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FAO: Ollie Stapleton
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28th September 2023

Sent by email

ollie@mobobloc.co.uk

Dear Ollie,

Remediation Statement

Proposed Commercial Development, Crossgate, South Shields

1.0 INTRODUCTION

RWO Associates (RWO) were commissioned by Modo Bloc Limited (the Client) to provide a Remediation Statement for the above named site which is to be developed for a new commercial/retail use.

RWO has previously issued a Combined Phase I & II Geoenvironmental Ground Investigation Report (GIR), Ref: AB/GIR/23017 dated August 2023, and this letter report should be read in conjunction with the above previous report.

This Remediation Statement letter report has been undertaken to support planning (Ref: ST/0746/22/FUL) specifically in relation to the discharge of Condition 6.

Condition 6 states: '*A Detailed Remediation Strategy for the proposed remedial works shall be submitted to and approved in writing by the Local Planning Authority prior to the commencement of any remedial works.*'

However, given that no significant soil contamination was identified in the RWO GIR, a detailed Remediation Strategy is not considered necessary, and therefore this Remediation Statement letter report is considered sufficient to address the condition.

General notes and limitations relevant to all geoenvironmental ground investigations are described in the confidentiality and limitations statements which should be read in conjunction with this report. These can be found in Appendix 2.

2.0 SITE LOCATION AND FEATURES

Information on the site location is presented in the table below.

Detail	Remarks
Location	Crossgate, South Shields. At the junction of Crossgate and Claypath Lane. Approx. 11.7km east of Newcastle-upon-Tyne.
Nearest Postcode	NE33 4NU
National Grid Reference (NGR)	436470, 566730
Site Area	0.29 Ha
Known services	Statutory services are indicated within the site including medium pressure gas main and underground electrical cables.

The Site Location Plan (Figure 1) is presented within Appendix 1.

The site is located in a mixed residential/commercial area with a number of commercial properties to the north, east and west, with a school and residential properties located to the south.

The site comprises concrete slabs and brickwork from former buildings and asphalt hardstanding and some pockets of surficial gravels and granular material. Semi-mature trees/shrubs, including numerous possible *buddleia*, are located predominantly to the borders of the site.

The site has a stepped topography with the north and west of the site approx. 1.0m higher than the south and east, as a result of possible foundations/brick walls left insitu. A low brick wall approx. 1m in height delineates the site boundary.

During the site walkover and GI, there was no noticeable invasive vegetation observed.

The Zetica UXO Risk Map indicates that the site UXO risk is High. **A detailed Phase I UXO Desk Study and mitigation strategy is recommended to be undertaken prior to any construction activities commencing.** Further advice should be sought from an appropriate UXO specialist with regards to any specific measures the contractor(s) should take during site preparation and construction works.

Google Earth indicates the drops in elevation from approx. 14m AOD in the north to approx. 12m AOD in the south.

3.0 INTRUSIVE GROUND INVESTIGATION

Fieldwork was carried out by RWO between 17 July 2023 of 20 July 2023 comprising:

- 4 No. Trial Pits
- 3 No. Cable Percussion boreholes, 2 with rotary hole follow-on.

Macc International Ltd were commissioned by RWO to provide a UXO watching brief during the ground investigation, which included the use of a downhole probe within boreholes to detect any anomalies which had the potential to be UXO. It is understood that no such anomalies were identified.

4.0 GROUND CONDITIONS

Generally 0.1 to 0.3m of tarmacadam or concrete over made ground of various soil types up to 7m thick, over Glaciolacustrine Deposits of firm to stiff medium to high strength greyish brown/brown mottled grey slightly sandy to sandy silty CLAY, over possible Devensian Till of stiff very high strength grey /greyish brown slightly gravelly slightly sandy to sandy CLAY. Bedrock of mudstone was located between 8.9 and 10.8m bgl.

Made ground types included:

- Granular – cobbles/ boulders: Reddish brown sandy gravelly COBBLES and BOULDERS of brick, sandstone and concrete.
- Granular – sand: Dark grey, sometimes slightly clayey or gravelly, fine to coarse SAND sometimes with low to high angular to subangular gravel or cobble content.
- Cohesive - Firm brown mottled grey slightly sandy slightly gravelly to gravelly silty CLAY.

Contamination

There was no visual or olfactory evidence of contamination identified within any of the soils recovered from the site.

No significant sources of soil contamination were identified on the site. However, historical quarries which had the potential to be infilled and fuel stations (historical and present-day) had been identified within 100m of the site and these had the potential to be sources of contamination which may migrate on to the site.

Chemical analysis of the shallow soils undertaken as part of the GIR has not identified any significantly elevated concentrations of contaminants which are considered to pose a risk to human health in the proposed commercial end-use scenario.

It is therefore considered that from a **human health** perspective, that the made ground is suitable for re-use in a commercial/retail end-use scenario.

Chemical testing of soils on the site have not identified any significant contamination and that the underlying superficial deposits are classed as unproductive which will prevent any vertical migration of contaminants to underlying secondary aquifer. Therefore, the risk to **controlled waters** (underlying Secondary Aquifer and associated groundwater) was therefore considered **LOW**.

Even though significant soil contamination has not been identified, **construction workers** are considered at risk from residual contamination within site sols.

Ground Gas

Ground gas monitoring at the site has not recorded any significant flows of ground gas, or levels of ground gases at concentrations of concern. As such, the site is considered to be a Very Low Risk, Characteristic Situation 1 (CS1) with regards to ground gas, where **no specific ground gas protection measures are required.**

Radon protection measures are **not** required by current guidance for the proposed development on this site.

5.0 REMEDIATION STATEMENT

The aims of soil remediation are to resolve contamination issues to protect human and environmental receptors and render a site suitable for the proposed end use and satisfy the requirements of the Local Planning Authority.

Given that there was no significant contamination or ground gas encountered on the site there are currently **no specific remedial requirements** in the context of the proposed end-use.

However some general recommendation site preparations recommendations are provided below;

- General site clearance of surface materials and vegetation;
- Removal and processing of existing hardstanding;
- Removal of relict foundations, structures and obstructions;
- Maintain an awareness of previously unidentified contamination and seek suitable advice if any is identified;
- Provision of suitable Environmental Monitoring and Controls; and
- Provision of a clean growing medium in any landscaped areas.

6.0 GENERAL SITE PREPAERTATION REQUIREMENTS

Site Organisation

Initial mobilisation works will include the establishment of appropriate office and welfare facilities. Such facilities may include but are not restricted to; office accommodation, canteen facilities, washroom/drying room, toilets, wheel wash, car parking, stores and security unit.

The site should be secured by fencing to prevent unauthorised access onto the site during the enabling works.

Health & Safety

All site personnel will undergo a site-specific health and safety induction prior to commencement of work on site.

Works will be carried out with regard to current statutory requirements and guidance by the Health & Safety Executive "Protection of workers and the general public during the redevelopment of contaminated land". Protective clothing, footwear and gloves will be required with hand washing and boot-washing facilities made available. Smoking will be limited to designated areas.

General Site Clearance

The site should be cleared of all residual debris, fly tipped materials, any vegetation, shrubs, bushes and unprotected trees as instructed by the client.

Invasive species were not identified by RWO during our GI works at the site. However, it is recommended that a specialist contractor should be employed to confirm this and remove any such vegetation prior to any development taking place.

Removal of Existing Tarmacadam/hardstanding

Existing areas of hardstanding will require removal to allow the development to be constructed. This material could be re-used appropriately onsite (subject to suitability of use) or removed off-site in a controlled manner.

Subsurface Obstructions

The GI encountered some relic obstructions from previous developments at the site, and therefore, historic concrete slabs and foundations are likely to be encountered during ground works and require grubbing out. All natural materials on site should be capable of being excavated using conventional excavating machinery, although the use of a breaker is likely to be required for large obstructions.

In order to ensure that the future ground improvement or piling does not encountered delays, it would be recommended that a full turnover of made ground is at least undertaken beneath the proposed new buildings, to ensure that all sub-surface obstructions are removed.

Unexpected Contamination

If during site clearance works or other excavations, material with visual or olfactory evidence of previously unrecorded contamination is encountered, the principal contractor should contact a suitably qualified environmental consultant for further advice.

These soils should be sampled, and chemical analysis carried out. The environmental consultant shall decide upon the chemical suitability of the material, to either remain on site or if it is likely to present a risk to receptors.

If the soils present a risk, the materials should be removed from site or remediated to the standard required for a commercial end use.

Any excavated material identified as potentially contaminated should be stockpiled on a non-permeable membrane, and tested for suitability for either re-use on site, or disposed offsite. If prolonged stockpiling is unavoidable, these soils should be covered with a non-permeable membrane at the end of each working day, to prevent the possibility of leachate migrating from the soils due to infiltration.

Backfill of Excavations

All excavations shall, prior to backfilling, be surveyed to ascertain their spatial extent and depth. Excavations (to remove relict structures, contamination etc.) should be backfilled with suitable materials as agreed with the engineer and subjected to nominal compaction.

However, where an excavation conflicts with the footprint of a proposed structures, pavements and/or roads etc. compaction in general accordance with the Specification for Highway Works Table 6/1 will be required.

Water Supply Pipes

Northumbrian Water should be contacted to discuss their requirements for water supply pipes at the site. However, given the sites history, barrier type water supply pipes are recommended to ensure that water services are not affected by residual organic contaminants.

Provision of a clean growing medium in soft landscaped areas

Where areas of soft landscaping are proposed, a certified clean growing medium (i.e. topsoil) must be provided to a minimum thickness of 150mm.

Material Movements and Re-use

Should the material be removed from site for disposal at landfill, waste acceptance criteria (WAC) testing should be undertaken, and the material disposed of to a suitably licensed facility.

The development of Materials Management Plan (MMP) in line with the CL: AIRE Code of Practice may be required to remove or re-use site-won soil on site.

7.0 ENVIRONMENTAL MONITORING & CONTROLS

General

All works should be carried out in a manner that minimises impact on the environment and generates adequate and accurate records to demonstrate remediation works have been carried out to the required standard and in accordance with all applicable legislation. All such records should be collated on contract completion (or sooner as required) and included within the contract completion report. Appropriate progress reports should be provided in a format and at a frequency as agreed with the client and project manager including on-going monitoring/validation information.

Comprehensive records should be maintained throughout the project. The records should include correspondence with the regulators & other third parties, environmental monitoring data, validation testing, comprehensive as-built drawings, photographs, collation of all site investigation reports, operational method statements & risk assessment and construction phase health & safety plan.

Noise Control

Earthworks will only take place during normal working hours 7.00am — 6.00pm Monday to Friday and 8.00am to 13:00pm on Saturdays with no working on Sundays or Bank Holidays. The site manager shall assess noise and its impact upon neighbouring users through the working day and to ensure the following mitigation measures are being utilised:

All plant and machinery will be fixed with adequate silencers and will not be operated unless in good condition.

Noise levels will be as per normal for a project of this nature. Pneumatic breakers will be used but location and hours of use controlled whenever possible.

Should local residents make any complaints regarding noise associated with the works, the site manager shall investigate. Such investigation may include the use of portable monitoring equipment to record noise levels at the location of the complainant. The nature of the complaint and findings of the investigation shall be discussed with the local EHO. If the complaint is upheld appropriate remedial action shall be taken. Such action may include the adjustment of working hours or the alteration of site practices and working methods.

Odour Control

Works may produce odours but good site practice and associated mitigation measures should ensure fugitive odours are kept to an absolute minimum. Such controls may include;

Additional covers will be applied to stockpiles, if they are contributing to fugitive odours.
Areas of excavation i.e. area of exposed contaminated soils, will be kept to a minimum and covered/re-instated as soon as is practicably possible.
Odour suppressing equipment shall be utilised at appropriate locations at appropriate times.

In the event that a complaint is made regarding odours from nearby residents, the site manager shall respond by attending the complainant's properly to assess the nature and level of odour nuisance including monitoring where appropriate. Appropriate mitigation measures as described herein shall then be enforced including if necessary, suspension of excavation works until the prevailing weather conditions become more favourable.

Dust Control

Earthworks may produce dust during prolonged periods of dry weather. The site manager shall assess dust and its impact upon neighbours through the working day and ensure the following mitigation measures are being utilised to control dust:

- The use and maintenance of good quality site roads;
- Enforcing speed limits of site plant and;
- Dust suppression via water applied by towed bowser.

8.0 VALIDATION REPORT

A Validation Report would be developed for the site which would validate the following:

- Where any unforeseen contamination was encountered, and any was encountered how it was dealt with.
- The presence of clean growing medium in landscaped areas;
- Details of materials re-used/relocated on site;
- Details of any materials disposed of off-site;

The report would be provided to the local authority for the discharging of relevant planning conditions, as required.

I trust this remediation statement meets with your requirement. Should you have any questions please do not hesitate to contact the undersigned.

Chris Rudd

Director
For and behalf of RWO Associates Limited
September 2023

APPENDIX 1: SITE LOCATION PLAN

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Site Location



RWO	**TITLE:** Site Location Plan Crossgate, South Shields	**CLIENT:** Modo Bloc Limited	**PROJECT NO:** G23017	**APPROVED BY:** CR	**DATE:** 22 / 08 / 2023
			FIGURE NO: 1	**DRAWN BY:** AB	**SCALE:** NTS

APPENDIX 2: REPORT CONFIDENTIALITY AND LIMITATIONS STATEMENT

CONFIDENTIALITY STATEMENT

This report is addressed to and may be relied upon by the following:

Modo Bloc Ltd

This Geoenvironmental Letter Report has been prepared for the sole use and reliance of the above-named parties. This report shall not be relied upon or transferred to any other parties without the express written authorisation of RWO Group. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party.

LIMITATIONS STATEMENT

This Letter Report presents observations and factual data obtained during our ground investigation, and provides an assessment of geoenvironmental issues with respect to information provided by the Client regarding the proposed development. Further advice should be sought from RWO prior to significant revision of the development proposals. The report should be read in its entirety, including all associated drawings and appendices. RWO cannot be held responsible for any misinterpretations arising from the use of extracts that are taken out of context.

The Letter Report includes an assessment of numerous sources of third-party information, such as but not limited to: drillers logs. All reasonable care and skill has been applied in examining the information obtained however RWO cannot and does not guarantee the authenticity or reliability of third-party information it has relied upon.

Intrusive ground investigation can only investigate shallow ground beneath a small proportion of the total site area. It is possible therefore that the intrusive investigation undertaken by RWO, whilst comprehensive, may not have encountered all significant subsurface ground conditions. Consequently, no liability can be accepted for conditions not revealed by the exploratory holes. Any opinion expressed as to the possible configuration of strata between or below exploratory holes is for guidance only and no responsibility is accepted as to its accuracy.

It should be not that groundwater levels are susceptible to seasonal and other variations and may be higher during wetter periods than those encountered during the time period of the ground investigation and/or monitoring programme. Furthermore, the timescale over which the investigation was undertaken may not allow the establishment of equilibrium groundwater levels.

The Letter Report has been produced in general accordance with the current relevant guidance and practice as set out within British Standards BS10175:2011+A2:2017 - Investigation of potentially contaminated sites, BS5930:2015+A1:2020 – Code of practice for ground investigations, and BS EN1997-1:2004+A1:2013 – Eurocode 7. Geotechnical design – Part 1 General rules, and the National Planning Policy Framework (NPPF).

It has been assumed in the production of this report that ground levels will not change significantly from existing. If this is not the case, then amendments to the recommendations made in this report may be required.

Where the report refers to; the potential presence of invasive/toxic plants (such as Japanese knotweed, Himalayan Balsam etc.), any other ecological related matter, archaeology or asbestos-containing materials, such observations are for information only and should be verified by a suitably qualified expert.

RWO Group
September 2023