

## **REPORT FOR SURFACE WATER DRAINAGE PLANNING COMMENT RESPONSE**

### **Revision 2 dated March 2025, following BRE site testing**

Below is a copy of the LLFA comment and Furness Partnership comment reply in **RED**

#### **COMMENT FROM LEAD LOCAL FLOOD AUTHORITY RESPONSE:**

The LLFA have reviewed the surface water drainage proposal for the site and in principle have no objections but would like the following points addressed before a final response can be issued.

When BRE365 tests are carried out within the proposed attenuation tank locations and if infiltration is deemed viable the LLFA will have no objections to the proposed drainage design for all 3 drainage sites (Leisure Centre, Car Park, Playground). However, if infiltration is not an option the car park and playground drainage design need to be reconsidered, The Town of Millom has suffered from several flooding events in recent years due to capacity issues within the combined sewers during storm events which has internal flooding to many properties within the area. The LLFA along with united utilities have planned schemes within the town to remove surface water from the combine sewer to which we the LLFA would expect this to happen on this proposed development site.

#### **Proposed Car park area**

If levels only allow connection to the existing combined sewer any existing surface water drainage gullies etc should be connected to the proposed new surface water system attenuated and discharged at an agreed rate into the combined sewer.

This area is shown on Furness Partnership drawing L2762-FUR-XX-XX-DR-D-0921

A falling head test was completed in this area during the Phase 2 site investigation. The infiltration rates were found to be poor and not suitable for soakaway options.

This was followed up with a BRE soakaway test in March 2025.

The test hole was excavated 3.8x0.6m wide x 2.5m deep. The hole was filled to approx. 960mm below ground level.

There was no drop in water level. Therefore the area is not suitable for soakaway drainage solutions.

At the moment all the hard standing in the car park and from the existing buildings goes into the main sewer with unrestricted flow. The current proposals as shown in drawing 0921, shown a new attenuation system and a flow reduction off site. This is a betterment on the existing drainage infrastructure and as such will reduce the impact of out flow into the existing sewer system.

#### **Proposed playground area**

If levels only allow connection to the existing combined sewer any existing surface water drainage gullies etc should be connected to the proposed new surface water system attenuated and discharged at an agreed rate into the combined sewer.

This area is shown on Furness Partnership drawing L2762-FUR-XX-XX-DR-D-0923

A falling head test was completed during the Phase 2 site investigation. The infiltration rates were found to be poor and not suitable for soakaway options.

This was followed up with a BRE soakaway test in March 2025.

The test hole was excavated 1.9x0.6m wide x 2.5m deep. The hole was filled to approx. 900mm below ground level.

The water level dropped 460mm in 3.5 hours, and then levelled to a stop. Therefore the area is not suitable for soakaway drainage solutions.

Any new drainage will be collected and attenuated prior to discharging into the main sewer system.

#### Proposed Leisure Centre area

The surface water drainage design for the leisure centre is acceptable as the proposed surface water system will outfall to Salthouse pool water course, although the design is acceptable, we as LLFA would recommend where possible existing surface water to be removed from the combined system and connected to the new.

This area is shown on Furness Partnership drawing L2762-FUR-XX-XX-DR-D-0922.

A falling head test was completed during the Phase 2 site investigation. The infiltration rates were found to be poor and not suitable for soakaway options.

This was followed up with a BRE soakaway test in March 2025.

The test hole was excavated 1.6x0.6m wide x 2.5m deep. The hole was filled to approx. 1200mm below ground level.

There was no drop in water level. Therefore the area is not suitable for soakaway drainage solutions.

At the moment we understand that all the hard standing goes into the main sewer with unrestricted flow, the attenuation and current proposals as shown in drawing 0922 show the water being diverted into the adjacent natural water course, this is a betterment on the existing drainage infrastructure and as such will reduce the impact of out flow into the existing sewer system.

All the new surface water drainage in the developed area is diverted to the natural watercourse, therefore there will be a significant reduction of surface water outflow from this hardstanding area going into the sewer system.