

**Consultation Response from KC,
Lead Local Flood Authority**

2021/94599 Moorhouse Farm, Moorhouse Lane, Birkenshaw, BD11 2AY

Erection of 6 dwellings and associated works

Date Responded: 14/02/2022

Responding Officer: Martin Stephenson

Responding Ref: 0

Documents reviewed by the LLFA:

EWE Associates:

- Drawing Ref: EWE/2801/01, Existing Run-Off, Rev 0 dated 26/11/2021
- Drawing Ref: EWE/2801/02, Drainage Strategy, Rev 0 dated 26/11/2021
- Drawing Ref: EWE/2801/03, Drainage Route & Details, Rev 0 dated 26/11/2021

Drainage Summary:

The developer is proposing to discharge attenuated flows into a tributary of Lodge Beck which is an acceptable outfall location for the LLFA. However, the proposed discharge rate from the flow control device of 21.6 l/s is not acceptable. The allowable discharge rate should be 30% less than the surface water run-off from the existing buildings that are to be demolished – i.e. using the existing roof area of 0.199 ha (as stated on drawing EWE/2801/01) and applying a 50mm/hr rainfall intensity. The LLFA calculate this figure to be 27.66 (existing run-off) x 0.7 = **19.4 l/s**. The volume of the attenuation storage should be re-calculated using this lower figure to ensure that rainfall up to the 1 in 100 year event (plus 30% climate change) is retained on site without causing flooding to the curtilage of existing or proposed buildings.

The attenuation tank shall have a low flow channel/perforated pipe laid at a self-cleansing gradient crossing through/under the tank in a straight line from the inlet to the outlet MHs as indicated in the SuDS Guidance (CIRIA C753) which is the national recommended design of cellular storage tanks, Figures 21.4, 21.6 to 21.7. This is to minimise the risk of silt build-up within the geocellular tank which would be difficult to remove.

The developer shall submit the proposed temporary drainage strategy outlining the drainage arrangements for different construction phases of the project including a plan showing the location of the attenuation storage and supporting calculations, which shall be based on the critical 1 in 2-year storm.

Details of the operation, maintenance and management of the surface water drainage infrastructure (including a Maintenance Schedule for each element of the drainage infrastructure) shall be submitted to and approved in writing with the Local Planning Authority. Details shall include adoption proposals of any adoptable structures, as necessary. The development shall thereafter be operated, managed and maintained at all times for the lifetime of the development, or up to the point of adoption, in accordance with the approved details.

Kirklees Flood Management & Drainage can SUPPORT this application SUBJECT to appropriate recommended conditions as set out below provided the above comments are satisfactorily addressed in the detailed design.

Suggested Drainage Conditions:

DR01 Drainage Details

Development shall not commence until a detailed design scheme detailing foul, surface water and land drainage, (including agreed discharge rates with the LLFA indirectly or directly to watercourse, attenuation for the critical 1 in 100 + 30% climate change rainfall event, attenuation construction details /design, hydraulic calculations, phasing of drainage provision) has been submitted to and approved in writing by the Local Planning Authority. The scheme shall include a risk assessment and

method statement, in accordance with CDM Regulations 2015, for access to and into the attenuation structure, and an itinerary of maintenance tasks with schedules. No part of the development shall be occupied until such approved drainage scheme has been provided on the site to serve the development or each agreed phasing of the development and retained thereafter.

DR07 Overland Flow Routing

The development shall not commence until an assessment of the effects of 1 in 100 year storm events, with an additional allowance for climate change, blockage scenarios and exceedance events on drainage infrastructure and surface water run-off pre and post development between the development and the surrounding area (both upstream and downstream of the development), has been submitted to and approved in writing by the Local Planning Authority. No part of the development shall be brought into use (dwellings shall not be occupied) until the works comprising the approved scheme have been completed and such approved scheme shall be retained thereafter.

DR10 Construction Phase Surface Water Flood Risk and Pollution prevention plan.

Development shall not commence until a scheme, detailing temporary surface water drainage for the construction phase (after soil and vegetation/site strip) has been submitted to and approved in writing by the Local Planning Authority. The scheme shall detail:

- phasing of the development and phasing of temporary drainage provision.
- include methods of preventing silt, debris and contaminants entering existing drainage systems and watercourses and how flooding of adjacent land is prevented.
- the strategy shall include a plan showing the location of the attenuation storage and supporting calculations, which shall be based on the critical 1 in 2-year storm. It should be assumed that once the site has been stripped that the percentage run-off will be 100 %. The maximum allowable off-site discharge rate shall not exceed 2.5 litres per second per ha, unless otherwise agreed with the LLFA.

The temporary works shall be implemented in accordance with the approved scheme and phasing. No phase of the development shall be commenced until the temporary works approved for that phase have been completed. The approved temporary drainage scheme shall be retained until the approved permanent surface water drainage system is in place and functioning in accordance with written notification to the Local Planning Authority.