



Peter Wade Consultancy

CONSULTING ENGINEERS

Peter Wade Consultancy

FLOOD RISK ASSESSMENT 2052

**COXBENCH HOUSE
60 DONCASTER ROAD
BARNSELEY
S73 9HN**

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FLOOD RISK ASSESSMENT REPORT

Client Details

Mr Peter Firth

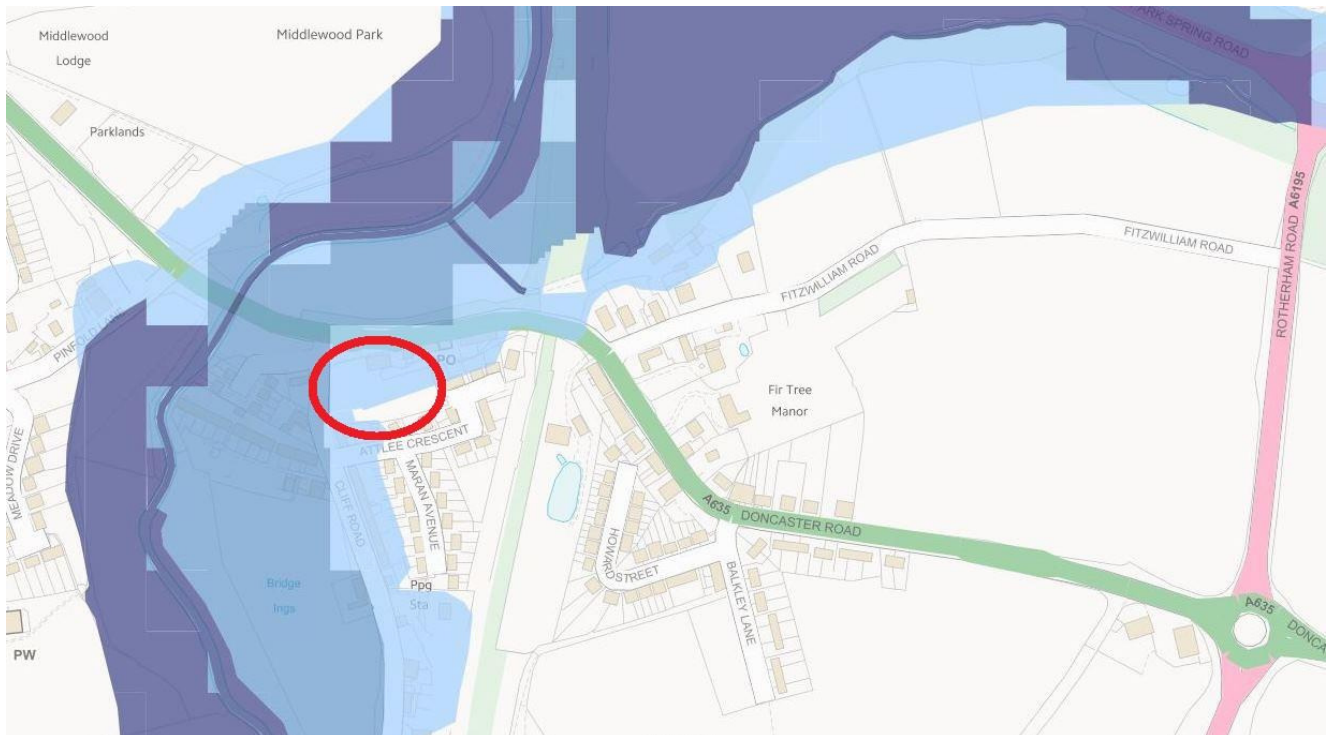
General Background

- GB.1** The site is located at:
- Coxbench House
60 Doncaster Road
Barnsley
S73 9HN
- GB.2** A vacant site is to be developed to provide dwelling houses.
- GB.3** Planning permission is to be applied for.

Observations

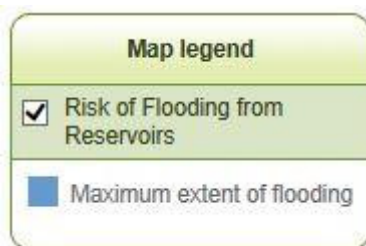
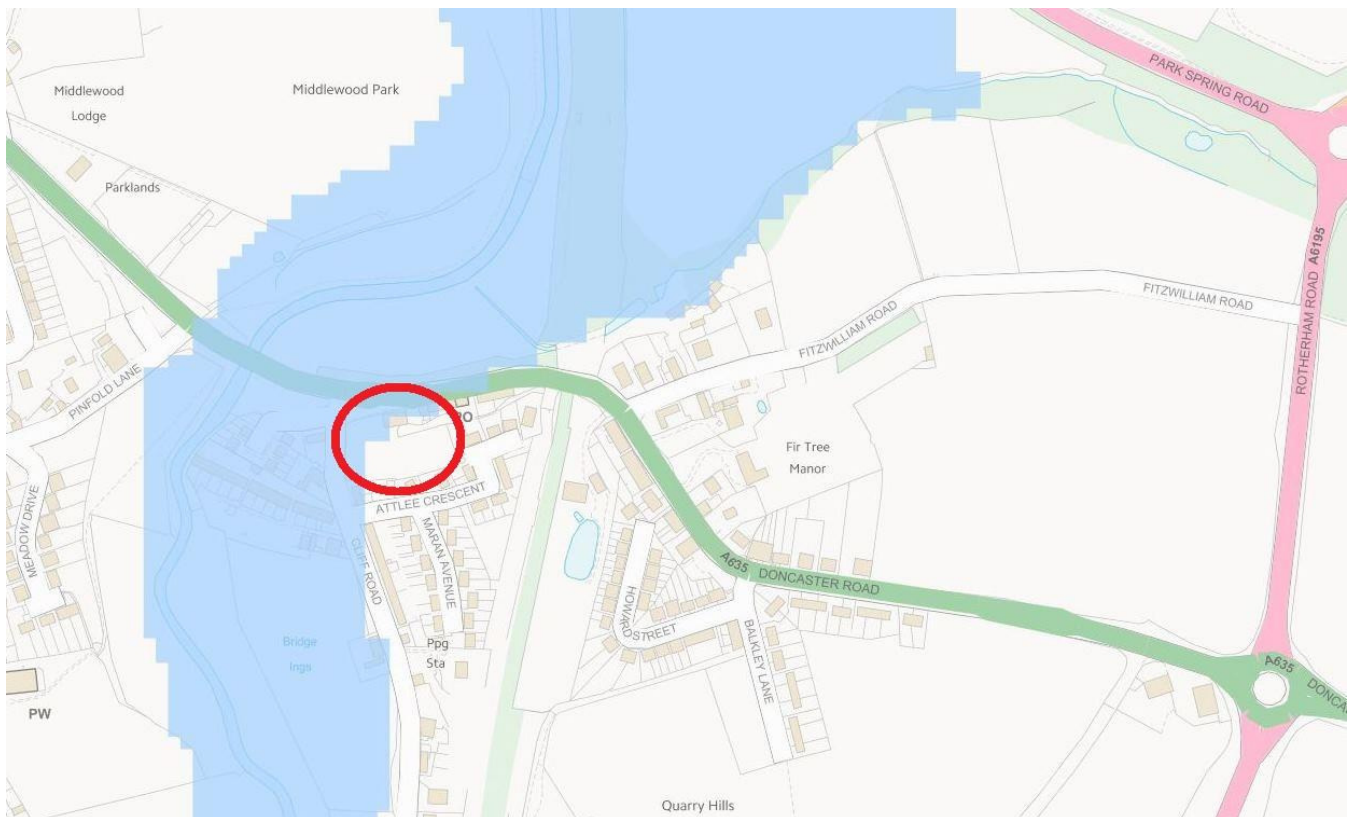
- OB.1** The relevant flood plain technical information has been obtained from Environment Agency database and is incorporated within this document.
- OB.2** The development site is not at risk of flooding from surface water run-off during periods of heavy rainfall. There is a risk of flooding to the North West corner of the site from reservoirs that could cause flooding of the River Dearne which is within 100 metres of the Western boundary of the site. Further downstream, 800 metres to the South, the River Dove meets the River Dearne and is also a potential source of flooding from reservoirs. Notwithstanding flooding caused by breaches or overflow from reservoirs the River Dearne could also cause flooding of the site although this risk is designated as low by The Environment Agency.
- OB.3** The risk to the site of flooding by reservoirs would only affect the Western edge of the site during a worst case scenario with flood levels reaching the maximum possible depths. Flooding to the site is predicted to be no more than 300mm in depth.
- OB.4** Risk of flooding from the River Dearne is predicted by The Environment Agency to be low. This would indicate that flood levels would not be greater than 300mm in depth within the site during maximum flood depth of the river and also that the risk of flooding occurring would be between 1 in 100 and 1 in 1000 each year.
- OB.5** The development site is not within 20 metres of a watercourse.

Flooding from rivers or sea:



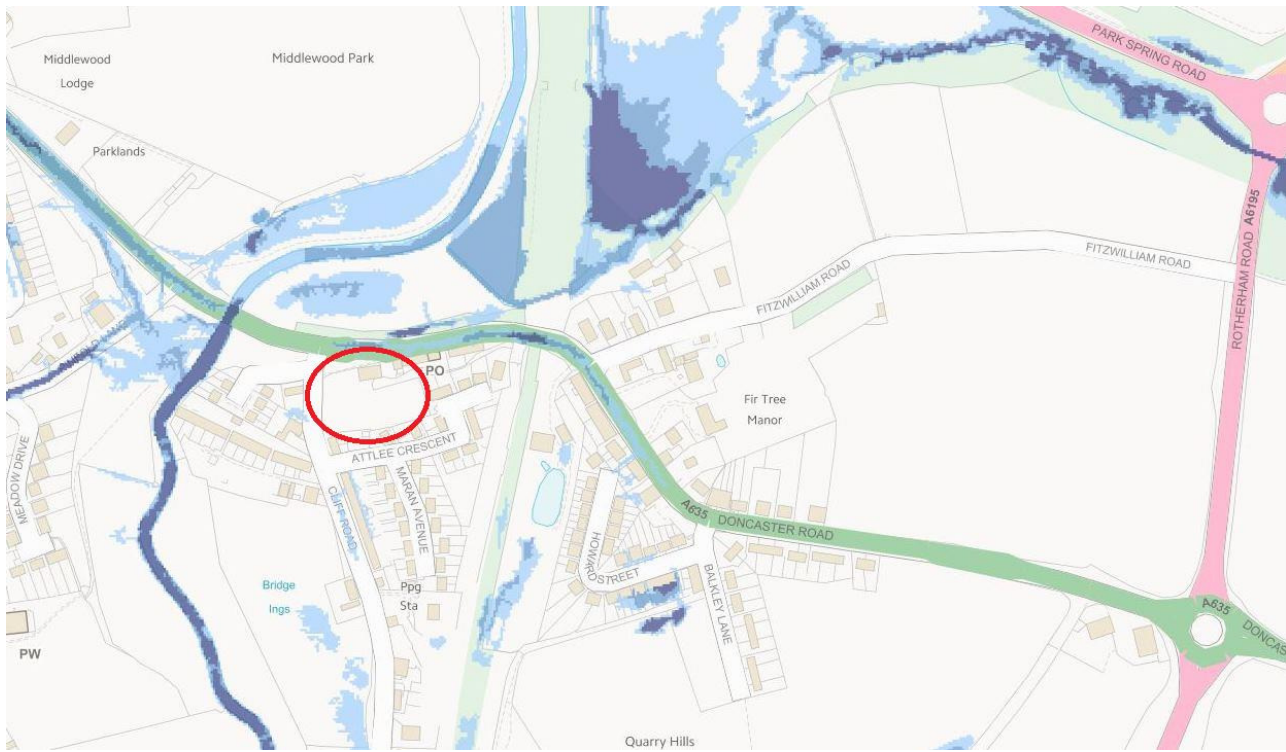
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Flooding from reservoirs:



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Risk of flooding from surface water:



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Recommendations

- R.1** The site is at risk of flooding from The River Dearne and nearby reservoirs. The most recent flooding of the area occurred during the severe floods of 2007. It can be seen from the flood forecast maps prepared by the Environment Agency that the most likely depth of floodwater on the proposed development site will be at low level with a low chance of flooding to depths up to 300mm. Measures must be taken to mitigate the effect of flooding to buildings and occupants.
- R.2** The Environment Agency guidance document '*Preparing for floods*' identifies flood water depth of up to 900mm as a threshold level and this is reflected in the flood water depth forecast maps. At this depth structural elements of buildings, particularly doors or glazing, are subject to horizontal forces that may cause structural damage. To prevent this any proposed buildings should be designed to withstand water pressure up to a depth of 1 metre.
- R.3** Ground floor levels to all dwellings are to be raised as high as practical with gardens at a lower level. Roads and footpaths should be higher than garden level to provide an escape route for occupants.
- R.4** Choice of construction materials is to minimise damage to property caused by floodwaters. Ground floors are to be of concrete and door frames and skirting boards of upvc. Internal ground floor walls are all to be of masonry and all walls are to be finished with plaster applied directly to the masonry.
- R.5** Water seepage into buildings should be minimised by providing covers to any air bricks required for ventilation. Door frames are to incorporate facilities to allow flood boards to be quickly slotted across door openings. Any service ducts from underground are to terminate inside buildings at least 1metre above ground level and all meter cupboards and services should also be greater than 1 metre above ground level. Sewage should be prevented from re-entering buildings by non-return valves fitted to foul drains.
- R.6** The occupants are to be advised to prepare and develop a flood plan to deal with any flood emergencies. They are to be informed of the material prepared for and made available by the Environment Agency in advising occupants in flood risk areas of how to deal with a flood. Occupants are to be notified of how to seek advice from the Environment Agency and how to receive flood warnings.
- R.7** To mitigate the flow of rainwater from impermeable areas of the proposed development and to reduce the risk of flash flooding all surface water is to discharge into soakaways in garden areas. Rainwater will dissipate at a natural rate into the local surface water drainage system.

- R.8** Foul drainage is to connect to the public sewer in Doncaster Road that serves the nearby existing dwellings.

A handwritten signature in black ink, appearing to read 'P Wade', with a long horizontal stroke underneath.

**P Wade Eur.Eng, B.Tech (Hons), C.Eng., MICE, MStructE.
12.09.16**

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