C&R

civil-remediation.com



MCFC Womens Facility

Remediation and Earthworks Validation Report

Civil and Remediation Ltd.

C325/EWVR/001/01

February 2025

Tom Magee BSc (Hons) FGS MCIWEM

Document Revision Status

Issue	Date	Comments
001	14/02/25	Issued for Client and Regulator review.

Important note about the report:

The sole purpose of this report and the associated services performed by C&R is to highlight the earthworks undertaken in accordance with the scope of services set out in the Contract between C&R and the Client. That scope of services, as described in this report, was developed with the Client.

In preparing this report, C&R has relied upon, and presumed accurate, any information (or confirmation of the absence thereof) provided by the Client. Except as otherwise stated in the report, C&R has not attempted to verify the accuracy or completeness of any such information. If the information is subsequently determined to be false, inaccurate or incomplete then it is possible that our observations and conclusions as expressed in this report may change.

C&R derived the data in this report from information sourced from the Client, data available in the public domain and/or data obtained by C&R. The passage of time, manifestation of latent conditions or impacts of future events may require further examination of the project and subsequent data analysis, and re- evaluation of the data, findings, observations and conclusions expressed in this report. C&R has prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law.

This report should be read in full and no excerpts are to be taken as representative of the findings. No responsibility is accepted by C&R for use of any part of this report in any other context.

The report is based on the available information provided to date and subject to agreement with the regulators. This report has been prepared on behalf of, and for the exclusive use of the Client, and is subject to, and issued in accordance with, the provisions of the contract between C&R and the Client.

C&R accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party.

Report title:	MCFC Womens Training Facility Remediation & Earthworks Validation Report
Report Reference:	C322/EWVR/001/01
Revision Number:	001
Issue Date:	06/02/25
Author:	T Magee BSc (Hons) FGS MCIWEM (Geoenvironmental Manager, C&R Ltd.)
Checked By:	A Rowley (Technical Director, C&R Ltd.)
Approved By:	J Rowley FCICES MIVM (Managing Director, C&R Ltd.)
Client:	City Football Group, City Football HQ, 400 Ashton New Road, Manchester, M11 4TQ
Main Contractor:	John Turner Construction Ltd. 2 Preston Road, Grimsargh, Preston, PR2 5SD
Remediation Contractor:	Civil and Remediation Ltd. Grosvenor House, 3 Chapel St., Congleton, Cheshire, CW12 4AB

Contents

1.0 Introduction 1
1.1 Background Information 1
1.2 Outline of Previous Works 1
1.3 Regulatory Liaison 1
2.0 Ground Conditions 1
3.0 Cut and Fill Volumes 1
4.0 Specification 2
5.0 Site Work 2
5.1 Hardstanding, Relict Slab and Foundation Removal 2
5.2 Turnover to Base of Dig 3
5.3 Hotspot Removal and Unexpected Contamination ..... **Error! Bookmark not defined.**
5.4 Reengineering of Material 3
5.5 Disposal, Import and Site Balance 3
5.6 Finished Site 3
5.7 Site Constraints Post Remediation ..... **Error! Bookmark not defined.**
6.0 Testing 4
6.1 Testing Summary 4
6.2 Testing Nomenclature and Guidance 4
7.0 Conclusion 5
APPENDIX A – INSPECTION AND TEST PLAN
APPENDIX B – DRAWINGS
APPENDIX C – CHEMICAL TESTING RESULTS
C1 – GENERAL FILL MATERIAL SCREEN
C2 – SITE PRODUCED RECYCLED 6F2 SCREEN
APPENDIX D – GEOTECHNICAL TESTING RESULTS
D1 – 6F2 RESULTS
D2 – GENERAL FILL RESULTS
D3 – GRANULAR GLACIAL TILL RESULTS
D4 – PLATE TESTING RESULTS
APPENDIX E – ROLLER SPECIFICATION
APPENDIX F – CONTROLLED DUTY OF CARE WASTE TRANSFER NOTES

1.0 Introduction

1.1 Background Information

Civil and Remediation have been commissioned by John Turner Construction to conduct the remediation and enabling works at the MCFC Womens training academy site, located on the site of the former HSCB, Ashton New Road, Manchester, M11 4AA (referred hereafter as "the Site"), centred on national grid reference SJ 87586 98435. The surrounding environs are comprised of a mix of residential and commercial land uses.

The development is comprised of the renovation of the existing former HSBC building and the addition of an extension.

1.2 Outline of Previous Works

Previous geoenvironmental works include the following:

- Phase I-II Geoenvironmental Report for site at Proposed MCFA Womens Academy (ref. CCG-C-23-13703) – CC Geotechnical – July 2023; and,
- Remediation Strategy Report (ref. 4154-01A), June 2024.

Using the information provided from the aforementioned reports, C&R developed the following reports and action plans prior to the commencement of the site works:

- Remediation Strategy Implementation Plan (RSIP; ref: T2083/RSIP/001/01), August 2024.

1.3 Regulatory Liaison

Prior to the commencement of the works, C&R issued the documents noted in Section 1.2 to the relevant authorities (Environmental Health Officer at Manchester City Council & The Environment Agency) to gain approval of the strategy set out in the Contractors Proposals & accepted at Tender.

2.0 Ground Conditions

Ground conditions encountered on site were generally hardstanding and Class 2 Made Ground from surface level to the base of excavation. No other strata was encountered during C&R works.

All relict foundations have been removed within C&Rs excavation profile.

3.0 Cut and Fill Volumes

Cut and fill volumes from the MMP are presented below in Table 1 and revised to reflect the site works.

There has been a decrease in the volume declared within the MMP as the MMP was based on the

initial cut fill model produced by Marston & Grundy LLP (ref. MCW-MaG-ZZ-XX-DR-C-505 P2, issued in Appendix B). This initial cut fill model required the reuse of 3000m3 of earthworks materials, with a disposal of 3,300m3 of surplus materials to construct a bund along Ashton New Road.

During the works, the bunds were then determined by the Main Contractor to be too constraining to the site works, therefore most of the bunds were disposed off site. Actual quantities are presented in Table 1.

Table 1 – Cut and Fill Volumes

Item	Volume (m^3)
Excavated Materials	
Initial cut in accordance with the Contract at Tender Stage	6,500
Initial fill in accordance with the Contract at Tender Stage	3,000
Actual cut	6,504
Actual fill	385
Surplus material disposed off site	6,119

4.0 Specification

The specification for the remediation and reengineering of the site was presented in C&Rs Contractors Proposals, which states that we will conduct the cut & fill exercise in accordance with the initial cut and fill model from Marston & Grundy LLP.

This was changed prior to site work completion, With the new design requiring the removal of most of the fill materials.

The excavations stood off the boundary circa 0.5m.

Reengineering works have been conducted in accordance with the Specification for Highway Works Series 600, with reengineered material validated against the agreed and approved Inspection and Test Plan (ITP; provided in Appendix A). All relevant testing results are discussed and issued within this document.

5.0 Site Work

5.1 Hardstanding, Relict Slab and Foundation Removal

Hardstanding, relict slabs and foundations have been removed within C&Rs excavation profile and processed to a 6F2 material on site, for reuse on site, in accordance with the agreed and approved RSIP.

5.2 Hotspot Removal & Unexpected Contamination

3 No. asbestos hotspots on site were excavated to quarantine and the material validated against the ITP. The walls and base of excavations were also sampled and validated against the ITP. Following the design change, this material was disposed off site as non-hazardous waste.

There was one further asbestos hotspot identified within the ground investigation, however this was outside of C&Rs Contractual boundary. As such, this remains in *situ.*

As-built drawings of the hotspots are presented in Appendix B.

No unanticipated contamination has been encountered during the remediation works.

5.3 Turnover to Base of Dig

C&R used GPS machine tracking to cut the site to level in accordance with the Marston & Grundy LLP Design.

5.4 Reengineering of Material

Material was reengineered in accordance with the Specification for Highway Works Series 600.

There was no performance specification implemented as part of the design process, as material was predominantly used for an aesthetic visionary constraining bund from Ashton New Road over the MCFC training pitches. Therefore, no detailed geotechnical performance was required.

Material was compacted using a Class 4 compaction method, but most of this material was subsequently re-excavated and disposed off site.

5.5 Disposal, Import and Site Balance

Surplus material has been disposed off site as non-hazardous waste via suitably licenced waste hauliers to suitably licenced waste acceptance facilities.

Controlled Duty of Care Waste Transfer Notes are provided in Appendix F below.

All other waste materials have been produced and disposed of by the Main Contractor John Turner Construction, who maintain their own waste transfer notes.

The Materials Management Plan was designed to ensure a suitable reuse approach, incorporating the reengineering of all site won materials, where appropriate and accepted, in accordance with the Waste Hierarchy. The design change ultimately led to the requirement for most of the material on site to be disposed of.

5.6 Finished Site

The finished site is as per the Design Details and As Built records, with works completed in accordance with the Remediation Strategy Implementation Plan and Instructed Additional Works details, via the noted specifications in Section 4.0 of this report and subsequent C&R inspections and testing in accordance with the Inspection and Test Plan, issued in Appendix A. It is noted that reused materials

are compliant with the current regulations, Remediation Strategy Site Guideline Values and the Contract Specification.

Finished levels are as per the levels Instructed by John Turner Construction. The Finished Level As-Built drawing is provided in Appendix B below.

6.0 Testing

6.1 Testing Summary

Testing has been conducted in alignment with the Specification for Highway Works Series 600, the Remediation Strategy Implementation Plan and the agreed Inspection and Test Plan, issued in Appendix A below.

Note: there were no chemical exceedances or geotechnically non-compliant materials in the material testing or the earthworks conducted on site. All materials reused on site are complaint with the Remediation Strategy Implementation Plan & the Specification for Highway Works Series 600.

All chemical testing is provided in Appendix C; all geotechnical testing is provided in Appendix D. Testing is summarised in Table 2 below and is in compliance with the agreed and approved Inspection and Test Plan.

Table 2 – Summary of Testing

Material/ location	Test Type	Number of Tests
Geotechnical laboratory testing		
General Fill	Grading	2
	Moisture Content	2
	Optimum Moisture Content	1
Chemical testing		
General Fill	General material screen (As, Ba, Be, B, Ca, Cr, Cu, Pb, Hg, Ni, Se, Va, Zn, PAH-16 MS, TPH CWG, asbestos screen & quantification if present).	2
Hotspots	Asbestos screen	15

6.2 Testing Nomenclature and Guidance

The non-exhaustive list below highlights the general nomenclature in relation to the sample names, for reference to the chemical results in Appendix C and understanding of the site works:

- CL – chemical soil sample;
- GT – geotechnical sample;
- F – fill material sample;
- HS – hotspot sample.

7.0 Conclusion

The works at the Site have been completed to the required standards by Civil and Remediation Ltd, established in the Remediation Strategy Implementation Plan, Remediation Strategy, Specification for Highway Works Series 600, the Contract and the Additional Works Instructions. All relevant testing and drawings are provided in the Appendices below and confirms compliance in accordance with the specifications.

The works are satisfactory in accordance with the requirements established for the site by the Client within the specific Scope of Works.

End of Report

APPENDIX A – INSPECTION AND TEST PLAN

T2083 – Manchester City Womens Training Facility – Inspection and Test Plan

Table 1 - Surveying and setting out				
Item	Inspection	Test	Rate	Record
Check OGL	Survey prior to start of earthworks	NA	NA	Drawing
Identify/ termination of relevant existing services	CAT + Genny, trial pitting and visual inspection	NA	NA	Photographs Drawing
Excavation to formation	Visual inspection of base of dig Base of dig survey	Mexeprobe/ Shear Vane (where appropriate)	5 per panel	Base of Dig drawing
Engineered up layers	Visual inspection Watching brief	As Table 3	As Table 3	Photos
Volume of Class 6 recycled material to be reused on site	Stockpile survey, placement survey	NA	NA	Drawing Photographs
Protective 6F2 to C&R Finished Level	Visual inspection Survey	As Table 3	As Table 3	Drawing Photographs

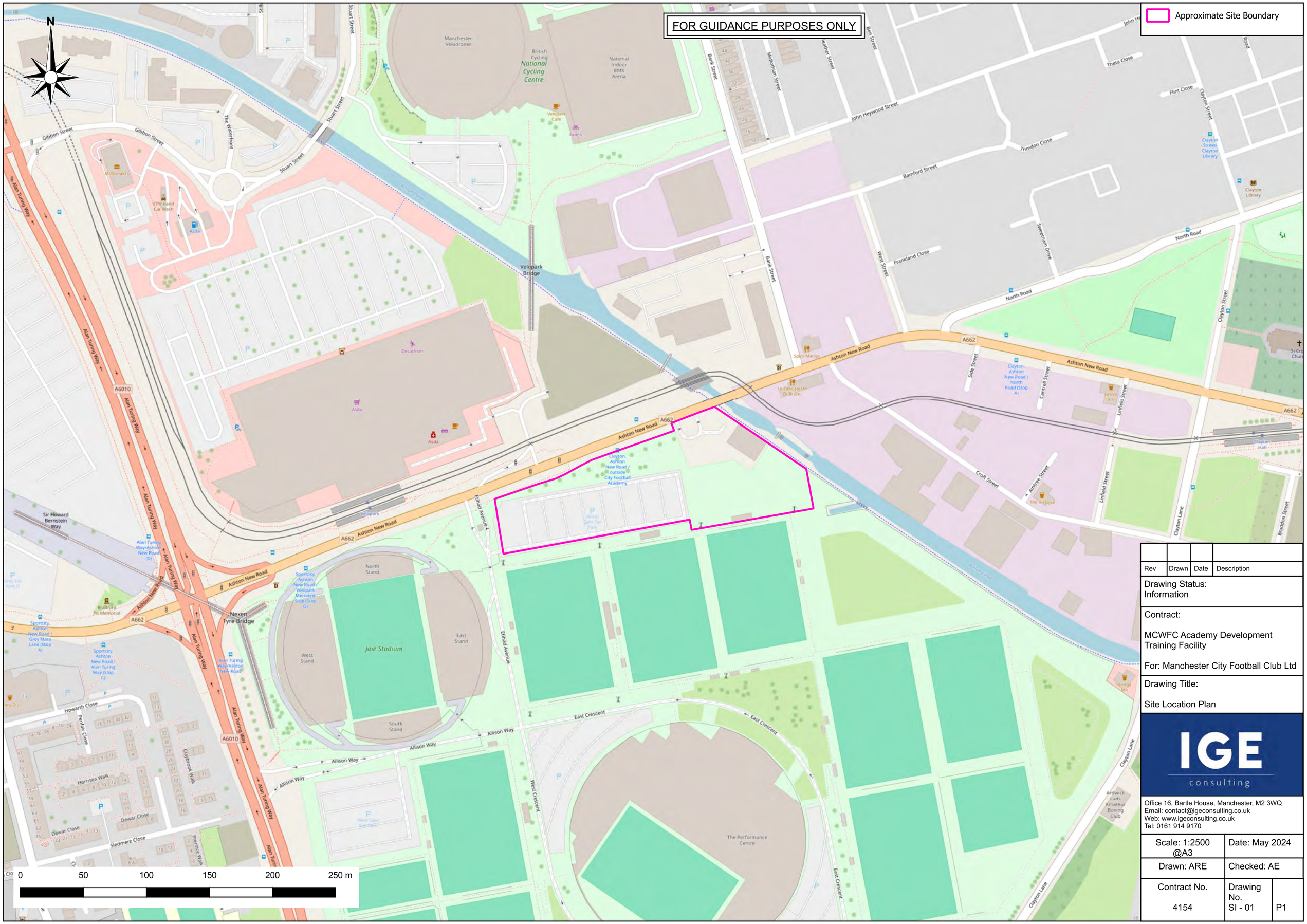
Table 2 - Chemical Testing				
Item	Inspection	Test	Rate	Record & Notes
General engineering fill (Class 1 & 2)	Visual and olfactory	PID	As appropriate (where suspected organic contamination)	Engineers record (noted in Environmental Reports)
		PAHs, TPH CWG, Asbestos screen, CLEA metals	1 per 1000m^3	3rd party certificates Sample location survey
Site won subsoil & topsoil for clean cover installation*	Visual and olfactory	NA	NA	Not in C&Rs scope
Recycled 6F2	Visual and olfactory	PAHs, TPH CWG, Asbestos screen, CLEA metals	1 per 1000m^3	3rd party certificates Sample location survey
Imported aggregates**	Visual and olfactory	PAHs, TPH CWG, Asbestos screen, CLEA metals	1 per 1000m^3	3rd party certificates Sample location survey
Asbestos hotspots	Visual	Asbestos screen (and quantification if present)	1 per 25m^2 excavated walls (minimum 1 per side)	3rd party certificates Sample location survey
			1 per 30m^2 of exposed base	
Underground storage tanks*	Visual and olfactory	As appropriate	1 per 25m^2 excavated walls (minimum 1 per side)	3rd party certificates Sample location survey
			1 per 30m^2 of exposed base	
Unforeseen contamination*	Visual and olfactory	As appropriate	1 per 25m^2 excavated walls (minimum 1 per side)	3rd party certificates Sample location survey
			1 per 30m^2 of exposed base	
Failed general material screen	Visual and olfactory	Retested for failed determinand	As appropriate	3rd party certificates Sample location survey
Surplus material disposal	Visual and olfactory	As required by waste receiver	As appropriate	3rd party certificates Waste transfer notes

Table 3 - Civil and Geotechnical Testing				
Item	Inspection	Test	Rate	Record
Base of Excavation	Visual inspection by competent persons	Mexeprobe	5 per panel	Photographs Engineers record Internal validation – not to be issued as superseded by final plate test results Either mexeprobe, DCP or shear vane test depending on material type and applicability.
		Shear Vane	5 per panel	
		DCP	5 per panel	
Class 1	Visual inspection by competent persons	Grading	1 per 2000m^3	3rd party certificates Sample survey record.
		Moisture content	1 per 1000m^3	
		Optimum moisture content	1 per 3000m^3	
Class 2	Visual inspection by competent persons	Grading	1 per 2000m^3	3rd party certificates Sample survey record.
		Moisture content	1 per 1000m^3	
		Optimum moisture content	1 per 3000m^3	
Compaction of Class 1 & 2 layers	Visual inspection by competent persons	Mexeprobe	5 per panel per layer	Photographs Engineers record Internal validation – not to be issued as superseded by final plate test results Either mexeprobe or shear vane test depending on material type and applicability.
		Shear vane	5 per panel per layer	
Recycled 6F2	Visual inspection by competent persons	Grading	1 per 1000m^3	3rd party certificates Sample survey record.
		Moisture content	1 per 1000m^3	
Top of 6F2 protective layer (C&R finished level)	Visual inspection by competent persons	CBR testing	1 per panel	Photos 3rd party certificates.

Notes

1. This ITP has been produced in accordance with the *MCHW* Specification for Highway Works, Remediation Strategy and current best practices.
2. All watching briefs and surveys by suitably qualified/ experienced persons.
3. Disposal testing criteria in accordance with waste receiver requirements.
4. 3rd party certifications for imported materials (if required) to be provided prior to arrival at site. Material may be refused if deemed unacceptable.
5. * = if encountered.
6. ** = if required.
7. CBR testing utilising 300mm plate unless otherwise stated.
8. All positive asbestos screens will be further scheduled for quantification.
9. Mexeprobe and shear vane testing subject to suitable material types for specific test.
10. Results of chemical testing to be compared against LQM/ CIEH S4ULs to. Where risk to controlled waters is identified (not identified to date) assessment will be upgraded to appropriately quantify the risk and actions required.

APPENDIX B – DRAWINGS



Rev	Drawn	Date	Description

Drawing Status:
Information

Contract:

MCWFC Academy Development Training Facility

For: Manchester City Football Club Ltd

Drawing Title:

Site Location Plan

IGE consulting

Office 16, Bartle House, Manchester, M2 3WQ
Email: contact@igeconsulting.co.uk
Web: www.igeconsulting.co.uk
Tel: 0161 914 9170

Scale: 1:2500 @A3	Date: May 2024
Drawn: ARE	Checked: AE
Contract No. 4154	Drawing No. SI - 01 P1



TOPOGRAPHICAL & MEASURED BUILDING SURVEYS

ABBREVIATIONS & SYMBOLS

AH	Arch Head Height	E/R	Earth Rod	RSD	Roller Shutter Door
AB	Air Brick	ET	EP+Transformer	RSJ	Rolled Steel Joint
AR	Assumed Route	FB	Flower Bed	SI	Sign Post
AV	Air Valve	FBD	Floor Board Direction	SP	Arch Spring Point Height
BB	Bellaire Beacon	FH	Fire Hydrant	SV	Stop Valve
BH	Bore Hole	FL	Floor Level	SW	Surface Water
BL	Bed Level	FP	Flag Pole	SY	Cable Ray
BO	Bollard	FW	Foul Water	Tac	Tactile Paving
BS	Bus Stand	GG	Gas Governor	TC	Telephone Cover
BS	Bus Stop	GV	Gas Valve	TH	Trial Pit
BU	Bush	HH	Head Height	THL	Threshold Level
B/W	Barbed Wire Fence	IC	Inspection Cover	TL	Traffic Light
BX	Box (Utilities)	IL	Invert Level	ToW	Top of Wall
C/B	Close Board Fence	I/R	Iron Railings	TP	Telegraph Pole
CH	Cill Height	KO	Kerb Outlet	TS	Traffic Signal Cover
CL	Cover Level	LP	Lamp Post	TV	Cable TV Cover
C/L	Chain Link Fence	MH	Manhole	UB	Universal Beam
C/Lev	Ceiling Level	MP	Marker Post	UC	Unknown Cover
Col	Column	NB	Name Board	UK	Unknown Tree
C/P	Chestnut Paling Fence	O/HL	Overhead Line (approx)	UMG	Unmade Ground
CR	Cable Riser	Pan	Panel Fence	USB	Under Side Beam
C/W	Chicken Wire	PB	Post Box	UTL	Unable To Lift
DC	Drainage Channel	PM	Parking Meter	UTS	Unable To Survey
DH	Door Head Height	PO	Post	VP	Vent Pipe
DL	Dilapidated	P/R	Post & Rail Fence	WB	Waste Bin
DP	Down Pipe	P/W	Post & Wire Fence	WH	Weep Hole
DR	Drain	P/Wall	Partition Wall	WL	Water Level
EBx	Electric Box	RE	Rodding Eye	WM	Water Meter
EC	Electric Supply Cover	RL	Ridge Level	WO	Wash Out
EL	Eaves Level	RP	Reflector Post	FC	Floor to Ceiling Height
EP	Electric Pole	RS	Road Sign	FFC	Floor to False Ceiling Ht
					Survey Control Station

DRAWING NOTES

Topographical Surveys

Trees are drawn to scale showing the average canopy spread. Descriptions and heights should be used as a guide only.

All building names, descriptions, number of storeys, construction type including roof line details are indicative only and taken externally from ground level.

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these features including; sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to starting work.

Detail, services and features may not have been surveyed if obstructed or not reasonably visible at the time of the survey.

Surveyed physical features may not necessarily represent the legal boundary line.

Measured Building Surveys

Measurements to internal walls are taken to the wall finishes at approx 1m above the floor level and the wall assumed to be vertical.

Cill heights are measured as floor to the cill and head heights are measured from cill to the top of window.

General

The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.

The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The survey control listed is only to be used for topographical surveys at the stated scale. All control must be checked and verified prior to use.

© Land Survey Solutions Limited 01/01/2010

Do not scale from this drawing.

SURVEY CONTROL CO-ORDINATES

STATIONS	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
J1	387541.201	398400.143	65.121	Mag Nail
J2	387472.085	398405.861	64.517	Mag Nail
J3	387525.934	398438.273	65.820	Mag Nail
J4	387376.020	398368.341	63.147	Mag Nail
J5	387385.126	398414.673	64.179	Mag Nail
J6	387397.031	398364.017	63.498	Mag Nail
J7	387435.493	398368.808	63.680	Mag Nail
J8	387480.205	398379.305	64.657	Mag Nail
J9	387533.697	398389.045	64.933	Mag Nail
J50	387639.826	398406.016	69.992	Peg/Nail
J51	387582.051	398421.513	70.157	Peg/Nail
J52	387609.928	398437.521	70.658	Peg/Nail
J53	387613.995	398446.414	68.502	Peg/Nail
J53A	387648.990	398417.209	69.691	Peg/Nail
J54	387607.535	398441.584	69.956	Peg/Nail
J55	387554.301	398453.991	67.605	Peg/Nail
J56	387569.132	398446.277	66.780	Peg/Nail
J57	387592.923	398443.772	66.561	Mag Nail

SURVEY GRID AND LEVEL DATUM

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using GPS Smartnet.

To avoid discrepancies any coordinated data used in conjunction with this survey must be derived directly from this control data.

REV	DESCRIPTION	DRAWN	APPR	DATE

SURVEY SOLUTIONS
LAND SURVEYING
BUILDING SURVEYING
UNDERGROUND SURVEYING
SITE ENGINEERING
MONITORING
0845 040 5969
survey-solutions.co.uk
IPSWICH BRENTWOOD COVENTRY GLASGOW NORWICH NOTTINGHAM YEOVIL

PROJECT TITLE
MANCHESTER CITY FC, ETIHAD AVENUE,
EASTLANDS, MANCHESTER, M11 4BD

DRAWING DETAIL
TOPOGRAPHICAL SURVEY
SHEET 2 OF 2

CLIENT
BOWKER SADLER ARCHITECTURE

SCALE
1:200

SURVEYOR	SURVEY DATE	CHECKED BY	APPROVED BY	DWG STATUS
JH	15/06/23	SW	NC	FINAL

DRAWING NUMBER
46464MCLS-02

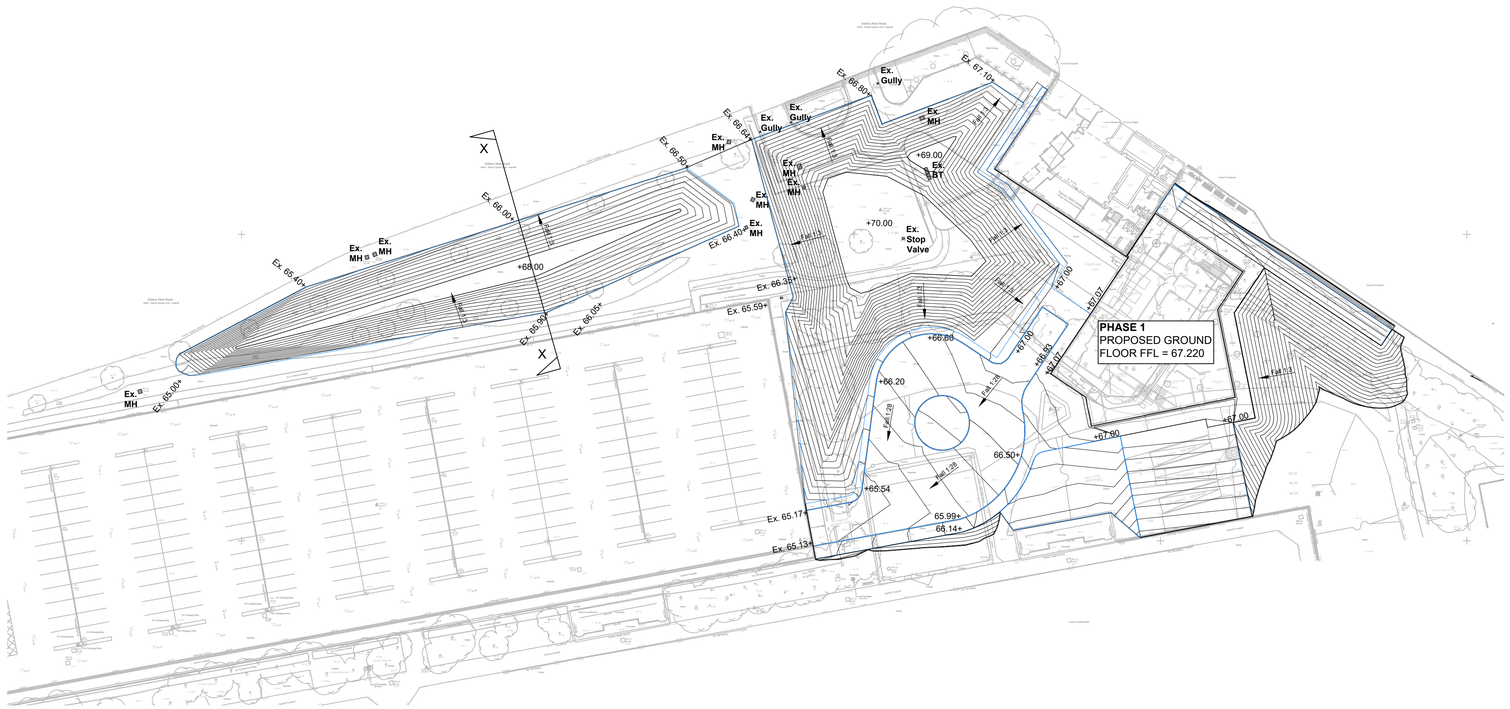
REVISION

ISSUE DATE
JUNE 2023

ISO 9001 REGISTERED FIRM · RICS · ICES · THE SURVEY ASSOCIATION

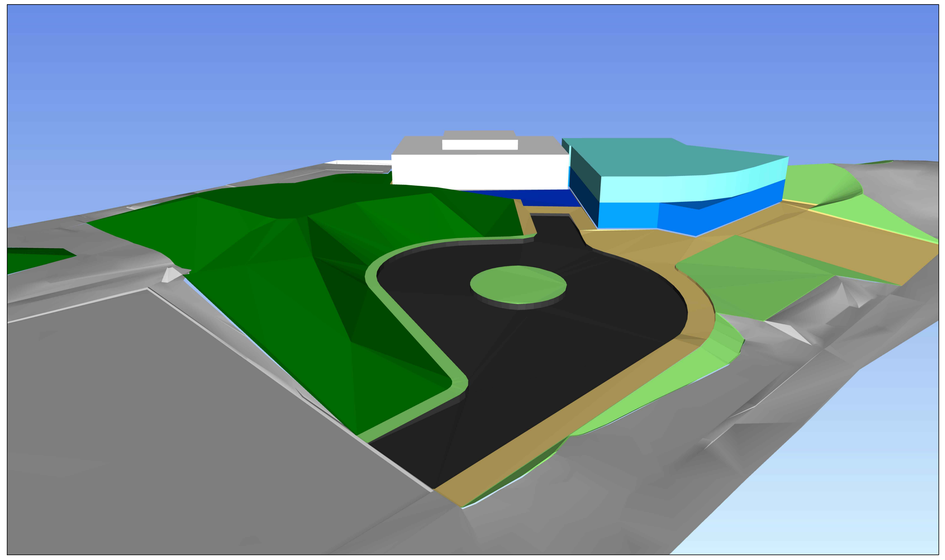
Original Sheet Size A0H

A1



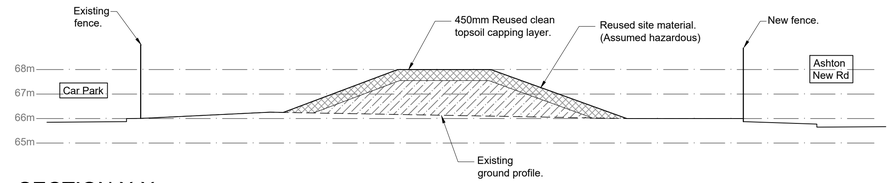
CONTOUR PLAN

SCALE 1:600



PERSPECTIVE ISOMETRIC VIEW

N.T.S

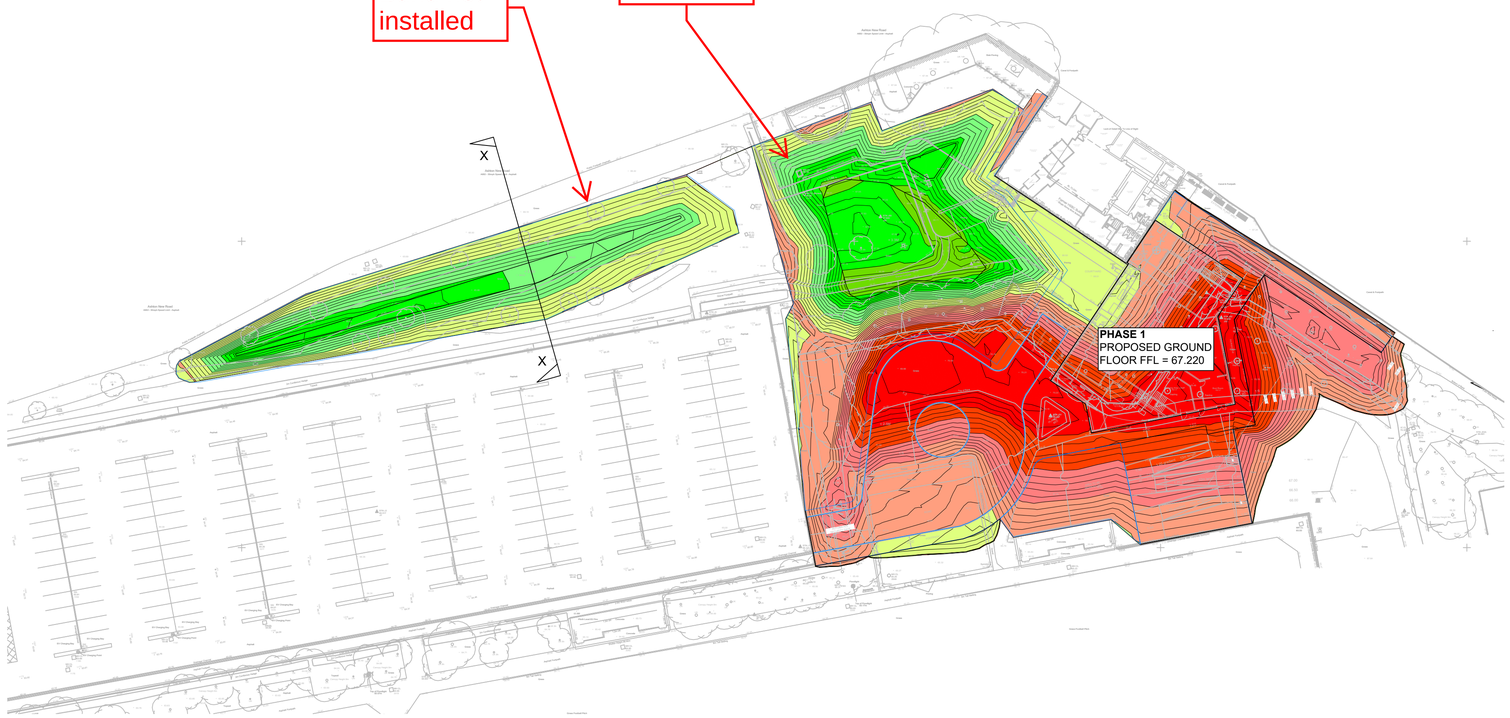


SECTION X-X

Scale 1:125

Bund not installed

Bund not installed



CUT AND FILL DEPTHS

SCALE 1:600

NOTES

1. EARTHWORKS VOLUMES FOR PROPOSED SITES. VOLUMES ARE CALCULATED FROM THE EXISTING SITE LEVELS TO APPROX. FORMATION LEVELS OF ROAD, SLAB AND PATHS (BUILD UPS AS BELOW);

   CUT = 6,300m^3
   REUSED = 3,000m^3
   CLEAN CAPPING = ALLOW FOR 200m^3 IMPORTED

   SURPLUS = 3,300m^3

2. VOLUMES SHOWN ON THIS DRAWING DO NOT ACCOUNT FOR ANY ARISINGS FROM MATERIAL BULKING, PROPOSED DRAINAGE, PROPOSED FOUNDATIONS OR TEMPORARY WORKS E.G. PILING MAT.

3. FURTHER IMPORT MATERIAL:

   ROAD = 800m^2 x 0.45m DEPTH (TBC) = 360m^3
   BUILDING = 650m^2 x 0.45m DEPTH (TBC) = 290m^3
   PATHS = 1050m^2 x 0.20m DEPTH (TBC) = 210m^3

CUT AND FILL LEGEND

- -4.0m __ -3.0m
- -3.0m __ -2.0m
- -2.0m __ -1.0m
- -1.0m __ 0.0m

CUT

- 0.0m __ 1.0m
- 1.0m __ 2.0m
- 2.0m __ 3.0m
- 3.0m __3.5m

FILL

Rev	Description	By	Date	Chk'd
P2	STAGE 3 ISSUE	AMT	17.11.23	MD
P1	PRELIMINARY ISSUE	AMT	09.11.23	MD

Marston & Grundy LLP
Consulting Engineers
Priory House, Ellesmere Ave
Marple, Stockport, Cheshire, SK6 7AN
Telephone: *0161 427 7231*
Email: *mail@marstonandgrundy.com*

Client: MCFC

Project: MCWFC FACILITY

Drawing: PHASE 1 - EARTHWORKS TO ROUNDABOUT SCHEME

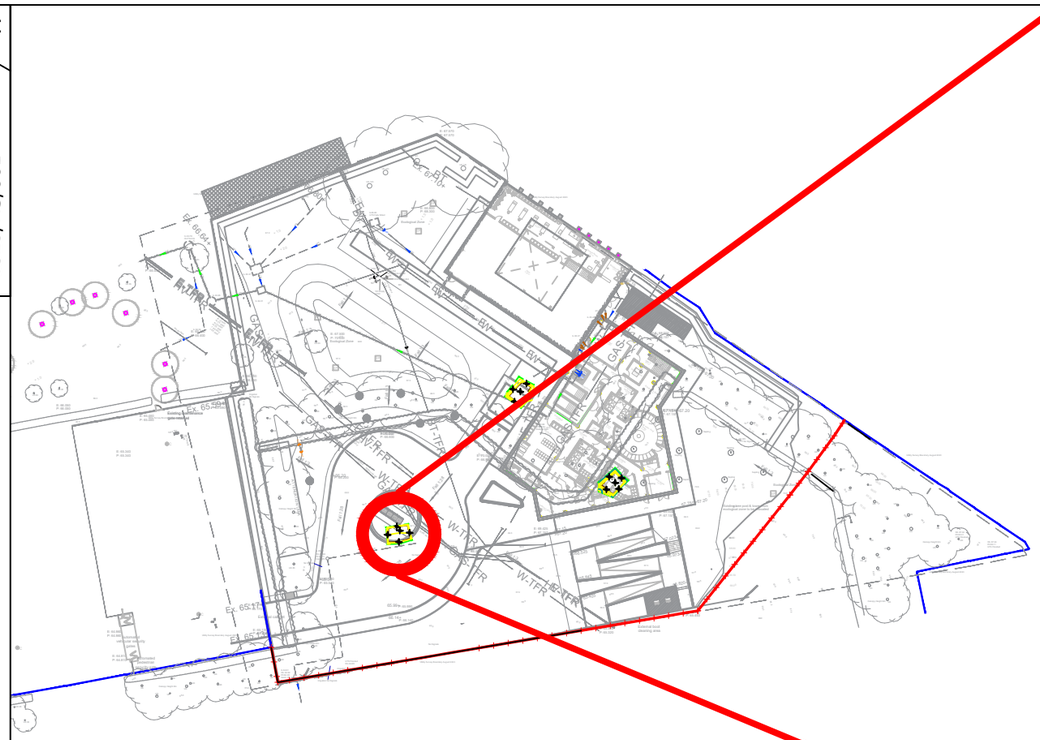
Purpose of Issue	Status
PRELIMINARY	S0

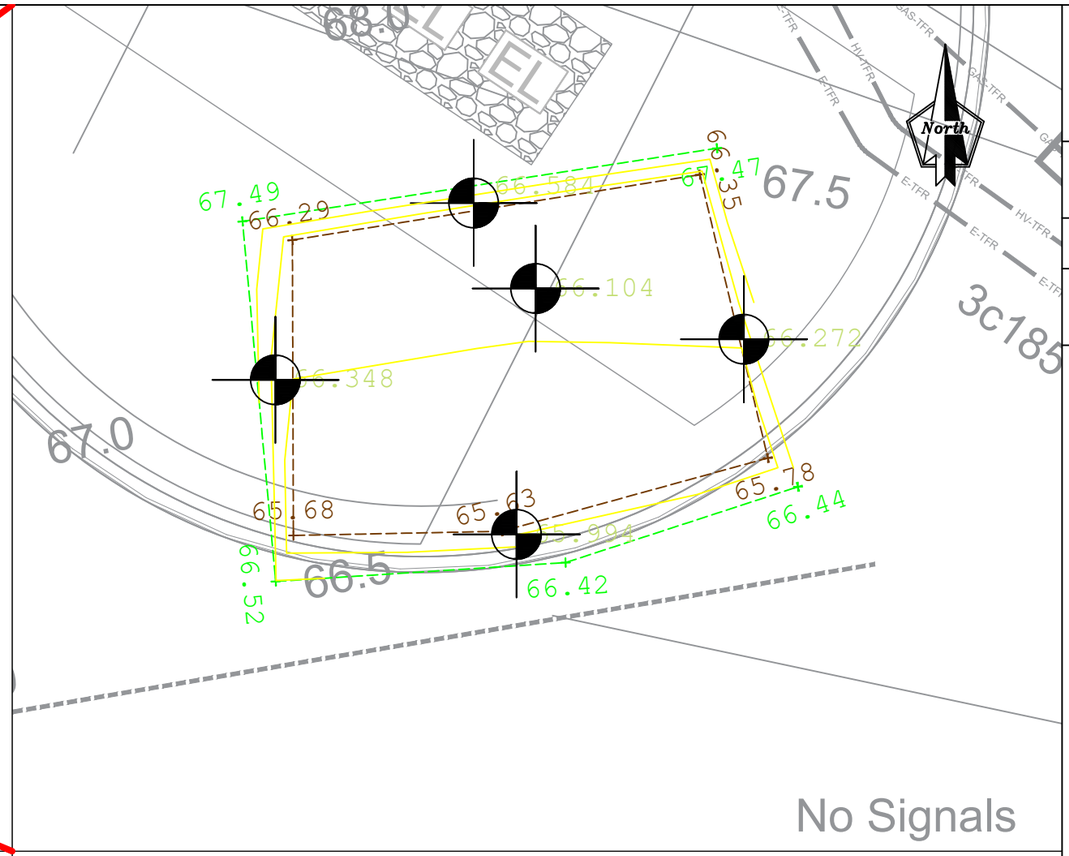
Project No.	Scale @ A1	Date	Drawn	Checked
13636	1:500	Sept' 23	AMT	MD

Drawing Identifier: project origin zone level file type role number Revision
MCW-MaG-ZZ-XX-DR-C-505 P2

Drawing Number C325/HS/001

Rev A







Hotspot Sample	Easting	Northing	Elevation
HS1 North	387564.768	398417.659	66.584
HS1 East	387563.198	398416.259	66.348
HS1 South	387565.108	398415.035	65.994
HS1 West	387566.909	398416.580	66.272
HS1 Base	387565.259	398416.982	66.104

C&R
civil-remediation.com

Job Title
MCFC Womens Academy
Enabling Works

Location
Manchester

Client
John Turner

Key

Sample location

Read in accordance with the hotspot excavation Technical Note, ref. C325.TN.HS.001.01

Rev	Date	Description
A	26/09/24	First Issue

Drawing Status: As-Built

Drawing Title
Hotspot 1 Excavation

C&R Project Code C325

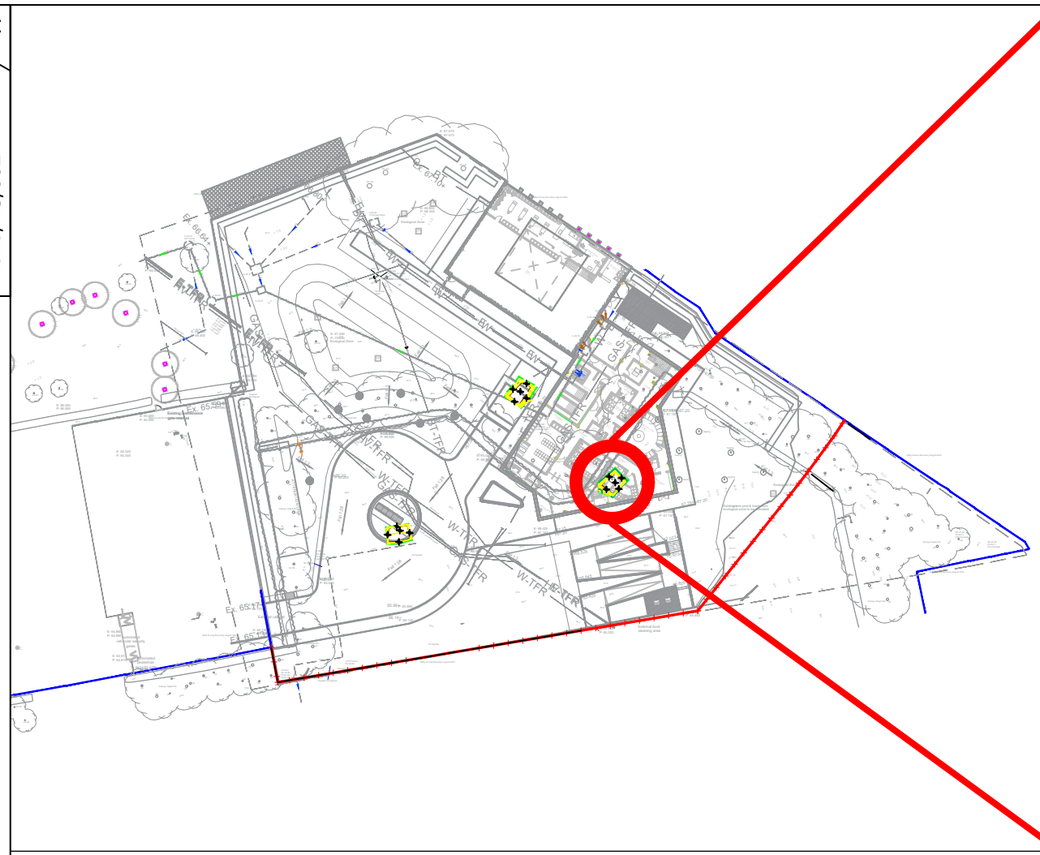
Scale	NTS
Date Drawn	26/09/24
Drawn By	TM
Reviewed By	AR
Original Size	A3

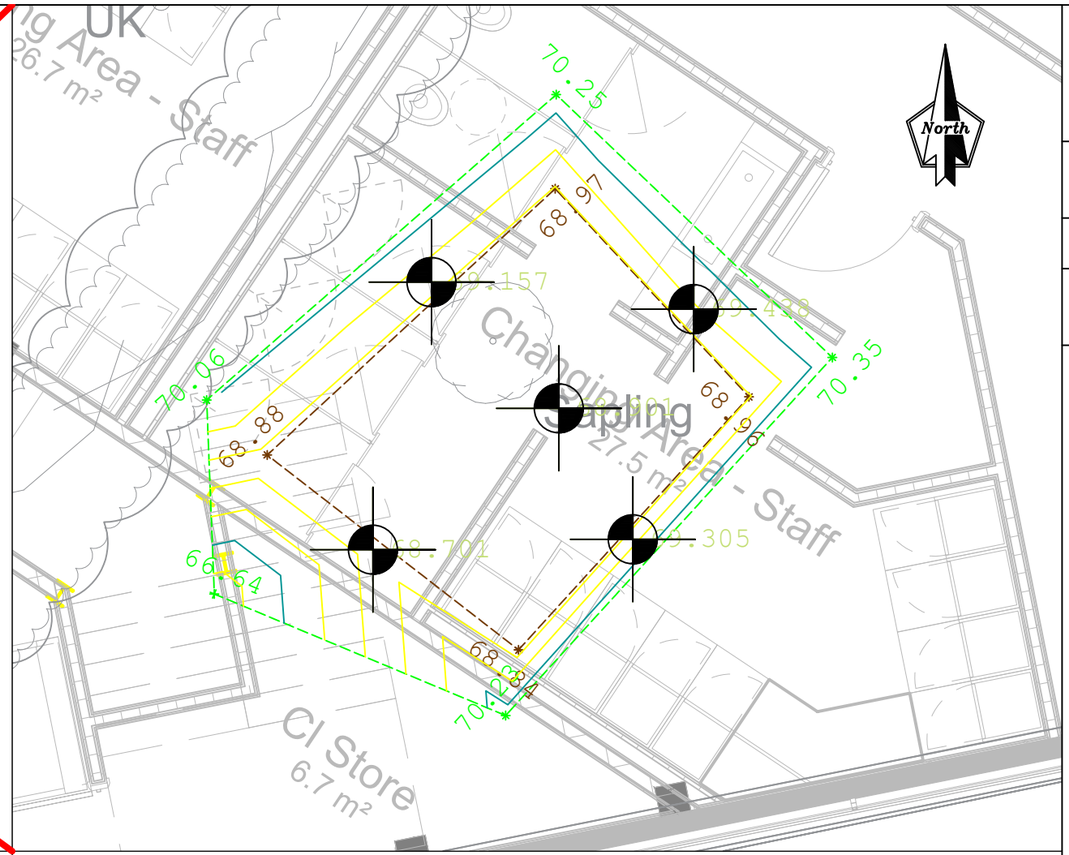
Drawing Number C325/HS/001

Rev A

Rev A

Drawing Number C325/HS/002







Hotspot Sample	Easting	Northing	Elevation
HS2 North	387600.646	398426.051	69.157
HS2 East	387600.177	398423.907	69.701
HS2 South	387602.259	398423.990	69.305
HS2 West	387602.747	398425.834	69.438
HS2 Base	387601.666	398425.04	68.901

C&R

civil-remediation.com

Job Title
MCFC Womens Academy
Enabling Works

Location
Manchester

Client
John Turner

Key

Sample location

Read in accordance with the hotspot excavation Technical Note, ref. C325.TN.HS.001.01

Rev	Date	Description
A	26/09/24	First Issue

Drawing Status: As-Built

Drawing Title
Hotspot 2 Excavation

C&R Project Code C325

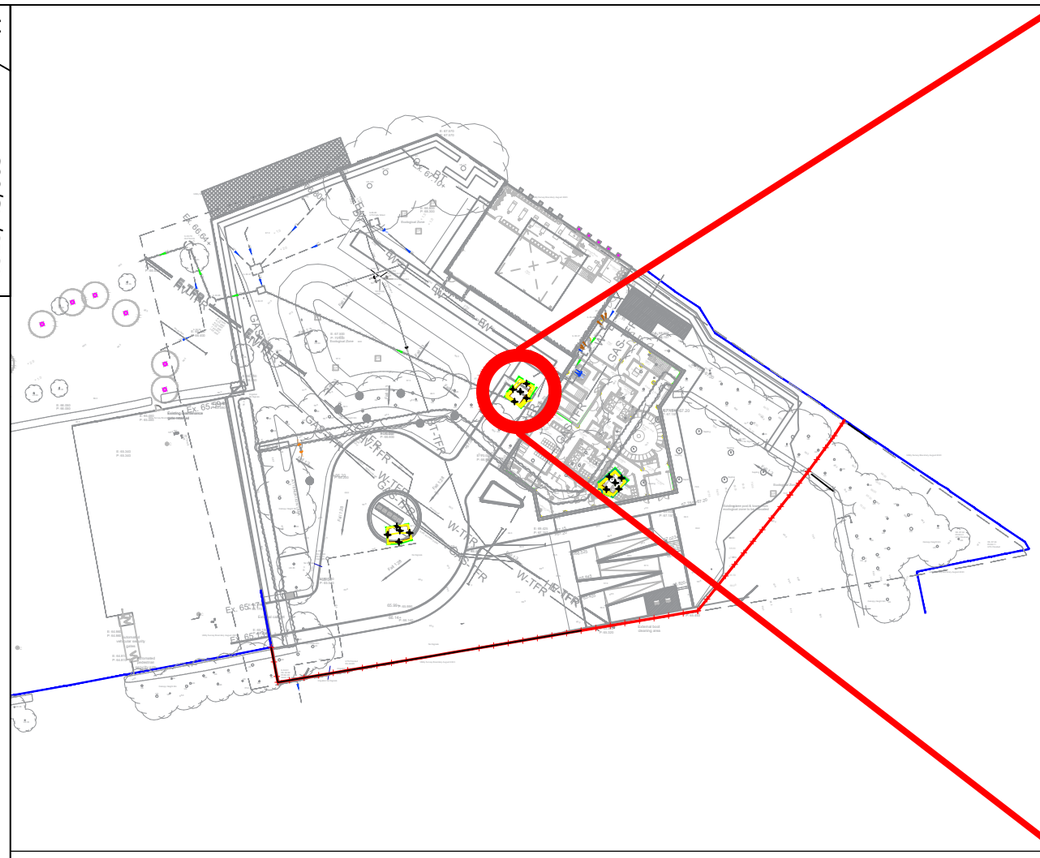
Scale	NTS
Date Drawn	26/09/24
Drawn By	TM
Reviewed By	AR
Original Size	A3

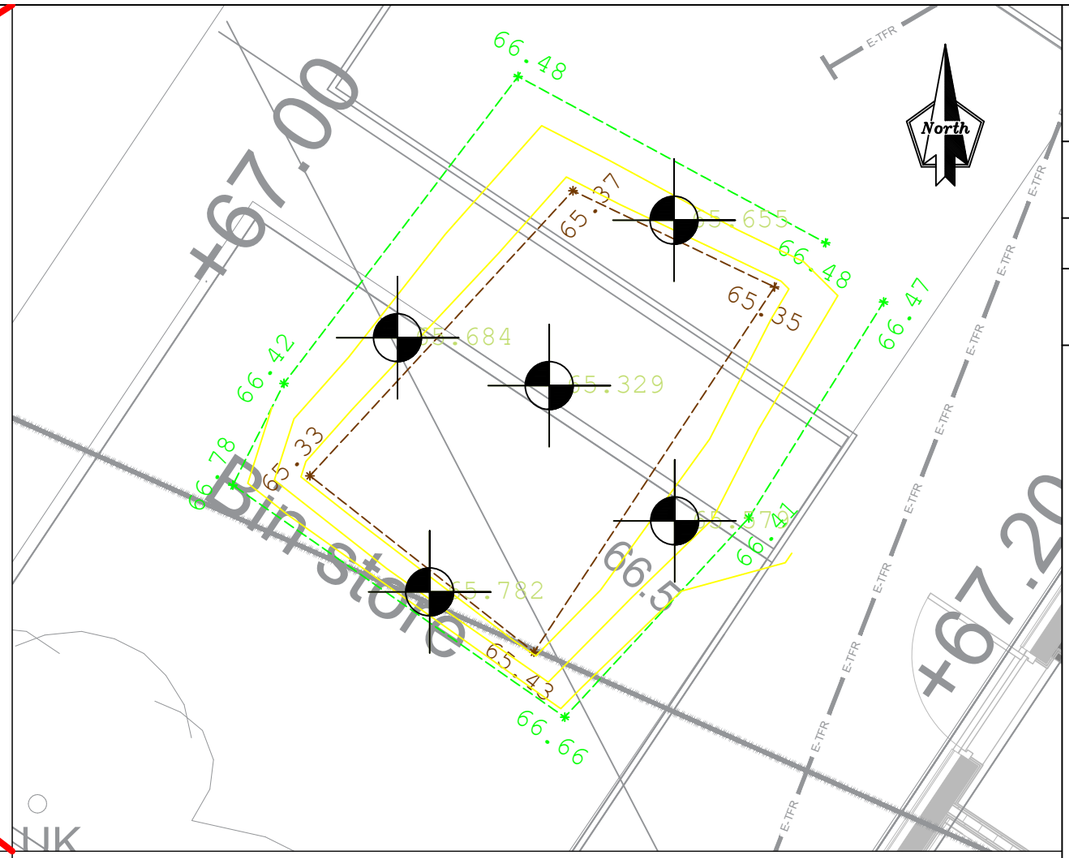
Drawing Number C325/HS/002

Rev A

Rev A

Drawing Number C325/HS/003







Hotspot Sample	Easting	Northing	Elevation
HS3 North	387586.659	398441.784	65.655
HS3 East	387586.665	398439.325	65.570
HS3 South	387584.660	398438.744	65.782
HS3 West	387584.397	398440.823	65.684
HS3 Base	387585.683	398440.431	65.329

C&R
civil-remediation.com

Job Title
MCFC Womens Academy
Enabling Works

Location
Manchester

Client
John Turner

Key

Sample location

Read in accordance with the hotspot excavation Technical Note, ref. C325.TN.HS.001.01

Rev	Date	Description
A	26/09/24	First Issue

Drawing Status: As-Built

Drawing Title
Hotspot 3 Excavation

C&R Project Code C325

Scale	NTS
Date Drawn	26/09/24
Drawn By	TM
Reviewed By	AR
Original Size	A3

Drawing Number C325/HS/003

Rev A

APPENDIX C – CHEMICAL TESTING RESULTS

C1 – GENERAL FILL MATERIAL SCREEN

Civil and Remediation Ltd
Grosvenor House
3 Chapel Street
Congleton
Cheshire
CW12 4AB

[redacted]

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 24-050178

Project / Site name:	Man City	**Samples received on:**	25/10/2024
Your job number:	C325	**Samples instructed on/ Analysis started on:**	25/10/2024
Your order number:	C325 SCO 006	**Analysis completed by:**	01/11/2024
Report Issue Number:	1	**Report issued on:**	04/11/2024
Samples Analysed:	2 soil samples		

[redacted]

Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 24-050178
Project / Site name: Man City
Your Order No: C325 SCO 006

Lab Sample Number				360609	360610
Sample Reference				CL/F/1/1	CL/F/1/2
Sample Number				None Supplied	None Supplied
Depth (m)				0.75	1.20
Date Sampled				23/10/2024	23/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	17
Total mass of sample received	kg	0.1	NONE	0.5	0.5

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Detected	Detected
Asbestos Analyst ID	N/A	N/A	N/A	EWS	EWS
Actinolite detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Amosite detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Anthophyllite detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Chrysotile detected	Type	N/A	ISO 17025	Detected	Detected
Crocidolite detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Tremolite detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	< 0.001	< 0.001
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	Loose Fibres	Loose Fibres

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	1.2	0.72
Acenaphthylene	mg/kg	0.05	MCERTS	0.25	0.13
Acenaphthene	mg/kg	0.05	MCERTS	1.3	0.61
Fluorene	mg/kg	0.05	MCERTS	1	0.53
Phenanthrene	mg/kg	0.05	MCERTS	8	4.6
Anthracene	mg/kg	0.05	MCERTS	2.7	1.5
Fluoranthene	mg/kg	0.05	MCERTS	10	6.4
Pyrene	mg/kg	0.05	MCERTS	10	6
Benzo(a)anthracene	mg/kg	0.05	MCERTS	5.1	2.9
Chrysene	mg/kg	0.05	MCERTS	5.5	3.3
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	5.8	3.1
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	2.8	1.4
Benzo(a)pyrene	mg/kg	0.05	MCERTS	5.5	3.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.6	1.5
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.6	0.36
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3	1.8

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	65.9	38.2

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 24-050178
Project / Site name: Man City
Your Order No: C325 SCO 006

Lab Sample Number				360609	360610
Sample Reference				CL/F/1/1	CL/F/1/2
Sample Number				None Supplied	None Supplied
Depth (m)				0.75	1.20
Date Sampled				23/10/2024	23/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	54	32
Barium (aqua regia extractable)	mg/kg	1	MCERTS	220	160
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.98	0.92
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	38	36
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	38	36
Copper (aqua regia extractable)	mg/kg	1	MCERTS	100	65
Lead (aqua regia extractable)	mg/kg	1	MCERTS	200	110
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.7	0.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	32	30
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	230	140
Petroleum Hydrocarbons					
TPHCWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	3.5	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	21	< 8.0
TPHCWG - Aliphatic >EC35 - EC44 $_{EH_CU_1D_AL}$	mg/kg	8.4	NONE	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	25	< 10
TPHCWG - Aliphatic >EC5 - EC44 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	25	< 10
TPHCWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	9.2	3
TPHCWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	30	12
TPHCWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	48	13
TPHCWG - Aromatic >EC35 - EC44 $_{EH_CU_1D_AR}$	mg/kg	8.4	NONE	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	87	28
TPHCWG - Aromatic >EC5 - EC44 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	87	28
VOCs					
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 24-050178
Project / Site name: Man City
Your Order No: C325 SCO 006

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
360609	CL/F/1/1	0.75	153	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
360610	CL/F/1/2	1.20	162	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 24-050178
Project / Site name: Man City

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
360609	CL/F/1/1	None Supplied	0.75	Brown clay with gravel
360610	CL/F/1/2	None Supplied	1.2	Brown clay with gravel and vegetation

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 24-050178
Project / Site name: Man City

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080-PL/L130B	W	NONE

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 24-050178
Project / Site name: Man City

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

C2 – Hotspot Results

Civil and Remediation Ltd
Grosvenor House
3 Chapel Street
Congleton
Cheshire
CW12 4AB

[redacted]

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 24-041469

Project / Site name:	C 325	**Samples received on:**	10/09/2024
Your job number:		**Samples instructed on/ Analysis started on:**	12/09/2024
Your order number:		**Analysis completed by:**	19/09/2024
Report Issue Number:	1	**Report issued on:**	19/09/2024
Samples Analysed:	12 soil samples		

[redacted]

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-041469
Project / Site name: C 325

Lab Sample Number				313460	313461	313462	313463	313464
Sample Reference				HS 1B	HS 1E	HS 1N	HS 1S	HS 1W
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.50	0.50	0.50	0.50
Date Sampled				09/09/2024	09/09/2024	09/09/2024	09/09/2024	09/09/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	EWS	EWS	EWS	EWS	EWS

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 24-041469
Project / Site name: C 325

Lab Sample Number				313465	313466	313467	313468	313469
Sample Reference				HS 2B	HS 2E	HS 2N	WS 2S	HS 2W
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.60	0.70	0.70	0.70	0.70
Date Sampled				09/09/2024	09/09/2024	09/09/2024	09/09/2024	09/09/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	EWS	EWS	EWS	EWS	EWS

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

4041

Analytical Report Number: 24-041469
Project / Site name: C 325

Lab Sample Number				313470	313471
Sample Reference				QP1	QP2
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				09/09/2024	09/09/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Asbestos					
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	EWS	EWS

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

4041

Analytical Report Number : 24-041469
Project / Site name: C 325

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

Civil and Remediation Ltd
Grosvenor House
3 Chapel Street
Congleton
Cheshire
CW12 4AB

[redacted]

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 24-041941

Project / Site name:	Man City	**Samples received on:**	12/09/2024
Your job number:	C325	**Samples instructed on/ Analysis started on:**	13/09/2024
Your order number:	C325 SCO 006	**Analysis completed by:**	19/09/2024
Report Issue Number:	1	**Report issued on:**	20/09/2024
Samples Analysed:	5 soil samples		

[redacted]

Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

4041

Analytical Report Number: 24-041941
Project / Site name: Man City
Your Order No: C325 SCO 006

Lab Sample Number				315611	315612	315613	315614	315615
Sample Reference				HS3N	HS3E	HS3S	HS3W	HS3B
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	0.70	0.70	0.70	1.20
Date Sampled				11/09/2024	11/09/2024	11/09/2024	11/09/2024	11/09/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	EWS	EWS	EWS	EWS	EWS
Actinolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	Detected	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	Detected	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	0.024	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	Loose Fibres	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 24-041941
Project / Site name: Man City
Your Order No: C325 SCO 006

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
315612	HS3E	0.70	140	Loose Fibres	**Chrysotile & Crocidolite**	0.024	**0.024**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

4041

Analytical Report Number : 24-041941
Project / Site name: Man City

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

APPENDIX D – GEOTECHNICAL TESTING RESULTS

TD Construction Testing Ltd
Gerard Hall
40 Lord Street
St Helens
Merseyside
WA10 2SD

T: 01744 734769
E: enquiries@tdconstructiontesting.co.uk

UKAS TESTING
8011

TEST REPORT

CONSTRUCTION TESTING

Determination of Moisture Content to BS 1377-2:1990

Report No:	TD24-C-07-D-01	Report Date:	12/11/2024
Client:	Civil & Remediation	Date Sampled*:	16/10/2024
Client Address:	Grosvenor House, 3 Chapel Street, Congleton, Cheshire, CW12 4AB	Sampled By:	Client
Site:	MCFC	Date Received:	31/10/2024
Supplier/Source:	Client - Site Won	Date Tested:	04/11/2024

Laboratory Reference	Client Reference*	Sample Location*	Material Description	Moisture Content %	Remarks
Lab 24/3539	GT/F/1/1	Not Advised	Black Gravelly Clay	21	-

Certified that the testing was conducted in accordance with BS 1377-2:1990 Clause 3.2 at 105˚C unless stated

Sample preparation in accordance with BS 1377-1:2016

Where sampling was not carried out by TD Construction Testing Ltd, the results relate to the sample as received.

This report shall not be reproduced except in full without approval of the laboratory.

Results relate only to the sample tested.

* Information supplied by client.

Comments/Deviations:

Signed: [redacted]

J. Wright (Lab Section Manager)

TD Construction Testing Ltd
Gerard Hall
40 Lord Street
St Helens
Merseyside
WA10 2SD

T: 01744 734769
E: enquiries@tdconstructiontesting.co.uk

UKAS TESTING
8011

TEST REPORT

CONSTRUCTION TESTING

Determination of Moisture Content to BS 1377-2:1990

Report No:	TD24-C-07-D-04	Report Date:	12/11/2024
Client:	Civil & Remediation	Date Sampled*:	16/10/2024
Client Address:	Grosvenor House, 3 Chapel Street, Congleton, Cheshire, CW12 4AB	Sampled By:	Client
Site:	MCFC	Date Received:	31/10/2024
Supplier/Source:	Client - Site Won	Date Tested:	05/11/2024

Laboratory Reference	Client Reference*	Sample Location*	Material Description	Moisture Content %	Remarks
Lab 24/3540	GT/F/1/2	Not Advised	Brown Gravelly Clay	20	-

Certified that the testing was conducted in accordance with BS 1377-2:1990 Clause 3.2 at 105˚C unless stated

Sample preparation in accordance with BS 1377-1:2016

Where sampling was not carried out by TD Construction Testing Ltd, the results relate to the sample as received.

This report shall not be reproduced except in full without approval of the laboratory.

Results relate only to the sample tested.

* Information supplied by client.

Comments/Deviations:

Sign	[redacted]	J. Wright (Lab Section Manager)

TD Construction Testing Ltd
Gerard Hall
40 Lord Street
St Helens
Merseyside
WA10 2SD

T: 01744 734769
E: enquiries@tdconstructiontesting.co.uk

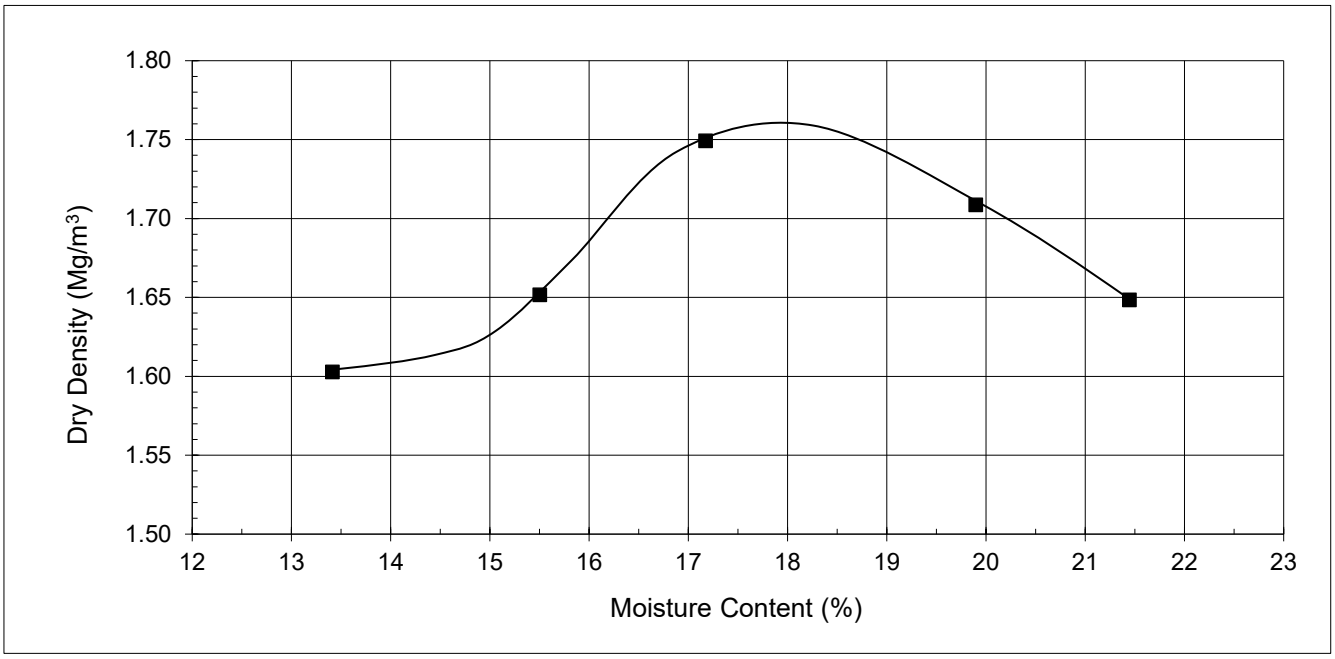
UKAS TESTING
8011

CONSTRUCTION TESTING

TEST REPORT

Determination of Dry Density/Moisture Content Relationship

Report No.:	TD24-C-07-D-03	Date Reported:	12/11/24
Client:	Civil & Remediation		
Client Address:	Grosvenor House, 3 Chapel Street, Congleton, Cheshire, CW12 4AB		
Site:	MCFC	Lab Ref:	24/3539
Location*:	Not Advised	Client Sample Ref*:	GF/F/1/1
Type of Sample:	Bulk	Sampled By:	Client
Sample Description:	Black Stony Clay	Date Sampled*:	16/10/24
Material Source*:	Site Won	Date Received:	31/10/24
Particle Density Mg/m^3:	N/A	Date Tested:	07/11/24
Amount Retained on 20mm Sieve:	4%	Specimen Type:	Single
Amount Retained on 37.5mm Sieve:	0%	Rammer Type:	2.5kg
As Received Moisture Content (%):	21	Grading Zone:	2
Optimum Moisture Content (%):	**18**	Preparation Procedure:	3.2.4.2
Maximum Dry Density (Mg/m^3):	**1.76**	Sieved On:	20mm



Certified that the test was carried out in accordance with BS1377-4:1990, Method 3.3

Particle Density not requested therefore Air Void Lines have not been plotted.

Where sampling was not carried out by TD Construction Testing Ltd, the results relate to the sample as received.

This report shall not be reproduced except in full without approval of the laboratory.

Results relate only to the sample tested.

* Information supplied by client.

Deviations/Comments:

Signe [redacted]

J. Wright (Lab Section Manager)

TD Construction Testing Ltd
Gerard Hall
40 Lord Street
St Helens
Merseyside
WA10 2SD

T: 01744 734769
E: enquiries@tdconstructiontesting.co.uk

8011

TEST REPORT

Determination of Particle Size Distribution

Report No.: TD24-C-07-D-05 Report Date: 12/11/24
Client: Civil & Remediation
Client Address: Grosvenor House, 3 Chapel Street , Cheshire, CW12 4AB
Site: MCFC

Client Ref.*: GT/F/1/2 Lab Ref: Lab 24/3540
Date Sampled* 16/10/24 Sample Type: Bulk
Sampled By: Client Mass (kg): 26
Date Received: 31/10/24

Location*: Not Advised
Supplier*: Client Source*: Site Won
Description: Brown Gravelly Clay (2C)

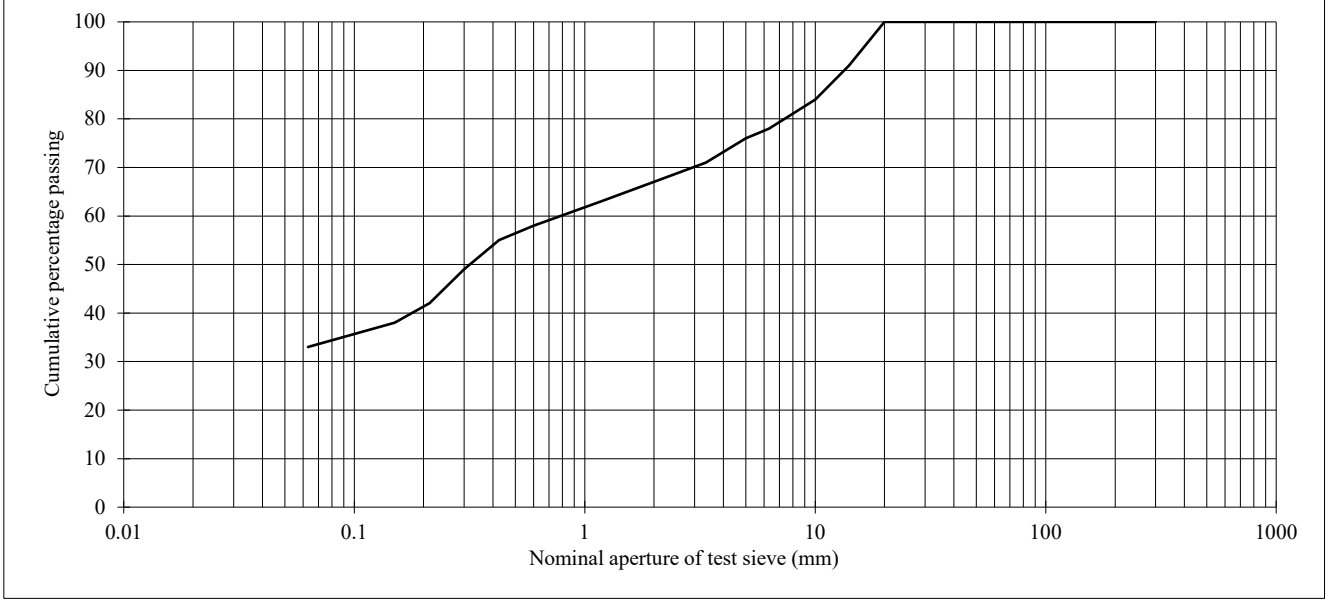
Date of Test: 11/11/24
Test Method: Washing and Sieving
Method of Preparation: BS 1377-1 & 2 : 1990
Material Specification: SHW Series 600 Table 6/2

Remarks:

SIEVE ANALYSIS

BS Sieve (mm)	Passing (%)	Material Specification
300	100	
125	100	100
90	100	
75	100	
37.5	100	
28	100	
20	100	
14	91	
10	84	
6.3	78	
5.0	76	
3.35	71	
2.00	67	15 - 80
1.18	63	
0.600	58	
0.425	55	
0.300	49	
0.212	42	
0.150	38	
0.063	33	15 - 80

34% Sand	33% Gravel	0% Cobbles



Certified that the Particle Size Distribution was determined in accordance with BS 1377-2:1990, Method 9.2
Where sampling was not carried out by TD Construction Testing Ltd, the results relate to the sample as received.
This report shall not be reproduced except in full without approval of the laboratory.
Decision rule - Any uncertainty is taken into consideration within the test standard and reporting method.
Results relate only to the sample tested. * Information supplied by client.

[redacted] J. Wright (Lab Section Manager)

TD Construction Testing Ltd
Gerard Hall
40 Lord Street
St Helens
Merseyside
WA10 2SD

T: 01744 734769
E: enquiries@tdconstructiontesting.co.uk

8011

TEST REPORT

Determination of Particle Size Distribution

Report No.: TD24-C-07-D-02 Report Date: 12/11/24
Client: Civil & Remediation
Client Address: Grosvenor House, 3 Chapel Street , Cheshire, CW12 4AB
Site: MCFC

Client Ref.*: GT/F/1/1 Lab Ref: Lab 24/3539
Date Sampled* 16/10/24 Sample Type: Bulk
Sampled By: Client Mass (kg): 25
Date Received: 31/10/24

Location*: Not Advised
Supplier*: Client Source*: Site Won
Description: Black Gravelly Clay (2C)

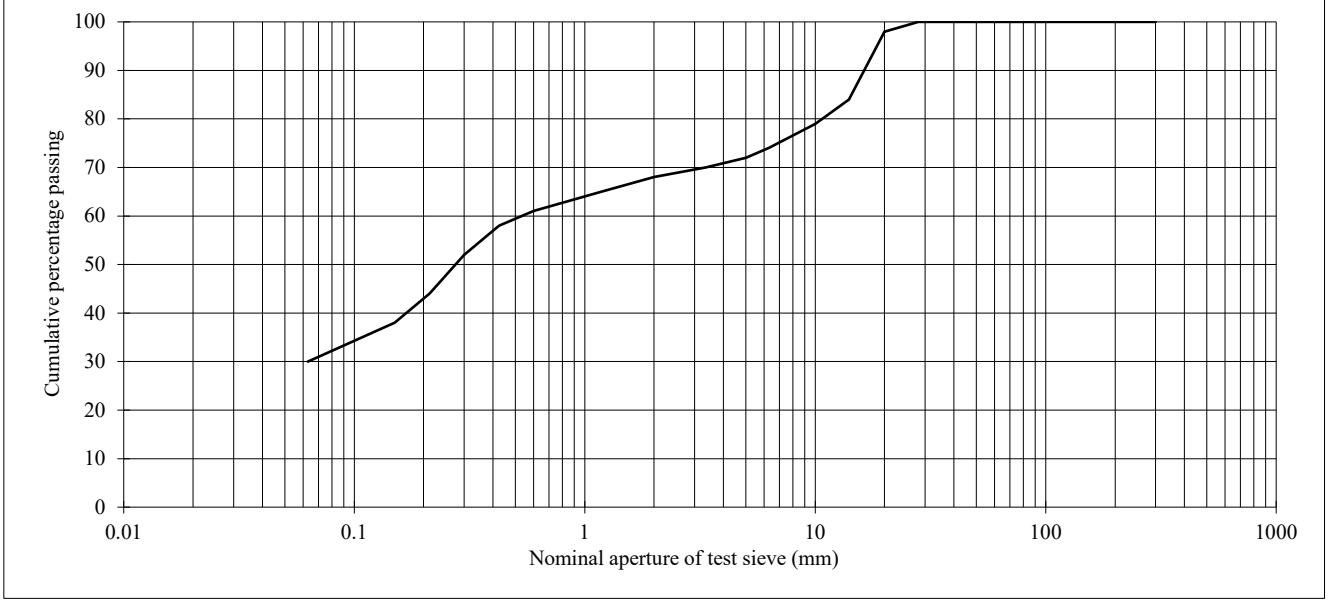
Date of Test: 07/11/24
Test Method: Washing and Sieving
Method of Preparation: BS 1377-1 & 2 : 1990
Material Specification: SHW Series 600 Table 6/2

Remarks:

SIEVE ANALYSIS

BS Sieve (mm)	Passing (%)	Material Specification
300	100	
125	100	100
90	100	
75	100	
37.5	100	
28	100	
20	98	
14	84	
10	79	
6.3	74	
5.0	72	
3.35	70	
2.00	68	15 - 80
1.18	65	
0.600	61	
0.425	58	
0.300	52	
0.212	44	
0.150	38	
0.063	30	15 - 80

38% Sand	32% Gravel	0% Cobbles



Certified that the Particle Size Distribution was determined in accordance with BS 1377-2:1990, Method 9.2
Where sampling was not carried out by TD Construction Testing Ltd, the results relate to the sample as received.
This report shall not be reproduced except in full without approval of the laboratory.
Decision rule - Any uncertainty is taken into consideration within the test standard and reporting method.
Results relate only to the sample tested. * Information supplied by client.

[redacted] J. Wright (Lab Section Manager)

APPENDIX E – CONTROLLED DUTY OF CARE WASTE TRANSFER NOTES

CONTROLLED DUTY OF CARE WASTE TRANSFER NOTE

FORM E10
REV B

DUTY OF CARE: CONTROLLED WASTE TRANSFER NOTE

A — Description of the waste

1 Description of the waste being transferred: Non hazardous soil & stones

List of Waste Regulations code(s): 1 7 0 5 0 4

2 How is the waste contained? ☐ Loose ☐ Sacks ☐ Skip ☐ Drum ☑ Other (specify): 20T wagon

3 How much waste? For example, number of sacks, weight: 3800 m³

4 ~~Analysis attached / not attached~~ / **sent separately** (delete as appropriate)

B — Producer / holder of the waste

Current holder of the waste – Transferor: *By signing in Section D or F below I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011* Yes ☑

1 Full name (print): Thomas David Magee

2 Company name, address and postcode: Civil & Remediation, Grosvenor House 3 Chapel St., Congleton, Cheshire, CW12 4AB

3 SIC code (2007): 3 9 0 0 0

4 Which of the following are you? (please tick one or more boxes)

A ☑ Waste producer ☐ Waste importer ☐ Collection/Disposal authority ☐ Broker

B ☐ Env Permit holder (ref number): ..... ☐ Registered waste carrier (ref number): .....

C ☐ Waste exemption holder (exemption registration number): .....

☐ Exempt from carrier registration (give reason): .....

C — Carrier of the waste

1 Full name (print): DONNA BENTLEY

2 Company name, address and postcode: Utility Recycling North West Ltd., Sandford House, Sandford Ln, Manchester, M19 3BJ

3 SIC code (2007): 8 2 9 9 0

4 Which of the following are you? (tick one box)

A ☐ Waste collection authority

B ☑ Registered waste carrier (ref number): CBDU309588

C ☐ Exempt from carrier registration (give reason): .....

D — First transfer (holder to carrier)

1 Place of transfer: M11 4AA 2 Date of transfer: 26/08/24 - 25/08/25

3 Time(s) of transfer: AS D2 Contract No: C325-LPO-022

(for multiple transfers give date range)

4 Name and address of broker arranging transfer (if applicable): N/A

5 Holder's representatives

Name (print): Tom Magee

Sign [redacted]

Carrier's representatives

Name (print): DONNA BENTLEY

Signed: [redacted]

E — Disposer / recoverer of the waste

1 Full name (print): DONNA BENTLEY

2 Company name, address and postcode: UTILITY RECYCLING NORTH WEST LTD SANDFOLD HOUSE, SANDFOLD LANE, MANCHESTER. M19 3BJ.

3 Which of the following are you? (tick one box)

☑ Holder of an Environmental Permit (ref number): EPR/KB3105KT

☐ Holder of a valid waste exemption (ref number): .....

F — Second transfer (carrier to disposer / recoverer)

1 Place of transfer: Utility Recycling North West 2 Date of transfer: 26/08/24 - 25/08/25

3 Time(s) of transfer: AS F2 Contract No: .....

(for multiple transfers give date range)

4 Name and address of broker arranging transfer (if applicable): .....

5 Holder's representatives

Name (print): Tom Magee

Signed: [redacted]

Disposer's / Recoverer's representatives

Name (print): DONNA BENTLEY URNW LTD

Signed: [redacted]

Producer's / Holder's Copy

This note must be retained by you and held for at least two years (or longer period specified in your Environmental Permit) from the date of the last transfer to which this note applies.