

NOTE TO FILE

JBA Project Code Q18-1130
Contract Support to Local Plan Inspection: SFRA and WCS
Client Aylesbury Vale
Day, Date and Time 04/07/2018
Author Paul Eccleston
Subject Review of key representations

1 Environment Agency (EA) representations

1.1 Response to Regulation 19 Local Plan Pre-Submission Consultation

Note that only comments relating to the SFRA or WCS have been reviewed:

1.1.1 WCS Executive Summary and Appendix B

EA comment:

Within the executive summary under the Water Quality Impact Assessment heading it suggests that it is not possible to prevent a phosphate deterioration at Buckingham STW. However in Appendix B section A.8.1 it suggests that there will not be a 10% or a WFD status deterioration from the present day to the future growth scenario. This is contradictory and needs to be clarified as the executive summary suggests growth at this works will result in a failure to meet the objectives of the water framework directive (WFD). This could suggest that the growth planned for this works cannot occur without non-compliance with the WFD which would not be acceptable.

Response:

We have reviewed this and agree that it is contradictory. The executive summary section on Water Quality appears not to have been updated from an early draft. This whole section is incorrect. Please refer to section 10.3.5 for the correct summary of the water quality assessment. We apologise for this error.

1.1.2 Section 6: Water Quality Assessment; Paragraph 6.6.1.1

EA comment:

It is suggested that a WFD deterioration at Winslow cannot currently be avoided based on current available technology. It is not clear if this is the permit required to limit the phosphate deterioration to 3% within bad status. If a within 3% deterioration cannot be prevented it may be a limitation to the proposed growth which needs to occur within environmental capacity. The study has not identified what permit limit would be required to prevent these 'within bad' deteriorations.

Response:

To clarify, a Appendix B demonstrates that the predicted deterioration 6% deterioration for phosphorous at as a result of growth at Winslow could be prevented by application of Best Available Technology.

1.2 SFRA and Sequential Test

EA representation: " Without up-to-date modelling for the following sites: WTV018 'Woodlands', BIE022 'Land at Manor Farm' and STO016 'Land South West of Aylesbury, we can't be satisfied that there is sufficient land available in Flood Zone 1 to accommodate the level/quantum of development proposed."

1.2.1 JBA response: WTV018

- Level 2 SFRA and Sequential Test references the 2017 updated PBA model
- Space required to allocate 1,000 homes is 34ha, 20% of the gross site area. 45% of the site is within FZ1.

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- Exception test required to justify – Eastern Link Road predominantly in FZ3b even with new modelling

1.2.2 JBA response: BIE022

- Again requires exception test as Eastern Link Road within WTV018 is mainly in FZ3b.
- Together these are known as Land North of the A41, part of the Aylesbury Garden Town
- 72% (approx. 20ha) in FZ1. The proposed submission plan allocates housing to 35% of the site.

1.2.3 JBA response: ST0016

- Part of South West Aylesbury, itself part of Aylesbury Garden Town
- On current model, 91% of site is within FZ1.
- Proposed allocation of 1,382 homes on 40ha of the site – approx. 43% of the total site area. Therefore plenty of space even if flood zones 2 and 3 extend when remodelled.
- L2 SFRA acknowledges limitations of the model – “Bear Brook and Upper Thame ISIS-TUFLOW model (Environment Agency, 2008). ... This model has some limitations: flood data used will not have taken into account more recent flood events (e.g. February 2014); techniques used to estimate extreme flood flows have changed; ground level and river survey data may have changed in some discrete locations. The model is due to be updated as part of the EA's flood mapping improvements programme within the next 3 years. The most up to date model data should be used for any detailed Flood Risk Assessment.”
- Meeting minute of 13/10/2016: “KF (Keren Fuller of BCC) /CW (Carrie Whittaker of EA) pointed out that the existing Environment Agency models of the Bear Brook and Great Ouse are out of date. They do not take account of recent flood history in the hydrology or several large new developments that have been built in the catchment. This poses a risk to the VALP. However, AB pointed out that they are the best available information at the time and they can still provide useful information to the SFRA in terms of flood probability, depth, hazard etc, with sufficient knowledge of their limitations, and a precautionary approach to policies. The SFRA will make clear that detailed FRAs for each site must take into account any updated Environment Agency models in the future. The SFRA does not have the budget to do full model updates on large models – this will be done by the Environment Agency next year and the SFRA, as a living document, can be reviewed subsequently to assess the impact of any updated modelling results on its conclusions. ...CW stated that this approach was acceptable as long as all decisions were fully justified. ...AB (Anna Beasley of JBA) suggested that a quick hydrology review could be carried out to assess how much the model hydrology has changed since 2008. CW agreed that this would help to justify the approach. Also a comparison of modelled information with recorded historical flood information.”

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- This review of the Bear Brook model was made (see L2 SFRA appendix B). It concluded that "Due to the out of date hydrology, there is a possibility that this model may be underestimating flood extents", however the model used the FEH Rainfall Runoff method which in most cases is found to be conservative when compared to newer methods.

1.2.4 JBA response: Conclusions

- WTC018 and BIE022: We consider that the L2 SFRA and Sequential Test are appropriate because they use the updated modelling prepared by PBA as part of the planning application for WTV018.
- STO016: We consider that the L2 SFRA and Sequential Test are appropriate because the approach, using the Bear Brook model was agreed with the EA, and the area to be allocated (43% of the site) is significantly smaller than the area currently within Flood Zone 1 (91%).

1.3 Exception Test

- EA representation: "Sites WTV018 'Woodlands', BIE022 'Land at Manor Farm' and STO016 'Land South West of Aylesbury need to show that they pass the second part of the exception test at planning application stage with up to date site specific modelling."
- Sequential Test (p3) states: "Three sites require an Exception Test - WTV018/BIE022 within the VALP strategic allocation 'Land North of the A41' and site STO016 within 'South West Aylesbury. The second part of the Exception Test can only be fully passed when determining a development proposal.' Agree with this as it is only at planning that the site masterplan is considered, not at Local Plan preparation.
- For sites WTV018 and BIE022 a new model has been prepared and used in the Level 2 SFRA, the Sequential Test and the planning application for WTV018. This refutes the EA's argument.
- For site STO016, the L2 SFRA acknowledges that the model is out of date, but it was agreed that it was acceptable to use so long as the limitations were reviewed and understood. The space available in FZ1 (91% of site) is well in excess of the area required for the allocation (43%). Therefore even if flood zones 2 and 3 expand when remodelled, it is very unlikely this will adversely impact on the space to develop this site.

1.4 Water Cycle Study

1.4.1 EA Representation

"There are a number of works where there is more than a 3% deterioration within 'Bad' status. The Weser Ruling found that if a water body is already at the lowest status any further deterioration in quality was considered to be a 'deterioration'. A 3% deterioration limit should be applied in this case. The study does not appear to have considered what permit limits would be required in this case and if they are achievable. This is a potential concern as without the assessment of the permit limit required to

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cap deterioration to 3%, we cannot determine if the proposed growth is feasible and compliant with the water framework directive (WFD). This may affect the delivery of the local plan site allocations and the delivery of Policy I5 Water Resources where this policy refers to the protection of water quality from development that would adversely affect water quality."

1.4.2 Response

- The Draft Water Cycle Study Report was reviewed by the EA in November 2016 (Letters from Jonathan Griffiths dated 03/11/2016 and 25/11/2016). The Weser ruling, and the EA's interpretation of how to implement this rule, were not mentioned in this review, nor in other communications with WCS consultant JBA.
- Whilst having been aware of the Weser ruling, JBA only became aware of the "3% rule" following communications with Thames Water on another Water Cycle Study in July 2017. The Water Cycle Study was completed in April 2017.
- The WCS was prepared to EA guidance "Water quality planning: no deterioration and the water framework directive" published in 2012. This guidance does state that "Where the current water quality is Bad there is no lower class boundary and a 10% deterioration would lead to a significant increase in the pollutant load you can use a target that allows for a less than a 10% deterioration in the downstream water quality for an individual determinand."
- To the best of our knowledge this has not been updated to account for the Weser ruling. A search for "Weser" on the EA's website returns zero responses (28/06/2018).
- The EA guidance is acknowledged in the WCS, appendix B.
- Considering the water bodies modelled for the WCS, in no case was the (2015) published WFD class "Bad," however at some WwTWs the modelled quality immediately downstream of the WwTW was modelled as "Bad". This difference is likely to be accounted for because the published WFD classes are based on observed values some distance downstream of the WwTW, allowing natural purification and dilution between the point of discharge and the point of sampling.
- The WCS, Appendix B, demonstrates that, in all cases where a class is predicted to be "Bad" and there is >3% deterioration, the application of Best Available Technology (BAT) at the works would not only prevent that deterioration but would raise the class to Poor or better. Hence the WCS has demonstrated that the proposed growth is feasible and compliant with the WFD because deterioration could be prevented at all WwTWs.

2 Anlian Water (AW) Representations

The table below summarises our review of the AW representations on the Local Plan.

Local Plan Reference	JBA Comment
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BUC043	Recommended wording changes are reasonable.
BUC051	Recommended wording changes are reasonable.
BUC046	Recommended wording changes are reasonable.
SCD003	Recommended wording changes are reasonable. The Local Plan wording has confused lack of surface water capacity (which should be assumed to be universal), with lack of capacity in the foul drainage system.
SCD008	Recommended wording changes are reasonable. The Local Plan wording has confused lack of surface water capacity (which should be assumed to be universal), with lack of capacity in the foul drainage system.
MMO006	Recommended wording changes are reasonable.
Policy I4 Flooding	Recommended wording changes are reasonable.
Policy I5 Water Resources, point c	Recommended wording changes are reasonable. Responsibility for managing the potential flood risk impacts of increased effluent discharges from wastewater treatment works lies with the water company holding the discharge permit, not with individual sites connecting to the sewerage network. It would be very difficult for the developer of a single site to properly assess this within an FRA as it requires knowledge of the scale and phasing of all other developments within the catchment, and would also result in a lot of duplicated work.
Policy I5 Water Resources, point d	<p>Recommended wording changes are reasonable. It is not necessary to use planning obligations to secure developer contributions for water and wastewater infrastructure. Note that, since the WCS was prepared, the water industry has changed how developer contributions are made. The text below provides a short summary:</p> <p>OfWAT, the water industry's economic regulator, has published new rules covering how water and wastewater companies may charge customers for new connections[1]. These rules apply to all companies in England and commenced on 1st April 2018. Anglian Water[3] and Thames Water[4] have published their charging arrangements from this date. The key changes include:</p> <ul style="list-style-type: none">• More charges will be fixed and published on water company websites. This will

[1] OfWAT (2017) Charging rules for new connection services (English undertakers). Accessed online at: <https://www.ofwat.gov.uk/publication/charging-rules-new-connection-services-english-undertakers/> on: 19/01/2018.
[3] Anglian Water (2018) Developer Charging Arrangements 2018-2019. Accessed online at http://www.anglianwater.co.uk/_assets/media/DS-charging-arrangements-2018-19.pdf on 07/03/2018
[4] Thames Water (2018) Charging arrangements for new connection services. Accessed online at <https://developers.thameswater.co.uk/-/media/Site-Content/Developer-Services/New-connections-charging/Charging-Arrangements-FINAL.pdf?la=en> on 07/03/2018



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	<p>provide greater transparency to developers and will also allow alternative connection providers to offer competitive quotations more easily.</p> <ul style="list-style-type: none">• There will be a fixed infrastructure charge for water and one for wastewater.• The costs of network reinforcement, will no longer be charged directly to the developer in their connection charges. Instead, the combined costs of all of the works required on a company's networks, over a five-year rolling period, will be covered by the infrastructure charges payed for all new connections.• The definition of network reinforcement has changed and will now apply only to works required as a direct consequence of the increased demand due to a development. Where the water company has not been notified of a specific development, for example when developing long-term strategic growth schemes, the expenditure cannot be recovered through infrastructure charges, but would need to be justified through the company's capital programme.• Suppliers may consider offering charging incentives to encourage environmentally sustainable development, for example for the provision of rainwater harvesting.
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3 Thames Water (TW) Representations

The table below summarises our review of the TW representations on the Local Plan.

Local Plan Reference	JBA Comment
Policy S5	TW have pointed out the changes to how water and wastewater companies charge for new connections, as discussed above in relation to the AW representations. Consider changing the policy wording (3.43) to reflect this.
Policy I3 Flooding and SuDS	Recommended wording changes are reasonable. The SFRA does consider the risk of sewer flooding (although, given the data controls TW exercises over sewer flooding data, it is difficult to address this in an FRA).
AGT1	Aylesbury Garden Town site 1 was assessed in the WCS as sites SMD004, SMD005, SMD006, SMD007 and SMD008, totalling 1,401



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Local Plan Reference	JBA Comment
	<p>homes, whereas it is allocated for 1,000 homes, therefore WCS took a conservative view.</p> <p>The TW comments on water and waste are effectively in line with the findings of the WCS. Their "internal comments" regarding the total development draining to Aylesbury STW are pertinent. These have been assessed from a treatment works point of view (headroom and water quality assessments), but what TW seem to be saying is that the cumulative impact on networks (water and foul sewerage) hasn't been addressed. This aspect of the WCS was based on assessments provided by the water companies, but they didn't do a detailed growth impact modelling assessment, which is what is now required for Aylesbury, given the focus on the AGT.</p> <p>TW's focus is on this being done through early consultation with developers, but there is a risk that this wouldn't result in a joined-up, holistic plan. This is an area where AVDC could push back on TW to ask when they can carry out a detailed growth assessment for the water and wastewater networks in Aylesbury.</p>
AGT2	<p>Aylesbury Garden Town site 2 was assessed in the WCS as sites SMD009 and STO016, totalling 1,401 homes, whereas it is allocated for 1,550 homes. There is therefore a risk that WCS might be challenged for not having considered full allocation of housing.</p> <p>Comments as per AGT1 above.</p>
AGT3	<p>Aylesbury Garden Town site 3 was assessed in the WCS as site WTV018, totalling 170ha of employment space, whereas it is allocated for 102,800m² of employment, 1,660 dwellings and other uses. There is therefore a risk that WCS might be challenged for not having considered full allocation of housing.</p> <p>Comments as per AGT1 above.</p>
AGT4	<p>Aylesbury Garden Town site 4 was assessed in the WCS as sites WTV019, WTV021, WTV022 and WTV026, totalling 3,185 homes, whereas it is allocated for 3,111 homes plus some employment and other uses. There is therefore a risk that WCS might be challenged for not having considered full allocation of housing and other uses.</p> <p>Comments as per AGT1 above.</p>
AYL032	<p>Site was assessed in the WCS for 7 homes, whereas it is allocated for 70 homes. There is therefore a risk that WCS might be challenged for not having considered full allocation of housing.</p> <p>Comments as per AGT1 above.</p>
AYL052	<p>Site was assessed in the WCS for 23 homes, whereas it is allocated for 23 homes plus 5,000m² retail. There is therefore a risk that</p>

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	WCS might be challenged for not having considered full allocation of housing and retail. Comments as per AGT1 above.
AYL059	Site was assessed in the WCS for 14 homes, and it is allocated for 14 homes. Comments as per AGT1 above.
AYL063	Site was assessed in the WCS for 112 homes, and it is allocated for 112 homes. Comments as per AGT1 above.
AYL068	Site was assessed in the WCS for 83 homes, whereas it is allocated for 39 homes, therefore WCS took a conservative view. Comments as per AGT1 above.
AYL073	Site was assessed in the WCS for 18 homes, and it is allocated for 18 homes. Comments as per AGT1 above.
AYL077	Site was assessed in the WCS for 13 homes, and it is allocated for 13 homes. Comments as per AGT1 above.
AYL115	Site not assessed in main WCS as was included in the November 2016 HELAA. Allocated for 200 homes therefore there is therefore a risk that WCS might be challenged for not having considered full allocation of housing. Appendix E highlighted the need for an odour assessment on this site as it is as close as 310m from the WwTW and would be the closest housing. This is not included in the policy, and therefore TW's comments regarding odour are reasonable.
CDN001	TW has no specific concerns about this site.
CDN003	TW has no specific concerns about this site.
HAD007	Site was assessed in the WCS for 210 homes, whereas it is allocated for 315 homes. There is therefore a risk that WCS might be challenged for not having considered full allocation of housing. TW comments are reasonable.
HAL003	Site not assessed in main WCS as was included in the November 2016 HELAA. Allocated for around 1,000 homes therefore there is therefore a risk that WCS might be challenged for not having considered full allocation of housing. TW's comments are reasonable.

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ICK004	TW raise concerns about the cumulative impact of other developments, however ICK004 is the only new allocation in the village.
MGB003	TW has no specific concerns about this site.
QUA001	TW has no specific concerns about this site.
QUA014	TW has no specific concerns about this site.
STO008	TW has no specific concerns about this site.
WHI009	TW has no specific concerns about this site, just an advisory that it could drain north into Anglian Water area.

4 Buckinghamshire County Council (BCC) Representations

4.1 Comments on Level 2 SFRA

BCC Comment	JBA response
Level 2 SFRA Detailed Site Summary Tables – BCC recommend that the "Recommendations for requirements of site-specific Flood Risk Assessment, including guidance for developers", within each of the site summary tables within this SFRA point towards/refers to the general advice within Section 4 of the GW Addendum, and also to any site-specific advice within said GW addendum.	The Groundwater (GW) addendum was prepared after completion of the Level 2 SFRA, and therefore is not referred to in the main body of the Level 2 report. We would consider this to be a minor comment and not an issue which questions the soundness of the SFRA.
Site code SCD008 - Is SCD008 combined with SCD010 or are they separate sites?	Yes they are combined as SCD008 - see the Allocation Maps in the Local Plan. In the Level 2 SFRA the assessment for SCD008 covers both the original sites SCD008 and SCD010.
Section 4 Interpreting groundwater flood risk, bullet points 2 to 6 - We recommend that each section of the site summaries in the L2 SFRA and Sequential Test, "Recommendations for requirements of site-specific Flood Risk Assessment, including guidance for developers", should refer/point towards these additional bulleted points.	The Groundwater (GW) addendum was prepared after completion of the Level 2 SFRA, and therefore is not referred to in the main body of the Level 2 report. We would consider this to be a minor comment and not an issue which questions the soundness of the SFRA.
Addendum note on groundwater flood risk – Figure 1: JBA GFM at EDL002 - Should EDL020 and	The addendum was a review of five sites - not a full reassessment of groundwater flood risk based on the JBA groundwater

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BCC Comment	JBA response
EDL021 not have also been included in this Addendum? These were also highlighted in previous reviews.	flood map. None of these sites (EDL002, EDL020 and EDL021) is allocated by the Local Plan therefore we would consider this to be a minor comment and not an issue which questions the soundness of the SFRA.