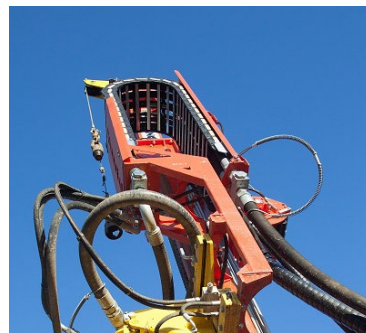




**REPORT NO: M30772**

**CONTAMINATION INVESTIGATION FOR LAND AT  
BROADFIELD PARK SLOPES, ROCHDALE**

**PREPARED FOR:  
ROCHDALE BOROUGH COUNCIL**



● UNIT 567 ● CHAMBERS BUSINESS CENTRE ● CHAPEL ROAD ● OLDHAM ● OL8 4QQ

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|                      |                                  |
|----------------------|----------------------------------|
| <b>Contract No.</b>  | M30772                           |
| <b>Contract Name</b> | Broadfield Park Slopes, Rochdale |

## REPORT REVISIONS

| Revision No. | Issue Date | Details                                                                                                      |
|--------------|------------|--------------------------------------------------------------------------------------------------------------|
| M30772_01_00 | 22.01.2025 | Testing of reworked topsoil to confirm its chemical suitability for re-use within proposed development works |
|              |            |                                                                                                              |
|              |            |                                                                                                              |
|              |            |                                                                                                              |

## VERIFICATION

| Revision No. | Issue Date |                  | Written By                                                                           | Checked By                                                                            | Verified By                                                                           |
|--------------|------------|------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| M30772_01_00 | 22.01.2025 | <b>Initials</b>  | RS                                                                                   | SG                                                                                    | SG                                                                                    |
|              |            | <b>Signature</b> |  |  |  |

**BROADFIELD PARK SLOPES, ROCHDALE – EXECUTIVE SUMMARY****SUMMARY OF GEOENVIRONMENTAL ISSUES**

| Issue                             | Remarks                                                                                                                                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Grid Reference                    | 389610, 413198.                                                                                                                                                                                                                    |
| Proposed Development              | The site comprises part of an existing wider parkland which is to be subject to cut and fill earthworks to reprofile the existing slopes.<br>No built structures are proposed as part of the works.                                |
| Former Uses                       | The earliest historical maps record the site as slopes with vegetation and associated buildings and glasshouses in the eastern area, prior to becoming parkland.                                                                   |
| Present Uses                      | Part of the wider Broadfield Park.                                                                                                                                                                                                 |
| Reworked Topsoil                  | Reworked topsoil was encountered in all 10No. exploratory holes formed to depths of between 0.4 and >1.0m bgl, and comprised a dark grey slightly sandy slightly gravelly clay with frequent rootlets and locally brick fragments. |
| Natural Ground                    | Natural soils, where encountered, typically comprised a brown slightly clayey gravelly sand, although the natural strata in HDP 1 was noted to comprise a dark brown-grey sandy slightly gravelly clay.                            |
| Contamination                     | No significant contamination was identified in 10No. samples of reworked topsoil analysed during this investigation.<br>Furthermore, the reworked topsoil is not considered to pose a potential phytotoxic risk to plants.         |
| Remediation and Preparatory Works | Stripping and stockpiling of reworked topsoil prior to cut and fill earthworks to reprofile the existing slopes.                                                                                                                   |

***The executive summary is intended as a synopsis only. Further detail and limitations of the assessment is provided within the main body of the Report.***

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**APPENDIX B - Exploratory Hole Records****APPENDIX C - Chemical Testing Results****APPENDIX D - Dunelm Conditions of Offer, Notes on Limitations & Basis for Contract**

# 1 INTRODUCTION

## 1.1 SCOPE OF INVESTIGATION

Dunelm Geotechnical and Environmental Limited (Dunelm) were instructed by Rochdale Development Agency, on behalf of Rochdale Borough Council, to undertake contamination sampling and testing works at a site termed Broadfield Park Slopes in Rochdale.

The site comprises part of an existing wider parkland which is to be subject to cut and fill earthworks to reprofile the existing slopes, as illustrated on Gillespies LLP Drawing No. P20948-00-001-GIL-0101 rev.T01 presented in Appendix A to this report. The proposed earthworks levels are illustrated on Price & Myers Drawing No. 30217/8000 rev.P05 also presented in Appendix A, and assumes an initial 100mm thickness scrape of topsoil across the site. No built structures are proposed as part of the works.

Dunelm were provided by Rochdale Development Agency with a copy of a Phase 1 Preliminary Risk Assessment report for the site, as referenced below:

- *Phase 1 Preliminary Risk Investigation – Broadfield Park Slopes, prepared by RSK Geosciences on behalf of Rochdale Development Agency. Ref. 372700-R05 (00), dated 16<sup>th</sup> October 2024.*

Reference should be made to this report for details of the site's history and environmental setting, the findings of previous investigations on the site, and derivation of an Initial Conceptual Site Model.

The objectives of this exploratory phase of investigation were as follows:

- To assess the potential risks from ground contamination within existing topsoil to be re-used within the proposed scheme.

This report may be regarded as providing a Generic Quantitative Risk Assessment (Phase 2) in accordance with the Environment Agency's guidance document Land Contamination Risk Management.

Geotechnical testing was not required under the terms of this contract.

Conditions of offer and notes on limitations relevant to all Dunelm geoenvironmental investigations are described in Appendix D and should be read in conjunction with this report.

# 2 SITE RECONNAISSANCE

## 2.1 GENERAL

The site is located at National Grid Reference (NGR) 389610, 413198, c.300m to the south of Rochdale town centre and to the south of The Esplanade and Nelson Street, within Broadfield Park. The site location is shown on Drawing No. M30772\_01\_00 presented in Appendix A to this report.

A site inspection was undertaken on 10<sup>th</sup> January 2025. Existing site features are shown on Drawing No. M30772\_02\_00 presented in Appendix A to this report.

## 2.2 SITE DESCRIPTION

The site forms part of Broadfield Park in Rochdale town centre.

The site comprises of an irregular parcel of land that slopes down towards the northern site boundary.

In the centre of the site is an ornamental pond termed Packer Spout, with steps for public access into the park. Public footpaths traverse across the site allowing access via the southern and western boundaries of the site.

The site is bound by a mix of retaining walls and black metal railings to the north and east, with no distinctive site boundaries to the south and west. Rochdale Town Hall and associated car parking are present to the north, and Saint Chad's Parish Church is present to the south of the site. Broadfield Community Primary

School is present to the southwest of the site.

Vehicle access to the site is off Nelson Street to the northeast, Sparrow Hill to the south and The Esplanade to the northwest.

### 3 GEOLOGICAL SETTING

#### 3.1 INFORMATION SOURCES

The geological setting of the site was determined through reference to the following:

- British Geological Survey (BGS) 1:50,000 scale sheet No.76 Rochdale Bedrock and Superficial.
- BGS 1:10,000 scale sheet No. SD81SE.
- Historical BGS borehole log (ref. SD81SE266).

#### 3.2 GEOLOGY

The site is shown to be underlain by drift deposits comprising glaciofluvial deposits, recorded as yellow-brown medium to fine-grained sand, locally pebbly.

The solid geology underlying the site comprises Carboniferous Lower Coal Measures strata, recorded as mudstone, siltstone and sandstone.

The Arley coal seam is conjectured to subcrop to the west of the site, striking northwest-southeast and to dip away from the site, with a recorded thickness of 0.5m.

A historical record held by the BGS (ref. SD81SE266) for a borehole drilled in 1983 at the base of the slope, to the north of the study site, recorded the following sequence of strata:

|                       |                                                                          |
|-----------------------|--------------------------------------------------------------------------|
| Ground level to 1.0m: | MADE GROUND: Bituminous surface with hardcore sub-base                   |
| 1.0 to 1.5m:          | MADE GROUND: Black ashy sand                                             |
| 1.5 to 3.0m:          | MADE GROUND: Brown silty fine to coarse sand with ash, gravel, and clay  |
| 3.0 to 3.8m:          | Soft grey very sandy CLAY with occasional fine and medium gravel         |
| 3.8 to 5.8m:          | Loose grey very clayey fine and medium SAND with thin silt laminations   |
| 5.8 to 7.2m:          | Brown slightly silty sandy fine to coarse GRAVEL                         |
| 7.2 to 9.5m:          | Stiff brown very sandy silty CLAY with occasional fine and medium gravel |

No faults are mapped in the immediate vicinity of the site.

The site lies on the eastern edge of a Development High Risk Area according to the Mining Remediation Authority Map Viewer, considered to be associated with the subcrop of the Arley coal seam.

### 4 PREVIOUS INVESTIGATION (RSK)

Dunelm were provided by Rochdale Development Agency with a copy of a Phase 1 Preliminary Risk Assessment report covering the site, as referenced below:

- *Phase 1 Preliminary Risk Investigation – Broadfield Park Slopes, prepared by RSK Geosciences on behalf of Rochdale Development Agency. Ref. 372700-R05 (00), dated 16<sup>th</sup> October 2024.*

It should be noted that the report was prepared for the wider parkland area, of which 'Zone C Central Slopes'

covered the study site.

A summary of the main findings of the Phase 1 Desk Top Study report with respect to the wider parkland area are presented in the table below.

### SUMMARY OF PREVIOUS INVESTIGATION (RSK)

| Report                                                                                                                                                                                            | Scope of Works                | Main Findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Phase 1 Preliminary Risk Investigation – Broadfield Park Slopes, prepared by RSK Geosciences on behalf of Rochdale Development Agency. Ref. 372700-R05 (00), dated 16 <sup>th</sup> October 2024. | Phase 1 Desk Top Study report | <p><b>Site Description:</b> The site comprises former landscaped gardens, present across a gentle slope of c.10 to 15°, locally to 30°. The levels range between 133.03 and 127.65m AOD at the crest of the slope, to 121.73m AOD at the base of the slope. The site surface comprised re-established scrub vegetation. A masonry retaining wall (0.8m height) and a newer brick retaining wall (1.5m height) were present towards the base of the slope. The site lies within a predominantly municipal/residential/commercial setting.</p> <p><b>Site History:</b> The earliest historical maps record the site as a slopes with vegetation, and with associated buildings and glasshouses in the eastern area, prior to becoming parkland.</p> <p><b>Geology:</b> The site is considered to be underlain by the following geological succession:</p> <ul style="list-style-type: none"> <li>• Made ground</li> <li>• Glaciofluvial sand and gravel</li> <li>• Glacial Till</li> <li>• Lower Coal Measures strata</li> </ul> <p><b>Mining:</b> The Arley coal seam is conjectured to subcrop to the west of the site with potential unrecorded workings present. There are no recorded mineworkings or shallow workings within the vicinity of the site.</p> <p><b>Quarrying:</b> There are no records of mineral extraction in the vicinity of the site.</p> <p><b>Hydrogeology:</b> Both the superficial deposits and solid strata are classified as a Secondary A Aquifer. The site does not lie within a Source Protection Zone.</p> <p><b>Hydrology:</b> A pond is present in the southwest corner of the site. The River Roch flows c.30m to the north of the site. There are no recorded surface water abstractions within the vicinity of the site.</p> <p><b>Flooding:</b> The site is classified to be at Medium to High risk of flooding from rivers.</p> <p><b>Radon:</b> Radon protection measures were not considered to be required in built structures.</p> <p><b>Landfill Sites:</b> There are no recorded waste sites within 25m of the site.</p> <p><b>Unexploded Ordnance (UXO):</b> The site is considered to be located within a Low risk area with regard to UXO.</p> |

The Phase 1 Preliminary Risk Assessment report referenced above also included a summary of previous investigation works undertaken on the wider Broadfield Park site, including the study site itself.

## 5 SITE WORKS AND LABORATORY TESTING

### 5.1 INITIAL CONCEPTUAL SITE MODEL (RSK)

An Initial Conceptual Site Model was derived by RSK Geosciences for the wider Broadfield Park site as part of their Phase 1 Preliminary Risk Assessment, including an assessment of potential contaminant linkages, and is presented overleaf.

### RISK ESTIMATION FOR POTENTIALLY COMPLETE CONTAMINANT LINKAGES (RSK)

| Potential Source                                                           | Potential Receptor                    | Possible Pathway                                                                                    | Likelihood | Severity | Risk Rating  | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------|------------|----------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On site Made Ground and waste storage area identified during site walkover | Future site users                     | Direct ingestion, inhalation and dermal contact with soil and soil-derived dust                     | Low likely | Medium   | Moderate/Low | Exposure to chemical constituents over chronic timeframes is considered to be of medium severity. The potential for chemical contamination in made ground is unknown and post-development it is considered likely that a linkage may be present. Whilst the proposed development involves areas of cut which will result in some areas of made ground at formation level, it is intended to re-use the existing topsoil to create lawn areas and create hardstanding paths which will mitigate against direct contact and dust inhalation. However, an appropriate thickness of topsoil and suitability of the topsoil for re-use will need to be considered to ensure the contaminant pathways are mitigated against. Therefore, the risk is considered Moderate/Low. Further investigation will be required to confirm the risk. |
|                                                                            |                                       | Asbestos fibre release followed by inhalation                                                       | Low likely | Medium   | Moderate/Low | The risk is considered Moderate/Low due to the potential for asbestos fibre release being low likely. However, further investigation would be required to confirm the presence of or absence of asbestos.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                                            | Adjacent site users                   | Wind-blown dust and deposition off-site followed by direct ingestion, inhalation and dermal contact | Unlikely   | Medium   | Low          | The presence of wind-blown dust is considered unlikely due to no change to current site use so no new risks introduced. Any imported material (if required) will need to be tested to ensure it is clean and suitable for use. The low severity reflects potential exposure over time. The overall risk is therefore Low. However, the construction phase is likely to generate dust during the materials movement, however, good practice and management of construction activities should minimise the release of potentially contaminated dust into the air for off-site dispersal.                                                                                                                                                                                                                                             |
|                                                                            | Current/future buildings and services | Direct contact of foundations/services with contaminants in soil and groundwater                    | Unlikely   | Medium   | Low          | The potential for direct exposure to contaminated soil is considered unlikely with new services to be installed and designed accordingly. Medium severity due to potential chronic exposure. Therefore the overall risk is Low.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                            | Vegetation                            | Root uptake of contaminants leading to phytotoxicity                                                | Unlikely   | Medium   | Low          | There is an unlikely chance of vegetation being exposed to contaminated soil. The medium severity reflects potential impacts on plant health and the ecosystem. In any case, the re-used or imported topsoil should be tested for its suitability as a growing medium. Therefore, the overall risk is Low.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|  |                                   |                                                                             |            |        |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--|-----------------------------------|-----------------------------------------------------------------------------|------------|--------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Groundwater (Secondary A aquifer) | Leaching to groundwater and migration in groundwater                        | Low likely | Medium | Moderate/Low | <p>The groundwater is classified as a Secondary A aquifer and is considered to be moderately sensitive and provide base-flow to rivers. However, the site is not in a source protection zone and a single potable abstraction has been identified 654m to the east of the site which appears to be upslope from the site.</p> <p>The potential for leaching from made ground following development is considered likely given the limited hardstanding proposed on the site, however, this is unlikely to significantly change the existing regime on site. Any imported material (if required) will need to be tested to confirm it is clean and suitable for use on site.</p> <p>Whilst the risk to the aquifer is considered to be Moderate/Low, it would be prudent to confirm the potential risk through further investigations.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|  | Surface water (River Roch)        | Discharge to surface water via surface run-off and migration of groundwater | Low likely | Medium | Moderate/Low | <p>The potential for surface run-off following development is considered to be a low likelihood given the limited hardstanding proposed on site and the ability for water to drain into the open soft landscaping. This is unlikely to significantly change from the existing regime on site.</p> <p>There is the potential for contaminated groundwater to migrate to the River Roch. The potential for leaching from made ground following development is considered likely given the limited hardstanding proposed on site, however, this is unlikely to significantly change from the existing regime on the site. Any imported material (if required) will need to be tested to confirm it is clean and suitable for use on site.</p> <p>The construction phase of the development has the potential for surface water run-off and discharge to groundwater and the surface water. However, good construction practice and environmental management of these activities will reduce the likelihood of impacting the surface water.</p> <p>Whilst the risk to the aquifer is considered to be Moderate/Low, it would be prudent to confirm the potential risk through further investigations.</p> <p>However, it would be prudent to confirm the presence or otherwise of contamination in the made ground and re-used topsoil to confirm whether there is a risk and its potential to be an ongoing problem.</p> |

| Off-site Sources                                                 |                                       |                                                                                                                                |          |        |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|----------|--------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Active off-site trade activities located within 250m of the site | Future site users                     | Lateral migration into the site, followed by oral, dermal, inhalation (of impacted soils, vapours and dust/fibres)             | Unlikely | Medium | Low | No significant pollution incidents have been recorded pertaining to the off-site incidents. However, groundwater levels were found to be shallow and linkages for vapour intrusion could be present post-development, however, this will not result in a change from the existing site condition and its ability to vent to open airs. Further it is intended to control the shallow spring lines with a new drainage system. Further quantification of contamination in groundwater is considered to be warranted if it is intended to link up to Packer Sprout for public use. |
|                                                                  | Vegetation                            | Lateral migration into the site, followed by root uptake of contaminants leading to phytotoxicity                              | Unlikely | Medium | Low | There is an unlikely chance of vegetation being exposed to contaminated soil. The medium severity reflects potential impacts on plant health and the ecosystem. In any case, the re-used or imported topsoil should be tested for its suitability as a growing medium. Therefore, the overall risk is Low.                                                                                                                                                                                                                                                                       |
|                                                                  | Current/future buildings and services | Lateral migration into the site followed by direct contact of foundations/services with contaminations in soil and groundwater | Unlikely | Medium | Low | The potential for direct exposure to contaminated soil is considered unlikely with new services to be installed and designed accordingly. Medium severity due to potential chronic exposure. Therefore, the overall risk is Low.                                                                                                                                                                                                                                                                                                                                                 |

**Notes:** Table 14 reproduced from Phase 1 Preliminary Risk Investigation – Broadfield Park Slopes, prepared by RSK Geosciences on behalf of Rochdale Development Agency. Ref. 372700-R05 (00), dated 16<sup>th</sup> October 2024.

\* denotes linkages that may be influenced by impacts of climate change and extreme weather events.

## 5.2 SUMMARY OF INVESTIGATION

The exploratory holes listed below were formed on 10<sup>th</sup> January 2025 in accordance with a scope of works detailed by Rochdale Development Agency. Records for each of the exploratory holes noted are included in Appendix B to this report, and the locations are shown on Drawing No. M30772\_02\_00 presented in Appendix A.

- Hand-dug pits: HDPs 1 to 10 excavated by hand to maximum 1.0m bgl.

The exploratory holes were located to provide a general coverage across the site within existing areas of soft landscaping in order to allow for the collection of representative samples of made ground (reworked topsoil) and natural soils.

## 5.3 CHEMICAL TESTING

Appropriate samples were delivered to a UKAS and MCERTS accredited laboratory with a schedule of testing drawn up by Dunelm. The laboratory test results are presented in Appendix C to this report and discussed in Section 7. Selected samples of reworked topsoil were tested for the following suite of determinands:

- *pH, metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium and zinc), Soil Organic Matter (SOM), water-soluble sulphate, Polycyclic Aromatic Hydrocarbons (PAHs: US EPA 16 suite), Total Petroleum Hydrocarbons (TPH CWG suite) and asbestos.*

A water sample was unable to be collected from an ornamental pond within Broadfield Park termed Packer Spout due to the pond being frozen over at the time of the works.

Testing for the BS3882:2015 topsoil suite was not required under the terms of this contract.

## **6 GROUND CONDITIONS AND MATERIAL PROPERTIES**

### **6.1 GENERAL**

Strata encountered were generally similar in all 10No. exploratory holes formed across the site during this investigation. The shallow ground conditions encountered are described in the following sections.

### **6.2 MADE GROUND (REWORKED TOPSOIL)**

Made ground comprising reworked topsoil was encountered in all 10No. exploratory holes formed across the site during this investigation to depths of between 0.4 and >1.0m bgl, and comprised a very soft dark grey slightly sandy slightly gravelly clay with frequent rootlets.

Fragments of brick were noted within the reworked topsoil in HDP 2 and 5.

The reworked topsoil was noted to be highly organic in HDP 6.

### **6.3 NATURAL SOILS**

Natural soils were encountered in HDPs 1, 4, 8, 9 and 10 underlying the reworked topsoil and typically comprised a brown slightly clayey gravelly sand.

The natural strata in HDP 1 was noted to comprise a very soft dark brown-grey sandy slightly gravelly clay.

### **6.4 GROUNDWATER**

Groundwater was not encountered in the 10No. exploratory holes formed across the site during this investigation.

### **6.5 HYDROCARBON CONTAMINATION**

No visual or olfactory evidence of hydrocarbon contamination was noted in the 10No. exploratory holes formed across the site during this investigation.

## 7 CHEMICAL TESTING RESULTS

### 7.1 SELECTION OF CHEMICAL TESTING

This section represents the 'risk assessment' process required in accordance with the Environment Agency's guidance document Land Contamination Risk Management.

The site's former usage was not considered by RSK Geosciences to have given rise to significant ground contamination.

Appropriate chemical testing has been undertaken for a range of potential contaminants as requested by Rochdale Development Agency.

Laboratory test certificates are presented in Appendix C to this report. The test results are presented in the following sections.

### 7.2 GENERIC ASSESSMENT CRITERIA FOR INORGANIC CONTAMINATION

Generic Assessment Criteria (GAC) appropriate to current UK practice for the assessment of inorganic contamination are shown in the table below. These criteria are dependent on the nature of the proposed development. In addition, some contaminants depend on other soil parameters as shown.

#### GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH

| <i>All values in mg/kg</i> | Residential with homegrown produce (based on 6% SOM) | Residential without homegrown produce (based on 6% SOM) | Commercial (based on 6% SOM) | Allotments (based on 6% SOM) | Public Open space (Park) (based on 6% SOM) |
|----------------------------|------------------------------------------------------|---------------------------------------------------------|------------------------------|------------------------------|--------------------------------------------|
| Arsenic                    | 37                                                   | 40                                                      | 640                          | 43                           | 170                                        |
| Cadmium                    | 11                                                   | 85                                                      | 190                          | 1.9                          | 532                                        |
| Chromium (Total)           | 910                                                  | 910                                                     | 8,600                        | 18,000                       | 33,000                                     |
| Chromium (VI)              | 6                                                    | 6                                                       | 33                           | 1.8                          | 220                                        |
| Copper                     | 2,400                                                | 7,100                                                   | 68,000                       | 520                          | 44,000                                     |
| Lead                       | 200*                                                 | 310*                                                    | 2,300*                       | 80*                          | 580                                        |
| Mercury                    | 40                                                   | 56                                                      | 1,100                        | 19                           | 68                                         |
| Nickel                     | 180                                                  | 180                                                     | 980                          | 230                          | 3,400                                      |
| Selenium                   | 250                                                  | 430                                                     | 12,000                       | 88                           | 1,800                                      |
| Zinc                       | 3,700                                                | 40,000                                                  | 730,000                      | 620                          | 170,000                                    |

Soil Screening Values from The LQM/CIEH S4ULs for Human Health Risk Assessment (2015). \*taken from DEFRA C4SL database.

Dunelm understand that it proposed to redevelop the site as parkland and therefore GAC values for a Public Open Space (Park) end use are considered appropriate for a qualitative risk assessment. In addition, GAC values for copper and zinc which are considered to be potentially phytotoxic have also been considered, as detailed below.

#### GENERIC ASSESSMENT CRITERIA FOR PHYTOTOXIC EFFECTS ON PLANTS

| Contaminant                                    | Maximum Permissible Concentration from MAFF <i>The Soil Code</i> (1998) (mg/kg) |
|------------------------------------------------|---------------------------------------------------------------------------------|
| Copper (soil pH 5.0-5.5)                       | 80                                                                              |
| Copper (soil pH 5.5-6.0)                       | 100                                                                             |
| Copper (soil pH 6.0-7.0)                       | 135                                                                             |
| Copper (soil pH >7.0 & CaCO <sub>3</sub> > 5%) | 200                                                                             |
| Zinc (soil pH 5.0-7.0)                         | 200                                                                             |
| Zinc (soil pH >7.0 & CaCO <sub>3</sub> > 5%)   | 300                                                                             |

### 7.3 MADE GROUND (REWORKED TOPSOIL) - INORGANIC CONTAMINATION

A summary of the results of inorganic testing on 10No. samples of reworked topsoil is shown in the table below.

#### INORGANIC TEST RESULTS – REWORKED TOPSOIL

| Contaminant      | Units | No. of reworked topsoil samples tested | No. of samples exceeding GAC | Generic Assessment Criteria | Maximum concentration |
|------------------|-------|----------------------------------------|------------------------------|-----------------------------|-----------------------|
| pH               | -     | 10                                     | 2                            | <5 and >9                   | 4.6 to 7.9            |
| Arsenic          | mg/kg | 10                                     | 0                            | 170                         | 40                    |
| Cadmium          | mg/kg | 10                                     | 0                            | 532                         | 1.1                   |
| Chromium (Total) | mg/kg | 10                                     | 0                            | 33,000                      | 19                    |
| Chromium (VI)    | mg/kg | 10                                     | 0                            | 220                         | <1                    |
| Copper **        | mg/kg | 10                                     | 0                            | 135                         | 120                   |
| Lead *           | mg/kg | 10                                     | 0                            | 580                         | 550                   |
| Mercury          | mg/kg | 10                                     | 0                            | 68                          | 0.96                  |
| Nickel           | mg/kg | 10                                     | 0                            | 3,400                       | 29                    |
| Selenium         | mg/kg | 10                                     | 0                            | 1,800                       | 0.7                   |
| Zinc **          | mg/kg | 10                                     | 0                            | 200                         | 170                   |
| Asbestos         | -     | 10                                     | 0                            | Present                     | NAD                   |

Soil Screening Values from The LQM/CIEH S4ULs for human Health Risk Assessment (2015) for a POS (Park) end use. \*taken from DEFRA C4SL database. \*\* taken from MAFF report.

The results of inorganic testing on 10No. samples of reworked topsoil indicated no concentrations to exceed the relevant GAC values for a POS (Park) end use.

Acidic pH values below a pH value of 5 were recorded in 2No. of 10No. samples of reworked topsoil analysed, however, are not considered to be significant.

Concentrations of copper and zinc in the 10No. samples of reworked topsoil analysed were below the Maximum Permissible Concentrations detailed by MAFF relating to potential phytotoxicity, assuming a mean pH value of 6.2 as calculated from the results of the 10No. samples of reworked topsoil analysed.

### 7.4 MADE GROUND (REWORKED TOPSOIL) - ASBESTOS

Asbestos was not detected in the 10No. samples of reworked topsoil analysed.

### 7.5 MADE GROUND (REWORKED TOPSOIL) - ORGANIC CONTAMINATION

The selection of hydrocarbon (organic) testing was based on the Initial Conceptual Site Model derived by RSK Geosciences.

Analysis for organic determinands has been carried out in general accordance with the EA Report: *The UK Approach for Evaluating Human Health Risks from Petroleum Hydrocarbons in Soils* (dated 2005). Consequently, 10No. samples of reworked topsoil were tested for the following:

- Polycyclic Aromatic Hydrocarbon compounds (US EPA 16 suite).
- 13 petroleum hydrocarbon fractions based on the methodology of the United States Total Petroleum Hydrocarbon Criteria Working Group (TPH CWG suite).

All 10No. samples were tested for Soil Organic Matter (SOM), with the results ranging between 3.5% and 9.3% which are considered typical for a reworked topsoil.

An assessment of selected PAH compounds is shown in the following table, together with Generic Assessment Criteria (GAC) from the LQM guidance.

### SUMMARY OF RESULTS FOR POLYCYCLIC AROMATIC HYDROCARBONS

| Contaminant            | Generic Assessment Criteria (mg/kg) |                                        |            |                   |                          | No. of samples tested | No. of samples with value greater than GAC | Maximum concentration (mg/kg) |
|------------------------|-------------------------------------|----------------------------------------|------------|-------------------|--------------------------|-----------------------|--------------------------------------------|-------------------------------|
|                        | Residential with home grown produce | Residential without home grown produce | Allotments | Comm / industrial | Public Open Space (Park) |                       |                                            |                               |
| Naphthalene            | 5.6                                 | 5.6                                    | 10         | 460               | <b>1,900</b>             | 10                    | 0                                          | 11                            |
| Acenaphthylene         | 420                                 | 4,600                                  | 69         | 97,000            | <b>30,000</b>            | 10                    | 0                                          | 0.1                           |
| Acenaphthene           | 510                                 | 4,700                                  | 85         | 97,000            | <b>30,000</b>            | 10                    | 0                                          | 4.6                           |
| Fluorene               | 400                                 | 3,800                                  | 67         | 68,000            | <b>20,000</b>            | 10                    | 0                                          | 3.5                           |
| Phenanthrene           | 220                                 | 1,500                                  | 38         | 22,000            | <b>6,200</b>             | 10                    | 0                                          | 27                            |
| Anthracene             | 5400                                | 35,000                                 | 950        | 540,000           | <b>150,000</b>           | 10                    | 0                                          | 5.4                           |
| Fluoranthene           | 560                                 | 1,600                                  | 130        | 23,000            | <b>6,300</b>             | 10                    | 0                                          | 20                            |
| Pyrene                 | 1,200                               | 3,800                                  | 270        | 54,000            | <b>15,000</b>            | 10                    | 0                                          | 19                            |
| Benz(a)anthracene      | 11                                  | 14                                     | 6.5        | 170               | <b>56</b>                | 10                    | 0                                          | 6.0                           |
| Chrysene               | 22                                  | 31                                     | 9.4        | 350               | <b>110</b>               | 10                    | 0                                          | 6.0                           |
| Benzo(b)fluoranthene   | 3.3                                 | 4                                      | 2.1        | 44                | <b>15</b>                | 10                    | 0                                          | 4.2                           |
| Benzo(k)fluoranthene   | 93                                  | 110                                    | 75         | 1200              | <b>410</b>               | 10                    | 0                                          | 1.6                           |
| Benzo(a)pyrene         | 2.7                                 | 3.2                                    | 2          | 35                | <b>12</b>                | 10                    | 0                                          | 3.5                           |
| Indeno(1,2,3-cd)pyrene | 36                                  | 46                                     | 21         | 510               | <b>170</b>               | 10                    | 0                                          | 0.92                          |
| Dibenz(a,h)anthracene  | 0.28                                | 0.32                                   | 0.27       | 3.6               | <b>1.3</b>               | 10                    | 0                                          | 0.37                          |
| Benzo(g,h,i)perylene   | 340                                 | 360                                    | 470        | 4000              | <b>1,500</b>             | 10                    | 0                                          | 1.1                           |

Soil Screening Values from the LQM/CIEH S4ULs for Human Health Risk Assessment (2015) for 2.5% SOM soil, for a POS (Park) end use.

The results of testing for PAHs on 10No. samples of reworked topsoil indicated no concentrations to exceed the relevant GAC values for a POS (Park) end use.

Results for the testing of 13 petroleum hydrocarbon fractions on 10No. samples of reworked topsoil are presented in the table below, together with appropriate Generic Assessment Criteria.

### SUMMARY OF RESULTS FOR PETROLEUM HYDROCARBON FRACTIONS

|                                                   | Aromatic fractions                                    |               |              |              |               |              |              | Aliphatic fractions |                |               |               |               |                |
|---------------------------------------------------|-------------------------------------------------------|---------------|--------------|--------------|---------------|--------------|--------------|---------------------|----------------|---------------|---------------|---------------|----------------|
| EC bands                                          | 5-7                                                   | 7-8           | 8-10         | 10-12        | 12-16         | 16-21        | 21-35        | 5-6                 | 6-8            | 8-10          | 10-12         | 12-16         | 16-35          |
| GAC (residential with homegrown produce) mg/kg    | 140                                                   | 290           | 83           | 180          | 330           | 540          | 1500         | 78                  | 230            | 65            | 330           | 2,400         | 92,000         |
| GAC (residential without homegrown produce) mg/kg | 690                                                   | 1,800         | 110          | 590          | 2,300         | 1,900        | 1,900        | 78                  | 230            | 65            | 330           | 2,400         | 92,000         |
| GAC (allot) mg/kg                                 | 27                                                    | 51            | 21           | 31           | 57            | 110          | 820          | 1,700               | 5,600          | 770           | 4,400         | 13,000        | 270,000        |
| GAC (comm) mg/kg                                  | 46,000                                                | 110,000       | 8,100        | 28,000       | 37,000        | 28,000       | 28,000       | 5,900               | 17,000         | 4,800         | 23,000        | 82,000        | 1,700,000      |
| GAC (Public Open Space; Park)                     | <b>84,000</b>                                         | <b>95,000</b> | <b>8,500</b> | <b>9,700</b> | <b>10,000</b> | <b>7,700</b> | <b>7,800</b> | <b>130,000</b>      | <b>220,000</b> | <b>18,000</b> | <b>23,000</b> | <b>25,000</b> | <b>480,000</b> |
| Sample location & depth (m bgl)                   | Recorded concentrations (mg/kg) - exceedances in bold |               |              |              |               |              |              |                     |                |               |               |               |                |
| HDP 1, 0.2m                                       | <0.01                                                 | <0.01         | <0.01        | <0.9         | 1.22          | 7.62         | 7.36         | <0.01               | <0.01          | <0.01         | <1.5          | <1.2          | <4.9           |
| HDP 2, 0.5m                                       | <0.01                                                 | <0.01         | <0.01        | 11.38        | 28.45         | 81.18        | 83.77        | <0.01               | <0.01          | <0.01         | <1.5          | <1.2          | <4.9           |
| HDP 3, 0.2m                                       | <0.01                                                 | <0.01         | <0.01        | <0.9         | <0.5          | 3.89         | 4.22         | <0.01               | <0.01          | <0.01         | <1.5          | <1.2          | <4.9           |
| HDP 4, 0.2m                                       | <0.01                                                 | <0.01         | <0.01        | <0.9         | <0.5          | 6.36         | 4.11         | <0.01               | <0.01          | <0.01         | <1.5          | <1.2          | <4.9           |
| HDP 5, 0.5m                                       | <0.01                                                 | <0.01         | <0.01        | <0.9         | 0.79          | 7.52         | 4.87         | <0.01               | <0.01          | <0.01         | <1.5          | <1.2          | <4.9           |
| HDP 6, 0.2m                                       | <0.01                                                 | <0.01         | <0.01        | <0.9         | 1.66          | 13.6         | 16.14        | <0.01               | <0.01          | <0.01         | <1.5          | <1.2          | <4.9           |
| HDP 7, 0.5m                                       | <0.01                                                 | <0.01         | <0.01        | <0.9         | 2.27          | 21.2         | 30.01        | <0.01               | <0.01          | <0.01         | <1.5          | <1.2          | <4.9           |
| HDP 8, 0.2m                                       | <0.01                                                 | <0.01         | <0.01        | <0.9         | <0.5          | 7.43         | 5.52         | <0.01               | <0.01          | <0.01         | <1.5          | <1.2          | <4.9           |
| HDP 9, 0.2m                                       | <0.01                                                 | <0.01         | <0.01        | <0.9         | <0.5          | 3.37         | 4.43         | <0.01               | <0.01          | <0.01         | <1.5          | <1.2          | <4.9           |
| HDP 10, 0.2m                                      | <0.01                                                 | <0.01         | <0.01        | <0.9         | <0.5          | 4.04         | 2.67         | <0.01               | <0.01          | <0.01         | <1.5          | <1.2          | <4.9           |

Soil Screening Values from the LQM/CIEH S4ULs for Human Health Risk Assessment (2015) for a 2.5% SOM soil, for a POS (Park) end use.

The above assessment of the 13 petroleum hydrocarbon fractions indicates that no significant TPH concentrations have been recorded in 10No. samples of reworked topsoil analysed during this investigation.

## **8 ASSESSMENT OF CONTAMINATION RISKS**

### **8.1 SUMMARY OF CONTAMINATION SOURCES**

#### **MADE GROUND (REWORKED TOPSOIL)**

Made ground comprising reworked topsoil was encountered in all 10No. exploratory holes to depths of between 0.4 and >1.0m bgl, and comprised a very soft dark grey slightly sandy slightly gravelly clay with frequent rootlets.

Laboratory testing has indicated that the reworked topsoil does not contain elevated concentrations of the determinands tested.

### **8.2 HAZARD ASSESSMENT**

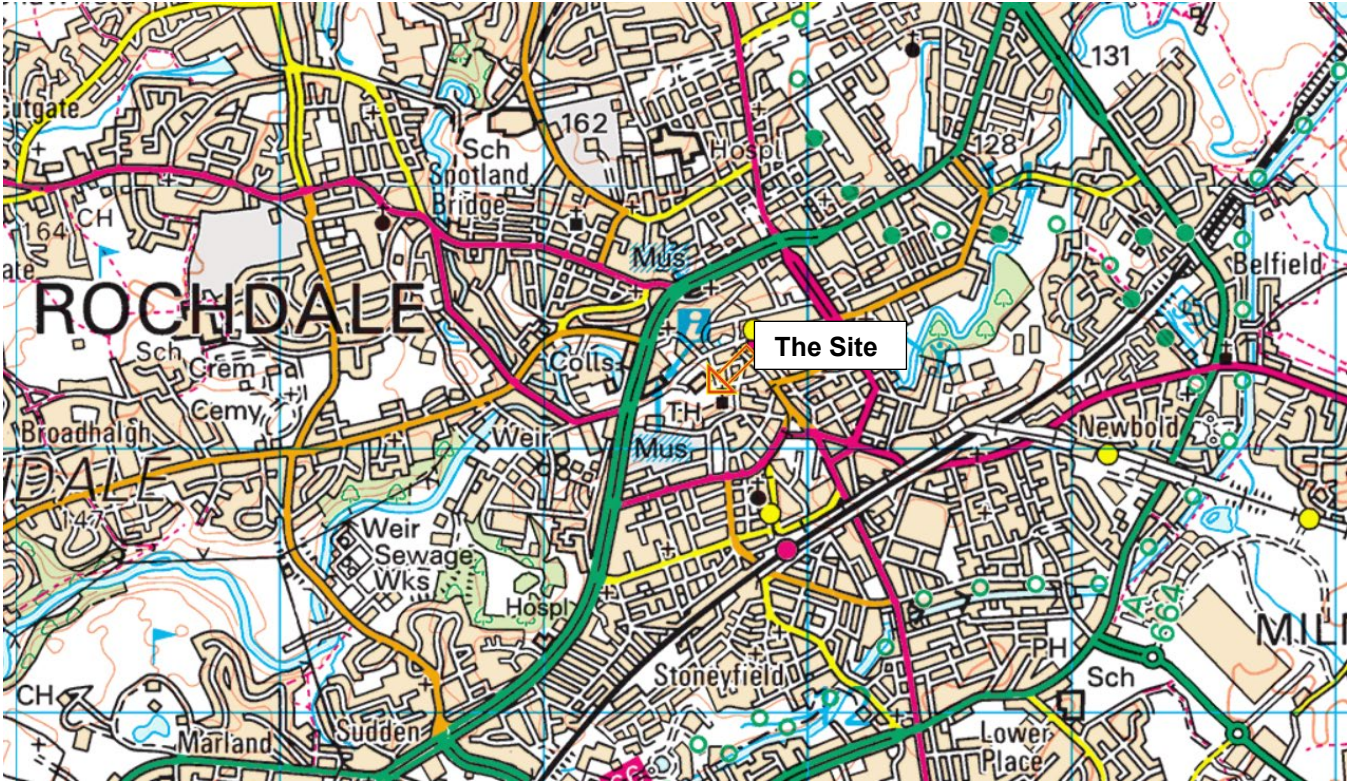
No sources of contamination have been encountered in the 10No. samples of reworked topsoil analysed during this investigation and consequently no unacceptable risks have been identified. The reworked topsoil is considered chemically suitable to be re-used within the proposed development works, and furthermore is not considered to pose a potential phytotoxic risk to plants.

Although asbestos and other contamination was absent from the samples of reworked topsoil analysed, the possibility exists that asbestos and other contaminants may lie presently undetected at the site. It is therefore advised that a 'watching brief' is undertaken during the construction works and advice sought if asbestos or suspected contamination is encountered.

## **Appendix A**

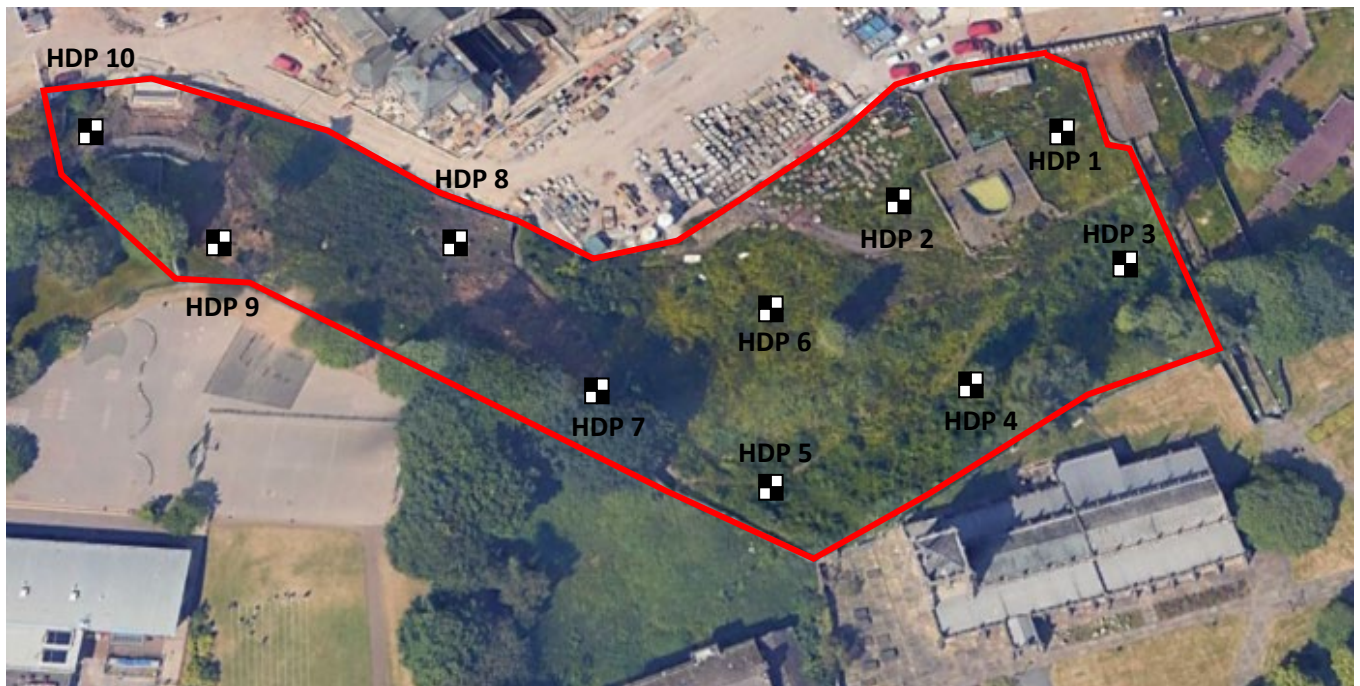
### **Drawings**





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|                                                                                     |                                            |               |                  |                        |
|-------------------------------------------------------------------------------------|--------------------------------------------|---------------|------------------|------------------------|
|  | Contract: Broadfield Park Slopes, Rochdale |               |                  | Contract No:<br>M30772 |
|                                                                                     | Client: Rochdale Borough Council           |               |                  |                        |
| TEL: 0161 639 1775                                                                  | Drawing Title: Site Location Plan          |               |                  |                        |
| Drawing & Revision No:<br>M30772_01_00                                              | Date:<br>January 2025                      | Scale:<br>NTS | Status:<br>Final | Drawn by:<br>RS        |



 Location of Hand-dug Pit



Contract: Broadfield Park Slopes, Rochdale

Contract No:  
M30772

Client: Rochdale Borough Council

TEL: 0161 639 1775

Drawing Title: Exploratory Hole Location Plan

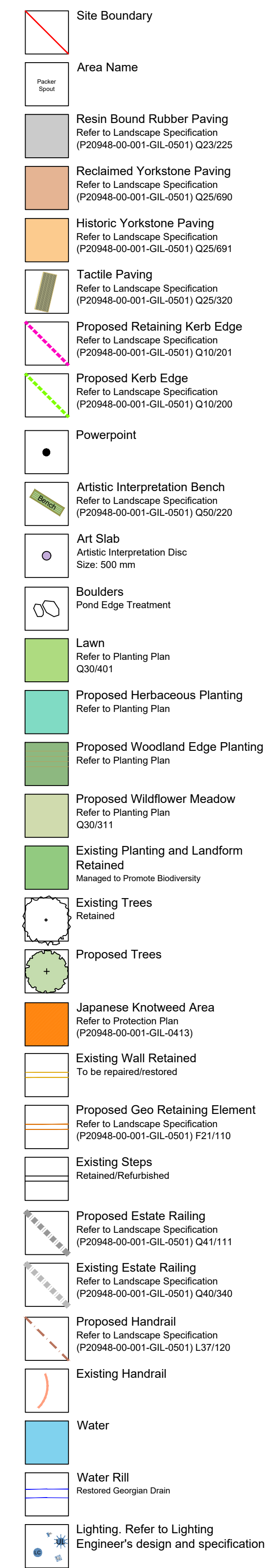
Drawing & Revision No:  
M30772\_02\_00

Date:  
January 2025

Scale:  
NTS

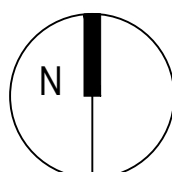
Status: Final

Drawn by:  
RS



## Notes

- 1.0 Do not scale from drawing, use figured dimensions only
- 1.1 All dimensions to be checked onsite
- 1.2 This drawing to be read in conjunction with all other Gillespies drawings and specifications



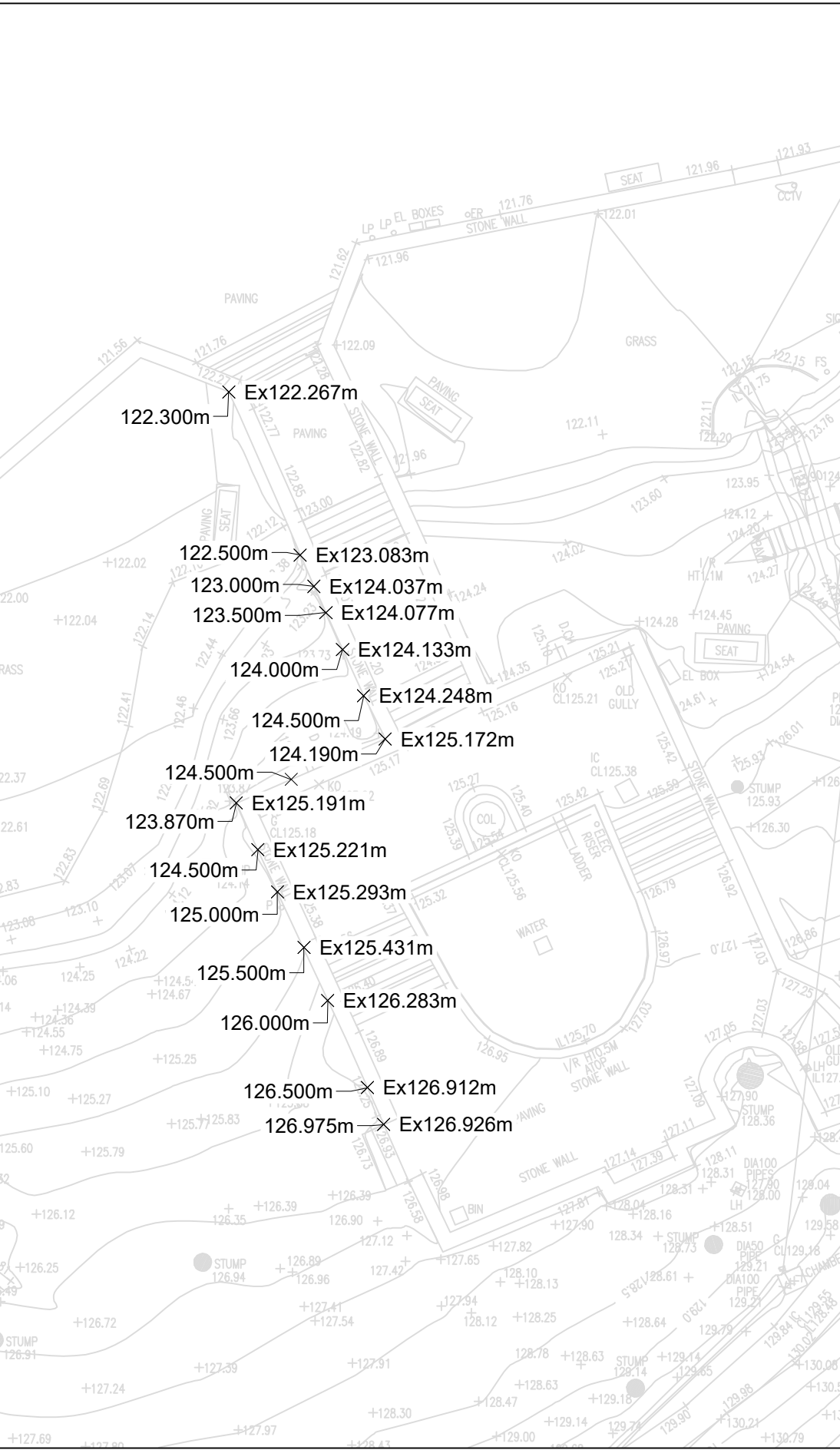
© copyright GILLESPIES LLP. all rights reserved

100mm TOPSOIL SCRAPE OFF WITHIN  
PROPOSED AREA OF WORK:  
224.883m³ (NO BULKING FACTOR APPLIED)

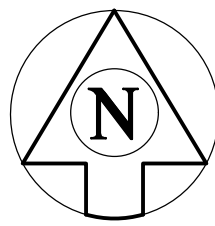
CUT & FILL ANALYSIS (TOPOGRAPHICAL  
SURVEY -100mm TOPSOIL SCRAPE v  
PROPOSED LEVELS)

TOTAL AREA: 2248.827m²  
CUT: 533.234m³  
FILL: 263.099m³  
NET: 270.135m³ (CUT)

Assessment assumes that cut material will bulk by  
30% and that fill material will be compacted by 25%



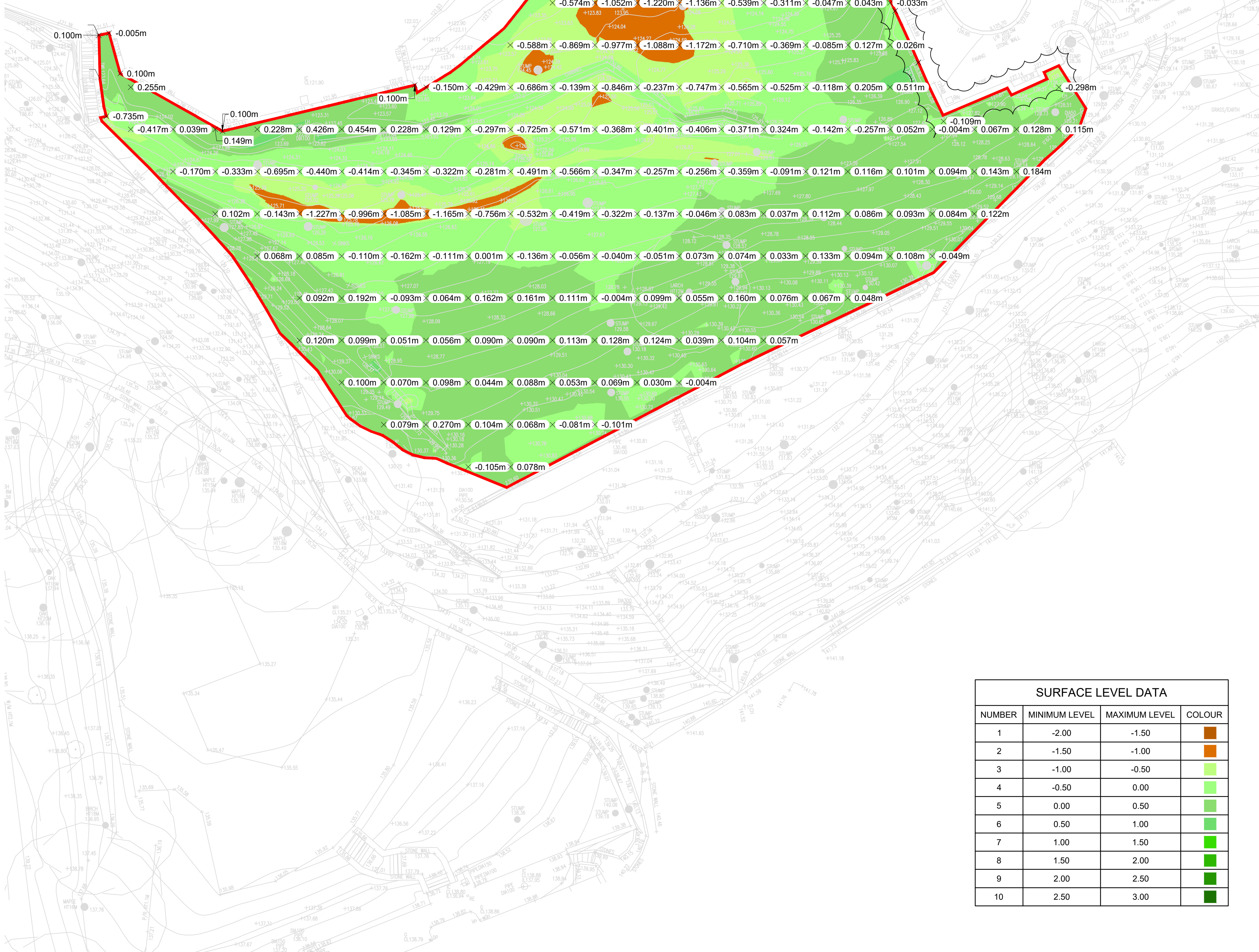
EXISTING & PROPOSED LEVELS  
ALONG EXISTING STONE WALL



PROPOSED SECTIONS PLOTTED ACCORDING  
TO GILLESPIES' STAGE 2 LANDSCAPE  
LAYOUT: P20949-00-001-GIL-XR (08.06.23)

STAGE 2 TO STAGE 4 GA UPDATES HAVE A  
NOMINAL IMPACT ON EARTHWORKS  
ANALYSIS

ADDITIONAL CUT MAY BE REQUIRED FOR  
TREE PITS, IMPORTED SOILS, PAVING  
BUILD-UPS, DRAINAGE WORKS AND EXISTING  
POND/SWALE RE-LANDSCAPING



| SURFACE LEVEL DATA |               |               |        |
|--------------------|---------------|---------------|--------|
| NUMBER             | MINIMUM LEVEL | MAXIMUM LEVEL | COLOUR |
| 1                  | -2.00         | -1.50         |        |
| 2                  | -1.50         | -1.00         |        |
| 3                  | -1.00         | -0.50         |        |
| 4                  | -0.50         | 0.00          |        |
| 5                  | 0.00          | 0.50          |        |
| 6                  | 0.50          | 1.00          |        |
| 7                  | 1.00          | 1.50          |        |
| 8                  | 1.50          | 2.00          |        |
| 9                  | 2.00          | 2.50          |        |
| 10                 | 2.50          | 3.00          |        |

- NOTES :
- This drawing is to be read in conjunction with all relevant Architect's, Engineer's and specialists' drawings and specifications.
  - Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check that this drawing has been printed to the intended scale this bar should be 50mm long @ A1 or 25mm long @ A3.
  - Health & Safety : All specific drawing notes are to be read in conjunction with the project "Information Pack" and "Site Rules".
  - Existing site levels taken from Malcolm Hughes Chartered Land Surveyors drg nos: 58612/1,2 & 3.
  - Proposed site levels taken from Gillespies' Landscape Architects drawing file: P20949-00-001-GIL-XR Master Landscape Layout.

| LEGEND                 |
|------------------------|
| Proposed Area Of Works |

|     |          |       |     |                              |
|-----|----------|-------|-----|------------------------------|
| P05 | 18.10.24 | AC    | SRe | Issued for Stage 4           |
| P04 | 27.09.24 | DLA   | SRe | Issued for Draft Stage 4     |
| P03 | 04.07.23 | DLA   | SRe | Corrected Cut & Fill Volumes |
| P02 | 23.06.23 | DLA   | SRe | Issued for Stage 2           |
| P01 | 20.02.23 | DLA   | SRe | Issued for Information       |
| Rev | Date     | Drawn | Eng | Amendment                    |

## BROADFIELD PARK SLOPES ROCHDALE

### CUT & FILL ANALYSIS

Status  
**STAGE 4**  
NOT FOR CONSTRUCTION

|            |             |             |     |
|------------|-------------|-------------|-----|
| Drawn      | DLA         | Eng         | SRe |
| Scales     | 1:200 at A1 | 1:400 at A3 |     |
| Drawing No | 30217/8000  | Rev         | P05 |

**Appendix B**  
**Exploratory Hole Records**



## INFORMATION GENERALLY RELATING TO ALL EXPLORATORY HOLE RECORDS

### GENERAL

**Borehole/Trial Pit No**

The exploratory hole identity number used throughout the report.

**Site**

The ground investigation project name.

**Client**

Client's name responsible for funding the ground investigation project.

**Ground Level and Location**

The precise ground level in meters above Ordnance Datum at the exploratory hole location from which the reduced level for each stratigraphic boundary is calculated. The exploratory hole position is given as either national grid-coordinates or local grid as specified.

### ABBREVIATIONS

**Samples**

|               |                                                                                                                                                              |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>B</b>      | Bulk disturbed sample generally representative of the soil type for cohesive and fine granular soils.                                                        |
| <b>BRE</b>    | Sample taken for electrochemical testing                                                                                                                     |
| <b>C</b>      | Core soil samples                                                                                                                                            |
| <b>CEF</b>    | CEFAS Sample                                                                                                                                                 |
| <b>D</b>      | Small disturbed tub sample normally taken at intermediate depth between other sampling or testing operations. The sample is stored in an airtight container. |
| <b>ES</b>     | Sample of potentially contaminated materials.                                                                                                                |
| <b>P</b>      | Piston Sample                                                                                                                                                |
| <b>PF</b>     | An attempted but failed piston sample                                                                                                                        |
| <b>U</b>      | 100mm diameter undisturbed thick-walled sample (OS-TK/W)                                                                                                     |
| <b>UT</b>     | 100mm diameter undisturbed thin walled sample (OS-T/W)                                                                                                       |
| <b>UF/UTF</b> | An attempted but failed 100mm undisturbed sample.                                                                                                            |
| <b>W</b>      | Water sample.                                                                                                                                                |
| <b>EW</b>     | Water sample for contamination testing                                                                                                                       |

**In-situ Testing**

|                |                                                                                                                                                       |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CBR</b>     | California Bearing Ratio mould sample or test.                                                                                                        |
| <b>SPT</b>     | Standard Penetration Test (SPT) using the split barrel sampler (S) or solid cone (C). The corresponding 'N' value is given in the test result column. |
| <b>SWPen</b>   | Self-Weight Penetration                                                                                                                               |
| <b>PID</b>     | On Site Volatile Headspace Testing by Photo Ionisation Detector                                                                                       |
| <b>pp</b>      | Pocket Penetrometer, report unit: kPa                                                                                                                 |
| <b>HVP/HVR</b> | Hand Shear Vane test                                                                                                                                  |

**Rock Quality and Core Recovery**

|             |                                                                                                                                                                                    |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>TCR</b>  | Total core recovery - The length of the recovered core expressed as a percentage of the length of core run.                                                                        |
| <b>SCR</b>  | Solid Core Recovery - The sum length of all core pieces (measured along the centre of the core), expressed as a percentage of the length of core run.                              |
| <b>RQD</b>  | Rock Quality Designation- The sum length of all core pieces that are 100mm or longer (measured along the centre of the core), expressed as a percentage of the length of core run. |
| <b>FI</b>   | Fracture Index- The number of fractures per 1000mm length of solid core.                                                                                                           |
| <b>NI</b>   | Non-intact- The material recovered in a non-intact state.                                                                                                                          |
| <b>NR</b>   | No recovery from the core run.                                                                                                                                                     |
| <b>AZCL</b> | Assessed Zone of Core Loss.                                                                                                                                                        |
| <b>NA</b>   | Not Applicable                                                                                                                                                                     |

**Cobble Content**

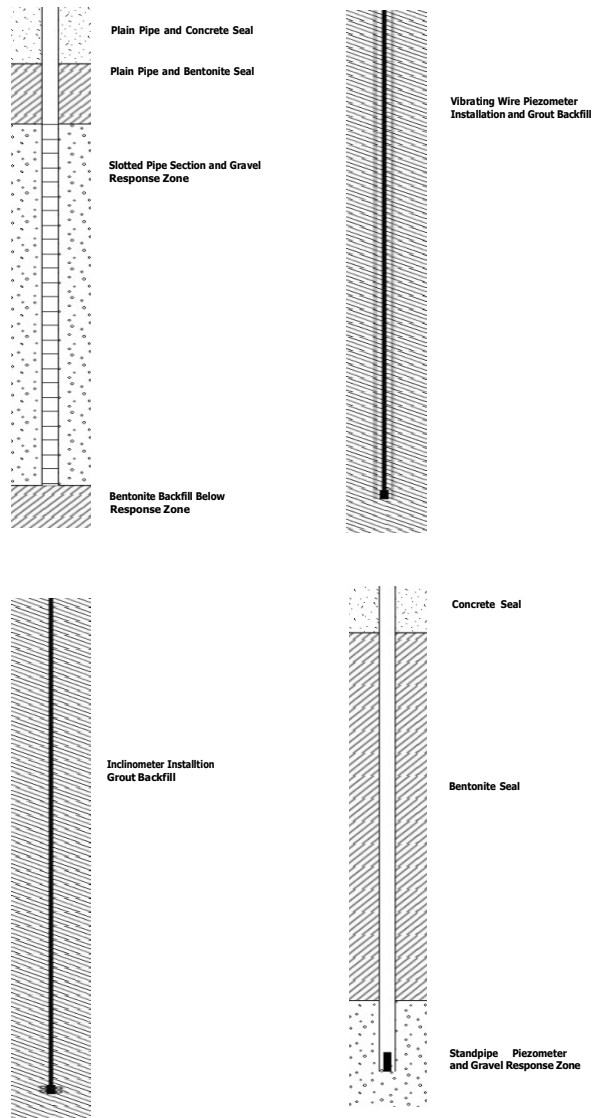
Low <10%, medium 10 – 20%, high >20%

## Exploratory Hole Log Legend

### BOREHOLE LEGEND:

|                                     |                                                                                     |
|-------------------------------------|-------------------------------------------------------------------------------------|
| <b>TOPSOIL</b>                      |    |
| <b>MADE GROUND</b>                  |    |
| <b>SILT</b>                         |    |
| <b>CLAY</b>                         |    |
| <b>SAND</b>                         |    |
| <b>GRAVEL</b>                       |    |
| <b>PEAT</b>                         |    |
| <b>MUDSTONE</b>                     |   |
| <b>SILTSTONE</b>                    |  |
| <b>SANDSTONE</b>                    |  |
| <b>LIMESTONE</b>                    |  |
| <b>COAL</b>                         |  |
| <b>CHALK</b>                        |  |
| <b>BENTONITE</b>                    |  |
| <b>GROUT</b>                        |  |
| <b>ARISINGS</b>                     |  |
| <b>COBBLES<br/>and<br/>BOULDERS</b> |  |

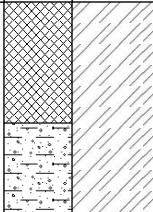
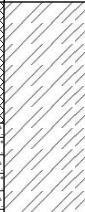
## Monitoring Installation Legend:



NB Where strata consists of material of more than one soil or rock type the legends are appropriately combined.



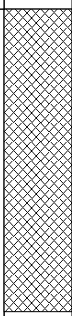
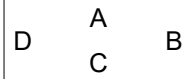
Dunelm Geotechnical & Environmental Ltd  
Unit 567, Chambers Business Centre,  
Chapel Road, Oldham, OL8 4QQ  
Tel: 0161 639 1775  
e-mail: admin@dunelm.co.uk  
web: www.dunelm.co.uk

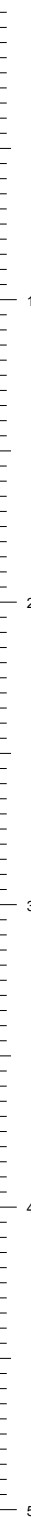
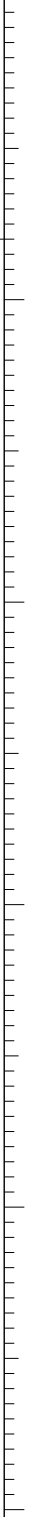
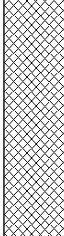
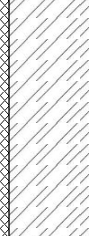
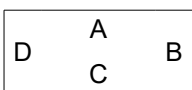
|  |                      |                   | TRIAL PIT RECORD                                                                   |                                                                                                                                                                            |                                   | TP No.<br>HDP01   |                                                                                     |                                                                                     |
|----------------------------------------------------------------------------------|----------------------|-------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Contract No.: M30772                                                             |                      |                   | Site: Broadfield Park Slopes, Rochdale                                             |                                                                                                                                                                            |                                   | Scale 1:25        |                                                                                     |                                                                                     |
| Client: Rochdale Borough Council                                                 |                      |                   |                                                                                    | Logged By: AL                                                                                                                                                              |                                   | Sheet 1 of 1      |                                                                                     |                                                                                     |
| Method: Hand Excavated Trial Pit                                                 |                      |                   |                                                                                    | Checked By: RS                                                                                                                                                             |                                   | Dates: 10/01/2025 |                                                                                     |                                                                                     |
| SAMPLE DETAILS                                                                   |                      |                   | Groundwater                                                                        | STRATA RECORD<br>Description                                                                                                                                               | Depth<br>(m)                      | Level<br>(m AOD)  | Legend                                                                              | Backfill                                                                            |
| Type                                                                             | Depth<br>From-To (m) | Insitu<br>Testing |                                                                                    |                                                                                                                                                                            |                                   |                   |                                                                                     |                                                                                     |
| ES                                                                               | 0.20                 |                   |  | MADE GROUND: Very soft dark grey slightly sandy slightly gravelly clay. Gravel is subrounded fine to coarse of quartzite. Frequent rootlets are noted. (Reworked Topsoil). | (0.40)                            |                   |  |  |
| ES                                                                               | 0.50                 |                   |                                                                                    | Very soft dark brownish grey sandy slightly gravelly CLAY. Gravel is subrounded fine to coarse of quartzite.                                                               | 0.40<br>(0.30)                    |                   |                                                                                     |                                                                                     |
|                                                                                  |                      |                   |                                                                                    |                                                                                                                                                                            | End of Trial Pit at 0.70 m        | 0.70              |                                                                                     |                                                                                     |
| Remarks                                                                          |                      |                   | Ground Water (m)                                                                   |                                                                                                                                                                            | Excavation Details                |                   | Orientation                                                                         |                                                                                     |
| 1. Hand dug inspection pit to 0.70m.                                             |                      |                   | Depth Strike                                                                       | Remarks                                                                                                                                                                    | Dimensions: 0.30m x 0.30m         |                   | <div><div>DACB</div><div>0°</div></div>                                             |                                                                                     |
|                                                                                  |                      |                   |                                                                                    |                                                                                                                                                                            | Stability: Stable                 |                   |                                                                                     |                                                                                     |
|                                                                                  |                      |                   |                                                                                    |                                                                                                                                                                            | Weather: Freezing                 |                   |                                                                                     |                                                                                     |
|                                                                                  |                      |                   |                                                                                    |                                                                                                                                                                            | Remarks: Hand Excavated Trial Pit |                   |                                                                                     |                                                                                     |



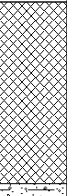
0°

0°

|  |                      |                   | TRIAL PIT RECORD                                                                   |                                                                                                                                                                                      |                                                                                      | TP No.<br>HDP05   |                                                                                       |                                                                                     |
|----------------------------------------------------------------------------------|----------------------|-------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Contract No.: M30772                                                             |                      |                   | Site: Broadfield Park Slopes, Rochdale                                             |                                                                                                                                                                                      |                                                                                      | Scale 1:25        |                                                                                       |                                                                                     |
| Client: Rochdale Borough Council                                                 |                      |                   | Logged By: AL                                                                      |                                                                                                                                                                                      |                                                                                      | Sheet 1 of 1      |                                                                                       |                                                                                     |
| Method: Hand Excavated Trial Pit                                                 |                      |                   | Checked By: RS                                                                     |                                                                                                                                                                                      |                                                                                      | Dates: 10/01/2025 |                                                                                       |                                                                                     |
| SAMPLE DETAILS                                                                   |                      |                   | Groundwater                                                                        | STRATA RECORD<br>Description                                                                                                                                                         | Depth<br>(m)                                                                         | Level<br>(m AOD)  | Legend                                                                                | Backfill                                                                            |
| Type                                                                             | Depth<br>From-To (m) | Insitu<br>Testing |                                                                                    |                                                                                                                                                                                      |                                                                                      |                   |                                                                                       |                                                                                     |
| ES                                                                               | 0.20                 |                   |  | MADE GROUND: Very soft dark grey slightly sandy slightly gravelly clay. Gravel is subrounded fine to coarse of quartzite and brick. Frequent rootlets are noted. (Reworked Topsoil). |  |                   |    |  |
| ES                                                                               | 0.50                 |                   |                                                                                    |                                                                                                                                                                                      |                                                                                      |                   |                                                                                       |                                                                                     |
| ES                                                                               | 1.00                 |                   |                                                                                    |                                                                                                                                                                                      |                                                                                      |                   |                                                                                       |                                                                                     |
| End of Trial Pit at 1.00 m                                                       |                      |                   |                                                                                    |                                                                                                                                                                                      |                                                                                      |                   |                                                                                       |                                                                                     |
| Remarks                                                                          |                      |                   | Ground Water (m)                                                                   |                                                                                                                                                                                      | Excavation Details                                                                   |                   | Orientation                                                                           |                                                                                     |
| 1. Hand dug inspection pit to 1.00m.                                             |                      |                   | Depth Strike                                                                       | Remarks                                                                                                                                                                              | Dimensions: 0.30m x 0.30m                                                            |                   |  |                                                                                     |
|                                                                                  |                      |                   |                                                                                    |                                                                                                                                                                                      | Stability: Stable                                                                    |                   |                                                                                       |                                                                                     |
|                                                                                  |                      |                   |                                                                                    |                                                                                                                                                                                      | Weather: Freezing                                                                    |                   |                                                                                       |                                                                                     |
|                                                                                  |                      |                   |                                                                                    |                                                                                                                                                                                      | Remarks: Hand Excavated Trial Pit                                                    |                   |                                                                                       |                                                                                     |

|        |                      |                   | TRIAL PIT RECORD                                                                   |                                                                                                                                               |                                                                                      |                  | TP No.<br>HDP06                                                                       |                                                                                     |
|----------------------------------------------------------------------------------------|----------------------|-------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Contract No.: M30772                                                                   |                      |                   | Site: Broadfield Park Slopes, Rochdale                                             |                                                                                                                                               |                                                                                      |                  | Scale 1:25                                                                            |                                                                                     |
| Client: Rochdale Borough Council                                                       |                      |                   | Logged By: AL                                                                      |                                                                                                                                               | Sheet 1 of 1                                                                         |                  |                                                                                       |                                                                                     |
| Method: Hand Excavated Trial Pit                                                       |                      |                   | Checked By: RS                                                                     |                                                                                                                                               | Dates: 10/01/2025                                                                    |                  |                                                                                       |                                                                                     |
| SAMPLE DETAILS                                                                         |                      |                   | Groundwater                                                                        | STRATA RECORD<br>Description                                                                                                                  | Depth<br>(m)                                                                         | Level<br>(m AOD) | Legend                                                                                | Backfill                                                                            |
| Type                                                                                   | Depth<br>From-To (m) | Insitu<br>Testing |                                                                                    |                                                                                                                                               |                                                                                      |                  |                                                                                       |                                                                                     |
| ES                                                                                     | 0.20                 |                   |  | MADE GROUND: Very soft highly organic dark grey slightly sandy clay. Sand is fine to medium. Frequent rootlets are noted. (Reworked Topsoil). |  |                  |    |  |
| ES                                                                                     | 0.50                 |                   |                                                                                    |                                                                                                                                               |                                                                                      |                  |                                                                                       |                                                                                     |
|                                                                                        |                      |                   |                                                                                    | End of Trial Pit at 0.80 m                                                                                                                    |                                                                                      |                  |                                                                                       |                                                                                     |
| Remarks                                                                                |                      |                   | Ground Water (m)                                                                   |                                                                                                                                               | Excavation Details                                                                   |                  | Orientation                                                                           |                                                                                     |
| 1. Hand dug inspection pit to 0.80m.<br>2. Pit terminated at 0.80m due to hard strata. |                      |                   | Depth Strike                                                                       | Remarks                                                                                                                                       | Dimensions: 0.30m x 0.30m                                                            |                  |  |                                                                                     |
|                                                                                        |                      |                   |                                                                                    |                                                                                                                                               | Stability: Stable                                                                    |                  |                                                                                       |                                                                                     |
|                                                                                        |                      |                   |                                                                                    |                                                                                                                                               | Weather: Freezing                                                                    |                  |                                                                                       |                                                                                     |
|                                                                                        |                      |                   |                                                                                    |                                                                                                                                               | Remarks: Hand Excavated Trial Pit                                                    |                  |                                                                                       |                                                                                     |



|  |                      |                   | TRIAL PIT RECORD                                                                   |                                                                                                                                                                            |                                   | TP No.<br>HDP08   |                                                                                     |                                                                                     |
|----------------------------------------------------------------------------------|----------------------|-------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Contract No.: M30772                                                             |                      |                   | Site: Broadfield Park Slopes, Rochdale                                             |                                                                                                                                                                            |                                   | Scale 1:25        |                                                                                     |                                                                                     |
| Client: Rochdale Borough Council                                                 |                      |                   | Logged By: AL                                                                      |                                                                                                                                                                            |                                   | Sheet 1 of 1      |                                                                                     |                                                                                     |
| Method: Hand Excavated Trial Pit                                                 |                      |                   | Checked By: RS                                                                     |                                                                                                                                                                            |                                   | Dates: 10/01/2025 |                                                                                     |                                                                                     |
| SAMPLE DETAILS                                                                   |                      |                   | Groundwater                                                                        | STRATA RECORD<br>Description                                                                                                                                               | Depth<br>(m)                      | Level<br>(m AOD)  | Legend                                                                              | Backfill                                                                            |
| Type                                                                             | Depth<br>From-To (m) | Insitu<br>Testing |                                                                                    |                                                                                                                                                                            |                                   |                   |                                                                                     |                                                                                     |
| ES                                                                               | 0.20                 |                   |  | MADE GROUND: Very soft dark grey slightly sandy slightly gravelly clay. Gravel is subrounded fine to coarse of quartzite. Frequent rootlets are noted. (Reworked Topsoil). | (0.60)                            |                   |  |  |
| ES                                                                               | 0.50                 |                   |                                                                                    | Brown slightly clayey gravelly SAND. Gravel is subrounded fine to coarse of quartzite.                                                                                     | 0.60<br>(0.10)<br>0.70            |                   |  |                                                                                     |
|                                                                                  |                      |                   |                                                                                    | End of Trial Pit at 0.70 m                                                                                                                                                 |                                   |                   |                                                                                     |                                                                                     |
| Remarks                                                                          |                      |                   | Ground Water (m)                                                                   |                                                                                                                                                                            | Excavation Details                |                   | Orientation                                                                         |                                                                                     |
| 1. Hand dug inspection pit to 0.70m.                                             |                      |                   | Depth                                                                              | Strike                                                                                                                                                                     | Remarks                           |                   | <div><div>D      A      B</div><div>         C</div></div> 0°                       |                                                                                     |
|                                                                                  |                      |                   |                                                                                    |                                                                                                                                                                            |                                   |                   |                                                                                     |                                                                                     |
|                                                                                  |                      |                   |                                                                                    |                                                                                                                                                                            |                                   |                   |                                                                                     |                                                                                     |
|                                                                                  |                      |                   |                                                                                    |                                                                                                                                                                            |                                   |                   |                                                                                     |                                                                                     |
|                                                                                  |                      |                   |                                                                                    |                                                                                                                                                                            | Dimensions: 0.30m x 0.30m         |                   |                                                                                     |                                                                                     |
|                                                                                  |                      |                   |                                                                                    |                                                                                                                                                                            | Stability: Stable                 |                   |                                                                                     |                                                                                     |
|                                                                                  |                      |                   |                                                                                    |                                                                                                                                                                            | Weather: Freezing                 |                   |                                                                                     |                                                                                     |
|                                                                                  |                      |                   |                                                                                    |                                                                                                                                                                            | Remarks: Hand Excavated Trial Pit |                   |                                                                                     |                                                                                     |

**Contract No.: M30772**

**Site:** Broadfield Park Slopes, Rochdale

Scale 1:25

**Client:** Rochdale Borough Council

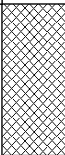
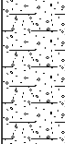
**Logged By:** AL

Sheet 1 of 1

**Method:** Hand Excavated Trial Pit

**Checked By:** RS

Dates: 10/01/2025

| SAMPLE DETAILS |                      |                   | Groundwater | STRATA RECORD<br>Description                                                                                                                                               | Depth<br>(m)   | Level<br>(m AOD) | Legend                                                                              | Backfill                                                                            |
|----------------|----------------------|-------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Type           | Depth<br>From-To (m) | Insitu<br>Testing |             |                                                                                                                                                                            |                |                  |                                                                                     |                                                                                     |
| ES             | 0.20                 |                   |             | MADE GROUND: Very soft dark grey slightly sandy slightly gravelly clay. Gravel is subrounded fine to coarse of quartzite. Frequent rootlets are noted. (Reworked Topsoil). | (0.50)         |                  |  |  |
| ES             | 0.50                 |                   |             | Brown slightly clayey gravelly SAND. Gravel is subrounded fine to coarse of quartzite.                                                                                     | 0.50<br>(0.50) |                  |  |  |
| ES             | 1.00                 |                   | 1           | End of Trial Pit at 1.00 m                                                                                                                                                 | 1.00           |                  |                                                                                     |                                                                                     |
|                |                      |                   | 2           |                                                                                                                                                                            |                |                  |                                                                                     |                                                                                     |
|                |                      |                   | 3           |                                                                                                                                                                            |                |                  |                                                                                     |                                                                                     |
|                |                      |                   | 4           |                                                                                                                                                                            |                |                  |                                                                                     |                                                                                     |
|                |                      |                   | 5           |                                                                                                                                                                            |                |                  |                                                                                     |                                                                                     |

| Remarks                              | Ground Water (m) |         | Excavation Details                | Orientation                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------|------------------|---------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Hand dug inspection pit to 1.00m. | Depth Strike     | Remarks | Dimensions: 0.30m x 0.30m         | <div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <div style="display: flex; justify-content: space-between; width: 100%;"> <span>D</span> <span>A</span> <span>B</span> </div> <div style="display: flex; justify-content: center; width: 100%;"> <span>C</span> </div> </div> <span style="margin-left: 10px;">0°</span> </div> |
|                                      |                  |         | Stability: Stable                 |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                      |                  |         | Weather: Freezing                 |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                      |                  |         | Remarks: Hand Excavated Trial Pit |                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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**Appendix C**  
**Chemical Testing Results**





## Certificate of Analysis

*Certificate Number* 25-00764

*Issued:* 20-Jan-25

*Client* Dunelm Geotechnical & Environmental Ltd  
Foundation House  
St. John's Road  
Meadowfield  
Durham  
DH7 8TZ

*Our Reference* 25-00764

*Client Reference ~* M30772

*Order No ~* PO9206

*Contract Title ~* Broadfield Park Slopes, Rochdale

*Description* 10 Soil samples.

*Date Received* 15-Jan-25

*Date Started* 15-Jan-25

*Date Completed* 20-Jan-25

*Test Procedures* Identified by prefix DETSn (details on request).

*Notes* Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

*Approved By*

A handwritten signature in black ink, appearing to read "K. Bridgewood".

Kirk Bridgewood  
General Manager



Normec DETS Limited

Unit 2, Park Road Industrial Estate South, Consett, Co Durham, DH8 5PY

Symbol key at end of report Tel: 01207 582333 • email: [info@dets.co.uk](mailto:info@dets.co.uk) • [www.dets.co.uk](http://www.dets.co.uk)

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## Summary of Chemical Analysis

### Matrix Descriptions

*Our Ref* 25-00764

*Client Ref* ~ M30772

*Contract Title* ~ Broadfield Park Slopes, Rochdale

| Sample ID | Depth | Lab No  | Completed  | Matrix Description                                          |
|-----------|-------|---------|------------|-------------------------------------------------------------|
| HDP1      | 0.2   | 2448634 | 20/01/2025 | Brown sandy CLAY including some rootlets                    |
| HDP2      | 0.5   | 2448635 | 20/01/2025 | Brown slightly gravelly, sandy CLAY                         |
| HDP3      | 0.2   | 2448636 | 20/01/2025 | Brown slightly gravelly, sandy CLAY including some rootlets |
| HDP4      | 0.2   | 2448637 | 20/01/2025 | Brown slightly gravelly, sandy CLAY including some rootlets |
| HDP5      | 0.5   | 2448638 | 20/01/2025 | Brown slightly gravelly, sandy CLAY                         |
| HDP6      | 0.2   | 2448639 | 20/01/2025 | Brown sandy CLAY including some rootlets                    |
| HDP7      | 0.5   | 2448640 | 20/01/2025 | Brown, clayey and SAND                                      |
| HDP8      | 0.2   | 2448641 | 20/01/2025 | Brown clayey SAND                                           |
| HDP9      | 0.2   | 2448642 | 20/01/2025 | Brown gravelly, clayey SAND                                 |
| HDP10     | 0.2   | 2448643 | 20/01/2025 | Brown gravelly, clayey SAND                                 |

# Summary of Chemical Analysis

## Soil Samples

Our Ref 25-00764

Client Ref ~ M30772

Contract Title ~ Broadfield Park Slopes, Rochdale

| Lab No          | 2448634    | 2448635    | 2448636    | 2448637    | 2448638    | 2448639    |
|-----------------|------------|------------|------------|------------|------------|------------|
| Sample ID ~     | HDP1       | HDP2       | HDP3       | HDP4       | HDP5       | HDP6       |
| Depth ~         | 0.20       | 0.50       | 0.20       | 0.20       | 0.50       | 0.20       |
| Other ID ~      |            |            |            |            |            |            |
| Sample Type ~   | ES         | ES         | ES         | ES         | ES         | ES         |
| Sampling Date ~ | 10/01/2025 | 10/01/2025 | 10/01/2025 | 10/01/2025 | 10/01/2025 | 10/01/2025 |
| Sampling Time ~ | n/s        | n/s        | n/s        | n/s        | n/s        | n/s        |

| Test                                  | Method      | LOD  | Units |         |         |         |         |         |         |
|---------------------------------------|-------------|------|-------|---------|---------|---------|---------|---------|---------|
| <b>Metals</b>                         |             |      |       |         |         |         |         |         |         |
| Arsenic                               | DETSC 2301# | 0.2  | mg/kg | 22      | 30      | 20      | 18      | 19      | 27      |
| Cadmium                               | DETSC 2301# | 0.1  | mg/kg | 0.6     | 1.1     | 0.3     | 0.3     | < 0.1   | 0.5     |
| Chromium                              | DETSC 2301# | 0.15 | mg/kg | 18      | 19      | 14      | 11      | 10      | 14      |
| Chromium, Hexavalent                  | DETSC 2204* | 1    | mg/kg | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Copper                                | DETSC 2301# | 0.2  | mg/kg | 120     | 91      | 57      | 70      | 33      | 85      |
| Lead                                  | DETSC 2301# | 0.3  | mg/kg | 470     | 390     | 330     | 320     | 140     | 550     |
| Mercury                               | DETSC 2325# | 0.05 | mg/kg | 0.96    | 0.46    | 0.35    | 0.52    | 0.21    | 0.56    |
| Nickel                                | DETSC 2301# | 1    | mg/kg | 23      | 29      | 20      | 16      | 11      | 21      |
| Selenium                              | DETSC 2301# | 0.5  | mg/kg | < 0.5   | < 0.5   | < 0.5   | < 0.5   | < 0.5   | 0.5     |
| Zinc                                  | DETSC 2301# | 1    | mg/kg | 140     | 170     | 72      | 71      | 33      | 120     |
| <b>Inorganics</b>                     |             |      |       |         |         |         |         |         |         |
| pH                                    | DETSC 2008# |      | pH    | 7.9     | 7.5     | 5.2     | 7.5     | 5.7     | 6.2     |
| Organic matter                        | DETSC 2002# | 0.1  | %     | 5.5     | 7.2     | 8.1     | 8.8     | 6.8     | 7.1     |
| Sulphate Aqueous Extract as SO4 (2:1) | DETSC 2076# | 10   | mg/l  | 20      | 20      | 18      | 29      | 16      | 40      |
| <b>Petroleum Hydrocarbons</b>         |             |      |       |         |         |         |         |         |         |
| Aliphatic C5-C6                       | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aliphatic C6-C8                       | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aliphatic C8-C10                      | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aliphatic >EC10-EC12                  | DETSC 3521# | 1.5  | mg/kg | < 1.50  | < 1.50  | < 1.50  | < 1.50  | < 1.50  | < 1.50  |
| Aliphatic >EC12-EC16                  | DETSC 3521# | 1.2  | mg/kg | < 1.20  | < 1.20  | < 1.20  | < 1.20  | < 1.20  | < 1.20  |
| Aliphatic >EC16-EC21                  | DETSC 3521# | 1.5  | mg/kg | < 1.50  | < 1.50  | < 1.50  | < 1.50  | < 1.50  | < 1.50  |
| Aliphatic >EC21-EC35                  | DETSC 3521# | 3.4  | mg/kg | < 3.40  | < 3.40  | < 3.40  | < 3.40  | < 3.40  | < 3.40  |
| Aliphatic C5-C35                      | DETSC 3521* | 10   | mg/kg | < 10.00 | < 10.00 | < 10.00 | < 10.00 | < 10.00 | < 10.00 |
| Aromatic C5-C7                        | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aromatic C7-C8                        | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aromatic C8-C10                       | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aromatic >EC10-EC12                   | DETSC 3521# | 0.9  | mg/kg | < 0.90  | 11.38   | < 0.90  | < 0.90  | < 0.90  | < 0.90  |
| Aromatic >EC12-EC16                   | DETSC 3521# | 0.5  | mg/kg | 1.22    | 28.45   | < 0.50  | < 0.50  | 0.79    | 1.66    |
| Aromatic >EC16-EC21                   | DETSC 3521# | 0.6  | mg/kg | 7.62    | 81.18   | 3.89    | 6.36    | 7.52    | 13.60   |
| Aromatic >EC21-EC35                   | DETSC 3521# | 1.4  | mg/kg | 7.36    | 83.77   | 4.22    | 4.11    | 4.87    | 16.14   |
| Aromatic C5-C35                       | DETSC 3521* | 10   | mg/kg | 16.20   | 204.8   | < 10.00 | 10.47   | 13.19   | 31.41   |
| TPH Ali/Aro Total C5-C35              | DETSC 3521* | 10   | mg/kg | 16.20   | 204.8   | < 10.00 | 10.47   | 13.19   | 31.41   |
| <b>PAHs</b>                           |             |      |       |         |         |         |         |         |         |
| Naphthalene                           | DETSC 3303# | 0.03 | mg/kg | 0.10    | 11      | < 0.03  | < 0.03  | 0.04    | 0.05    |
| Acenaphthylene                        | DETSC 3303# | 0.03 | mg/kg | < 0.03  | 0.10    | < 0.03  | < 0.03  | < 0.03  | < 0.03  |
| Acenaphthene                          | DETSC 3303# | 0.03 | mg/kg | 0.20    | 4.6     | 0.04    | 0.05    | 0.11    | 0.18    |
| Fluorene                              | DETSC 3303  | 0.03 | mg/kg | 0.12    | 3.5     | < 0.03  | < 0.03  | 0.06    | 0.10    |
| Phenanthrene                          | DETSC 3303# | 0.03 | mg/kg | 1.1     | 27      | 0.25    | 0.35    | 0.69    | 1.1     |
| Anthracene                            | DETSC 3303  | 0.03 | mg/kg | 0.22    | 5.4     | 0.05    | 0.06    | 0.12    | 0.21    |
| Fluoranthene                          | DETSC 3303# | 0.03 | mg/kg | 1.5     | 20      | 0.38    | 0.60    | 1.1     | 1.8     |
| Pyrene                                | DETSC 3303# | 0.03 | mg/kg | 1.4     | 19      | 0.35    | 0.53    | 0.94    | 1.6     |

## Summary of Chemical Analysis Soil Samples

Our Ref 25-00764

Client Ref ~ M30772

Contract Title ~ Broadfield Park Slopes, Rochdale

|                 |            |            |            |            |            |            |
|-----------------|------------|------------|------------|------------|------------|------------|
| Lab No          | 2448634    | 2448635    | 2448636    | 2448637    | 2448638    | 2448639    |
| Sample ID ~     | HDP1       | HDP2       | HDP3       | HDP4       | HDP5       | HDP6       |
| Depth ~         | 0.20       | 0.50       | 0.20       | 0.20       | 0.50       | 0.20       |
| Other ID ~      |            |            |            |            |            |            |
| Sample Type ~   | ES         | ES         | ES         | ES         | ES         | ES         |
| Sampling Date ~ | 10/01/2025 | 10/01/2025 | 10/01/2025 | 10/01/2025 | 10/01/2025 | 10/01/2025 |
| Sampling Time ~ | n/s        | n/s        | n/s        | n/s        | n/s        | n/s        |

| Test                    | Method      | LOD  | Units |      |      |        |        |        |      |
|-------------------------|-------------|------|-------|------|------|--------|--------|--------|------|
| Benzo(a)anthracene      | DETSC 3303# | 0.03 | mg/kg | 0.51 | 6.0  | 0.12   | 0.22   | 0.31   | 0.62 |
| Chrysene                | DETSC 3303  | 0.03 | mg/kg | 0.49 | 6.0  | 0.12   | 0.22   | 0.32   | 0.65 |
| Benzo(b)fluoranthene    | DETSC 3303# | 0.03 | mg/kg | 0.53 | 4.2  | 0.13   | 0.27   | 0.37   | 0.70 |
| Benzo(k)fluoranthene    | DETSC 3303# | 0.03 | mg/kg | 0.17 | 1.6  | 0.04   | 0.08   | 0.11   | 0.22 |
| Benzo(a)pyrene          | DETSC 3303# | 0.03 | mg/kg | 0.38 | 3.5  | 0.08   | 0.18   | 0.20   | 0.47 |
| Indeno(1,2,3-c,d)pyrene | DETSC 3303# | 0.03 | mg/kg | 0.16 | 0.92 | 0.03   | 0.09   | 0.10   | 0.20 |
| Dibenzo(a,h)anthracene  | DETSC 3303# | 0.03 | mg/kg | 0.05 | 0.37 | < 0.03 | < 0.03 | < 0.03 | 0.06 |
| Benzo(g,h,i)perylene    | DETSC 3303# | 0.03 | mg/kg | 0.18 | 1.1  | 0.03   | 0.10   | 0.09   | 0.21 |
| PAH - USEPA 16, Total   | DETSC 3303  | 0.1  | mg/kg | 7.1  | 110  | 1.5    | 2.8    | 4.5    | 8.2  |

## Summary of Chemical Analysis

### Soil Samples

Our Ref 25-00764

Client Ref ~ M30772

Contract Title ~ Broadfield Park Slopes, Rochdale

| Lab No          | 2448640    | 2448641    | 2448642    | 2448643    |
|-----------------|------------|------------|------------|------------|
| Sample ID ~     | HDP7       | HDP8       | HDP9       | HDP10      |
| Depth ~         | 0.50       | 0.20       | 0.20       | 0.20       |
| Other ID ~      |            |            |            |            |
| Sample Type ~   | ES         | ES         | ES         | ES         |
| Sampling Date ~ | 10/01/2025 | 10/01/2025 | 10/01/2025 | 10/01/2025 |
| Sampling Time ~ | n/s        | n/s        | n/s        | n/s        |

| Test                                  | Method      | LOD  | Units |         |         |         |         |
|---------------------------------------|-------------|------|-------|---------|---------|---------|---------|
| <b>Metals</b>                         |             |      |       |         |         |         |         |
| Arsenic                               | DETSC 2301# | 0.2  | mg/kg | 17      | 40      | 8.8     | 18      |
| Cadmium                               | DETSC 2301# | 0.1  | mg/kg | 0.1     | 0.5     | 0.2     | < 0.1   |
| Chromium                              | DETSC 2301# | 0.15 | mg/kg | 8.0     | 14      | 12      | 13      |
| Chromium, Hexavalent                  | DETSC 2204* | 1    | mg/kg | < 1.0   | < 1.0   | < 1.0   | < 1.0   |
| Copper                                | DETSC 2301# | 0.2  | mg/kg | 34      | 74      | 24      | 33      |
| Lead                                  | DETSC 2301# | 0.3  | mg/kg | 110     | 190     | 62      | 190     |
| Mercury                               | DETSC 2325# | 0.05 | mg/kg | 0.15    | 0.33    | 0.06    | 0.15    |
| Nickel                                | DETSC 2301# | 1    | mg/kg | 8.8     | 19      | 11      | 11      |
| Selenium                              | DETSC 2301# | 0.5  | mg/kg | < 0.5   | 0.7     | < 0.5   | < 0.5   |
| Zinc                                  | DETSC 2301# | 1    | mg/kg | 30      | 99      | 57      | 37      |
| <b>Inorganics</b>                     |             |      |       |         |         |         |         |
| pH                                    | DETSC 2008# |      | pH    | 4.6     | 5.8     | 7.0     | 4.9     |
| Organic matter                        | DETSC 2002# | 0.1  | %     | 9.3     | 9.0     | 3.5     | 5.4     |
| Sulphate Aqueous Extract as SO4 (2:1) | DETSC 2076# | 10   | mg/l  | 17      | 20      | 13      | 22      |
| <b>Petroleum Hydrocarbons</b>         |             |      |       |         |         |         |         |
| Aliphatic C5-C6                       | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aliphatic C6-C8                       | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aliphatic C8-C10                      | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aliphatic >EC10-EC12                  | DETSC 3521# | 1.5  | mg/kg | < 1.50  | < 1.50  | < 1.50  | < 1.50  |
| Aliphatic >EC12-EC16                  | DETSC 3521# | 1.2  | mg/kg | < 1.20  | < 1.20  | < 1.20  | < 1.20  |
| Aliphatic >EC16-EC21                  | DETSC 3521# | 1.5  | mg/kg | < 1.50  | < 1.50  | < 1.50  | < 1.50  |
| Aliphatic >EC21-EC35                  | DETSC 3521# | 3.4  | mg/kg | < 3.40  | < 3.40  | < 3.40  | < 3.40  |
| Aliphatic C5-C35                      | DETSC 3521* | 10   | mg/kg | < 10.00 | < 10.00 | < 10.00 | < 10.00 |
| Aromatic C5-C7                        | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aromatic C7-C8                        | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aromatic C8-C10                       | DETSC 3321* | 0.01 | mg/kg | < 0.01  | < 0.01  | < 0.01  | < 0.01  |
| Aromatic >EC10-EC12                   | DETSC 3521# | 0.9  | mg/kg | < 0.90  | < 0.90  | < 0.90  | < 0.90  |
| Aromatic >EC12-EC16                   | DETSC 3521# | 0.5  | mg/kg | 2.27    | < 0.50  | < 0.50  | < 0.50  |
| Aromatic >EC16-EC21                   | DETSC 3521# | 0.6  | mg/kg | 21.20   | 7.43    | 3.37    | 4.04    |
| Aromatic >EC21-EC35                   | DETSC 3521# | 1.4  | mg/kg | 30.01   | 5.52    | 4.43    | 2.67    |
| Aromatic C5-C35                       | DETSC 3521* | 10   | mg/kg | 53.48   | 12.94   | < 10.00 | < 10.00 |
| TPH Ali/Aro Total C5-C35              | DETSC 3521* | 10   | mg/kg | 53.48   | 12.94   | < 10.00 | < 10.00 |
| <b>PAHs</b>                           |             |      |       |         |         |         |         |
| Naphthalene                           | DETSC 3303# | 0.03 | mg/kg | 0.11    | 0.04    | < 0.03  | < 0.03  |
| Acenaphthylene                        | DETSC 3303# | 0.03 | mg/kg | < 0.03  | < 0.03  | < 0.03  | < 0.03  |
| Acenaphthene                          | DETSC 3303# | 0.03 | mg/kg | 0.35    | 0.12    | < 0.03  | 0.04    |
| Fluorene                              | DETSC 3303  | 0.03 | mg/kg | 0.20    | 0.06    | < 0.03  | < 0.03  |
| Phenanthrene                          | DETSC 3303# | 0.03 | mg/kg | 2.5     | 0.72    | 0.19    | 0.33    |
| Anthracene                            | DETSC 3303  | 0.03 | mg/kg | 0.43    | 0.12    | < 0.03  | 0.05    |
| Fluoranthene                          | DETSC 3303# | 0.03 | mg/kg | 4.1     | 1.1     | 0.41    | 0.52    |
| Pyrene                                | DETSC 3303# | 0.03 | mg/kg | 3.7     | 0.97    | 0.36    | 0.44    |

## Summary of Chemical Analysis Soil Samples

Our Ref 25-00764

Client Ref ~ M30772

Contract Title ~ Broadfield Park Slopes, Rochdale

|                 |            |            |            |            |
|-----------------|------------|------------|------------|------------|
| Lab No          | 2448640    | 2448641    | 2448642    | 2448643    |
| Sample ID ~     | HDP7       | HDP8       | HDP9       | HDP10      |
| Depth ~         | 0.50       | 0.20       | 0.20       | 0.20       |
| Other ID ~      |            |            |            |            |
| Sample Type ~   | ES         | ES         | ES         | ES         |
| Sampling Date ~ | 10/01/2025 | 10/01/2025 | 10/01/2025 | 10/01/2025 |
| Sampling Time ~ | n/s        | n/s        | n/s        | n/s        |

| Test                    | Method      | LOD  | Units |      |        |        |        |
|-------------------------|-------------|------|-------|------|--------|--------|--------|
| Benzo(a)anthracene      | DETSC 3303# | 0.03 | mg/kg | 1.4  | 0.32   | 0.14   | 0.16   |
| Chrysene                | DETSC 3303  | 0.03 | mg/kg | 1.3  | 0.31   | 0.15   | 0.18   |
| Benzo(b)fluoranthene    | DETSC 3303# | 0.03 | mg/kg | 1.6  | 0.34   | 0.18   | 0.21   |
| Benzo(k)fluoranthene    | DETSC 3303# | 0.03 | mg/kg | 0.49 | 0.11   | 0.06   | 0.07   |
| Benzo(a)pyrene          | DETSC 3303# | 0.03 | mg/kg | 1.0  | 0.22   | 0.11   | 0.13   |
| Indeno(1,2,3-c,d)pyrene | DETSC 3303# | 0.03 | mg/kg | 0.41 | 0.10   | 0.06   | 0.07   |
| Dibenzo(a,h)anthracene  | DETSC 3303# | 0.03 | mg/kg | 0.13 | < 0.03 | < 0.03 | < 0.03 |
| Benzo(g,h,i)perylene    | DETSC 3303# | 0.03 | mg/kg | 0.45 | 0.10   | 0.05   | 0.07   |
| PAH - USEPA 16, Total   | DETSC 3303  | 0.1  | mg/kg | 18   | 4.6    | 1.7    | 2.3    |

## Summary of Asbestos Analysis

### Soil Samples

Our Ref ~ 25-00764

Client Ref ~ M30772

Contract Title ~ Broadfield Park Slopes, Rochdale

| Lab No  | Sample ID  | Material Type | Result | Comment* | Analyst    |
|---------|------------|---------------|--------|----------|------------|
| 2448634 | HDP1 0.20  | SOIL          | NAD    | none     | Ben Barsby |
| 2448635 | HDP2 0.50  | SOIL          | NAD    | none     | Ben Barsby |
| 2448636 | HDP3 0.20  | SOIL          | NAD    | none     | Ben Barsby |
| 2448637 | HDP4 0.20  | SOIL          | NAD    | none     | Ben Barsby |
| 2448638 | HDP5 0.50  | SOIL          | NAD    | none     | Ben Barsby |
| 2448639 | HDP6 0.20  | SOIL          | NAD    | none     | Ben Barsby |
| 2448640 | HDP7 0.50  | SOIL          | NAD    | none     | Ben Barsby |
| 2448641 | HDP8 0.20  | SOIL          | NAD    | none     | Ben Barsby |
| 2448642 | HDP9 0.20  | SOIL          | NAD    | none     | Ben Barsby |
| 2448643 | HDP10 0.20 | SOIL          | NAD    | none     | Ben Barsby |

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: \* -not included in laboratory scope of accreditation.

## Information in Support of the Analytical Results

Our Ref 25-00764  
 Client Ref ~ M30772  
 Contract ~ Broadfield Park Slopes, Rochdale

### Containers Received & Deviating Samples

| Lab No  | Sample ID ~     | Date Sampled ~ | Containers Received      | Holding time exceeded for tests | Inappropriate container for tests |
|---------|-----------------|----------------|--------------------------|---------------------------------|-----------------------------------|
| 2448634 | HDP1 0.20 SOIL  | 10/01/25       | GJ 250ml, GJ 60ml, PT 1L |                                 |                                   |
| 2448635 | HDP2 0.50 SOIL  | 10/01/25       | GJ 250ml, GJ 60ml, PT 1L |                                 |                                   |
| 2448636 | HDP3 0.20 SOIL  | 10/01/25       | GJ 250ml, GJ 60ml, PT 1L |                                 |                                   |
| 2448637 | HDP4 0.20 SOIL  | 10/01/25       | GJ 250ml, GJ 60ml, PT 1L |                                 |                                   |
| 2448638 | HDP5 0.50 SOIL  | 10/01/25       | GJ 250ml, GJ 60ml, PT 1L |                                 |                                   |
| 2448639 | HDP6 0.20 SOIL  | 10/01/25       | GJ 250ml, GJ 60ml, PT 1L |                                 |                                   |
| 2448640 | HDP7 0.50 SOIL  | 10/01/25       | GJ 250ml, GJ 60ml, PT 1L |                                 |                                   |
| 2448641 | HDP8 0.20 SOIL  | 10/01/25       | GJ 250ml, GJ 60ml, PT 1L |                                 |                                   |
| 2448642 | HDP9 0.20 SOIL  | 10/01/25       | GJ 250ml, GJ 60ml, PT 1L |                                 |                                   |
| 2448643 | HDP10 0.20 SOIL | 10/01/25       | GJ 250ml, GJ 60ml, PT 1L |                                 |                                   |

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

### Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

### Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

## Appendix A - Details of Analysis

| Method     | Parameter                                   | Units    | Limit of Detection | Sample Preparation | Sub-Contracted | UKAS | MCERTS |
|------------|---------------------------------------------|----------|--------------------|--------------------|----------------|------|--------|
| DETSC 2002 | Organic matter                              | %        | 0.1                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2003 | Loss on ignition                            | %        | 0.01               | Air Dried          | No             | Yes  | Yes    |
| DETSC 2008 | pH                                          | pH Units | 1                  | Air Dried          | No             | Yes  | Yes    |
| DETSC 2076 | Sulphate Aqueous Extract as SO <sub>4</sub> | mg/l     | 10                 | Air Dried          | No             | Yes  | Yes    |
| DETSC 2084 | Total Organic Carbon                        | %        | 0.5                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2119 | Ammoniacal Nitrogen as N                    | mg/kg    | 0.5                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2130 | Cyanide free                                | mg/kg    | 0.1                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2130 | Cyanide total                               | mg/kg    | 0.1                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2130 | Phenol - Monohydric                         | mg/kg    | 0.3                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2130 | Thiocyanate                                 | mg/kg    | 0.6                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Arsenic                                     | mg/kg    | 0.2                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Barium                                      | mg/kg    | 1.5                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Beryllium                                   | mg/kg    | 0.2                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Cadmium Available                           | mg/kg    | 0.1                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Cadmium                                     | mg/kg    | 0.1                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Cobalt                                      | mg/kg    | 0.7                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Chromium                                    | mg/kg    | 0.15               | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Copper                                      | mg/kg    | 0.2                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Manganese                                   | mg/kg    | 20                 | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Molybdenum                                  | mg/kg    | 0.4                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Nickel                                      | mg/kg    | 1                  | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Lead                                        | mg/kg    | 0.3                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Selenium                                    | mg/kg    | 0.5                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2301 | Zinc                                        | mg/kg    | 1                  | Air Dried          | No             | Yes  | Yes    |
| DETSC 2311 | Boron (water soluble)                       | mg/kg    | 0.2                | Air Dried          | No             | Yes  | Yes    |
| DETSC 2321 | Total Sulphate as SO <sub>4</sub>           | %        | 0.01               | Air Dried          | No             | Yes  | Yes    |
| DETSC 2325 | Mercury                                     | mg/kg    | 0.05               | Air Dried          | No             | Yes  | Yes    |
| DETSC 3049 | Sulphur (free)                              | mg/kg    | 0.75               | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Ali/Aro C10-C35                             | mg/kg    | 10                 | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aliphatic C10-C12                           | mg/kg    | 1.5                | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aliphatic C10-C35                           | mg/kg    | 10                 | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aliphatic C12-C16                           | mg/kg    | 1.2                | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aliphatic C16-C21                           | mg/kg    | 1.5                | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aliphatic C21-C35                           | mg/kg    | 3.4                | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aromatic C10-C12                            | mg/kg    | 0.9                | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aromatic C10-C35                            | mg/kg    | 10                 | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aromatic C12-C16                            | mg/kg    | 0.5                | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aromatic C16-C21                            | mg/kg    | 0.6                | As Received        | No             | Yes  | Yes    |
| DETSC 3072 | Aromatic C21-C35                            | mg/kg    | 1.4                | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Acenaphthene                                | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Acenaphthylene                              | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Benzo(a)pyrene                              | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Benzo(a)anthracene                          | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Benzo(b)fluoranthene                        | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Benzo(k)fluoranthene                        | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Benzo(g,h,i)perylene                        | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Dibenzo(a,h)anthracene                      | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Fluoranthene                                | mg/kg    | 0.03               | As Received        | No             | Yes  | Yes    |

## Appendix A - Details of Analysis

| Method     | Parameter                              | Units | Limit of Detection | Sample Preparation | Sub-Contracted | UKAS | MCERTS |
|------------|----------------------------------------|-------|--------------------|--------------------|----------------|------|--------|
| DETSC 3303 | Indeno(1,2,3-c,d)pyrene                | mg/kg | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Naphthalene                            | mg/kg | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Phenanthrene                           | mg/kg | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3303 | Pyrene                                 | mg/kg | 0.03               | As Received        | No             | Yes  | Yes    |
| DETSC 3311 | C10-C24 Diesel Range Organics (DRO)    | mg/kg | 10                 | As Received        | No             | Yes  | Yes    |
| DETSC 3311 | C24-C40 Lube Oil Range Organics (LORO) | mg/kg | 10                 | As Received        | No             | Yes  | Yes    |
| DETSC 3311 | EPH (C10-C40)                          | mg/kg | 10                 | As Received        | No             | Yes  | Yes    |
| DETSC 3321 | Benzene                                | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETSC 3321 | Ethylbenzene                           | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETSC 3321 | Toluene                                | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETSC 3321 | Xylene                                 | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETSC 3321 | m+p Xylene                             | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETSC 3321 | o Xylene                               | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETSC 3401 | PCB 28 + PCB 31                        | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETSC 3401 | PCB 52                                 | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETSC 3401 | PCB 101                                | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETSC 3401 | PCB 118                                | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETSC 3401 | PCB 153                                | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETSC 3401 | PCB 138                                | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETSC 3401 | PCB 180                                | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETSC 3401 | PCB Total                              | mg/kg | 0.01               | As Received        | No             | Yes  | Yes    |
| DETSC 3521 | Ali/Aro C10-C35                        | mg/kg | 10                 | As Received        | No             | Yes  | Yes    |
| DETSC 3521 | Aliphatic C10-C12                      | mg/kg | 1.5                | As Received        | No             | Yes  | Yes    |
| DETSC 3521 | Aliphatic C10-C35                      | mg/kg | 10                 | As Received        | No             | Yes  | Yes    |
| DETSC 3521 | Aliphatic C12-C16                      | mg/kg | 1.2                | As Received        | No             | Yes  | Yes    |
| DETSC 3521 | Aliphatic C16-C21                      | mg/kg | 1.5                | As Received        | No             | Yes  | Yes    |
| DETSC 3521 | Aliphatic C21-C35                      | mg/kg | 3.4                | As Received        | No             | Yes  | Yes    |
| DETSC 3521 | Aromatic C10-C12                       | mg/kg | 0.9                | As Received        | No             | Yes  | Yes    |
| DETSC 3521 | Aromatic C10-C35                       | mg/kg | 10                 | As Received        | No             | Yes  | Yes    |
| DETSC 3521 | Aromatic C12-C16                       | mg/kg | 0.5                | As Received        | No             | Yes  | Yes    |
| DETSC 3521 | Aromatic C16-C21                       | mg/kg | 0.6                | As Received        | No             | Yes  | Yes    |
| DETSC 3521 | Aromatic C21-C35                       | mg/kg | 1.4                | As Received        | No             | Yes  | Yes    |

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

## Appendix A - Details of Analysis

| Method | Parameter | Units | Limit of<br>Detection | Sample<br>Preparation | Sub-Contracted | UKAS | MCERTS |
|--------|-----------|-------|-----------------------|-----------------------|----------------|------|--------|
|--------|-----------|-------|-----------------------|-----------------------|----------------|------|--------|

### Key:

~ Sample details are provided by the client and can affect the validity of the results

\* -not accredited.

# -MCERTS (accreditation only applies if report carries the MCERTS logo).

\$ -subcontracted.

n/s -not supplied.

I/S -insufficient sample.

U/S -unsuitable sample.

t/f -to follow.

nd -not detected.

**End of Report**

## **Appendix D**

### **Dunelm Conditions of Offer, Notes on Limitations & Basis for Contract**



## **Dunelm Conditions of Offer, Notes on Limitations & Basis for Contract**

These conditions accompany our tender and supercede any previous conditions issued. The firm will prepare a report solely for the use of the Client (the party invoiced) and its agent(s). No reliance should be placed on the contents of this report, in whole or in part by 3<sup>rd</sup> parties. The report, its content and format and associated data are copyright, and the property of the firm. Photocopying of part or all of the contents, transfer or reproduction of any kind is forbidden without written permission from the firm. A charge may be levied against such approval, the same to be made at the discretion of the firm.

Site investigation is a process of sampling. The scope and size of an investigation may be considered proportional to levels of confidence regarding the ground and groundwater conditions. The exploratory holes undertaken investigate only a small volume of the ground in relation to the overall size of the site, and can only provide a general indication of site conditions. The opinions provided and recommendations given in this report are based on the ground conditions as encountered within each of the exploratory holes. There may be different ground conditions elsewhere on the site which have not been identified by this investigation and which therefore have not been taken into account in this report. Reports are generally subject to the comments of the local authority and Environment Agency. The comments made on groundwater conditions are based on observations made at the time that site work was carried out. It should be noted that mobile contamination, soil gas levels and groundwater levels may vary owing to seasonal, tidal and/or weather related effects. Unrecorded ancient mining may occur anywhere where seams that have been worked and influence the rock and soil above. Dissolution cavities can occur where gypsum or chalk is present. Rotary drilling is the recommended technique to prove the integrity of the rock.

Where the scope of the investigation is limited via access to information, time constraints, equipment limitations, testing, interpretation or by the client or his agents budgetary constraints, elements not set out in the proposal and excluded from the report are deemed to be omitted from the scope of the investigation.

The firm cannot be held liable and do not warrant, or otherwise guarantee the validity of information provided by third parties and subsequently used in our reports. The firm are not responsible for the action negligent or otherwise of subcontractors or third parties.

Desk studies are generally prepared in accordance with RICS guidelines. Environmental site investigations are generally undertaken as 'exploratory investigations' in accordance with the definitions provided in paragraph 5.2.7 of BS 10175:2011 +A2:2017 in order to confirm the conceptual assumptions, and in accordance with BS5930:2015+A1:2020. You are advised to familiarize yourself with the typical scope of such an investigation. No pumping of water will be undertaken unless a licence or facilities/equipment have been arranged by others.

Where the type, number or/and depth of exploratory hole is specified by others, the firm cannot and will not be responsible for any subsequent shortfall or inadequacy in data, and any consequent shortfall in interpretation of environmental and geotechnical aspects which may be required at a later date in order to facilitate the design of permanent or temporary works.

All information acquired by the firm in the course of investigation is the property of the firm, and, only also becomes the joint property of the Client only on the complete settlement of all invoices relating to the project. The firm reserves the right to use the information in commercial tendering and marketing, unless the Client expressly wishes otherwise in writing. The quoted rates do not include VAT, we will invoice on an interim basis (on completion of fieldwork, on completion of report and on completion of gas monitoring (if applicable)) and payment terms are 30 days from dispatch of invoice from our offices. Quotes are subject to a site visit.

We have allowed for 1 mobilisation and normal working hours unless otherwise stated. The scope of the investigation may be reviewed following the desk study and/or fieldwork and additional costs maybe required if ground conditions dictate. We have not allowed for acquiring buried utility/services information and cannot be responsible for damage to underground services or pipes not shown to us or not clearly shown on plans. Costs incurred will be passed on to you, and in commissioning the firm, you understand and accept that you/your agent have a contractual relationship with the firm & you accept this. Our rates assume unobstructed, reasonably level and firm access to the exploratory positions and adequate clear working areas and headroom. We have priced on the basis that you or your client have the necessary permissions, wayleaves and approvals to access land. All boreholes and pits are backfilled with arisings except where gas monitoring pipes are installed with stopcock covers. Dunelm are not responsible for any uneven surfaces as a result of siteworks and rutting and backfilled excavations may require re-levelling and/or making good by others after fieldwork is complete. Dunelm have not allowed for subsequent reinstatement as a result of settlement. Should artesian water be encountered the cost of dealing with this would be charged at dayworks plus supervision with any temporary works/materials at cost plus 20%. Should access to the site be restricted for reasons beyond our control such as soft or boggy ground then there may be the requirement for hiring in plant such as a tractor or tracked dumper, the cost of this would be charged at cost plus 20%. Should the site fall into a BDA Red Classification and further protection measures be required, this would be charged at cost plus 20%. The rates we have supplied for geotechnical laboratory testing are for sample recovered from BDA Green and Yellow classified sites. If the site is deemed to be Red we can supply uplifted testing rates on request. No price has been provided or requested for a return visit to remove pipework and covers. No price has been provided or requested for a return visit to remove pipework and covers. Hourly rates apply to consultancy only and do not include expenses unless otherwise shown. If warranties are required, legal costs incurred will be passed on to you assuming the firm agree to complete such warranties, modified or otherwise and you understand and agree to pay all costs.the, firm agree to complete such warranties, modified or otherwise and you understand and agree to pay all costs.

We reserve the right to pursue full payment of the invoice prior to release of any information including reports. We advise you/your client that we may elect to pursue our statutory rights under late payment legislation and will apply 8% to the base rate for unreasonably late payments. We will also apply the right to claim any associated legal costs incurred with recovery of late payments. The firm is exempt from the CIS Scheme. The firm offer to undertake work only in strict accordance with conditions covered by our current insurances, which are available for inspection. The company are not responsible for acts, negligent or otherwise of subcontractors and as a matter of policy cannot indemnify any other parties. Professional indemnity Insurance is limited to ten times the invoice net total except where stated otherwise by the firm, and we give notice that consequential loss as a direct or indirect result of the firms activities or omission of the same are excluded.

Where the works require a Coal Authority Permit (hereafter referred to as 'the Permit'), we will apply for the Permit in the name of the employer, who, upon accepting the quotation, is deemed to have accepted the Terms and Conditions in respect of the Permit.