

Ref: Erect roof over midden stone.
Waterblean Farm
The Hill.
Millom LA18 5HA

'Rockland'
Lady Hall
Millom
Cumbria LA18 5HR

Flood Risk Assessment

25/09/2024

Enclosed :- (or showing main features mentioned later in the assessment)

- ① Copy of OS map, scale 1:5000 showing
 - A) Location of proposed building, marked RED
 - B) Access track, identified YELLOW
 - C) Estuary Tidal protection embankment, identified GREEN
 - D) Farm boundary, identified BLUE
- ② Copy of Environment agency flood map, scale 1:2500, showing
 - E) Location of proposed building, marked RED
 - F) Extent of flood Zone 3, benefitting from flood defences (i.e. 'above') - identified HATCHED
 - G) Access track identified YELLOW

- The location of the proposed building, along with all the modern existing farm buildings lie in a flood plain i.e. Zone 3, as identified on E.A. map
- All the land on the west side of the Duddon estuary is protected by an embankment (C) which was completed in 1963, & extends from Millom to Duddon Bridge, with only one large interruption being where the 'Black Beck' enters the estuary at Green Road station. (The embankment returning both sides of the beck as far as the railway embankment). This embankment is believed to have been constructed by Lowther estates. From levels taken for an earlier assessment, the height of the embankment is approx 7.0 A.O.D.
- All the drainage gutters serving the level land, run & flow to main gutters running inward & parallel to the embankment, & exit into the estuary underneath, at various points, via sluices which appear to be kept in good working order.
- During heavy spells of rain, the fields throughout this land plane, have water standing in hollows & all gutter do fill up to almost full, especially when tides coincide, & the sluices are closed, causing 'back up', but cause no problem.
- From previous environment agency correspondence, the flat calm tidal flood levels in this are as quite below :-

1 in 100 yr undefended modelled flood level \rightarrow 5.97 AOD
1 in 200 yr " " " " \rightarrow 6.22 AOD
1 in 1000 yr " " " " \rightarrow 6.63 AOD

+ one model result, allowing for climate change for the year 2115,

1 in 200 yr undefended modelled flood level = 7.0 m AOD.

This being the approx height of the existing embankment (c) any wind/gale backed high tide would cause overlapping of the same.

Overlapping does happen even now at such times in places where the banking has sunk following culvert repairs etc. The embankment was breached in 2 places near Lady Hall during Feb 2002, & rebuilt after.

- The applicant is aware of the possibility of tidal flooding in the future if the embankment is breached or overlapped, & as do all the farmers in this area, use the tide tables rigorously because their sheep have to be collected & brought off the marsh at each high tide.
- The proposed building is open at the east end, so flood water can freely enter & exit without effecting the structure.
This area has never been flooded since the embankment was erected
- Regarding any danger to livestock housed in the existing buildings, it would be possible to quickly move cattle a short distance to higher fields & yards immediately to the west, as the ground rises quickly on this side.











Flood map for planning

Your reference
Waterblean

Location (easting/northing)
317802/482410

Scale
1:2500

Created
12 Feb 2019 9:54

-  Selected point
-  Flood zone 3
-  Flood zone 3: areas benefitting from flood defences
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Flood storage area

0 20 40 60m

