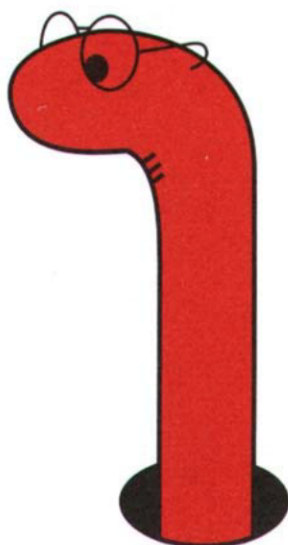


Electronic Report



WORMS EYE

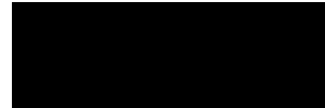
**52 Bank Parade
Burnley
BB11 1TS
Phone**



Our Ref: Berry Lane / PR3 3NH / 2021
Date: 7 October 2021

Judith Douglas
Judith Douglas Town Planning Limited
8 Southfield Drive
West Bradford
Clitheroe
BB7 4TU

Copy to:



SWIFT'S HARDWARE, 53 – 57 BERRY LANE, LONGRIDGE, PRESTON, PR3 3NH

PROPOSED INVESTIGATION

INTRODUCTION

A mixed commercial and residential development is proposed. Following a Preliminary Risk Assessment (PRA 7/10/21) the objective is to design an investigation to consider contamination and geotechnical issues.

SITE DESCRIPTION

The site is 'L' shaped, about 40 by 30 metres, located to the southwest of Berry Lane in Longridge and at OS Grid Reference 360248, 437500. The site comprises several buildings as follows:

- A = A car garage, built of concrete block with asbestos cement roof.
- B = Shop storage, building, paints, e.g. concrete block wall with asbestos cement roof.
- C = Outdoor garden centre area on a concrete surfaced yard, with gas canisters, sloping very gently down to the northeast.
- D = Polytunnel, on a concrete surfaced yard.
- E = Fire damaged hardware store, built of stone.
- F = Rear of the hardware store, concrete block walls and asbestos roof. Source of the fire, with extensive fire damage, causing sections of the roof to collapse. There are many paint cans, and other material/items (unidentified due to fire damage). To the southeast of this area is a small room, containing two paraffin containers, which do not appear to be fire damaged.

To the north is a petrol station, to the southeast and northwest are shops/commercial properties, to the south are bungalows and to the southwest a garage workshop. The area slopes down to the southwest.

PROPOSED DEVELOPMENT

It is proposed to build two buildings. At the southwest will be a block of two retail units and at the centre/northeast a 'L' shaped block of four retail units, at ground level. First floor level will be a series of six apartments. There will be a yard/path between the buildings and no landscaping or car parking.

INDUSTRY PROFILE

The site is a fire damaged hardware store and outbuildings. There are potential contaminants from burned materials and building materials from on-site use. Potential off-site contamination sources are, a petrol station and cotton mill to the north and northeast.

Industry	Possible Contaminants
Potential Contaminants	Metals: copper, zinc, chromium, nickel, lead, cadmium, arsenic, Inorganic compounds: cyanide, sulphates Phenols Mineral oils, fuel oils (TPHs) Asbestos General hydrocarbons (PAHs)

CONCEPTUAL MODEL

Source	Receptors	Pathway	Potential/Likely Pollutant Linkage
Asbestos	End-users *	No pathway	No
	Off-site	Migration off-site	Yes
Inorganic contaminants	End-users	No pathway	No
	Groundwater	Leaching towards	No
	River/stream	Leaching towards	No
Sulphate	Building fabric	Concrete directly in contact with soil	Yes
Hydrocarbons	End-users *	No pathway	No
	Service pipes	Seeping into drinking water pipes	Yes
	Groundwater	Leaching towards	No
	River/stream	Leaching towards	No
Hydrocarbon vapours	End-users *	Inhalation of vapours indoors and outdoors	Unlikely
Landfill gas	End-users - in buildings*	Seeping into buildings, explosion, asphyxiation	Possible
Radon	End-users - in buildings*	Seeping into buildings	No

* Commercial and residential

PROPOSED INVESTIGATION

It is recommended that the site is cleared before the investigation is undertaken.

Contamination

Taking into account the history of the site and recent fire it is likely that contamination will be present at raised levels. However, these are not expected to be high enough to pose a risk to end-users on a hard-surfaced development, with commercial use at ground floor, and only a very low risk is anticipated at worst.

An intrusive investigation is required, consisting of boreholes and tests to confirm the presence/absence and extent of contamination on the site. The paraffin tank is a specific point source for contamination and the investigation will need to target this, proposed buildings and provide all round coverage.

Proposed Action

- Drill 8 boreholes to about 6m deep.
- Test 8 shallow samples for heavy metals, cyanide, sulphate, PAHs, TPHs and asbestos.
- Test 3 deeper samples for a suite of contaminants suitable for selecting water pipes.

Controlled Waters

No risk to controlled water is expected on completion and no further action is considered necessary. This may need to be reviewed following the soil tests.

Landfill Gas/Ground Gas

There are nearby areas of filled ground and a very low to low risk from ground gases is anticipated.

A gas testing programme is required.

Proposed Action

- Install 4 gas monitoring points.
- Test for methane, carbon dioxide and gas outflow on 4 occasions over 1 month.

Radon

Radon protection measures are not required.

Foundations

A series of boreholes are required in the area of the proposed building to allow the most suitable foundations to be designed.

Plasticity tests are required to confirm the shrinkage potential of the clay.

Proposed Action

- Carry out plasticity tests on 4 samples of clay.

General

The PRA, and these proposals, should be issued to the Local Authority for their comments before proceeding with the investigation.

Yours faithfully

on behalf of Worms Eye Ltd



David Lord
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FGS, MEnvSc, AIEMA