EXECUTIVE SUMMARY

1 This desktop study has been carried out for Chris Carr Architects on approximately 4.5 hectares of land at national grid reference 424520 403820. The site is currently occupied by farmhouses, farm buildings and open land. The surrounding land is residential and agricultural riparian in nature.

2 The site was already occupied by the farmhouse Nether Mill House, a corn mill, mill dam and a mill race by 1851. The mill race and dam were infilled in the 1960s.

3 The geology beneath the site is the Lower Coal Measures. Sandstone or mudstone is expected. Alluvium and river terrace deposits are indicated above the bedrock beneath most of the site.

4 The site is not expected to be at risk from the effects of shallow underground coal mining.

5 At this stage, traditional strip or trench fill footings may be suitable for any new development, at a minimum depth of 900 mm in clay soils and deeper near to trees. If significantly deep or soft alluvium is encountered, piling or raft foundations may have to be considered.

6 Precast concrete floors are expected to be suitable over areas of deep made ground or areas at risk from ground gas. Ground bearing floor slabs should be suitable where the footing depth due to trees is less than 1500 mm and where the depth of made ground is less than 600 mm.

7 An infilled historical mill race and mill dam are present on the site, which could be a potential source of ground gas. It may be necessary to undertake some gas monitoring if these features are found to be of significant depth, or if they contain biodegradable or organic materials.

8 No radon precautions are required.

9 Parts of the site lie within flood zones associated with the Rover Don. A full flood risk assessment will be required prior to development.

10 Soakaways will probably not be viable as the site overlies alluvium and the groundwater level is expected to be shallow. However, it may be prudent to undertake some infiltration testing if suitable areas are present on the site. There appears to be an existing piped drainage system serving the existing buildings on the site. It is possible that the proposed development could be joined to this.

11 Some contamination is expected, from the infilled mill race and mill dam. There are also above ground fuel storage tanks in the farm yard in the north east of the site, with some signs of localised spillage around them. At this stage, a 600 mm deep capping layer of clean soil should be assumed for the areas currently occupied by agricultural buildings and yards.

12 Before more definite information regarding the properties of the ground and any contamination present can be given, an intrusive ground investigation will be required.

13 The conclusions made within this report should be agreed with the Local Authorities and other regulators prior to commencement of the development works.

1.0 INTRODUCTION

1.1 Terms of Reference

This report presents the findings of a phase 1 geotechnical and geo-environmental site investigation carried out by Eastwood and Partners (Consulting Engineers) Ltd for, and on the instructions of, Chris Carr Architects for use in a potential redevelopment of the site with residential properties. Any other parties using the information in this report do so at their own risk and any duty of care is excluded.

1.2 Context

No previous investigations are known to have been undertaken on the site in the past.

1.3 Aims and Objectives

The aims and objectives of this investigation were as follows.

- Assimilate Phase 1 data to derive an outline conceptual model identifying potential contaminants, pathways and receptors, as well as possible linkages between these;
- Detail the expected ground conditions and their geotechnical properties enabling outline foundation proposals to be made for the proposed residential development;
- Carry out preliminary risk assessment to establish the likely risks to future receptors,
- Identify likely feasible remediation options if risks are highlighted;

1.4 Scope of Investigation

It is proposed to redevelop the site for residential use. This will constitute a mixture of converting some of the existing buildings to dwellings, where practical, and some new build development. It is assumes that all dwellings will be of traditional construction and will be no more than three storeys in height.

This document constitutes the findings of the Phase 1 investigation. This involved a review of information extracted from published documentation as well as that obtained from a site reconnaissance. Information regarding the current and former land uses both on and surrounding the site, as well as the environmental sensitivity of the site location as determined by factors including geology, hydrogeology and hydrology have been examined.

Information analysed in this section of the report has been obtained from a variety of sources and included the following:

- A Landmark Envirocheck report. This includes historical Ordnance Survey maps, as well as information regarding environmental issues. It compiles information obtained from amongst others, the Environment Agency and the Local Authority.
- Geological Maps and Associated Geological Memoirs
- Coal Authority Mining Report

This report does not include any structural inspection of any existing buildings which are to be retained or demolished. Such an inspection is to be undertaken by Eastwood & Partners and will be reported on under separate cover. During the walkover survey carried out for this report, no access was gained into any of the residential buildings currently on the site. Access was gained into the open agricultural storage barns however. Risks to ecological receptors, such as bats, have not been considered.