Chief Executive: John Wood

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Date 11 October 2018

RE: 6/2018/0171/MAJ – Former Shredded Wheat Factory, Welwyn Garden City, AL8 6UN

Dear Gerry,

Thank you for re-consulting us on the above planning application for the Creation of a mixed-use quarter comprising the erection of up to 1,340 residential dwellings including 414 (31%) affordable dwellings (Use Class C3); 114 extra care homes (Use Class C2); the erection of a civic building comprising 497 m² of health (Use Class D1), 497 m² of community use (Use Class D1), 883 m² of office (Use Class B1) and 590 m² of retail (Class A1/A2/A3/A4/A5); alterations, additions and change of use of Grade II Listed Building and retained Silos to provide 5,279 m² of flexible business floorspace (Use Class B1), 270 m² Combined Heat and Power (Sui Generis), 2,057 m² International Art Centre (Use Class D1), 1,235 m² Gymnasium (Use Class D2), 1,683 m² of restaurant/coffee shop/bar (Use Class A1/A3/A4/A5), Creche/Day Nursery (Use Class D1) of 671 m² as well as a Network Rail TOC Building (Use Class B1) of 360 m²; plus associated car parking, access, landscaping, public art and other supporting infrastructure, at Former Shredded Wheat Factory, Welwyn Garden City, AL8 6UN.

Following a review of the Environmental Statement: Volume 1, Main Text produced by Entran Limited, revision 1.0, dated 12th February 2018, the Flood Risk Assessment produced by RMA Environmental Limited, report number RMA-RC 1787, revision 2, dated 30th January 2018, the Drainage Network SC1 report produced by Stantec UK Ltd, dated 13th September 2018, the Surface Water Drainage SC2-SC3 report produced by Stantec UK Ltd, dated 25th September 2018, the Surface Water Drainage SC4 report produced by Stantec UK Ltd, dated 28th September 2018, the Surface Water Drainage SC5 report produced by Stantec UK Ltd, dated 25th September 2018 and the Surface Water Drainage SC6 report produced by Stantec UK Ltd, dated 25th September 2018, we can confirm that we the Lead Local Flood Authority (LLFA) have no objection in principle on flood risk grounds.

The proposed drainage strategy for the development is based on discharge into the Thames Water public surface water sewers running along the site. Infiltration is not a feasible discharge mechanism.

The site has been separated into a number of sub-catchments with the estimated potential storage volumes required for each sub-catchment for storm events up to and including the 1 in 100 year plus 40% for climate change event. The final discharge rates of surface water run-off from the site should be limited to Greenfield run-off rates, or as close as possible. The total discharge rate from the entire site and for each sub-catchment separately should be agreed in detail with Thames Water.

A proposed phasing plan has been provided ensuring that the strategic system will be in place prior to the construction of the associated masterplan infrastructure. The final detailed design is to be provided and in order to secure the principles of the current proposed scheme we recommend the following planning conditions to the LPA, should planning permission be granted.

LLFA position

Condition 1 – Agreement for Discharge Rates and Connection Locations for Future Sub-Catchments and Phasing Arrangements

No development shall take place until confirmation of the final surface water discharge rates and connection points into the surface water sewer has been submitted to, and approved in writing by the Local Planning Authority. The scheme shall subsequently be implemented in accordance with the approved details before the development is completed.

This shall include the following;

1. Surface water discharge rates and connection points into the public surface water sewer for each future sub-catchment included within the entire development site.
2. Confirmation of the capacity study results and agreement for the proposed discharge rates and connection points from each future sub-catchment for surface water sewer network undertaken in line with Thames Water recommendations.
3. Limiting the surface water run-off generated by the critical storm events so that it will not exceed surface water Greenfield run-off rates (or as close as possible rates) for the relevant rainfall events for the 1 in 1 year event, the 1 in 30 year event and the 1 in 100 year event including plus 40% of climate change allowance. If Greenfield run-off rates cannot be achieved, strong technical justification should be provided. As a minimum 50% betterment in run-off rates for each sub-catchment should be provided following the relevant rainfall events including the 1 in 1 year event, the 1 in 30 year event and the 1 in 100 year event including plus 40% of climate change allowance. No increase of the risk of flooding off-site should be identified.
4. Confirmation of attenuation volumes required for each phase identified within the development proposal. Final results should be appropriately split between future sub-catchments identified within the drainage strategy.

Reason

1. To ensure the facilitation of required attenuation volumes in line with the prior agreed discharge rates.
2. To prevent the increased risk of flooding, both on and off site.

Condition 2 – Detailed Design Code for all Future Sub-Catchments

No development shall take place until the design of the drainage scheme has been submitted to, and approved in writing by the Local Planning Authority. The drainage system for future sub-catchment shall include a restriction in run-off and surface water storage on site based on the sub-catchment approach of the strategic system. The scheme shall subsequently follow the agreements described in Condition 1 – Agreement for Discharge Rates and Connection Locations for Future Sub-Catchments and Phasing Arrangements, and shall be implemented in accordance with the approved details before the development is completed.

Detailed drainage design for each sub-catchment shall include the following principles;

1. Providing storage to ensure no increase in surface water run-off volumes for all rainfall events up to and including the 1 in 100 year including plus 40% for climate change event and details as how this is to be achieved.
2. Detailed calculations to demonstrate how the system operates during up to and including the 1 in 100 year critical duration storm event including drain down times for all storage features included within the drainage proposal.
3. Demonstrate an appropriate SuDS management and treatment train and inclusion of above ground features reducing the requirement for any underground storage.
4. Full detailed engineering drawings including cross and long sections, location, size, volume, depth and any inlet and outlet features. This should be supported by a clearly labelled drainage layout plan showing pipe networks. The plan should show any pipe 'node numbers' that have been referred to in network calculations and it should also show invert and cover levels of manholes. Total storage volumes provided within each future sub-catchment should be identified.
5. Where an outfall discharge control device is to be used such as a hydrobrake or orifice, this should be shown on the plan with the rate of discharge stated.
6. Silt traps for protection for any residual tanked elements.
7. Details regarding any areas of informal flooding (events those exceeding 1 in 30 year rainfall event), this should be shown on a plan with estimated extents and depths.
8. Full details of any required mitigation/ management measures of any identified source of flooding.
9. Details of final exceedance routes, including those for an event which exceeds to 1:100 rainfall event including climate change event.

Reason

1. To prevent the increased risk of flooding, both on and off site.

Condition 3 – Implementation of Strategic System for the North Site

The development permitted by this planning permission for the North Site shall be carried out in accordance with the principles of the approved drainage strategy, subject to prior approval of details of Condition 1 – Agreement for Discharge Rates and Connection Locations for Future Sub-Catchments and Phasing Arrangements, and Condition 2 – Detailed Design Code for all Future Sub-Catchments.

1. Limiting the surface water run-off generated by the critical storm events so that it will not exceed surface water Greenfield run-off rates (or as close as possible rates) for the relevant rainfall events for the 1 in 1 year event, the 1 in 30 year event and the 1 in 100 year event including plus 40% of climate change allowance. As a minimum 50% betterment in run-off rates for each sub-catchment should be provided following the relevant rainfall events including the 1 in 1 year event, the 1 in 30 year event and the 1 in 100 year event including plus 40% of climate change allowance.
2. Providing storage to ensure no increase in surface water run-off volumes for all rainfall events up to and including the 1 in 100 year plus 40% for climate change event providing storage volumes in above ground SuDS features, and if necessary in underground features.
3. Discharge of surface water from the private drainage network into the public surface water sewer served by Thames Water.

The mitigation measures shall be fully implemented prior to occupation and subsequently in accordance with the timing / phasing arrangements embodied within the scheme, or within any other period as may subsequently be agreed, in writing, by the local planning authority.

Reason

1. To prevent flooding by ensuring the satisfactory disposal and storage of surface water from the site.
2. To reduce the risk of flooding to the proposed development and future occupants.

Condition 4 – Implementation of Strategic System for the South Site

The development permitted by this planning permission for the South Site shall be carried out in accordance with the principles of the approved drainage strategy, subject to prior approval of details of Condition 1 – Agreement for Discharge Rates and Connection Locations for Future Sub-Catchments and Phasing Arrangements, and Condition 2 – Detailed Design Code for all Future Sub-Catchments.

1. Limiting the surface water run-off generated by the critical storm events so that it will not exceed surface water Greenfield run-off rates (or as close as possible rates) for the relevant rainfall events for the 1 in 1 year event, the 1 in 30 year event and the 1 in 100 year event including plus 40% of climate change allowance. As a minimum 50% betterment in run-off rates for each sub-catchment should be provided following

the relevant rainfall events including the 1 in 1 year event, the 1 in 30 year event and the 1 in 100 year event including plus 40% of climate change allowance.
2. Providing storage to ensure no increase in surface water run-off volumes for all rainfall events up to and including the 1 in 100 year plus 40% for climate change event providing storage volumes in above ground SuDS features, and if necessary in underground features.
3. Discharge of surface water from the private drainage network into the public surface water sewer served by Thames Water.

The mitigation measures shall be fully implemented prior to occupation and subsequently in accordance with the timing / phasing arrangements embodied within the scheme, or within any other period as may subsequently be agreed, in writing, by the local planning authority.

Reason

1. To prevent flooding by ensuring the satisfactory disposal and storage of surface water from the site.
2. To reduce the risk of flooding to the proposed development and future occupants.

Condition 5 – Upon Completion Condition for Maintenance

Upon completion of the drainage works for each sub-catchment included within the final drainage proposal, in accordance with the final phasing arrangements, a management and maintenance plan for the SuDS features and drainage network must be submitted to and approved in writing by the Local Planning Authority.

The management and maintenance plan shall include;

1. Provision of complete set of as built drawings including the final drainage layout for site drainage network.
2. Maintenance and operational activities for the lifetime of the development.
3. Arrangements for adoption and any other measures to secure the operation of the scheme throughout its lifetime.

Reason

1. To prevent flooding by ensuring the satisfactory maintenance of surface water network on site**.**
2. To reduce the risk of flooding to the proposed development and future occupants.

Informative to the applicant

We would not expect the use of below ground attenuation features only. Oversized concrete pumps have been proposed to provide underground storage. Above ground storage features should be considered throughout the development. Measures such as blue roofs, permeable paving, swales etc. could be used within the proposed development site. Prioritising above ground methods and providing source control

measures can ensure that surface water run-off can be treated in a sustainable manner and reduce the requirement for maintenance of underground features.

We would advise the applicant that prior to undertaking detailed modelling and design and providing it to the LPA, the applicant should obtain agreements with Thames Water for the proposed discharge rates from each future sub-catchment and for the proposed connection points.

Therefore, we would advise the applicant that prior to discharge of Condition 2, the Local Planning Authority should approve in full in writing Condition 1.

Informative to the LPA

The LPA will need to satisfy itself that proposed surface water attenuation features can be maintained for its lifetime and we recommend the LPA obtains a detailed maintenance and adoption plan from the applicant.

Please note if the LPA decide to grant planning permission we wished to be notified for our records should there be any subsequent surface water flooding that we may be required to investigate as a result of the new development.

Yours sincerely,

Julia Puton

SuDS Officer

Hertfordshire County Council