



Barrow Road, Barton upon Humber - PA/2023/1607

Cc Planning <Planning@northlincs.gov.uk>

Good morning Tanya,

Hope your week is going well?

I have created a response for the development including some conditions that should cover what we need from a drainage perspective. Happy for you to reword if you need to.

We the Lead Local Flood Authority (LLFA) acting on behalf of North Lincolnshire Council (NLC) has reviewed the application for a residential development and associated infrastructure and have the following comments and conditions.

Informative comments:

On Thursday the 7th August the LPA and LLFA met with the applicant and civil engineering consultants to discuss agreed upon principles for the development and rationalise plans. A summary of the conversation is copied below for ease of reference and to allow transparency of what has been discussed and agreed for the future development.

- AWP provided a clear overview of the proposals for both surface water and foul drainage.
- It was discussed that North Lincolnshire Council is acting as the developer for the spine road through the site.
- We discussed site gradients, and AWP raised concerns regarding previously agreed design principles being redacted. The LLFA acknowledged these concerns and agreed that written confirmation of the original agreements would be sought where possible.
- The site's topography and its associated constraints were discussed in detail which impact much of the site's developments and levels that are possible.
- The LLFA expressed concern that SuDS features including swales, filter drains, rain gardens, permeable paving, and other options had been dismissed entirely. While it was acknowledged that certain areas of the site may not be suitable for these features due to level constraints, the LLFA discussed that this would not justify excluding them across the entire site. It was agreed that this would be revisited and investigated further.

- Concerns were also raised regarding the control of runoff from driveways. AWP advised that ACO channels would be used, with driveway gradients reaching up to 1:12. Given the steepness of this gradient, the LLFA questioned whether ACO channels alone would be sufficient to manage runoff. While permeable paving may not be effective at such gradients, it is unlikely that all driveways will be constructed at this slope. Therefore, a combination of permeable paving and ACO channels could offer a more effective solution. This approach would align with Section 163 of the Highways Act, which addresses runoff into highways, as well as the requirement to manage the first 5mm of rainfall at source, as outlined in the National Standards for SuDS. It was agreed that this would be explored further.
- Highway gully spacing was also discussed. The LLFA raised concerns that steep gradients and flow paths could result in surface water bypassing gullies. AWP assured the LLFA that the gullies would be designed to accommodate expected flows. The LLFA requested that this be evidenced through flow routing drawings for both highways and driveways to demonstrate that the proposed drainage infrastructure is sufficient to manage runoff effectively.
- Finally, the LLFA queried the strategic placement of swales along the southern boundary of the site. It was noted that the current design stops short of some properties, which could result in uncontrolled flow paths impacting dwellings or the spine road. AWP agreed to review this and confirmed that a catchment assessment would be undertaken to assess swale capacity and ensure they are appropriately sized and positioned to prevent flooding elsewhere.

The LLFA has attached some potentially useful links for any flood and drainage related documentation that may be needed.

- [National Standards for SuDS](#)
- [SFRA](#)
- [NLC SuDS guidance](#)
- [NLC Soakaway guidance](#)
- [NPPE](#)
- [Building regulations Part H](#)
- [CIRIA SuDS Simple Water Quality Matrix](#)

Conditions

FRA Compliance

The development shall be carried out and progressed based on the principles outlined within the submitted '*Flood Risk & Drainage Assessment - JAG-AD-JF-47658-Rp001 Rev G JULY 2025*'. The flood risk of the site is subject to changes within current models both developed by North Lincolnshire council and by the environment Agency. As such any changes may result in alterations to the principles of the development.

Reason: To prevent the increased risk of flooding, to improve and protect water quality, and to ensure the implementation and future maintenance of the sustainable drainage structures.

Drainage Scheme

The development should not begin construction without a drainage strategy being submitted and agreed upon in writing by the Local Authority, this should be based upon principles set out in the following documents: *'Flood Risk & Drainage Assessment - JAG-AD-JF-47658-Rp001 Rev G JULY 2025, Proposed Drainage Layout - BRBH-AWP-ZZ-XX-DR-C-3000-P10 and Landscape Management Plan - BY00127 - 22-CL3-SEGB-BR-06-P01'* at a restricted rate of 5l/s.

This must include drainage plans, complete with overland flow routes showing pre and post SW flow routes, it should include full SuDS details and designs with priority given to SuDS over traditional piped systems. This should be supplied with all relevant proposals and maintenance plans, drainage runs and include full hydraulic modelling which should include 1yr, 2yr, 5yr, 30y and 100yr storm events for summer and winter with the 30yr having a 35% allowance for climate change and the 100yr having a 40% allowance included. The SuDS design should follow the National Standards for SuDS.

At detailed design stage implementation of soft SuDS such as permeable paving and rain gardens should be included, exclusion of these features must be evidenced to the LPA to a satisfactory standard.

Reason: In the interests of providing a safe and appropriate method of discharging surface water from the site which follows local and national guidance and reduces the risk of flooding to the site.

Site management through SuDS

The proposed swales located to the south of the site as shown within documents *'Flood Risk & Drainage Assessment - JAG-AD-JF-47658-Rp001 Rev G JULY 2025 and Proposed Drainage Layout - BRBH-AWP-ZZ-XX-DR-C-3000-P10'* are to be hydraulically to the wider site and extended to the southern boundaries to ensure that overland flows cannot adversely impact dwellings and highways. As part of this hydraulic modelling covered within the above condition should be conducted.

Reason: To help manage overland flows to the site due to topography and reduce flood risk to residents and highways.

Water to/from the highway

The development hereby permitted shall not be first brought into use until an effective method of preventing surface water run-off from hard paved areas within the site onto the highway and an effective method of preventing surface water run-off to/from the highway onto the developed site has been provided and approved by the LPA. This includes runoff from driveways entering any adopted roads with preference given to the use of SuDS features such as permeable paving. Details are to be provided in writing including cross sections and modelling to the local planning authority and shall thereafter be retained for the lifetime of the development.

Reason: In the interests of highway safety, to prevent the increased risk of flooding, to improve and protect water quality, and to ensure the implementation and future maintenance of the sustainable drainage structures.

Management and Maintenance Plan

Provide, a management and maintenance plan for the lifetime of the development which shall include the arrangements and management for SuDS and any adoption by any public authority or statutory undertaker and any other arrangements to secure the operation of the scheme throughout its lifetime.

Reason: To prevent the increased risk of flooding, to improve and protect water quality, and to ensure the implementation and future maintenance of the sustainable drainage structures.

Water Quality

Provide evidence using an appropriate method as outlined within the National Standards for SuDS of ensuring water quality has been addressed and is maintained to an appropriate standard.

Reason: To ensure water quality is kept to a high standard as required within SuDS designs and ensuring adherence to the NPPF and National standards for SuDS.

Changes to Development Design and Drainage

Any amendments to the development design that result in changes to any agreed upon sustainable drainage design, modelling or flood risk within the site shall result in re-consultation with the Lead Local Flood Authority (LLFA) to reassess the design before any works shall be carried out.

Reason: In the interest of public safety and to assess the risk of flooding caused by the developmental changes.

Kind regards,

Mike Robinson-Smith (BSc) Hons, GradCIWEM, AMIEnvSc

Flood Risk and Drainage Officer | Place | Communities

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