



Contaminated Land Assessment

Proposed 2 No. Bungalows at
Brownieside Cottage, Brownieside
Road, Plains ML6 8NP

Issue and Revision Record

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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 two detached bungalows is proposed at a plot of land at Brownieside Cottage, Brownieside Road, Plains ML6 8NP. 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 17/00845/PPP for residential use in principle at Brownieside Cottage approved by North Lanarkshire Council on 13 December 2017 a condition was included requiring that a Contaminated Land Assessment should be undertaken to consider the possible presence, or possible historical presence, of potentially contaminative activities on or in proximity to the development site and to 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 - Brownieside Cottage, Brownieside Road, Airdrie ML6 8NP. The grid reference for the site is E279702 N666704. The site area is approximately 1938m².

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: -

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

2.2 Site History

Planning History

Planning application 19/00671/FUL for 2 bungalows was submitted on 03/06/2019 and granted on 05/02/2020. Planning application 17/00845/PPP for residential use in principle was granted on 13/12/2017. Building Warrant application 11/01498/NDEM for demolition and site clearance of cottage and removal of concrete slab of previously demolished building was granted on 3/7/2012.

Historic O.S Maps

On the 1864 map the site is in a rural location, is undeveloped and is part of an agricultural field. The Monklands Railway adjoins to the north; a road (Brownieside Road) adjoins to the east with Ford Pit 380m N. The village of Plains is 90m-120m north with water wells serving the houses 120m-230m N. Ford Forge is 280m E. Brownieside Mills and the North Calder Water are about 180m S with the mill lade 80m-230m S. There is agricultural land to the west.

On the 1897 map Brownieside Colliery Pit 1 adjoins to the west with Pit 3 310m NE at the former Ford Pit. There a Police Station 40m NE of the site. There is a Railway Station to the near NE and there is more housing to the E, N and W. There is a Smithy 240m NW.

There are spoil heaps at both Pit locations. The wells to the W are no longer shown.

On the 1910 map Brownieside Pits 1 and 3 are no longer shown although the spoil heaps remain. There is a single building on the east part of the site.

On the 1936 map there is a sewage works 40m E of the site, the smithy is no longer shown, and Ford Forge is disused. There is housing to the N at Jarvie Street and a second small building on the site.

On the 1946 and 1955 maps there is more housing to the NW at Wallace Street.

On the 1966 map there is a new Police Station on the N side of Main Street and opposite the site of the old Police Station. The sewage works are no longer shown and there is a new sewage farm 260m S. There is a new Depot 70m W of the site. The railway station is disused. The mill is named as Brownieside Grain Mill with Brownieside Mill House nearby. The mill lade is marked as a mill stream. The small building on the site has gone and there is another larger building to the E and nearer to the original building.

On the 1977/1980 map the Grain Mill and the spoil heap at Pit No 3 are no longer shown.

On the 1985/1992 map the railway adjoining to the N is dismantled and the second building on the site is gone. There are playing fields where the spoil heaps at Brownieside Pit No 3 were located.

The 2002 map shows one building on the development site. There is a further commercial development 70m NW and to the S of Main Street.

The 2010 map shows no significant change.

The 2014 map shows a new railway line to the near north of the site. The site itself is vacant.

2.3 Site Walkover

The site plan is shown at Appendix 1, photographs are provided at Appendix 2 and Site Walkover Survey notes (and laboratory report comparisons) are attached at Appendix 3. Site walkovers were undertaken on 7 May 2018 (and 10 May 2021) at which time the following matters were noted.

Development Site

The site comprised a random shaped plot extending to about 1938m². Much of the surface was bottomed out with hardcore. The shorter boundary lines fronted onto Brownieside Road to the east and former colliery ground to the west. The site was relatively flat with slightly higher ground to the north. There was a timber and wire fence along the south boundary and a metal post and wire mesh security fence on the north/railway boundary. There was no evidence of significant contamination of the site.

Adjoining Land

The adjoining land to the west and east comprised vacant land bounding the railway and the public road. The village of Plains was to the north beyond the adjoining railway. There was a house/florist and associated land to the south. There was no evidence of significant contamination.

2.4 Environmental Aspects

Site Geology

The British Geological Survey maps indicate that the bedrock is Scottish Lower Coal Measures formation – sedimentary rock cycles, Coal Measures Type. The superficial deposits are Till, Devensian – Diamicton.

Hydrology

The nearest surface water feature is the North Calder Water 40m-60m to the south and east 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 Glasgow and Motherwell Groundwater- water body code 150677 and classify the overall and chemical status as poor with the quantitative status good. Aquifers are minor or moderately permeable – fractured rocks which do not have high permeability.

Ecological Receptors

There are Sites of Importance to Nature Conservation to the S at the North Calder Water otherwise there are no ecological sites such as Special Areas of Conservation, Sites of Special Scientific Interest, 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 development site is within an area (grid square of the national grid) where joint mapping by the Public Health England (PHE) 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 PHE.

Water & Wastewater Services

No abandoned public sewers or conduits have been identified on or adjoining the development site.

Authorised Industrial Processes

Information from SEPA is that there is a PPC (Part A and B) Licence for the Rowan Timber Yard located to the W of the site and just to the S of Main Street, Plains. There is no record of any other Authorised processes including PPC permits; CAR authorisations or Waste Management Sites/Licences within 250m of the site. SEPA have advised that there have been 3 pollution incidents within 250m of the development site all of which have been categorised as minor or unfounded and none of which have impacted on the actual site or land adjoining the site.

Coal Authority

The site is within a Development High Risk Area (DHRA) identified by The Coal Authority (CA) as requiring the submission of a Coal Mining Risk Assessment (CMRA). Development High Risk Areas are identified as a result of recorded coal mining legacy risks including mine entries; shallow coal workings; 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 CMRA process.

Coal Mining Risk Assessment

A Coal Mining Risk Assessment Report by The Coal Authority (Appendix 4 refers) dated September 2015 was issued on 1/10/2015 and related specifically to development of the Brownieside Cottage Site for residential use. The work included desk top study of;- geological plans, a BGS borehole record, historic OS maps; mining records and the provision of a CA Coal Mining Report.

The report advised that; -

- a) The borehole log shows the thickness of superficial deposits as about 12m.
- b) The shallowest recorded worked seam is at depths of 100m-110m.
- c) The Airdrie Virtuewell seam is shown to outcrop approximately 60m S of the site and potential worked depths would be very shallow, in which case it may present a risk. The CA states these parameters are estimates and should be viewed with caution due to the assumptions made.
- d) The nearest mine entry is a shaft approximately 5m from the SW boundary of the site, which was the subject of a ground collapse in 2003 at which time it was covered with a 6m x 6m reinforced concrete cap at a depth of 3.5m.
- e) There is no risk to the site from – recorded underground coal mining; coal mining geology/fissures; recorded past mine gas emissions or potential mine gas emissions; or surface/opencast workings.

The report concluded that a further Site Investigation was required to assess the risk to the proposed development of possible/probable unrecorded shallow workings; recorded coal mining surface hazard; and mine entries. The CA Report states that risk associated with the mine entry 5m SW of the site does not require mitigation.

Mining Risk Assessment Report

A Mining Risk Assessment by Simpson Mining and Geotechnical Limited (Appendix 5 refers) was undertaken in May 2018 for Aspire Joinery. The work included Desktop Study, and consideration of;- geological maps; The Economic Geology of the Central Coalfield of Scotland Area 5; mine abandonment plans; and Coal Authority Information. The Report states that; - the site is underlain with 5.0m of boulder clay and risk from mine gases is low to negligible; the Brownieside No 1 shaft,

which is situated 4m to the SW of the SW site boundary has been made secure by The Coal Authority but it is nonetheless prudent to establish a no build zone extending 4m to the E of the SW boundary; there are no records of the Virtuewell Coal having been worked beneath the site; there is a c.22m thick quartz-dolerite sill 200m S of the site and it is highly likely the sill will have burnt the coal and made it unworkable; and bores should be sunk to establish the depth to the coal and to provide information as to foundation design. The Report concluded; - (1) the site is potentially unstable due to possible workings in the Virtuewell Coal. (2) There are no known shafts or adits within the site boundaries of influencing distances from them and Brownsie No 1 shaft is about 5m W of the SW boundary. (3) There are no known faults within the site boundaries, and (4) The engineering properties of the superficial deposits are outwith the terms of reference of this report.

SI/Borehole Report

A Borehole Report for Aspire Joinery Ltd by Simpson Mining and Geotechnical Ltd (Appendix 6 refers) was issued on 18 July 2018. The Report reviewed Site Investigation works comprising 3 boreholes for the purpose of determining mineral stability and making recommendations on foundation design. The ground conditions comprised about 2.2m of fill materials consisting of colliery spoil/black blaes, on 6.8m-8.4m of boulder clay, with the superficial deposits resting on the Lower Coal Measures rock strata. The Report concluded the Virtuewell Coal was present at depths of 16.2m, 13.1m and 14.2m BGL but that it was too thin to have been worked beneath the site; and that the site is stable.

Foundation Report

A Foundation Report dated 25/06/2018 by W. Simpson, Chartered Civil and Mining Engineers (Appendix 7 refers) provides information obtained from site investigation including 5 trial pits excavated on 18/05/2018.

The report states that a) the strata generally comprised black blaes fill on firm clay; b) the black blaes fill was found to be suitable for re-use on site but not suitable in its present form as a founding medium; c) the black blaes fill should be excavated out under the building footprints with an additional 1m stand off and replaced in 250mm thick layers compacted to refusal; d) the foundations should be reinforced concrete rafts with class DS1-ACEC 1 concrete.

Soil Sample Results

A Report by Simpson Mining and Geotechnical Ltd (Appendix 8 refers) was issued on 14 August 2018 and provides information on trial pits excavated at 5 locations: and the results of 3 soil samples taken for chemical analysis.

The Report advises that the previous borehole and trial pit investigation established that the site is underlain with a deposit of black blaes/colliery spoil ranging from 2.2m to 2.9m in depth. The make-up and engineering properties of black blaes was noted, including the inert and stable nature of the component rock types, and the report advised that with a loss on ignition figure of less than 25% combustion was unlikely. Regarding the laboratory results it was noted that the levels of all potential contaminants were below threshold values.

The conclusions and recommendations were – a) Water supply pipe material should be considered once the line of the water supply pipes is decided . b) The black blaes is considered to be uncontaminated, and c) On the basis of gas readings taken from the boreholes, risk from mine and ground gases is considered to be very low to negligible.

As the samples were taken in June 2018, we have compared the results against present day values (see appendix 3/6-3/8). Most of the parameters are below Limits of Detection (LoD) and the others are below Soil Screening Values (for residential with plant uptake) and below SEPA Resource Protection Values. Asbestos screening detected no asbestos fibres.

Scottish Mining Records

The Scottish Mining Records Website List of Mines includes Brownieside Pit from 1873 until 1893 but not thereafter.

Planning Applications

A consultation response (31/5/2017) from Pollution Control to Planning regarding application 17/00845/PPP identified a former colliery as potentially contaminative and justification for requiring a Contaminated Land Investigation. Four constraints were identified regarding the same Planning application and were- 1) unknown filled ground (Pit Quarry etc) 2) Railway land 3) Mining and Quarrying general and 4) Coal Mining Legacy – Development High Risk Area.

Private Water Supplies

Scottish Government Private Water Supplies plans shows PWS 11 within North Lanarkshire as the nearest private supply to the development site. It is located about 1.7km east at Airdrie Road Caldercruix ML6 8PA. There are no private water supplies in Plains, or anywhere nearer to Plains. We have looked at the Scottish Government mapping related to the Drinking Water Protected Areas (Surface Water) in the Scotland River Basin District. There are no drinking water protected areas (surface water) in the local area – indeed it appears that there are none within North Lanarkshire. Resource Protection Values are a standard listed in WAT-PS-10-01 and used by SEPA to give general protection to groundwater resource used for human consumption. Scottish Water have advised us that groundwater is not used by them within the North Lanarkshire area for water supply purposes.

Adjoining Railway Infrastructure

The railway to the north of the site (with a branch line to the west at Brownieside Junction) was built as an addition to the Monklands Railway and opened in 1861. By 1897 it had become part of NBR with a station at Plains. By 1936 it was part of LNER. The line was closed to passengers in 1956 and to freight in 1981 and the section of railway at Plains/Brownieside was dismantled and removed. In 2003 the Scottish Executive agreed to reopen the Airdrie to Bathgate line, approval was given by Parliament in 2007 and the project was completed in 2010. Plans included a new station at Plains and the site at Brownieside Cottage was earmarked for use as a car park. Plains Station will not now be built, and Network Rail have sold the land at Main Street Plains and at Brownieside Cottage.

Contaminated Land Register

There are no sites within 250m of the proposal that have been designated as Contaminated Land.

Control of Major Accident Hazards

No COMAH sites within 250m are recorded with Health and Safety Executive records. The nearest COMAH sites are at Towers Road, Airdrie (Chivas) and Roughrigg Road, Airdrie (Inverhouse).

Petroleum Officer

NLC Trading Standards records show no premises within 250m that hold a petroleum licence.

Contemporary Businesses

Contemporary businesses within 250m of the site are – 3 food takeaways, 2 churches, a general store, a pharmacy, a licensed premises, a florist, a garage, a builders office, and a timber yard.

Local Information

The site owner has advised he bought the Brownieside Site and the site at Main Street Plains from Network Rail after it was decided a station would not be built at Plains.

3.0 RISK ASSESSMENT

3.1 Definition of Risk and Categories

Risk is defined as the combination of: (a) the probability, or frequency, of occurrence of a defined hazard (for example, exposure to a property of a substance with the potential to cause harm); and (b) the magnitude (including the seriousness) of the consequences.

Magnitude of Consequence

Probability of Hazard	Severe	Medium	Mild	Minor
High Likelihood	Very high risk	High risk	Moderate risk	Low risk
Likely	High risk	Moderate risk	Moderate/low risk	Low risk
Low likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

Walkover inspections were undertaken at the development site and at locations of other “potentially contaminative” sites and findings were recorded at paragraph 2.3.

3.2 Theoretical Source/Pathway/Receptor Linkages

Theoretical Source/Pathway/Receptor Linkages are shown in the following table and the information contained within this section of the report constitutes the Conceptual Site Model.

Source	Hazard	Pathway	Potential Linkage	Receptor	Risk
Potential Contamination arising from farming	Pathogens	Ingestion	Very unlikely	workers residents	Very low
	residual fertilisers and pesticides	dermal contact	Very Unlikely	workers	Very low
		migration via saturated zone	Very unlikely	water environment	Very low
Potential Contamination from former landfill/spoil	contaminants from "made ground" Including sulphates metals; hydrocarbons	dermal contact	Very unlikely	residents workers	Very low
		Ingestion	Very unlikely	residents building structures	Very low
				water environment	Very low
	asbestos	Inhalation	Very Unlikely	residents	Very low
	Landfill gas	Migration via unsaturated zone	Very unlikely	buildings workers residents	Very low
	leachate	Migration Via Saturated zone	Very unlikely	water environment	Very low
Potential contamination from timber depot activities	Creosote CCA Organic solvents fungicide	Ingestion	Very unlikely	workers	Very low
		Absorption	Very unlikely	residents	Very low
		Inhalation			

Source	Hazard	Pathway	Potential Linkage	Receptor	Risk
Potential Contamination from former mining activities	Metals PAH	Ingestion	Very Unlikely	Workers	Very low
	dioxins	absorption			
	Furans	inhalation	Very Unlikely	residents	Very low
	hydrocarbons				
	gases	Migration via unsaturated Zone	Very Unlikely	residents buildings	Very low
	dusts	inhalation	Very Unlikely	residents	Very low
Potential Contamination From railway activities	PAH	Ingestion	Very Unlikely	residents	Very low
	Dioxins and Furans	Absorption		workers	
	Hydrocarbons	Inhalation	Very Unlikely	residents	Very low
	herbicides				
Potential Contamination from sewage treatment activities	Pathogens	Inhalation	Very unlikely	residents	Very low
	Metals	Ingestion			
	Leachate	Migration via saturated zone	Very unlikely	residents	Very low
Potential Contamination from smithy and forge related activities	Hydrocarbons	Inhalation	Very Unlikely	Workers	Very low
		Ingestion		Residents	
	Fumes/gases	inhalation	Very Unlikely	Residents	Very low

3.3 Assessment

3.3.1 Development Site

The 1864 map show the site within a rural location and part of an undeveloped field.

The 1897 map shows Brownieside Colliery including Pit head buildings and railways to the west of the westmost part of the site. Pit No 1 shaft is just outwith the site and there is a building just inside the westmost part of the site. On the 1910 map Brownieside Colliery is no longer shown. There is a single building/house to the east most part of the site. On subsequent maps there are outbuildings west of the house. The 2014 map shows the site vacant. A Site Investigation including 3 boreholes has revealed the presence of fill material consisting of colliery spoil/black blaes to depths of 1.1m to 2.2m across the site.

The development site has been a field; then used to accommodate a colliery building to the west; then a house from about 1910-2012; and it is now a vacant space.

3.3.2 Out with the Development Site - Potentially contaminative activities undertaken outwith the development site have been identified as - farming; spoil/landfill; mining; railways; smithy/forge; a sewage works; a mill; and a depot/timber yard.

3.3.3 Some farming/agricultural activities may result in contamination – for example because of burial of dead stock, improper use of chemicals or by spillages. Historic mapping shows that the development plot was probably used for agriculture - but not from 1897 or thereafter. The site has not been used for agriculture for more than 123 years. Further, the adjoining agricultural land was generally developed by 1936 and, has not been used for farming for at least 85 years.

It is concluded that historic agricultural use of land on and in the vicinity of the development site presents no significant risk to the development site.

3.3.4 The Plains area has a long history of mining and, in general terms, potential contaminants arising directly from mining activities include coal residues/dusts, and mine gases. With regard to coal residues and dust the nearest coal mine was located to the near SW and ceased to exist more than 110 years ago. During the walkovers of the site no evidence of coal dust or residues was noted. Given the time that has elapsed and the absence of any surface coal residues it is concluded that there is no significant risk from coal residues/dust.

A Coal Mining Risk Assessment (CMRA) by The Coal Authority concluded that there was no risk to the proposed development from recorded underground coal mining; mine entries; coal mining geology/fissures; recorded past mine gas emissions or potential mine gas emissions; coal mining surface hazard; or surface workings. The CMRA Report included a recommendation that a Site Investigation was required to assess risk from possible/probable unrecorded shallow workings. Subsequent reports by Simpson Mining Engineers included a second Mining Risk Assessment (7/5/2018) and a Borehole Report (17/7/2018) that confirmed the shallow (Virtuewell) coals were too thin to have been worked and the site was therefore determined to be stable. Soil sampling results(14/8/2018) showed that possible contaminants were below LoD and/or below current Soil Screening Values and Resource Protection Values. It is concluded that there is very low risk from mine gases. Notwithstanding the foregoing the site owner is aware that in some similar development situations an upgrade to underbuilding/floor construction to incorporate precautionary ground gas protection by way of a vented gas membrane to meet CIRIA Characteristic Situation 2 has been adopted. The owner/developer has therefore decided that the specification in respect of the development will include a vented gas membrane installed to CIRIA Characteristic Situation 2 and BS8485:2015+1:2019 Table 7 standards.

3.3.5 Railway activities may be potentially contaminative as railway constructions often involved cut and fill engineering operations with formation of the track base using crushed rock, although local

waste materials such as excavated rock etc. and ash were sometimes also used. Heavy metals and polycyclic hydrocarbons (PAH's) may be present in materials, such as ash and blaes, and may enter the human body through ingestion, inhalation or absorption through skin and require to be considered as possible contaminants. The nearest historic railway adjoined the north boundary – but was dismantled prior to 1985 including the removal of railway lines, sleepers, track side buildings and fittings. It was rebuilt to present day standards in about 2010. The operational railway has been recently constructed with the engineering works involving extensive groundworks including the provision of a new track base, new rail tracks and fittings. The new railway is maintained and operated to present day standards. It is concluded that there is very low risk to the development site from historic and/or current railway activities.

3.3.6 Historic smithy and forge activities have been identified as potentially contaminative. The smithy/forge were both at least 230m distant and were small scale and ceased more than 85 years ago. They were remote from the site; redevelopments have been carried out; there is no realistic pathway to the development site; and it is concluded that any contaminative risk to the development site is very low.

3.3.7 Landfill of biodegradable waste results in the production of harmful gases including methane and carbon dioxide. Although the site has been up filled with black blaes/spoil there is no evidence of landfilling of biodegradable waste on the development site or adjoining land. Infilling of wells 120m north may have taken place about 120 years ago. It is possible that inert infill materials were used but, even if other wastes were used, any biodegradation will have taken place decades ago, the gas quantities involved would have been small and the distance from the development site is such that there is no realistic likelihood of sufficient motive force or linking pathway. Similarly, any historic infilling of the mill lade or a pond located at distance from the site will present very low risk. Spoil materials/black blaes were have been deposited about 100 years ago at and to the west of the development site. They generally comprised rocks and soils with very low biodegradable content and, at some locations where redevelopment or environmental improvements have been undertaken the spoil heaps are now part of sites with attractive trees and vegetation. Most importantly, the analytical results of soil samples taken at the site show that most of the possible contaminants are below limits of detection and the others are below current Soil Screening Values and below SEPA Resource Protection Values. Further, with regard to infilling at distance from the site, it is considered that there is no realistic pathway providing a link to the development site. It is concluded that historic landfilling activities and historic deposition of spoil present a very low risk to the development site.

3.3.8 A former Sewage Works has been identified as potentially contaminative and the potential contaminants are pathogens, metals, leachates, and organic compounds. The Sewage Works is shown about 30m to the E of the site on the 1936 to 1966 maps but not thereafter. It was owned by Lanark County Council. It ceased operating about 55 years ago when a replacement was built further to the west, the old works were removed, and the site comprehensively rehabilitated. It is considered that there is no significant risk to the development site from the historic former Sewage Works that last existed/operated more than 55 years ago.

3.3.9 The 1864 map shows a mill 180m-230m south of the development site with the mill lade enabling/providing water power from the adjoining North Calder Water. It is not shown on the 1977/1980 map or thereafter and it can be concluded therefore that activities ceased about 40 years ago. Potential contaminants from old grain mills are relatively limited particularly when driven by water. The mill has not operated for about 40 years, it is remote from the site and presents no risk.

3.3.10 A Depot/Timber Yard has been identified as potentially contaminative and possible

contaminants are listed in the Conceptual Site Model (CSM) table. The Depot, with a large building linked to the railway line, was first shown in 1966 O.S. mapping and between 1992 and 2002 two further buildings were added. The site is occupied by Rowan Timber/Rowan Manufacturing and the activities undertaken are supply of timber, and manufacture and supply of timber products (windows, doors, and staircases). Rowan Timber was established in 1979, the business has grown since, and it is located 40m-220m from the development site - and to the N of the railway line. It is regulated by SEPA and by others. A visit to the timber yard established that the open space areas are hard surfaced, the buildings/curtilage is very tidy, the facility is well maintained, and there was no evidence of contamination. Timber yard and timber manufacturing activities have not been undertaken on or near to the development site and risk from the timber depot situated at distance from the development site is considered to be very low.

3.3.11 Asbestos cement sheets were used in construction of industrial buildings and sometimes domestic outbuildings. No evidence of asbestos waste was noted at the development site, or in the vicinity, during the walkover and other site visits. There is no evidence of the development site being used for disposal of asbestos and no evidence of buildings with asbestos components ever having been located on the development site. Soil samples were screened for asbestos fibres and none were detected.

3.3.12 No invasive species were present on the development site, or on sites immediately bounding the development site during walkovers/site visits.

3.3.13 There are no water features on or adjoining the development site. The nearest surface water feature is the North Calder Water which is 40m south east of the development site. Discharge arrangements for surface water and wastewater will be subject to approval from Scottish Water and/or Building Standards. Groundworks including foundation works, are of a minor and short-term nature, and will have no significant adverse effect on the water environment. It is considered that there is no significant risk from the development site to the water environment and vice versa.

3.4 Water Pipe Assessment

UK Water Industry Research (UKWIR) issued a Report entitled "Guidance for the selection of Water Supply Pipes to be used in Brownfield Sites" (10/WM/03/21 refers).

The UKWIR publication focuses on contaminants which will affect the physical and chemical characteristics of pipe materials; advises that certain contaminants are not considered a risk in terms of pipe selection; and identifies organic compounds as the biggest risk to water pipes.

Plastic water supply pipes are permeable to hydrocarbons such as petrol, diesel, and white spirits and, where contamination is identified, a material which is not permeable to hydrocarbons – such as copper, ductile iron, aluminium lined polyethylene or plastic-coated copper – should be used.

The UKWIR guidance advocates Site Assessment, with Stage 1 comprising a "Preliminary Risk Assessment" (PRA) including – (a) Desktop Study (b) Site Walkover (c) the Preliminary Risk Assessment and (d) Review of findings. If chemicals have been stored or used on site further assessment is required by way of a (Stage 2) Site Investigation.

The requirements of the UKWIR guidance overlap with the work undertaken as part of a Contaminated Land Assessment. There is no evidence that the development site or adjoining land have been significantly contaminated, including by hydrocarbons, and it can be concluded from the Desktop Study, soil sample results and walkover that there has been no significant historical contaminative use; that chemicals have not been stored/used on the site and caused contamination; and, consequently, there is no need for restriction on water pipe material selection.

4.0 CONCLUSIONS & RECOMMENDATIONS

4.1 There is no evidence of significant contamination of any part of the development site either from the site itself or from elsewhere.

4.2 The development proposal presents no significant potential risks to human health, ecological receptors, property, or the water environment.

4.3 Following assessment of the site in accordance with UKWIR guidelines it is concluded that there is no need for specialist water pipe materials.

4.4 Ground gas protection measures comprising the installation of a precautionary gas protection membrane with passive ventilation, shall be incorporated into the floor/underbuilding construction and verification of the installation work will be provided in accordance with Ciria C735.

4.5 The site is not in a Radon affected Area and no radiation protection measures are required.

4.6 The presence of any previously unsuspected contamination which becomes evident during the development of the site shall be brought to the attention of the Local authority.

APPENDICES