



Bury College

Remediation Verification Report

December 2022

Waterman Infrastructure & Environment Limited

Trinity Court, 16 John Dalton Street, Manchester, M2 6HY
www.watermangroup.com



Client Name: Bury College
Document Reference: WIE17762-100-R-5.1.3-Verification
Project Number: WIE17762

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

Issue	Date	Prepared by	Checked by	Approved by
First	December 2022	Rachael Taggart Environmental Consultant	Andrew Mould Principal Consultant	Rachael Tempest Associate Director
				

Comments

Comments

Disclaimer

This report has been prepared by Waterman Infrastructure & Environment Limited, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.

Contents

1. Introduction	1
1.1 Objectives	1
1.2 Regulatory Context	1
1.3 Roles and Responsibilities	1
1.4 Constraints	2
2. Site Information	3
2.1 Site Location and Description	3
2.2 Previous Reports.....	3
2.3 Identified Contamination	3
2.3.1 Contamination Sources.....	3
2.3.2 Controlled Waters	4
2.3.3 Ground Gas and Vapour Monitoring Results	4
2.4 Final Conceptual Site Model	4
3. Remediation Strategy Summary	5
3.1 Principal Objectives.....	5
3.2 Permits and Consents.....	5
4. Verification Reporting	6
4.1 Permits, Consents and Licenses	6
4.2 Site Attendance	6
4.3 Site Clearance.....	6
4.4 Unforeseen Contamination	6
4.5 Imported Materials	6
4.6 Engineered Cover System in Areas of Soft Landscaping.....	6
5. Conclusions and Recommendations	8
5.1 Conclusions.....	8
5.2 Recommendations	8

Tables

Table 1: Relevant Parties Involved in the Remediation Works.....	1
Table 2: Reports Pertaining to the Site	3
Table 3: Summary of Generic Quantitative Risk Assessment for Human Health.....	3
Table 4: Final Conceptual Site Model	4

1. Introduction

1.1 Objectives

Waterman Infrastructure & Environment Limited (WIE) was instructed by Waterman Structures Limited on behalf of Bury College to provide a Remediation Verification Report to present the results of the remediation activities undertaken at Bury College, as set out in the Remediation Strategy (Report Ref: WIE17762-100-R-4.1.3-RemStrat).

1.2 Regulatory Context

The proposed development at Bury College has gained planning consent for the 'Erection of Health Innovation & STEM Centre for Bury College' Ref. 66978/FUL (Alt. Ref. PP-09710939). The proposed development is presented in Drawing Ref. P6946 I (1-) 12 - Ground Floor Plan in **Appendix A**.

A number of planning conditions are attached to the planning consent, with planning conditions 6 and 7 relating to Contaminated Land requiring the following:

'6. Where remediation/protection measures are required, a detailed Remediation Strategy shall be submitted to, and approved in writing by, the Local Planning Authority prior to occupation of the development hereby approved.

This condition can be satisfied in phases. Reason. To secure the satisfactory development of the site in terms of human health, controlled waters, ground gas and the wider environment and pursuant to National Planning Policy Framework Section 15 - Conserving and enhancing the natural environment.

7. Following the provisions of Condition 6 of this planning permission, where remediation is required, the approved Remediation Strategy must be carried out to the satisfaction of the Local Planning Authority within agreed timescales; and A Site Verification Report detailing the actions taken and conclusions at each stage of the remediation works, including substantiating evidence and a Materials Management Plan shall be submitted to and approved in writing by the Local Planning Authority prior to the development being brought into use. This condition can be satisfied in phases. Reason. To secure the satisfactory development of the site in terms of human health, controlled waters and the wider environment and pursuant to National Planning Policy Framework Section 15 - Conserving and enhancing the natural environment."

A Remediation Strategy was prepared in order to support the discharge of Planning Condition 6 and this Verification Report has been prepared to facilitate discharge of Planning Condition 7, in line with LCRM Guidance¹

A Copy of the above Decision Notice and associated planning conditions are included in **Appendix B**.

1.3 Roles and Responsibilities

The roles and responsibilities of the relevant parties involved in the remediation works, their function/interest and contact details are outlined in Table 1 below.

Table 1: Relevant Parties Involved in the Remediation Works

Name of Party	Role and Responsibilities	Address and Contact Details
Bury College	Client	Market Street, Bury, Greater Manchester, BL9 0BG

¹ Environment Agency (2021) LCRM: Stage 3 remediation and verification. Available At: [LCRM: Stage 3 remediation and verification - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/lcrm-stage-3-remediation-and-verification)

Name of Party	Role and Responsibilities	Address and Contact Details
Gardiner & Theobald LLP	Project Manager	Merchant Exchange, 17-19 Whitworth Street West, Manchester, M1 5WG Tel: 0161 817 4040 Email: lrobinson@gardiner.com
Bury Council	Local Planning Authority	Town Hall, Knowsley Street, Bury, Lancashire BL9 0SW
H. H. Smith & Sons Co. Ltd.	Principal Contractor	Smith's Yard, Rear of 95 Bury Old Road, Whitefield, Manchester, M45 7AY Tel: 0161 280 3509 Email: peterbirds@hhsmith.co.uk

1.4 Constraints

This Verification Report has been prepared in accordance with the scope agreed between Waterman and Waterman Structures Limited, on behalf of Bury College, as documented in Waterman's fee email and with Waterman's standard Terms of Appointment. The benefit of this report is made to Bury College and Waterman Structures Ltd.

The information contained in this report is based on a review of available information, consultation with the regulatory authorities and observations made on site.

Waterman has endeavoured to assess all information provided to them as part of this assessment but makes no guarantees or warranties as to the accuracy or completeness of this information.

This report is based on observations made by Waterman and information provided to Waterman by H. H. Smith & Sons Co. Ltd.

The ground conditions relate the to the points of excavation only and do not necessarily guarantee a continuation of the ground conditions through the non-inspected areas of the Site. Whilst such exploratory holes would usually provide a reasonable indication as to the general ground conditions, these cannot be determined with complete certainty.

2. Site Information

2.1 Site Location and Description

The Site is located at National Grid Reference SD 80575 10432 on Trinity Street and Market Street, Bury, BL9 0BT. The Site was formerly occupied by a two-storey building and associated hardstanding (including pavements and carparking) and soft landscaping.

A Site Location Plan (Ref. WTM1-7215716-2020Map) is presented as **Appendix A**.

2.2 Previous Reports

The Verification Report is based on the findings and recommendations of the reports listed in **Table 2**.

Table 2: Reports Pertaining to the Site

Title	Author	Date	Reference
Bury College STEM Centre, Preliminary Environmental Risk Assessment	Waterman	November 2020	WIE17762-108-R-1.1.5-PERA
Bury College STEM Centre, Coal Mining Risk Assessment	Waterman	February 2021	WIE17762-100-R-2.1.4-CMRA
Bury College STEM Centre, Geo-Environmental Assessment	Waterman	September 2021	WIE17762-100-3.2.3-GeoEnv
Bury College STEM Centre, Remediation Strategy	Waterman	November 2021	WIE17762-100-R-4.1.3-RemStrat

2.3 Identified Contamination

2.3.1 Contamination Sources

The ground investigation recorded Made Ground up to depths of 5.0m bgl. The laboratory testing completed as part of the ground investigation recorded localised elevated concentrations of individual PAHs within granular fractions of Made Ground. Table 3 presents the exceedances recorded at the Site.

Table 3: Summary of Generic Quantitative Risk Assessment for Human Health

Stratum / Source / Zone	Contaminant	Location, depth	Conc. (mg/kg)	Generic Assessment Criteria (mg/kg)
Made Ground 2 / Sands and Gravel	Benzo(b)fluoranthene	WS01 (0.5m)	18.63	7.20
			15.46	5.70
			1.71	0.58
	Benzo(a)pyrene	WS03B (0.2m)	13.74	7.20
			11.01	5.70
			1.30	0.58
	Dibeno(a,h.)anthracene			

The Made Ground was considered to be a secondary source of contamination, likely due to the coal mine workings beneath the Site and the worked ground to the southwest of the Site.

Asbestos screening was carried out on samples of the Made Ground with no positive IDs being recorded.

2.3.2 Controlled Waters

Both the Glaciofluvial Deposits and Pennine Lower Coal Measures beneath the Site are classified as Secondary A Aquifers. The closest surface water features are 90m and 114m to the south west of the Site. The River Irwell flows north to south approximately 850m west of the Site.

The Site is not located within a groundwater Source Protection Zone. Based on available information, it is anticipated that groundwater flow will be in a Westerly direction towards the River Irwell. There are no recorded groundwater abstractions within a 1km radius of the Site. No groundwater discharge consents are recorded within a 1km radius of the Site. There are no groundwater pollution incidents recorded.

Groundwater monitoring was carried out during six monitoring visits over a period of 3 months between February and April 2021. When compared to the UK standards for Ensuring the Quality of Water for Human Consumption, minor exceedances of Benzo(a)pyrene were recorded in BH1 (0.017µg/l) and BH2 (0.016µg/l), against a screening value of 0.010µg/l. No other exceedances were recorded. Based on the lack of nearby sensitive surface water receptors and groundwater abstractions, the risk to controlled waters is anticipated to be low.

2.3.3 Ground Gas and Vapour Monitoring Results

The ground gas monitoring data completed at the Site indicated that the Site should be classified as Characteristic Situation 1 (No Special Gas Measures). No ground gas protection measures necessary.

2.4 Final Conceptual Site Model

Following the implementation of the ground investigation, the pollutant linkages identified during the Preliminary Environmental Risk Assessment have been re-evaluated and reclassified in relation to the additional information obtained. The results of the reassessment are summarised in Table 4 below:

Table 4: Final Conceptual Site Model

Source	Pathway	Receptor	Risk	Justification	Residual Risk
Human Health					
Benzo(a)pyrene, benzo(b)fluoranthene, Dibenzo(ah)anthracene	Direct Contact & Ingestion	Future Site users	Medium	Elevated concentrations of PAHs identified in the Made Ground. The majority of the Site will be covered by the building footprint and hardstanding breaking the contaminant linkage. A cover system will be required in areas of soft landscaping. The proposed mitigation would reduce the risk associated with contaminated Made Ground to low.	Low

The potential pollutant linkages described above can be managed by design of appropriate mitigation measures during the redevelopment of the Site.

3. Remediation Strategy Summary

In accordance with the approved Remediation Strategy (WIE17762-100-R-4.1.3-RemStrat) a summary of the key remediation activities is presented in the following sections.

3.1 Principal Objectives

The principal objectives of the works were:

- Install an Engineered Cover System to prevent potential pathways associated with the Made Ground within soft landscaping areas.
- to subject all materials re-used or imported on the Site to sampling and testing.
- to ensure the safe disposal of all hazardous or non-hazardous waste in compliance with current standards and codes of practice.
- to ensure stockpiles of excavated material will be minimised, stored, logged, transported correctly and in compliance with current standards and codes of practice.
- to ensure unforeseen contamination is reported, managed, and remediated effectively during the works;
- to allow appropriate verification data to be collected to inform the Remediation Verification Report.

3.2 Permits and Consents

The contractor was responsible for obtaining all the necessary permits and statutory approvals relating to the works carried out on-site.

4. Verification Reporting

4.1 Permits, Consents and Licenses

U1 Waste Exemption WEX354561 was obtained by H. H. Smith & Sons Co. Ltd under the Environmental Permitting Regulations to allow the re-use and importation of crushed recycled aggregates, subsoil and/or topsoil for use at the Site.

4.2 Site Attendance

The site was attended on a part-time basis by an experienced Environmental Engineer and photographed accordingly as shown in **Appendix B**. The Contractor cleared the Site of all residual waste, debris, and vegetation which was disposed of appropriately and in line with the contractor's waste management plan.

4.3 Site Clearance

The Contractor reported that the Site was cleared of all residual waste, debris, vegetation, shrubs, bushes and unprotected trees prior to the commencement of earthworks. Waste generated in the site clearance was disposed of appropriately and in line with the contractor's waste management plan.

Demolition arisings were removed from Site during the early stages of the construction works with records relating to the removal of the material being held by H. H. Smith & Sons Co. Ltd.

4.4 Unforeseen Contamination

H. H. Smith & Sons Co. Ltd. undertook on going monitoring for unforeseen contamination or unusual/unanticipated ground conditions during the earthworks and construction works with Waterman undertaking ad-hoc inspections. H. H. Smith & Sons Co. Ltd. have reported that no unforeseen contamination or unusual/unanticipated ground conditions were encountered.

4.5 Imported Materials

Soil testing was carried out by Waterman for the topsoil to be imported on to the Site to ensure its suitability. Topsoil was derived from a greenfield source and imported from Freeland Horticulture's Astley site at Nook Lane, Leigh, Tyldesley, Manchester, M29 7LW.

Testing was undertaken in accordance with the requirements of the Remediation Strategy, that representative samples be collected at a frequency of 1 sample per 200m³ for a greenfield source, with a minimum of three samples per source. Three samples were taken of the stockpiled topsoil and sent to a UKAS and MCerts accredited laboratory (Element Materials Technology) to be tested for heavy metals, speciated PAH's and screened for asbestos fibres.

The results showed that the soils are suitable for use at the Site. Full results are included in **Appendix D**.

4.6 Engineered Cover System in Areas of Soft Landscaping

The installation of an Engineered Cover System within soft landscaping of the Site is to be completed shortly.

A minimum of 100mm of clean topsoil is required underlain by 350mm of subsoil, to give a capping layer of 450mm. Approximately 500m³ of topsoil is to be imported onto the site and will be used to form the subsoil layer as well as the topsoil layer in the cover system.

Three Inspection pits are to be dug on the Site and the layers measured and confirmed to be of sufficient thickness by an Environmental Engineer, and photographed accordingly. Topsoil is still to be imported to site for use in landscaped areas. Verification of the topsoil suitability and the cover system construction will be detailed in an addendum report prepared upon the completion of the landscaping works.

5. Conclusions and Recommendations

5.1 Conclusions

This report has been prepared on the basis of factual information and observations made by Waterman together with records provided by H. H. Smith & Sons Co. Ltd.

Following implementation of the Remediation Strategy the environmental risk from soils at the Site are considered to be Low in relation to the proposed development and environmental receptors.

5.2 Recommendations

- Topsoil is still to be imported to site for use in landscaped areas. Verification of the topsoil suitability and the cover system construction will be detailed in a Topsoil Addendum Report prepared upon the completion of the landscaping works.
- This report, together with the Topsoil Addendum Report, should be submitted to Bury Council in pursuit of the discharge of Planning Condition 7.

Appendices

- A. Drawings
- B. Photographs
- C. Validation Criteria
- D. Laboratory Certificates

Contents

Bury College
WIE17762

WIE17762-100-R-5.1.3-Verification

APPENDICES

A. Drawings

- Site Location Plan (WTM1-7215716-2020Map)
- Proposed Development Plan (P6946 I (1-) 12 - Ground Floor Plan)
- Proposed Landscape Masterplan (BCS-ITR-00-XX-DR-L-0010 - P01)



Site Details:

TRINITY STREET CAR PARK,
TRINITY STREET, BURY, BL9
0BJ

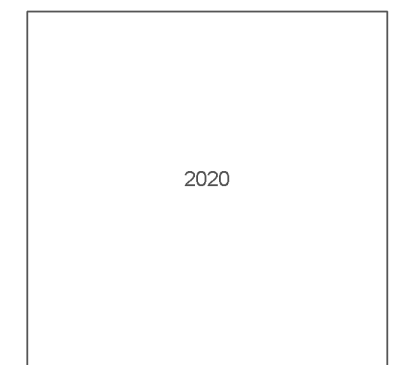
Client Ref: WIE17762_REQ106596
Report Ref: WTM1-7215716
Grid Ref: 380581, 410431

Map Name: National Grid

Map date: 2020

Scale: 1:10,000

Printed at: 1:10,000

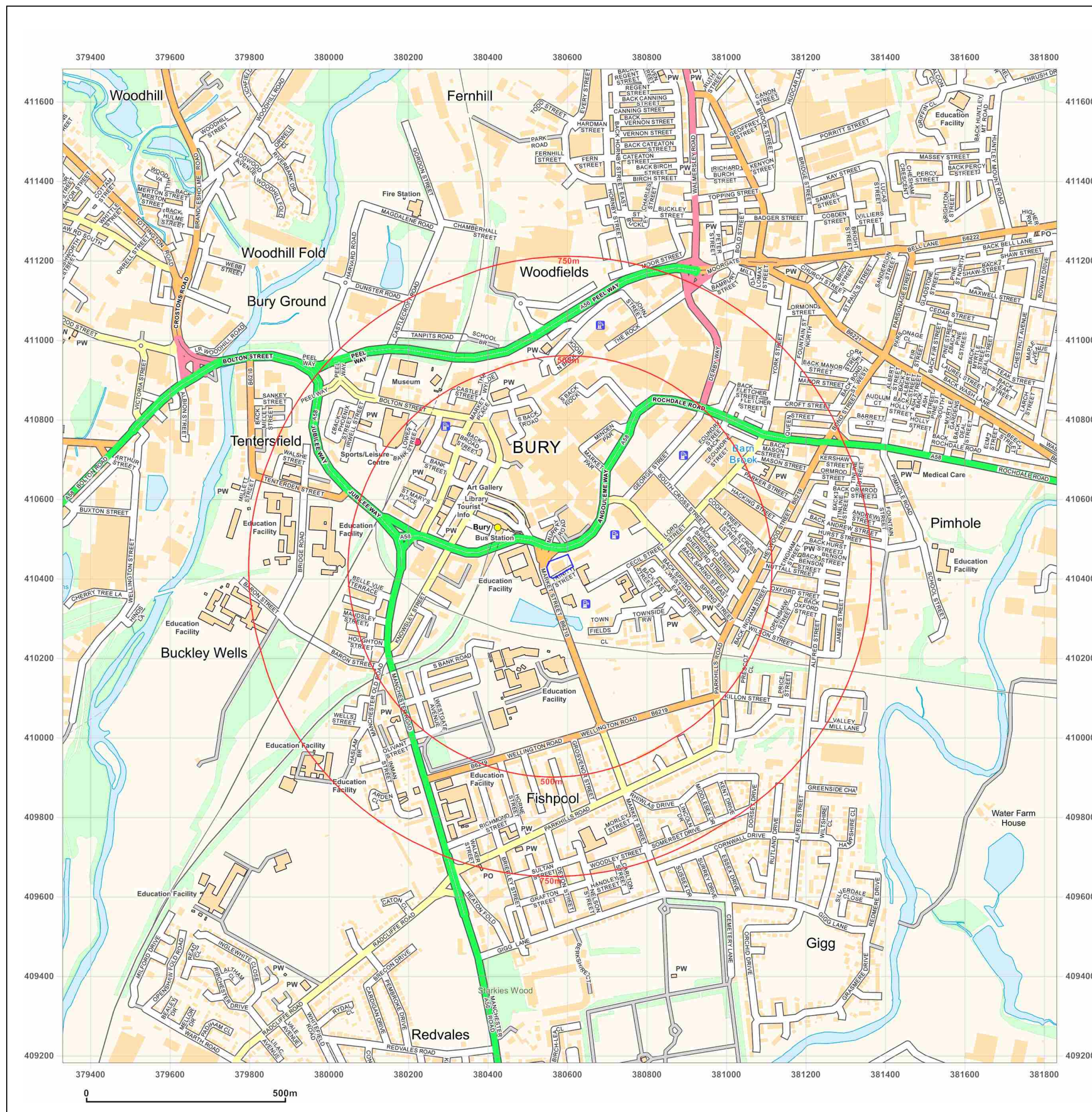


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

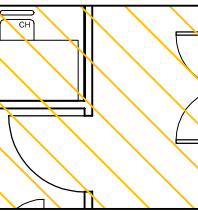
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Production date: 02 November 2020

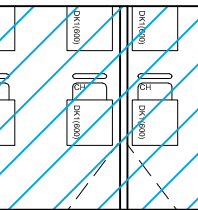
Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



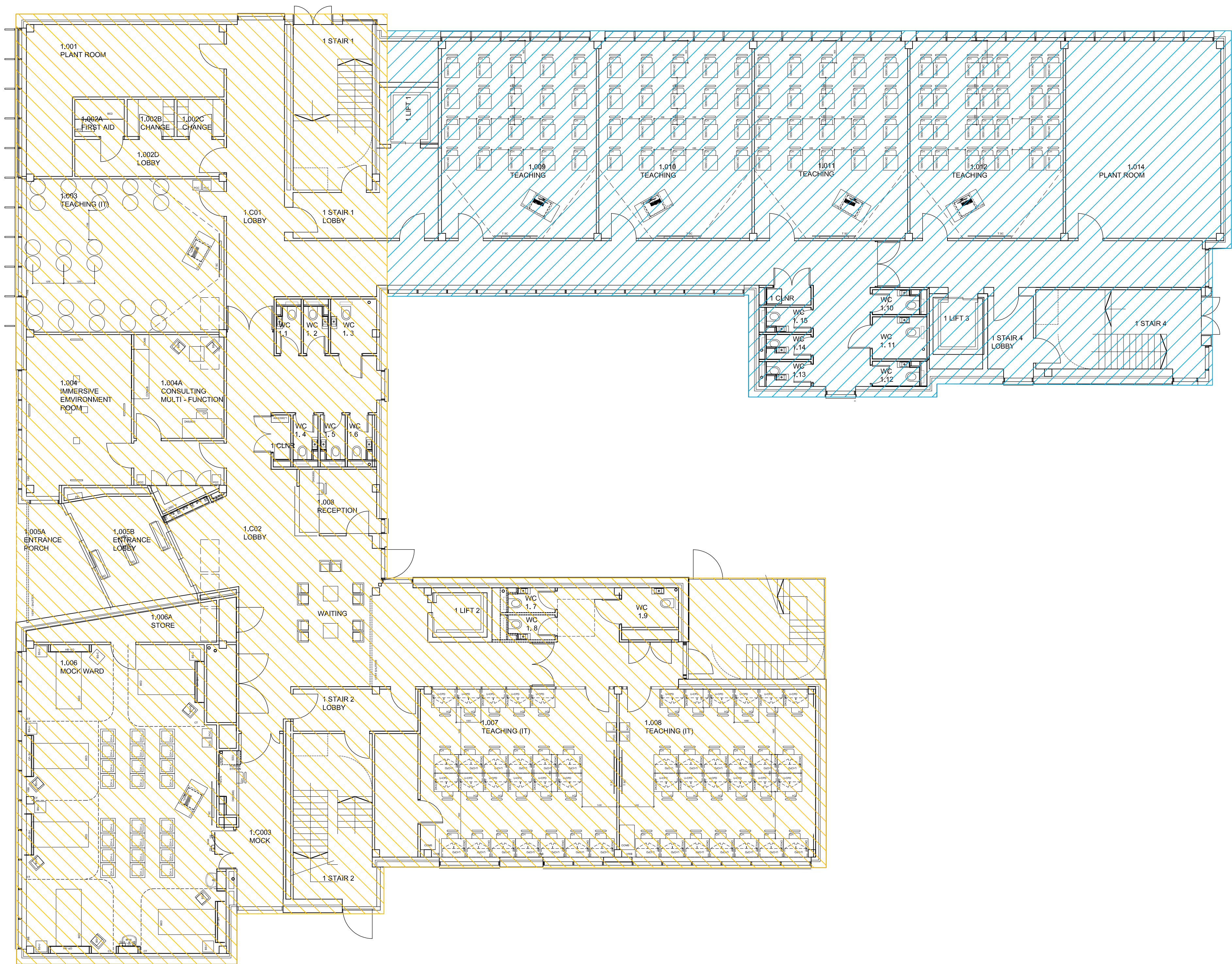
PHASES FOR CONSTRUCTION



PHASE 1



PHASE 2



7	kc	Phases indicated		2021 07 14
6	adw	aw	Angouleme Way updated to suit planners comment	2021 04 21
5	adw	aw	full scheme shown following planning meeting	2021 04 14
4	adw	aw	retrofit with furniture relocated on (B2) series following end user mtg 20210106	2021 01 27
3	adw	aw	T Level area highlighted, internal layouts updated following end user mtg 20210106	2021 01 07
2	adw	aw	T Level wing updated following end user mtg 20201215	2020 12 18
1	adw	aw	grid updated	2020 12 04
no.	by	chk.	revision	date

BURY COLLEGE

project	Health Innovation + STEM Building		
by	chk	date	scale sheet size
aw	adw	01 12 20	1:100 A1
title	95.000 Level Proposed Ground floor plan T Level		
status	job no. / dsg. no	revision	
P	6946 L(1-) 12	7	



- Legend:
1. Main entrance area
 2. Stepped access to main entrance
 3. Accessible route to main entrance
 4. Ornamental grass beds with trees
 5. Cycle parking
 6. Trinity Street car parking
 7. Trinity Street access
 8. Service access
 9. Collegiate courtyard
 10. Informal spill-out meeting / social space
 11. Planted border with trees in containers
 12. Decorative screens
 13. Planted border with native species incorporated
 14. Bin store

- Key:
- Granite aggregate concrete paving
 - Granite aggregate paving with inset grass
 - In-situ concrete surfacing
 - Vehicular asphalt
 - Biodiverse, species rich lawn
 - Ornamental grasses
 - Shade tolerant planting with native species
 - Bamboo hedge
 - Main entrance trees
 - Small tree in container
 - Native species trees to eastern boundary
 - Steps with handrails and tactile paving
 - Concrete bench
 - Timber seat cubes
 - Cycle stands and shelter
 - Static bollard
 - Removable parking control bollard
 - Bin store
 - Car park white lining

NOTES:

DO NOT SCALE. Use figured dimensions only. The contractor is requested to check all dimensions before the work is put in hand. Copyright of this drawing belongs solely to Iteriad Ltd ©. This drawing must only be used for the purpose for which it is supplied and its contents must not be reproduced for any purpose without written permission. Areas indicated, or areas calculated from this drawing should be used for valuation purposes or as the basis for development contracts. Iteriad Ltd is a limited liability company registered in England and Wales. Number 7966573

To be read in conjunction with drawings:

- BCS-ITR-00-XX-DR-L-0011 - Planting Strategy
- BCS-ITR-00-XX-DR-L-0012 - Levels Strategy
- BCS-ITR-00-XX-DR-L-0110 - Landscape GA

Outline Hard & Soft Landscape Materials Schedule:

- BCS-ITR-VV-XX-SP-L-2000

Landscape Design and Access Statement Section:

- BCS-ITR-00-XX-RP-L-0002

P01	PLANNING ISSUE	MS	KH	19.04.21
REV	DETAILS	DRAWN BY	CHECKED BY	CHECKED DATE
DRAWING RECORD				

STATUS

FOR INFORMATION

CLIENT

BURY COLLEGE

MASTERPLANNERS/LANDSCAPE ARCHITECTS

(iteriad)

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Ecclefechan,
West Lothian,
Edinburgh,
Cumbria
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E: studio@iteriad.com
W: www.iteriad.com

PROJECT TITLE
BURY COLLEGE - HI+STEM

DRAWING TITLE
LANDSCAPE MASTERPLAN

SCALE	DRAWN BY	DATE
1:200@A1	MS	APR '21
JOB/DRAWING NUMBER	REVISION	
BCS-ITR-00-XX-DR-L-0010	P01	



B. Photographs



1. Supp TPs and demo



2. Formation



3. Piling



4. Topsoil

Project Details	WIE17762-100: Bury College
Figure Title	Figure B1: Site Photographs
Figure Ref	WIE17762-100_GR_VR_B1A
Date	December 2022
File Location	\\s-Incs\wie1\projects\wie17762\100\graphics\vr\issued figures
www.watermangroup.com	



C. Validation Criteria

Proposed End Use	Resl without plant uptake	Source
Concentration (mg/kg)	1% SOM	
Arsenic	40	DEFRA C4SLs
Beryllium	1.7	LQM S4ULs 2015
Boron (Water Soluble)	11000	LQM S4ULs 2015
Cadmium	150	DEFRA C4SLs
Chromium (Total)	910	LQM S4ULs 2015
Chromium (VI)	21	DEFRA C4SLs
Copper	100 ^b	BS 3882:2015
Lead	310	DEFRA C4SLs
Mercury	1.2	LQM S4ULs 2015
Nickel	60 ^b	BS 3882:2015
Selenium	430	LQM S4ULs 2015
Vanadium*	1200	LQM S4ULs 2015
Zinc	200 ^b	BS 3882:2015
Cyanide (Free)	26	Waterman GAC - CLEA v1.06
Aliphatic EC5 - EC6	42	LQM S4ULs 2015
Aliphatic EC6 - EC8	100	LQM S4ULs 2015
Aliphatic EC8-EC10	27	LQM S4ULs 2015
Aliphatic EC10-EC12	130	LQM S4ULs 2015
Aliphatic EC12-EC16	1000 ^a	LQM S4ULs 2015
Aliphatic EC16-EC35	1000 ^a	LQM S4ULs 2015
Aliphatic EC35-EC44	1000 ^a	LQM S4ULs 2015
Aliphatic Total EC5-EC35	N/A	
Aromatic C5-C7	370	LQM S4ULs 2015
Aromatic C7-C8	860	LQM S4ULs 2015
Aromatic C8-C10	47	LQM S4ULs 2015
Aromatic C10-C12	250	LQM S4ULs 2015
Aromatic C12-C16	1000 ^a	LQM S4ULs 2015
Aromatic C16-C21	1000 ^a	LQM S4ULs 2015
Aromatic C21-C35	1000 ^a	LQM S4ULs 2015
Aromatic C35-C44	1000 ^a	LQM S4ULs 2015
Benzene	0.38	LQM S4ULs 2015
Toluene	880	LQM S4ULs 2015
Ethyl Benzene	83	LQM S4ULs 2015
Xylene - o	88	LQM S4ULs 2015
Xylene - m	82	LQM S4ULs 2015
Xylene - p	79	LQM S4ULs 2015
Naphthalene	2.3	LQM S4ULs 2014
Acenaphthylene	1000 ^a	LQM S4ULs 2015
Acenaphthene	1000 ^a	LQM S4ULs 2015
Fluorene	1000 ^a	LQM S4ULs 2015
Phenanthrene	1000 ^a	LQM S4ULs 2015
Anthracene	1000 ^a	LQM S4ULs 2015
Fluoranthene	1000 ^a	LQM S4ULs 2015

Pyrene	1000 ^a	LQM S4ULs 2015
Benzo(a)anthracene	11	LQM S4ULs 2015
Chrysene	30	LQM S4ULs 2015
Benzo(b)fluoranthene	3.9	LQM S4ULs 2015
Benzo(k)fluoranthene	110	LQM S4ULs 2015
Benzo(a)pyrene	3.2	LQM S4ULs 2015
Indeno(1,2,3-cd)pyrene	45	LQM S4ULs 2015
Di-benzo(a,h.)anthracene	0.31	LQM S4ULs 2015
Benzo(g,h,i.) Perylene	360	LQM S4ULs 2015
Asbestos	no presence	

For topsoil and subsoil only

a. The banding has been set at 1000mg/kg an arbitrary 1000mg/kg to prevent the importation of hazardous waste to the site.

b. The thresholds are based on pH, in the first instance the most conservative values are presented. Should exceedances be recorded, the pH will be further assessed.



D. Laboratory Certificates

Waterman Infrastructure & Environment Limited

Bradshaw House
31 Waterloo Lane
Bramley
Leeds
LS13 2JB



4225

Attention : Andrew Mould
Date : 14th November, 2022
Your reference : WIE17762
Our reference : Test Report 22/18324 Batch 1
Location : Bury College
Date samples received : 8th November, 2022
Status : Final Report
Issue : 1

Three samples were received for analysis on 8th November, 2022 of which three were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Simon Gomery BSc

Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Waterman Infrastructure & Environment Limited
Reference: WIE17762
Location: Bury College
Contact: Andrew Mould
EMT Job No: 22/18324

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9								Please see attached notes for all abbreviations and acronyms		
Sample ID	TS1	TS2	TS3										
Depth													
COC No / misc													
Containers	V J B	V J B	V J B										
Sample Date	04/11/2022 12:30	04/11/2022 12:30	04/11/2022 12:30										
Sample Type	Soil	Soil	Soil										
Batch Number	1	1	1										
Date of Receipt	08/11/2022	08/11/2022	08/11/2022								LOD/LOR	Units	Method No.
Arsenic #	4.7	5.0	5.5								<0.5	mg/kg	TM30/PM15
Barium #	65	57	53								<1	mg/kg	TM30/PM15
Beryllium	0.7	0.7	0.8								<0.5	mg/kg	TM30/PM15
Cadmium #	<0.1	<0.1	<0.1								<0.1	mg/kg	TM30/PM15
Chromium #	94.4	99.0	102.4								<0.5	mg/kg	TM30/PM15
Cobalt #	5.3	5.4	5.0								<0.5	mg/kg	TM30/PM15
Copper #	20	19	27								<1	mg/kg	TM30/PM15
Iron	15640	16210	34600								<20	mg/kg	TM30/PM15
Lead #	31	32	30								<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1								<0.1	mg/kg	TM30/PM15
Molybdenum #	5.1	5.5	7.3								<0.1	mg/kg	TM30/PM15
Nickel #	15.9	15.1	20.4								<0.7	mg/kg	TM30/PM15
Selenium #	<1	1	<1								<1	mg/kg	TM30/PM15
Vanadium	20	18	20								<1	mg/kg	TM30/PM15
Water Soluble Boron #	2.0	1.9	1.8								<0.1	mg/kg	TM74/PM32
Zinc #	67	64	86								<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03								<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05								<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.23	0.24	0.08								<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.33	0.36	0.16								<0.03	mg/kg	TM4/PM8
Pyrene #	0.28	0.31	0.13								<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.15	0.17	0.08								<0.06	mg/kg	TM4/PM8
Chrysene #	0.17	0.18	0.08								<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	0.30	0.28	0.12								<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.14	0.13	<0.04								<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.13	0.12	<0.04								<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.12	0.09	<0.04								<0.04	mg/kg	TM4/PM8
Coronene	0.06	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
PAH 17 Total	1.91	1.88	0.65								<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.22	0.20	0.09								<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.08	0.08	0.03								<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	105	106	105								<0	%	TM4/PM8

Element Materials Technology

Client Name: Waterman Infrastructure & Environment Limited
Reference: WIE17762
Location: Bury College
Contact: Andrew Mould
EMT Job No: 22/18324

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9								Please see attached notes for all abbreviations and acronyms		
Sample ID	TS1	TS2	TS3										
Depth													
COC No / misc													
Containers	V J B	V J B	V J B										
Sample Date	04/11/2022 12:30	04/11/2022 12:30	04/11/2022 12:30										
Sample Type	Soil	Soil	Soil										
Batch Number	1	1	1										
Date of Receipt	08/11/2022	08/11/2022	08/11/2022								LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 #	<0.1 ^{SV}	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1 ^{SV}	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1 ^{SV}	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>C10-C12 #	<0.2	<0.2	<0.2								<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 #	<4	<4	<4								<4	mg/kg	TM5/PM8/PM16
>C16-C21 #	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
>C21-C35 #	31	38	23								<7	mg/kg	TM5/PM8/PM16
>C35-C44	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-44	31	38	<26								<26	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 #	<0.1 ^{SV}	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1 ^{SV}	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1 ^{SV}	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	<0.2	<0.2	<0.2								<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 #	<4	<4	<4								<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 #	19	23	11								<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 #	132	150	108								<7	mg/kg	TM5/PM8/PM16
>EC35-EC44	<7	<7	10								<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-44	151	173	129								<26	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-44)	182	211	129								<52	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE #	<0.005 ^{SV}	<0.005	<0.005								<0.005	mg/kg	TM36/PM12
Benzene #	<0.005 ^{SV}	<0.005	<0.005								<0.005	mg/kg	TM36/PM12
Toluene #	<0.005 ^{SV}	<0.005	<0.005								<0.005	mg/kg	TM36/PM12
Ethylbenzene #	<0.005 ^{SV}	<0.005	<0.005								<0.005	mg/kg	TM36/PM12
m/p-Xylene #	<0.005 ^{SV}	<0.005	<0.005								<0.005	mg/kg	TM36/PM12
o-Xylene #	<0.005 ^{SV}	<0.005	<0.005								<0.005	mg/kg	TM36/PM12
Natural Moisture Content	28.6	28.2	21.0								<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3								<0.3	mg/kg	TM38/PM20
Free Cyanide	<0.5	<0.5	<0.5								<0.5	mg/kg	TM89/PM45
Total Cyanide #	<0.5	<0.5	<0.5								<0.5	mg/kg	TM89/PM45
Complex Cyanide	<0.5	<0.5	<0.5								<0.5	mg/kg	TM89/PM45
Thiocyanate	1.8	1.5	1.2								<0.6	mg/kg	TM107/PM45

Note:

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

[illegible]

Client Name: Waterman Infrastructure & Environment Limited

Reference: WIE17762

Location: Bury College

Contact: Andrew Mould

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 22/18324

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

EMT Job No: 22/18324

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes

EMT Job No: 22/18324

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM74	Analysis of water soluble boron (20:1 extract) by ICP-OES.	PM32	Hot water soluble boron is extracted from dried and ground samples using a 20:1 ratio.	Yes		AD	Yes
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.			AR	Yes
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.	Yes		AR	Yes
TM107	Determination of Sulphide/Thiocyanate by Skalar Continuous Flow Analyser	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.			AR	Yes

Job No	WIE17762-100
Site Name	Bury College

Site Name		WIE 1762-100							
		Bury College							
END USE SCENARIO				Residential without plant uptake (1% SOM)		Sample I.D	TS1	TS2	TS3
						Depth	n/a	n/a	n/a
						Strata	0.00	0.00	0.00
In-organics	Metals	Arsenic	40.00	mg/kg	4.70	5.00	5.50		
		Barium		mg/kg	65.00	57.00	53.00		
		Beryllium	1.70	mg/kg	0.70	0.70	0.80		
		Boron (Water Soluble)	11000.00	mg/kg	2.00	1.90	1.80		
		Cadmium	150.00	mg/kg	<0.1	<0.1	<0.1		
		Chromium (Total)	910.00	mg/kg	94.40	99.00	102.40		
		Chromium (VI)	21.00	mg/kg	<0.3	<0.3	<0.3		
		Cobalt	0.00	mg/kg	5.30	5.40	5.00		
		Copper	7100.00	mg/kg	20.00	19.00	27.00		
		Iron		mg/kg	15640.00	16210.00	34600.00		
		Lead	310.00	mg/kg	31.00	32.00	30.00		
		Mercury	1.20	mg/kg	<0.1	<0.1	<0.1		
		Molybdenum		mg/kg	5.10	5.50	7.30		
		Nickel	180.00	mg/kg	15.90	15.10	20.40		
		Selenium	430.00	mg/kg	<1	1.00	<1		
		Vanadium	1200.00	mg/kg	20.00	18.00	20.00		
	Zinc	40000.00	mg/kg	67.00	64.00	86.00			
	Non-metals	Cyanide (Free)	0.00	mg/kg	<0.5	<0.5	<0.5		
		Complex Cyanide	0.00	mg/kg	<0.5	<0.5	<0.5		
		Total Cyanide		mg/kg	<0.5	<0.5	<0.5		
		Thiocyanate	0.00	mg/kg	1.80	1.50	1.20		
		Elemental Sulphur		mg/kg	0.00	0.00	0.00		
		Sulphate (total) / Acid Soluble Sulphate		mg/kg	0.00	0.00	0.00		
		Water Soluble Sulphate (SO4)		mg/l	0.00	0.00	0.00		
		Sulphide		mg/kg	0.00	0.00	0.00		
		Chloride		mg/kg	0.00	0.00	0.00		
		Exchangeable Ammonium2		mg/kg	0.00	0.00	0.00		
		Nitrate		mg/kg	0.00	0.00	0.00		
		TPH (C8-C40)		mg/kg	0.00	0.00	0.00		
		EPH (DRO) C10-C24		mg/kg	0.00	0.00	0.00		
		C8-C10		mg/kg	0.00	0.00	0.00		
		C10-C12		mg/kg	0.00	0.00	0.00		
C12-C16			mg/kg	0.00	0.00	0.00			
C16-C21		mg/kg	0.00	0.00	0.00				
C21-C35		mg/kg	0.00	0.00	0.00				
TPH description / Interpretation		N/A	0.00	0.00	0.00				
Organics	TPH	Aliphatic EC5 - EC8	42.00	mg/kg	<0.1	<0.1	<0.1		
		Aliphatic EC8 - EC8	100.00	mg/kg	<0.1	<0.1	<0.1		
		Aliphatic EC8-EC10	27.00	mg/kg	<0.1	<0.1	<0.1		
		Aliphatic EC10-EC12	130.00	mg/kg	<0.2	<0.2	<0.2		
		Aliphatic EC12-EC16	1100.00	mg/kg	<4	<4	<4		
		Aliphatic EC16-EC21	65000.00	mg/kg	<7	<7	<7		
		Aliphatic EC21-EC35	65000.00	mg/kg	31.00	38.00	23.00		
		Aliphatic EC35-EC44		mg/kg	<7	<7	<7		
		Total Aliphatics (EC5 - EC44)		mg/kg	31.00	38.00	<26		
		Aromatic EC5-EC7	370.00	mg/kg	<0.1	<0.1	<0.1		
	TPH CWG	Aromatic EC7-EC8	860.00	mg/kg	<0.1	<0.1	<0.1		
		Aromatic EC8-EC10	47.00	mg/kg	<0.1	<0.1	<0.1		
		Aromatic EC10-EC12	260.00	mg/kg	<0.2	<0.2	<0.2		
		Aromatic EC12-EC16	1800.00	mg/kg	<4	<4	<4		
		Aromatic EC16-EC21	1900.00	mg/kg	19.00	23.00	11.00		
		Aromatic EC21-EC35	1900.00	mg/kg	132.00	150.00	108.00		
		Aromatic EC35-EC44	1900.00	mg/kg	<7	<7	10.00		
		Total Aromatics (EC5-EC44)		mg/kg	151.00	173.00	129.00		
		Total Aliphatics and Aromatics (EC5-EC35)		mg/kg	182.00	211.00	129.00		
		GRO (C5-C10)		mg/kg	0.00	0.00	0.00		
	BTEX	GRO (C10-C12)		mg/kg	0.00	0.00	0.00		
		Benzene	0.38	mg/kg	<0.005	<0.005	<0.005		
		Toluene	880.00	mg/kg	<0.005	<0.005	<0.005		
		Ethyl Benzene	83.00	mg/kg	<0.005	<0.005	<0.005		
		Xylene - m	82.00	mg/kg	<0.005	<0.005	<0.005		
		Xylene - o	88.00	mg/kg	<0.005	<0.005	<0.005		
		Xylene - p	79.00	mg/kg	<0.005	<0.005	<0.005		
		MTBE	0.00	mg/kg	0.00	0.00	0.00		
		Naphthalene	2.30	mg/kg	<0.04	<0.04	<0.04		
		Acenaphthylene	2900.00	mg/kg	<0.03	<0.03	<0.03		
	16 US EPA PAHs (GC/MS)	Acenaphthene	3000.00	mg/kg	<0.05	<0.05	<0.05		
		Fluorene	2800.00	mg/kg	<0.04	<0.04	<0.04		
		Phenanthrene	1300.00	mg/kg	0.23	0.24	0.08		
		Anthracene	31000.00	mg/kg	<0.04	<0.04	<0.04		
		Fluoranthene	1500.00	mg/kg	0.33	0.36	0.16		
		Pyrene	3700.00	mg/kg	0.28	0.31	0.13		
		Benzo(a)anthracene	11.00	mg/kg	0.15	0.17	0.08		
		Chrysene	30.00	mg/kg	0.17	0.18	0.08		
		Benzo(b)fluoranthene	3.90	mg/kg	0.22	0.20	0.09		
		Benzo(k)fluoranthene	110.00	mg/kg	0.08	0.08	0.03		
	Phenols	Benzo(a)pyrene	3.20	mg/kg	0.14	0.13	<0.04		
		Indeno(1,2,3-cd)pyrene	45.00	mg/kg	0.13	0.12	<0.04		
		Di-benzo(a,h)anthracene	0.31	mg/kg	<0.04	<0.04	<0.04		
		Benzo(g,h,i) Perylene	360.00	mg/kg	0.12	0.09	<0.04		
		Phenols		mg/kg	0.00	0.00	0.00		
		Phenol	750.00	mg/kg	0.00	0.00	0.00		
		Pentachlorophenol (PCP)	27.00	mg/kg	0.00	0.00	0.00		
		2,4-Dimethylphenol		mg/kg	0.00	0.00	0.00		
		Total Cresols (2-, 3- and 4-methylphenol)		mg/kg	0.00	0.00	0.00		
		1,1,2,2 Tetrachloroethane	3.90	mg/kg	0.00	0.00	0.00		
	Chlorinated Aliphatics	1,1,1,2 Tetrachloroethane	1.50	mg/kg	0.00	0.00	0.00		
		1,1,1 Trichloroethane	9.00	mg/kg	0.00	0.00	0.00		
		Trichloroethane		mg/kg	0.00	0.00	0.00		
		Tetrachloromethane (Carbon Tetrachloride)	0.03	mg/kg	0.00	0.00	0.00		
		1,2- Dichloroethane	0.01	mg/kg	0.00	0.00	0.00		
		Chloroethane (Vinyl chloride)	0.02	mg/kg	0.00	0.00	0.00		
		Trichloroethene	0.01	mg/kg	0.00	0.00	0.00		
		Tetrachloroethene	0.02	mg/kg	0.00	0.00	0.00		
		Trichloromethane (Chloroform)	1.20	mg/kg	0.00	0.00	0.00		
		Sum of PCDDs, PCDFs and dioxins like PCBs	0.32	mg/kg	0.00	0.00	0.00		
	Hydrocarbons	Isopropylbenzene	12.00	mg/kg	0.00	0.00	0.00		
		Propylbenzene	40.00	mg/kg	0.00	0.00	0.00		
		Styrene	35.00	mg/kg	0.00	0.00	0.00		
		Bromobenzene	0.91	mg/kg	0.00	0.00	0.00		
		1,1,2 Trichloroethane	0.88	mg/kg	0.00	0.00	0.00		
		1,1-Dichloroethane	2.50	mg/kg	0.00	0.00	0.00		
		1,1-Dichloroethene	0.23	mg/kg	0.00	0.00	0.00		
		1,2,4-Trimethylbenzene	0.41	mg/kg	0.00	0.00	0.00		
		1,2-Dichloropropane	0.02	mg/kg	0.00	0.00	0.00		
		2-Chloronaphthalene	3.80	mg/kg	0.00	0.00	0.00		
	Halogenated Organics	Bromodichloromethane	0.02	mg/kg	0.00	0.00	0.00		
		Bromoform	5.20	mg/kg	0.00	0.00	0.00		
		Chloroethane	8.40	mg/kg	0.00	0.00	0.00		
		Chloromethane	0.01	mg/kg	0.00	0.00	0.00		
		Cis 1,2 Dichloroethene	0.12	mg/kg	0.00	0.00	0.00		
		Dichloromethane	2.10	mg/kg	0.00	0.00	0.00		
		Hexachloroethane	0.22	mg/kg	0.00	0.00	0.00		
		Trans 1,2 Dichloroethene	0.19	mg/kg	0.00	0.00	0.00		
		Bis (2-ethylhexyl) phthalate	2700.00	mg/kg	0.00	0.00	0.00		
		Butyl benzyl phthalate	42000.00	mg/kg	0.00	0.00	0.00		
	Phthalates	Diethyl Phthalate	1800.00	mg/kg	0.00	0.00	0.00		
Di-n-butyl phthalate		450.00	mg/kg	0.00	0.00	0.00			
Di-n-octyl phthalate		3400.00	mg/kg	0.00	0.00	0.00			
Biphenyl		220.00	mg/kg	0.00	0.00	0.00			
2,4-Dinitrotoluene		170.00	mg/kg	0.00	0.00	0.00			
2,6-Dinitrotoluene		78.00	mg/kg	0.00	0.00	0.00			
Tributyl tin oxide		1.40	mg/kg	0.00	0.00	0.00			
Other Organics									
General	Soil Properties	S.O.M % (Calc)	%	0.00	0.00	0.00			
		Total Organic Carbon	% MM	0.00	0.00	0.00			
		pH	pH units	0.00	0.00	0.00			
		Moisture Content	%	28.60	28.20	21.00			
		Loss on Ignition	%	0.00	0.00	0.00			
Soil Scores	Calorific Value	2.00	MI/kg	0.00	0.00	0.00			
	Asbestos (screening)	0.00	Visual	NAD	NAD	NAD			

UK and Ireland Office Locations

