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Flood Risk Assessment.

Fleatimus Ltd

Land adj Dover Mill,
Chunal Lane,
Charlestown,
Glossop.
SK13 6LA.

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Revision:

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1 FRA 3.

Reference:

National Planning Policy Framework and the Planning Practice Guidance (flood risk & coastal change notes). The Planning Practice Guidance replaced the Technical Guidance to the National Planning Policy Framework document upon its release on 6th March 2014.

EA data has identified the "Development Site" as being in Flood Zone 1 & 3 areas. Flood Zone 3 is defined as land having a 1 in 100 or greater annual probability of river flooding or land having a 1 in 200 or greater annual probability of sea flooding, (land shown in dark blue on the EA Flood Map). Flood Zone 1 is defined as land having a less than 1 in 1000 (<0.1%) annual probability of river or sea flooding, (shown as clear on the EA Flood Map – all land outside Flood Zones 2 & 3).

According to the Planning Practice Guidance, the flood risk vulnerability classification lists the end use for the development as More Vulnerable. The Flood risk vulnerability and flood zone 'compatibility' table & associated table notes indicate that the Exception Test is required to the development.

Since 2008, the High Peak Borough Council have undertaken a strategic flood risk assessment. The strategic flood risk assessment can be used to identify all sources of flooding to a local scale taking in to account climate change.

Purpose of Flood Risk Assessment:

The purpose of the assessment is to accompany a planning application for the "*Proposed change of use from D2 (Leisure) to residential dwelling, raised decking to the side elevation and alterations to elevations*".

The proposed residential dwelling will be single storey.

Preliminary or Full Flood Risk Assessment:

Full to support planning application.

1.1 Plans.

1.1.1 Location Plan.

See Location Plan. in Appendix showing the area features.

The Development Site is located on land adjacent to the NE of Dover Mill, off Charlestown Rd/Chunal Lane, in Charlestown, Glossop, NGR: SK 03549 92813. Access to the site is to the N side of Dover Mill across Bray Clough from Charlestown Road. The current access is pedestrian only.

The local area is semi-rural/rural in nature and is surrounded by historic mill buildings to the W, associated mill reservoir to the NW, and rural land to the N, E & S.

Bray Clough flows S-N and separates the site from Dover Mill except the access track which runs over the clough. Long Clough flows from the W and joins Bray Clough to form Long Clough Brook to the NW of the site.

1.1.2 Site plan.

The site comprises an existing former sports/recreational complex made up of a club house to the E side, an access track which runs from Charlestown Road over Bray Clough, and part of the former recreational pitches/playing area. Refer to the Location Plan in the appendix showing the red line boundary of the proposed site. As part of the proposed development the existing crossing to Bray Brook will be improved.

1.2 Derivation of Data, Surveys and Models.

1.2.1 Existing and proposed topography.

No topographic survey of the site has yet been undertaken.

Lidar data obtained from Annex C of the High Peak Level 2 SFRA; Appendix C – Glossopdale: Charlestown Works, suggest that the ground level around the proposed dwelling is between 174.00m aOD & 175.00m aOD.

The Bray Clough bed level to the W of the dwelling is suggested to be approximately 172.20m aOD.

1.3 Assessments.

1.3.1 Existing surface water system.

No existing survey of the SW system has yet been undertaken. However, it is assumed at this stage that the building collects water via the roof which flows in to a site surface water system and is piped to Bray Clough.

Flood flows would inundate the current access track to the site local to the river in a 100yr flood event.

1.3.2 Proposed surface water system.

The planning proposal is for the renovation of an existing building so no additional surface water runoff will be generated as part of the development.

1.3.3 Climate change impacts.

Climate change impacts are given in PPS 25 table B2.

Current flood advice from the EA stipulates that the 1:100yr flood levels + 20% allowance for climate change is used as the basis for flood risk assessments.

1.3.4 Fluvial morphological impacts.

The proposed development is of negligible size comparative to the scale of the fluvial system in the local area, and the site would not be a generator any additional water which would flow to the existing fluvial system.

1.3.5 Potential sources of flooding.

Flood risk maps were obtained from Annex C of the High Peak Level 2 SFRA; Appendix C – Glossopdale: Charlestown Works which is immediately NE of the site had includes information pertinent to the site (refer to appendix for maps).

a. Fluvial flooding from main rivers.

Bray Clough & Long Clough share a confluence to the NW of the site becoming Long Clough Brook. Flooding from Long Clough Brook has no effect on the site due to its position further down-stream.

b. Fluvial flooding from minor watercourses / drainage channels.

Bray Clough.

Bray Clough flows S-N through the local area and to the W side of the main site area. The SFRA/EA Flood Zone Map indicates that much of the site (including the building) is within flood zone 1 – i.e. the site has a less than a 1:1000 chance of fluvial flooding. The building is not considered to be at risk from fluvial sources.

However part of the access road to the site is within Flood Zone 3. In extreme flood events including the 100yr events, part of the site access over and around the river bank is assumed to be flooded.

Long Clough.

Long Clough flows W-E through the area and is culverted beneath Charlestown Road before its confluence with Bray Clough. Flood maps indicate at the 1:100yr flood event Long Clough floods east of Charlestown Road inundating the highway in this location before returning to bank to the E close to the confluence with Bray Clough.

c. Surface Water/Overland flow.

Overland flow paths will not change as a result of the development.

d. Springs and high groundwater levels.

It is likely that ground water levels are controlled primarily by river levels in the local area and therefore present no more of a risk.

e. Surcharging of local drainage & sewerage systems.

It is assumed that the SW & FW systems would be private and it is unlikely that even in extreme flood events there would be surcharging of these systems.

f. Artificial Watercourse/Canals.

Rochdale Canal.

N/A.

1.4 Design.

1.4.1 Floor Levels.

EA guidance stipulates that ground floor levels should comprise a freeboard of 600mm above the estimated flood level.

However due to the majority of the site & more particularly the building being within flood zone 1, this criteria is considered to be satisfied.

1.4.2 Resilient Design.

Not required to the development.

1.4.3 Emergency Evacuation Plans.

Although the building area & occupants would be safe in times of extreme flood, access across the river to Charlestown Road (via the site driveway access would not be available.

However, alternative access from the site would be accessible by foot to the E through neighbouring land.

Bray Clough and the resultant flood zone is part of the EA flood warning area (refer to flood warning map in appendix), and is part of a general flood alert early notification system to extreme flood events. It would be prudent to sign up to the flood warning system to plan for times of flood.

The free flood warning notification service is available by registering online on the EA website or by calling Floodline on 0345 988 1188.

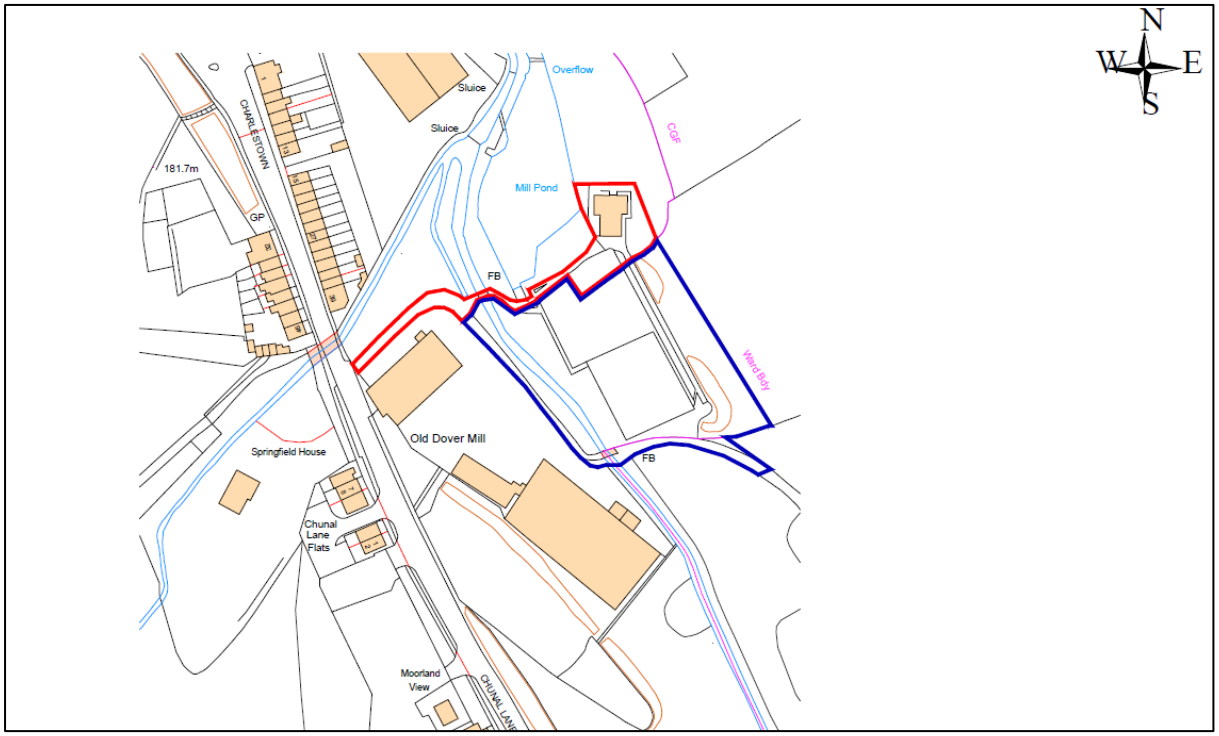
1.5 Conclusion & Residual risks.

The current access bridge is not suitable for vehicles and as part of the proposed development is to be improved. Some further assessment of flood levels or flood impacts due to new bridge design would likely be required by the LLFA.

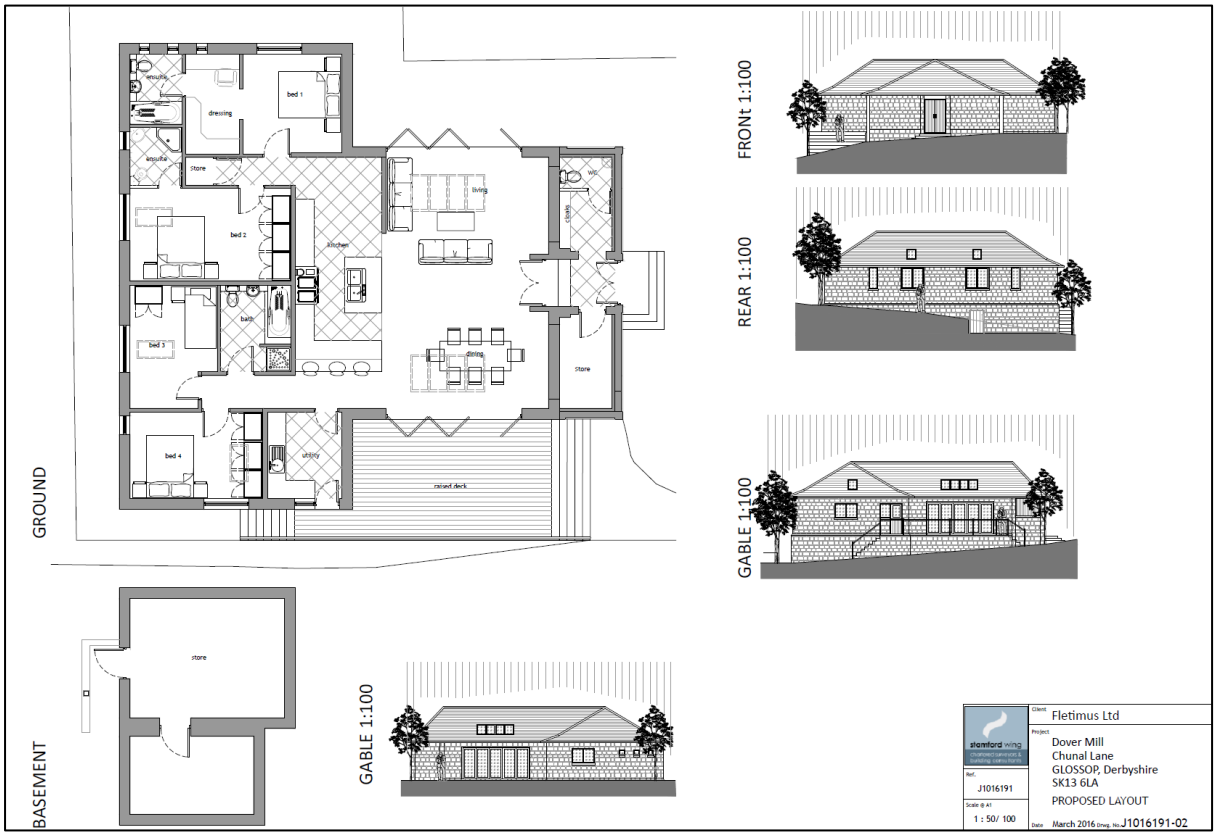
Considering the above design issues are addressed as part of the development, no residual risks remain with regards to flood issues, and flood risk will not increase elsewhere due to the development.

2 Appendix.

2.1 Location Plan.



2.2 Proposed Plans.



2.3 NPPF Planning Practice Guidance Table 1.

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2 and 3)
Zone 2 Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or Land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	**This zone comprises land where water has to flow or be stored in times of flood.** Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

Note: The Flood Zones shown on the Environment Agency's Flood Map for Planning (Rivers and Sea) do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding. Reference should therefore also be made to the Strategic Flood Risk Assessment when considering location and potential future flood risks to developments and land uses.

2.4 NPPF Planning Practice Guidance Table 2.

More Vulnerable

- Hospitals
- Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels.
- Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels.
- Non–residential uses for health services, nurseries and educational establishments.
- Landfill* and sites used for waste management facilities for hazardous waste.
- Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.

2.5 NPPF Planning Practice Guidance Table 3.

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	✗	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	✗	✗	✗	✓*

Key:

✓ Development is appropriate

✗ Development should not be permitted.

Notes to table 3:

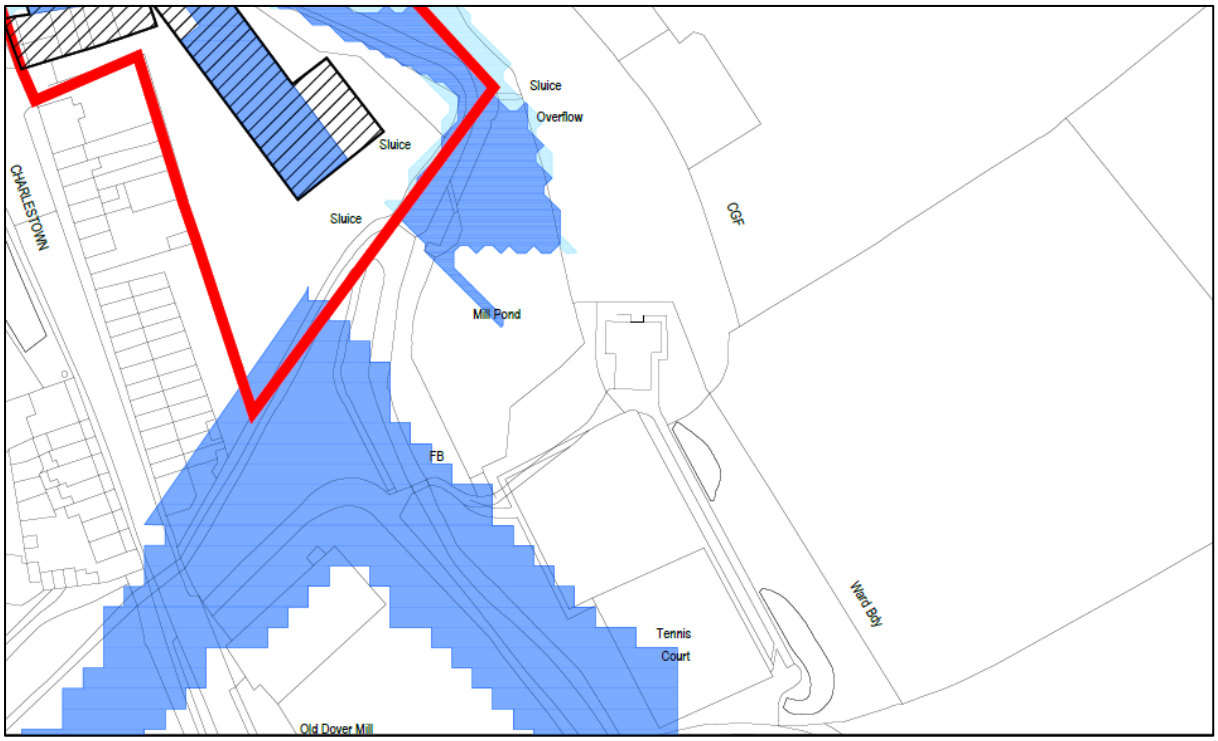
- This table does not show the application of the Sequential Test which should be applied first to guide development to Flood Zone 1, then Zone 2, and then Zone 3; nor does it reflect the need to avoid flood risk from sources other than rivers and the sea;
- The Sequential and Exception Tests do not need to be applied to minor developments and changes of use, except for a change of use to a caravan, camping or chalet site, or to a mobile home or park home site;
- Some developments may contain different elements of vulnerability and the highest vulnerability category should be used, unless the development is considered in its component parts.

† In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

* In Flood Zone 3b (functional floodplain) essential infrastructure that has to be there and has passed the Exception Test, and water-compatible uses, should be designed and constructed to:

- remain operational and safe for users in times of flood;
- result in no net loss of floodplain storage;
- not impede water flows and not increase flood risk elsewhere.

2.6 SFRA/EA Flood Zone Map Excerpt 1:1000 scale, (appendix C – Glossopdale, Charlestown Works).

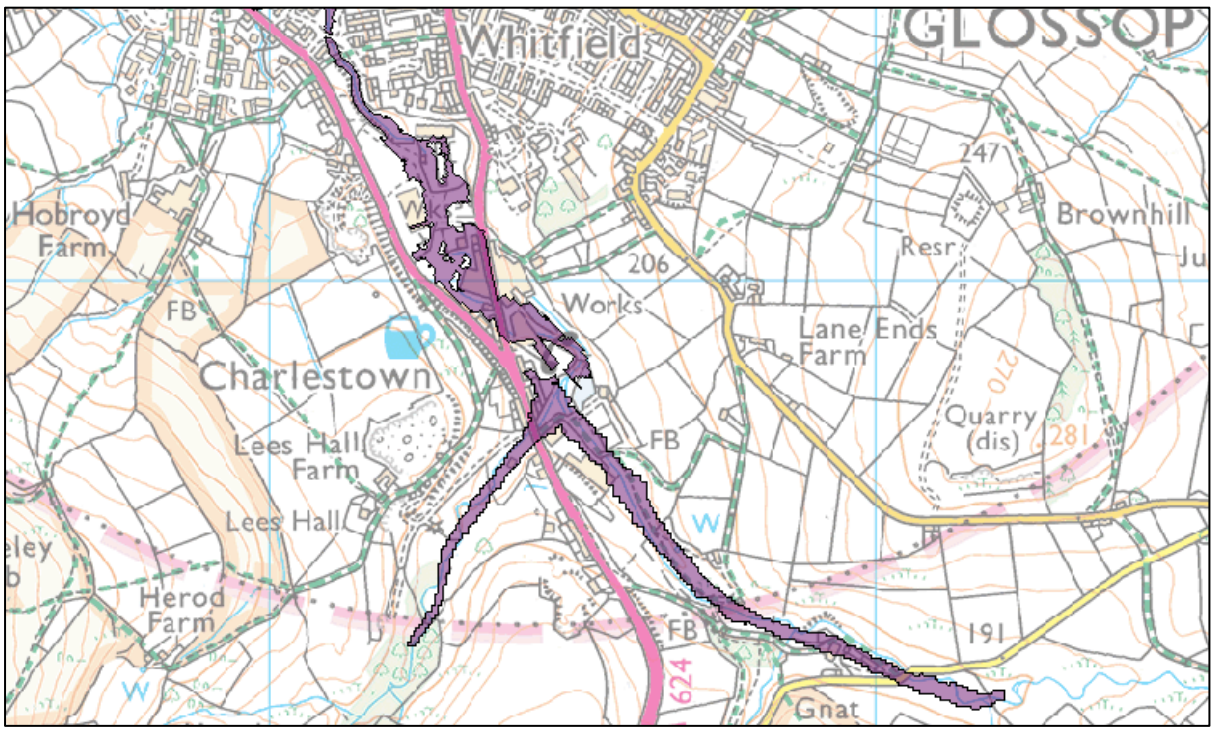


*Flood Zone 1 – blue.

*Flood Zone 2 – pale/light blue.

*Flood Zone 3 – All areas outside of zones 1 & 2.

2.7 Environment Agency Flood Warning Map.



2.8 References.

i. Environment Agency Flood Zone Maps.
ii. Environment Agency Flood & Flow Data, EA.
iii. National Planning Policy Framework, Mar 12.
iv. Technical Guidance to the National Planning Policy Framework, Mar 12.
v. EA/DEFRA - Flood Risk Assessment: Standing Advice.
vi. High Peak Borough Council – SFRA.