WALSHAW ROAD PHASE 1 DESK STUDIES
EXECUTIVE SUMMARY

REC REFERENCE: 107765P2R1

REPORT PREPARED FOR: HIMOR, REDROW HOMES &

VHW LAND PARTNERSHIP (WALSHAW) LIMITED

JANUARY 2020

An Ensafe Company

DELIVERING ENVIRONMENTAL AND RISK MANAGEMENT SOLUTIONS

1.0 INTRODUCTION

1.1 Background

Resource and Environmental Consultants Ltd (REC) was previously commissioned by HIMOR, Redrow Homes and VHW Land Partnership (Walshaw) Limited, to complete three separate Phase I Desk Studies for land off Walshaw Road, Bury. This executive summary combines information from these reports.

1.2 Previous Reports

REC has previously produced the following reports:

- Walshaw Road Bury, Phase I Desk Study, REC Reference: 107414p1r0, dated April 2019, Redrow Lancashire;
- Phase I Desk Study, Walshaw Road Bury, REC Reference: 108585p1r0, dated November 2019, Vernon & Co; and
- Phase I Desk Study, Scobell Street, Bury, REC Reference: 107765p1r1, dated December 2019, HIMOR (Land) Limited.

The reports listed above are summarised within this document.

1.3 Proposed Development

The site will be developed for residential use comprising up to 1,250 dwellings, a new primary school and an enhanced local centre. A final layout has not been confirmed, however a preliminary illustration masterplan marking proposed development parcels and spine roads is provided within the Walshaw Garden Neighbourhood Development Framework.

2.0 Site Setting

2.1 Site Details

Key details are summarised in Table 2.1 below. A site location plan (108163-001) is provided at the end of the report.

Table 2.1 Site Summary

Site Address	Walshaw Road, Bury, BL8
National Grid Reference	377916, 411611
Site Area	c.64 Ha

2.2 Current Site Use

The site boundary is shown within Drawing 108163-001 provided at the end of the report.

The site is split into two main sections which are separated by Walshaw Road. Both sections of the site consist of open greenfield agricultural land which are bordered by fencing facing out onto the road. Multiple public footpaths and tracks can be found across the site and along the site perimeter.

The corner field located to the immediate north of Walshaw Road was being utilised to keep horses and mules at the time of the walkover (November 2019). The north-western section of the site also comprised an area of land which is currently housing a number of caravans. In the north east of the site a lake and two smaller pond features are present, bordered by a small woodland (historic maps note these as being reservoirs). A pond is present in the south of the site surrounded by a small area of woodland. Two addition small ponds are present in the area south of Walshaw Road located at the centre and eastern border of the site.

Two main properties can be found in close proximity to the centre of the site north of Walshaw Road; the Best Western Hotel and the Stables Country Club. A small section of the Stables Country Club gravel car park had been included as part of the site.

2.3 Geology

The site is underlain by superficial deposits of Till (secondary undifferentiated aquifer). Glaciofluvial Deposits (Secondary A aquifer) are present within the north west area of the site, comprising sands and gravel.

Bedrock of the Pennine Lower Coal Measures comprising mudstone, siltstone and sandstone (Secondary A aquifer) is present site wide.

2.4 Coal Mining

The site is located in a Coal Mining Reporting Area with sections defined as Development High Risk Areas by the Coal Authority.

Three historic coal shafts are present and coal seams have been worked at depth from these although there are no shafts on the historical maps, therefore it is possible that the shafts were abandoned pre 1850.

The site could be affected by past underground mining of 2no. seams of coal from an unnamed colliery at 42m and 56m depth, last worked between 1876-1878. It is likely that there are other unrecorded shallow (<30m) workings in this area.

The site lies within an area where coal deposits may have been worked at shallow depth (<30m) in the past but for which no plans exists. No recorded opencast mining has historically occurred on site.

No mine gas emissions or emergency surface hazard call out procedures are recorded at the site.

There has been no evidence of a damage notice or subsidence claim on site or within 50m of the site since 31st October 1994.

2.5 Hydrology & Hydrogeology

The site is not located within an Environment Agency Floodplain. The most proximal flood zone is located 247m east of the site and is a Flood Zone 3 along the banks of Kirklees Brook. The highest risk of flooding from rivers and the sea (RoFRaS) is very low.

The site is located within 50m of a groundwater flooding susceptibility area for superficial deposits flooding. This means that given the geological conditions flooding associated with shallow unconsolidated sedimentary aquifers should be considered in all land-use planning decisions.

The site is not located within a Groundwater Source Protection Zone (SPZ).

2.6 Sensitive Land Uses

The following sensitive land uses have been identified within 2km:

- 5no. records of Local Nature Reserves; the closest being the Kirklees Valley, located 274m north east; and
- 11no. records of Green Belt Land, the closest being the Liverpool, Manchester and West Yorks Greenbelt located on site.

2.7 Radon

The UK radon website indicates the site is situated in an area where less than 1% of homes are above the Action Level and that the BGS reports that no radon protective measures are necessary in the construction of new dwellings or extensions.

3.0 Site History

The site has historically been used as agricultural fields with varying internal field layouts separated by hedgerows and pathways.

In 1850 a sand pit was present in the northeast of the site that was later infilled. To the east of the lakes a previous reservoir was infilled circa 1909. Other areas of infilled land include small ponds scattered throughout the site and unspecified heaps associated with the sewage works.

In the north west of the ground a cricket ground and pavilion are located on site circa 1928 remaining onsite into the 1980's.

Circa 1928 a sewage works is present in the south east. Minor development and construction of outbuildings and small structures occurred on site circa 1938 concentrated in the north east. Several small buildings are present close to Walshaw Road in 1959 which are later removed. By 1956 the sewage works is labelled as disused and replaced by an unspecified works circa 1969. Circa 1969 the outbuildings located in the north east are demolished. By 1980, the unspecified works have been labelled as disused and by 2003 have been removed.

The site has remained largely unchanged since 2003.

4.0 Conceptual site model

In accordance with Environment Agency, CLR 11 (2004) and BSI 10175 (Code of Practice for Investigation of Potentially Contaminated Land), REC has developed a CSM to identify potential contamination sources, migration pathways and receptors.

4.1 Contaminant Sources

Potential sources of contamination have been identified as follows:

On site

- Made ground in relation to development and demolition of historical structures;
- Historical sewage works, unspecified works and tanks on site;
- Ground gas generation from coal seams, shafts and sub-crops across the site; and
- Infilled ground.

Off site

- Potentially infilled land; Unspecified heaps; reservoir and refuse disposal facility; and
- Historic and active works / mills / depots / warehouses.

4.2 Potential Pathways

Receptors may potentially be at risk from the identified potential sources of contamination via the following pathways:

- Migration of mobile contaminants off site via services, sewers and manmade conduits;
- Direct contact, ingestion and inhalation of contaminants on site;
- Migration of mobile contaminants into groundwater and transport into surface waters;
- Migration of hazardous gases; and,
- Uptake of toxins/phytotoxins by plants.

4.3 Potential Receptors

Human Receptors

- Future users of the site and buildings; and
- Users of adjacent areas due to off-site migration of gases, vapours or contaminated dust.

Construction workers are not considered to be a plausible receptor as exposure will managed through the use of appropriate PPE and hygienic working practices, as required under HSE/ CDM regulations. Furthermore, exposure to contaminated materials is likely to be for a short duration.

Controlled Waters

- Groundwater within the underlying superficial (secondary undifferentiated and secondary A aquifers)
- Groundwater within the bedrock (Secondary A aquifer);
- Walshaw Brook; and
- Elton Brook.

5.0 Conclusions & Recommendations

5.1 Human Health

Overall, the preliminary risk classification of the site in relation to the proposed development is considered to be **Low / Moderate** in localised areas only. The remainder of the site is very low risk with no historic contaminating land uses identified.

The risk to human health from potential **off-site** sources is considered to be **Very Low / Low.**

5.2 Controlled Waters

The risk posed to surface water groundwater aquifers is considered to be **Very Low / Low** in localised areas only. The remainder of the site is very low risk with no historic contaminating land uses identified.

5.3 Geotechnical Constraints

Coal seams, mine entries and infilled land have been identified as part of this desk study and future ground investigation should incorporate the following to address these risks:

- Trenching around mine shafts to confirm location and backfilling or capping details;
- Boreholes and trial trenches in the area of the infilled land (sand pits, reservoir) to confirm the extent and depth and inform design of foundations; and
- Boreholes to confirm the presence of coal seam, their thickness and if they have been worked locally.

5.4 Recommendations

Based on the proposed end use of residential with access roads and footpath connections and the lack of historical development it is considered that intrusive ground investigation is only required with respect to contaminated land in the areas identified to have previously undergone development or infilling.

It is understood that a ground investigation to establish geotechnical properties for subsequent foundation design will be undertaken. During this investigation a watching brief by the geotechnical / geo-environmental site engineer should be kept to look for the potential for any contamination and adjust the scope of the investigation as appropriate.

Due to the presence of coal seams, historical mine shafts and infilled ground on site it would be appropriate to identify the depth and extent of coal within the underlying strata, and if appropriate to install combined ground gas and ground water monitoring pipes to evaluate any requirements for gas remediation measures.

KEY:

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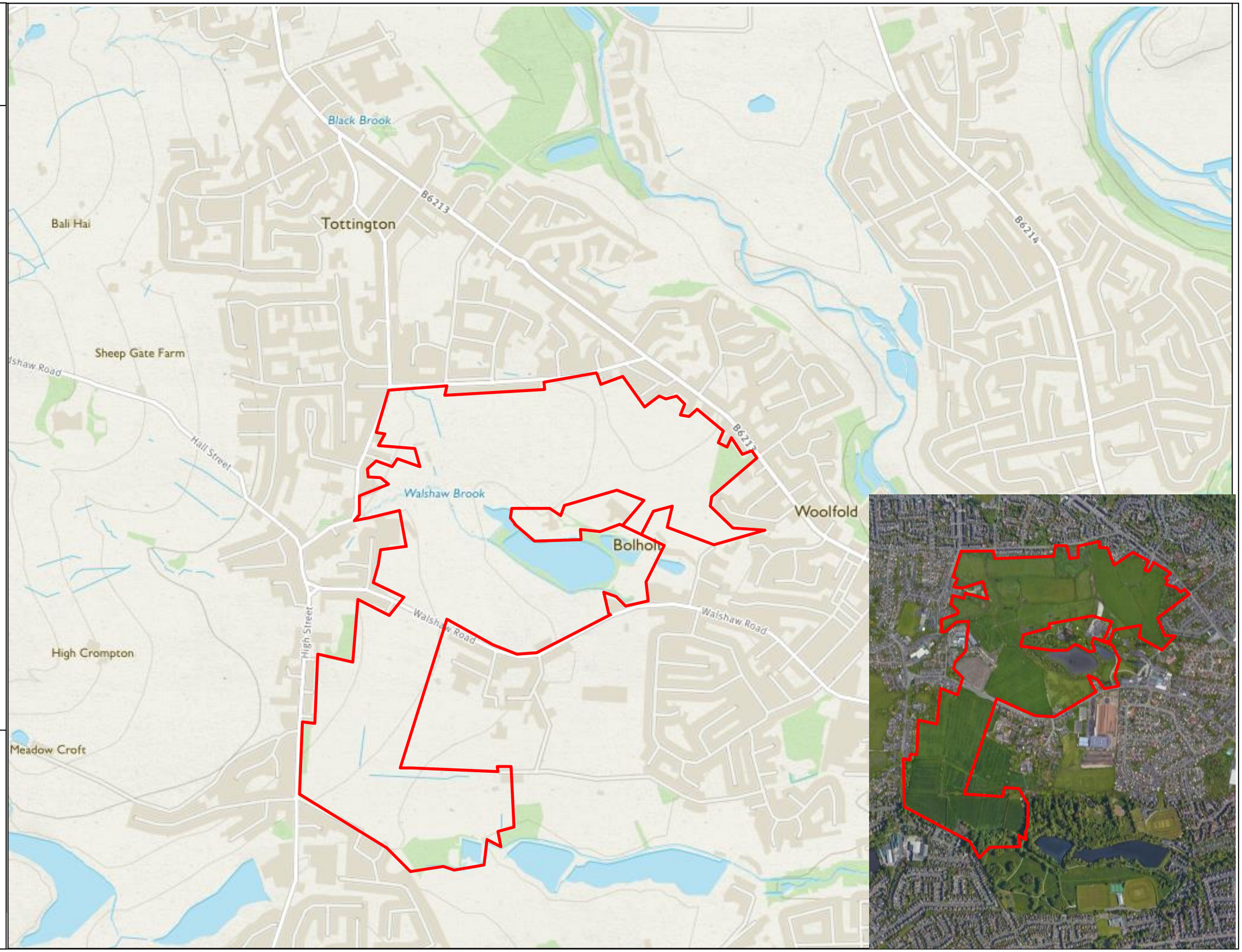
Site Boundary



REC Ltd
Osprey House,
Pacific Quay, Broadway,
Manchester, M50 2UE

T: +44 161 868 1300
recltd.co.uk

Job Title:	Scobell Street, Bury
Client:	HIMOR
Job No:	107765
Drawn By:	MD
Approved by:	NB
Notes:	
Drawing Title:	Site Location Plan – 107765p2r1 - 001