
**PROPOSED ERECTION OF 3 HOUSES AT PLOT OF LAND SOUTH OF
WESTER BONHARD**

BO'NESS

EH51 9RR

Contaminated Land Site Investigation

Phase 1: Desk Top Study

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Phase 1 Desk Studies

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1.0 INTRODUCTION

1.1 Contaminated Land Regime

The current Contaminated Land Regime implementing the provisions of Part 11A of the Environmental Protection Act 1990 came into force on 14 July 2000. "Contaminated Land" is defined as "any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that – (a) significant harm is being caused or there is a significant possibility of such harm caused, or; (b) significant pollution of the water environment is being caused, or there is a significant possibility of such pollution being caused". The concepts central to the current Contaminated Land Regime are; - (a) Contaminant – Pathways – Receptors, (b) The "Suitable for Use" approach, and (c) Risk based site assessment/investigation

1.2 Background

Construction of three detached houses is proposed at land to the south of Wester Bonhard, Bo'ness EH51 9RR. This report is a desk-top study which seeks to bring together as much information as is available concerning the development site itself and areas surrounding the site. A key indicator of whether a site is potentially contaminated is the current and previous uses.

When Planning Application P/16/0074/FUL was determined by Falkirk Council on 17/5/16 reason number 2 for refusal was ---That the proposal fails to demonstrate that an adequate assessment has been carried out in relation to coal mining legacy risks and appropriate mitigation and/or remediation measures cannot therefore be identified to the potential detriment to the safety of future occupants of the proposed dwellings. The proposal is contrary to Policy RW10 – Vacant, Derelict, Unstable and Contaminated Land of the Falkirk Local Development Plan.

In short, an important factor was that a Contaminated Land Assessment had not been undertaken to consider and address the possible presence, or possible historical presence, of potentially contaminative activities on or in proximity to the development site so as to demonstrate and ensure that the site is free of contamination.

1.3 Objectives

This study endeavours to collate and review the undernoted information to establish the potential for contamination.

- (I) Planning history including current and previous land use.
- (II) Current and historical O.S maps including information relating to topography, drainage and geology.
- (III) Current and historic site plans.
- (IV) Photographic information.
- (V) Information about surrounding sites/land use.
- (VI) An assessment of risk in order to establish whether there is an unacceptable risk to human health or to the environment.

2.0 THE SITE

2.1 Site Details

The location of the site is shown at Appendix 1. The address is plot of land south of Wester Bonhard, Bo'ness EH51 9RR. The grid reference for the site is E301449 N679857. The site area is approximately 6550m²

Information relating to the site and surrounding areas has been sought and or obtained directly or indirectly from websites, registers or other records from the following; -

Falkirk Council
The Coal Authority
British Geological Survey
Local Land Owners
Historic Archives
Scottish Water
SEPA

2.2 Site History

Planning History – An application for Planning Permission, reference P/16/0074/FUL, was submitted on 11/2/16 validated on 1/4/2016 and refused on 17/5/16.

Historic O.S Maps – On the 1854 and 1856 maps the site is undeveloped land with Bonhard House adjoining to the S and Daintydods 60m to the N beyond the road. There are two Ironstone Pits each with a spoil heap and shaft 210m to the N and 200m to the W. There is a refuse heap 110m to the E probably spoil from the old pit 270m NE. There is a well 180m N of the site at the roadside and another to the S of Bonhard House and 100m from the development site. There is a pond 240m to the S.

On the 1896 map Daintydods is renamed Bonhard and the Ironstone mines and shafts are not shown. On the 1916 map the pit to the NE and the refuse heap to the E are not shown. On the 1922 map Bonhard Cottages are shown 160m to the N and a tank is shown 200m to the S in place of the pond.

On the 1938 map the well at Bonhard Cottages is no longer shown and the 1948 and 1954 maps are similar.

The 1989/92 map shows a changed building footprint at Bonhard House; outbuildings are no longer shown and there is a strip of trees running S to N from Bonhard House to Bonhard Cottages.

2.3 Site Walkover

The site plan is shown at Appendix 1 and Site Walkover Survey notes are attached at Appendix 3. A site walkover was undertaken on 9 June 2016, at which time the following matters were noted.

Development Site

The site comprised a roughly rectangular plot extending to about 6550m² with a curved boundary line to the SE corner. The site was generally flat with a fairly gentle downward slope to the NE. There were mature trees outwith but bounding the site to the west and, partly, to the north and south. The site was open agricultural grass land with no buildings thereon. There was no evidence whatsoever of on-site contamination.

Adjacent Land

The adjoining land around the site comprised agricultural fields and, there was no evidence of contamination. To the east and south there was an access track to Bonhard House. There were mature trees and hedging on the adjoining land and bounding much of the site combined with stone and stob/wire fencing.

2.4 Environmental Aspects

Site Geology

The British Geological Survey maps indicate that the bedrock is Bathgate Hills Volcanic Formation – Basalt. The superficial deposits are Till, Devensian – Diamicton.

Hydrology

There are no surface water features on or within 250m of the site. The SEPA flood map indicates that the site and adjoining land is not at risk from fluvial or pluvial flooding. SEPA recognise the groundwater as Linlithgow Groundwater- water body code 150530 and classify the quality of the groundwater as Good with medium confidence.

Ecological Receptors

Although the development site is located within the green belt and within a Special Landscape Area there are no ecological sites such as Special Areas of Conservation, Sites of Special Scientific Interest, Sites of Importance to Nature Conservation, Special Protection Areas or RAMSAR sites within 250m of the proposed development site.

2.5 Reports and Records

Radon

The Indicative Atlas of Radon in Scotland shows that the site is “on the border” between the two lowest radon categories. A specific report based on the nearest house was purchased from PHE/BGS which concludes the site is not in a radon affected area – appendix 4 refers. The development site is within an area (grid square of the national grid) where joint mapping by the Health Protection Agency (HPA) and the British Geological Survey indicates that the highest level of radon found was in the category where between 0 and 1 houses out of 100 houses were at or above the 200Bq/m³ action level. The Indicative Atlas refers to such areas as “the white squares” and advises that they contain no affected Areas as defined by the HPA.

Authorised Industrial Processes

Information from an Enviro All in One Report is that there is no record of any SEPA Authorised processes including Waste Management Sites/Licences; or PPC Permits within 250m of the development site.

Coal Authority

The site is within an area identified by The Coal Authority as requiring the submission of a Coal Mining Risk Assessment (CMRA). Development High Risk Areas are identified by the Coal Authority as a result of recorded coal mining legacy risks including; mine entries; shallow coal workings; workable coal seam outcrops; mine gas sites and areas; recorded coal mining related hazards; geological features and former surface mining sites (including opencast). All of these matters require consideration as part of the Coal Mining Risk Assessment process.

Enviro All-in-One Report

An Enviro All-in-One Report (Appendix 5) was obtained from the Coal Authority in June 2016 for the specific purpose of this Phase 1 Desk Top Study. The Groundsure Assessment is that; (1)

Contaminated Land issues are unlikely to have a significant impact on the security of the property in normal lending scenarios; (2) no potentially contaminative land uses have been identified on, or in proximity to, the development site; (3) there is a low-moderate potential for the property to be affected by shallow mining; (4) natural ground subsidence, radon and non-coal mining geology are not issues; and (5) historic infilled land on or in proximity to the development site does not present a risk.

Groundsure conclude that there are no significant contaminative concerns that require further consideration.

The attached Coal Mining Report advises that; the site is in a surface area that could be affected by underground mining; underground mining ceased in 1900 and the single coal seam was at a depth of 30m to 50m and any movement in the ground due to coal mining activity should have stopped; the site is in an area where the Coal Authority believe there is coal at or close to the surface which may have been worked in the past and this should be considered prior to development activity; there are no mine entries/shafts on or within 20m of the plot; the Coal Authority is not aware of any coal mining subsidence or of geological faults or weaknesses; there is no record of mine gas emissions requiring action; and there has been no opencast mining within 200m of the site.

Coal Mining Risk Assessment

A Desk Study Coal Mining Risk Assessment report by Simpson Mining and Geotechnical (Appendix 7 refers) was undertaken in June 2016. The Report concludes; - that the development site can be regarded as unstable due to shallow workings in the Red Coal; there are no known shafts or adits within the site boundaries or influencing distances from them; recommends (1) the sinking of rotary core bores to establish the depth of the old workings and amount of rock cover, and (2) that trial pit investigations are carried out to assess the engineering properties of the superficial deposits; and, opines that it is highly probable that grouting of the site may be required prior to construction of the foundations.

The Report also advises that the site is underlain by approximately 5m of boulder clay; the nearest old shaft is 45m away to the NE; there are no faults within the site or within influencing distances; mining ceased by about 1875; and that the boulder clay will prevent migration of gases – if any are present.