

PROPOSED HOUSING DEVELOPMENT

WHARNCLIFFE ARMS
CARLTON
BARNESLEY

FLOOD RISK ASSESSMENT

Revision A Updated 8/11/2016



1.0 INTRODUCTION

- 1.1 This flood risk assessment has been prepared to assess the flood risk at a proposed development at The Wharncliffe Arms, Carlton, Barnsley.
- 1.2 Reference has also been made to the Barnsley Preliminary Flood Risk Assessment Report, July 2011. This is referred to as the PFRAR within this report.
- 1.3 The Environment Agency flood risk map has been assessed through the Environment Agency website, but no specific consultation has been made to them.
- 1.4 Infiltration testing has been undertaken to determine the ground conditions on site.
- 1.5 This Flood Risk Assessment has been prepared in accordance with the National Planning Policy Framework and also to the publication Planning Policy Statement 25 – Development and Flood Risk (PPS 25).
- 1.6 This report is commensurate with the scale and type of development proposed and utilises information available to determine the flood risk at this site and if necessary to plan a methodology to allow this site to be developed with minimum flood risk. It considers and assesses:-
 - Whether the proposed development is likely to be affected by flooding and whether the proposals will increase the risk of flooding elsewhere.
 - Determination of any sources of flood risk.
 - An assessment of pre-development and post-development surface water run-off.
 - Any recommended mitigation measures.
- 1.7 It has been updated on the 8th November 2016, to include a new site layout.

2.0 SITE LOCATION

- 2.1 The proposed site is situated off Dam Lane, Carlton near Shaw Lane.
- 2.2 The pre-development site is generally a rectangular shaped site extending to approximately 5100 square metres. The development proposal is for residential housing.
- 2.3 The pre-development use of the site was for the car park for the Wharncliffe Arms and the adjacent rough grass fields.



- 2.4 The approximate national grid coordinates of the site are 436810E, 409950N. A location plan is included as Figure 2.0.



Figure 2.0 Location Plan.

3.0 TOPOGRAPHICAL SURVEY

- 3.1 A detailed topographical survey has been undertaken of this site.
- 3.2 The topographical survey was carried out to Ordnance Survey levels obtained by using GPS.
- 3.3 The detailed topographical survey shows that the development site has existing levels varying from around 62.20m on Dam Lane and falling gradually to the east to around 59.0m. The site generally falls south and eastwards.

4.0 PROPOSED DEVELOPMENT

- 4.1 The development proposed is 24 residential dwellings, with an access road, driveways, footpaths and garden areas. The proposal is shown below.

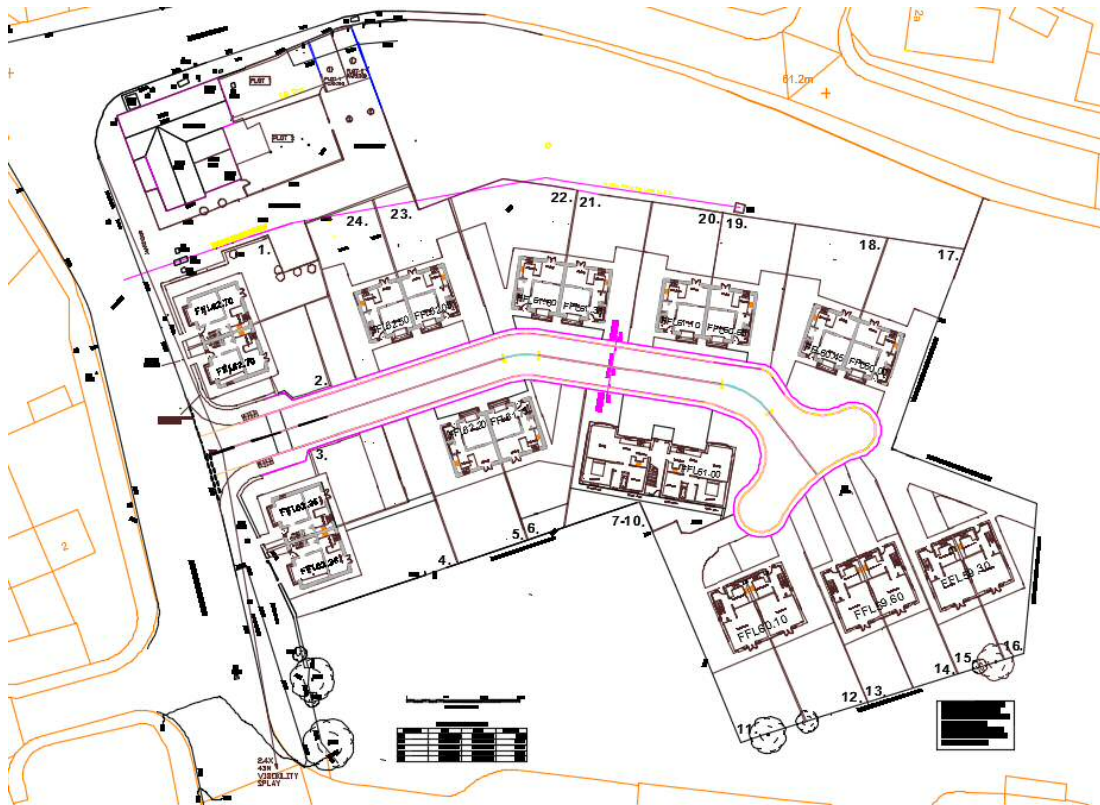


Figure 4.0 Proposed development

5.0 FLOOD RISK ZONE

- 5.1 The Environment Agency flood map, published on their website, shows that the development site is located in flood zone 1. This means that the development site is at low risk of flooding from rivers.
- 5.2 As the site is in flood zone 1, the chance of flooding in extreme flood events is more than 1 in 1000 each year.
- 5.3 Because the site is located in flood zone 1 the development site is suitable for any type of development.
- 5.4 The Environment Agency flood map is shown below.



Figure 5.0 Environment Agency Flood Map

6.0 HISTORICAL FLOODING

The PFRAR does not identify this area as been at risk of flooding in the past and does not show any historical flood events within this area.

7.0 FLOODING FROM ARTIFICIAL DRAINAGE SOURCES

Yorkshire Water keeps records of any property that is of risk of flooding from the public sewerage system. This information includes flooding from foul sewers, combined sewers and surface water sewers. The PFRAR provides details of these areas and none are within the proximity of this development.

Further, if the public sewers adjacent to this site do flood, then the flood water would flow away for the development and will not be a problem to the development.

8.0 SURFACE WATER FLOODING

The Environment Agency provide plans of areas that may be susceptible to surface water flooding. This area is not at risk from this type of flooding and the plan of this area, from the Environment agency is shown below.



Figure 8.0 Environment Agency Susceptible To Surface Water Flooding Map

9.0 FLOODING FROM RESERVOIRS

The Environment Agency provides information on any areas that are potentially at risk of reservoir flooding. A search of this information has showed that this area is not at risk. A map is shown below as figure 8.0.



Figure 9.0 Environment Agency Flooding From Reservoir Map

10.0 FLOODING FROM GROUNDWATER

The PFRAR does not indentify this area as being at risk from flooding from groundwater. The site is not low lying and so it is unlikely to be at risk from flooding from raised ground water levels.

11.0 SURFACE WATER MANAGEMENT

This site is at low risk of flooding. The surface water from the re-development of the site should be managed in the post-development site to ensure no flooding will take place on or off site.

12.0 POST-DEVELOPMENT SURFACE WATER SYSTEM

The proposals are to provide new buildings, parking and an access road.

The building regulations require that we look at a hierarchy of surface water disposal, which is infiltration, watercourse or sewer. With this site, the ground was tested for the suitability for infiltration and the ground is suitable. Therefore, the post-development should be developed with an infiltration method for disposal of surface water, where possible.

A flood path away from houses should be provided in the unlikely event any flood water materialises on site.

13.0 CLIMATE CHANGE

This post-development site surface water system should be designed with an allowance for climate change. In line with good practice this is for a 30% increase in flows.

14.0 FLOOD RISK ELSEWHERE

The post-development site has increased impermeable area compared to the pre-development site. However, the post-development surface water system will be managed carefully on site to ensure no flood water leaves the site. Therefore, there will be no increase of flood risk elsewhere.

15.0 SAFE ACCESS AND EGRESS

Safe access and egress from the development will be to Dam Lane.

16.0 RESIDUAL FLOOD RISK - MITIGATION

Although this site is at low risk of flooding, it is always prudent to incorporate some residual flood risk measures to protect the houses. This can be provided by setting the floor levels of the buildings above the adjacent ground level by 150mm, to prevent ingress of water in to buildings.

17.0 CONCLUSIONS

- This proposed development site is in flood zone 1. There are no identified flood risks to the site and so the site is suitable for any type of development.
- The post-development site will have a surface water managed system that will prevent any surface water flooding or leaving the development.
- No additional flood risk elsewhere will be created by this development.
- Some small measures to help prevent any possible flood risk have been recommended.

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