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**From:**  
**Sent:** 16 June 2022 12:18  
**To:**  
**Subject:** RE: PPA0006626 Barry Waterfront Campus (BWC),Hood Road, Barry, Vale of Glamorgan, CF62 5QU

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Hi

Our preference would be for the discharge rate to be 50l/s so we're seeing a betterment.

Many thanks



**Development Control Officer – Developer services**  
**Dwr Cymru Welsh Water**  
Linea | Fortran Road | St Mellons | CF3 0LT

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**From**  
**Sent:** 14 June 2022 12:21  
**To:**  
**Subject:** RE: PPA0006626 Barry Waterfront Campus (BWC),Hood Road, Barry, Vale of Glamorgan, CF62 5QU

\*\*\*\*\* External Mail \*\*\*\*\*

Afternoon

Thanks for sending through the potable water HMA for ATC and confirmation we can connect to the DCWW sewer for BWC site surface water drainage. Just want to confirm what the restricted discharge rate we need to achieve from site is - as initially submitted existing 62l/s or provide a 26% betterment at 50l/s?

Kind regards

Senior Engineer | Infrastructure West

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4 Pierhead Street, Capital Waterside, Cardiff CF10 4QP United Kingdom

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**From:**  
**Sent:** 10 June 2022 09:48  
**To:**  
**Subject:** RE: PPA0006626 Barry Waterfront Campus (BWC),Hood Road, Barry, Vale of Glamorgan, CF62 5QU

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Good Morning

Thank you for the details below. Considering the details and information provided in principle we will offer no objection to the connection.

Please find attached the proposal for the potable water HMA for the ATC college.

A schedule for the works will be produced around 20 days after we have received the payment.

Hope this helps. Have a lovely weekend.

Thanks



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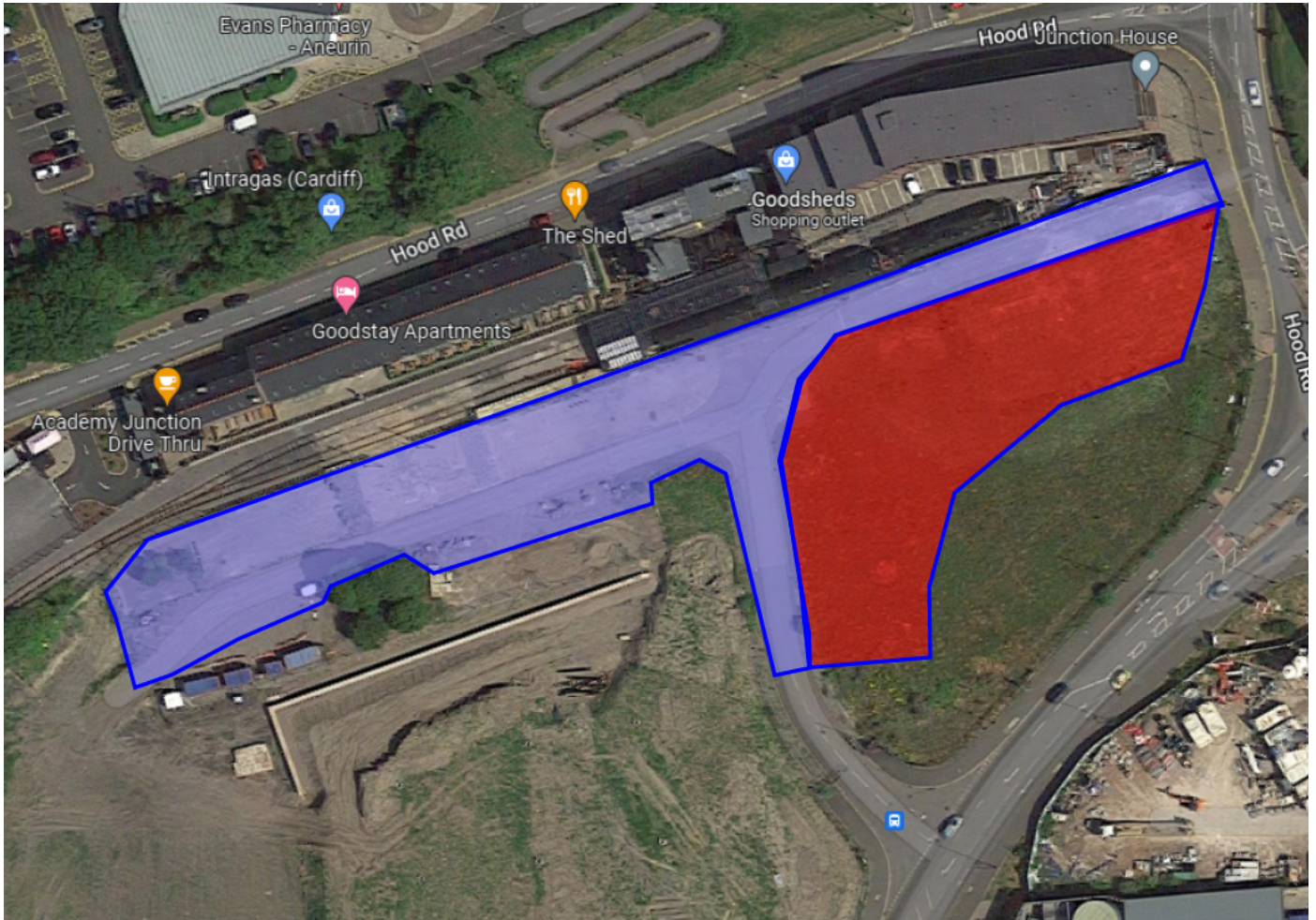
**From:**  
**Sent:** 09 June 2022 20:24  
**To:**  
**Cc:**  
**Subject:** RE: PPA0006626 Barry Waterfront Campus (BWC),Hood Road, Barry, Vale of Glamorgan, CF62 5QU

\*\*\*\*\* External Mail \*\*\*\*\*

Hi

### BWC storm discharge rate

As background to our first set of calculations, the flow rates in my previous email are an underestimate of the flows from the site. They assumed that none of the grassed area within the site would contribute to the surface water flows however, this is unlikely due to the presence of made ground and clay and the slope of the grassed area. There will be some surface water run-off contribution from the grassed area which will be collected within the drainage network. Below shows the impermeable catchment assumed in the initial calculation in blue and the contribution from the grassed area in red. Note that the blue catchment does not fully cover the site hard standing area as the topographical survey did not detect gullies in this location however this area could also outfall to the DCWW network from our site but has not been included as worse case.



Assuming a 30% run-off from the contributing grassed area, the flow rates would increase to:

storm event	flow (l/s)
1 in 1	40.7
1 in 30	61.4
1 in 100	67.9

The site is heavily constrained with an existing 6'x6' culvert with 6m easement either side running through the site, existing utilities and their easements and contamination eliminating any potential infiltration within the drainage design. Fitting significant volumes of attenuation is tricky but we could do this with a combination of permeable paving, an attenuation basin and cellular storage. These could be strategically located around the existing site constraints (subject to SAB acceptance). It would be possible to design the proposed network to restrict the surface water flows to approximately 50l/s for the 100 year (+40% CC) which would provide a 26% betterment on the flows stated above. Would this be acceptable to Welsh Water?

The reason we proposed to simply match the existing flow rates below is although the site outfalls into the 600mm diameter DCWW network in Ffrod y Mileniwm, the ultimate outfall is the Barry Dock not even 300m away:



In discussion with ABP, they have confirmed that the only flow entering the dock is from direct rainfall falling on the water surface or from storm sewer outfalls from the surrounding roads/developments. The water level is controlled by the dock gates and the top of the gates are set lower than the coping stone level around the dock perimeter. The water level in the dock is therefore controlled, constant and consistent.

Considering the large surface area of the dock water, the flood risk of the ultimate receptor will likely not change significantly if the flow rate entering the dock from our site is reduced.

With this in mind, would it be possible to consider restricting the flows to our initial calculations below which would still provide some degree of betterment as these are conservative estimates? This would keep the volume of water entering the dock similar to the current rates therefore not impacting/changing any of the ABP dock regime also. If not then perhaps this adds further weight to providing the 26% betterment in the scenario above rather than the typical 30%.

#### BWC storm discharge rate historic agreement

Were you able to locate the historic S104 agreement for the site we had discussed previously?

#### ATC college HMA quote programme

The HMA quotation for the ATC college (PPA000660) we received yesterday didn't include a programme for the works, is this available? Or can you provide an estimate of how long the assessment will take?

Kind regards

Senior Engineer | Infrastructure West

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**From:**  
**Sent:** 09 June 2022 15:05  
**To:**  
**Subject:** RE: PPA0006626 Barry Waterfront Campus (BWC),Hood Road, Barry, Vale of Glamorgan, CF62 5QU

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Hi

When we look at accepting surface water flows into our assets, we do like to see a betterment of at least 30% between the pre and post development rates.

Is it possible for the flows to be attenuated in order to see a difference between the pre and post discharge rates?

Many Thanks



Development Control Officer – Developer services  
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**From:**  
**Sent:** 09 June 2022 15:01  
**To:**  
**Subject:** RE: PPA0006626 Barry Waterfront Campus (BWC),Hood Road, Barry, Vale of Glamorgan, CF62 5QU

\*\*\*\*\* External Mail \*\*\*\*\*

Thanks

The flow rates listed in the table below have been estimated for the site in its current pre-development state:

storm event	flow (l/s)
1 in 1	31
1 in 30	52
1 in 100	62

These existing flows are a little conservative as it is likely more area flows into the existing system than has been modelled.

Can we discharge the surface water from the proposed development at these flow rates?

Kind regards

Senior Engineer | Infrastructure West

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**From:**  
**Sent:** 09 June 2022 13:52  
**To:**  
**Subject:** RE: PPA0006626 Barry Waterfront Campus (BWC),Hood Road, Barry, Vale of Glamorgan, CF62 5QU

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Hi

The quotations for the other sites should be with you by next week.

Apologies I must have overlooked the below email.

Are you able to confirm the pre-development discharge rates?

Many thanks



Development Control Officer – Developer services  
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**From:**  
**Sent:** 08 June 2022 20:26  
**To:**  
**Cc:**  
**Subject:** RE: PPA0006626 Barry Waterfront Campus (BWC),Hood Road, Barry, Vale of Glamorgan, CF62 5QU

\*\*\*\*\* External Mail \*\*\*\*\*

Hi

Thanks for sending through the HMA quotation for the foul at ATC today, are the other HMA quotations for ATC and BWC potable water available?

Also following up on my email below, is the proposed strategy for the surface water from BWC acceptable?

Kind regards

Senior Engineer | Infrastructure West

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**From:**  
**Sent:** 19 May 2022 17:02  
**To:**  
**Cc:**  
**Subject:** RE: PPA0006626 Barry Waterfront Campus (BWC),Hood Road, Barry, Vale of Glamorgan, CF62 5QU [Filed 19 May 2022 17:02]

Afternoon

Investigation of the BWC site has shown that it is not possible to discharge the surface water from the proposed college development by infiltration or to a surface water drainage body. Therefore the proposed drainage strategy for the site intends to discharge the surface water to the Welsh Water storm network within Fford Mileniwm adjacent to the site.

We have estimated the surface water flows which the existing drainage system transmits to the surface water network and summarised in the table below.

storm event	flow (l/s)
1 in 1	31

1 in 30	52
1 in 100	62

The proposed development will increase the impermeable area within the site boundary but the current strategy is to limit the flows from the site to the current flow rates in the table above. The network and attenuation required will be designed to include for climate change and the water will be treated prior to discharging from site. Can you please let me know if this strategy is acceptable for Welsh Water?

Please let me know if you have any questions or if you would like to discuss any of the above.

Kind regards

Senior Engineer | Infrastructure West

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**From:** Services Developer <[developer.services@dwrcymru.com](mailto:developer.services@dwrcymru.com)>

**Sent:** 26 April 2022 14:05

**To:**

**Subject:** PPA0006626 Barry Waterfront Campus (BWC), Hood Road, Barry, Vale of Glamorgan, CF62 5QU [Filed 19 May 2022 10:22]

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Hello

Please find attached the documentation you requested.

If you require any further assistance, please call on 08009172652 Mon – Fri, 8.30am – 17.00pm.

Kind regards

Developer Services



Developer Services Advisor | Developer Services | Dŵr Cymru Welsh Water



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