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Mr Andrew Vaughn-Harris
Hayston Developments & Planning Ltd
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RE No 1 Ponderosa Church Street
Flood Consequence Assessment

Dear Mr Vaughn-Harris

With reference to NRW's letter (ref: CAS-285580-K9Q4) to Neath Port Talbot Council Planning Department, dated 29th August 2025, I think it is only right and fair to provide the following comments regarding observations made under Flood Risk:

Without wishing to sound pedantic but it should be noted that the site also partially lies in Flood Zone 1 and is not limited to Flood Zone 2 and 3 as suggested in the letter.

NRW believe that the inclusion of Flood Risk Assessment Wales map is misleading. We disagree and believe that its inclusion is essential, in this instance, to provide the planning authority with an appreciation of the risk of flooding. The Flood Risk Assessment Wales Map (FRAW), which shows the current flood risk, along with the Flood Map for Planning (FMFP), which shows the flood risk with 100 years of climate change, together make up the Wales Flood Map (Section 4.1 TAN 15). While FMFP is the starting point for consideration of flood risk the FRAW is a key component and provides a comprehensive picture of the nature and scale of current risks and hazards (TAN 15 Section 4.2 and 4.12). The flood consequence assessment should help the planning authority to determine whether the risk and consequences of flooding are acceptable and can be appropriately managed over the **lifetime** of the development (TAN 15 Section 6.7 10.28 and 10.29). TAN 15 stresses that where developments have a shorter lifetime than the 100 years, assumed in the FMFP, it is reasonable that the flood consequence assessment focusses on potential risks during the developments expected lifetime.

The question of the lifetime of a development is particularly relevant when considering a Travelers compound where an applicant may only wish to remain at a fixed location for a certain duration, eg to provide a degree of stability while the children attend school. It is noted that the FRAW map shows the site is not currently at risk of flooding while the Wharf Road Caravan site, where the applicant previously resided, is at risk even during a tidal 1 in 200 year event. This indicates that the development is in line with the National Strategy of allowing communities to adapt and regenerate taking the risk of flooding into consideration.

To ensure that the site compound, in its entirety, remains flood free, even during a 1 in 1000 year event, it will be necessary to raise the ground levels over part of the site. As the risk of flooding would be from a tidal source the FCA maintains that the loss of flood area would not have an impact on the risk of flooding elsewhere. NRW questions this and considers that, as the site is some distance from the open coast, it lies in its own flood cell and there potentially could be a risk to third parties.

The impact of slightly raising the ground level can be evaluated using either a mathematical hydraulic model (bottom up) or using a conceptual model, based on theoretical understanding (top down). In considering our approach we should bear in mind that a Flood Consequence Assessment must be appropriate to the nature and scale of the proposed development (TAN 15 Section 11.1).

In this instance for a mathematical model to be of any relevance it will need to cover a large area (many km²) but the site itself is comparatively small and the infill is confined to the upper end of a tidal cycle. As such the model will need to have a fine definition with small cell size covering a large area. It will, therefore, need to be quite large and it is likely to take time to refine the model to ensure that the mass balance errors is within tolerance. This is likely to be time consuming and expensive.

A development that reduces the flood area available below HAT (5.4m AOD), particularly within an estuary, could affect the tidal volume, and flow velocity, within a flood cell. In turn this could increase the deposition rate and sedimentation and should be avoided unless the impact of sedimentation is considered acceptable. For the development, the site is some 650m from the tidal river and the area to be filled is located above HAT and not subject to frequent inundation.

Flooding is likely to occur from the tidal river Nedd via a harbour and the surrounding land. Inspection of the Lidar for the area (see Figure 1) data shows that up to the site the land is comparatively flat with the terrain rising to the site. To the north the land dips to a bowl while the railway line to the east also provides a barrier to the free flow of water. Arguably the lower land to the north along with the area east of the railway lines could be considered as closed flood cells. The site, however, is on the edge of the flood plain directly influenced by the open sea levels. The loss of storage volume, from rising the site levels, will correspond with the reduced volume of water flowing from the ocean with no flood risk impact to third parties. It is also considered that, in this instance, infilling within the considered cells, to the north and east, is also unlikely to have a significant impact on the risk of flooding elsewhere.

There are instances where infilling on a tidal flood plain can potentially have a detrimental impact on the risk of flooding. This usually occurs in areas where there is constricted flood flow or where the works deflect the direction of flow. This is not the case for the proposed scheme.

The volume of the raised land in comparison to the surrounding flood water, let alone the ocean itself, is miniscule, negating any potential impact. In conclusion, considering the likely impact of raising the site levels slightly, based on a conceptual model, a mathematical model can not be justified and would be contrary to the requirement of TAN 15. In addition, models, that we are aware of, constructed for similar scenarios although with slightly larger developments, have indicated that there is no impact.

Opinions, based on conceptual models, relies on theory, experience of the modeler, anecdotal evidence from past events and research results. Our understanding

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continuously changes as new evidence is obtained either from research or from data gathered during an event. NRW's input would be gratefully welcomed. Both mathematical and conceptual models have their strengths and weaknesses, and a hybrid approach may technically be the preferred way, although we are not aware of any affordable commercial packages that might be available.

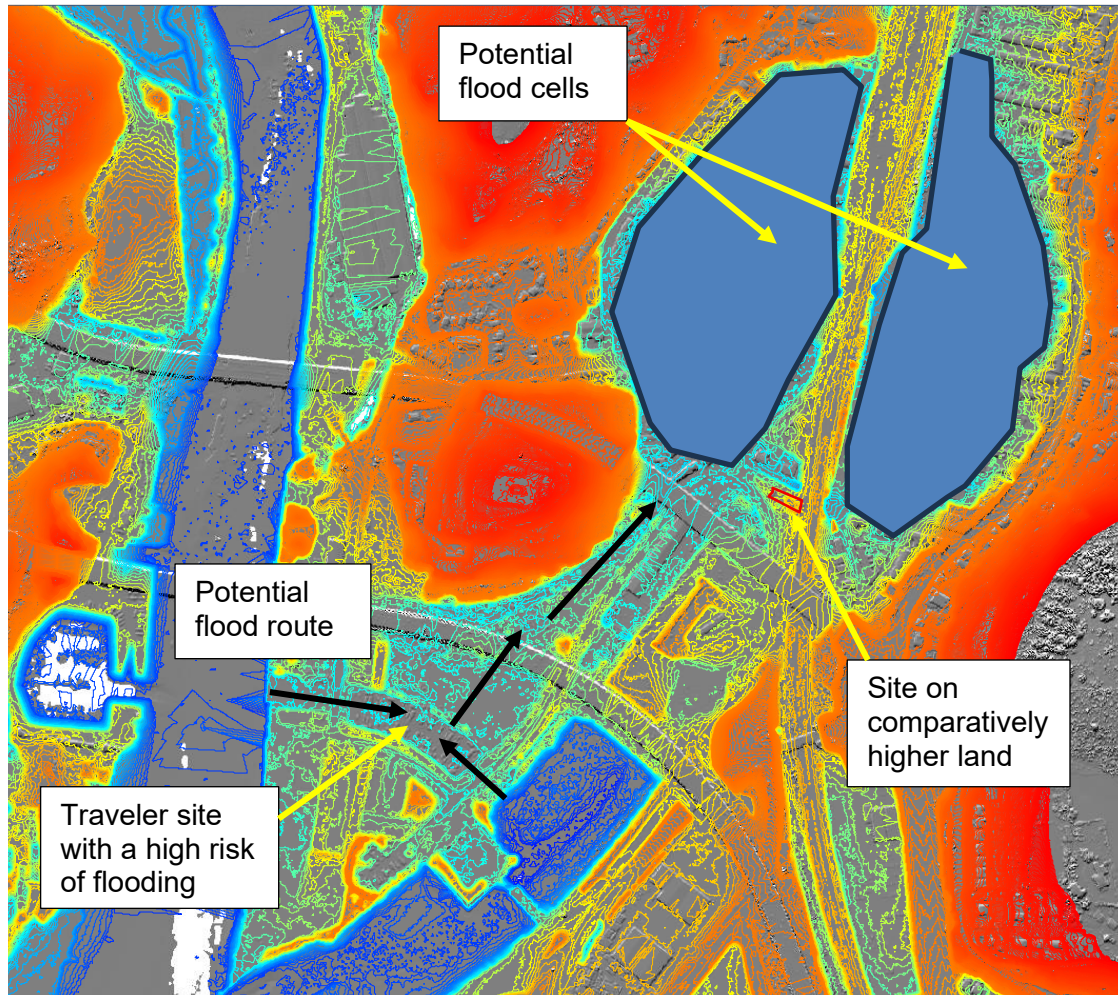


Figure 1 – Lidar Data

I hope that this is of assistance,

Regards
For Francis Sant

Ceirion Herbert