

## Matthew Phillips

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**From:** Stuart Andrew <stuart.andrew@castlegreenhomes.uk>  
**Sent:** 18 January 2024 16:30  
**To:** Matthew Phillips  
**Cc:** flooding; Kevin Edwards; JamesM Davies; Sean McBride; Michael Ollier; Josh Francis; Gwyn Jones  
**Subject:** RE: Flood Team Concerns - P/2023/0852  
**Attachments:** FCA Extract.pdf; Plan1.pdf; RE: Flood Team Concerns - P/2023/0852

Hi Matthew,

Following receipt of the emails below yesterday I've queried this with Betts Associates, and received further correspondence from them on the issue (attached).

Our initial response to the comments from Cathryn was going to be to point out that the natural topography of the southern POS allows for additional flood mitigation over and above the level of the basin, and that this would effectively provide capacity to cope with any additional flood water in the 1 in 1000 year + 25 % blockage event that Cathryn is referring to, over and above the 1 in 100 year + 40% event accommodated by the basin. You can see in the Plan 1 drawing extract you attached to your earlier email that the 13.25m contour line surrounds the basin, demonstrating that there is mitigation capacity over and above the basin volume in the southern POS, where additional flood water could be mitigated without impacting the proposed surface water pumping station of plot FFLs.

However, all of the comments from Cathryn are based on the information contained within the Hydraulic Assessment in Appendix I of the approved FCA (from which the 'FCA Extract' pdf attached is taken), and I'm told by Betts that this issue has moved on somewhat since that document was produced.

During the applications to discharge the planning conditions and the SAB application there were obviously numerous discussions and consultations that took place with NRW on the flood potential of the site. During this process NRW requested Betts re-run the flood modelling that is included in the Hydraulic Assessment mentioned above. The original flood model had been calculated using a 3m grid, and NRW insisted this was done using a 2m grid, which they considered would provide a more accurate result in terms of any flood potential.

The Betts email attached explains this process and is intended by them to be a direct reply to Cathryn's comments below. They explain in this email that they liaised with NRW on the 1 in 1000 year + 25 % blockage event central to the previously identified need to provide some additional flood mitigation on the southern POS, and that when modelled using the smaller, more accurate 2m grid method NRW were insisting on it became apparent that the flow routing on the earlier Hydraulic Assessment was incorrect, and that even in the 1 in 1000 year + blockage scenario there was no movement of flood water down Gun Lane to the west of the site, leading to no possibility of flood waters entering the site from Trevalyn Way (as shown in Figure 4 and 5 of the 'FCA Extract' pdf attached).

This revised routing is shown in Figures 1 and 2 of the Betts Associates letter to NRW dated 22/10/2021 that is included with their attached email. Following the review of this letter and the revised flood model associated with it NRW wrote to yourselves on 18/01/22, and this letter is also included with the attached Betts Associates email. On page 3 of that NRW letter they confirm that they accept the model outputs summarised in the Betts letter are correct. NRW confirm that even in the 1 in 1000 year + 25% blockage event (described by them as the 0.1% AEP event with 25% blockage) the whole of the application site remains flood free, and compliant with A1.12 of TAN15.

As a result, it is reasonable for us all to conclude that there is no requirement for any additional flood mitigation within the southern POS, as NRW have already confirmed the site is not impacted by flooding even in the proposed absolute worst-case scenario.

To respond to Cathryn then, we would state that:

To satisfy that flood risk would not impact an existing or proposed property we would like to seek clarity from the developer on the following points:

- *In a 1 in 1000 yr event, it is likely that the surface water attenuation approved by the SuDS Approving Body would already be at capacity, if not be exceeded, by the surface water generated on site. Would the topography in the proposed public open space accommodate this as well as flood water from outside of the site boundary without impacting a property?*

Yes, there is additional flood capacity within southern POS, over and above the capacity of the proposed surface water attenuation basin, as demonstrated by the contours around the basin seen in the 'Plan 1' pdf drawing extract attached. However, the requirement for any additional capacity is moot as it has already been demonstrated by Betts Associates, and confirmed by NRW to WCBC, that even in the 1 in 1000 year + 25% blockage event being considered that there would be no flood impact on the whole of the application site, and hence no flood waters to be mitigated.

- *As this is a flow of water from the River Alyn, any flood attenuation would likely be exceeded within a number of hours if the blockage triggering the scenario cannot be removed. What would be the proposed method to remove this water from the site given that the surface water pump is designed to operate for the 1 in 100 year storm event? If it is the case that the pump will be utilised, can the developer prove that the pumping station will be operational and not in flood during the 1 in 1000 year storm event?*

The pumping station is designed for the 1 in 1000 year + 40% event. It would remain operational and not in flood during the 1 in 1000 year + 25% blockage event as it would not be impacted by flood water in that scenario, as explained above.

- *The flood scenario, outlined in the Flood Consequence Assessment, shows that the flood water from a blockage at the Chester Road Highways Bridge would travel from the River Alyn, along Alyn Drive and along Trevalyn Way. The floodwater will then enter the proposed development on the southern parcel adjacent to No.19 and No.21 Trevalyn Way before flowing northwards across Rossett Road into the northern parcel. We note that large woody debris is often present in the River Alyn during flood events and such a blockage would not be improbable. Can the developer satisfy that no water will threaten properties in the northern parcel given the proposed flow scenario that they have suggested? Is it assumed that flow will be directed to the public open space using the road layout as it is unlikely that the SAB features would have the capacity to sufficiently direct the water.*

As previous explained, since approval of the FCA it has been established, and confirmed as accepted by NRW to WCBC, that there would be no flood routing along Gun Lane and Trevalyn Way, and hence no impact upon the application site. There is therefore no pathway to carry any potential obstacles to the northern parcel in any case.

*In addition, it is the position of the Flood and Water Management Team that the developer should also seek further advice from Natural Resources Wales (NRW) in regards on how to protect this development from the flooding scenario outlined in the Flood Consequence Assessment. This is because the flooding source is a main river for which NRW is the relevant risk management authority as outlined by the Flood and Water Management Act 2010.*

Given the evidence presented to satisfy Cathryn's comments includes correspondence from NRW to WCBC that already concludes the site is under no risk of flooding even in the worst-case 1 in 1000 year + 25% blockage event being modelled, we would consider what Cathryn is suggesting has already taken place.

Given all of the above we consider Condition 2 of the RM decision can be discharged, on the basis that while some flood mitigation potential can be seen to be offered by the proposed topography over and above that of the agreed surface water attenuation basin, it has since been agreed by NRW that no potential for flooding of the application site exists. So while some flood attenuation would be present the overall need is of nil volume.

Could you please confirm Condition 2, along with the other outstanding conditions, can now be discharged?

Regards,



**Stuart Andrew**  
*Design & Planning Director*

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**From:** Matthew Phillips <[Matthew.Phillips@wrexham.gov.uk](mailto:Matthew.Phillips@wrexham.gov.uk)>

**Sent:** Wednesday, January 17, 2024 3:33 PM

**To:** Stuart Andrew <[stuart.andrew@castlegreenhomes.uk](mailto:stuart.andrew@castlegreenhomes.uk)>; Sean McBride <[sean.mcbride@castlegreenhomes.uk](mailto:sean.mcbride@castlegreenhomes.uk)>

**Subject:** FW: Flood Team Concerns - P/2023/0852

Hi both,

Further to the emails earlier in the week and the discussion I had with Stuart on Monday, please see below from the Flood Officer.

Regards

**Matthew Phillips**

Pennaeth Gwasanaeth, Cynllunio, Rheoli Datblygu/Head of Service, Planning Development Management  
Economi a Chynllunio/Economy and Planning



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**From:** flooding <[flooding@wrexham.gov.uk](mailto:flooding@wrexham.gov.uk)>

**Sent:** 17 January 2024 15:31

**To:** Matthew Phillips <[Matthew.Phillips@wrexham.gov.uk](mailto:Matthew.Phillips@wrexham.gov.uk)>

**Cc:** Kevin Edwards <[Kevin.Edwards@wrexham.gov.uk](mailto:Kevin.Edwards@wrexham.gov.uk)>; JamesM Davies <[JamesM.Davies@wrexham.gov.uk](mailto:JamesM.Davies@wrexham.gov.uk)>

**Subject:** Flood Team Concerns - P/2023/0852

Hi Matthew,

As discussed with you on Monday 15<sup>th</sup> January and today, Wednesday 17<sup>th</sup> January 2024, the Flood and Water Management Team still have outstanding concerns in relation the reserved matters to be discharged under P/2023/0852.

The Flood and Water Management Team note that the documents that have been submitted for the discharge of this condition relate to the surface water attenuation basin approved by the SuDS Approving Body (SAB). We note that this basin would be unsuitable for a 1 in 1000 year rainfall event. This is because it is only designed to attenuate the surface water generated by the site in a 1 in 100 year storm event +40% to account for climate change. During a 1 in 1000 year event, this basin would likely have exceeded its capacity and would be unable to accommodate any water which is sourced from outside of the site boundary. Therefore, the Flood and Water Management Team do not consider this to be a suitable destination for the water from the raised blockage scenario in the specified storm event.

To satisfy that flood risk would not impact an existing or proposed property we would like to seek clarity from the developer on the following points:

- In a 1 in 1000 yr event, it is likely that the surface water attenuation approved by the SuDS Approving Body would already be at capacity, if not be exceeded, by the surface water generated on site. Would the topography in the proposed public open space accommodate this as well as flood water from outside of the site boundary without impacting a property?
- As this is a flow of water from the River Alyn, any flood attenuation would likely be exceeded within a number of hours if the blockage triggering the scenario cannot be removed. What would be the proposed method to remove this water from the site given that the surface water pump is designed to operate for the 1 in 100 year storm event? If it is the case that the pump will be utilised, can the developer prove that the pumping station will be operational and not in flood during the 1 in 1000 year storm event?
- The flood scenario, outlined in the Flood Consequence Assessment, shows that the flood water from a blockage at the Chester Road Highways Bridge would travel from the River Alyn, along Alyn Drive and along Trevalyn Way. The floodwater will then enter the proposed development on the southern parcel adjacent to No.19 and No.21 Trevalyn Way before flowing northwards across Rossett Road into the northern parcel. We note that large woody debris is often present in the River Alyn during flood events and such a blockage would not be improbable. Can the developer satisfy that no water will threaten properties in the northern parcel given the proposed flow scenario that they have suggested? Is it assumed that flow will be directed to the public open space using the road layout as it is unlikely that the SAB features would have the capacity to sufficiently direct the water.

In addition, it is the position of the Flood and Water Management Team that the developer should also seek further advice from Natural Resources Wales (NRW) in regards on how to protect this development from the flooding scenario outlined in the Flood Consequence Assessment. This is because the flooding source is a main river for which NRW is the relevant risk management authority as outlined by the Flood and Water Management Act 2010.

If you require any further information, or wish to seek clarity on any of the above, please contact the team via [flooding@wrexham.gov.uk](mailto:flooding@wrexham.gov.uk).

Kind regards,

Cathryn Hughes  
Swyddog Llifogydd  
Flood Officer

BSc (Hons) Earth and Environmental Science, MSc Sustainable Water Management.



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