

FLOOD RISK ASSESSMENT & DRAINAGE STRATEGY

**LAND AT SCALEGILL ROAD,
MOOR ROW,
CUMBRIA CA24 3JL**

INTRODUCTION

This FRA and Drainage Strategy document has been prepared to accompany an outline planning application for residential development at Scalegill Road, Moor Row.

THE SITE

The site has a grid reference of: NGR NY 300181 E: 514426 N.

The site area is 1.50 ha.

The land is in Flood Zone 1 (see further details below).

PROPOSED DEVELOPMENT

The planning application seeks outline planning permission for residential development including access junction.

This Flood Risk Assessment has been carried out to meet the requirements of the LPA to ensure that a Flood Risk Assessment has been considered by the applicant.

The application site is more than 1 hectare and requires a Flood Risk Assessment to be carried out.

FLOOD RISK ASSESSMENT

Flood zones.

Reference has been made to the Environment Agency Flood Mapping system. The application site is described being '*Land and property in flood zone 1 have a low probability of flooding*'. Flood zone 1 effectively comprises land and property having less than 1:1000 annual probability of river or sea flooding and as such no further assessment is required in this regard.

Following NPPF guidelines, this FRA need only consider the vulnerability to flooding from sources other than river or sea, and the potential to increase flood risk elsewhere.

Flooding from sources other than river or sea.

The development site extends in a northerly direction from Scalegill Road.

The localised topography of the application site is such that the site slopes from the south in north easterly direction to a low point in the north-eastern corner of the site. This localised topography means that the existing overland flow route is towards the northern eastern corner of the site away from the public highway and any existing buildings and generally towards the open playing fields east of the site.

There is a public footpath along the western and northern boundaries which separates the application site from a recent residential development to the west and the cycleway to the north. The boundaries of the public footpath are bordered with an established existing hedgerows and walls on the application side of the footpath and a variety of boundary treatments on the adjacent development. This existing arrangement will serve to control any existing surface water run-off from the west towards the application site.

Consideration will be given to the use of cut-off drains to intercept any excess surface water run-off from entering or leaving the application site from the west. The use of cut-off drains will be deployed where considered necessary by the developer.

Floor levels of new dwellings will be designed with an appropriate freeboard so that any overland surface water flows would bypass the dwellings and continue along the existing flow route to the east/ north-east.

The existing public highway runs to the south of the site in an east: west direction. The existing public highway is positively drained with gullies collecting the surface water which presumably then discharge into an existing highway drainage system. The crossfall on the public highway is from south to north however the creation of a junction table to control traffic speeds at the proposed site entrance will ensure that no highway surface water enters the proposed development site. The junction table itself will be formed with minimal crossfall to retain the surface water within the public highway.

There are no known existing surface water drains within the application site boundaries. As such it is considered that the proposed development is not at risk from localised surface water flooding from existing surface water sewers.

Flooding to third party land.

As stated above, the existing flow route is to the northern eastern corner of the site and that the existing overland flows are to the east/ north-east.

This situation would remain as existing post-development however the surface water run-off from the impermeable areas will be attenuated/ controlled in accordance with Cumbria CC Design Guide 2018. The surface water system will be attenuated to greenfield run-off rates up to and including the 1:100-year event, plus an allowance for climate change and urban creep. The discharge from the attenuation system will be to an existing watercourse to the north.

All the above will in fact serve to reduce/ control the existing overland flows. In addition, and to ensure that the risk to third party land is not increased, cut-off drains could be deployed along the eastern boundary as considered necessary by the developer.

SURFACE WATER SYSTEM.

As stated above, the surface water system will be designed to attenuate at greenfield run-off rates up to and including the 1:100-year event, plus an allowance for climate change and urban creep.

The surface water system will be attenuated with a controlled discharge at an agreed rate to an existing watercourse to the north.

All new surface water drainage will meet the appropriate standards required by the relevant Statutory Authorities and Approved Document H of the Building Regulations (as applicable).

The applicant will accept planning condition/s controlling the details of the surface water system.

FOUL WATER SYSTEM.

The foul sewer system will discharge to the public sewer which is assumed to run in the public highway to the south of the site entrance.

OTHER RELEVANT FACTORS.

None.

CONCLUSION.

This assessment has considered the implications of the proposed development in terms of flood risk.

The development is at low risk (<1:1000 annual probability) of river or sea flooding and as such no further assessment is required in this regard.

The application site is not at risk from other sources of flooding.

The proposed surface water system will be designed accordingly with the surface water run-off being attenuated in accordance with Cumbria Design Guide 2018. The design will attenuate to greenfield run-off rates up to and including the 1:100-year event, plus an allowance for climate change and urban creep.

All new surface water drainage will meet the appropriate standards required by the relevant Statutory Authorities and Approved Document H of the Building Regulations (as applicable).

The applicant will accept planning condition/s controlling the details of the surface water system.

The proposed foul sewer system will meet the appropriate standards required by the relevant Statutory Authorities and Approved Document H of the Building Regulations (as applicable).

It is considered that there are no flood related issues relative to this application and that satisfactory solutions have been proposed for surface water and foul sewer discharges.

Alpha Design
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