# Flood Water Mitigation Measures

## Proposed Garage

## 2 Railway Cottage, Ruswarp, YO22 5HL

imaginative architecture + engineering design

bhd partnership

Address: Airy Hill Manor, Whitby, North Yorkshire YO21 1QB

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## 1.0 The Site

The property is situated on the south side of the River Esk, in the village of Ruswarp, close to the road bridge.

Boundaries of the site are formed by a railway line (Middlesbrough to Whitby) and the river to the north, Sneaton Lane (B1416) to the south and No. 2 Railway Cottage to the west.

The site for the garage is close to the south boundary. It lies approximately 35m from the river bank to the north.

The Environment Agency flood risk map shows the site of the turning head and garage to be on the boundary between high and low risk of flooding, therefore the Planning Authority require evidence of mitigation for consideration during the application process.

Appendix A is an aerial view of the proposed site to read in conjunction with submitted drawings: -

| | |
|---|---|
| D12102-01A | Location & Block Plan |
| D12102-02A | Existing Plans & Elevations |
| D12102-03C | Proposed Plans & Elevations |

## 2.0 The Construction

The garage is a 6m x 6m ($36m^2$) masonry constructed building. It is sized to house 2 cars and its access point provides an area for turning which allows cars to leave in a forward gear. Currently cars have to reverse out onto the road.

Materials are reclaimed style brick and pantile to suit the local styles.

## 3.0 Mitigation

Within the construction certain elements have been included to compensate for and deal with the potential of high-water levels.

The current drive, which sits the garage floor level, is set between 500 and 600mm above the adjacent garden area where the garage is to be built.

To allow the area to continue as flood plain, the garage is to be built on masonry piers off 'pad' foundations, with the resulting gaps giving access to water. This form of construction will result in a neutral effect upon any possible displacement of flood water.

In addition to this, the garage is wholly constructed from materials and methods which will not be adversely affected by intermittent exposure to water.

The floor base will be formed using reinforced concrete spanning between perimeter beams. Walling will be clay brickwork and concrete blockwork. There will not be any insulation within cavities as it is a garage.

The piers supporting the structure will be clay brickwork and a concrete core.

Pad foundations will be concrete.

In addition to the above, any services in the garage will be fixed to walls and a minimum of 900mm off the floor level.

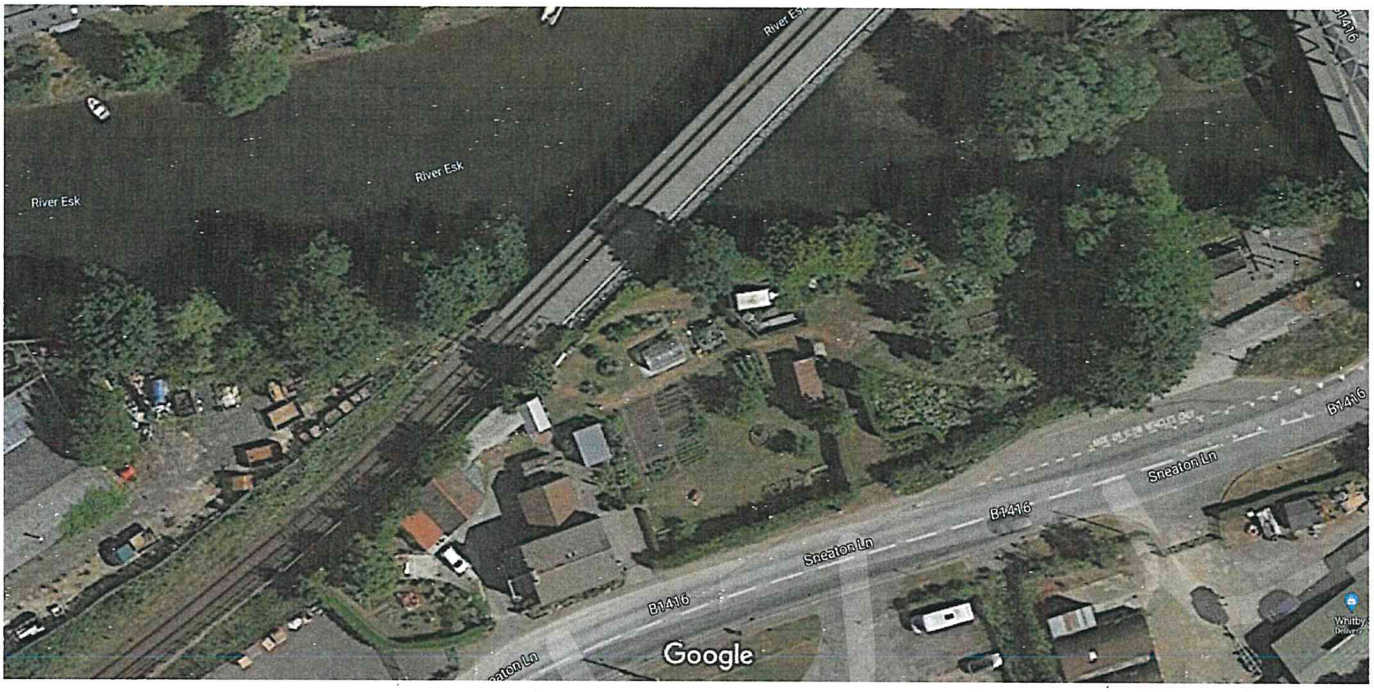
## 4.0 Summary

The design has been produced to have a neutral effect on any rise of water levels on to this area.

The land will continue to allow water to pass over it and not displace this to other areas.

Materials used are resistant to intermittent exposure to water.

Google Maps

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