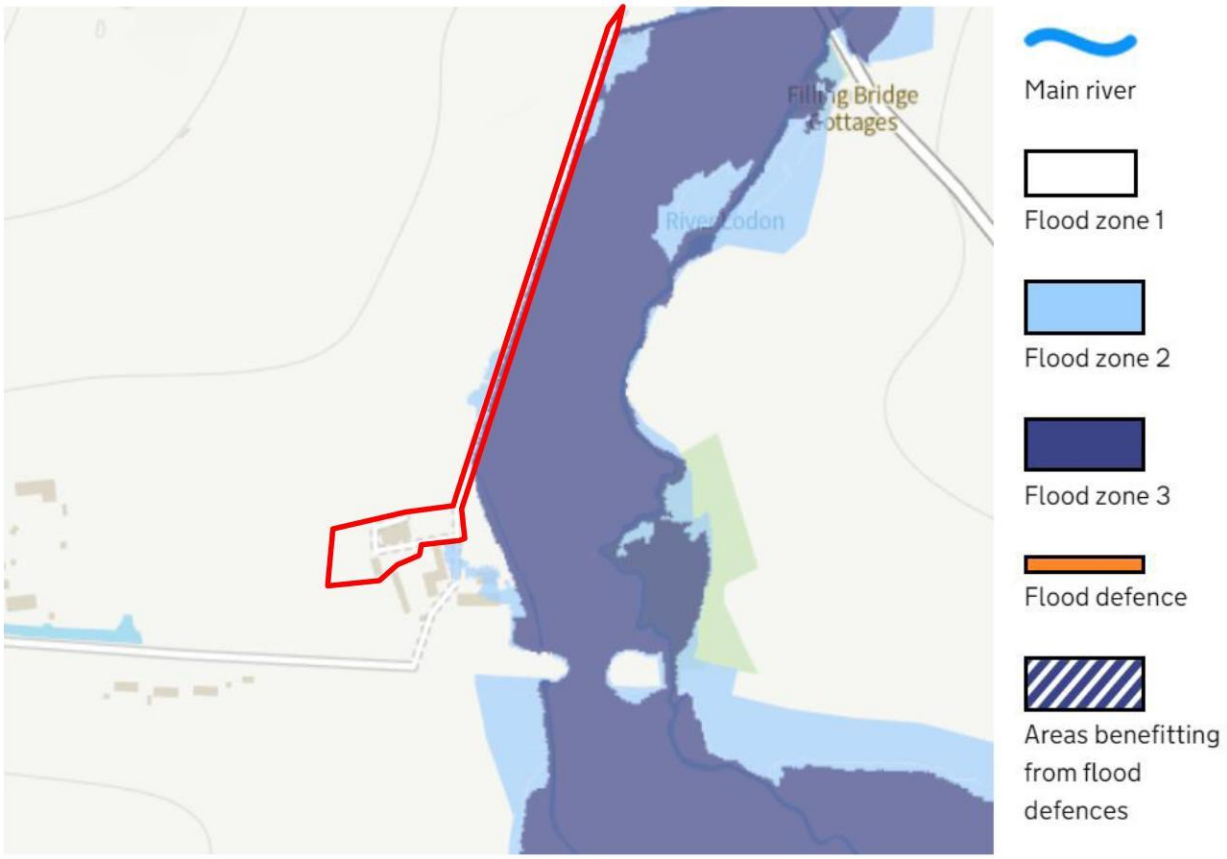
This response is in regard to flood risk and land drainage aspects, with information obtained from the additional sources, following our initial consultation response in December 2022:

- Surface Water Management Plan, Flood Risk Assessment and Foul Drainage (Rev 2);
- Further drainage information (29/09/2023).

We highlight that any planning application should be submitted in accordance with the Herefordshire SuDS Handbook and the Herefordshire Council Planning Applications Flood Risk & Drainage Checklist available on the Council's website:
https://www.herefordshire.gov.uk/info/200142/planning_services/66/about_planning_services/11

Site location and extract of flood map(s)

Figure 1: Environment Agency Flood Map for Planning (Rivers and Sea), November 2022



Development description

The Applicant proposes the demolition of 2 agricultural barns and the construction of four dwellings with associated garages and access roads. The site occupies an area of 0.4ha and is currently a brownfield site. An ordinary watercourse flows parallel along the eastern boundary of the site access road. The topography of the site slopes from the west to east.

Flood Risk

A Flood Risk Assessment (prepared in accordance with NPPF and EA Standing Advice) must support the planning application for any development:

- Located in Flood Zone 2 or Flood Zone 3[1].
- With a site area greater than 1 hectare.
- Located in an area identified to be at significant risk of flooding from other sources, including surface water flood risk or flood risk from minor watercourses with unmapped flood extents.

Due to the potential flood risk from the ordinary watercourse to the east of the site and along the access road, a Flood Risk Assessment for the site has been submitted.

Information required	Reviewers comments
Confirmation of the site area in hectares or square metres	Site area confirmed as 0.4ha
Identification of all main rivers within 20m of the site boundary	There are no main rivers within 20m of the site boundary.
Identification of all ordinary watercourses and land drains within 20m of the site boundary	There is an ordinary watercourse immediately adjacent to the eastern boundary of the site access road. The ordinary watercourse is approximately 200m west of the River Lodon and connects to the floodplain associated with the river. A drainage ditch is located within 50m to the south of the site.
Confirmation of the site's location in Flood Zone 1, Flood Zone 2 or Flood Zone 3, and taking climate change effects into account	The submitted FRA shows the site to be within Flood Zone 1. The proposed access road however passes through Flood Zone 2. The site is also in close proximity to areas of Flood Zone 3 associated with the ordinary watercourse to the east of the site. However, due to the close proximity of Flood Zones 2 and 3 in this area it is anticipated that there will be minimal increases in the Flood Zone extents due to climate change. Residents have advised that some parts of the access track has flooded in the past. The fluvial flood level defined on the Flood Map for Planning suggests that the access track forms the limit of the 100 year flood zone. The fluvial flood level could have been higher in the 2007 floods as there are reports of domestic flooding in the vicinity, but in the absence of other flood level data the flood map for planning forms the best point of reference. We may assume for the purpose of discussion that the fluvial flood level is similar to the level of the access track adjacent to the development.
Confirmation and supporting justification of whether the site is at significant risk of flooding from other sources, including surface water flood risk or flood risk from minor watercourses with unmapped flood extents	Although the EA surface water flood risk maps show the site to be at a very low risk of surface water flooding, we have reviewed photographs of the adjacent properties and note that there appears to be a surface water flooding issue, with water caught in low lying areas of a flat site.

[1] Note that the Council may also request an assessment of flood risk where the development is indicated to be at risk of flooding when the potential effects of climate change are taken into account.

The following information should be provided within the FRA:

✓ Information provided is considered sufficient

✖ Information provided is not considered sufficient and further information will be required

Information required	Reviewer comments	✓✖
Sources of risk		
Assessment of Flood Zone 2 and 3 taking the effects of climate change into account, including predicted flood depths for the 1 in 100 and 1 in 1000 annual probability events	The provided FRA identifies the majority of the site as being located within Flood Zone 1. While the site is in close proximity to the Flood Zone 2 and 3 areas associated with the ordinary watercourse to the east of the site it is expected that the flood extents will not increase significantly with climate change. The access track to the site is shown to be within Flood Zone 2. The FRA however stated that the risk to the access road was acceptably low. We agree with the overall categorisation of low flood risk but the risk to the access road has been further considered as **cut-off ditches will be provided along the north and western boundaries of the site to minimise risk from these overland flows.**	✓
Assessment of fluvial flood risk from other watercourses in close proximity (c.20m) to the site including those with no mapped flood extent, and taking the effects of climate change into account	As above.	✓
Assessment of mapped surface water flood risk	The FRA states that EA surface water flood risk maps show that the site is at very low risk of surface water flooding, though it is noted that the site is surrounded by gently grading slopes. In addition with the slightly impeded drainage properties of the sites topsoil it is possible that sheet flows could pass into the site. The FRA recommends that cut-off ditches are provided along the north and western boundaries of the site to minimise risk from these overland flows. We agree with this assessment of the overland flows and surface water flood risk. Though it is likely that, due to the relatively flat surrounding topography, these overland flows would not be significant.	✓
Assessment of flood risk associated with potential overland flow from adjacent steeply sloping land	As above.	✓
Assessment of groundwater flood risk	The FRA states that the site is considered to be at low risk of groundwater flooding. The lowest point on site sits approximately 1.5m above the floodplain of the River Lodon. We consider this to be an accurate assessment of the groundwater flood risk. In addition, the presence of clayey soils and slightly impeded drainage indicates that groundwater emergence would be unlikely.	✓
Assessment of flooding from surface water, foul water and highway sewers	The FRA states that no drainage from highway land enters the site. Given the topography of the site that slopes towards the access road this assessment is considered to be accurate.	✓
Assessment of flood risk from any other manmade sources, including reservoirs, ponds, detention basins etc.	The FRA states that there is no risk from other manmade features including reservoirs or ponds. Review of OS mapping shows that this assessment is accurate, with no significant manmade water features located upstream of the site.	✓

Information required	Reviewer comments	✓✗
Summary of historic flooding records and anecdotal evidence	The FRA has not provided as assessment of historical flooding in the area. However, due to the low risk of flooding at the site this is not seen to be an issue.	✓
Other works that could pose risk		
Are there any other proposed works that could lead to increase flood risk to the site or elsewhere, for example culverting or diversion of watercourses?	The FRA does not indicate that there are any other works that could lead to an increase in flood risk at the site.	✓
Sequential approach		
Demonstration that the development is in accordance with the Sequential Test outlined in the NPPF	As the site lies within Flood Zone 1 the application of the sequential test is not required.	✓
Demonstration of how a sequential approach has been taken to locate development in the lowest risk areas of the site, including the risk of flooding from other sources	As the site is at minimal risk of flooding the application of the sequential test to the site layout is not considered necessary.	✓
Mitigation		
Summary of how the development has addressed the identified flood risks and incorporated appropriate mitigation into the layout and operation of the development	The site is considered to be at minimal risk of flooding. The FRA identifies that the lowest building is 0.75m above the access track. However, the FRA states that in order to minimise risk further, the following steps will be taken: ▪ Finished floor levels will be set a minimum of at least 150mm above the surrounding ground levels. ▪ Cut-off ditches will be put in place along the northern and western boundaries of the site in order to manage overland sheet flow. ▪ When heavy rain events are forecast, it will be recommended that residents check flood alerts for the River Lodon and take early precautionary action in relation to passing along the small section of access road that sits within Flood Zone 2. The above mitigations are considered sufficient to mitigate the flood risk to the site.	✓
Assessment of how a safe access route(s) to Flood Zone 1 (not including dry islands) would be achieved from the development, taking flood hazard and climate change into account	The FRA states that a small portion of the proposed access road is within Flood Zone 2 associated with the River Lodon. The FRA however stated that the risk to the access road was acceptably low. We agree with the overall categorisation of low flood risk but the risk to the access road has been further considered as cut-off ditches will be provided along the north and western boundaries of the site to minimise risk from these overland flows. In the case of an emergency the track to the south could be used for safe access and egress.	✓

Information required	Reviewer comments	✓✗
Assessment of how the development will ensure no increased risk to people, property or infrastructure elsewhere, for example through the displacement of floodplain compensation or failure of flood defence structures, and demonstration of how mitigation will be incorporated into the design, with supporting calculations	The site is not proposed to be built in an area of existing flood storage. As such it is expected to have no impact on fluvial flood risk to third parties.	✓
Exception Test		
Justification for the successful application of the Sequential Test, if applicable	Due to its presence in Flood Zone 1, in accordance with the NPPF, the Exception Test does not apply to this development.	✓

Surface Water Management Strategy

Infiltration tests undertaken at the site varied between $4.08x10^{-6}$m/s and $1.74x10^{-4}$m/s. Within the soakaway calculations, designed for a 1 in 100 year plus 45% climate change event, the conservative rate of $4.08x10^{-6}$m/s has been used.

Each property will be served by its own individual geocellular soakaway.

Foul Water Management Strategy

We understand that previous foul water drainage arrangements for the site comprised a pumped discharge to a shared field. In order to remove the need for pumping, an offsite, gravity fed discharge, via a shared package treatment plant (located in open space) to the River Lodon tributary, to the east of the site is proposed.

The Applicant has confirmed that they own the land between the redline site boundary and watercourse, so no third party permissions to lay the discharge pipe are required. However, the Applicant should ensure that the management company, responsible for the maintenance of the foul water infrastructure are granted access to this land via easement, once the individual plots have been sold off.

The Applicant has confirmed that the daily discharge volume will exceed $2m^3$ and an EA permit to discharge will be required.

Overall Comment

CONDITIONAL NO OBJECTION

In principle we do not object to the proposals, however we recommend that the following information is provided within suitably worded planning conditions:

- Detailed surface water and foul water drainage design drawings/construction layout.
- Details of the management company responsible for the maintenance of the foul water infrastructure.