

FLOOD RISK ASSESSEMENT

18 September 2026

This Flood Risk Assessment has been structured directly around the Environment Agency Flood Risk Assessment Guidance.

1 SITE DESCRIPTION

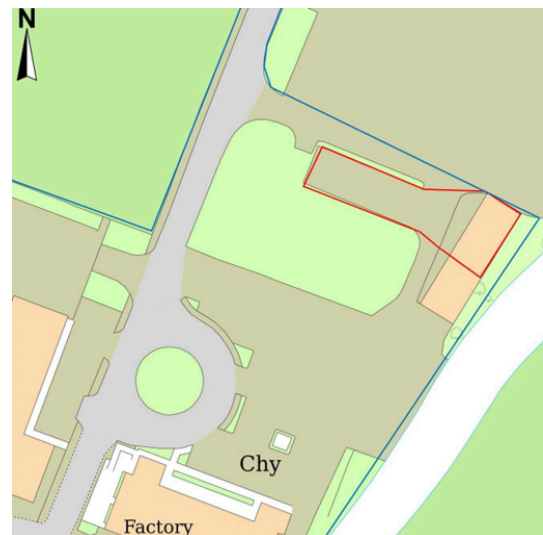
1.1 Unit A1, The Flax Works, Cleator, Cumbria, CA23 3FA

The application relates to the existing Unit A1 within The Flax Works, an established commercial development at Cleator.

The proposal is for the change of use of the existing building to a gym facility. The proposal does not involve the construction of a new building or an increase in the existing building footprint.

The site is located in close proximity to the River Ehen, the principle identified source of fluvial flood risk affecting the locality. A nearby 2023 (reference 1) flood risk assessment confirms the River Ehen's status as an Environmental Agency Main River and records detailed modelling undertaken for the Cleator area.

The existing site includes the building, hardstanding and associated access and parking arrangements. The application site and access arrangements are shown on the location site plan.



1.2 Vulnerability classification

The proposed gym facility is considered to fall within the 'Less Vulnerable' flood risk vulnerability classification, as the national classification includes buildings used for assembly and leisure within the Less Vulnerable category.

The existing building is being reused rather than replaced, and there is no sleeping accommodation proposed.

The proposed use is expected to operate during defined daytime and evening periods rather than providing 24-hour access.

The proposed change of use will, however, result in regular occupation by members of the public & staff. Consequently, the flood risk to people using the building and the arrangements for safe access, evacuation and emergency management have been considered within this assessment.

1.3 Flood zone incompatibility

The current Environment Agency Flood Map for Planning identifies the application site as being within Flood Zone 3, with the identified principal source of risk being flooding from the River Ehen.

A 2024 wider site drainage report (reference 2) for The Flax Mill also records that the Environmental Agency flood zone information for the location identifies Flood Zone 3. Importantly, that report explains that some of the earlier flood-zone information was based upon historic national generalised modelling and was not considered suitable for site specific flood risk decision making.

The current assessment therefore relies on the current flood risk position, rather than adopting the historic generalised modelling used in earlier drainage reports (reference 4).

Flood Zone 3 represents land assessed as having a **1% or greater annual probability of flooding from rivers**, in the absence of defences.

The available evidence establishes the site as Flood Zone 3a. The proposed use is Less Vulnerable. Less Vulnerable development is compatible with Flood Zone 3a without requiring the Exception Test.

1.4 Lifetime of development

The proposal is a change of use of an existing non-residential building.

In accordance with current Planning Practice Guidance, a lifetime of at least 75 years is an appropriate starting point for assessment of a non-residential development – subject to the characteristics of the development.

This assessment therefore considers flood risk and the implications of climate change of a 75-year assessment period.

1.5 Local Plan policies and SFRA recommendations

The site falls within the former Copeland area of Cumberland Council. The Copeland Local Plan 2013–2028 remains identified within Cumberland Council's planning policy framework for the former Copeland area.

Relevant policies include:

- **Policy ENV1 – Flood Risk and Risk Management**
- **Policy DM24 – Development Proposals and Flood Risk**
- **Policy DM11 – Sustainable Development Standards**

Policy ENV1 seeks to ensure the development is not prejudiced by flood risk and does not contribute to increased flooding elsewhere.

Policy DM24 requires flood risk assessment where appropriate and seeks to prevent development where unacceptable flood risk would arise to the development or elsewhere.

The proposal has been assessment against these principles through consideration of;

- The existing River Ehen flood risk;
- Surface water drainage;
- Residual flood risk;
- Access and evacuation;
- Floodplain storage and flow routes
- The absence of new building footprint;
- And opportunity to improve flood resilience.

2 ASSESS FLOOD RISK

2.1 Existing site

Unit A1 is an existing building within the established Flax Works development at Cleator.

The proposal involves the reuse of the existing building and does not involve new building footprint or raising of external ground levels.

The site is substantially developed, with existing building footprint, hardstanding, parking and access.

Existing drainage infrastructure is present within the wider Flax Works site. The 2024 wider site drainage report (reference 2) records existing surface water drainage arrangements are associated principally with the existing structure and hardstanding.

The assessment also confirms an existing surface-water outfall to the River Ehen.

No new watercourse crossing, diversion, culverting or alteration to the River Ehen is proposed.

2.2 Fluvial flood risk

The principal identified source of flood risk to the site is fluvial flooding associated with the River Ehen.

The current flood-zone information identifies the application site as being within Flood Zone 3a.

The flood-risk assessment therefore focuses primarily on the potential consequences of flooding from the River Ehen, together with the interaction between river flooding and the existing surface-water drainage system.

2.2.1 Design flood event

The Environment Agency identifies Flood Zone 3 as land having a 1% or greater annual probability of flooding from rivers.

The current evidence available for this assessment establishes the Flood Zone classification but does not provide a current site-specific River Ehen flood level or flood depth for Unit A1.

However nearby River Ehen modelling is important contextual evidence. It demonstrates that detailed hydraulic assessment of the River Ehen in the Cleator Area has considered;

- 1% annual probability flooding;
- 0.1% annual probability flooding;
- Defended and undefended conditions; and
- Climate-change scenarios.

It is however important to note that the 2024 wider site drainage assessment (reference 2) provided 1 in 100 years plus 50% climate change modelling, relating specifically to rainfall and surface water drainage network, rather than providing a specific River Ehen flood level.



2.2.2 Residual fluvial risk

Residual fluvial risk may arise from:

- an extreme River Ehen flood event;
- flooding exceeding the extent anticipated by available mapping;
- uncertainty within flood modelling;
- failure or exceedance of existing flood-risk-management infrastructure, where such infrastructure is present;
- blockage or restriction of drainage infrastructure; and
- the interaction of high river levels with the existing surface-water outfall.

Fundamentally, the proposed development does not involve new buildings, land raising or works that would obstruct the River Ehen or materially alter the existing area.

The Environment Agency operates a river-level monitoring station on the River Ehen at Egremont (reference 3). The station provides live river-level information, trends and short-term forecasts and therefore provides an additional source of information for monitoring fluvial conditions within the River Ehen catchment.

The Environment Agency identifies a normal range at the station of approximately 0.36m to 1.50m. The station information identifies 1.50m as the top of the normal range, above which flooding of low-lying land may be possible, and 2.20m as a level above which property flooding is possible in the vicinity of the monitoring station. The highest recorded level at the station is 3.28m, recorded on 20 November 2009.

These levels are not treated as flood levels specifically for Unit A1, as the monitoring station is located at Egremont rather than at the application site. They should instead be used as supporting evidence demonstrating that real-time monitoring of River Ehen levels is available and can form part of the site's flood emergency management arrangements.

2.3 Tidal flood risk

Due to the site topography and distance to the nearest coast/ tidal watercourse, the risk of tidal flooding is considered to be very low. No separate tidal flood mechanism affecting Unit A1 has been identified.

2.4 Surface water flood risk

Surface-water flooding has been considered separately from flooding of the River Ehen.

The 2024 wider site drainage assessment (reference 2) for The Flax Mill confirms that surface-water drainage has been assessed using the existing building and hardstanding arrangements.

The drainage modelling considered:

- 1 in 10 year rainfall;
- 1 in 30 year rainfall; and
- 1 in 100 year rainfall plus **50% climate change allowance** over a six-hour period.

The existing surface-water system discharges to the River Ehen.

The hydraulic assessment identified surcharge and localised flood-risk conditions within parts of the drainage network during the extreme rainfall scenario. These results represent residual drainage-network/exceedance risk and should therefore be recognised within the FRA rather than assuming that the drainage network eliminates all surface-water risk.

2.4.1 Design flood event

The drainage assessment's 1 in 100 year plus 50% climate-change rainfall event provides an appropriate extreme rainfall scenario for consideration of surface-water drainage performance.

The proposal does not create a new building footprint and therefore does not materially increase the impermeable area associated with the existing building.

The existing drainage system and outfall will be retained.

2.4.2 Residual risk

Residual surface-water risk may arise from:

- extreme rainfall exceeding the drainage design;
- blockage or failure of drainage infrastructure;
- surcharge within the existing network;
- exceedance flows;
- and the interaction between high River Ehen levels and the existing surface-water outfall.

The drainage system should therefore remain accessible for inspection and maintenance.

Existing gullies, drains, inspection chambers and outfalls should be kept clear.

Exceedance flows should not be obstructed or directed towards neighbouring properties.

2.5 Sewer flood risk

The available drainage information identifies existing foul and surface-water drainage infrastructure.

No specific evidence of historical sewer flooding affecting Unit A1 has been identified within the information reviewed for this assessment.

Nevertheless, residual risk from sewer surcharge, blockage or infrastructure failure remains possible.

The development should therefore:

- maintain existing drainage infrastructure;
- avoid obstructing inspection chambers;
- ensure drainage infrastructure remains accessible;
- and consider non-return protection where technically appropriate.

2.6 Groundwater flood risk

No site-specific evidence has been identified demonstrating groundwater flooding at Unit A1.

The nearby Cleator Mills investigation recorded groundwater at approximately 2.6m below finished ground level at that particular site (reference 1).

This information is not treated as a site-specific groundwater level for Unit A1.

The proposal does not involve excavation, basement development or significant alteration to ground levels.

Groundwater risk is therefore not identified as a principal constraint to the proposed change of use based on the information currently available.

2.7 Reservoir flood risk

No site-specific reservoir flooding evidence has been identified for Unit A1.

The nearby Cleator Mills assessment notes that the Environment Agency reservoir flood mapping indicated potential maximum-extents-of-flooding in the wider area, while also describing reservoir failure as an extremely unlikely event.

Reservoir flooding is therefore considered a residual, low-probability source rather than the principal flood risk affecting the proposal.

2.8 Canals and other artificial sources of flood risk

No canal or other artificial watercourse has been identified as a principal source of flood risk to Unit A1 within the information reviewed.

The principal watercourse relevant to the assessment remains the River Ehen.

2.9 Coastal erosion risk implications on tidal flood risk

The site is an inland location adjacent to the River Ehen.

No coastal erosion mechanism affecting the site has been identified within the information reviewed.

Coastal erosion is therefore not considered to have a material implication for the proposed development.

2.10 Interactions of various sources

The principal interaction identified is between River Ehen flooding and surface-water drainage.

During periods of high river level, the ability of the existing surface-water system to discharge to the River Ehen may potentially be affected.

Other interactions could arise from blockage or exceedance of drainage infrastructure during periods of heavy rainfall.

The development does not introduce a new building footprint or materially alter ground levels and therefore does not introduce a new mechanism for redirecting floodwater.

2.11 Design flood level according to all the sources identified

A current site-specific design flood level for Unit A1 has not been established from the information available for this assessment.

Accordingly, no specific flood level is assumed or stated.

In particular, historic flood levels from previous assessments have not been adopted as the current design flood level (reference 4).

2.12 Exception Test

The proposed gym use is classified as **Less Vulnerable**.

Current Environment Agency guidance identifies Less Vulnerable development as compatible with Flood Zone 3a without the need for the Exception Test. The Exception Test is required for more vulnerable development in Flood Zone 3a and certain essential infrastructure, but not for Less Vulnerable development in Flood Zone 3a.

2.13 Summary of flood risks

Flood source	Risk identified	Principal management
River Ehen	Primary flood risk – Flood Zone 3	Flood emergency planning, evacuation, resilience, preservation of flood routes

River Ehen defence failure/overtopping	Residual risk	Do not alter defences, maintain access, emergency evacuation
Surface water	Residual risk during extreme rainfall	Retain and maintain existing drainage; manage exceedance
Sewer	Potential residual risk	Maintenance and blockage management
Groundwater	No site-specific evidence identified	Monitor through normal building/drainage management
Reservoir	Low-probability residual risk	Emergency planning
Canals/artificial sources	No material risk identified	No alteration proposed
Tidal/coastal	No material risk identified	Not applicable

3 AVOID FLOOD RISKS

3.1 Evidence of the Sequential Test

Current Environment Agency guidance specifically identifies **change of use** as exempt from the Sequential Test, except for changes of use to caravan, camping or chalet sites and mobile-home or park-home sites.

The proposal is a change of use of an existing commercial unit to a gym facility and does not fall within those exceptions.

Accordingly, a formal Sequential Test site search is not considered necessary for this proposal under the current national guidance.

Nevertheless, the proposal adopts a sequential approach within the existing site by:

- retaining the existing building;
- avoiding a new building footprint;
- avoiding land raising;

- retaining the existing developed nature of the site;
- retaining the existing drainage arrangement;
- maintaining existing access arrangements;
- and avoiding introduction of a higher flood-vulnerability use such as residential accommodation.

The proposal therefore represents a change of use of an existing developed site rather than the creation of new built development within an undeveloped floodplain.

4 CONTROL FLOOD RISK

4.1 Proposed site levels

No material alteration to existing site levels is proposed as part of the change of use.

The existing building and external ground levels will be retained.

No land raising or filling is proposed.

Any future flood-resilience works involving raising thresholds, services or other elements should be designed with reference to current site-specific flood levels where available.

4.2 Flood flow route

The proposal will not introduce a new building or structure into the River Ehen.

Existing external areas and drainage routes will remain unchanged.

No works are proposed that would intentionally obstruct floodwater, reduce the capacity of the river corridor or redirect floodwater towards neighbouring properties.

4.3 Existing or proposed flood risk management infrastructure

No alteration to any existing flood defence or riverbank infrastructure is proposed.

The assessment does not rely on a particular standard of protection from any existing flood defence infrastructure.

Any existing riverbank, drainage or flood-risk-management infrastructure affecting the site should remain accessible for inspection and maintenance where required.

5 MITIGATE FLOOD RISK

5.1 Risk to people

The proposed gym will involve regular occupation by members of the public and staff.

Although the use is classified as Less Vulnerable, the safety of people remains an important consideration because the site is within Flood Zone 3.

Peak Health and Performance should implement a simple flood emergency procedure covering:

1. monitoring of relevant flood warnings;
2. identification of staff responsibilities;
3. early closure of the gym where flooding is expected;
4. prevention of new people entering the premises during an emerging flood event;
5. evacuation of occupants before access routes become hazardous;
6. assistance to users who may require it;
7. keeping exits and escape routes unobstructed;
8. isolation of utilities where safe to do so; and
9. preventing re-entry until the premises have been confirmed safe.

5.2 Risk to property/building

Where building works are undertaken as part of the change of use, flood-resistant and flood-resilient measures should be incorporated where reasonably practicable.

Measures may include:

- water-resistant finishes at lower levels;
- avoidance of vulnerable materials at floor level where practicable;
- protection of electrical equipment;
- locating sensitive equipment above anticipated flood levels where reasonably practicable;
- protection of ventilation openings where appropriate;
- securing manhole covers;
- and consideration of non-return valves where technically appropriate.

The use of demountable flood barriers at vulnerable doorways may also be considered if site-specific assessment identifies this as appropriate.

The purpose is to reduce damage and speed recovery following flooding rather than to assume that the building can be made completely flood-proof.

5.3 Risk to essential services

The proposed gym is not essential infrastructure.

Nevertheless, utilities serving the building should be protected where practicable.

Electrical distribution equipment and other sensitive services should, where reasonably practicable, be located or protected to reduce their vulnerability to floodwater.

The building should retain suitable emergency arrangements for communication and evacuation.

5.4 Floodplain storage and conveyance compensation

The proposal is a change of use of an existing building.

There is:

- no new building footprint;
- no proposed major land raising;
- no proposed infilling of floodplain;
- and no proposed obstruction of the River Ehen.

Consequently, the proposal is not expected to result in a material reduction in floodplain storage or conveyance.

The existing developed footprint will be retained.

No compensatory floodplain storage is proposed because the proposal does not involve a material loss of floodplain storage through new building footprint or ground raising.

5.5 Surface water management

The existing surface-water drainage system will be retained.

The 2024 wider site drainage assessment (reference 2) for The Flax Mill assessed the existing impermeable areas and modelled rainfall events including the 1 in 100 year plus 50% climate-change event.

The existing surface-water outfall discharges to the River Ehen.

The hydraulic assessment identifies surcharge and localised flood-risk conditions within the drainage network during the extreme rainfall scenario. These conditions are treated as residual drainage risk rather than disregarded.

The following measures will therefore apply:

- existing drainage infrastructure will be retained;
- gullies and drainage channels will be kept clear;
- inspection chambers will remain accessible;
- drainage infrastructure will be inspected and maintained;
- blockage will be addressed promptly;
- no new impermeable building footprint will be created;
- exceedance flows will not be obstructed;
- and any future alterations to drainage will be designed so that flood risk is not increased elsewhere.

The existing outfall arrangement should be maintained and monitored.

6 MANAGE FLOOD RISK

6.1 Safe access and escape

Existing vehicular access to Unit A1 is provided through The Flax Works site connecting to the public highway. The submitted site plan identifies the existing access route. The existing/proposed floor plan identifies the emergency exit.

The gym operator should ensure that:

- the escape route is kept unobstructed;
- staff understand the evacuation procedure;
- evacuation occurs before floodwater reaches hazardous depths;
- and people are not instructed to walk or drive through floodwater.

Because the site is within Flood Zone 3, the gym operator should not assume that the access route will remain unaffected during every possible flood event. The route should therefore be monitored as part of the emergency procedure and evacuation should take place at an appropriate stage before conditions become unsafe.

6.2 Evacuation plan

A site-specific flood emergency procedure should be maintained by the gym operator.

The plan should identify:

Before flooding

- who monitors flood warnings;
- who has authority to close the gym;
- how members are informed;
- where vulnerable users are assisted;
- and how equipment/important items are protected where practicable.

During a flood warning

- suspend or cancel sessions where necessary;
- prevent new arrivals from entering;
- evacuate occupants where appropriate;
- keep emergency exits clear;
- and contact emergency services if required.

During flooding

- do not enter floodwater;
- do not attempt to drive through flooded access routes;
- isolate utilities only where it is safe to do so;
- and follow instructions from emergency services.

The Environment Agency's current guidance emphasises the need for emergency planning and safe evacuation where residual flood risk exists.

6.3 Residual flood risk

Residual risk remains from:

- extreme River Ehen flooding;
- uncertainty in flood mapping/modelled levels;
- potential exceedance of existing flood-risk-management infrastructure;
- extreme rainfall;
- drainage blockage or failure; and
- interaction between high River Ehen levels and surface-water drainage.

The residual risk will be managed through:

- maintaining the existing drainage system;
- maintaining access and escape routes;
- staff flood awareness;
- an evacuation procedure;
- protection of vulnerable electrical and mechanical equipment where practicable; and
- avoiding obstruction of flood flow routes.

6.4 Betterment provision

The change of use provides an opportunity to improve the flood resilience of the existing building.

Where practicable, betterment will be achieved through:

- improved flood-resistant finishes;
- protection of electrical and mechanical services;
- improved drainage inspection and maintenance;
- maintaining unobstructed escape routes;
- provision of a flood emergency plan;
- staff flood awareness;
- and ensuring that future works do not increase flood risk elsewhere.

The proposal does not increase the building footprint and therefore does not introduce additional building-related displacement of floodwater.

7 SUMMARY OF MEASURES

Issue	Proposed measure
Flood Zone 3	Existing building retained; flood risk managed through resilience and emergency planning
River Ehen	No alteration to river, banks or flood-risk infrastructure
Defence residual risk	Overtopping/breach recognised; evacuation and emergency management
Site levels	No land raising proposed
Floodplain storage	No new building footprint or material infilling
Surface water	Existing drainage retained and maintained
Extreme rainfall	1 in 100 year + 50% climate-change drainage assessment considered
Drainage surcharge	Recognised as residual risk; maintenance and exceedance management
Sewer flooding	Blockage/surcharge risk managed through inspection and maintenance
Groundwater	No site-specific groundwater flood evidence identified
Reservoir	Low-probability residual risk recognised
Tidal/coastal	No material risk identified

Access	Existing Flax Works access retained; final emergency route to be checked against current flood information
Evacuation	Flood emergency procedure to be maintained by gym operator
People	Staff awareness, early closure and evacuation arrangements
Property	Flood-resistant/resilient measures incorporated where practicable
Services	Sensitive electrical/mechanical equipment protected where practicable
Betterment	Existing building used as an opportunity for improved flood resilience

CONCLUSION

Unit A1, The Flax Works, Cleator is an existing developed site within Flood Zone 3, with the River Ehen representing the principal identified source of fluvial flood risk.

The proposal is for the change of use of the existing building to a gym facility, with no new building footprint and no proposed material raising of ground levels.

The proposed use is classified as Less Vulnerable. Current Environment Agency guidance permits Less Vulnerable development in Flood Zone 3a without the Exception Test, subject to the relevant flood-risk requirements.

The current national guidance also confirms that a change of use is exempt from the Sequential Test, other than specified caravan/camping/chalet/mobile-home/park-home changes.

The assessment has considered all relevant sources of flooding. The principal risks are:

1. Fluvial flooding from the River Ehen;
2. Residual risk associated with flood-defence failure or overtopping; and
3. Surface-water/drainage exceedance during extreme rainfall.

The River Ehen risk assessment is supported by local hydraulic evidence, including Environment Agency Product 4 information (reference 1) and historic detailed breach modelling (reference 4) undertaken in the Cleator Mills area. Those studies provide

useful evidence of the behaviour and residual risk of the River Ehen but have not been used to incorrectly attribute neighbouring-site flood depths or levels to Unit A1.

The 2024 wider site drainage assessment (reference 2) provides evidence of the existing drainage arrangements and confirms assessment of rainfall events up to the 1 in 100 year plus 50% climate-change scenario.

The development does not introduce a new building footprint, materially increase impermeable area, raise the land or obstruct existing flood-flow routes.

Subject to the implementation and maintenance of the measures identified within this assessment – particularly flood emergency planning, safe evacuation, drainage maintenance, protection of vulnerable services and preservation of flood-flow routes – the proposal has been designed to manage the identified flood risks without materially increasing flood risk elsewhere.

Publication References

1 - Flood Risk Assessment and surface water drainage strategy 2023

https://cumberland-public-files.s3.eu-west-2.amazonaws.com/planning/flood_risk_assessment_and_surface_water_drainage_strategy_-_amended_april_23.pdf

2 - Drainage Report 2024

https://www.copeland.gov.uk/sites/default/files/planning-applications/24-275r001b_drainage_report_including_flood_risk_assessment.pdf

3 - River Ehen Flood Levels

<https://check-for-flooding.service.gov.uk/station/5047>

4 - Flood Risk Assessment 2011

https://cumberland-public-files.s3.eu-west-2.amazonaws.com/planning/cleator_mills_-_flood_risk_assessment_new_commercial_v2_opt.pdf