

2nd December 2022
Reference: 01C202271

Ms. Olivia Harker
Energy & Natural Resources
Avison Young
4 St Paul's Square
Old Hall Street
Liverpool
L3 9SL

Dear Ms. Harker,

Flood Risk Assessment – Ponsonby Tarn Dam, Gosforth, Cumbria CA20 1BP
Application for – Erection of a timber footbridge incorporating handrails, spanning 2.4m

Introduction

Avison Young Environmental Team was instructed by NDA Properties to provide a Flood Risk Technical Note to support a planning application for a timber footbridge at Ponsonby Tarn Dam, Gosforth. The site potentially falls in Environment Agency Flood Zone 3, therefore, in accordance with National Planning Policy Framework, a Flood Risk Assessment is required to support the planning application.

Due to timescales and the nature of the application, this Flood Risk Assessment comprises of a desk top review of the potential sources of flood risk. No site inspections or liaison with the Environment Agency or Lead Local Flood Authority have been carried out. However, an Environment Agency Product 4 Data request was submitted 25th November 2022. At the time of issuing this letter report, the data request remained outstanding.

Location and Description

The proposed bridge crosses the Newmill Beck, immediately downstream of Ponsonby Tarn Dam which is located approximately 1km to the south west of the small village of Ponsonby. Sellafield, a large multi-functional nuclear site is located approximately 1.3km to the west of the Tarn.

The bridge is to replace an existing informal wooden structure comprising of a thick wooden beam (as shown in Figure 1 below). The proposed bridge would seek to ensure the safe crossing for those looking to traverse this section of the Tarn.

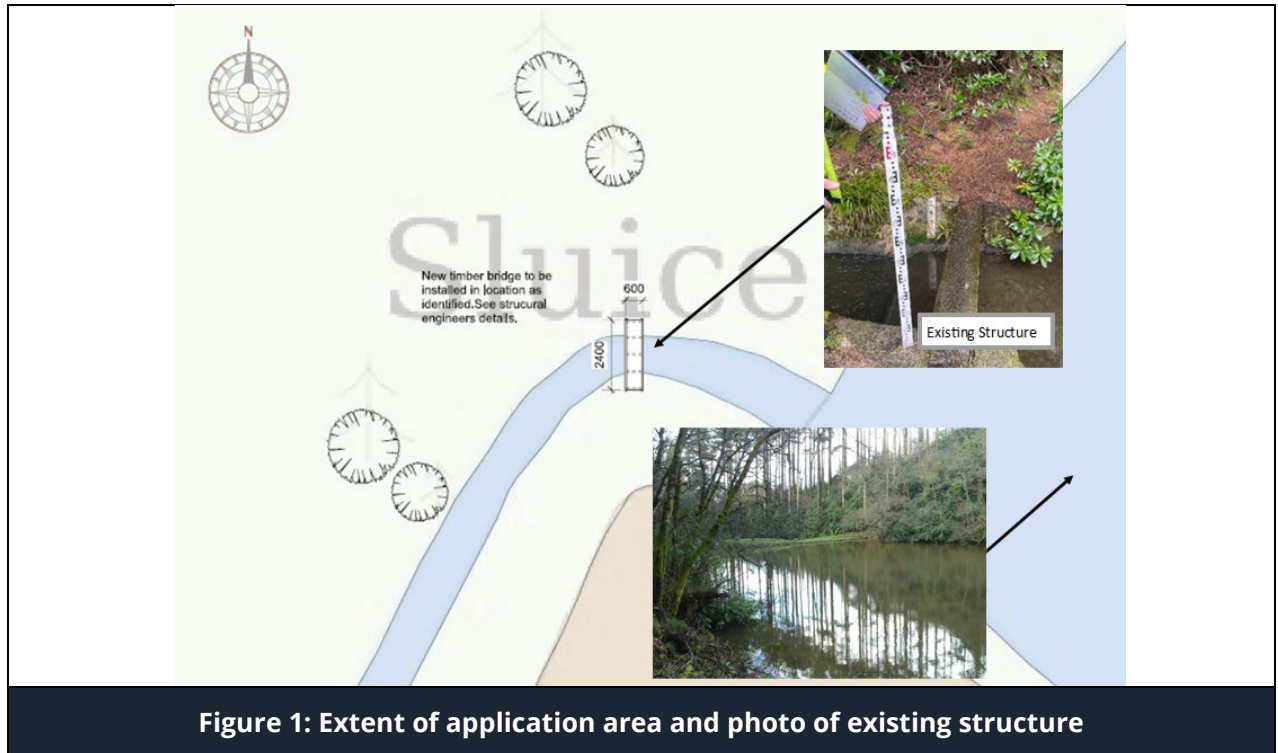


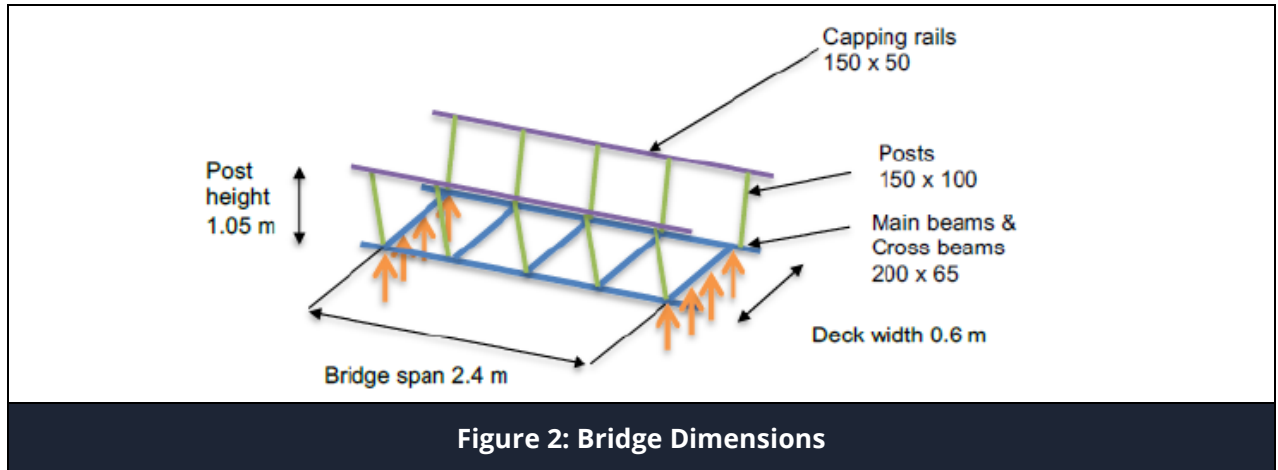
Figure 1: Extent of application area and photo of existing structure

Hydrology

The proposed bridge crosses the Newmill Beck, which is designated by the Environment Agency as a Main River. This watercourse is generally narrow and shallow and starts approximately 3.5km to the north east of the Tarn. The watercourse flows into the Ponsonby Tarn Dam to the north. The Tarn has a volume of 35,700m³ and is therefore designated as a Reservoir under the Reservoirs Act 1975. When levels are high enough within the Ponsonby Tarn Dam, water flows over an overflow located to the south west of the reservoir, allowing water to flow in a south-westerly direction for approximately 2.8km until ultimately discharging directly into the sea.

Proposed Development

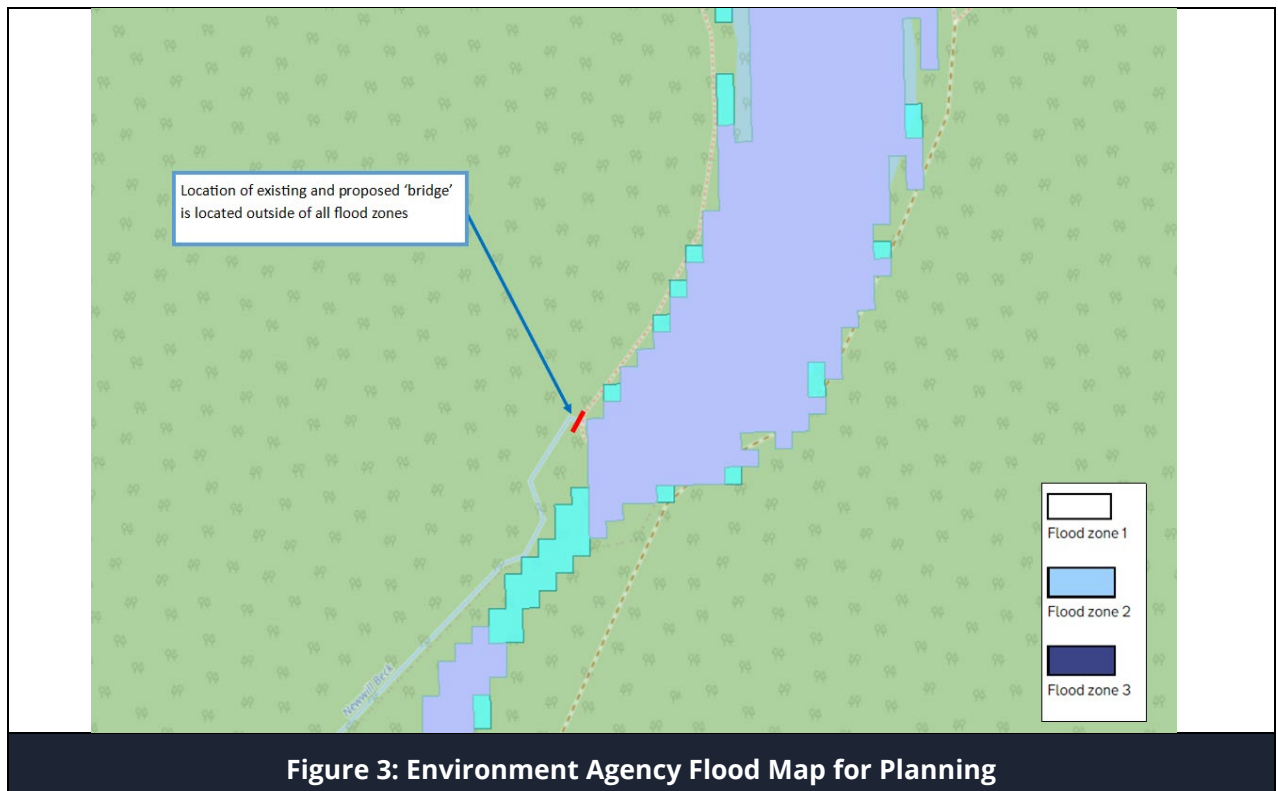
The new bridge is proposed to stand at 1.05m in height, 2.4m in length and 0.6m in width comprising of solid timber beams. The bridge will be supported by a concrete base at each bank. We understand the soffit level of the bridge will be no lower than the existing wooden beam which crosses the watercourse. The proposed dimensions for the bridge are presented in Figure 2 below.



Flood Risk Assessment

According to the publicly available Environment Agency Flood Map for Planning, the proposed bridge is located within Environment Agency Flood Zone 1 (land assessed as having a 1 in 1,000 or greater annual probability of river flooding in any year) and therefore considered to be at very low risk of flooding. As shown below, during a flood event, water naturally flows in a south-westerly direction bypassing the Newmill Beck.

A copy of the Flood Map for Planning is provided in Figure 3 below.



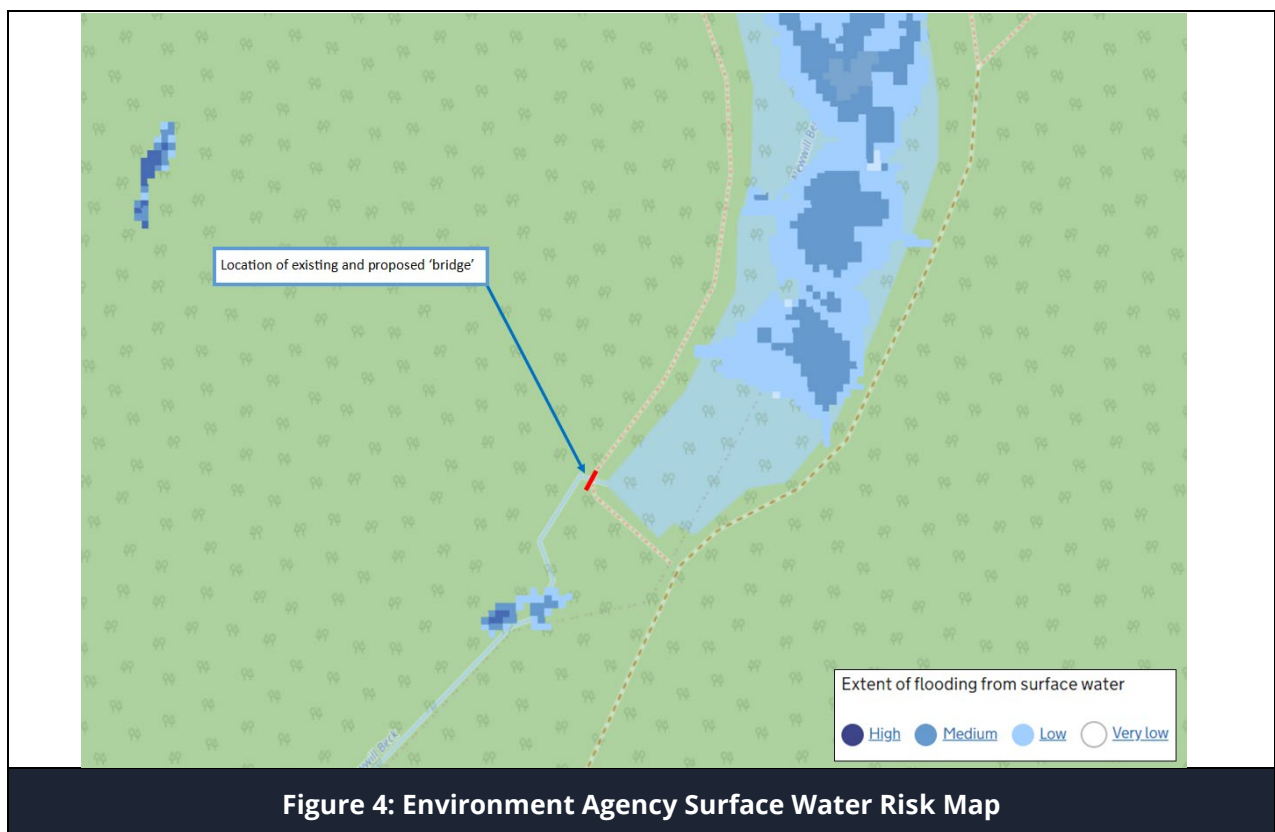
According to the Environment Agency historic GIS flood data sets, the subject site has not flooded in the past.

The risk of fluvial flooding is considered to be **'low'**.

Surface Water

According to the Environment Agency Surface Water Flood Risk Map, the proposed bridge is not at risk from surface water flooding.

A copy of the Environment Agency Surface Water Flood Risk Map is shown below in Figure 4.



The risk of surface water flooding is considered to be **'very low'**.

Groundwater

From a review of the British Geological Survey's Groundwater Flood Susceptibility map, the site falls in an area where there is limited potential for groundwater flooding to occur.

The risk of groundwater flooding is considered to be **'low'**.

Reservoirs

The Environment Agency Reservoir Flood Map shows that if the Tarn was to fail, there is a risk of flooding to the south west of the reservoir, however, the extent does not impact the proposed location of the bridge.

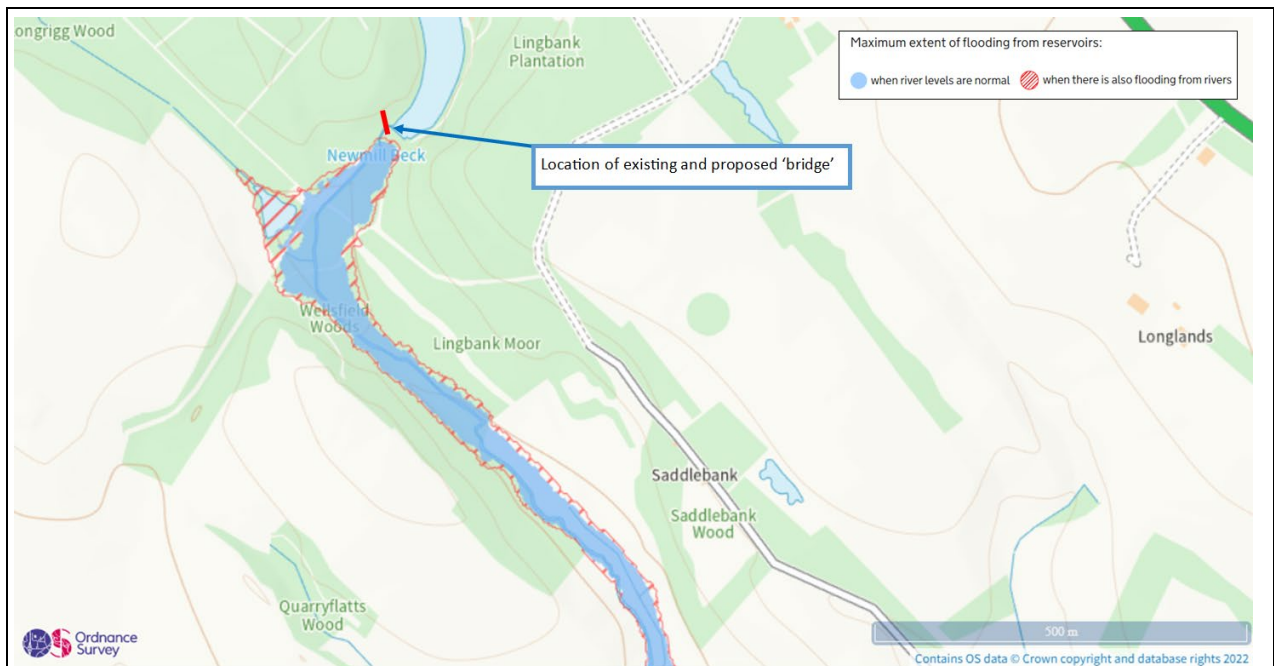


Figure 4: Environment Agency Reservoir Inundation Map

The risk of reservoir flooding is considered to be **'very low'**.

National Planning Policy

In accordance with the National Planning Policy, less vulnerable development which includes the proposed development is deemed appropriate within Flood Zone 1 and there is no need to undertake a Sequential or Exception Test.

Developer Recommendations

Given that the proposal involves construction over an Environment Agency Main River, in accordance with The Environmental Permitting (England and Wales) (Amendment) (No.2) Regulation 2016, Schedule 25, Part 1, we recommend that an Environmental Permit for Flood Risk Activities is submitted to the Environment Agency prior to any construction taking place.

Conclusion

Avison Young Environmental Team was instructed by NDA Properties, to provide a Flood Risk Technical Note to support a planning application for a timber footbridge at Ponsonby Tarn, Gosforth.

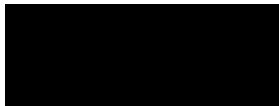
The proposal is for a bridge to cross the Newmill Beck, however, the Environment Agency Flood Map for Planning shows that its location falls entirely within Flood Zone 1 and is at very low risk of flooding. This is because during a flood, water would effectively bypass the Beck and flow in a southerly direction and not impact the bridge. We also consider the risk of flooding from all other sources to be low or very low.

The application site is located within Flood Zone 1. In accordance with the National Planning Policy, less vulnerable development is deemed appropriate within Flood Zone 1. We therefore consider that the proposed development is acceptable with regards to flood risk.

Given that the proposal involve construction over an Environment Agency Main River we recommend that an Environmental Permit for Flood Risk Activities is submitted to the Environment Agency prior to any construction taking place.

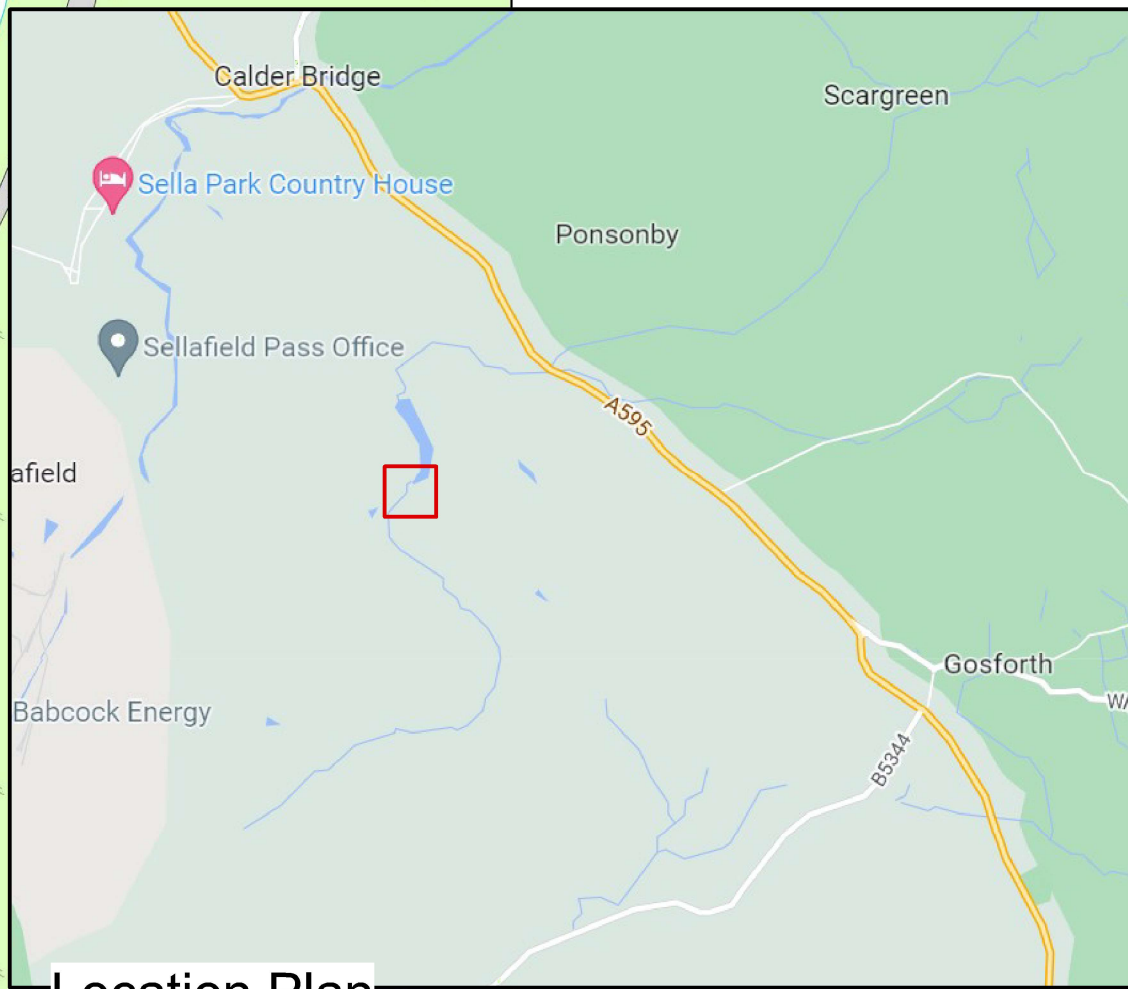
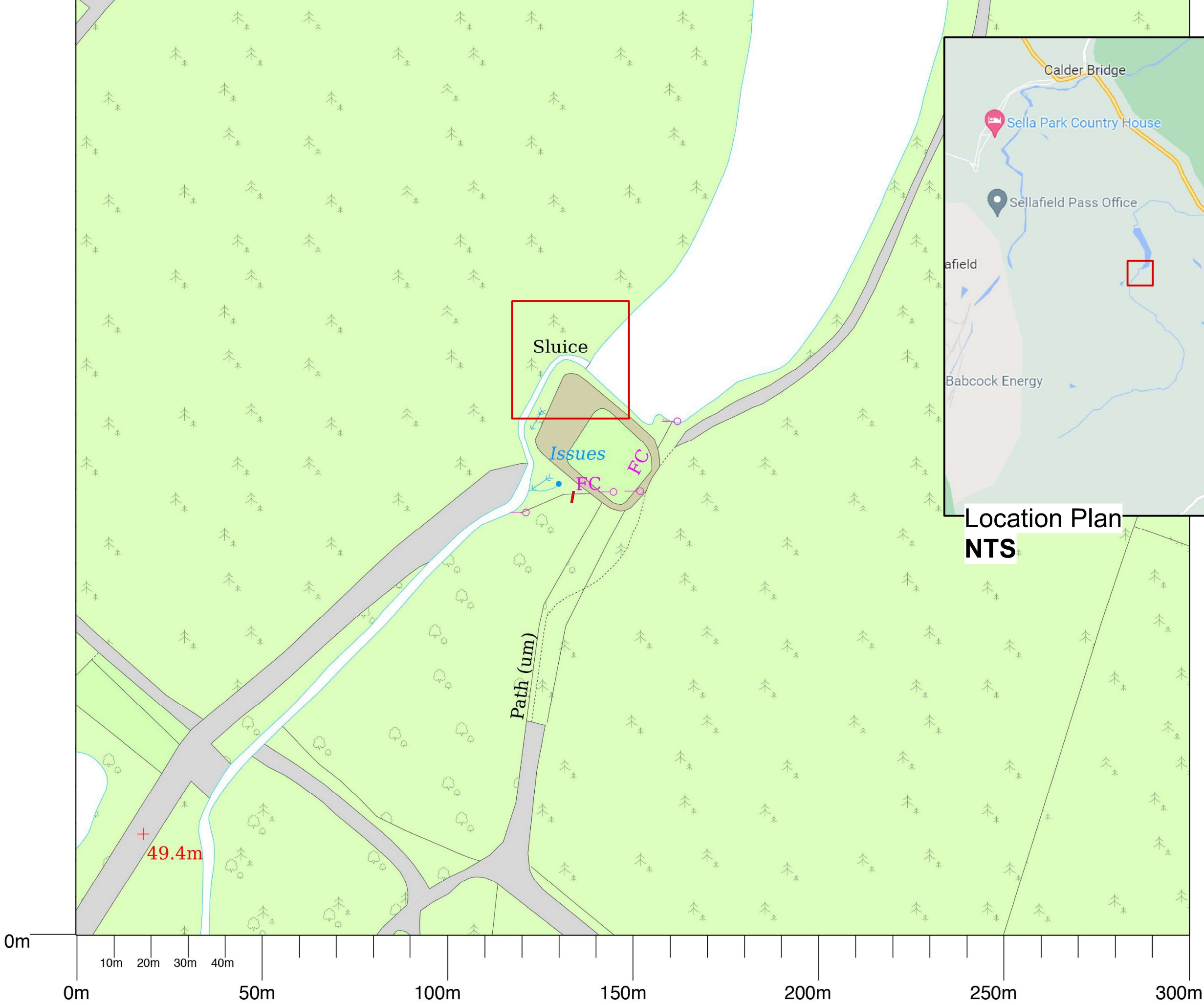
Should you wish to discuss any aspect of this statement, please do not hesitate to contact me on 0121 609 8228 or david.hoppe@avisonyoung.com

Yours sincerely,



David Hoppe BSc MCIWEM C.WEM FRGS MEPS
Flood Risk & Resilience Manager
david.hoppe@avisonyoung.com
For and on behalf of Avison Young (UK) Ltd

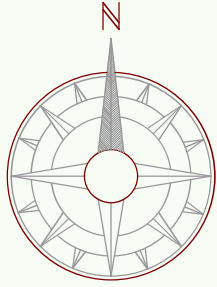
Encl.
Existing and Proposed Site Plans



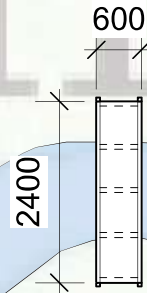
Location Plan
NTS

Scale 1:1250 at A3
Location Plan

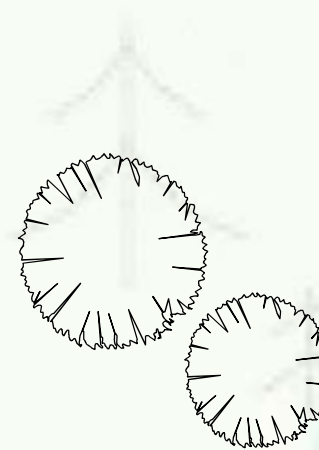
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Client:			
			
			
STOBARTS LIMITED Tarn Howe Lakes Road Derwent Howe Industrial Estate Workington Cumbria CA14 3YP Tel: 01900 518600 www.stobbarts.co.uk			
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Scale:	NTS	Date:	28/07/22
		Paper Size:	A3
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New timber bridge to be installed in location as identified. See structural engineers details.



Sluice



Scale Bar in Metres at 1: 100



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Drawing Title: Proposed Bridge Layout			
Drawn:	IA	Checked:	RF
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