



GROUNDTECH
CONSULTING

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Plans		
<i>Plan Reference</i>	<i>Revision</i>	<i>Title</i>
17046 01	-	Site Location Plan
17046 04	-	Exploratory Hole Location Plan

1.0 INTRODUCTION

1.1 Objectives

This validation report has been produced on behalf of Beech Design and Build and relates to the remedial measures and validation requirements for a site of Rochdale Road in Manchester. This letter has been produced to address Condition 6B of outlined by Manchester City Council as outlined below:

The development shall then be carried out in accordance with the approved details.

(B) When the development commences, the development shall be carried out in accordance with the previously agreed Remediation Strategy and a Completion/Verification Report shall be submitted to and approved in writing by the City Council as local planning authority prior to the first occupation of the development.

In the event that ground contamination, groundwater contamination and/or ground gas, not previously identified, are found to be present on the site at any time before the development is occupied, then development shall cease and/or the development shall not be occupied until, a report outlining what measures, if any, are required to remediate the land (the Revised Remediation Strategy) is submitted to and approved in writing by the City Council as local planning authority and the development shall be carried out in accordance with the Revised Remediation Strategy, which shall take precedence over any Remediation Strategy or earlier Revised Remediation Strategy.

Reason - There is evidence of site contamination at the application site which requires further consideration and examination. In particular, details of outstanding gas monitoring is required to be submitted for consideration and an appropriate remediation strategy prepared. This is pursuant to policy EN18 of the Manchester Core Strategy (2012).

1.2 Proposed Works

Due to the mass excavation of soils for basement construction and the site wide slab in place no specific remedial requirements were specified for the construction of the mixed residential and commercial 15-storey development with basement, as shown on the extract below.



1.3 Previous work

Groundtech Consulting produced a Geo-Environmental Appraisal in April 2018, which was later revised in May 2018 (1.1), June 2018 (1.2), and June 2020 (1.3). A summary of the Appraisal is outlined in Section 2.0.

2.0 OVERVIEW OF PREVIOUS WORK

2.1 Background

The site is located circa 1.5km north east of Manchester City Centre, and is approximately centred on National Grid Reference 384645, 398998.

Historical maps show that the site was previously developed with a public house which was demolished in 1988. No other significant on-site sources of contamination were identified during the desk-based assessment.

2.2 Ground Conditions

Made Ground was encountered to a maximum depth of 3.60m bgl and typically comprised brown slightly cobbly gravelly sand and soft brown slightly sandy gravelly clay.

The Natural Strata underlying the Made Ground comprised either firm or stiff brown mottled grey Clay, red brown clayey Sand or brown subrounded fine to coarse Gravel.

The bedrock consisted of the Chester Formation, recovered as extremely weak red fine to medium grained distinctly weathered Sandstone.

2.3 Human Health Risk Assessment (Soils)

General Contaminates

No elevated metal, PAHs or hydrocarbon concentrations were recorded by the laboratory testing above commercial values and the majority of this Made Ground material will also be excavated out as part of the basement construction. When compared with residential without plant uptake there are slight exceedances of selected PAH speciations. The pollution linkage will be broken by the presence of basement slab across the entire site.

Asbestos

Asbestos was detected within three samples of the Made Ground at trace levels (<0.001% mass). The proposed site will be covered with the proposed building and slab/hardsurfacing, only trace amounts were detected and the majority of the Made Ground material will be removed as part of the basement construction. Therefore, the level of risk is considered to be *Low*.

2.4 Risk to Controlled Waters

No significant sources of contamination have been identified during the site investigation and no realistic pollution linkage exists. A significant depth of impermeable Glacial Till is present overlying the sandstone aquifer and the proposed development will be covered with hardstanding which will break the pollution linkage and further reduce leaching potential.

Furthermore, there are no SPZs within 500m of the site and the nearest groundwater abstraction is 961m away, therefore the risk is considered low.

The impact of the River Irk from contaminated soils and groundwater is not plausible, as no significant contaminated soils have been identified and the attenuation distance to the river is substantial.

2.5 Permanent Ground Gas

Five ground gas monitoring visits were undertaken between 13th March and 11th June 2018. No methane concentrations were detected during the monitoring period. Carbon dioxide concentrations ranged between 0.0% v/v and 0.8% v/v. During the monitoring period a maximum flow rate of 0.9l/hr was recorded. The atmospheric pressure ranged between 981mb and 1014mb.

Carbon monoxide values of 32.0ppm in CP02 and 10.0ppm in WS03 were detected on a single monitoring visit, carbon monoxide readings were not detected again during any other visits. These results are considered to be anomalous associated with moisture in the gas monitor.

Based on the low and consistent levels of ground gas recorded during the initial five monitoring visits a sixth visit was not deemed necessary.

2.5 Options Appraisal

No specific remedial action is required with respect to contaminated soils.

The site falls into CS1 conditions, and no gas protection measures will need to be incorporated within the proposed development.

A watching brief should be maintained during demolition and future ground works for any contamination previously unseen as part of this investigation. If any contamination is identified, work should cease and Groundtech Consulting should be consulted immediately.

Approval from the regulators should be obtained prior to the development commencing to avoid any delays at the construction stage.

2.6 Meeting of Remediation Strategy Objectives

To confirm, the remediation strategy objectives will be met in the following way:

Removal of all Made Ground soils

To facilitate construction of the basement substantial excavations were undertaken with the vast majority of the Made Ground soils being removed as part the excavation works. Photograph of the basement excavation are presented in *Appendix 2*.

Implementation of a site wide slab

As part of the construction works a concrete floor slab was placed across the entire development breaking any pollution linkage to site end users.

3.0 VALIDATION

3.1 Remediation Objectives

The objective of this document is to verify that no remedial work was required across the site based on the findings of the Groundtech Geo-Environmental Risk Assessment and the observations during the enabling and construction phase of the development.

3.2 Validation Works

Throughout the enabling works a watching brief was in place for any evidence of previously unrecorded contamination. No evidence of contamination was recorded.

No exceedances were recorded with in the Made Ground soils and additionally to facilitate the basement construction the majority of the Made Ground across the site was removed when the basement excavations were progressed to depths between 3.0m bgl and 5.0m bgl.

4.0 CONCLUSIONS

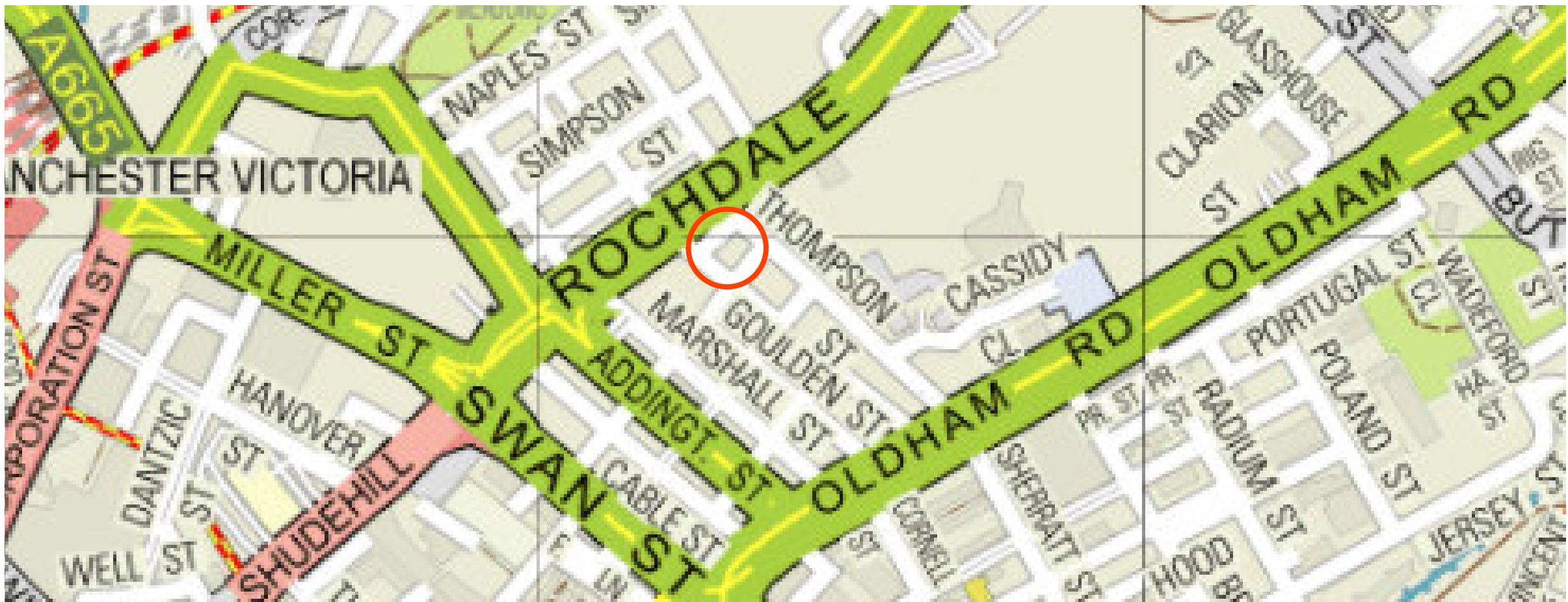
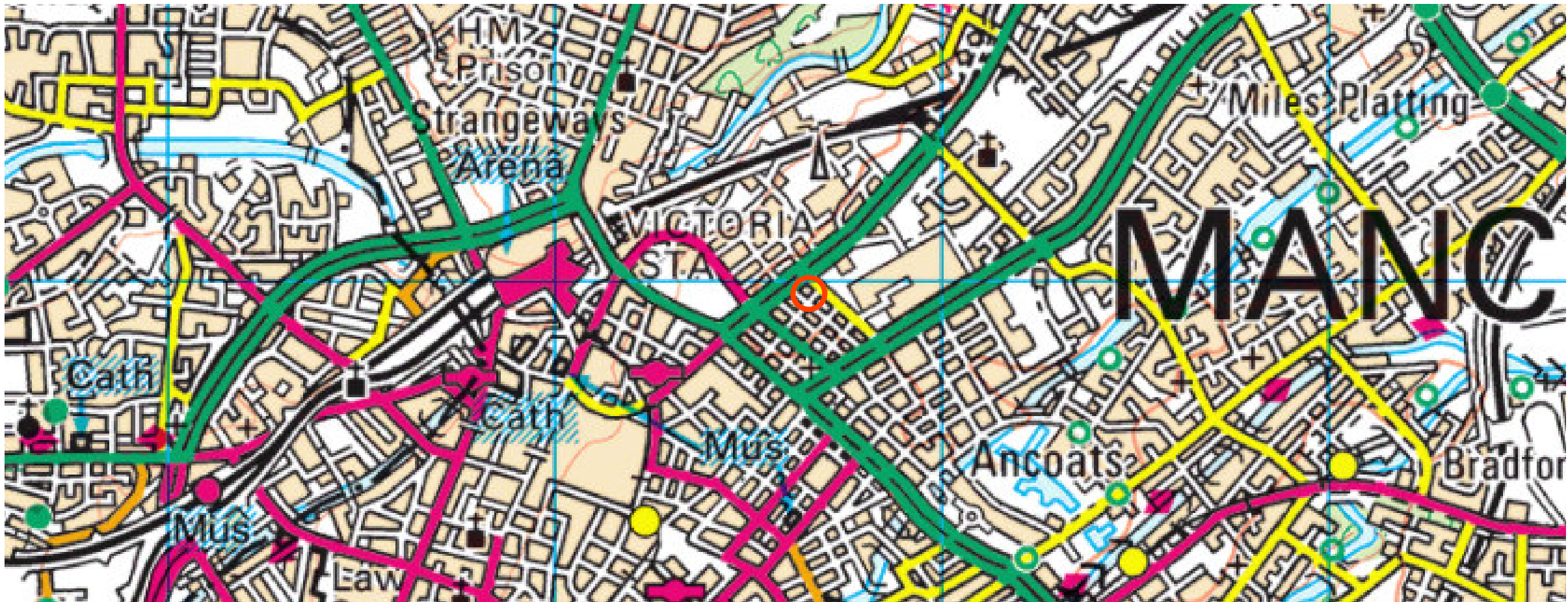
No remediation measures were required across the site as no viable pollution linkages were identified during the Geo-Environmental Appraisal produced by Groundtech Consulting.

No previously unidentified contamination was identified during the enabling and construction works watching brief.

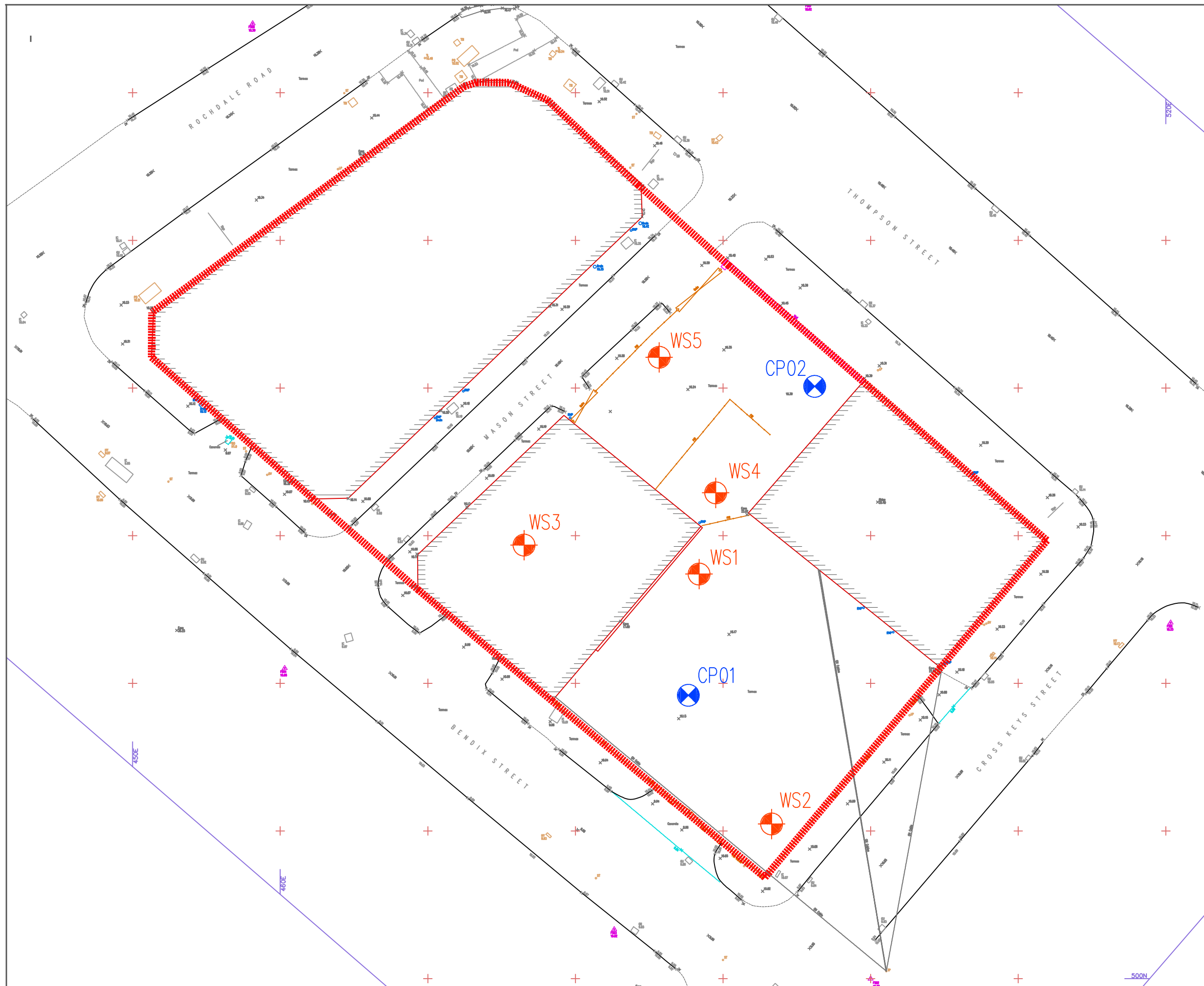
The risk was further reduced when the Made Ground soils across the site were largely removed to facilitate the basement construction.

Additionally, a site wide cover system comprising a concrete slab is present across the entire site area.

APPENDIX 1 - Plans



NOTES		
Site Location		
Rev	Details	Date
Status		
Preliminary		
Draft		
Issued		
For Comment		
Approved		
GROUNDTECH CONSULTING		
CLIENT		
BEECH DESIGN AND BUILD		
PROJECT TITLE		
ROCHDALE ROAD, MANCHESTER		
DRAWING TITLE		
PROJECT LOCATION PLAN		
DRAWN	BM	CHECKED JD
DATE	March 2018	SCALE NTS
DRAWING NUMBER		
17046 01		



NOTES

WS

- approximate location of windowless sample borehole

CP

- approximate location of cable percussive borehole with rotary coring following on

Rev	Details	Date
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Preliminary		
Draft		
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For Comment		
Approved		



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BEECH DESIGN AND
BUILD

PROJECT TITLE

ROCHDALE ROAD,
MANCHESTER

DRAWING TITLE

EXPLORATORY HOLE LOCATION
PLAN

DRAWN	BM	CHECKED	JD
DATE	March 2018	SCALE	1:250 (A3)

DRAWING NUMBER

17046 04

APPENDIX 2 - Validation Photographs



Photograph 1 – Basement excavation showing that all Made Ground soils have been removed.



Photograph 2 – Basement excavation showing that all Made Ground soils have been removed.

