

P/24/0026: Existing derelict structure (former doctor's surgery) to be converted into two single-bedroom maisonettes with sleeping accommodation on first floor. New roof with raised ridge level. Existing building to change of use to C3. | Former Mount View Surgery, Bridge Street, Aberfan

Dear Sir / Madam

I am writing in response to the comments on planning reference P/24/0026, received 11th March 2024. Specifically, the refusal related to additional required information, as detailed below:

Technical Advice

During the 1% (defended) event, the FCA states that the site will remain unaffected (Section 3.10). The NRW (2010) flood model does not account for a 25% allowance for climate change (CC), but the FCA includes a broad assessment of the design flood level for the 1% +CC (25%) event. This results in a design flood level of 129.49 meters Above Ordnance Datum (mAOD), which is confirmed as 0.12 meters below the existing floor level on the site. We would question whether the 5% increase in flood flows would only result in an increase in depth of 10mm compared to the 1% +CC (20%) event at 129.48m.

There has been no assessment of a breach (or evidence to support why a breach has not been undertaken) of the existing flood defences (comprising embankments) adjacent to the proposed site. We are aware that this site did flood during the 1998 floods from an overland flood flow route, which came from the River Taff further upstream of the proposed site. The route flowed southwards along the B4285 into the builder's yard immediately north of this development. This flood event has not been reported in the submitted FCA, only the 1979 event (Section 3.8).

Section 3.22 states that 'NRW have not provided any data regarding flood defence failure or breach'. Please note that this is a matter for the consultant to assess within

the FCA. With regards to criterion A1.12 of TAN 15, the FCA has also not considered whether the existing flood defences are structurally adequate to withstand the 0.1% event.

During the 0.1% event (undefended), the site is reported to flood to a depth of 1.09 meters, based on an existing floor level of 129.61mAOD and a corresponding flood level of 130.70mAOD. No flood velocities, rate of rise, or speed of inundation has been provided to assess the other criteria under A1.15 of TAN15. Please note, the 0.1% present-day undefended scenario represents a modelled worst-case scenario. If the model data is showing a depth of 1.09m in this event, this may indicate flooding to the site during a 1% +CC (25%) event, which is required to be assessed against A1.14, as detailed above.

To summarize, we advise the following points are considered in a revised FCA:

- Establish the flood levels in the channel for the 25% increase climate change allowance (additional 5% on the design flows within the model obtained under license). Compare these levels with the crest level of the existing flood embankment adjacent to and upstream of the site (along the right bank).*
- Providing flood levels for the 1% +CC (25%) and 0.1% event are at least 500mm below the crest level of the defences, we consider a breach assessment may not be necessary, however this should be fully justified within the FCA.*
- If the design food levels are within 500mm of the crest, then a full assessment of a breach of the defences will be necessary.*

Establish the flood levels in the channel for the 25% increase climate change.

The closest upstream modelled 1D in-channel node is TAFF07335. Data has been utilised from this node to determine the climate change levels. The relevant levels are as follows:

1:100 year - 130.00m AOD

1:100+20%CC – 130.28m AOD

1:1000 – 131.28m AOD

To calculate a 1:100 year +CC (25%) flood level at Node TAFF07335, the difference between the 1:100 year (131.00m AOD) and the 1:100 year +CC (20%) (131.28m AOD) flood levels (0.28m) can be interpolated to account for an additional 25% increase in flow. This results in a 1:100 year +CC (25%) calculated flood level of 131.35m AOD at Node TAFF07335:

1:100 – 131.00m AOD

1:100+20%CC – 131.28m AOD

Difference = 0.28

$0.28 / 20 = 0.014$

$0.014 \times 25 = 0.35$

$131.00 + 0.35$

1:100+25%CC = 131.35m AOD

Compare these levels with the crest level of the existing flood embankment.

As established in the FCA, the level of the embankment is 132.00m AOD.

The 1:100+25%CC flood level is 131.35m AOD, 650mm below the level of the embankment.

The 1:1000 year flood level is 131.28m AOD, 720mm below the level of the embankment.

Providing flood levels for the 1% +CC (25%) and 0.1% event are at least 500mm below the crest level of the defences, we consider a breach assessment may not be necessary, however this should be fully justified within the FCA.

Given that the levels of the embankment are 650mm higher than the calculated flood level, the overall risk of failure or overtopping of the defences are considered low and a full breach assessment is not required.

The site is shown to be defended against the 1:100+25%CC flood event and the 1:1000 year flood event, therefore flooding consequences of the site's development are considered acceptable.

We trust this information is sufficient to address your comments. If you need any further information, please don't hesitate to contact.

Kind Regards,

Oliver Harvey
Senior Flood Risk Consultant