LYONS CMC
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Geo2 Remediation Ltd
Coniston House
Louisa Street
Idle
W. Yorks
BD10 8NE

Date: 20th January 2026
Your ref: (WF17 5LW).
My Ref: CMRA 00446

FOR THE ATTENTION OF PAUL STAPLETON

Dear Paul,

COAL MINING RISK ASSESSMENT (CMRA)- FOR PROPOSED COMMERCIAL DEVELOPMENT AT BRADFORD ROAD, BATLEY WF17 5LW

Introduction

Planning permission is being considered for a new commercial development at the above site, the location of which can be seen on the attached plan No. 00446/A in Appendix 1. The site is centred around national grid reference 424578E / 424322N. A Coal Mining Risk Assessment is required for the proposals in order to competently address the mining legacy for the site and determine what impact this may have had upon the land. The assessment is intended to be included as a supporting document to a future planning application to Kirklees Council.

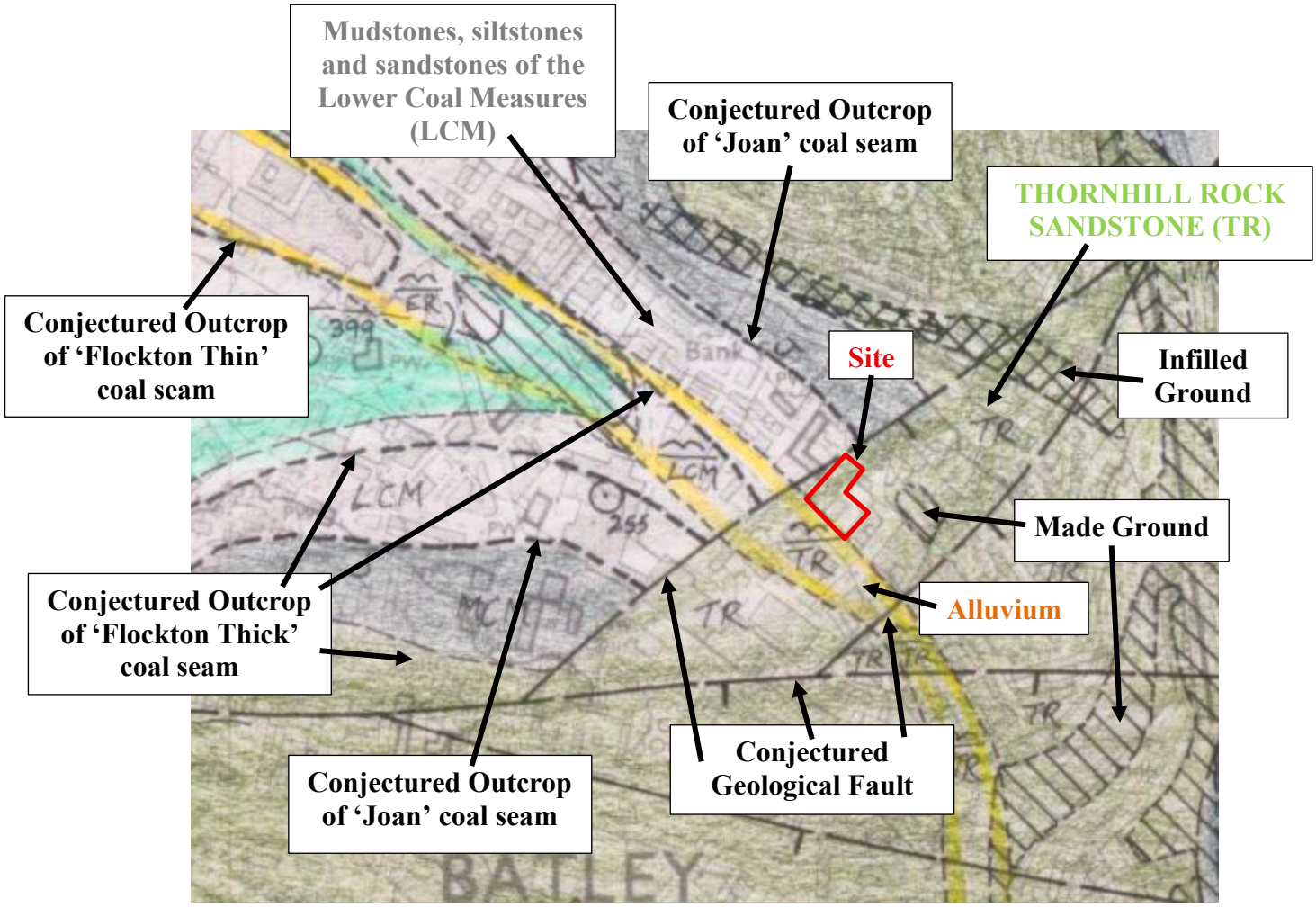
Scope of the Coal Mining Risk Assessment

The purpose of this Coal Mining Risk Assessment Report is to:

- Present a desk-based review of all available information on the coal mining issues which are relevant to the application site;
- Use that information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of issues;
- Set out appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any further works that may be necessary; and
- Demonstrate to the Local Planning Authority that the application site is, or can be made, safe and stable to meet the requirements of national planning policy with regard to development on unstable land.
- The report will not consider other geotechnical or geo-environmental issues.

Surface Geology (inc. any superficial deposits)

Records indicate the site to be located on the Thornhill Rock Sandstone of the Lower Coal Measure series from the Carboniferous formation. Mudstones and siltstones may also be encountered should part of the site be located on the north-western side of the conjectured fault along that boundary of the site as detailed below. Superficial alluvial deposits are indicated to the south-west up to the boundary of site itself; as based on conjecture, these deposits may encroach to some degree into the site; the thickness of such will be uncertain. The strata is shown to dip to the east-south-east at a rate of around 1 in 19 (3°) in this vicinity. A summary of the surface geology is illustrated on the image below which is an extract from the BGS Sheet SE22SW 1999 Edition:



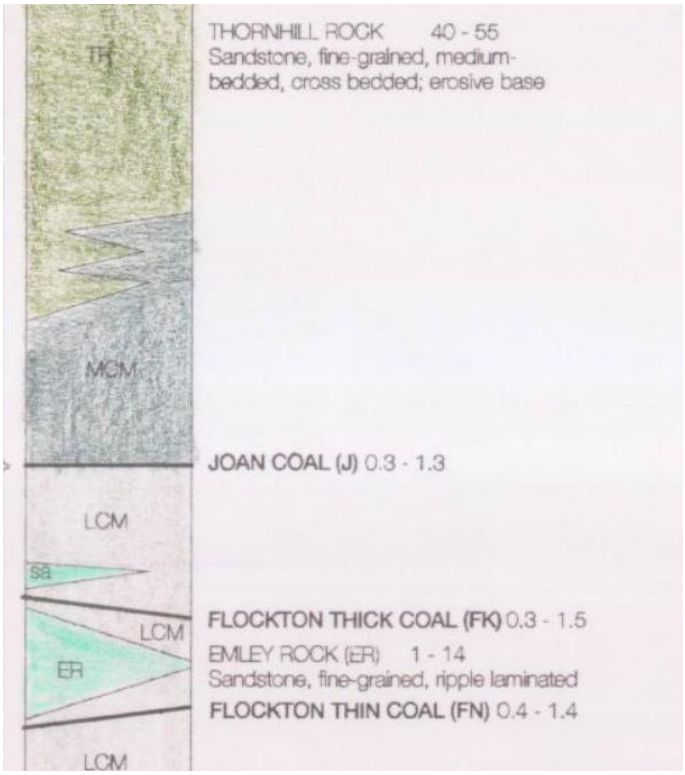
Fault Planes or Fissures

Geological faulting is conjectured to pass along the north-western boundary of the site from south-west to north-east as indicated above ***(it should be noted that as this is based on 'conjecture' the actual position may differ, in some case quite significantly)*** which throws the strata down to the south-east; along with another two conjectured faults some 90m to the south-

east and 130m south respectively; again throwing the strata down to the south-east & south. Although no fissuring of sandstone bedrock is known in this vicinity, there will be some potential for such natural features of which there are no records that may have been 'opened out' to some degree by the past deep coal mining in the area.

Coal Seam Outcrops

As outlined on the extract image above, on the north-western side of the fault the 'Joan' coal seam is conjectured to outcrop just to the north, along with the 'Flockton Thick' coal seam some 80m away to the west. As reflected in the extract image below, from the generalised section detail of the BGS records, the Joan coal is anticipated as being 0.3m to 1.3m in thickness; along with the Flockton Thick coal between 0.3m to 1.5m. The 'Flockton Thin' coal seam will lie beneath the Flockton Thick seam and is shown to be between 0.4m to 1.4m in thickness.



The former Chidswell Colliery shaft section detail, located some 2km away to the east of the site, proved the coal seam thicknesses as: Joan – 1ft 2in (0.36m); Flockton Thick – 1yd (0.91m); & Flockton Thin – 2ft 0in (0.61m). It also proved the interval between these seams in the region of 15m. Reviewing that detail also suggests that the Thornhill Rock sandstone will lie some 15m to 20m above the Joan coal seam.

Should the conjectured position be accurate, and the site does not straddle the north-western fault line, then the site will be underlain by the Thornhill Rock sandstone and the Joan coal seam would

be anticipated at 15m deep or more. If the fault line is out of position however, and part of the site is underlain by measures higher up in the geological stratum, then a slight possibility will be present for encountering the Joan coal seam at the surface (beneath surface soils/made ground/alluvium) in the northern part of the site, and the Flockton Thick coal seam within 10m deep (***it should be noted that as this is based on 'conjecture' the actual position may differ, in some case quite significantly).***

Made Ground

BGS records show no made ground beneath the site; the closet is illustrated in the BGS extract image above some 20m away to the east.

Opencast Coal Workings.

No past opencast coal operations are known within 250m of the site.

Underground Coal Workings - Deep

Deep coal mining (over 30m deep) has taken place beneath this site historically, all settlement from which will be long complete. As no coalfields now exist, the site should remain stable from the deep coal mining perspective for the foreseeable future.

Underground Coal Workings - Shallow

Although no recorded workings are known in the shallow coal seams in this specific area, given their nature/thicknesses (mainly the Flockton Thick coal seam in this instance) there will be some potential for historic unrecorded, possibly illicit, workings being present; which is reflected in the MRA's interactive viewer information with the site shown to be in an area of 'probable shallow coal workings'. ***Note informative(s) nos. 1 & 2 in appendix 2.*** Any historic coal workings would likely to have been via pillar and stall methods which follow the seam from its outcrop position via mine adits for example, or indeed any unrecorded mine shafts. Given the conjectured detail however, it is possible that the coal seams will lie too deep beneath the site to be of an effect from a stability aspect of the proposed development be the coal worked or otherwise.

Mine Entries

No known mine entries are indicated within 250m of the site. Given the likely presence of shallow workable coal, a slight risk will be present for discovering old mine entries of which there are no records. Grey circular areas of fill material within natural ground would be an indication of an old back filled mine shaft for example.

Fugitive Gases

As far as we are aware, no evidence of coal mining related fugitive gas emissions are known within 250m of the site. Given the information there will be some associated risks given the relatively shallow coal combined with porous sandstone deposits above, which may be faulted and/or fissured (which would create migratory pathways) ***note informative no. 3 in appendix 2***. These risks will increase if old mining voids are proved and more so if any old mine entries are discovered.

Coal Mining Risk Assessment
(based on the above).

Coal Seam / Coal Mining Issue	**Risk Assessment** **(VeryHigh/High/Moderate/Low/VeryLow)**
Underground coal mining (at shallow depths)	**Low to Moderate**
Mine entries (shafts and adits)	**Low**
Geological faulting	**High**
Geological fissures	**Moderate**
Fugitive gas emissions	**Low to Moderate**
Surface mining (opencast workings)	**Low**
Aggressive ground	**Moderate**
Coal exposed / near foundation level	**Moderate**

Defined Risk Assessment
(Where 'Underground Coal Mining' above = Very High to Moderate)

Extent of known underground mining in this/these shallow coal seam/s in the wider vicinity	(Extensive / Much / Occasional / None Known) **Occasional to Much**
Intrusive Site Investigation of Coal Seam / Mines of Coal (given nature of proposals).	(Required / Recommended / Unnecessary)** **Required**
Advised critical depth beneath foundation/rock-head level to investigate considering geology and nature of the shallow coal/s*	**15m**

Key:

** The critical depth is calculated according to Ciria C758D guidance which details that for the land to be regarded as stable from any voided mineworkings, then a suitable section of competent rock cover above the workings should be proved that is equal or greater than ten times the 'in-tact' coal seam thickness. The advised critical depth to investigate to in this report takes into account the available geological information, any nearby mining records and may include a contingency for the seam to be of a slightly greater thickness than anticipated. Due care and diligence should be employed on-site to ensure that sound information is gathered of the in-tact seam thickness, particularly if concluding that old workings are outside the critical depth of affecting stability for the proposed development.*

*** Where :*

Required	*Intrusive Site Investigation **required** of the shallow coal/s and/or mine entries to determine any necessary stabilisation works for the given development.*
Recommended	*Intrusive Site investigation **recommended** – given a lower level of risk in relation to the nature of proposed development some proposals may reduce the risk to an acceptable level via suitable design considerations.*
Unnecessary	*Intrusive Site Investigation deemed **unnecessary** – given geological/mining information.*

Mining Remediation Authority

Prior written permission from The Mining Remediation Authority is required for intrusive activities which will disturb or enter any coal seams, coal mine workings or coal mine entries (shafts and adits). Further information on The Mining Remediation Authority's permissions process can be found at: www.coal.gov.uk/services/permissions/index.cfm

Information sources:

- *British Geological Survey Map Sheet SE30NE 2005 Edition*
- *British Geological Survey – Geology Of Britain Viewer*
- *Mining Remediation Authority Interactive Viewer and Mine Abandonment Plans*
- *Historical Mapping – old-maps.co.uk*

CONCLUSIONS

1) The site can be regarded as stable from the **Deep Coal Mining** perspective, and as no coal fields now remain this position should continue for the foreseeable future.

2) Given the **Shallow Mining** position combined with **geological** situation (conjectured geological fault through the site and coal seam possibly within 2m of the surface), it would be prudent that a limited intrusive site investigation is carried out to a) fully determine that the coal seam/s is/are too deep to affect the proposals ***(note informative(s) nos. 1 & 2 in appendix 2);*** b) determine whether the geological fault does pass through the site; and c) determine the likely requirements in relation to shallow exposed coal (note conclusion no. 3 below). A series of three water flush boreholes to 15m deep across the site (2 of which should be located to the north-west and south-west of proposed development) would seem an appropriate approach in the outset; further holes may be deemed necessary depending on the findings at the time. A permit from the Mining Remediation Authority should be secured prior to such an investigation.

3) Any exposed coal should be removed and blinded off using a suitable sulphur resistant grade concrete to mitigate from spontaneous combustion and chemical attack risks. Foundations should be sited on firm strata beneath any coal encountered.

4) A watching brief should be employed during future ground/foundation works for any signs of unrecorded mine entries. A site scrape to natural ground is the most effective procedure to check for such features, circular areas of grey fill within bedrock would be an indication. If suspected the Mining Remediation Authority (as owners) should be notified immediately for appropriate deliberations.

5) A watching brief should be employed during future ground/foundation works for any signs of the geological fault and/or any opened-out fissures within sandstone bedrock. If encountered then foundations may need to be strengthened/redesigned as necessary and prior ground remediation/treatment may be required in severe instances.

6) In terms of the fugitive mine gas risks from the potential shallow coal, and considering the overlaying sandstone deposits (which may be faulted/fissured) it would be prudent, in the absence of any further gas monitoring ***(note informative no. 3 in appendix 2),*** to include gas protection measures (such as a methane membrane for example) within future foundation designs; which could also protect from radon issues if required. Of course, should a future gas monitoring programme be undertaken then it may be concluded that no such precautions are necessary.

7) If no evidence of any shallow mining or geological faulting/fissuring are determined to be of effect for the development then usual foundation solutions can be considered in line with the appointed Building Control departments advice/requirements.

Note: should there be any uncertainty of actual conditions during future ground works Lyons CMC or indeed the Mining Remediation Authority themselves can be further consulted for on site assessment if necessary.

A suitably qualified and competent professional should be employed to use this report to determine the conditions on site, and ultimately advise on what action, if any, is necessary to safeguard the development. It should be noted that any future works to investigate any coal seam, mines of coal or associated mine entries will need the prior consent of the Mining Remediation Authority via their permitting procedure.

I trust that this satisfies your requirements, however please do not hesitate to contact myself at any time for further clarification or advice.

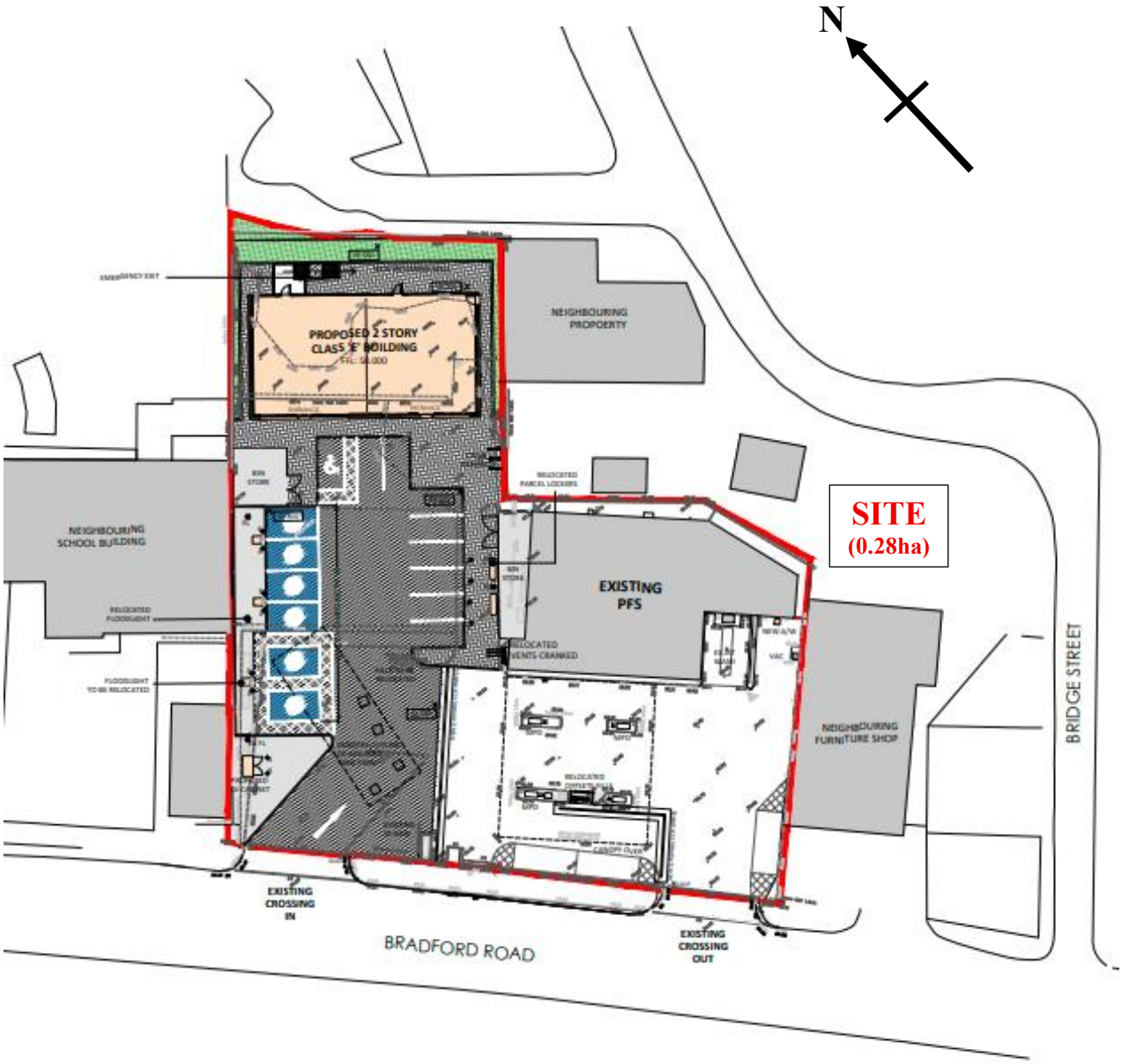
Yours Sincerely,

M Lyons

M. Lyons
Consultant Mining Engineer
BSc CSci MIMMM

Enc.

Appendix 1 – Location Plan No. 00446/A
(Not To Scale)
Site centred at NGR: 424578E / 424322N



Appendix 2 – Informative(s)

1) The relatively recently revised CIRIA document titled 'Abandoned Mine Workings Manual', which replaced Special Publication 32 (1984), indicates that the use of empirical or 'rule of thumb' guides, as the design basis for treatment depth, has been successfully observed for many years for a wide range of abandoned mine workings and overlying rock/soil strata scenarios. As such, the guidance indicates that further design/ground stabilisation consideretions will be required if there is less than 10 times the aggregate measured height of mine workings as competent rock cover above the workings.

2) For information, should the grouting of any mine workings be required, a 10:1 PFA/cement mix or similar would need to be injected into the workings and any other disturbed strata above it under pressure on an OS coordinated treatment grid approved by the Coal Authority (and Building Control/third-party Warranty provider as required). Specific proposals to treat any mine workings would need to be submitted in the form of a standalone 'Specification', with a separate permit to treat being obtained from the Coal Authority. The method of consolidation is dependent on the nature of the bedrock strata and the underground mining conditions encountered, although fissile strata, such as shales and mudstone deposits, do permit mining voids to migrate upwards to quite high levels. All grouting works would need to be supervised by a competent engineer, with a final validation report being produced to confirm what works were undertaken and whether they were successful or not.

3) Ground gas monitoring can be undertaken to confirm or discount the presence of an elevated gassing regime within the underlying soils. Elevated concentrations of mine gases (e.g. CO2, CH4) may be present within the coal seams, voids in or above any shallow mine workings, areas of made ground/opencast backfill, and in any permeable bedrock strata (and any organic rich surficial soils). Mine entries and/or and geological fault lines/fissured bedrock will also provide pathways for gas to migrate. The period of monitoring to be undertaken should be broadly completed in accordance with current guidance [BS8485]. Piezometers would need to be installed (during drilling works for example) to facilitate this.