Validation Report

Fairfax, Portugal Street East, Manchester

Client:	Portugal Street East Limited
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Version History

This report has been prepared by Apex Consulting Engineers with reasonable skill, care and diligence, within the best practice and guidance current at the time of issue, within the scope of works which have been agreed with the client.

This report is confidential to the client and Apex Consulting Engineers accepts no responsibility whatsoever to third parties to whom this report, or any part thereof is presented, unless this is formally agreed in writing by a Director of Apex Consulting Engineers before any reliance is made. Any such party relies upon the information at their own risk. Apex Consulting Engineers disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the work.

The report is written in the context of the development proposals submitted to Apex by the Client as part of the appointment. Any changes to the development proposals may necessitate significant revisions to this report.

The report (including appendices) should be read in its entirety. Apex cannot be held responsible for any sections of this report being taken out of context. This includes information submitted separately via download link (i.e. full copies of environmental search data from Envirocheck) which are not included as part of the main PDF due to their file size.

Intrusive investigation only allows observation and assessment of ground across a small portion of the total site area. Therefore, it is possible that significant features may not have been encountered during the investigation, despite appropriate design and planning. Apex cannot accept for conditions not revealed by the exploratory holes. Any interpretation of strata between or below exploratory holes is for guidance only and Apex hold no responsibility as to its accuracy.

It should be noted that groundwater levels are susceptible to seasonal and other variations; this should be borne in mind when considering observations/measurements associated with groundwater contained in this Report.

Apex reserve the right to amend this Report in the light of further information that may become available.

Revision	Date	Notes	Prepared by	Checked by	Approved by
001	2026/01/25	First Issue	GECL	GECL	

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1. INTRODUCTION

1.1 Background & Context

This Validation Report has been prepared for Portugal Street East Limited following the completion of remediation activities at the site located at Portugal Street East, Manchester. The report documents the works undertaken to address identified ground contamination and satisfy the requirements of the approved Remediation Strategy (ref. 1007-ACE-GEO-RS-002, dated May 2022) and Verification Plan (ref. 1007-ACE-GEO-VP-003, dated May 2022).

1.2 Development Proposals

The development comprises two residential tower blocks of 30 storeys (West) and 24 storeys (East) with a linked central podium. The project includes a basement car park spanning beneath both blocks (base level c. 4m below original ground level), shared amenity space, a new public park, and associated highway and landscaping works.

The proposed landscaping general arrangement layouts are included in Appendix A.

1.3 Planning Status

The development was granted planning consent by Manchester City Council (Application No. 121099/FO/2018). This report is specifically intended to discharge **Condition 9(c)**, which requires a Completion/Verification Report to be submitted and approved by the Local Planning Authority following the implementation of the agreed Remediation Strategy.

An extract of the decision record which includes the relevant planning conditions is included in Appendix B.

1.4 Previous Reports and Information

In accordance with the Remediation Strategy, this validation process has taken into account the findings of several preceding phases of investigation and assessment:

- Phase 1 Desktop Study (Ref: MN/AS/p3633 RI), dated April 2017, issued by RoC Consulting.
- Phase 2 Site Investigation Report (Ref: LD/AS/p23633), dated April 2018, issued by RoC Consulting.
- Supplementary Ground Appraisal Report (Ref: 1007-ACE-GEO-GAR-001), dated April 2022, issued by Apex Consulting Engineers.
- Remediation Strategy (Ref: 1007-ACE-GEO-RS-002), dated May 2022, issued by Apex Consulting Engineers.

- Verification Plan (Ref: 1007-ACE-GEO-VP-003), dated May 2022, issued by Apex Consulting Engineers.

These documents established the baseline ground conditions and the remedial requirements necessary to make the site suitable for the proposed residential end-use.

2. Site Background and Environmental Setting

2.1 Site Location and Description

The site is located in the east of Manchester city centre, adjacent to Piccadilly Railway Station (NGR: SJ 851 979). Prior to development, the site was occupied by several industrial and commercial entities, including:

- Rammon House: A 3-storey derelict warehouse with a substation and boiler room.
- PA Metals Scrapyard: An eastern area containing dilapidated structures and areas of scrap metal deposits.
- Printers Premises: A single-storey industrial unit on Heyrod Street.
- Van Hire Depot: A southern area used for vehicle storage.

2.2 Site History

Historically, the site was occupied by terraced housing until the late 1940s. Subsequent uses included a coppersmiths, warehouses, and scrapyards. The surrounding area has a long history of industrial use, including clothing and stationery works, sheet metal works, and railway infrastructure.

2.3 Environmental Setting

- Geology: The site is underlain by Glacial Till (clay) over Chester Pebble Beds Formation (Sandstone).
- Hydrogeology: The Till is classified as a Secondary Aquifer, while the Sandstone is a Principal Aquifer. The site does not lie within a Groundwater Source Protection Zone.
- Hydrology: The site is in Flood Zone 1 (low risk). The Leeds and Liverpool Canal is located to the north.

3. Summary of Completed Remediation and Verification Works

3.1 Monitoring for Unforeseen Conditions

Unforeseen contamination and unanticipated ground conditions encountered during the works were reported to the Engineer in writing. Investigations and risk assessments of these unforeseen conditions were undertaken to ensure appropriate management and compliance with Local Authority requirements. Notable unforeseen conditions identified and managed during the project included:

- **Relict Infrastructure:** A brick-lined culvert covered with sandstone/concrete slabs was discovered during the reduced level dig beneath the former Rammon House. Following the discovery, works were paused while the Engineer advised on removal. The culvert was subsequently excavated through to natural clay and backfilled with engineered site-won 6F2.
- **Asbestos Beneath Slabs:** During the grubbing up of the Rammon House floor slab, an area of suspected asbestos-containing material (ACM) was identified "stuck" to the underside of the concrete. Works in the area were halted, the area was fenced off, and a protocol for careful turnover and hand-picking was implemented.
- **Hydrocarbon-Impacted Areas:** Two 'Hotspots' of organic contamination were encountered. These included a small area around an underground chamber in the former scrapyard and area in the south west of the site adjacent to the site boundary.

3.2 Decommissioning Existing Monitoring Wells

Existing monitoring wells (BH101, BH102, and BH104) were located and decommissioned prior to the commencement of remediation works. Decommissioning was carried out in accordance with Environment Agency guidance and under the supervision of the Engineer.

3.3 Asbestos in Soils

An asbestos discovery and management plan was implemented throughout the works in accordance with CAR 2012, with a watching brief maintained by the Engineer during excavation activities. Due to the historical site use and the heterogeneity of the made ground, various instances of asbestos-containing materials (ACMs) were identified and managed as follows:

- Rammon House Floor Slab (October 2022): During grubbing up of the floor slab on 05/10/2022, suspected ACMs were identified "stuck" to the underside of the concrete. The area was fenced off, and impacted materials were kept separate for off-site disposal. Resultant stockpiles (ASB SP1) were sampled on 20/10/2022. Laboratory analysis (Report 22-92065) detected Chrysotile loose fibres in two of the three samples, with a maximum quantification of 0.009%.
- Substation and Boiler House Area (October 2022): On 17/10/2022, suspected ACM sheeting was noted within the brick fill of trial pit TP112 at 1.3m depth. While bulk analysis of this specific fragment (Report 22-92058) did not detect asbestos , soil sample TP111 at 0.6m in the same area was found to contain Chrysotile loose fibres at a concentration of 0.010%.
- Additional Made Ground Discoveries (October - November 2022): On 27/10/2022, further suspected ACM (cement sheeting) was identified within made ground soils. Following the hand-picking of visible fragments, the resultant "clean" stockpiles (ASB SP2 and ASB SP3) were sampled on 10/11/2022. Analysis (Report 22-96473) confirmed the presence of Chrysotile loose fibres in ASB SP3, while ASB SP2 was found to be clear.
- Parklands Area Stockpile Management (August 2023): On 30/08/2023, the larger Demo SP2 stockpile was sampled for quantification prior to off-site removal. Laboratory analysis (Report 23-54118) detected Chrysotile in four of the six samples, with one sample (SP/AQ-5) recording a concentration of 0.012%.
- Validation of Hand-Picking and Disposal: Where ACMs were discovered in soil, the material was carefully turned over, and fragments were hand-picked by trained personnel, double-bagged, and placed in designated sealed skips. Soils were kept damp throughout this process to mitigate the risk of fibre release. All stockpiles identified as containing asbestos (ASB SP1, 2, 3 and Demo SP2) were subsequently removed from the site for hazardous waste disposal.
- Final inspections of the impacted areas following turnover and removal confirmed that visible ACMs had been successfully remediated.

Lab results referenced above are included in Appendix C. The temporary locations of asbestos stockpiles etc are identified in the Remediation Features Drawing, Appendix A.

3.4 Grossly Contaminated Soils

Identified areas of grossly contaminated soils were managed by ceasing work and seeking Engineer guidance. Excavation extents were surveyed, and validation samples were collected from the base and sidewalls to confirm the removal of the source.

Scrapyard Hotspot 1 - Oil Sump Validation

An oil drum was identified within a concrete chamber extending approximately 1m below ground level in the PA Metals area. Remediation was carried out under the supervision of the Engineer:

- Contaminated water within the drum and chamber was pumped into an IBC for specialist off-site disposal.
- The concrete chamber was subsequently removed whole to prevent breakage and further soil impact.
- Post-excavation validation samples were collected from the natural clay at the base (V1) and the made ground at the north-west sidewall (V2).
- Chemical analysis of these samples (Oil Sump Validation - Appendix D) confirmed that TPH and PAH concentrations were below the relevant screening targets, verifying the successful removal of the source.

Parklands Hotspot 2 Validation

A significant area of hydrocarbon impact was remediated within the proposed Parklands area. Initial excavation in November 2023 was hampered by heavy rainfall; however, contaminated water was diverted and eventually pumped into two $1m^3$ IBCs for off-site disposal.

In December 2023, the Engineer witnessed the final removal of contaminated "sludge-like" material. Due to the consistency of the material at the base, hand-shovelling was employed alongside mechanical excavation to ensure all impacted soils were "chased out" to the natural Glacial Clay.

All contaminated soils were stockpiled on polythene sheeting, bunded with timbers, and covered to prevent migration prior to disposal.

Validation samples VS1 through VS8 were collected from the base and sidewalls of the resulting excavation.

Chemical analysis (Parklands Hotspot - Appendix E) confirmed that all parameters were below the remediation target values for a POS resi end-use.

3.5 Excavation of Scrap Metal Deposits

In accordance with the Remediation Strategy, the readily identifiable Scrap Metal Deposits in the east (PA Metals premises) required careful excavation and off-site disposal. The Engineer supervised the excavation of the former scrapyard footprint. Excavation was carried out using a 2.6m wide flat bucket to ensure clear separation of the scrap metal "veneer" from the underlying natural soils. The natural Glacial Clay was exposed across the base of the area at depths of between 0.7m and 1.1m.

During the archaeological trenching phase, the Engineer logged and sampled a series of trenches (Trenches 2NE, 2A SE, and 2B SE). Samples were collected from both the remaining made ground veneer and the top of the natural clay.

Analysis of these validation samples (PA Metals Validation – Appendix F) confirmed that the natural clay at the base of the excavation was clean. The results verified the successful removal of the primary scrap metal source material.

3.6 Excavation of Made Ground for Basement Structures

Excavations to approximately 4m depth were completed to form the proposed basements, resulting in the removal of made ground and associated naphthalene risks from the building footprints. Once at formation level, the Engineer inspected the excavation (e.g., the trench inspected on 27/10/2022 at c. 44.75mAOD) and verified the presence of natural clay at the base.

3.7 Water Supply Pipes

To protect future potable water supplies, a formal Risk Assessment for Water Pipes was carried out in October 2023 (as evidenced by the United Utilities Risk Assessment Form included in the Appendix G).

While site investigations identified localized elevated concentrations of contaminants (specifically TPH in TP02 and SP01), the approved mitigation strategy involved over-digging the service trenches and backfilling with site-won natural Glacial Clay. Previous testing by RoC confirmed this natural clay to be "clean," providing a suitable protective environment for the infrastructure.

Based on this assessment, United Utilities approved the use of standard Polyethylene (PE) pipes. The final installation, as shown on the As-Built Water Supply Drawing (included in the Appendix G), consists of a mix of 110mm and 160mm PE mains, alongside specific 90mm PE and Cast Iron (CI) components.

3.8 Provision of Cover to Soft Landscaping

In areas of soft landscaping where made ground remained, a clean cover system was installed over a geotextile separator layer. While the original Remediation Strategy

specified a consistent 600mm depth of clean cover, a technical justification for depth amendments was submitted to Manchester City Council. Given that the landscaped areas are public spaces with managed maintenance rather than private gardens, the following amended cover system was agreed with the local authority on 13 January 2026:

- **Planted Areas (Trees/Shrubs):** 600mm of clean naturally occurring cover.
- **Seeded Areas (Lawn):** 450mm of clean naturally occurring cover.

Both configurations utilize a geotextile separator layer at the base of the clean cover. A copy of the email correspondence from Manchester City Council confirming these amendments is included in Appendix H.

The sources of imported materials utilized for the capping system were as follows:

- **Topsoil:** Sourced from MB Soils & Groundworks Limited (Vistry Homes, Mill Lane, Warrington). Analysis by Tim O'Hare Associates (Ref: TOHA/25/7037/SS/Rev1) confirmed the material is a Sandy Loam, largely compliant with BS 3882:2015 (Multipurpose Topsoil). All potential contaminants determined were within guideline values for residential land use.
- **Subsoil:** Sourced from Tarmac Topscape (Eaton Hall). Analysis by Tim O'Hare Associates (Ref: TOHA/24/1569/SS) confirmed the material is a stone-free Sand, largely compliant with BS 8601:2013 (Multipurpose Subsoil). All chemical parameters were within guideline values, with a strongly alkaline nature (pH 8.0) noted for landscape species selection.

Full laboratory analysis reports for these sources are included in Appendix H. The thickness and quality of the cover were verified through 16 no. inspection pits, which were surveyed and photographed by the Engineer.

The final "as-dug" locations of these pits (SCV 01 through SCV 16) are identified on the Soil Cover Validation Pits GeoEnvironmental Figure 02: Soil Cover Validation Pits Location Plan, Appendix A. Each location was surveyed and photographed by the Engineer to ensure compliance with the agreed depths. Copies of Soil Cover Validation photos are included in Appendix H.

A summary of the depths of soil cover and descriptions are provided in the table below.

Location	Soil Description	Depth (m)
SCV01	Brown slightly clayey sandy TOPSOIL over orange gravelly fine to medium SAND. NOTE: The bed around SCV01 was slightly low as it had not yet received final topsoil and mulch.	0.4*
SCV02	Dark brown sandy TOPSOIL over light brown/orange silty SAND.	0.52
SCV03	Dark brown sandy TOPSOIL over light brown fine to medium SAND.	0.6
SCV04	Dark brown silty TOPSOIL over light brown/yellow fine to medium SAND.	0.6
SCV05	Brown slightly clayey slightly gravelly sandy TOPSOIL over orange gravelly medium to coarse SAND. NOTE: The bed around SCV05 was slightly low as it had not yet received final topsoil and mulch.	0.4*
SCV06	Brown slightly clayey slightly sandy TOPSOIL over yellow fine to medium SAND	0.54
SCV07	Dark brown silty TOPSOIL over reddish-brown clayey sandy GRAVEL.	0.58
SCV08	Dark brown silty TOPSOIL over reddish-brown clayey sandy GRAVEL.	0.48
SCV09	Dark brown silty TOPSOIL over light brown fine to medium SAND.	0.6
SCV10	Dark brown MULCH over dark brown silty TOPSOIL and light brown SAND.	0.5
SCV11	Brown slightly clayey sandy TOPSOIL over yellow fine to medium SAND	0.6
SCV12	Brown MULCH over brown sandy TOPSOIL and yellow fine to medium SAND	0.6
SCV13	Brown MULCH over brown sandy TOPSOIL and yellow fine to medium SAND	0.5
SCV14	Brown MULCH over brown slightly clayey sandy TOPSOIL and yellow fine to medium SAND	0.6
SCV15	Brown MULCH over brown slightly clayey sandy TOPSOIL and yellow fine to medium SAND	0.58
SCV16	Brown MULCH over brown slightly clayey sandy TOPSOIL and yellow fine to medium SAND	0.6

In all cases the materials imported for use in the cover system were clean naturally occurring topsoils and subsoils meeting the requirements of POS resi. Copies of chemical analysis and screening sheets for imported soils used in the cover system are included in Appendix H.

3.9 Waste Management and Off-site Disposal

Waste was characterized in accordance with WM3 guidance, and separate stockpiles were maintained for different material types to prevent cross-contamination and ensure accurate classification. The following waste streams were identified and disposed of during the project:

- Asbestos-Containing Materials (ACMs): Bonded asbestos and construction materials containing asbestos were segregated and removed under EWC code 17 06 05*.
- On 25/08/2022, approximately 29,500 kg of asbestos-impacted material was transported from the Portugal Street site to Bradley Park Landfill Site in Huddersfield (Consignment Notes PORTUG1002 and PORTUG1003).
- On 28/07/2023, approximately 80 kg of double-bagged asbestos cement (EWC 17 06 05*) was removed from the site and taken to SB Waste Management in Wolverhampton (Consignment Note FARFA/C0406).
- Hydrocarbon-Impacted Liquid Waste: During remediation in the former PA Metals/Parklands area, liquid waste was managed as hazardous. On 16/11/2022, 1,000 Litres of hazardous liquid waste consisting of diesel and water (EWC 13 07 01*) was pumped into a tanker and removed for treatment/disposal at CSG-Sheffield (Consignment Note DEMOLI/44966).

All documentation related to the removal and final destination of these materials is provided in Appendix J.

4. Completed Remediation and Verification Works

The remediation and verification works at Portugal Street East, Manchester, have been completed in accordance with the approved Remediation Strategy and Verification Plan. The following key objectives were successfully achieved to mitigate risks to human health and the environment:

- Source Removal and Hotspot Remediation: Scrap Metal Deposits were removed from the former PA Metals area, with the underlying natural Glacial Clay verified as clean via laboratory analysis.
- Notable unforeseen features, including an oil drum/concrete chamber and a significant hydrocarbon-impacted hotspot in the Parklands area, were successfully excavated and validated.

- Asbestos Management: All identified asbestos-containing materials (ACMs) within the made ground and beneath former floor slabs were managed through hand-picking, dampening, and segregation. Asbestos-impacted material was removed from the site as hazardous waste.
- Engineered Cover System: A clean cover system has been installed in all soft landscaped areas. Following consultation with Manchester City Council on 13 January 2026, an amended system consisting of 600mm depth in planted areas and 450mm depth in seeded areas, both over a geotextile separator, was implemented and verified through 16 no. inspection pits.

Following the successful implementation of the remediation strategy and the verification of the "as-built" conditions, the pollutant linkages identified in the Conceptual Site Model have been effectively broken through source removal and the installation of protective cover systems.

Consequently, the site is not considered to pose an unacceptable risk to human health or the environment and, in our opinion, would not meet the definition of "contaminated land" under Part 2A of the Environmental Protection Act 1990. We consider that the requirements of Planning Condition 9(c) (Application No. 121099/FO/2018) have been fully satisfied.

Appendix A - Drawings

Note:
-Final location & sizes of M&E ducts in coordination with engineers.
-Coordination on retained services within full site pending.

Light post clash with footpath width. Amey to confirm the location of light post.

Light post clash with footpath width. Amey to confirm the location of light post.

Footpath section where 1:40 crossfall is not achievable

Indicative Crane Base. Refer to engineers drawings.

Indicative Crane Base. Refer to engineers drawings.

Ping pong table by others. Shown indicatively.

Extent of structural slab

Extent of structural slab

Table tennis by others. Shown indicatively.

Movable furniture by others. Shown indicatively.

Refer to Designers Risk Assessment 0475-RFM-XX-00-HS-L-0001

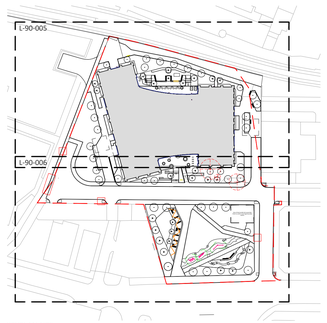
- 101 Warning of significant hazards or information which may be unusual or difficult to manage
- 201 Note to contractor to take particular action or carry out specific tasks in a particular way
- 301 Prohibitive action to avoid something or to refrain from a particular action
- 401 Significant information needed to convey to the contractor which they may need to be aware of

005 01 Detail General Arrangement 1 of 2 1:100

Key

- Planning application boundary
- Extent of basement
- Concrete Block Paving Type 1 Permeable paving For details refer to L-90-802 Q25 150 & Q25 336 Colour: Magma.
- Concrete Block Paving Type 2 Permeable paving For details refer to L-90-802 Q25 150 & Q25 336 Colour: Antracite
- Concrete Block Paving Type 3 impermeable Paving For details refer to L-90-802 Q25 151 & Q25 336 Colour:Magma
- Self binding gravel For details see drg L-90-802 Q23 224
- Porous resin bound gravel For details see drg L-90-802 Q23 225
- Macadam surfacing Surfacing to engineer's specification. Varying buildups to different areas. Refer to approved S278 drawings.
- Natural aggregate gravel to building maintenance paths with timber edge; For details refer to drg L-90-801 Q23 160
- Edging Type 1a: PCC conservation highway kerb as per S278 drawings. For indicative details refer to L-90-801; Q10 110
- Edging Type 1b: PCC conservation channel kerb as per S278 drawings. 10mm upstand. For details refer to L-90-801; Q10 110
- Edging Type 1c: PCC conservation kerb, 50mm upstand For details refer to L-90-801; Q10 110
- Edging Type 1d: PCC Conservation kerb laid flush For details refer to L-90-801; Q10 110
- Edging Type 1e: Steel edging Laid flush Q10 114
- Edging Type 1f: Dropped conservation kerb as per S278 drawings. Refer to S278 drawings. Refer to L-90-801; Q10 110
- Edging Type 1g: Transition kerb as per S278 drawings. Refer to S278 drawings. Refer to L-90-801; Q10 110
- Edging Type 1i: Paving edge detail 500x500x80 Kellen breccia magma Q10 116
- Raised planters to private terrace For details refer to L-90-805 Q50 245
- Slot drain To engineer's specification
- Seating Type 1 - Planter integrated seat to private terrace For details refer to L-90-805 Q50 223
- Seating Type 2 - To public realm area For details refer to L-90-803 Q50 221
- Seating Type 4- Freestanding cubes For detail refer to L-90-803 Q50 224
- Seating Type 5- Fixed cubes to park For detail refer to L-90-803 Q50 222
- Seating Type 6 - Double tier seating For detail refer to L-90-807 Q50 225
- Bike stands For details refer to L-90-803 Q50 210
- Bespoke pergola to private terrace Refer to L-90-805 Q50 250
- Proposed bollards Q50 190
- Litter bin For details refer to L-90-803 Q50 240
- Proposed light stacks to match phase-1. Platek T4 3.5m stacks. Refer to M&E engineers drawings
- Proposed light posts Refer to M&E engineers drawings
- Existing Light Pole to be retained shown indicatively. Refer to Amey's S278 lighting drawings.
- Proposed Light Pole in highways boundary shown indicatively. Refer to Amey's S278 lighting drawings.
- Metal fencing to private terrace Refer to L-90-803 Q40 220
- Proposed tree Refer to L-90-011/013 **Final positions subject to GPRS scan**
- Proposed multi-stem tree Refer to L-90-011/013 **Final positions subject to GPRS scan**
- Proposed multistem tree in pot Q50 243
- Existing trees to be retained
- Existing trees to be removed
- Proposed Lawn Q30 and Q28 Refer to L-90-011/012/013
- Proposed wildflower meadow Q30 and Q28 Refer to L-90-011/012/013
- Proposed mixed shrub and herbaceous planting Q31 Refer to L-90-011/012/013
- Proposed levels
- Existing levels
- Manhole cover, ducts and gully. Refer to engineers drawings. Covers in hard to be recessed with adjacent surfacing
- Tactile paving to crossing Refer to S278 drawings Q25.320
- Tactile paving Q25.321
- Natural stone steps/dwarf wall to entrance Refer to L-90-804 L37.315
- Handrail system to steps & ramp Refer to L-90-804 L37.150
- Timber edging Type 1h Refer to L-90-802 Q10 115
- Festoon lighting to private terrace Refer to L-90-805 Q50 196
- Catenary lighting to parkland Refer to L-90-807 Q50 195
- Curtilage paving detail to building edges Refer to L-90-802
- Balance beam play feature to parkland Q52.330 Installed & approved to RoSPA standards.
- Play stilts to parkland Q52.331 Installed & approved to RoSPA standards.
- Timber Stumps to parkland Q52.332 Installed & approved to RoSPA standards.
- Natural play boulders Q52.333 Installed & approved to RoSPA standards.
- Balance Posts with Rope Q52.334 Installed & approved to RoSPA standards.
- Loose ornamental mulch surfacing for play route in parkland.Depth of mulch as per play specialist recommendations Q31
- Proposed signage to architects details
- Edging Type 1j: Transition conservation kerb. Flush to 50mm upstand. Q10 110
- Seating Type 7 - Bespoke curved timber bench Refer design intent of seating type S2 in L-90-803 detail. Q50 221.
- Access post to doors shown indicatively. Refer to Architect's details
- Tree uplighters Refer to M&E engineers drawings
- Bollard lighting Refer to M&E engineers drawings
- Seating Type 3- Stone seating wall with timber top For detail refer to L-90-806 Q50 220
- Seating Type 8- Stone seating plinth with signage. Signage details by others. For plinth detail refer to L-90-808 Stone spec- Q50 220
- Area to be left open for BBQ fitout. Shown indicatively. BBQ spec/design by fitout specialist. Contractor to liaise with bench manufacturer & fitout specialist to coordinate between two elements.

KEYPLAN NTS



Notes
1. All information shown outside of application boundary is to be considered indicative and subject to separate detailed planning applications.
2. All dimensions in mm, unless otherwise stated.
3. Scaling from drawing if printed incorrectly may lead to errors.
4. All information outside red line boundary shown for contextual purpose only.
5. All hatch patterns are indicative only unless stated otherwise.
6. This drawing is to be read in conjunction with the following re-form landscape architecture documentation:
   - L-90-005- Detail General Arrangement 1 of 2
   - L-90-006- Detail General Arrangement 2 of 2
   - L-90-011, L-90-012, L-90-013- Detail Planting Plans

and ALL relevant drawing and specification information

6. Levels information on this drawing illustrates the design intent. The contractor is to check and verify all levels and dimensions against site survey information.
7. Any discrepancies in the design information are to be brought to the attention of re-form landscape architecture, in writing, prior to commencement of construction works.
8. All proprietary products shall be installed in strict accordance with manufacturers written instructions.
9. Refer to other consultants' drawings and specifications for the following design information:
   - Foundation details
   - Base course and/or sub bases design & specification
   - Waterproofing of any element
   - Drainage design and infrastructure
   - Lighting and ducting
   - Existing & proposed utilities
10. For any works in the highway boundary, refer to engineers approved latest S278 drawings. In case of any discrepancies between the two, please raise it with landscape architect and engineers.

18.11.25 Lighting column positions revised SS SS DL C08

Date	Description of revision	Drawn	Checked	Approved	Revision

re-form landscape architecture
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Client
OLYMPIAN HOMES

Document title
DETAIL GENERAL ARRANGEMENT 1 OF 2

Paper size A0
Scale 1:100
Status FOR REVIEW AND COMMENT S3
Drawing number L-90-005
Revision C08

© re-form landscape architecture

HEYROD STREET

BETLEY STREET

Existing fence

Footpath section where 1:40 crossfall is not achievable

Light post clash with footpath width. Amey to confirm the location of light post.

Levels to carriageway as existing

Area of land outside site ownership. Client to confirm exact legal boundary extents.

Proposed resurfacing to footpath as per S278 drawings. Refer engineers drawings.

Levels in S278 boundary to be agreed with MCC.

Existing manholes & gullies around park area shown indicatively. TBC by engineers

Extent of structural slab

Zip club car

Refer to Designers Risk Assessment
0475-RFM-XX-00-HS-L-0001

101 Warning of significant hazards or information which may be unusual or difficult to manage

201 Note to contractor to take particular action or carry out specific tasks in a particular way

301 Prohibitive action to avoid something or to refrain from a particular action

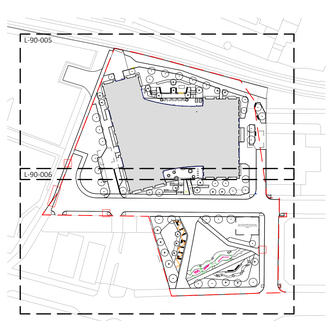
401 Significant information needed to convey to the contractor which they may need to be aware of

Note:
-Final location & sizes of M&E ducts in coordination with engineers.
-Coordination on retained services within full site pending.

006 01 Detail General Arrangement 2 of 2 1:100

Key

- Planning application boundary
- Extent of basement
- Concrete Block Paving Type 1 Permeable paving For details refer to L-90-802 Q25 150 & Q25 336 Colour: Magma.
- Concrete Block Paving Type 2 Permeable paving For details refer to L-90-802 Q25 150 & Q25 336 Colour: Antracite
- Concrete Block Paving Type 3 impermeable Paving For details refer to L-90-802 Q25 151 & Q25 336 Colour:Magma
- Self binding gravel For details see drg L-90-802 Q23 224
- Porous resin bound gravel For details see drg L-90-802 Q23 225
- Macadam surfacing Surfacing to engineer's specification. Varying buildups to different areas. Refer to approved S278 drawings.
- Natural aggregate gravel to building maintenance paths with timber edge; For details refer to drg L-90-801 Q23 160
- Edging Type 1a: PCC conservation highway kerb as per S278 drawings. For indicative details refer to L-90-801; Q10 110
- Edging Type 1b: PCC conservation channel kerb as per S278 drawings. 10mm upstand. For details refer to L-90-801; Q10 110
- Edging Type 1c: PCC conservation kerb, 50mm upstand For details refer to L-90-801; Q10 110
- Edging Type 1d: PCC Conservation kerb laid flush For details refer to L-90-801; Q10 110
- Edging Type 1e: Steel edging Laid flush Q10 114
- Edging Type 1f: Dropped conservation kerb as per S278 drawings. Refer to S278 drawings. Refer to L-90-801; Q10 110
- Edging Type 1g: Transition kerb as per S278 drawings. Refer to S278 drawings. Refer to L-90-801; Q10 110
- Edging Type 1i: Paving edge detail 500x500x80 Kellen breccia magma Q10 116
- Raised planters to private terrace For details refer to L-90-805 Q50 245
- Slot drain To engineer's specification
- Seating Type 1 - Planter integrated seat to private terrace For details refer to L-90-805 Q50 223
- Seating Type 2 - To public realm area For details refer to L-90-803 Q50 221
- Seating Type 4- Freestanding cubes For detail refer to L-90-803 Q50 224
- Seating Type 5- Fixed cubes to park For detail refer to L-90-803 Q50 222
- Seating Type 6 - Double tier seating For detail refer to L-90-807 Q50 225
- Bike stands For details refer to L-90-803 Q50 210
- Bespoke pergola to private terrace Refer to L-90-805 Q50 250
- Proposed bollards Q50 190
- Litter bin For details refer to L-90-803 Q50 240
- Proposed light stacks to match phase-1. Platek T4 3.5m stacks. Refer to M&E engineers drawings
- Proposed light posts Refer to M&E engineers drawings
- Existing Light Pole to be retained shown indicatively. Refer to Amey's S278 lighting drawings.
- Proposed Light Pole in highways boundary shown indicatively. Refer to Amey's S278 lighting drawings.
- Metal fencing to private terrace Refer to L-90-803 Q40 220
- Proposed tree Refer to L-90-011/013 **Final positions subject to GPRS scan**
- Proposed multi-stem tree Refer to L-90-011/013 **Final positions subject to GPRS scan**
- Proposed multistem tree in pot Q50 243
- Existing trees to be retained
- Existing trees to be removed
- Proposed Lawn Q30 and Q28 Refer to L-90-011/012/013
- Proposed wildflower meadow Q30 and Q28 Refer to L-90-011/012/013
- Proposed mixed shrub and herbaceous planting Q31 Refer to L-90-011/012/013
- Proposed levels
- Existing levels
- Manhole cover, ducts and gully. Refer to engineers drawings. Covers in hard to be recessed with adjacent surfacing
- Tactile paving to crossing Refer to S278 drawings Q25.320
- Tactile paving Q25.321
- Natural stone steps/dwarf wall to entrance Refer to L-90-804 L37.315
- Handrail system to steps & ramp Refer to L-90-804 L37.150
- Timber edging Type 1h Refer to L-90-802 Q10 115
- Festoon lighting to private terrace Refer to L-90-805 Q50 196
- Catenary lighting to parkland Refer to L-90-807 Q50 195
- Curtilage paving detail to building edges Refer to L-90-802
- Balance beam play feature to parkland Q52.330 Installed & approved to RoSPA standards.
- Play stilts to parkland Q52.331 Installed & approved to RoSPA standards.
- Timber Stumps to parkland Q52.332 Installed & approved to RoSPA standards.
- Natural play boulders Q52.333 Installed & approved to RoSPA standards.
- Balance Posts with Rope Q52.334 Installed & approved to RoSPA standards.
- Loose ornamental mulch surfacing for play route parkland.Depth of mulch as per play specialist recommendation Q31
- Proposed signage to architects details
- Edging Type 1j: Transition conservation kerb. Flush to 50mm upstand. Q10 110
- Seating Type 7 - Bespoke curved timber bench Refer design intent of seating type S2 in L-90-803 detail. Q50 221.
- Access post to doors shown indicatively. Refer to Architect's details
- Tree uplighters Refer to M&E engineers drawings
- Bollard lighting Refer to M&E engineers drawings
- Seating Type 3- Stone seating wall with timber top For detail refer to L-90-806
- Seating Type 8- Stone seating plinth with signage. Signage details by others. For plinth detail refer to L-90-808 Stone spec- Q50 220
- Area to be left open for BBQ fitout. Shown indicatively. BBQ spec/design by fitout specialist. Contractor to liaise with bench manufacturer & fitout specialist to coordinate between two elements.



KEYPLAN NTS

Notes
1. All information shown outside of application boundary is to be considered indicative and subject to separate detailed planning applications.
2. All dimensions in mm, unless otherwise stated.
3. Scaling from drawing if printed incorrectly may lead to errors.
4. All information outside red line boundary shown for contextual purpose only.
5. All hatch patterns are indicative only unless stated otherwise.
6. This drawing is to be read in conjunction with the following re-form landscape architecture documentation:
- L-90-005- Detail General Arrangement 1 of 2
- L-90-006- Detail General Arrangement 2 of 2
- L-90-011, L-90-012, L-90-013- Detail Planting Plans

and ALL relevant drawing and specification information

6. Levels information on this drawing illustrates the design intent. The contractor is to check and verify all levels and dimensions against site survey information.
7. Any discrepancies in the design information are to be brought to the attention of re-form landscape architecture, in writing, prior to commencement of construction works.
8. All proprietary products shall be installed in strict accordance with manufacturers written instructions.
9. Refer to other consultants' drawings and specifications for the following design information:
- Foundation details
- Base course and/or sub bases design & specification
- Waterproofing of any element
- Drainage design and infrastructure
- Lighting and ducting
- Existing & proposed utilities

10. For any works in the highway boundary, refer to engineers approved latest S278 drawings. In case of any discrepancies between the two, please raise it with landscape architect and engineers.

18.11.25 - Lighting column positions revised SS SS DL C08

Date | Description of revision | Drawn | Checked | Approved | Revision

re-form
andscape architecture

Beehive Mill, Jersey Street,
Manchester M4 6JG
T: +44 (0)161 397 4953
E: info@re-formlandscape.com
W: re-formlandscape.com

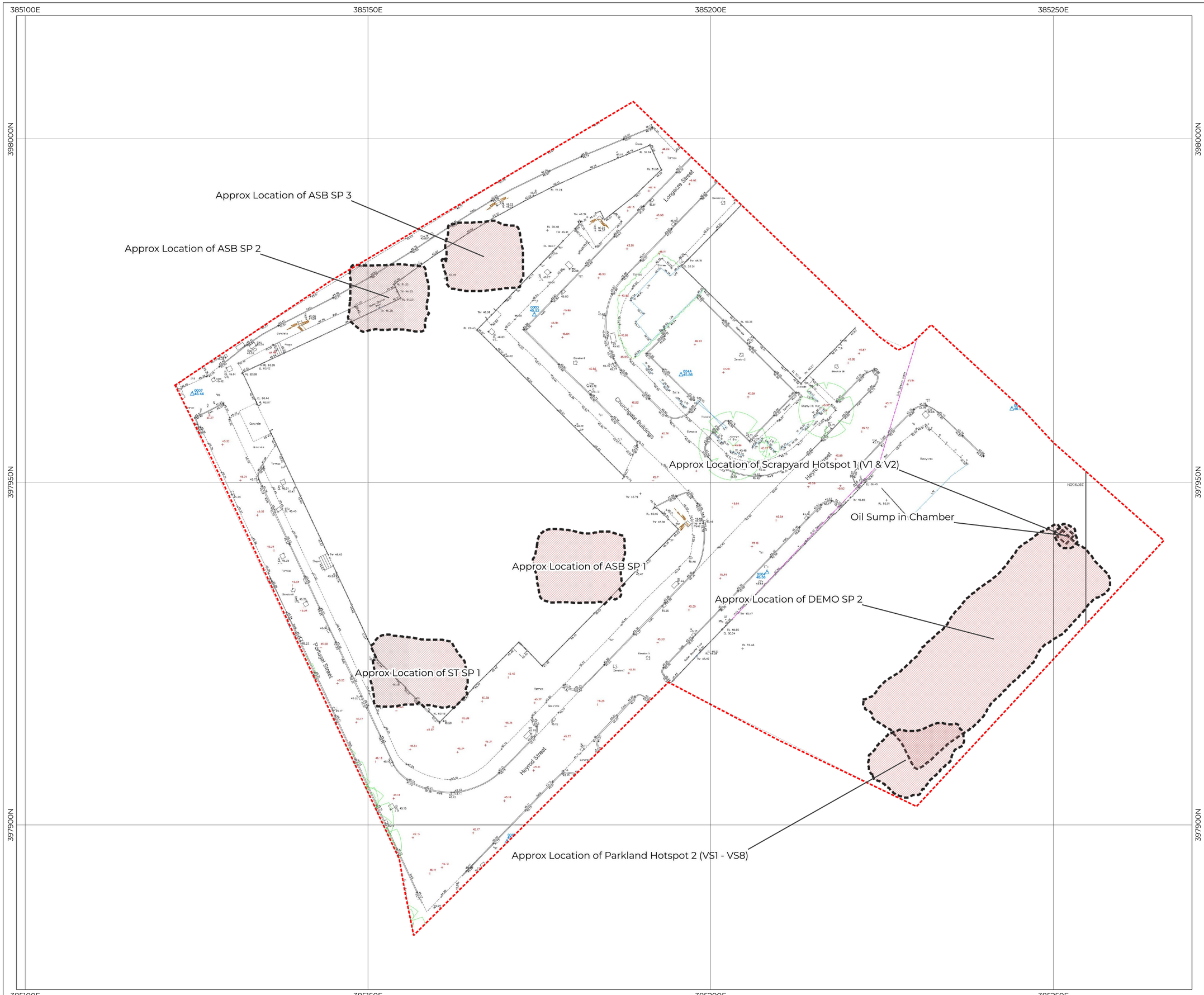
Project
FAIRFAX
RF17-475.1

Client
OLYMPIAN HOMES

Document title
DETAIL GENERAL ARRANGEMENT 2 OF 2

Paper size A0
Scale 1:100
Status FOR REVIEW AND COMMENT
Drawing number L-90-006
Revision C08

© re-form landscape architecture



GeoEnvironmental

remediation features

Grid is UK National Grid

Client Name:
Apex

Project Name:
The Fairfax Manchester

Drawing / Figure Title:
Remediation Features

Reference:
3361-53
Figure 03

Scale:
1:500



GeoEnvironmental

⊙ Soil Cover Validation Pits (as dug)

Grid is UK National Grid

Client Name:
Apex

Project Name:
The Fairfax Manchester

Drawing / Figure Title:
Soil Cover Validation Pits - Location Plan

Reference:
3361-53
Figure 02

Scale:
1:500

Appendix B – Decision Notice / Planning Conditions

MANCHESTER CITY COUNCIL

Town & Country Planning Act 1990 (as amended)

Planning Permission

Applicant

Portugal Street East Limited
C/o Agent

Agent (if used)

Mr John Cooper
Deloitte LLP
PO Box 500
2 Hardman Street
Manchester
M60 2AT

Part 1 – Particulars of the application/development

Proposal: Construction of two residential buildings (Use Class C3) comprising Block 1 (29 storeys) (224 apartments (4 x 1 bed 1 person, 52 x 1 bed 2 person, 64 x 2 bed 3 person and 104 x 2 bed 4 person) 25% 1 bed and 75 % 2 bed) Block 2 (23 storeys) (264 apartments 44 x1 bed 1 person, 44 x 1 bed 2 person, 92 x 2 bed 3 person and 84 x 2 bed 4 person) (33% 1 bed and 67%% 2 bed) with a linked central podium, to deliver 488 units, shared amenity space, 27 car parking spaces, 492 cycle spaces, landscaping (including new public park) , lighting, highways and associated works following demolition of existing buildings and structures.

Location: Land At Portugal Street East, Manchester, M1 2WX

Date of application: 20 August 2019

Application number: 121099/FO/2018

Part 2 – Particulars of decision

Manchester City Council gives notice that the development referred to in Part 1 has been **Approved** in accordance with the application and plans submitted subject to the condition(s) listed below (if any).

Article 35 Declaration

Officers have worked with the applicant in a positive and pro-active manner to seek solutions to problems arising in relation to dealing with the planning application. This has included on going discussions about the form and design of the developments and pre application advice about the information required to be submitted to support the application.

Condition(s) attached to this decision

1) The development must be begun not later than the expiration of three years beginning with the date of this permission.

Reason: In the interests of safeguarding Metrolink infrastructure pursuant to Core Strategy policy DM1.

9) (a) Before the development hereby approved commences, a report (the Preliminary Risk Assessment) to identify and evaluate all potential sources and impacts of any ground contamination, groundwater contamination and/or ground gas relevant to the site shall be submitted to and approved in writing by the City Council as local planning authority. The Preliminary Risk Assessment shall conform to City Council's current guidance document (Planning Guidance in Relation to Ground Contamination).

(b) In the event of the Preliminary Risk Assessment identifying risks which in the written opinion of the Local Planning Authority require further investigation, the development shall not commence until a scheme for the investigation of the site and the identification of remediation measures (the Site Investigation Proposal) has been submitted to and approved in writing by the City Council as local planning authority. The measures for investigating the site identified in the Site Investigation Proposal shall be carried out, before the development commences and a report prepared outlining what measures, if any, are required to remediate the land (the Site Investigation Report and/or Remediation Strategy) which shall be submitted to and approved in writing by the City Council as local planning authority.

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

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

Reason - To ensure that the presence of or the potential for any contaminated land and/or groundwater is detected and appropriate remedial action is taken in the interests of public safety, pursuant to Section 11 of the National Planning Policy Framework and policy EN18 of the Core Strategy.

10) Prior to the commencement of the development a detailed construction management plan outlining working practices during development shall be submitted to and approved in writing by the local planning authority with consideration to include consultation with TFGM (Metrolink) which for the avoidance of doubt should include;

*Display of an emergency contact number;
*Details of Wheel Washing;
*Dust suppression measures;
*Compound locations where relevant;
*Location, removal and recycling of waste;
*Routing strategy and swept path analysis;
*Parking of construction vehicles and staff;
*Sheeting over of construction vehicles;

For the avoidance of doubt and to ensure a satisfactory development pursuant to Core Strategy policies SP1, DM1, EN2 and CC6.

Informatives

Building Regulations 2010
This permission does not grant approval under Building Regulations.

Street Naming & Numbering Requirements
Manchester City Council is responsible for allocating street naming and numbering within Manchester for new developments or property conversions. Individuals or businesses are not permitted to allocate their own property numbers, building or street names.

If your development includes the creation of new dwellings (either new build or conversion of existing buildings), creation of new commercial properties or the subdivision of existing properties you must ensure that you request new or changes to addresses through us so they can be officially allocated and registered in accordance with the Public Health Act 1925 Sections 17-19 & Greater Manchester Act 1981 Section 22.

Failure to do this may result in difficulties for the developer/occupier when requiring services such as connections to utilities, phone lines and postal services and may delay your development.

You can apply online at the following address:
http://www.manchester.gov.uk/info/100011/roads_parking_and_transport/1988/naming_and_numbering_of_houses_buildings_streets_and_roads/2

Mining Information
The proposed development lies within an area which could be subject to current coal mining or hazards resulting from past coal mining. Please read the Standing Advice from the Coal Authority in Appendix A.

No development shall take place, including any works of demolition, until a TfGM equipment protection and network
disruption mitigation strategy has been submitted to, and approved in writing by Manchester City Council (approval to
be in consultation with Transport for Greater Manchester). The approved strategy shall include detailed proposals for
protection and continuous operation of all equipment within the TfGM premises in the basement during demolition and construction
(some of which is operationally critical for significant parts of the Metrolink network). For the avoidance of doubt it
shall incorporate the following (as a minimum):

1. Measures to be implemented during piling operations (which may require, for example, the replacement of protection relays with anti-vibration components or other equipment modifications at the developer's cost)
2. Network disruption mitigation measures (which shall be agreed with TfGM and funded by the developer) to provide network resilience to enable the maintenance of the current operational service pattern. For the avoidance of doubt this may include the installation of additional equipment beyond the development footprint.

3. Maintenance of the low voltage power supply to TfGM equipment so as to be available and operational throughout the construction period including replacement if required and provision for any downtime (all at the developer's cost)
4. Measures to be taken to ensure 24 hour, 7 days per week access to TfGM infrastructure during demolition and construction
5. Provision of a single nominated point of contact to manage the strategy and liaise with TfGM and the Metrolink operator throughout the demolition and construction phases of the project. The nominated contact shall keep TfGM fully informed of progress via meetings and reports (at a frequency of no less than monthly) and shall provide site supervision of any construction activities which could impact on Metrolink infrastructure
Reason: In the interests of protecting operationally critical TfGM Metrolink infrastructure from damage and mitigate
the risk of network service disruption, pursuant to policies

All of the works required to achieve the new accesses / egresses and associated TROs should be included as part of a S278 agreement to be funded by the applicant

Construction/demolition works shall be confined to the following hours unless otherwise agreed in writing by the City Council as local planning authority:
Monday - Friday: 7.30am - 6pm
Saturday: 8.30am - 2pm
Sunday / Bank holidays: No work

Workforce may arrive on site 30 minutes prior but no working outside these times, unless changed by prior agreement. Noise to be kept to a minimum in the first hour.
Reason - To safeguard the amenities of the occupiers of nearby residential accommodation during the construction phase.

Any materials approved for planning purposes should be discussed in full with Building Control. This is to ensure they meet the guidance contained in the Building Regulations for fire safety. Should it be necessary to change the external facade treatment due to conflicts with the Building Regulations you should discuss these with the Planning Service as soon as possible as this could materially effect your permission.

Excavation is not to be carried out greater than 1m deep within 1m of the Metrolink operational boundary or any piling works within
the zone of influence without notifying Metrolink in advance. Any such works may require track monitoring to be carried out as
agreed with Metrolink and at the cost to the developer.

Reason: To ensure that the development does not adversely affect the track alignment and therefore the operation of Metrolink

No works to trees or shrubs shall occur between the 1st March and 31st August in any year unless a detailed bird nest
survey by a suitably experienced ecologist has been carried out immediately prior to clearance and written confirmation
provided that no active bird nests are present which has been agreed in writing by the LPA.

Any signage, wayfinding, banners or any other advertisements to be installed in and around the application site for the purpose of the promotion of the developments and routes to it may require consent under the Town and Country Planning (Control of Advertisements) (England) Regulations 2007

The applicant is advised that the application site falls partially within land that may be required to construct and/or operate Phase 2b of a high speed rail line from Crewe to Manchester and the West Midlands to Leeds, known as High Speed Two. Powers to construct and operate High Speed Two are to be sought by promoting a hybrid Bill in Parliament. As a result the application site may be compulsorily purchased. More information can be found at: https://www.gov.uk/government/ organisations/high-speed-two-limited."

The applicant should note that shared surfaces are not supported by MCC, all footways should be separated from the carriageway by an appropriate upstand and a minimum 2.0m footway should be maintained on all pedestrian routes.

Date: 16 March 2021

Signed: 

Julie Roscoe
Director of Planning, Building Control & Licensing

Manchester City Council, P O Box 532, Town Hall, Manchester M60 2LA

Notes

1. This permission refers only to that required under the Town and Country Planning Act 1990 does not include any consent or approval under any other enactment, byelaw, order or regulation.

2 If the applicant is aggrieved by the decision of the local planning authority to refuse permission or approval for the proposed development, or to grant permission or approval subject to conditions, they may appeal to the Secretary of State in accordance with Section 78(1) of the Town and Country Planning Act 1990 within six months of the date of the notice of the decision.

The Planning Inspectorate have introduced an online appeals service that can be used to make appeals online. This service is available through the gov.uk website – www.gov.uk/planning-inspectorate. The Inspectorate will publish details of your appeal on the internet. Alternatively If you are unable to access the online appeal form, please contact the Planning Inspectorate to obtain a paper copy of the appeal form on tel: 0303 444 5000.

The Secretary of State has power to allow a longer period for the giving of a notice of appeal but they will not normally be prepared to exercise this power unless there are special circumstances that excuse the delay in giving notice of appeal.

If you intend to submit an appeal that you would like examined by inquiry then you must notify the City Council (planning@manchester.gov.uk) and the Planning Inspectorate (inquiryappeals@planninginspectorate.gov.uk) at least 10 days before submitting the appeal. Further details are on GOV.UK.

3. The statutory requirements are those set out in Section 79(6) of the Town and Country Planning Act 1990, namely Sections 70(1) and 72(1) of the Act.

4. If either the local planning authority of the Secretary of State refuses permission to develop land or grants it subject to conditions, the owner may claim that they can neither put the land to a reasonably beneficial use in its existing state nor render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted.

In these circumstances, the owner may serve a purchase notice on the Council in whose area the land is situated. This notice will require the Council to purchase his interest in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990

5. In certain circumstances, a claim may be made against the local planning authority for compensation, where permission is refused or granted subject to conditions by the Secretary of State on appeal or on a reference of the application to them. The circumstances in which such compensation is payable are set out in Section 114 of the Town and Country Planning Act 1990.

Right of challenge on planning application decision

A third party does not have a right of appeal against a decision on a planning application. Instead there is a right of challenge (a Judicial Review) which is limited to lawfulness of the procedure that we have taken in coming to that decision.

Any challenge must be based on the following and not the merit of the decision:

- Procedural irregularity
- Irrationality
- Illegality

Any application for permission to bring such a challenge (which is through the High Court) must be made within 6 weeks of the date of the decision being issued.

Appendix A

The Coal Authority

Any Planning Enquiries should be directed to:

Planning and Local Authority Liaison

Telephone: 01623 637 119
Email: planningconsultation@coal.gov.uk
Website: www.gov.uk/government/organisations/the-coal-authority

STANDING ADVICE - DEVELOPMENT LOW RISK AREA

The proposed development lies within a coal mining area which may contain unrecorded coal mining related hazards. If any coal mining feature is encountered during development, this should be reported immediately to the Coal Authority on 0345 762 6848.

Further information is also available on the Coal Authority website at:
www.gov.uk/government/organisations/the-coal-authority

This Standing Advice is valid from 1st January 2021 until 31st December 2022

Appendix C – Asbestos Analysis

Matthew Thompson
Apex Consulting Engineers Ltd
Unit 3, Acres Hill Business Park
2 Acres Hill Lane
Sheffield
South Yorkshire
S9 4LT

t: (114) 2419360

e: Matthew.Thompson@apexconsulting.co.uk

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 : 22-92058

Replaces Analytical Report Number: 22-92058, issue no. 1
Additional analysis undertaken.

Project / Site name:	Portugal Street East	**Samples received on:**	21/10/2022
Your job number:	1007	**Samples instructed on/ Analysis started on:**	21/10/2022
Your order number:	GEO-SY-341	**Analysis completed by:**	16/11/2022
Report Issue Number:	2	**Report issued on:**	17/11/2022
Samples Analysed:	1 bulk sample - 5 soil samples		

Signed [redacted]

Joanna Wawrzeczko
Reporting Specialist
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: 22-92058
Project / Site name: Portugal Street East
Your Order No: GEO-SY-341

Lab Sample Number				2472813	2472814	2472815	2472817	2472818
Sample Reference				TP111	TP111	TP112	TP112	TP112
Sample Number				1	2	1	3	4
Depth (m)				0.60	1.20	0.60	1.40	1.55
Date Sampled				17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	15	10	23	15
Total mass of sample received	kg	0.001	NONE	1.3	0.3	1.3	1.3	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	-	Not-detected	Not-detected	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.01	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	0.01	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	PDO	N/A	PDO	PDO	N/A
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.4	-	8	8.4	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.7	-	< 0.1	1.5	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	-	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	-	< 0.05
Acenaphthene	mg/kg	0.05	NONE	0.39	< 0.05	< 0.05	-	< 0.05
Fluorene	mg/kg	0.05	NONE	0.22	< 0.05	< 0.05	-	< 0.05
Phenanthrene	mg/kg	0.05	NONE	2.2	< 0.05	< 0.05	-	< 0.05
Anthracene	mg/kg	0.05	NONE	0.49	< 0.05	< 0.05	-	< 0.05
Fluoranthene	mg/kg	0.05	NONE	3.3	< 0.05	< 0.05	-	< 0.05
Pyrene	mg/kg	0.05	NONE	2.9	< 0.05	< 0.05	-	< 0.05
Benzo(a)anthracene	mg/kg	0.05	NONE	1.7	< 0.05	< 0.05	-	< 0.05
Chrysene	mg/kg	0.05	NONE	1.4	< 0.05	< 0.05	-	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	NONE	1.9	< 0.05	< 0.05	-	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.69	< 0.05	< 0.05	-	< 0.05
Benzo(a)pyrene	mg/kg	0.05	NONE	1.8	< 0.05	< 0.05	-	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	0.94	< 0.05	< 0.05	-	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	0.23	< 0.05	< 0.05	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	1	< 0.05	< 0.05	-	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	-	-	-	-
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	-	< 0.80	< 0.80	-	< 0.80
Total WAC-17 PAHs	mg/kg	0.85	NONE	19.1	-	-	-	-
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	23	-	5.5	36	-
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	-	0.4	1.5	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	< 0.2	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	39	-	14	90	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	100	-	22	130	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	420	-	13	260	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.6	-	< 0.3	0.8	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	-	21	43	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	< 1.0	< 1.0	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	230	-	16	110	-

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 22-92058
Project / Site name: Portugal Street East
Your Order No: GEO-SY-341

Lab Sample Number				2472813	2472814	2472815	2472817	2472818
Sample Reference				TP111	TP111	TP112	TP112	TP112
Sample Number				1	2	1	3	4
Depth (m)				0.60	1.20	0.60	1.40	1.55
Date Sampled				17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	NONE	39	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

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The results included within the report relate only to the sample(s) submitted for testing.

UKAS TESTING
4041

Analytical i2 Environmental Science

Analytical Report Number: 22-92058
Project / Site name: Portugal Street East
Your Order No: GEO-SY-341

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-PL 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
2472813	TP111	0.60	129	Loose Fibres	**Chrysotile**	0.010	**0.010**

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: 22-92058
Project / Site name: Portugal Street East

Your Order No: GEO-SY-341

Lab Sample Number	2472816
Sample Reference	TP112
Sample Number	2
Depth (m)	1.30
Date Sampled	17/10/2022
Time Taken	None Supplied

Analytical Parameter (Bulk Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Asbestos Identification	Type	N/A	ISO 17025	No Asbestos Detected
Asbestos Analyst ID	N/A	N/A	N/A	PDO

U/S = Unsuitable Sample I/S = Insufficient Sample

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 22-92058
Project / Site name: Portugal Street East

* 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 *
2472813	TP111	1	0.6	Brown clay and sand with gravel.
2472814	TP111	2	1.2	Brown clay and sand.
2472815	TP112	1	0.6	Brown sand with gravel.
2472817	TP112	3	1.4	Brown clay and sand with gravel.
2472818	TP112	4	1.55	Brown clay and sand.

Analytical Report Number : 22-92058
Project / Site name: Portugal Street East

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
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.	L038-PL	D	MCERTS
Asbestos identification in Bulks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	W	ISO 17025
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	A001-PL	D	ISO 17025
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	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270.	L064-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
PRO (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	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.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
TPH Oils (Soils)	Determination of extractable hydrocarbons in soil by GC-MS/FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
DRO (Soil)	Determination of extractable hydrocarbons in soil by GC-MS/FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	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.

Analytical Report Number : 22-92058
Project / Site name: Portugal Street East

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

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 - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 22-92065

Replaces Analytical Report Number: 22-92065, issue no. 1
Additional analysis undertaken.

Project / Site name:	Portugal Street East	**Samples received on:**	21/10/2022
Your job number:	1007	**Samples instructed on/ Analysis started on:**	21/10/2022
Your order number:	GEO-SY-342	**Analysis completed by:**	21/11/2022
Report Issue Number:	2	**Report issued on:**	23/11/2022
Samples Analysed:	6 soil samples		

Signed [redacted]

Karolina Marek
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

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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.

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The results included within the report relate only to the sample(s) submitted for testing

Analytical Report Number: 22-92065
Project / Site name: Portugal Street East
Your Order No: GEO-SY-342

Lab Sample Number				2472863	2472864	2472865	2472866
Sample Reference				ASB SP1	ASB SP1	ASB SP1	ST SP1
Sample Number				1 Stockpile	2 Stockpile	3 Stockpile	1 Service Trench Stockpile
Depth (m)				0.60	1.20	0.60	1.30
Date Sampled				20/10/2022	20/10/2022	20/10/2022	20/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	-	-	-	21
Moisture Content	%	0.01	NONE	-	-	-	13
Total mass of sample received	kg	0.001	NONE	-	-	-	1.1
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile	Chrysotile	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	0.009	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	0.009	< 0.001	-
Asbestos Analyst ID	N/A	N/A	N/A	MJN	MJN	MJN	MJN
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	-	-	-	8
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	-	-	3.1
Speciated PAHs							
Naphthalene	mg/kg	0.05	NONE	-	-	-	1.2
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	0.4
Acenaphthene	mg/kg	0.05	NONE	-	-	-	1.8
Fluorene	mg/kg	0.05	NONE	-	-	-	0.84
Phenanthrene	mg/kg	0.05	NONE	-	-	-	14
Anthracene	mg/kg	0.05	NONE	-	-	-	3.6
Fluoranthene	mg/kg	0.05	NONE	-	-	-	27
Pyrene	mg/kg	0.05	NONE	-	-	-	25
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	-	12
Chrysene	mg/kg	0.05	NONE	-	-	-	13
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	-	11
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	-	6.8
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	-	10
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	-	4.2
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	-	1.2
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	-	5
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	-	-	-	137
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	43
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	-	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	-	2.3
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	34
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	240
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	1600
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	-	0.7
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	44
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	1100

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Analytical Report Number: 22-92065
Project / Site name: Portugal Street East
Your Order No: GEO-SY-342

Lab Sample Number				2472863	2472864	2472865	2472866
Sample Reference				ASB SP1	ASB SP1	ASB SP1	ST SP1
Sample Number				1 Stockpile	2 Stockpile	3 Stockpile	1 Service Trench Stockpile
Depth (m)				0.60	1.20	0.60	1.30
Date Sampled				20/10/2022	20/10/2022	20/10/2022	20/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Petroleum Hydrocarbons							
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	-	-	< 0.1
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	-	-	-	280
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	NONE	-	-	-	550

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-92065
Project / Site name: Portugal Street East
Your Order No: GEO-SY-342

Lab Sample Number				2472867	2472868
Sample Reference				ST SP1	ST SP1
Sample Number				2 Service Trench Stockpile	3 Service Trench Stockpile
Depth (m)				1.40	1.55
Date Sampled				20/10/2022	20/10/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	46	< 0.1
Moisture Content	%	0.01	NONE	8	17
Total mass of sample received	kg	0.001	NONE	1.1	1.1
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile- Loose Fibres	Chrysotile- Loose Fibres
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-
Asbestos Analyst ID	N/A	N/A	N/A	MJN	MJN
General Inorganics					
pH - Automated	pH Units	N/A	MCERTS	7.6	7.8
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.7	3
Speciated PAHs					
Naphthalene	mg/kg	0.05	NONE	2.4	0.76
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	0.1
Acenaphthene	mg/kg	0.05	NONE	5.2	1.1
Fluorene	mg/kg	0.05	NONE	3.3	0.71
Phenanthrene	mg/kg	0.05	NONE	29	7.1
Anthracene	mg/kg	0.05	NONE	6.6	1.8
Fluoranthene	mg/kg	0.05	NONE	37	13
Pyrene	mg/kg	0.05	NONE	32	12
Benzo(a)anthracene	mg/kg	0.05	NONE	15	7.5
Chrysene	mg/kg	0.05	NONE	16	6.5
Benzo(b)fluoranthene	mg/kg	0.05	NONE	17	8
Benzo(k)fluoranthene	mg/kg	0.05	NONE	6.8	3.7
Benzo(a)pyrene	mg/kg	0.05	NONE	15	7.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	7.7	3.9
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	1.7	0.84
Benzo(ghi)perylene	mg/kg	0.05	NONE	9	4.5
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	205	79.3
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	23	38
Boron (water soluble)	mg/kg	0.2	MCERTS	1	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.8	2.1
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	24
Copper (aqua regia extractable)	mg/kg	1	MCERTS	110	200
Lead (aqua regia extractable)	mg/kg	1	MCERTS	970	1800
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5	0.7
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	38
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	730	1100

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Analytical Report Number: 22-92065
Project / Site name: Portugal Street East
Your Order No: GEO-SY-342

Lab Sample Number				2472867	2472868
Sample Reference				ST SP1	ST SP1
Sample Number				2 Service Trench Stockpile	3 Service Trench Stockpile
Depth (m)				1.40	1.55
Date Sampled				20/10/2022	20/10/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Petroleum Hydrocarbons					
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	330	390
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	NONE	750	270

U/S = Unsuitable Sample I/S = Insufficient Sample

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The results included within the report relate only to the sample(s) submitted for testing.

UKAS TESTING
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Analytical i2 Environmental Science

Analytical Report Number: 22-92065
Project / Site name: Portugal Street East
Your Order No: GEO-SY-342

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-PL 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
2472864	ASB SP1	1.20	126	Loose Fibres	**Chrysotile**	0.009	**0.009**
2472865	ASB SP1	0.60	125	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
2472867	ST SP1	1.40	-	-	**Chrysotile- Loose Fibres**	-	**-**
2472868	ST SP1	1.55	-	-	**Chrysotile- Loose Fibres**	-	**-**

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 22-92065
Project / Site name: Portugal Street East

* 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 *
2472866	ST SP1	vice Trench Stoc	1.3	Brown loam and clay with gravel and stones.
2472867	ST SP1	vice Trench Stoc	1.4	Brown loam and clay with gravel and stones.
2472868	ST SP1	vice Trench Stoc	1.55	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 22-92065
Project / Site name: Portugal Street East

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
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.	L038-PL	D	MCERTS
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	A001-PL	D	ISO 17025
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	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
PRO (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	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.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
TPH Oils (Soils)	Determination of extractable hydrocarbons in soil by GC-MS/FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
DRO (Soil)	Determination of extractable hydrocarbons in soil by GC-MS/FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	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.

Analytical Report Number : 22-92065
Project / Site name: Portugal Street East

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

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 - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 22-96473

Project / Site name:	Portugal Street East	**Samples received on:**	11/11/2022
Your job number:	009 1007 ASB SP 1 2	**Samples instructed on/ Analysis started on:**	14/11/2022
Your order number:	GEO-SY-352	**Analysis completed by:**	23/11/2022
Report Issue Number:	1	**Report issued on:**	23/11/2022
Samples Analysed:	6 soil samples		

Signed: [redacted]

Izabela Wójcik
Reporting Specialist
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

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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.

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Analytical Report Number: 22-96473
Project / Site name: Portugal Street East
Your Order No: GEO-SY-352

Lab Sample Number				2498419	2498420	2498421	2498422	2498423
Sample Reference				ASB SP2 1	ASB SP2 2	ASB SP2 3	ASB SP3 1	ASB SP3 2
Sample Number				1	2	3	1	2
Depth (m)				Stockpile	Stockpile	Stockpile	Stockpile	Stockpile
Date Sampled				10/11/2022	10/11/2022	10/11/2022	10/11/2022	10/11/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	Chrysotile- Loose Fibres	Chrysotile- Loose Fibres
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Detected	Detected
Asbestos Analyst ID	N/A	N/A	N/A	EC	EC	EC	EC	EC

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical i2 Environmental Science

Analytical Report Number: 22-96473
Project / Site name: Portugal Street East
Your Order No: GEO-SY-352

Lab Sample Number				2498424
Sample Reference				ASB SP3 3
Sample Number				3
Depth (m)				Stockpile
Date Sampled				10/11/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	PDO

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 22-96473
Project / Site name: Portugal Street East

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	A001-PL	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.

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Environmental Science

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Analytical Report Number : 23-54118

Project / Site name:	Portugal Street East	**Samples received on:**	31/08/2023
Your job number:	1007	**Samples instructed on/ Analysis started on:**	01/09/2023
Your order number:	GEO-SY-545	**Analysis completed by:**	06/09/2023
Report Issue Number:	1	**Report issued on:**	07/09/2023
Samples Analysed:	6 soil samples		

Signed [redacted]

Izabela Wójcik
Reporting Specialist
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

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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.

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Analytical Report Number: 23-54118
Project / Site name: Portugal Street East
Your Order No: GEO-SY-545

Lab Sample Number				2797909	2797910	2797911	2797912	2797913
Sample Reference				SP/AQ-1	SP/AQ-2	SP/AQ-3	SP/AQ-4	SP/AQ-5
Sample Number				Spoil Pile	Spoil Pile	Spoil Pile	Spoil Pile	Spoil Pile
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				30/08/2023	30/08/2023	30/08/2023	30/08/2023	30/08/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	-	-	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Not-detected	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	-	-	0.012
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	-	-	0.012
Asbestos Analyst ID	N/A	N/A	N/A	DSA	DSA	DSA	DSA	DSA

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

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Analytical Report Number: 23-54118
Project / Site name: Portugal Street East
Your Order No: GEO-SY-545

Lab Sample Number				2797914
Sample Reference				SP/AQ-6
Sample Number				Spoil Pile
Depth (m)				None Supplied
Date Sampled				30/08/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001
Asbestos Analyst ID	N/A	N/A	N/A	DSA

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: 23-54118
Project / Site name: Portugal Street East
Your Order No: GEO-SY-545

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-PL 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
2797909	SP/AQ-1		193	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
2797910	SP/AQ-2		181	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
2797913	SP/AQ-5		177	Loose Fibrous Debris	**Chrysotile**	0.012	**0.012**
2797914	SP/AQ-6		160	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

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

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Analytical Report Number : 23-54118
Project / Site name: Portugal Street East

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	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

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.

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Appendix D – Oil Sump H/S1 Validation

Group	Determinand	CAS	Unit	Source Reference	**Public Open Space (resi) 1% SOM**	**2492450OIL SUMP V1**	**2492451OIL SUMP V2**	N (Number of Samples)	Minimum Value	Average Value	Maximum Value	Number of Exceedances
Polycyclic Aromatic Hydrocarbons	Acenaphthene		mg/kg	LQM S4ULs 2015	**15000**	0.05	0.05	2	0.05	0.1	0.05	0
	Acenaphthylene		mg/kg	LQM S4ULs 2015	**15000**	0.05	0.05	2	0.05	0.1	0.05	0
	Anthracene		mg/kg	LQM S4ULs 2015	**74000**	0.05	0.07	2	0.05	0.1	0.07	0
	Benz(a)anthracene		mg/kg	LQM S4ULs 2015	**29**	0.05	0.18	2	0.05	0.1	0.18	0
	Benzo(a)pyrene (Bap)		mg/kg	LQM S4ULs 2015	**5.7**	0.05	0.16	2	0.05	0.1	0.16	0
	Benzo(b)fluoranthene		mg/kg	LQM S4ULs 2015	**7.1**	0.05	0.15	2	0.05	0.1	0.15	0
	Benzo(g,h,i)perylene		mg/kg	LQM S4ULs 2015	**640**	0.05	0.05	2	0.05	0.1	0.05	0
	Benzo(k)fluoranthene		mg/kg	LQM S4ULs 2015	**190**	0.05	0.12	2	0.05	0.1	0.12	0
	Chrysene		mg/kg	LQM S4ULs 2015	**57**	0.09	0.19	2	0.09	0.1	0.19	0
	Dibenzo(ah)anthracene		mg/kg	LQM S4ULs 2015	**0.57**	0.05	0.05	2	0.05	0.1	0.05	0
	Fluoranthene		mg/kg	LQM S4ULs 2015	**3100**	0.13	0.31	2	0.13	0.2	0.31	0
	Fluorene		mg/kg	LQM S4ULs 2015	**9900**	0.05	0.05	2	0.05	0.1	0.05	0
	Indeno(1,2,3-cd)pyrene		mg/kg	LQM S4ULs 2015	**82**	0.05	0.05	2	0.05	0.1	0.05	0
	Naphthalene		mg/kg	LQM S4ULs 2015	**4900**	0.24	0.05	2	0.05	0.1	0.24	0
	Phenanthrene		mg/kg	LQM S4ULs 2015	**3100**	0.15	0.28	2	0.15	0.2	0.28	0
	Pyrene		mg/kg	LQM S4ULs 2015	**7400**	0.14	0.27	2	0.14	0.2	0.27	0
Petroleum Hydrocarbons	Aliphatic EC 5-6		mg/kg	LQM S4ULs 2015	**570000**			0	0	-	0	0
	Aliphatic EC >6-8		mg/kg	LQM S4ULs 2015	**600000**			0	0	-	0	0
	Aliphatic EC >8-10		mg/kg	LQM S4ULs 2015	**13000**	0.1	0.1	2	0.1	0.1	0.1	0
	Aliphatic EC >10-12		mg/kg	LQM S4ULs 2015	**13000**			0	0	-	0	0
	Aliphatic EC >12-16		mg/kg	LQM S4ULs 2015	**13000**			0	0	-	0	0
	Aliphatic EC >16-35		mg/kg	LQM S4ULs 2015	**250000**			0	0	-	0	0
	Aliphatic EC >35-44		mg/kg	LQM S4ULs 2015	**250000**			0	0	-	0	0
	Aromatic EC 5-7 (benzene)		mg/kg	LQM S4ULs 2015	**56000**			0	0	-	0	0
	Aromatic EC >7-8 (toluene)		mg/kg	LQM S4ULs 2015	**56000**			0	0	-	0	0
	Aromatic EC >8-10		mg/kg	LQM S4ULs 2015	**56000**			0	0	-	0	0
	Aromatic EC >10-12		mg/kg	LQM S4ULs 2015	**56000**			0	0	-	0	0
	Aromatic EC >12-16		mg/kg	LQM S4ULs 2015	**5100**			0	0	-	0	0
	Aromatic EC >16-21		mg/kg	LQM S4ULs 2015	**3800**			0	0	-	0	0
	Aromatic EC >21-35		mg/kg	LQM S4ULs 2015	**3800**	27	52	2	27	39.5	52	0
	Aromatic EC >35-44		mg/kg	LQM S4ULs 2015	**3800**	27	93	2	27	60.0	93	0
	Aliphatic+Aromatic EC >44-70		mg/kg	LQM S4ULs 2015	**3800**			0	0	-	0	0

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Analytical Report Number : 22-95437

Project / Site name:	Portugal Street East	**Samples received on:**	08/11/2022
Your job number:	1007	**Samples instructed on/ Analysis started on:**	08/11/2022
Your order number:	GEO-SY-349	**Analysis completed by:**	17/11/2022
Report Issue Number:	1	**Report issued on:**	17/11/2022
Samples Analysed:	2 soil samples		

Signed: [redacted]

Joanna Wawrzeczko
Reporting Specialist
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

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Analytical Report Number: 22-95437
Project / Site name: Portugal Street East

Lab Sample Number				2492450	2492451
Sample Reference				OIL SUMP V1	OIL SUMP V2
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				04/11/2022	04/11/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	22
Total mass of sample received	kg	0.001	NONE	0.3	0.3
Speciated PAHs					
Naphthalene	mg/kg	0.05	NONE	0.24	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	NONE	< 0.05	< 0.05
Fluorene	mg/kg	0.05	NONE	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	NONE	0.15	0.28
Anthracene	mg/kg	0.05	NONE	< 0.05	0.07
Fluoranthene	mg/kg	0.05	NONE	0.13	0.31
Pyrene	mg/kg	0.05	NONE	0.14	0.27
Benzo(a)anthracene	mg/kg	0.05	NONE	0.05	0.18
Chrysene	mg/kg	0.05	NONE	0.09	0.19
Benzo(b)fluoranthene	mg/kg	0.05	NONE	< 0.05	0.15
Benzo(k)fluoranthene	mg/kg	0.05	NONE	< 0.05	0.12
Benzo(a)pyrene	mg/kg	0.05	NONE	< 0.05	0.16
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05	< 0.05
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	0.8	1.73
Petroleum Hydrocarbons					
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	27	52
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	NONE	27	93

U/S = Unsuitable Sample I/S = Insufficient Sample

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The results included within the report relate only to the sample(s) submitted for testing.

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Analytical Report Number : 22-95437
Project / Site name: Portugal Street East

* 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 *
2492450	OIL SUMP V1	None Supplied	None Supplied	Brown clay.
2492451	OIL SUMP V2	None Supplied	None Supplied	Brown clay and sand with gravel.

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Analytical Report Number : 22-95437
Project / Site name: Portugal Street East

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
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
PRO (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	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.	L019-UK/PL	D	NONE
TPH Oils (Soils)	Determination of extractable hydrocarbons in soil by GC-MS/FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
DRO (Soil)	Determination of extractable hydrocarbons in soil by GC-MS/FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE

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.

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 - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Appendix E – Parklands H/S Validation

Group	Determinand	CAS	Unit	Source Reference	**Public Open Space (resi) 1% SOM**	2916902H/S 2 VS1	2916903H/S 2 VS2	2916904H/S 2 VS3	2916905H/S 2 VS4	2916906H/S 2 VS5	2916907H/S 2 VS6	2916908H/S 2 VS7	2916909H/S 2 VS8	N (Number of Samples)	Minimum Value	Average Value	Maximum Value	Number of Exceedances	UCL (80% confidence)	UCL (95% confidence)
BTEX Compounds	Benzene		mg/kg	LQM S4ULs 2015	**72**	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	8	0.005	0.0	0.005	0	0.01	0.01
	Toluene		mg/kg	LQM S4ULs 2015	**56000**	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	8	0.005	0.0	0.005	0	0.01	0.01
	Ethylbenzene		mg/kg	LQM S4ULs 2015	**24000**	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	8	0.005	0.0	0.005	0	0.01	0.01
	O – Xylene		mg/kg	LQM S4ULs 2015	**41000**	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	8	0.005	0.0	0.005	0	0.01	0.01
	P – Xylene		mg/kg	LQM S4ULs 2015	**41000**	5	5	5	5	5	5	5	5	8	5	5.0	5	0	5.00	5.00
Polycyclic Aromatic Hydrocarbons	Acenaphthene		mg/kg	LQM S4ULs 2015	**15000**	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8	0.05	0.1	0.05	0	0.05	0.05
	Acenaphthylene		mg/kg	LQM S4ULs 2015	**15000**	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8	0.05	0.1	0.05	0	0.05	0.05
	Anthracene		mg/kg	LQM S4ULs 2015	**74000**	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8	0.05	0.1	0.05	0	0.05	0.05
	Benz(a)anthracene		mg/kg	LQM S4ULs 2015	**29**	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8	0.05	0.1	0.05	0	0.05	0.05
	Benzo(a)pyrene (Bap)		mg/kg	LQM S4ULs 2015	**5.7**	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8	0.05	0.1	0.05	0	0.05	0.05
	Benzo(b)fluoranthene		mg/kg	LQM S4ULs 2015	**7.1**	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8	0.05	0.1	0.05	0	0.05	0.05
	Benzo(g,h,i)perylene		mg/kg	LQM S4ULs 2015	**640**	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8	0.05	0.1	0.05	0	0.05	0.05
	Benzo(k)fluoranthene		mg/kg	LQM S4ULs 2015	**190**	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8	0.05	0.1	0.05	0	0.05	0.05
	Chrysene		mg/kg	LQM S4ULs 2015	**57**	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8	0.05	0.1	0.05	0	0.05	0.05
	Dibenzo(ah)anthracene		mg/kg	LQM S4ULs 2015	**0.57**	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8	0.05	0.1	0.05	0	0.05	0.05
	Fluoranthene		mg/kg	LQM S4ULs 2015	**3100**	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8	0.05	0.1	0.05	0	0.05	0.05
	Fluorene		mg/kg	LQM S4ULs 2015	**9900**	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8	0.05	0.1	0.05	0	0.05	0.05
	Indeno(1,2,3-cd)pyrene		mg/kg	LQM S4ULs 2015	**82**	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8	0.05	0.1	0.05	0	0.05	0.05
	Naphthalene		mg/kg	LQM S4ULs 2015	**4900**	0.05	0.05	0.05	0.05	0.05	0.09	0.06	0.06	8	0.05	0.1	0.09	0	0.06	0.07
	Phenanthrene		mg/kg	LQM S4ULs 2015	**3100**	0.05	0.05	0.05	0.05	0.11	0.05	0.06	0.05	8	0.05	0.1	0.11	0	0.07	0.08
	Pyrene		mg/kg	LQM S4ULs 2015	**7400**	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8	0.05	0.1	0.05	0	0.05	0.05
Petroleum Hydrocarbons	Aliphatic EC 5-6		mg/kg	LQM S4ULs 2015	**570000**	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	8	0.02	0.0	0.02	0	0.02	0.02
	Aliphatic EC >6-8		mg/kg	LQM S4ULs 2015	**600000**	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	8	0.02	0.0	0.02	0	0.02	0.02
	Aliphatic EC >8-10		mg/kg	LQM S4ULs 2015	**13000**	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8	0.05	0.1	0.05	0	0.05	0.05
	Aliphatic EC >10-12		mg/kg	LQM S4ULs 2015	**13000**	1	1	1	1.9	1	1	1	1	8	1	1.1	1.9	0	1.27	1.38
	Aliphatic EC >12-16		mg/kg	LQM S4ULs 2015	**13000**	2	2	2	4	2	3.8	2	2	8	2	2.5	4	0	2.92	3.21
	Aliphatic EC >16-35		mg/kg	LQM S4ULs 2015	**250000**	8	8	8	8	8	8	8	8	8	8	8.0	8	0	8.00	8.00
	Aliphatic EC >35-44		mg/kg	LQM S4ULs 2015	**250000**									0	0	-	0	0	-	-
	Aromatic EC 5-7 (benzene)		mg/kg	LQM S4ULs 2015	**56000**	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	8	0.01	0.0	0.01	0	0.01	0.01
	Aromatic EC >7-8 (toluene)		mg/kg	LQM S4ULs 2015	**56000**	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	8	0.01	0.0	0.01	0	0.01	0.01
	Aromatic EC >8-10		mg/kg	LQM S4ULs 2015	**56000**	0.05	0.05	0	0.05	0.05	0.05	0.05	0.05	8	0	0.0	0.05	0	0.05	0.06
	Aromatic EC >10-12		mg/kg	LQM S4ULs 2015	**56000**	1	1	1	1	1	1	1	1	8	1	1.0	1	0	1.00	1.00
	Aromatic EC >12-16		mg/kg	LQM S4ULs 2015	**5100**	2	2	2	2	2	2	2	2	8	2	2.0	2	0	2.00	2.00
	Aromatic EC >16-21		mg/kg	LQM S4ULs 2015	**3800**	10	10	10	10	10	10	10	10	8	10	10.0	10	0	10.00	10.00
	Aromatic EC >21-35		mg/kg	LQM S4ULs 2015	**3800**	10	10	10	10	10	10	10	10	8	10	10.0	10	0	10.00	10.00

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Analytical Report Number: 23-75961
Project / Site name: Portugal Street East
Your Order No: GEO-SY-599

Lab Sample Number				2916902	2916903	2916904	2916905
Sample Reference				H/S 2 VS1	H/S 2 VS2	H/S 2 VS3	H/S 2 VS4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				12/10/2023	12/10/2023	12/10/2023	12/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	17	15	15
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.4	0.3
Speciated PAHs							
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	MCERTS	< 5.0##	< 5.0##	< 5.0##	< 5.0##
Toluene	µg/kg	5	MCERTS	< 5.0##	< 5.0##	< 5.0##	< 5.0##
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0

Analytical Report Number: 23-75961
Project / Site name: Portugal Street East
Your Order No: GEO-SY-599

Lab Sample Number				2916902	2916903	2916904	2916905
Sample Reference				H/S 2 VS1	H/S 2 VS2	H/S 2 VS3	H/S 2 VS4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				12/10/2023	12/10/2023	12/10/2023	12/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.9
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	4
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.05	NONE	< 0.050	< 0.050		< 0.050
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10

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

Analytical Report Number: 23-75961
Project / Site name: Portugal Street East
Your Order No: GEO-SY-599

Lab Sample Number				2916906	2916907	2916908	2916909
Sample Reference				H/S 2 VS5	H/S 2 VS6	H/S 2 VS7	H/S 2 VS8
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				12/10/2023	12/10/2023	12/10/2023	12/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	16	16	15
Total mass of sample received	kg	0.001	NONE	0.3	0.4	0.3	0.3
Speciated PAHs							
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.09	0.06	0.06
Phenanthrene	mg/kg	0.05	MCERTS	0.11	0.05	0.06	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	MCERTS	< 5.0##	< 5.0##	< 5.0##	< 5.0##
Toluene	µg/kg	5	MCERTS	< 5.0##	< 5.0##	< 5.0##	< 5.0##
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0

Analytical Report Number: 23-75961
Project / Site name: Portugal Street East
Your Order No: GEO-SY-599

Lab Sample Number				2916906	2916907	2916908	2916909
Sample Reference				H/S 2 VS5	H/S 2 VS6	H/S 2 VS7	H/S 2 VS8
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				12/10/2023	12/10/2023	12/10/2023	12/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	3.8	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	11	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10

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

Appendix F – PA Metals Analysis

Group	Determinand	CAS	Unit	Source Reference	**Public Open Space (resi) 1% SOM**	2491008TRENCH 2 NE MADE GROUND	2491009TRENCH 2 NE GLACIAL CLAY	2491010TRENCH 2A SE MADE GROUND	2491011TRENCH 2A SE GLACIAL CLAY	2491012TRENCH 2B SE GLACIAL CLAY	N (Number of Samples)	Minimum Value	Average Value	Maximum Value	Number of Exceedances	UCL (80% confidence)	UCL (95% confidence)
Metals	Arsenic		mg/kg	LQM S4ULs 2015	**79**	55	11	34	13	9.5	5	9.5	24.5	55	0	38.04	49.02
	Boron		mg/kg	LQM S4ULs 2015	**21000**	4.4	0.4	1	1.2	0.7	5	0.4	1.5	4.4	0	2.66	3.56
	Cadmium		mg/kg	LQM S4ULs 2015	**120**	5.7	0.2	2.6	0.2	0.2	5	0.2	1.8	5.7	0	3.44	4.79
	Chromium (trivalent)		mg/kg	LQM S4ULs 2015	**1500**	47	33	40	33	36	5	33	37.8	47	0	41.84	45.11
	Copper		mg/kg	LQM S4ULs 2015	**12000**	1900	34	200	31	30	5	30	439.0	1900	0	1001.15	1456.97
	Lead		mg/kg	C4SL / SP1010 2014	**630**	16000	34	1100	20	15	5	15	3433.8	16000	2	8260.40	12173.94
	Mercury (inorganic)		mg/kg	LQM S4ULs 2015	**120**	2	0.3	2.3	0.3	0.3	5	0.3	1.0	2.3	0	1.74	2.30
	Nickel		mg/kg	M S4ULs 2015 - Nickel Update August 2	**230**	200	37	42	36	39	5	36	70.8	200	0	120.34	160.51
	Selenium		mg/kg	LQM S4ULs 2015	**1100**	1	1	1	1	1	5	1	1.0	1	0	1.00	1.00
	Zinc		mg/kg	LQM S4ULs 2015	**81000**	3300	67	490	61	64	5	61	796.4	3300	0	1764.20	2548.93
Polycyclic Aromatic Hydrocarbons	Acenaphthene		mg/kg	LQM S4ULs 2015	**15000**	19	0.05	0.75	0.05	0.05	5	0.05	4.0	19	0	9.74	14.41
	Acenaphthylene		mg/kg	LQM S4ULs 2015	**15000**	1.2	0.05	0.15	0.05	0.05	5	0.05	0.3	1.2	0	0.65	0.93
	Anthracene		mg/kg	LQM S4ULs 2015	**74000**	28	0.05	1.7	0.05	0.05	5	0.05	6.0	28	0	14.43	21.28
	Benz(a)anthracene		mg/kg	LQM S4ULs 2015	**29**	66	0.12	3.8	0.05	0.05	5	0.05	14.0	66	1	33.96	50.14
	Benzo(a)pyrene (Bap)		mg/kg	LQM S4ULs 2015	**5.7**	48	0.05	4.2	0.05	0.05	5	0.05	10.5	48	1	24.91	36.61
	Benzo(b)fluoranthene		mg/kg	LQM S4ULs 2015	**7.1**	57	0.05	4	0.05	0.05	5	0.05	12.2	57	1	29.43	43.37
	Benzo(g,h,i)perylene		mg/kg	LQM S4ULs 2015	**640**	26	0.05	2.3	0.05	0.05	5	0.05	5.7	26	0	13.50	19.84
	Benzo(k)fluoranthene		mg/kg	LQM S4ULs 2015	**190**	31	0.05	2	0.05	0.05	5	0.05	6.6	31	0	15.99	23.58
	Chrysene		mg/kg	LQM S4ULs 2015	**57**	55	0.08	4.3	0.05	0.05	5	0.05	11.9	55	0	28.46	41.90
	Dibenzo(ah)anthracene		mg/kg	LQM S4ULs 2015	**0.57**	5.5	0.05	0.57	0.05	0.05	5	0.05	1.2	5.5	1	2.88	4.21
	Fluoranthene		mg/kg	LQM S4ULs 2015	**3100**	170	0.14	8.2	0.05	0.09	5	0.05	35.7	170	0	87.22	129.00
	Fluorene		mg/kg	LQM S4ULs 2015	**9900**	12	0.05	0.71	0.05	0.05	5	0.05	2.6	12	0	6.19	9.12
	Indeno(1,2,3-cd)pyrene		mg/kg	LQM S4ULs 2015	**82**	21	0.05	1.8	0.05	0.05	5	0.05	4.6	21	0	10.90	16.02
	Naphthalene		mg/kg	LQM S4ULs 2015	**4900**	8.3	0.05	0.35	0.05	0.05	5	0.05	1.8	8.3	0	4.27	6.30
	Phenanthrene		mg/kg	LQM S4ULs 2015	**3100**	140	0.12	5.8	0.05	0.09	5	0.05	29.2	140	0	71.71	106.16
	Pyrene		mg/kg	LQM S4ULs 2015	**7400**						0	0	-	0	0	-	-
	Coal Tar (Bap as surrogate marker)		mg/kg	LQM S4ULs 2015	**2.2**						0	0	-	0	0	-	-
Petroleum Hydrocarbons	Aliphatic EC 5-6		mg/kg	LQM S4ULs 2015	**570000**						0	0	-	0	0	-	-
	Aliphatic EC >6-8		mg/kg	LQM S4ULs 2015	**600000**						0	0	-	0	0	-	-
	Aliphatic EC >8-10		mg/kg	LQM S4ULs 2015	**13000**	0.1	0.1	0.1	0.1	0.1	5	0.1	0.1	0.1	0	0.10	0.10
	Aliphatic EC >10-12		mg/kg	LQM S4ULs 2015	**13000**						0	0	-	0	0	-	-
	Aliphatic EC >12-16		mg/kg	LQM S4ULs 2015	**13000**						0	0	-	0	0	-	-
	Aliphatic EC >16-35		mg/kg	LQM S4ULs 2015	**250000**						0	0	-	0	0	-	-
	Aliphatic EC >35-44		mg/kg	LQM S4ULs 2015	**250000**						0	0	-	0	0	-	-
	Aromatic EC 5-7 (benzene)		mg/kg	LQM S4ULs 2015	**56000**						0	0	-	0	0	-	-
	Aromatic EC >7-8 (toluene)		mg/kg	LQM S4ULs 2015	**56000**						0	0	-	0	0	-	-
	Aromatic EC >8-10		mg/kg	LQM S4ULs 2015	**56000**						0	0	-	0	0	-	-
	Aromatic EC >10-12		mg/kg	LQM S4ULs 2015	**56000**						0	0	-	0	0	-	-
	Aromatic EC >12-16		mg/kg	LQM S4ULs 2015	**5100**						0	0	-	0	0	-	-
	Aromatic EC >16-21		mg/kg	LQM S4ULs 2015	**3800**	670	10	100	20	72	5	10	174.4	670	0	366.03	521.40
	Aromatic EC >21-35		mg/kg	LQM S4ULs 2015	**3800**	880	10	110	10	85	5	10	219.0	880	0	474.17	681.07
	Aromatic EC >35-44		mg/kg	LQM S4ULs 2015	**3800**						0	0	-	0	0	-	-
	Aliphatic+Aromatic EC >44-70		mg/kg	LQM S4ULs 2015	**3800**						0	0	-	0	0	-	-

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Analytical Report Number: 22-95173
Project / Site name: Portugal Street East

Lab Sample Number				2491008	2491009	2491010	2491011
Sample Reference				TRENCH 2 NE	TRENCH 2 NE	TRENCH 2A SE	TRENCH 2A SE
Sample Number				1	3	2	3
Depth (m)				0.30	0.80	0.50	0.80
Date Sampled				03/11/2022	03/11/2022	03/11/2022	03/11/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	24	< 0.1
Moisture Content	%	0.01	NONE	11	15	16	15
Total mass of sample received	kg	0.001	NONE	0.8	0.3	1.2	0.3
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	SPU	N/A	SPU	N/A
General Inorganics							
pH - Manual	pH Units	N/A	MCERTS	7.4	-	-	-
pH - Automated	pH Units	N/A	MCERTS	-	8	8	8.7
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	4.7	-	1.5	-
Speciated PAHs							
Acenaphthene	mg/kg	0.05	NONE	19	< 0.05	0.75	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	1.2	< 0.05	0.15	< 0.05
Anthracene	mg/kg	0.05	NONE	28	< 0.05	1.7	< 0.05
Benzo(a)anthracene	mg/kg	0.05	NONE	66	0.12	3.8	< 0.05
Benzo(a)pyrene	mg/kg	0.05	NONE	48	< 0.05	4.2	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	NONE	57	< 0.05	4	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	26	< 0.05	2.3	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	NONE	31	< 0.05	2	< 0.05
Chrysene	mg/kg	0.05	NONE	55	0.08	4.3	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	5.5	< 0.05	0.57	< 0.05
Fluoranthene	mg/kg	0.05	NONE	170	0.14	8.2	< 0.05
Fluorene	mg/kg	0.05	NONE	12	< 0.05	0.71	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	21	< 0.05	1.8	< 0.05
Naphthalene	mg/kg	0.05	NONE	8.3	< 0.05	0.35	< 0.05
Phenanthrene	mg/kg	0.05	NONE	140	0.12	5.8	< 0.05
Pyrene	mg/kg	0.05	NONE	140	0.15	8.6	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	827	< 0.80	49.3	< 0.80
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	55	11	34	13
Boron (water soluble)	mg/kg	0.2	MCERTS	4.4	0.4	1	1.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	5.7	< 0.2	2.6	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	47	33	40	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	1900	34	200	31
Lead (aqua regia extractable)	mg/kg	1	MCERTS	16000	34	1100	20
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2	< 0.3	2.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	200	37	42	36
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	3300	67	490	61
Petroleum Hydrocarbons							
Petroleum Range Organics (C6 - C10) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C25) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	NONE	670	< 10	100	20
TPH (C25 - C40) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	NONE	880	< 10	110	< 10

Analytical Report Number: 22-95173
Project / Site name: Portugal Street East

Lab Sample Number				2491008	2491009	2491010	2491011
Sample Reference				TRENCH 2 NE	TRENCH 2 NE	TRENCH 2A SE	TRENCH 2A SE
Sample Number				1	3	2	3
Depth (m)				0.30	0.80	0.50	0.80
Date Sampled				03/11/2022	03/11/2022	03/11/2022	03/11/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-95173
Project / Site name: Portugal Street East

Lab Sample Number				2491012
Sample Reference				TRENCH 2B SE
Sample Number				3
Depth (m)				0.90
Date Sampled				04/11/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	12
Total mass of sample received	kg	0.001	NONE	0.3

Asbestos in Soil	Type	N/A	ISO 17025	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A

General Inorganics

pH - Manual	pH Units	N/A	MCERTS	-
pH - Automated	pH Units	N/A	MCERTS	8.4
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-

Speciated PAHs

Acenaphthene	mg/kg	0.05	NONE	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	< 0.05
Anthracene	mg/kg	0.05	NONE	< 0.05
Benzo(a)anthracene	mg/kg	0.05	NONE	< 0.05
Benzo(a)pyrene	mg/kg	0.05	NONE	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	NONE	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	NONE	< 0.05
Chrysene	mg/kg	0.05	NONE	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05
Fluoranthene	mg/kg	0.05	NONE	0.09
Fluorene	mg/kg	0.05	NONE	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	< 0.05
Naphthalene	mg/kg	0.05	NONE	< 0.05
Phenanthrene	mg/kg	0.05	NONE	0.09
Pyrene	mg/kg	0.05	NONE	0.08

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	< 0.80

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.5
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	36
Copper (aqua regia extractable)	mg/kg	1	MCERTS	30
Lead (aqua regia extractable)	mg/kg	1	MCERTS	15
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	39
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	64

Petroleum Hydrocarbons

Petroleum Range Organics (C6 - C10) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	NONE	< 0.1

TPH (C10 - C25) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	NONE	72
TPH (C25 - C40) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	NONE	85

Appendix G – UU Water Supply Risk Assessment

Supplementary guidance for the selection of water pipes in land potentially affected by contamination

United Utilities
Water for the North West

Introduction

In January 2011, UK Water Industry Research (UKWIR) published "Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites" (Ref 10/WM/03/21; the 'UKWIR Guidance'). Its aim is to ensure that the correct materials are selected for water pipes and components to be used below ground in brownfield sites to protect the quality of drinking water whilst taking into account the service life of the water distribution system. It supersedes the Water Regulations Advisory Scheme (WRAS) Information and Guidance Note 9-04-03 "Laying Pipes in Contaminated Land" which has been withdrawn.

The UKWIR Guidance is for use by developers, self-lay organisations, water companies and consultants when planning, designing and constructing water mains and/or services in brownfield sites. It defines brownfield sites as "land or premises that have previously been used or developed. They may also be vacant or derelict. However, they are not necessarily contaminated." The UKWIR Guidance states that it does not apply to greenfield sites; however, we consider this supplementary guidance and the relevant sections of the UKWIR guidance as being equally suitable for application to those greenfield sites considered to be potentially affected by contamination. Where greenfield sites are not affected by contamination a preliminary risk assessment (see below) will suffice.

The UKWIR Guidance also states that there should be no departure from its provisions *"except where formally approved by the Water Company, such departure being technically justifiable or representing advances in knowledge or product development".*

We have adopted the UKWIR Guidance in principle and produced this company specific supplementary guidance (the 'UUW Guidance') which includes the Risk Assessment for Water Pipes (the 'RA').

This guidance does not cover operative safety, health exposure modelling or accidental pipe damage.

Risk Assessment for Water Pipes in Land Potentially Affected by Contamination

Any application for new water supplies to a development (construction of new properties, or renovation or conversion of existing buildings) in land potentially affected by contamination shall include a completed RA.

As a minimum a desk study (preliminary risk assessment) shall be provided with the RA in accordance with the framework in Environment Agency publication "Model Procedures for the Management of Land Contamination" (ref: CLR11) that sets out whether the land through which the pipes are to be laid may be affected by contamination. The application of the source, pathway, receptor concept will be an integral part of any pipeline risk assessment. For each potential source (the contamination) and each potential receptor (the water pipe), consideration shall be given to whether a potential pathway between source and receptor exists, or may exist in the future, linking the two. There are normally only three pathways by which contamination may come into contact with water pipes. These are direct contact with the soil or backfill, an excessive vapour phase or a contaminated groundwater regime. If none of these conditions exist on site (adopting the source, pathway, receptor concept) then it is likely that extended and/or targeted soil testing will not be required and a simple risk assessment will suffice. For those sites where land may be affected by contamination appropriate testing shall be undertaken on the materials within which the pipes are to be laid, whether that be existing ground materials, remediated materials or imported capping materials. The testing requirements are as described in the following section.

The signatories of the Water Supply Application Form and the RA must ensure that all assessments of land condition have been carried out in accordance with applicable current standards and guidelines by or under the direction of a suitably qualified competent person.

We require the competent person to be a) a chartered member of an appropriate professional body (such as the Institution of Civil Engineers, the Geological Society of London or the Royal Institution of Chartered Surveyors) with relevant experience of investigating contaminated sites or b) a Specialist in Land Condition (SiLC) with appropriate geo-environmental experience.

How to contact us about the information in this leaflet



DeveloperServicesWater@uuplc.co.uk



0345 072 6067
Opening hours:
8am-5pm Mon to Thurs
8am-4.30pm Fri

Testing Requirements

The soil, rock and if appropriate groundwater tests that are required on all sites where the potential for organic contamination has been identified in the desk study and where water pipes are proposed to be laid must be accredited by United Kingdom Accreditation Service (UKAS) as a minimum and where commercially available the Environment Agency's Monitoring Certification Service (MCERTS). These accredited tests should be undertaken for:

Banded hydrocarbons EC5-EC10, EC10-EC16, EC16-EC40 (Total aliphatic and aromatic hydrocarbons for each banding may be summed). Aliphatic/ aromatic fractionation and subsequent banding may be required should a more detailed site specific risk assessment be undertaken. The bandings have been amended to take into account readily available laboratory tests. The equivalent carbon number (EC) is used to assess petroleum hydrocarbon mixtures rather than the actual number of carbon atoms in the molecule in line with guidance issued by the Environment Agency (2005).

Volatile organic compounds (VOCs) (method by head space or purge & trap GCMS) with tentative identification of compounds greater than 20µg/kg. The method used should be capable of detecting a wide range of compounds listed in US EPA Method 8260C or similar. The method should include analysis of naphthalene.

BTEX (Benzene, toluene, ethyl benzene and xylenes) plus MTBE (Methyl-tertiary butyl ether) (by head space GCMS)

Semi-Volatile Organic Compounds (SVOCs) (method by GCMS) with tentative identification of compounds greater than 20µg/kg The method used should be capable of detecting the compounds listed in US EPA Method 8270D or similar. The total concentration of SVOCs excludes polycyclic aromatic hydrocarbons, ethers, nitrobenzene, ketones, aldehydes, phenols, cresols and chlorinated phenols. Phenols, cresols and chlorinated phenols which are detected by the SVOC analysis are given their own assessment criteria.

We do not consider Table G1 and Table 3.1 of the UKWIR Guidance to be a definitive guide for assessing total concentrations. Table 1 in the RA below replaces Table 3.1 of the UKWIR Guidance.

Where previous site uses include the use, storage, treatment, disposal or manufacture of any of the following, appropriate testing for these substances will be required:

- Ethers, nitrobenzene, ketones, aldehydes and amines. Note that the presence of amines on any site at the proposed pipe depth +/- 1.0m precludes the use of polyethylene. The methods of analysis and method of calculation of total concentrations of these compounds will need to be agreed with UUW.

To comply with the testing requirements, the suites of tests that are required on all brownfield sites where wrapped steel, wrapped ductile iron or copper pipes are to be laid as minimum must include:

- pH, Conductivity and redox potential

Sufficiency of Testing

Water pipes are normally laid at between 0.75 and 1.35m from finished ground level to crown of pipe. Samples taken and tested must represent both a) the soil in which the water pipes are to be laid and b) the soil down to at least 500mm below the underside of the proposed pipe. Where the proposed depth of the pipes is unknown at the time of application, soil samples representative of the ground condition between surface level and 1.5m below finished ground level shall be taken as a minimum. Where appropriate (see UKWIR Guidance) groundwater sampling and groundwater monitoring will also be necessary. Photo-ionisation detection (PID) monitoring along the proposed route of the pipeline may be employed, though this does not provide a definitive guide to the suitability of water pipe materials.

Where required a sufficient number of test results should be obtained from the material in which the pipes are to be laid. CLAIRE/CIEH 2008 "Guidance on comparing soil contamination data with a critical concentration" may be used, where appropriate, to justify the number of soil samples tested; however, this statistical model should not be used on heterogeneous materials or used to average test results from different types of materials.

Further guidance on representative sampling is contained within BS10175:2011 Code of Practice for the Investigation of Potentially Contaminated Sites, the Department of the Environment's Contaminated Land Research Report "Sampling strategies for contaminated land" prepared by The Centre for Research into the Built Environment, Nottingham Trent University (Ref: CLR 4; 1994) and the Environment Agency's "Secondary Model Procedure for the Development of Appropriate Soil Sampling Strategies for Land Contamination" (ref: R&D Technical Report P5-066/TR; 2000).

Where remediation has been carried out on the site, the test results obtained from validation samples will be used in the assessment. Where a horizontal capping system has been or will be employed using materials spread across a site, sufficient samples will need to be taken to characterise the capping material used and the results presented to UUW. However, the sufficiency of sampling on the horizontal capping system, in which the pipeline will be placed, may be assessed on the basis of the source, quantity and type of materials used.

Detection Limits

Only positive concentrations, ie those above the limit of detection should be used in summation of VOC and SVOC (or other test groups of compounds ie phenols, cresols and chlorinated phenols). Laboratory methods shall provide a minimum limit of detection of 10µg/kg for each individual VOC or SVOC (or other test groups of compounds) quantitatively detected in accordance with the methods described above. For tentatively identified compounds (TICs), only those compounds with a concentration of 20µg/kg or greater shall be used in the summation of VOC and SVOC (or other test groups of compounds).

Protective Measures

Where polyethylene, ductile iron, steel or copper pipes are to be laid on a brownfield site or other land potentially affected by contamination (whether or not it has been remediated) and where the concentrations exceed the generic guideline values set out in Table 1 of the RA, the developer shall provide either:

a) a robust risk assessment to show how any contaminants will not significantly impact on proposed water supplies or buried assets over the lifetime of the assets; or

b) more suitable pipe materials; or

c) an engineering solution to protect the pipe work backed up by an adequate assessment of the risk.

Liquid free phase product (e.g. oil or free solvent layers) shall not remain in the ground or groundwater in the vicinity of water pipes, whether barrier pipe or any other pipe materials are used.

When designing pipe routes on land potentially affected by contamination, new preferential contamination pathways along the route of new water pipes shall not be created. Particular measures may be required to prevent the possible migration of contamination through pipe bedding and into controlled waters.

References

BS10175: 2011
"Investigation of Potentially Contaminated Sites Code of Practice"

CLAIRE/CIEH
"Guidance on comparing soil contamination data with a critical concentration" 2008

Department of the Environment Contaminated Land Research Report
"Sampling strategies for contaminated land" prepared by The Centre for Research into the Built Environment, Nottingham Trent University (Ref: CLR 4) 1994

Environment Agency
"Secondary Model Procedure for the Development of Appropriate Soil Sampling Strategies for Land Contamination"
(ref: R&D Technical Report P5-066/TR) 2000

Environment Agency
"Model Procedures for the Management of Land Contamination" (ref: CLR11), 2004

Environment Agency P5-080/TR3
"The UK Approach for Evaluating Human Health Risks from Petroleum Hydrocarbons in Soils", 2005

UK Water Industry Research (UKWIR)
"Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites" (Ref 10/WM/03/21) January 2011

Water Regulations Advisory Scheme (WRAS) Information and Guidance Note 9-04-03
"Laying Pipes in Contaminated Land" 2002

Frequently asked questions

Why has UUW published supplementary guidance to the 'UKWIR Guidance for the Selection of Water Pipes to be used in Brownfield Sites'?

UUW agrees with the UKWIR Guidance in principle; we have published supplementary guidance to clarify some of the areas in which it will operate.

Does the UKWIR Guidance only apply to 'brownfield sites'?

Yes, the UKWIR Guidance does apply to brownfield sites; in addition United Utilities Water will apply this guidance and the UUW supplementary guidance to any greenfield sites which are potentially affected by contamination.

Who is responsible for completing/ signing the Risk Assessment for Water Pipes (RA)?

This may be the Developer, the Developers representative, or the competent person directing the land assessment. The signatory of the Risk Assessment for Water Pipes (RA) must ensure that all land assessments have been carried out in accordance with current standards and guidelines by or under the direction of a suitably qualified competent person. For water supply applications on land potentially affected by contamination, UUW requires the competent person to be either a chartered member of an appropriate professional body (such as the Institution of Civil Engineers, the Geological Society of London or the Royal Institution of Chartered Surveyors) with relevant experience of investigating contaminated sites or a Specialist in Land Condition (SiLC). This level of competency is intended to promote good practice and high professional standards and is no greater than that required for planning purposes by Local Authorities.

Do we need to agree the number and location of soil samples with the Water Company as indicated by the UKWIR guidance following the Preliminary Risk Assessment (PRA)?

Where a preliminary risk assessment (PRA) highlights the need for a site investigation UUW considers it is a responsibility of the qualified competent person directing the land assessment to determine the location and frequency of sampling. UUW's role would be to confirm that the appropriate choice of pipe material has been made on the basis of the information provided.

What do we do if the pipe route is not known when the Site Investigation report is commissioned?

Where the route of the pipe is not known at the site investigation stage, then any resultant pipe selection needs to take account of any contamination found on the site. Consideration should be given to identifying the route and depth of the pipeline at the site investigation stage to avoid unnecessary testing.

Is it acceptable not to undertake a site investigation and specify the use of barrier pipe which seems to be suitable for all conditions?

Not all brownfield land is contaminated, and because of that a default to barrier pipe is not an acceptable approach to UUW, due to the possibility of higher installation and future maintenance costs. The approach as to whether a site investigation is needed should be risk based. For those sites where land may be affected by contamination appropriate testing shall be undertaken on the ground materials within which the pipes are to be laid, whether that be existing ground materials, remediated materials or imported capping materials.

Examples where defaulting to barrier pipe would not be acceptable:

- Where a capping layer (non-contaminated) is introduced within which the pipes will be installed.
- Sites with a potential low risk for contamination.
- Where liquid free phase product (e.g. oil or free solvent layers) is in the ground or groundwater in the vicinity of water pipes.
- Where the route of the pipe could be diverted to another suitable location free from contamination.

Are UUW employees who will assess the Design Proposals for contaminated sites suitably qualified?

It is the role of the Developer's suitably qualified competent person to deal with or direct the assessment of land. UUW's role is to assess the Risk Assessment for Water Pipes and supporting Site Assessment Report (SAR) which is provided with any new water supply application (ie. it has been provided in the correct format, proposals for pipe selection are included, the methodology is in line with the UKWIR Guidance and UUW Supplementary Guidance, it has been directed by a suitably qualified competent person etc.). If UUW do need to provide assistance or information in deciding pipe materials then the assessment would be carried out under the direction of a suitably qualified competent person.

What happens to existing PE that is in the ground under the "old" guidelines?

The latest UKWIR guidance and UUW's supplementary guidance are intended to be used to decide what pipe materials will be used for new water mains and services. It will have no effect for developers with regard to any parts of UUW's existing network.

Will the Developer be required to submit a fully completed Risk Assessment for Water Pipes (RA) and supporting Site Assessment Report (SAR), including pipe material recommendation, for both the option of a mains requisition application and the option of a self-lay application?

Yes, UUW expect the 'Developer', as defined in UUW Supplementary Guidance, to submit a Risk Assessment for Water Pipes (RA) and supporting Site Assessment Report (SAR), including pipe material recommendation, in respect of any water pipes being installed on the development irrespective of who is to install them.

Does Table 1 in UUW's Risk Assessment for Water Pipes (RA) replace any of the tables to be completed in the Site Assessment Report (SAR) as required in the UKWIR Guidance?

UUW does not consider Table G1 and Table 3.1 of the UKWIR Guidance to be a definitive guide for assessing total concentrations. Table 1 in UUW's RA replaces Table 3.1 of the UKWIR Guidance.

Have any other Water Companies adopted the UKWIR Guidance yet?

You will need to contact the water company concerned if you are intending to install water pipes outside UUW's licensed area.

United Utilities
Water for the North West

About us

United Utilities is the North West's water company. We keep the taps flowing and toilets flushing for seven million customers every day. From Crewe to Carlisle, we work hard behind the scenes to help your life flow smoothly.

United Utilities Water Limited, Haweswater House, Lingley Mere Business Park, Lingley Green Avenue, Warrington WA5 3LP.
Registered in England and Wales. Registered Number 2366678.

Risk assessment for water pipes (RA)

United Utilities
Water for the North West

The risk assessment for water pipes will help you choose appropriate materials for your development. We are happy to deal with a risk assessment for water pipes in advance of any formal application for a new water supply.

If you need any help completing the form please call us on **0345 072 6067.**

Section 1: Development details	
Development name *(if it has one)*	FAIRFAX
Development address	Portugal Street East, Manchester M1 2WL
OS Grid reference *(mid point)*	SJ 851 979
Developer's name	Olympian Homes
UUW reference number *(for UU use only)*	

Please provide details below of the current and historical use of the site and adjacent sites.
If your supporting information has details of the current and historical site use, please reference below the relevant sections of your report.

Previous uses: Housing, social club, coppersmiths, printers, scrapyards, warehouse. In the vicinity of the proposed water main, the area was predominantly occupied by a warehouse and road.

Current use: Prior to recent demolition, site was a derelict warehouse, highways and industrial buildings.

Section 2: Preliminary risk assessment	
Has your desk study and site walkover identified any land potentially affected by contamination?	☑ Yes ☐ No

If the site is potentially affected by contamination but you have not completed any intrusive site investigation please provide details below of the rationale behind the intended pipe selection.
If your supporting information has details of the rationale behind the intended pipe selection, please reference below the relevant sections of your report.

Section 3: Intrusive site investigation

Have you completed any intrusive site investigation?	☑ Yes ☐ No
Have you completed any none intrusive site investigation?	☐ Yes ☑ No
Date(s) when the site investigation(s) undertaken	18/12/2017 AND: 01/09/2021 05/04/2022 18/11/2021 12/10/2023
At what level has groundwater been encountered?	2.9 - 7.1 metres below ground level or ☐ Not encountered

Table 1 (Pipeline Selection Risk Assessment Summary (PSRAS)) below classifies testing required where the preliminary risk assessment has identified land potentially affected by contamination. Please provide details below of any test groups which have not been tested and the rationale for not testing.

If your supporting information has details of the rationale behind not testing any particular test groups, please reference below the relevant sections of your report.

VOCs, Ethers, Nitrobenzene, Ketones, Aldehydes, Amines → Not identified as part of PRA within vicinity of proposed water main.

If the intrusive site investigation has identified concentrations above the PE threshold (see PSRAS) and your intended pipe selection is PE. Please provide details below of the rationale behind the intended pipe selection.

If your supporting information has details of the rationale behind the intended pipe selection, please reference below the relevant sections of your report.

Whilst elvated carcentrations have been encountered, the proposal is to over-dig the trench for the water main and backfill with site-won natural glacial clay (high strength clay). Testing by RoC in their site investigation shows this to be "clean". See section 8 of their appended report.

Section 4: Site remediation

Please provide details below of any site remediation (which may include a change in site levels) already completed.

If your supporting information has details of the site remediation already completed, please reference below the relevant sections of your report.

See above. Trench to be over-dug by at least 0.5m below pipe level. Any bedding material will be clean natural aggregate or recyded inert aggregate complying with WRAP protocol.

Has the PSRAS (Table 1) been completed using appropriate data after remediation?	☐ Yes ☑ No ☐ N/A

Please provide details below of any proposed site remediation and an analysis of whether this will affect your intended pipe selection.

If your supporting information has details of any proposed site remediation and whether this will affect your intended pipe selection, please reference below the relevant sections of your report.

PSRAS table completed from testing undertaken on samples along the line of the water main, see comments ~~at~~ above regarding remediation proposals.

Section 5: Final use of site

Please provide details below of any chemicals (including fuel) to be stored on site and any other future contamination risks which may affect your intended pipe selection.

If your supporting information has details of potential contamination risks which may affect your intended pipe selection, please reference below the relevant sections of your report.

x

What water pipe materials are intended to be used on site?	☑ PE ☐ PE Barrier Pipe Type A ☒ PE Barrier Pipe Type B Other *(please specify)*: x

Section 6: Additional information

Please use the section below to provide any additional details to support your intended pipe selection.

x Appended chemical test results and trial pit log show the recently undertaken investigation along the water main.

See also section 8 of the RoC report and section 11 of Apex's Ground Appraisal Report

Section 7: Risk assessor

Name and relevant qualifications of person directing the risk assessment for water pipes	x Matthew Thompson CGEOL FGS
Name and address of risk assessor's company	x Apex Consulting Engineers Aves Hill Lane, Sheffield, S9 4LR
Date risk assessment performed	x x x x x x x d 30/10/2023

Section 8: Declaration

I confirm I have completed this form and provided supporting information in accordance with 'UKWIR Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites' and UUW's Supplementary Guidance. I also confirm that if any further site investigation is needed and carried out, I will be required to submit an additional Risk Assessment for Water Pipes with the relevant supporting information.
I understand that failure to supply any of the required information may delay my application being processed.

Name	x Matthew Thompson	Company	x Apex Consulting Engineers
Telephone	x 07539381752	Date	30/10/2023

Please email the completed form and supporting information to **DeveloperServicesWater@uuplc.co.uk** or post to us at United Utilities Water, Developer Services, Second floor Grasmere House, Lingley Mere, Warrington WA5 3LP.

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Table 1 - Pipe selection risk assessment summary (PSRAS)

1. Testing must be undertaken on the materials within which the pipes are to be laid, whether that be existing ground materials, remediated materials or imported capping materials. Please use the appropriate testing data to complete Table 1 below.

2. If more than one pipe selection is being made, for example, for pipes in different areas of a large site, a completed PSRAS is required for each selection.

What materials have been tested to populate Table 1 below? ☑ Existing ground materials ☐ Remediated materials ☐ Imported capping materials

* This material has now been removed from site during remediation works and was not within vicinity of new main.

All concentrations in mg/kg

Test Group	Testing Required?	PE threshold	Metal Pipes/ Barrier Pipe	Laboratory Detection Limit	Testing UKAS accredited Y/N	Maximum concentration at proposed pipeline depth *See Note [2]*	Maximum site concentration *See Note [3]*	Locations and depths where concentrations exceed proposed pipeline threshold
Total VOCs	Where Preliminary Risk Assessment (PRA) has identified land potentially affected by contamination	0.5	Pass	N/A	N/A	N/A	N/A	N/A
Total BTEX & MTBE		0.1	Pass	0.5 mg/kg	Y	<0.5 mg/kg	<0.5 mg/kg	N/A
Total SVOCs (excluding PAHs and those substances marked with an *)		2	Pass	0.1 mg/kg	Y	0.1 mg/kg	0.84 mg/kg	TP02 0.5m (2-methylnaphthalene)
EC5-EC10 aliphatic and aromatic hydrocarbons		2	Pass	0.1 mg/kg		<0.1 mg/kg	<0.1 mg/kg	
EC10-EC16 aliphatic and aromatic hydrocarbons		10	Pass	0.2 mg/kg		133 mg/kg	390 mg/kg	SP01 0.0-0.5m*
EC16-EC40 aliphatic and aromatic hydrocarbons		500	Pass	10 mg/kg		696 mg/kg	2,500 mg/kg	SP01 0.0-0.05m*
Phenols* (from SVOC analysis)		2	Pass	0.3 mg/kg		<0.3 mg/kg	<0.3 mg/kg	N/A
Cresols and chlorinated phenols* (from SVOC analysis)		2	Pass	0.3 mg/kg		<0.3 mg/kg	<0.3 mg/kg	N/A
Ethers*	Only where identified	0.5	Pass					
Nitrobenzene*		0.5	Pass					
Ketones*		0.5	Pass					
Aldehydes*		0.5	Pass					
Amines		Fail	Pass					
Corrosive	Conductivity, Redox and pH	Pass	*See Note [1]*	Potentially corrosive, pH > 8 and Eh positive.				Conductivity also 7400 in 3 samples.

Note [1] Threshold: For wrapped steel, corrosive if pH<7 and conductivity > 400µS/cm. For wrapped ductile iron corrosive if pH<5, Eh not neutral and conductivity > 400µS/cm. For copper, corrosive if pH<5 or >8 and Eh positive.

Note [2] Water pipes are normally laid at 0.75-1.35m below finished ground level.

Note [3] Also state if liquid free product is present in soil or groundwater.

Appendix H – Soil Cover Validation Records

GeoEnvironmental

Richard Meredith <richard.meredith@geo-env.co.uk>

Re: Fairfax / Portugal Street East | Application number: 141176/JO/2024 (121099/FO/2018) / CDN/21/0859 and CDN/22/0320

Richard Meredith <richard.meredith@geo-env.co.uk> 13 January 2026 at 15:54
To: Sue Jones <sue.jones@manchester.gov.uk>
Cc: Dean Moran <dean.moran@rg-group.org.uk>, Angela Leckie <angela.leckie@manchester.gov.uk>

Hello Sue -

Fairfax / Portugal Street East | Application number: 141176/JO/2024 (121099/FO/2018) / CDN/21/0859 and CDN/22/0320

Thanks for calling just now. As discussed, following a validation visit last week, the cover system at Portugal Street East / Fairfax comprises the following:

1. In planted areas (trees, shrubs etc) we have 600mm clean naturally occurring cover over a geotextile separator layer.
2. In seeded areas (lawn) we have 450mm clean naturally occurring cover over a geotextile separator layer.

This is different to what is contained in the remediation strategy, which simply says 600mm cover in all landscaped areas.

My view is that given that these are public areas with managed maintenance, no private gardens, no allotments etc and that we have the geotextile separator, 450mm cover will provide a suitable cover system in this instance.

Would you be kind enough to confirm with a quick email reply please. Many thanks.

Regards

Richard

Richard Meredith
Mobile: 07762 751411



[Quoted text hidden]

GeoEnvironmental

Richard Meredith <richard.meredith@geo-env.co.uk>

Re: Fairfax / Portugal Street East | Application number: 141176/JO/2024 (121099/FO/2018) / CDN/21/0859 and CDN/22/0320

Sue Jones <sue.jones@manchester.gov.uk> 13 January 2026 at 15:59
To: Richard Meredith <richard.meredith@geo-env.co.uk>
Cc: Dean Moran <dean.moran@rg-group.org.uk>, Angela Leckie <angela.leckie@manchester.gov.uk>

Hi Richard,

I agree to the depth amendments for the clean cover as per your email below.

Kind regards

Sue

Sue Jones

Environmental Protection
Environmental Health

The Neighbourhoods Directorate

Growth & Neighbourhoods

Manchester City Council

Hammerstone Road Depot

Gorton

Manchester

M18 8EQ

External Tel: 0161 234 5004
email: sue.jones@manchester.gov.uk
website: www.manchester.gov.uk

We are now on X (formerly Twitter), for latest news and updates follow us @EnvHealthMcr

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From: Richard Meredith <richard.meredith@geo-env.co.uk>
Sent: 13 January 2026 15:54
To: Sue Jones <sue.jones@manchester.gov.uk>
Cc: Dean Moran <dean.moran@rg-group.org.uk>; Angela Leckie <angela.leckie@manchester.gov.uk>
Subject: Re: Fairfax / Portugal Street East | Application number: 141176/JO/2024 (121099/FO/2018) / CDN/21/0859 and CDN/22/0320

You don't often get email from richard.meredith@geo-env.co.uk. Learn why this is important

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Hello Sue -

Fairfax / Portugal Street East | Application number: 141176/JO/2024 (121099/FO/2018) / CDN/21/0859 and CDN/22/0320

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Would you be kind enough to confirm with a quick email reply please. Many thanks.

Regards

Richard

Richard Meredith
Mobile: [redacted]

On Tue, 13 Jan 2026 at 13:49, Richard Meredith <richard.meredith@geo-env.co.uk> wrote:

> Many thanks Angela.
>
> Sue - do you have 5 mins for a call today?
>
> **Regards**

Group	Determinand	CAS	Unit	Source Reference	Public Open Space (resi) 1% SOM	795975SCV50.3	795976SCV60.3	795977SCV110.4	795978SCV130.3	795979SCV140.3	795980SCV160.3	N (Number of Samples)	Minimum Value	Average Value	Maximum Value	Number of Exceedances	UCL (80% confidence)	UCL (95% confidence)
Metals	Arsenic		mg/kg	LQM S4ULs 2015	**79**	3.70	1.00	1.50	9.90	1.00	11.00	6.00	1.00	4.68	11.00	0.00	7.45	9.50
	Beryllium		mg/kg	LQM S4ULs 2015	**2**	0.40	0.06	0.10	0.44	0.08	0.67	6.00	0.06	0.29	0.67	0.00	0.44	0.55
	Boron		mg/kg	LQM S4ULs 2015	**21000**	0.30	0.20	0.20	0.30	0.20	0.50	6.00	0.20	0.28	0.50	0.00	0.35	0.41
	Cadmium		mg/kg	LQM S4ULs 2015	**120**	0.20	0.20	0.20	0.20	0.20	0.30	6.00	0.20	0.22	0.30	0.00	0.24	0.26
	Chromium (trivalent)		mg/kg	LQM S4ULs 2015	**1500**	10.00	1.80	3.10	13.00	2.20	21.00	6.00	1.80	8.52	21.00	0.00	13.13	16.54
	Chromium (hexavalent)		mg/kg	LQM S4ULs 2015	**8**	1.80	1.80	1.80	1.80	1.80	1.80	6.00	1.80	1.80	1.80	0.00	1.80	1.80
	Copper		mg/kg	LQM S4ULs 2015	**12000**	11.00	5.80	7.20	24.00	5.60	37.00	6.00	5.60	15.10	37.00	0.00	22.79	28.50
	Lead		mg/kg	C4SL / SP1010 2014	**630**	8.10	1.40	5.90	40.00	2.10	58.00	6.00	1.40	19.25	58.00	0.00	33.63	44.30
	Mercury (elemental)		mg/kg	LQM S4ULs 2015	**16**	0.30	0.30	0.30	0.30	0.30	0.30	6.00	0.30	0.30	0.30	0.00	0.30	0.30
	Nickel		mg/kg	M S4ULs 2015 - Nickel Update August 2	**230**	9.40	2.10	2.80	9.60	2.40	14.00	6.00	2.10	6.72	14.00	0.00	9.72	11.94
	Selenium		mg/kg	LQM S4ULs 2015	**1100**	1.00	1.00	1.00	1.00	1.00	1.00	6.00	1.00	1.00	1.00	0.00	1.00	1.00
	Vanadium		mg/kg	LQM S4ULs 2015	**2000**	11.00	1.70	3.10	15.00	2.00	23.00	6.00	1.70	9.30	23.00	0.00	14.50	18.36
	Zinc		mg/kg	LQM S4ULs 2015	**81000**	23.00	5.50	10.00	56.00	7.10	83.00	6.00	5.50	30.77	83.00	0.00	49.93	64.14
BTEX Compounds	Benzene		mg/kg	LQM S4ULs 2015	**72**	5.00	5.00	5.00	5.00	5.00	5.00	6.00	5.00	5.00	5.00	0.00	5.00	5.00
	Toluene		mg/kg	LQM S4ULs 2015	**56000**	5.00	5.00	5.00	5.00	5.00	5.00	6.00	5.00	5.00	5.00	0.00	5.00	5.00
	Ethylbenzene		mg/kg	LQM S4ULs 2015	**24000**	5.00	5.00	5.00	5.00	5.00	5.00	6.00	5.00	5.00	5.00	0.00	5.00	5.00
	O – Xylene		mg/kg	LQM S4ULs 2015	**41000**	5.00	5.00	5.00	5.00	5.00	5.00	6.00	5.00	5.00	5.00	0.00	5.00	5.00
	M – Xylene		mg/kg	LQM S4ULs 2015	**41000**	8.00	8.00	8.00	8.00	8.00	8.00	6.00	8.00	8.00	8.00	0.00	8.00	8.00
	P – Xylene		mg/kg	LQM S4ULs 2015	**41000**	8.00	8.00	8.00	8.00	8.00	8.00	6.00	8.00	8.00	8.00	0.00	8.00	8.00
Polycyclic Aromatic Hydrocarbons	Acenaphthene		mg/kg	LQM S4ULs 2015	**15000**	0.05	0.05	0.05	0.05	0.05	0.05	6	0.05	0.1	0.05	0	0.05	0.05
	Acenaphthylene		mg/kg	LQM S4ULs 2015	**15000**	0.05	0.05	0.05	0.05	0.05	0.05	6	0.05	0.1	0.05	0	0.05	0.05
	Anthracene		mg/kg	LQM S4ULs 2015	**74000**	0.05	0.05	0.05	0.05	0.05	0.05	6	0.05	0.1	0.05	0	0.05	0.05
	Benz(a)anthracene		mg/kg	LQM S4ULs 2015	**29**	0.08	0.05	0.05	0.14	0.05	0.47	6	0.05	0.1	0.47	0	0.24	0.31
	Benzo(a)pyrene (Bap)		mg/kg	LQM S4ULs 2015	**5.7**	0.07	0.05	0.05	0.14	0.05	0.48	6	0.05	0.1	0.48	0	0.24	0.32
	Benzo(b)fluoranthene		mg/kg	LQM S4ULs 2015	**7.1**	0.08	0.05	0.05	0.18	0.05	0.59	6	0.05	0.2	0.59	0	0.30	0.39
	Benzo(g,h,i)perylene		mg/kg	LQM S4ULs 2015	**640**	0.05	0.05	0.05	0.09	0.05	0.28	6	0.05	0.1	0.28	0	0.15	0.19
	Benzo(k)fluoranthene		mg/kg	LQM S4ULs 2015	**190**	0.05	0.05	0.05	0.08	0.05	0.32	6	0.05	0.1	0.32	0	0.17	0.21
	Chrysene		mg/kg	LQM S4ULs 2015	**57**	0.09	0.05	0.06	0.15	0.05	0.54	6	0.05	0.2	0.54	0	0.27	0.36
	Dibenzo(ah)anthracene		mg/kg	LQM S4ULs 2015	**0.57**	0.05	0.05	0.05	0.05	0.05	0.07	6	0.05	0.1	0.07	0	0.06	0.06
	Fluoranthene		mg/kg	LQM S4ULs 2015	**3100**	0.15	0.05	0.08	0.26	0.05	0.87	6	0.05	0.2	0.87	0	0.43	0.58
	Fluorene		mg/kg	LQM S4ULs 2015	**9900**	0.05	0.05	0.05	0.05	0.05	0.05	6	0.05	0.1	0.05	0	0.05	0.05
	Indeno(1,2,3-cd)pyrene		mg/kg	LQM S4ULs 2015	**82**	0.05	0.05	0.05	0.08	0.05	0.29	6	0.05	0.1	0.29	0	0.15	0.20
	Naphthalene		mg/kg	LQM S4ULs 2015	**4900**	0.05	0.05	0.05	0.05	0.05	0.05	6	0.05	0.1	0.05	0	0.05	0.05
	Phenanthrene		mg/kg	LQM S4ULs 2015	**3100**	0.09	0.05	0.05	0.13	0.05	0.29	6	0.05	0.1	0.29	0	0.17	0.21
	Pyrene		mg/kg	LQM S4ULs 2015	**7400**	0.16	0.05	0.05	0.27	0.05	0.85	6	0.05	0.2	0.85	0	0.43	0.57
	Coal Tar (Bap as surrogate marker)		mg/kg	LQM S4ULs 2015	**2.2**							0	0	-	0	0	-	-
Petroleum Hydrocarbons	Aliphatic EC 5-6		mg/kg	LQM S4ULs 2015	**570000**	0.01	0.01	0.01	0.01	0.01	0.01	6	0.01	0.0	0.01	0	0.01	0.01
	Aliphatic EC >6-8		mg/kg	LQM S4ULs 2015	**600000**	0.01	0.01	0.01	0.01	0.01	0.01	6	0.01	0.0	0.01	0	0.01	0.01
	Aliphatic EC >8-10		mg/kg	LQM S4ULs 2015	**13000**	0.01	0.01	0.01	0.01	0.01	0.01	6	0.01	0.0	0.01	0	0.01	0.01
	Aliphatic EC >10-12		mg/kg	LQM S4ULs 2015	**13000**	1	1	1	1	1	1	6	1	1.0	1	0	1.00	1.00
	Aliphatic EC >12-16		mg/kg	LQM S4ULs 2015	**13000**	2	2	2	2	2	2	6	2	2.0	2	0	2.00	2.00
	Aliphatic EC >16-35		mg/kg	LQM S4ULs 2015	**250000**	8	8	8	8	8	8	6	8	8.0	8	0	8.00	8.00
	Aliphatic EC >35-44		mg/kg	LQM S4ULs 2015	**250000**							0	0	-	0	0	-	-
	Aromatic EC 5-7 (benzene)		mg/kg	LQM S4ULs 2015	**56000**	0.01	0.01	0.01	0.01	0.01	0.01	6	0.01	0.0	0.01	0	0.01	0.01
	Aromatic EC >7-8 (toluene)		mg/kg	LQM S4ULs 2015	**56000**	0.01	0.01	0.01	0.01	0.01	0.01	6	0.01	0.0	0.01	0	0.01	0.01
	Aromatic EC >8-10		mg/kg	LQM S4ULs 2015	**56000**	0.02	0.02	0.02	0.02	0.02	0.02	6	0.02	0.0	0.02	0	0.02	0.02
	Aromatic EC >10-12		mg/kg	LQM S4ULs 2015	**56000**	1	1	1	1	1	1	6	1	1.0	1	0	1.00	1.00
	Aromatic EC >12-16		mg/kg	LQM S4ULs 2015	**5100**	2	2	2	2	2	2	6	2	2.0	2	0	2.00	2.00
	Aromatic EC >16-21		mg/kg	LQM S4ULs 2015	**3800**	10	10	10	10	10	10	6	10	10.0	10	0	10.00	10.00
	Aromatic EC >21-35		mg/kg	LQM S4ULs 2015	**3800**	10	10	10	10	10	10	6	10	10.0	10	0	10.00	10.00
	Aromatic EC >35-44		mg/kg	LQM S4ULs 2015	**3800**							0	0	-	0	0	-	-
	Aliphatic+Aromatic EC >44-70		mg/kg	LQM S4ULs 2015	**3800**							0	0	-	0	0	-	-

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Analytical Report Number : 26-000661

Project / Site name:	Fairfax Manchester	**Samples received on:**	08/01/2026
Your job number:	3361-53	**Samples instructed on/ Analysis started on:**	08/01/2026
Your order number:	3361-53-P-01	**Analysis completed by:**	15/01/2026
Report Issue Number:	1	**Report issued on:**	15/01/2026
Samples Analysed:	6 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
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-000661
Project / Site name: Fairfax Manchester
Your Order No: 3361-53-P-01

Lab Sample Number				795975	795976	795977	795978	795979
Sample Reference				SCV5	SCV6	SCV11	SCV13	SCV14
Sample Number				46028	46028	46028	46028	46028
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.30	0.30	0.40	0.30	0.30
Date Sampled				06/01/2026	06/01/2026	06/01/2026	06/01/2026	06/01/2026
Time Taken				None Supplied	None Supplied	None Supplied	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	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	15	11	17	8.4
Total mass of sample received	kg	0.1	NONE	0.7	0.8	0.8	0.5	0.5
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	KWB	KWB	KWB	KWB	KWB
Analysis completed	N/A	N/A	N/A	13/01/2026	13/01/2026	13/01/2026	13/01/2026	13/01/2026
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8.5	8	7.9	6.6	8.1
Organic Matter (automated)	%	0.1	MCERTS	< 0.1	< 0.1	0.1	1.7	< 0.1
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.09	< 0.05	< 0.05	0.13	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.15	< 0.05	0.08	0.26	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.16	< 0.05	< 0.05	0.27	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.08	< 0.05	< 0.05	0.14	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.09	< 0.05	0.06	0.15	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.08	< 0.05	< 0.05	0.18	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.08	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05	0.14	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.08	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.09	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	1.51	< 0.80

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Analytical Report Number: 26-000661
Project / Site name: Fairfax Manchester
Your Order No: 3361-53-P-01

Lab Sample Number				795975	795976	795977	795978	795979
Sample Reference				SCV5	SCV6	SCV11	SCV13	SCV14
Sample Number				46028	46028	46028	46028	46028
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.30	0.30	0.40	0.30	0.30
Date Sampled				06/01/2026	06/01/2026	06/01/2026	06/01/2026	06/01/2026
Time Taken				None Supplied	None Supplied	None Supplied	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	3.7	< 1.0	1.5	9.9	< 1.0
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.4	< 0.06	0.1	0.44	0.08
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	< 0.2	< 0.2	0.3	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	10	1.8	3.1	13	2.2
Chromium (hexavalent) by IC	mg/kg	1.8	NONE	-	-	-	-	-
Chromium (III) by IC	mg/kg	1	NONE	-	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	10	1.8	3.1	13	2.2
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	5.8	7.2	24	5.6
Lead (aqua regia extractable)	mg/kg	1	MCERTS	8.1	1.4	5.9	40	2.1
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	9.4	2.1	2.8	9.6	2.4
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	11	1.7	3.1	15	2
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	23	5.5	10	56	7.1
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
VOCs								
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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

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Analytical Report Number: 26-000661
Project / Site name: Fairfax Manchester
Your Order No: 3361-53-P-01

Lab Sample Number				795980
Sample Reference				SCV16
Sample Number				46028
Water Matrix				N/A
Depth (m)				0.30
Date Sampled				06/01/2026
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	17
Total mass of sample received	kg	0.1	NONE	0.6

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KWB
Analysis completed	N/A	N/A	N/A	13/01/2026

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	6.9
Organic Matter (automated)	%	0.1	MCERTS	3.2

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.29
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.87
Pyrene	mg/kg	0.05	MCERTS	0.85
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.47
Chrysene	mg/kg	0.05	MCERTS	0.54
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.59
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.32
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.48
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.29
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.07
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.28

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	5.04

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Analytical Report Number: 26-000661
Project / Site name: Fairfax Manchester
Your Order No: 3361-53-P-01

Lab Sample Number				795980
Sample Reference				SCV16
Sample Number				46028
Water Matrix				N/A
Depth (m)				0.30
Date Sampled				06/01/2026
Time Taken				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	11
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.67
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3
Chromium (hexavalent)	mg/kg	1.8	MCERTS	U/S *U/S g
Chromium (III)	mg/kg	1	NONE	U/S *U/S g
Chromium (hexavalent) by IC	mg/kg	1.8	NONE	< 1.80
Chromium (III) by IC	mg/kg	1	NONE	21
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	37
Lead (aqua regia extractable)	mg/kg	1	MCERTS	58
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	23
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	83
Petroleum Hydrocarbons				
TPHCWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10
TPHCWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.02	MCERTS	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10
VOCs				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0

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

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Analytical Report Number : 26-000661
Project / Site name: Fairfax Manchester

* 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 *
795975	SCV5	46028	0.3	Brown sand with gravel
795976	SCV6	46028	0.3	Brown sand
795977	SCV11	46028	0.4	Brown sand
795978	SCV13	46028	0.3	Brown sand with gravel and vegetation
795979	SCV14	46028	0.3	Brown sand
795980	SCV16	46028	0.3	Brown loam and clay with gravel and vegetation

Analytical Report Number : 26-000661
Project / Site name: Fairfax Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI 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
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	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 in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
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
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
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

Analytical Report Number : 26-000661
Project / Site name: Fairfax Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI 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 by Ion Chromatography	Determination of hexavalent chromium in alkaline soil extract by use of ion chromatography with spectrophotometric detection	In-house method	L130B	W	NONE

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

*U/S g- Unsuitable for analysis due to high colour intensity.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 26-000661
Project / Site name: Fairfax Manchester

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container/Insufficient material provided c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SCV14	46028	S	795979	b	BTEX and/or Volatile organic compounds in soil	L073B	b

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.

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Tarmac Topscape

Mr Nathan Birchenall
Tarmac Topscape
Manchester Road
Congleton
Cheshire, CW12 2LU

24th October 2024
Our Ref: TOHA/24/1569/SS
Your Ref: PO 2002878689

Dear Sirs

Subsoil Analysis Report: Topscape Subsoil (Eaton Hall)

We have completed the analysis of the soil sample recently submitted, referenced *Topscape Subsoil (Eaton Hall),* and have pleasure reporting our findings.

The purpose of the analysis was to determine the suitability of the sample for use as subsoil in general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Subsoil *(BS8601:2013 – Specification for subsoil and requirements for use – Table 1, Multipurpose Subsoil).*

This report presents the results of analysis for the sample submitted to our office, and it should be considered 'indicative' of the subsoil source. The report and results should therefore not be used by third parties as a means of verification or validation testing or waste designation purposes, especially after the subsoil has left the Tarmac Topscape site.

SAMPLE EXAMINATION

The sample was described as a light yellowish brown (Munsell Colour 10YR 6/4), slightly moist, friable, non-calcareous, stone-free SAND with a single grain structure. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

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ANALYTICAL SCHEDULE

The sample was submitted to a UKAS and MCERTS accredited laboratory for a range of physical and chemical tests to confirm the composition and fertility of the soil, and the concentration of selected potential contaminants. The following parameters were determined:

- detailed particle size analysis (% 5 sands, silt, clay);
- stone content (2-20mm, 20-75mm, >75mm);
- pH and electrical conductivity values;
- exchangeable sodium percentage;
- organic matter content;
- heavy metals (As, B, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn);
- total cyanide and total (mono) phenols;
- speciated PAHs (US EPA16 suite);
- aromatic and aliphatic TPH (C5-C35 banding);
- benzene, toluene, ethylbenzene, xylene (BTEX);
- asbestos screen.

The results are presented on the attached Certificate of Analysis and an interpretation of the results is given below.

RESULTS OF ANALYSIS

Detailed Particle Size Analysis and Stone Content

The sample fell into the *sand* texture class. Further detailed particle size analysis revealed the sample to have a relatively narrow particle size distribution and a large proportion of sand falling into the *fine sand* (0.15-0.25mm) class. This would be considered suitable for subsoil in general landscape applications.

The particle size distribution falls outside of the range specified in *BS8601:2013 – Figure 1,* on account of the high sand content (100%).

The sample was stone-free and, as such, stones should not restrict the use of the soil for use as subsoil in general landscape purposes.

pH and Electrical Conductivity Values

The sample was strongly alkaline in reaction (pH 8.0). This pH value would be considered suitable as subsoil for general landscape purposes provided that species with a wide pH tolerance or those known to prefer alkaline soils are selected for planting, turfing and seeding.

The electrical conductivity (salinity) value (water extract) was very low, which indicates that soluble salts were not present at levels that would be harmful to plants.

The electrical conductivity value by CaSO4 extract (BS8601 requirement) fell below the maximum specified value (2800 µS/cm) given in *BS8601:2013 – Table 1*.

Organic Matter Content

The organic matter content was low (<0.5%) and compliant with *BS8601:2013 – Table 1*.

Potential Contaminants

With reference to *BS8601:2013 – Section 4.2*: *Note 2*, there is a requirement to confirm levels of potential contaminants in relation to the subsoil's proposed end use. This includes human health, environmental protection and metals considered toxic to plants. In the absence of site-specific assessment criteria, the concentrations that affect human health have been compared with the *residential with homegrown produce* land use in the Suitable For Use Levels (S4ULs) presented in *The LQM/CIEH S4ULs for Human Health Risk Assessment* (2015) and the DEFRA SP1010: *Development of Category 4 Screening Levels* (C4SLs) *for Assessment of Land Affected by Contamination – Policy Companion Document* (2014).

Of the potential contaminants determined, none was found at levels that exceeded their guideline values.

Tarmac Topscape

Phytotoxic Contaminants

Of the phytotoxic (toxic to plants) contaminants determined (copper, nickel, zinc), none was found at levels that exceeded the maximum permissible levels specified in *BS8601:2013 – Table 1*.

CONCLUSION

The purpose of the analysis was to determine the suitability of the sample for use as subsoil in general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Subsoil *(BS8601:2013 – Specification for subsoil and requirements for use – Table 1, Multipurpose Subsoil).*

From the soil examination and subsequent laboratory analysis, the sample was described as a strongly alkaline, non-saline, non-calcareous, stone-free *sand* with a single grained structure. The organic matter content was low and consistent with subsoil requirements. Of all the potential contaminants determined, none was found at levels that exceeded their guideline values.

To conclude, based on our findings, the soil represented by this sample would be considered suitable as subsoil for general landscape purposes (trees, shrubs and amenity grass), provided the physical condition of the soil is satisfactory.

The sample was largely compliant with the requirements of the British Standard for Subsoil *(BS8601:2013 – Specification for subsoil and requirements for use – Table 1, Multipurpose Subsoil)* when reviewed in the context of all the other results and given the favourable grading of the sand.

RECOMMENDATIONS

Soil Handling Recommendations

Reference should be made to Section 6.0 of *BS8601:2013* with regard to the handling and management of the subsoil:

"Soils generally lose strength and become less resistant to damage as they become wetter; therefore, it is essential that they are stripped, handled and trafficked only in the appropriate conditions of weather and soil moisture, and with suitable machinery. If sustained heavy rainfall (e.g. >10 mm in 24 h) occurs during soil stripping operations, work should be suspended and not restarted until the ground has had at least one dry day or until a suitable moisture content has been reached. A soil can be considered to have a suitable moisture content for stripping and handling if the whole thickness of the subsoil layer being stripped and/or handled is at a moisture content below the plastic limit as determined in accordance with BS 1377-2:1990 (incorporating Amendment No. 1).

Machinery should be selected and routed to minimize soil compaction."

Further guidance is provided in Clauses 6.1–6.5.

Tarmac Topscape

We hope this report meets with your approval and provides the necessary information. Please do not hesitate to contact the undersigned if we can be of further assistance.

Yours faithfully

[redacted]

[redacted]

Neema Senthil Kumar
BSc MSc
Graduate Soil Scientist

Rebecca Roberts
BSc MSc MISoilSci
Senior Soil Scientist

For & on behalf of Tim O'Hare Associates LLP

Tarmac Topscape

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Client:	**Tarmac Topscape**
Project	**Topscape Subsoil (Eaton Hall)**
Job:	**Subsoil Analysis - BS8601:2013**
Date:	**24/10/2024**
Job Ref No:	**TOHA/24/1569/SS**

Sample Reference			**Topscape Subsoil (Eaton Hall)**
		Accreditation	
Clay (<0.002mm)	%	UKAS	0
Silt (0.002-0.063mm)	%	UKAS	0
Very Fine Sand (0.063-0.15mm)	%	UKAS	20
Fine Sand (0.15-0.25mm)	%	UKAS	73
Medium Sand (0.25-0.50mm)	%	UKAS	7
Coarse Sand (0.50-1.0mm)	%	UKAS	0
Very Coarse Sand (1.0-2.0mm)	%	UKAS	0
Total Sand (0.063-2.0mm)	%	UKAS	100
Texture Class (UK Classification)	--	UKAS	S
Stones (2-20mm)	% DW	GLP	0
Stones (20-75mm)	% DW	GLP	0
Stones (>75mm)	% DW	GLP	0
pH Value (1:2.5 water extract)	units	UKAS	8.0
Electrical Conductivity (1:2.5 water extract)	uS/cm	UKAS	47
Electrical Conductivity (1:2 $CaSO_4$ extract)	uS/cm	UKAS	1990
Organic Matter (LOI)	%	UKAS	<0.5
Exchangeable Sodium Percentage	%	UKAS	1.1
Total Arsenic (As)	mg/kg	MCERTS	< 1.0
Total Cadmium (Cd)	mg/kg	MCERTS	< 0.2
Total Chromium (Cr)	mg/kg	MCERTS	2
Hexavalent Chromium (Cr VI)	mg/kg	MCERTS	< 1.8
Total Copper (Cu)	mg/kg	MCERTS	4
Total Lead (Pb)	mg/kg	MCERTS	1
Total Mercury (Hg)	mg/kg	MCERTS	< 0.3
Total Nickel (Ni)	mg/kg	MCERTS	2
Total Selenium (Se)	mg/kg	MCERTS	< 1.0
Total Zinc (Zn)	mg/kg	MCERTS	6
Water Soluble Boron (B)	mg/kg	MCERTS	0.3
Total Cyanide (CN)	mg/kg	MCERTS	< 1.0
Total (mono) Phenols	mg/kg	MCERTS	< 1.0
Naphthalene	mg/kg	MCERTS	< 0.05
Acenaphthylene	mg/kg	MCERTS	< 0.05
Acenaphthene	mg/kg	MCERTS	< 0.05
Fluorene	mg/kg	MCERTS	< 0.05
Phenanthrene	mg/kg	MCERTS	< 0.05
Anthracene	mg/kg	MCERTS	< 0.05
Fluoranthene	mg/kg	MCERTS	< 0.05
Pyrene	mg/kg	MCERTS	< 0.05
Benzo(a)anthracene	mg/kg	MCERTS	< 0.05
Chrysene	mg/kg	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	MCERTS	< 0.05
Benzo(k)fluoranthene	mg/kg	MCERTS	< 0.05
Benzo(a)pyrene	mg/kg	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	MCERTS	< 0.05
Dibenzo(a,h)anthracene	mg/kg	MCERTS	< 0.05
Benzo(g,h,i)perylene	mg/kg	MCERTS	< 0.05
Total PAHs (sum USEPA16)	mg/kg	MCERTS	< 0.80
Aliphatic TPH >C5 - C6	mg/kg	MCERTS	< 0.010
Aliphatic TPH >C6 - C8	mg/kg	MCERTS	< 0.010
Aliphatic TPH >C8 - C10	mg/kg	MCERTS	< 0.010
Aliphatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aliphatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aliphatic TPH >C16 - C21	mg/kg	MCERTS	< 8.0
Aliphatic TPH >C21 - C35	mg/kg	MCERTS	< 8.0
Aliphatic TPH (C5 - C35)	mg/kg	MCERTS	< 10
Aromatic TPH >C5 - C7	mg/kg	MCERTS	< 0.010
Aromatic TPH >C7 - C8	mg/kg	MCERTS	< 0.010
Aromatic TPH >C8 - C10	mg/kg	MCERTS	< 0.020
Aromatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aromatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aromatic TPH >C16 - C21	mg/kg	MCERTS	< 10
Aromatic TPH >C21 - C35	mg/kg	MCERTS	< 10
Aromatic TPH (C5 - C35)	mg/kg	MCERTS	< 10
Benzene	mg/kg	MCERTS	< 0.005
Toluene	mg/kg	MCERTS	< 0.005
Ethylbenzene	mg/kg	MCERTS	< 0.005
p & m-oxylene	mg/kg	MCERTS	< 0.005
o-xylene	mg/kg	MCERTS	< 0.005
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	MCERTS	< 0.005
Asbestos	--	ISO 17025	Not-detected

S = SAND

Visual Examination

The sample was described as a light yellowish brown (Munsell Colour 10YR 6/4), slightly moist, friable, non-calcareous, stone free SAND with a single grain structure. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

[redacted]

Neema Senthil Kumar
BSc MSc
Graduate Soil Scientist

Tarmac Topscape

Results of analysis should be read in conjunction with the report they were issued with

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TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Mark Bennett
MB Soils & Groundworks Limited
46-52 Richmond Hill
Wigan
WN5 8AA

20th October 2025
Our Ref: TOHA/25/7037/SS/Rev1
Your Ref: see below

MB Soils & Groundworks Limited

Dear Sirs

Topsoil Analysis Report: Vistry Homes, Mill Lane, Warrington

We have completed the analysis of the soil sample recently submitted, referenced *Vistry Homes Warrington Topsoil,* and have pleasure reporting our findings.

The purpose of the analysis was to determine the suitability of the sample for general landscape purposes (trees, shrubs, amenity grass). In addition, the sample has been assessed to determine its compliance with the requirements of the British Standard for Topsoil *(BS3882:2015 – Specification for Topsoil - Table 1, Multipurpose Topsoil).*

This report presents the results of analysis for the sample submitted to our office, and it should be considered 'indicative' of the topsoil source. The report and results should therefore not be used by third parties as a means of verification testing, validation testing or waste designation purposes.

SAMPLE EXAMINATION

The sample was described as a very dark grey (Munsell Colour 10YR 3/1), slightly moist, friable, non-calcareous SANDY LOAM with a well developed, fine to coarse granular structure*. The sample was virtually stone-free and no unusual odours or deleterious materials were observed.

*This appraisal of soil structure was made from examination of a disturbed sample. Structure is a key soil characteristic that may only be accurately assessed by examination in an in-situ state.

ANALYTICAL SCHEDULE

The sample was submitted to a UKAS and MCERTS accredited laboratory for a range of physical and chemical tests to confirm the composition and fertility of the soil, and the concentration of selected potential contaminants. The following parameters were determined:

- particle size analysis (sand, silt, clay);
- stone content (2-20mm, 20-50mm, >50mm);
- pH and electrical conductivity values;
- exchangeable sodium percentage;
- major plant nutrients (N, P, K, Mg);
- organic matter content;
- C:N ratio;
- heavy metals (As, B, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn);
- total cyanide and total (mono) phenols;
- speciated PAHs (US EPA16 suite);
- aromatic and aliphatic TPH (C5-C35 banding);
- benzene, toluene, ethylbenzene, xylene (BTEX);
- asbestos screen.

The results are presented on the attached Certificate of Analysis and an interpretation of the results is given below.

RESULTS OF ANALYSIS

Particle Size Analysis and Stone Content

The sample fell into the *sandy loam* texture class, which is usually considered suitable for general landscape applications provided the physical condition of the soil is satisfactory.

The sample was virtually stone-free and, as such, stones should not restrict the use of the soil for general landscape purposes.

pH and Electrical Conductivity Values

The sample was acid in reaction (pH 5.6), with a pH value that would be considered suitable for general landscape purposes and in particular acid-loving species (calcifuges). This pH value is unlikely to be suitable for species known to specifically require or prefer alkaline soils.

The electrical conductivity (salinity) value (water extract) was low, which indicates that soluble salts were not present at levels that would be harmful to plants.

The electrical conductivity value by $CaSO_4$ extract (*BS3882* requirement) fell below the maximum specified value (3300 µS/cm) given in *BS3882:2015 – Table 1*.

Organic Matter and Fertility Status

The sample was adequately supplied with organic matter and most major plant nutrients but was deficient in extractable potassium. This nutrient deficiency can be remedied by a suitable fertiliser application.

The C:N ratio of the sample was acceptable for general landscape purposes.

Potential Contaminants

With reference to *BS3882:2015 - Table 1*: Notes 3 and 4, there is a requirement to confirm levels of potential contaminants in relation to the topsoil's proposed end use. This includes human health, environmental protection and metals considered toxic to plants. In the absence of site-specific assessment criteria, the concentrations that affect human health have been compared with the *residential with home-grown produce* land use in the Suitable For Use Levels (S4ULs) presented in *The LQM/CIEH S4ULs for Human Health Risk Assessment* (2015) and the DEFRA SP1010: *Development of Category 4 Screening Levels* (C4SLs) *for Assessment of Land Affected by Contamination – Policy Companion Document* (2014).

Of the potential contaminants determined, none was found at levels that exceeded their guideline values.

MB Soils & Groundworks Limited

Note: Due to the dark colour of the sample, the colorimetry analysis of hexavalent chromium could not be performed in this instance (noted as U/S - Unsuitable Sample on the certificate). Instead, the laboratory has provided additional unaccredited testing for hexavalent chromium in this sample by ion chromatography, which was reported to be less than the limit of detection (<1.80 mg/kg).

Phytotoxic Contaminants

Of the phytotoxic (toxic to plants) contaminants determined (copper, nickel, zinc), none was found at levels that exceeded the maximum permissible levels specified in *BS3882:2015 – Table 1*.

CONCLUSION

The purpose of the analysis was to determine the suitability of the topsoil sample for general landscape purposes. The analysis has also been undertaken to determine the sample's compliance with the requirements of the British Standard for Topsoil *(BS3882:2015 – Specification for Topsoil - Table 1, Multipurpose Topsoil).*

From the soil examination and subsequent laboratory analysis, the sample was described as an acid, non-saline, non-calcareous *sandy loam* with a well developed structure and very low stone content. The sample was adequately supplied with organic matter and most major plant nutrients but was deficient in extractable potassium. Of the potential contaminants determined, none exceeded their respective guideline values.

To conclude, based on our findings, the topsoil represented by this sample would be considered suitable for general landscape purposes (trees, shrubs and amenity grass), provided the extractable potassium deficiency is addressed by a suitable fertiliser application, acid-loving species are selected and the physical condition of the soil is satisfactory.

The sample was largely compliant with the requirements of the British Standard for Topsoil *(BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil)*, with the exception of the low extractable potassium level. On this occasion, this non-compliance would be considered minor when reviewed in the context of all other results, provided the nutrient deficiency is remedied by a suitable fertiliser application.

RECOMMENDATIONS

Fertiliser for Planting

To address the extractable potassium deficiency and to help promote effective plant establishment, we recommend applying and incorporating the compound, controlled release fertiliser *ICL Osmocote PrePlant* (17%N:9%P_2O_5:10%K_2O:2%MO+TE) at a rate of 70 g/m^2 for planting beds and/or 180 g/tree pit, and to a depth of 200mm.

Fertiliser for Amenity Grass Establishment

To address the extractable potassium deficiency and to help promote effective grass establishment, we recommend applying and incorporating the pre-seeding grass fertiliser *ICL Sportsmaster Pre-seeder* (8%N:12%P_2O_5:8%K_2O+3%MgO) prior to seeding or turfing at a rate of 35 g/m^2 and to a depth of 100mm.

Soil Handling Recommendations

It is important to maintain the physical condition of the soil and avoid structural damage during all phases of soil handling (e.g. stockpiling, respreading, cultivating, planting, seeding or turfing). As a consequence, soil handling operations should be carried out when soil is sufficiently dry to be non-plastic (friable) in consistency.

It is important to ensure that the soil is not unnecessarily compacted by trampling or trafficking by site machinery, and soil handling should be stopped during and after heavy rainfall and not continued until the soil is friable in consistency.

If the soil is structurally damaged and compacted at any stage during the course of soiling or landscaping works, it should be cultivated appropriately to relieve the compaction and to restore the soil's structure prior to any planting, turfing or seeding.

Further details on soil handling are provided in Annex A of *BS3882:2015.*

MB Soils & Groundworks Limited

We hope this report meets with your approval and provides the necessary information. Please do not hesitate to contact the undersigned if we can be of further assistance.

Yours faithfully

[redacted]

[redacted]

Neema Senthil Kumar
BSc MSc
Graduate Soil Scientist

Rebecca Roberts
BSc MSc MISoilSci
Senior Soil Scientist

For & on behalf of Tim O'Hare Associates LLP

MB Soils & Groundworks Limited

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Client:	**MB Soils & Groundworks Ltd**
Project:	**Vistry Homes, Mill Lane, Warrington**
Job:	**Topsoil Analysis - BS3882:2015**
Date:	**16/10/2025**
Job Ref No:	**TOHA/25/7037/SS/Rev1**

Sample Reference			**Vistry Homes Warrington Topsoil**
		Accreditation	
Clay (<0.002mm)	%	UKAS	15
Silt (0.002-0.063mm)	%	UKAS	13
Sand (0.063-2.0mm)	%	UKAS	72
Texture Class (UK Classification)	--	UKAS	SL
Stones (2-20mm)	% DW	GLP	1
Stones (20-50mm)	% DW	GLP	0
Stones (>50mm)	% DW	GLP	0
pH Value (1:2.5 water extract)	units	UKAS	5.6
Electrical Conductivity (1:2.5 water extract)	uS/cm	UKAS	404
Electrical Conductivity (1:2 $CaSO_4$ extract)	uS/cm	UKAS	2290
Exchangeable Sodium Percentage	%	UKAS	1.1
Organic Matter (LOI)	%	UKAS	4.6
Total Nitrogen (Dumas)	%	UKAS	0.18
C : N Ratio	ratio	UKAS	15
Extractable Phosphorus	mg/l	UKAS	45
Extractable Potassium	mg/l	UKAS	78
Extractable Magnesium	mg/l	UKAS	85
Total Arsenic (As)	mg/kg	MCERTS	15
Total Cadmium (Cd)	mg/kg	MCERTS	0.3
Total Chromium (Cr)	mg/kg	MCERTS	29
Hexavalent Chromium (Cr VI)	mg/kg	MCERTS	U/S
Total Copper (Cu)	mg/kg	MCERTS	49
Total Lead (Pb)	mg/kg	MCERTS	89
Total Mercury (Hg)	mg/kg	MCERTS	< 0.3
Total Nickel (Ni)	mg/kg	MCERTS	20
Total Selenium (Se)	mg/kg	MCERTS	< 1.0
Total Zinc (Zn)	mg/kg	MCERTS	100
Water Soluble Boron (B)	mg/kg	MCERTS	0.7
Total Cyanide (CN)	mg/kg	MCERTS	< 1.0
Total (mono) Phenols	mg/kg	MCERTS	< 1.0
Naphthalene	mg/kg	MCERTS	< 0.05
Acenaphthylene	mg/kg	MCERTS	< 0.05
Acenaphthene	mg/kg	MCERTS	0.13
Fluorene	mg/kg	MCERTS	0.09
Phenanthrene	mg/kg	MCERTS	1.00
Anthracene	mg/kg	MCERTS	0.26
Fluoranthene	mg/kg	MCERTS	1.50
Pyrene	mg/kg	MCERTS	1.40
Benz(a)anthracene	mg/kg	MCERTS	0.67
Chrysene	mg/kg	MCERTS	0.80
Benzo(b)fluoranthene	mg/kg	MCERTS	0.84
Benzo(k)fluoranthene	mg/kg	MCERTS	0.36
Benzo(a)pyrene	mg/kg	MCERTS	0.80
Indeno(1,2,3-cd)pyrene	mg/kg	MCERTS	0.34
Dibenzo(a,h)anthracene	mg/kg	MCERTS	0.10
Benzo(g,h,i)perylene	mg/kg	MCERTS	0.43
Total PAHs (sum USEPA16)	mg/kg	MCERTS	8.7
Aliphatic TPH >C5 - C6	mg/kg	MCERTS	< 0.010
Aliphatic TPH >C6 - C8	mg/kg	MCERTS	< 0.010
Aliphatic TPH >C8 - C10	mg/kg	MCERTS	< 0.010
Aliphatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aliphatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aliphatic TPH >C16 - C21	mg/kg	MCERTS	< 8.0
Aliphatic TPH >C21 - C35	mg/kg	MCERTS	< 8.0
Aliphatic TPH (C5 - C35)	mg/kg	MCERTS	< 10
Aromatic TPH >C5 - C7	mg/kg	MCERTS	< 0.010
Aromatic TPH >C7 - C8	mg/kg	MCERTS	< 0.010
Aromatic TPH >C8 - C10	mg/kg	MCERTS	< 0.020
Aromatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aromatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aromatic TPH >C16 - C21	mg/kg	MCERTS	< 10
Aromatic TPH >C21 - C35	mg/kg	MCERTS	22
Aromatic TPH (C5 - C35)	mg/kg	MCERTS	22
Benzene	mg/kg	MCERTS	< 0.005
Toluene	mg/kg	MCERTS	< 0.005
Ethylbenzene	mg/kg	MCERTS	< 0.005
p & m-xylene	mg/kg	MCERTS	< 0.008
o-xylene	mg/kg	MCERTS	< 0.005
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	MCERTS	< 0.005
Asbestos Screen	ND/D	ISO 17025	Not-detected

SL = SANDY LOAM

Visual Examination

The sample was described as a very dark grey (Munsell Colour 10YR 3/1), slightly moist, friable, non-calcareous SANDY LOAM with a well developed, fine to coarse granular structure. The sample was virtually stone-free and no unusual odours or deleterious materials were observed.

[redacted]

Neema Senthil Kumar
BSc MSc
Graduate Soil Scientist

Results of analysis should be read in conjunction with the report they were issued with

MB Soils & Groundworks Limited

Soil Cover Validation Photo
SCV01







Soil Cover Validation Photo
SCV02







Soil Cover Validation Photo
SCV03







Soil Cover Validation Photo
SCV04







Soil Cover Validation Photo
SCV05

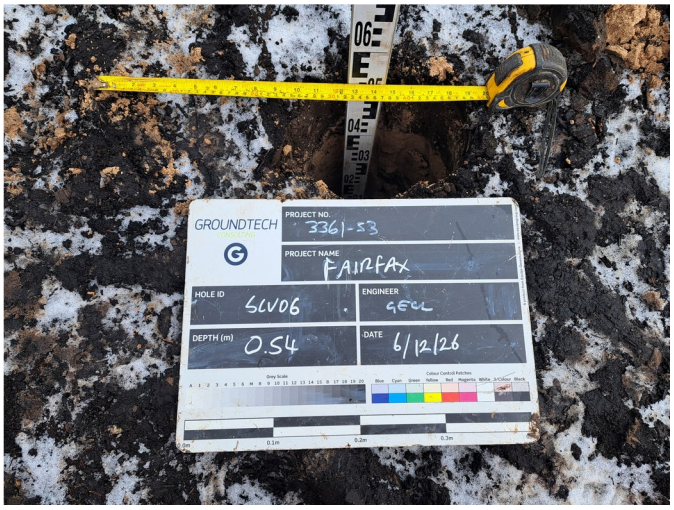






Soil Cover Validation Photo
SCV06





Soil Cover Validation Photo
SCV07







Soil Cover Validation Photo
SCV08







Soil Cover Validation Photo
SCV09

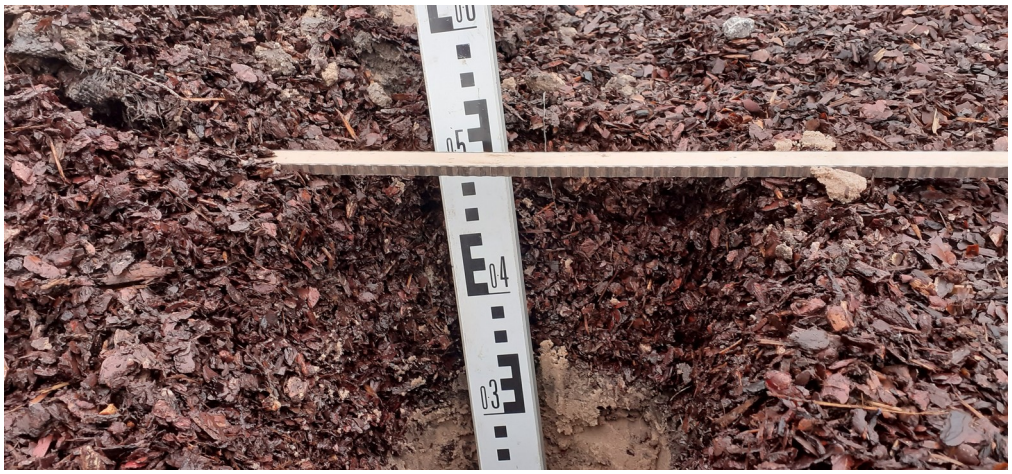






Soil Cover Validation Photo
SCV10







Soil Cover Validation Photo
SCV11







Soil Cover Validation Photo
SCV12







Soil Cover Validation Photo
SCV13

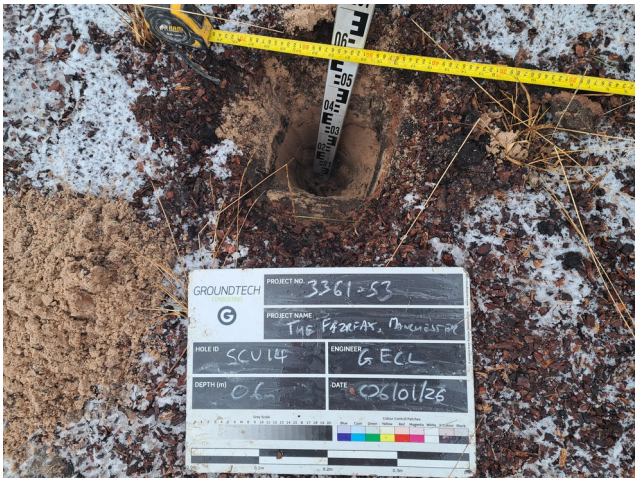






Soil Cover Validation Photo
SCV14







Soil Cover Validation Photo
SCV15







Soil Cover Validation Photo
SCV16







Appendix J – Waste Records

Form HWCN01v112

The Hazardous Waste Regulations 2005: Consignment Note

part load 1 of 2.

Environment Agency

CONSIGNEE'S COPY

PART A Notification details

1 Consignment note code: PO 124 4G 1 00 2

2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimile):
portugal Street
Manchester. M1 2WX

3 The waste will be taken to (name, address and postcode):
Bradley park WM.
Huddersfield HD2 1FN.

4 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimile):
demolition services Ltd

PART B Description of the waste

If continuation sheet used, tick here ☐

1 The process giving rise to the waste(s) was: Demolition

2 SIC (2007) for the process giving rise to the waste: 43.11.1

3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code)(6 digits)	Quantity (kg)	The chemical/biological components in the waste and their concentrations are: Component	Concentration (% or mg/kg)	Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard code(s)	Container type, number and size
Bonded Asbestos	170605		crysotile	1.1	Solid	HP7	40 4d.

The information given below is to be completed for each EWC identified

EWC code	UN identification number(s)	Proper shipping name(s)	UN class(es)	Packing group(s)	Special handling requirements
170605	2590	crysotile	9	168	

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for subsequent carriers. If schedule of carriers is attached tick here. ☐)

I certify that I today collected the consignment and that the details in A2, A3 and B3 are correct and I have been advised of any specific handling requirements.

Where this note comprises part of a multiple collection the round number and collection number are:
PORTUG002/whiting 1001.

1 Carrier name: D-EAN SMITH.

On behalf of (name, address, postcode, telephone, e-mail, facsimile):
Demolition services Ltd

2 Carrier registration no./reason for exemption: CBDU34503

3 Vehicle registration no. (or mode of transport, if not road): SF18 WTE

Signature [redacted]

Date 25/08/2022 Time 1032

PART D Consignor's certificate

I certify that the information in A, B and C has been completed and is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

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.

1 Consignor name: LUNW WIGGLESWORTH

On behalf of (name, address, postcode, telephone, e-mail, facsimile):
Demolition
services. LS12 4HE

Signature [redacted]

Date 25/8/22. Time 0900

PART E Consignee's certificate (where more than one waste type is collected all of the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)
170605	15,100	✓	D5

1 I received this waste at the address given in A3 on: Date 25.08.2022 Time 1047

2 Vehicle registration no. (or mode of transport if not road): SF18WTE

3 Where waste is rejected please provide details:

Name: Claire Foreman

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

Bradley Park Waste Management
Lower Quarry Road
Huddersfield
HD2 1FN

I certify that waste permit/exempt waste operation number:
CP3434HA

authorises the management of the waste described in B at the address given in A3.

Where the consignment forms part of a multiple collection, as identified in Part C, I certify that the total number of consignments forming the collection are: 3

Signature [redacted]

Date 25.8.2022 Time 1047

Form HWCN01v112

The Hazardous Waste Regulations 2005: Consignment Note

part load 2 of 2.

Environment Agency

CONSIGNEE'S COPY

PART A Notification details

1 Consignment note code: WHINGN1001

2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimile):

Whingate Junction
Garnett. LS12.

3 The waste will be taken to (name, address and postcode):

Bradley Park Wm
Huddersfield HD2 1FN

4 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimile):

Demolition Services Ltd.

PART B Description of the waste

If continuation sheet used, tick here ☐

1 The process giving rise to the waste(s) was: Demolition SIC (2007) for the process giving rise to the waste: /

3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code)(6 digits)	Quantity (kg)	The chemical/biological components in the waste and their concentrations are: Component	Concentration (% or mg/kg)	Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard code(s)	Container type, number and size
Bonded Asbestos	170605		crysotile	1.1	solid	HP7	40 4d.

The information given below is to be completed for each EWC identified

EWC code	UN identification number(s)	Proper shipping name(s)	UN class(es)	Packing group(s)	Special handling requirements
170605	2590	crysotile	9	168	

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for subsequent carriers. If schedule of carriers is attached tick here. ☐)

I certify that I today collected the consignment and that the details in A2, A3 and B3 are correct and I have been advised of any specific handling requirements.

Where this note comprises part of a multiple collection the round number and collection number are:

PORTUG002/Whing /

1 Carrier name: Dean Smith

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

Demolition Services Ltd

2 Carrier registration no./reason for exemption: CBDU 34503

3 Vehicle registration no. (or mode of transport, if not road): SF18WTE

Signature [signature]

Date 25/8/2022 Time 1032

PART D Consignor's certificate

I certify that the information in A, B and C has been completed and is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

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.

1 Consignor name: Lynn D

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

Demolition Services Ltd.

Signature [signature]

Date 25/8/22 Time 0700

PART E Consignee's certificate (where more than one waste type is collected all of the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)
170605	15,100	✓	D5

1 I received this waste at the address given in A3 on: Date 25.8.2022 Time 1047

2 Vehicle registration no. (or mode of transport if not road): SF18WTE

3 Where waste is rejected please provide details:

Name: Claire Foreman

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

Bradley Park Waste Management
Lower Quarry Road
Huddersfield

I certify that waste permit/exempt waste operation number:

CP3434HA

authorises the management of the waste described in B at the address given in A3.

Where the consignment forms part of a multiple collection, as identified in Part C, I certify that the total number of consignments forming the collection are: 3

Signature [signature]

Date 25.8.2022 Time 1047

Form HWCN01v112

The Hazardous Waste Regulations 2005: Consignment Note

Environment Agency

CONSIGNEE'S COPY

PART A Notification details

1 Consignment note code: DBTU9/003

2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimile):

portugal street
Manchester M1 2WX

3 The waste will be taken to (name, address and postcode):

Bradley park. WM
Huddersfield HD2. 1NF

4 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimile):

demolition services ltd.

PART B Description of the waste

If continuation sheet used, tick here ☐

1 The process giving rise to the waste(s) was:

2 SIC (2007) for the process giving rise to the waste: 43.11

3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code)(6 digits)	Quantity (kg)	The chemical/biological components in the waste and their concentrations are: Component	Concentration (% or mg/kg)	Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard code(s)	Container type, number and size
Banded Asbestos	170605		crysotile	7.1.	solid	HP7	40 4d

The information given below is to be completed for each EWC identified

EWC code	UN identification number(s)	Proper shipping name(s)	UN class(es)	Packing group(s)	Special handling requirements
170605	2590	crysotile	9	168	

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for subsequent carriers. If schedule of carriers is attached tick here. ☐)

I certify that I today collected the consignment and that the details in A2, A3 and B3 are correct and I have been advised of any specific handling requirements.

Where this note comprises part of a multiple collection the round number and collection number are:

/

1 Carrier name: Dean Smith

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

Demolition Services Ltd.

2 Carrier registration no./reason for exemption: CBDU34503

3 Vehicle registration no. (or mode of transport, if not road): SF18 WTE

Signature

Date 25082022 Time 1230

PART D Consignor's certificate

I certify that the information in A, B and C has been completed and is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

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.

1 Consignor name: Lewis Ellsworth

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

Demolition Services Ltd. LS12 4JE
01138239191

Signature

Date 25/8/22 Time 0730

PART E Consignee's certificate (where more than one waste type is collected all of the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)
170605	14,400	✓	D5

1 I received this waste at the address given in A3 on: Date 25/08/2022 Time 1233

2 Vehicle registration no. (or mode of transport if not road): SF18 WTE

3 Where waste is rejected please provide details:

Name: Claire foreman

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

Bradley Park Waste Management
Lower Quarry Road
Huddersfield
HD2 1EN

I certify that waste permit/exempt waste operation number: CP3434HA

authorises the management of the waste described in B at the address given in A3.

Where the consignment forms part of a multiple collection, as identified in Part C, I certify that the total number of consignments forming the collection are: 3

Signatu [redacted]

Date 25.8.2022 Time 1233

Bradley Park Waste Management Ltd
Bradley Park Landfill Site
Lower Quarry Road
Huddersfield
West Yorkshire HD2 1FN

Tel: 01484 534 976
email: info@bradleyparkwastemanagement.com

WEIGHBRIDGE TICKET

Landfill Tax No. 01990 1668 93000
EA Permit No. EPR/LP3434HA

Registration : SF19 WTE

Ticket No.: 114536

Driver Name :

Waste Carrier Licence

Haulier : DSN Demolition Ltd

CBDN577SKS

Customer : DEMOLITIONS Demolition Services Ltd

Order No.: NA

Waste : 17 06 05 construction materials containing asbestos

Bradley Park
Waste Management

Waste Transfer No : PORTLG/01002

Source : Manchester

X: 00.000 Y: 00.000 Z: 000

Remark :

First Weight :	33,190 kg	25/08/2022	10:47:25	1,084.0	MAN
Second Weight :	18,090 kg	25/08/2022	10:37:41	1,084.0	MAN
Net :	15,100 kg				

A D.O.T. APPROVED COPY OF THIS TRANSACTION IS AVAILABLE FOR 6 MONTHS FROM THE WEIGHMENT

[redacted]

.....

[redacted]

.....

Bradley Park Waste Management Ltd
Bradley Park Landfill Site
Lower Quarry Road
Huddersfield
West Yorkshire HD2 1FN

Tel: 01484 534 976
email: info@bradleyparkwastemanagement.com

WEIGHBRIDGE

Landfill Tax No. 0199
EA Permit No. EP

Registration : SF18 WTE

Ticket No.: 1

Driver Name :

Haulier : DSM Demolition Ltd

Waste Carrier Licence
CB/KN5773KS

Customer : DEMOLITIONS Demolition Services Ltd

Order No.: NA

Waste : 17 06 05 construction materials containing asbestos

Bradley Park Waste Management

Waste Transfer No : PORTUG/01008

Source : Manchester

X: 00.000 Y: 00.000 Z: 000

Remark :

First Weight :	31,800 kg	25/08/2022	12:33:17	1,054,1	MAN
Second Weight :	17,400 kg	25/08/2022	13:01:22	1,054,1	MAN
Net :	14,400 kg				

A D.O.T. APPROVED COPY OF THIS TRANSACTION IS AVAILABLE FOR 6 MONTHS FR

[redacted]

DRIVER'S SIGNATURE Dear

Form HWCN01v112

The Hazardous Waste Regulations 2005: Consignment Note

Environment Agency

PRODUCER'S/HOLDER'S/CONSIGNOR'S COPY (Delete as appropriate)

PART A Notification details

1 Consignment note code: FAiRFA/C0466

2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimile):

THE FAIRFAX
PORTUGAL STREET, EAST
MANCHESTER.
M12WX

3 The waste will be taken to (name, address and postcode):

SB Waste Management
26 Purbrook Road
Wolverhampton WV1 2EJ

4 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimile):

ELFORD DEMOLITION & REMEDIATION LTD
PORTWAY ROAD, WEDNESBURY.
WS10 7DZ

PART B Description of the waste

If continuation sheet used, tick here ☐

1 The process giving rise to the waste(s) was: Asbestos Removal

2 SIC (2007) for the process giving rise to the waste: 39.00/0

3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code)(6 digits)	Quantity (kg)	The chemical/biological components in the waste and their concentrations are: Component	Concentration (% or mg/kg)	Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard code(s)	Container type, number and size
ASBESTOS CEMENT	170605	80	CHRYSOTILE	2 to 15 %	SOLID	H7	VAN

8

The information given below is to be completed for each EWC identified

EWC code	UN identification number(s)	Proper shipping name(s)	UN class(es)	Packing group(s)	Special handling requirements
170605	2590	ASBESTOS CHRYSOTILE	9	III	DOUBLE BAGGED

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for subsequent carriers. If schedule of carriers is attached tick here. ☐)

I certify that I today collected the consignment and that the details in A2, A3 and B3 are correct and I have been advised of any specific handling requirements.

Where this note comprises part of a multiple collection the round number and collection number are:

Asbestos To Go 083 /04

1 Carrier name: D. Evans

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

Asbestos To Go (Services) Ltd, 219 Tennyson Way
Kidderminster, DY10 3XR Tel: 0344 561 6710

2 Carrier registration no./reason for exemption: CBDU201718

3 Vehicle registration no. (or mode of transport, if not road): YD19 DBZ

Signature [redacted]

Date 28/7/2023 Time 0830

PART D Consignor's certificate

I certify that the information in A, B and C has been completed and is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

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.

1 Consignor name:

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

ELFORD AS A4

Signature [redacted]

Date 28/7/2023 Time 0830

PART E Consignee's certificate (where more than one waste type is collected all of the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)

1 I received this waste at the address given in A3 on: Date D D M M Y Y Y Y Time H H M M

2 Vehicle registration no. (or mode of transport if not road): YD19 DBZ

3 Where waste is rejected please provide details:

I certify that waste permit/exempt waste operation number:

EAWML 42806 GP3897FG/V003

authorises the management of the waste described in B at the address given in A3.

Where the consignment forms part of a multiple collection, as identified in Part C, I certify that the total number of consignments forming the collection are:

Name:

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

SB Waste Management
26 Purbrook Road
Wolverhampton WV1 2EJ
Tel: 01902 459 667

Signature

Date D D M M Y Y Y Y Time H H M M

Form HWCN01v112

The Hazardous Waste Regulations 2005: Consignment Note

Environment Agency

PRODUCER'S/HOLDER'S/CONSIGNOR'S COPY (Delete as appropriate)

PART A Notification details

1 Consignment note code: FAiRFA/C0466

2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimile):
THE FAIRFAX
PORTUGAL STREET, EAST
MANCHESTER.
M12WX

3 The waste will be taken to (name, address and postcode):
SB Waste Management
26 Purbrook Road
Wolverhampton WV1 2EJ

4 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimile):
ELFORD DEMOLITION & REMEDIATION LTD
PORTWAY ROAD, WEDNESBURY.
WS10 7DZ

PART B Description of the waste

If continuation sheet used, tick here ☐

1 The process giving rise to the waste(s) was: Asbestos Removal

2 SIC (2007) for the process giving rise to the waste: 39.00/0

3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code)(6 digits)	Quantity (kg)	The chemical/biological components in the waste and their concentrations are: Component	Concentration (% or mg/kg)	Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard code(s)	Container type, number and size
ASBESTOS CEMENT	170605	80	CHRYSOTILE	2 to 15 %	SOLID	H7	VAN

8

The information given below is to be completed for each EWC identified

EWC code	UN identification number(s)	Proper shipping name(s)	UN class(es)	Packing group(s)	Special handling requirements
170605	2590	ASBESTOS CHRYSOTILE	9	III	DOUBLE BAGGED

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for subsequent carriers. If schedule of carriers is attached tick here. ☐)

I certify that I today collected the consignment and that the details in A2, A3 and B3 are correct and I have been advised of any specific handling requirements.

Where this note comprises part of a multiple collection the round number and collection number are:

Asbestos To Go 083 /04

1 Carrier name: D. Evans

On behalf of (name, address, postcode, telephone, e-mail, facsimile):
Asbestos To Go (Services) Ltd, 219 Tennyson Way
Kidderminster, DY10 3XR Tel: 0344 561 6710

2 Carrier registration no./reason for exemption: CBDU201718

3 Vehicle registration no. (or mode of transport, if not road): YD19 DBZ

Signature [redacted]

Date 28/7/2023 Time 0830

PART D Consignor's certificate

I certify that the information in A, B and C has been completed and is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

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.

1 Consignor name:

On behalf of (name, address, postcode, telephone, e-mail, facsimile):
ELFORD AS A4

Signature [redacted]

Date 28/7/2023 Time 0830

PART E Consignee's certificate (where more than one waste type is collected all of the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)

1 I received this waste at the address given in A3 on: Date D D M M Y Y Y Y Time H H M M

2 Vehicle registration no. (or mode of transport if not road): YD19 DBZ

3 Where waste is rejected please provide details:

I certify that waste permit/exempt waste operation number:
EAWML 42806 GP3897FG/V003
authorises the management of the waste described in B at the address given in A3.

Where the consignment forms part of a multiple collection, as identified in Part C, I certify that the total number of consignments forming the collection are:

Name:

On behalf of (name, address, postcode, telephone, e-mail, facsimile):
SB Waste Management
26 Purbrook Road
Wolverhampton WV1 2EJ
Tel: 01902 459 667

Signature

Date D D M M Y Y Y Y Time H H M M

Cleansing Service Group
Waste Solution Specialists

The Hazardous Waste Regulations 2005
Consignment Note

Part A: Notification Details

1. Consignment Note Code
DEMOLI/44966

2. The Waste described below is to be removed from
Demolition Services Ltd
Portugal Street Site, Portugal Street East, Manchester,
M1 2WX
Tel: 07930 427485
Email: lynn@demolitionservices.co.uk

3. The Waste will be taken to
CSG - Sheffield
20-25 Douglas Road, Parkwood Springs, SHEFFIELD,
S3 9SA
Tel: 0114 2701551

4. The Waste Producer (if different from A2) was

Part B: Description of the Waste

1. The process giving rise to the Waste was
Demolition Services

2. SIC Code for the process giving rise to the Waste
43.11/0

3. Waste details for each EWC identified

Desc. of Waste	EWC Code	Quantity	The Chemical/Biological components in the Waste and their concentrations are:	Physical Form	Hazard Code(s)	Container Type, Num & Size
Diesel & Water	13 07 01*	1000 Litres	Diesel < 100%, Water Balance	Liquid	HP3, HP4, HP5, HP6, HP7, HP10, HP11, HP14	Tanker

4. EWC Handling Information

EWC Code	UN Identification Number(s)	Proper Shipping Name(s)	UN Class(es)	Packing Group(s)	Tunnel Code(s)	EAC	Special Handling Requirements
13 07 01*	UN1202	WASTE GAS OIL or DIESEL FUEL or HEATING OIL, LIGHT (flash-point more than 60 °C and not more than 100 °C)	3	III	(D/E)	3Y	PPE

Part C: Carrier's Certificate

I certify that I today collected the Consignment and that the details in A2, A3 & B3 are correct and I have been advised of any special handling requirements.

Where this note comprises part of a multiple collection, the round number and collection number is

Carrier Name C DEAR

On behalf of Frogson Waste Management Limited
20-25 Douglas Road, SHEFFIELD, ,
S3 9SA
Tel: 0114 2701551
Email: 074.pda@csg.co.uk

Carrier Reg No./Reason for Exemption CBDU87532

Vehicle Registration HY70BXV

Signature



Date/Time 16/11/2022 @ 13:38

Part D: Consignor's Certificate

I certify that the information in A, B & C has been completed and is correct, that the Carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the Waste is packaged and labelled correctly and the Carrier has been advised of any special handling requirements.

I confirm that I have fulfilled my duty to apply the Waste heirarchy as required by Regulation 12 of the Waste (England & Wales) Regulations 2011.

Consignor Name Demolition Services

On behalf of As A2

Signature



Date/Time 16/11/2022 @ 13:38

Part E: Consignee's Certificate

EWC Code Received	Quantity of each EWC Code received	Accepted/Rejected	Waste Management Operation (R or D Code)
13 07 01*			

1. I received this Waste at the Address given in A4 on

2. Vehicle Registration

3. Where Waste is rejected, details are

I certify that Waste Permit/Exempt Waste Operation Number

ERP/WP3731MH

authorises the management of the Waste described in B at the Address given in A3.

Where the Consignment forms part of a multiple collection as identified in Part C, I certify that the total number of Consignments forming the collection are

Ticket Num

Name

On behalf of CSG - Sheffield
20-25 Douglas Road, Parkwood Springs,
SHEFFIELD,
S3 9SA
Tel: 0114 2701551

Signature

Date/Time

Apex Consulting Engineers

Unit 3 Acres Hill Business Park
Acres Hill Lane
Sheffield
S9 4LR

0114 241 9360