



e3p

Validation Report
Land off George Street, Heywood

Reference:13-224-R4-1
Date: November 2023



REMEDIATION AND ENABLING WORKS VALIDATION

Land off George Street
Heywood

Prepared for:
Emm Bee Ltd

Report Ref: 13-224-R4-1
Date Issued: November 2023

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QUALITY ASSURANCE

Report reference	13-224
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REV REF:	DESCRIPTION	AUTHOR	CHECKED	AUTHORISED	DATE
R4-1	First issue	MW	AE	MDD	16.11.23

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DRAWING LIST

13-224-001 - Site Location Plan
13-224-002 - Proposed Development Plan
13-224-003 - Historical Features Plan
13-224-004 - Site Features Plan
13-224-005 - Exploratory Hole Location Plan
13-224-006 - Depth of Made Ground Plan
13-224-022 - Indicative Volumetrics Plan
13-224-023 - Isopachyte from Remediation Survey to Formation Depths Plan
13-224-025 - In-situ Test Location Plan - Non-Nuclear Density Gauge
13-224-026 - In-situ Test Location Plan - CBR via PLT
13-224-027 - In-situ Test Location Plan – CBR via DCP

D and D Consulting - Ground Preparation Plan (Drawing J122/11, Rev F, Jan 2023)

Lee Ashworth Ltd – Remediation Survey (Drawing 187, Rev A, Sept 2023)



1. INTRODUCTION

1.1. BACKGROUND

This report details the remediation and enabling works operations that were undertaken by Lee Ashworth Excavations Limited under the part-time supervision of E3P to facilitate the preparation of the commercial development on a parcel of land off George Street, Heywood, herein referred to as the site.

E3P was appointed by Fleet Grace Ltd on behalf of Emm Bee Ltd (the client) as an independent Geoenvironmental Consultant for the site remediation, preparation/enabling, and validation works and the subsequent production of this validation report.

1.2. PROPOSED DEVELOPMENT

Emm Bee Ltd proposes to construct a motor vehicle sales showroom with ancillary external hardstanding and infrastructure. The main facility is subject to planning approval reference 18/00971/FUL.

E3P has been provided with the layout plan as presented in Drawing 13-224-002 in Appendix III. A snapshot of the proposed development is presented in Figure 1.1 below.

FIGURE 1.1 SNAPSHOT OF PROPOSED DEVELOPMENT



1.3. SUMMARY OF PARTIES INVOLVED

FUNCTION/INTEREST	NAME OF PARTY
Local Planning Authority	Rochdale Metropolitan Borough Council (RMBC)
Developer	Emm Bee Ltd
Geoenvironmental Consultant	E3P
Main Contractor	Lee Ashworth Excavations Ltd
Remediation/Enabling Works Contractor	Lee Ashworth Excavations Ltd
Human Health Regulator	RMBC
Controlled Waters and Waste Regulator	Environment Agency (EA)
Highways Adoption Authority	RMBC

1.4. PREVIOUS WORKS

The following previous phases of site investigation and assessment have been completed at the subject site:

- ✳ LK Consult Preliminary Risk Assessment Britannia Metals, Heywood. Ref: CL-602-LKC 18 1262-01; dated September 2018. Prepared for Rochdale Borough Council.
- ✳ LK Consult Final Phase 2 Geo-Environmental Investigation, Risk Assessment and Remediation Strategy. Ref: CL-602-LKC 18 1262-01; dated November 2018. Prepared for Rochdale Borough Council.
- ✳ E3P Land Remediation, Enabling & Abnormal Foundation Cost Assessment Land at George Street, Heywood; Ref: 13-224-L1, dated 22nd March 2019.
- ✳ E3P Abnormal Costs Assessment, Land at George Street, Heywood; Ref 13-224-L2, dated 19th July 2019.
- ✳ E3P Land Remediation Works, Land at George Street, Heywood; Ref: 13-224-L3, dated 1st June 2021.
- ✳ E3P Phase I Geoenvironmental Site Assessment, Smethurst Street, Heywood. 13-224-R1-1 dated November 2021.
- ✳ E3P Phase II Geoenvironmental Site Assessment, George Street, Heywood. 13-224-R2-1 dated February 2022.
- ✳ E3P Supplementary Ground Investigation, Land at George Street, Heywood; Ref: 13-224-L4-4, dated 9th May 2023.
- ✳ E3P Remediation & Geotechnical Engineering Requirements, George Street, Heywood; Ref 13-224-L5, dated May 2023.

These documents were utilised to develop the following Remediation and Enabling Works Strategy:

- ✳ E3P Remediation and Enabling Works Strategy, Land off George Street, Heywood. 13-224-R3-3 dated May 2023.



The above documents should be read in conjunction with this Validation Report.

1.5. REGULATORY CORRESPONDENCE

As part of the acquisition of the site, E3P has undertaken consultation with the Environment Agency in respect of previous LK Consulting reports, site waste management licence surrender and subsequent identification of scrap yard waste material in the northwest of the site.

Specifically, the EA has indicated that the identified fragmentiser waste associated with the former scrap yard would need to be removed from the site as there was no option to process the waste and leave it on-site without the requirement for a landfill permit. Such a permit was stated by the EA as unlikely to be approved.



2. SUMMARY OF REMEDIATION AND ENABLING WORKS OBJECTIVES

The proposed remediation activities were detailed within the E3P Remediation and Enabling Works Strategy (13-224-R3-3; dated May 2023) and supplementary supporting documents provided by E3P.

This report has been prepared to document the completion of all necessary land remediation and enabling works and to record the presence of any variation in ground conditions or previously unidentified sources of potential contamination, environmental impact or potential nuisance to the wider environ.

The Remediation and Enabling Works elements are summarised below:

- ✿ RE-1 – Pre-commencement Regulatory Compliance
- ✿ RE-2 – Environment and Nuisance Control
- ✿ RE-3 – Identification, Isolation and Treatment of Invasive Plants
- ✿ RE-4 – Site Clearance Operations
- ✿ RE-5 – Delineation and Excavation of Fragmentiser Waste
- ✿ RE-6 – Management of Asbestos Impacted Soils
- ✿ RE-7 – Excavation, Breaking and Processing of Below-Ground Structures
- ✿ RE-8 – Cut-And-Filling of Made Ground to Development Levels
- ✿ RE-9 – Replacement of Materials, Geotechnical Engineering Requirements
- ✿ RE-10 – Importation of Bulk Fill
- ✿ RE-11 – Independent Validation: Watching Brief
- ✿ RE-12 – Waste Soils Surplus to Requirements
- ✿ RE-13 – Validation of Materials for Potable Water Supply Infrastructure
- ✿ RE-14 – Remedial Verification Report

3. SECOND PHASE MITIGATION AND MANAGEMENT – BUILD PHASE

A second phase of works will be required to ensure the proposed development is constructed in a manner that incorporates the required mitigation measures to ensure the development is compliant with UK Building Regulations and the Local Authority Planning requirements.

These obligations are specified in more detail within Section 5.



4. DETAILED REMEDIATION AND ENABLING WORKS ACTIVITIES

The focus of the remediation and enabling works are to address the contaminant issues previously identified within the site investigations that presented an unacceptable risk to human health following the redevelopment of the site.

For completeness, each of these activities has been discussed below within the context of the actual remediation works that were undertaken on site.

RE-1 – PRE-COMMENCEMENT REGULATORY COMPLIANCE

DATE OF WORKS UNDERTAKEN
Prior to remediation works

OVERVIEW OF WORKS
Planning approval for the redevelopment of the site was granted on the 24 th June 2029 (Application 18/00971/FUL).
Regulatory correspondence was obtained from Rochdale Metropolitan Borough Council confirming acceptance of the Remediation and Enabling Works Strategy.

RE-2 – ENVIRONMENT AND NUISANCE CONTROL

DATE OF WORKS UNDERTAKEN
Throughout

OVERVIEW OF WORKS
During remediation, works were restricted to between 8.00 am and 5.30 pm. A road sweeper was present to keep the access and George Street clean and clear of debris during the importation of materials to the site.
Heras fencing was erected around the site boundary with the appropriate health and safety signage.
A power washer and bowser were present to dampen down materials throughout the works and during the excavation of fragmentiser waste.

RE-3 – IDENTIFICATION, ISOLATION AND TREATMENT OF INVASIVE PLANTS

DATE OF WORKS UNDERTAKEN
25 th July 2023 – 1 st August 2023

PHOTOGRAPHS
Plates 1-3



OVERVIEW OF WORKS

An Invasive Weed Management Plan, prepared by Knotweed Eradication (Ref: IWMP2290A, dated 16th November 2021), identified Japanese knotweed in two areas on-site:

-  Area 1 - Located on the security bund that forms the eastern boundary on George Street.
-  Area 2 - Immediately adjacent to the metal fence that forms the southern boundary.

The two areas were fenced off and isolated up until such a time they could be removed. The programme of remediation involved the excavation of the full lateral and vertical extent of soils contaminated with knotweed. The contaminated soils were removed by a specialist waste contractor and taken to Booth Ventures, Harwood Quarry, Brookfold Lane, Harwood, Bolton on the 1st August 2023 for disposal. Approximately 6 tonnes of material and root zones were removed from the site. The Japanese knotweed removal was validated by Booth Ventures, who have produced a Removal Certificate which can be requested from the remediation contractor.

RE-4 – SITE CLEARANCE OPERATIONS

DATE OF WORKS UNDERTAKEN

Throughout

PHOTOGRAPHS

Plate 4-6

CHEMICAL TESTING

I2 Analytical Report 23-50900-1 (SP101-SP102 - Topsoil)

GEOTECHNICAL TESTING

Murray Rix Report MRN 4588-94 (SP102 - Topsoil)

OVERVIEW OF WORKS

No buildings were present on-site before the remediation works, however, concrete slabs and relict foundations were present beneath a layer of shallow Made Ground.

Trees were removed by a specialist contractor, shredded and subsequently removed off-site.

A vegetation and topsoil strip was completed across the whole site. Vegetation was placed into allocated skips for subsequent disposal off-site. Topsoil was stockpiled in the southwest corner of the site. Chemical testing results on these materials were found to contain 0.002% asbestos, and therefore would not be considered suitable for re-use within a clean cover system. As average TOC concentrations for these materials were <2.5% and geotechnical classification testing identified these materials as Class 2C, these materials were deemed suitable for re-use as general fill and were to be placed at depths below external hardstanding. The materials of approximately 1000 m³ were placed at a minimum depth of 1.00 m below finished levels beneath external hardstanding in the southwest part of the site.

Outside of the fragmentiser waste area, concrete slabs and relict foundations were broken up and stockpiled for processing by Lee Ashworth Excavations under a Part B LAPC licensed mobile plant to produce 6F2.

Throughout the enabling works, scrap metal and general waste was separated from demolition materials and placed into allocated skips for subsequent disposal off-site.



RE-5 – DELINEATION AND EXCAVATION OF FRAGMENTISER WASTE

DATE OF WORKS UNDERTAKEN

26th July – 11th August 2023

PHOTOGRAPHS

Plates 7-12

OVERVIEW OF WORKS

Background

During previous ground investigations undertaken by E3P, fragmentiser waste associated with a former scrap yard were identified in the northwest part of the site. The EA had indicated that identified fragmentiser waste associated with former scrap yard would need to be removed from the site as there was no option to process the waste and leave it on-site without the requirement for a landfill permit. Such a permit was stated by the EA as unlikely to be approved.

Overview of Works

Between the 26th July and 11th August 2023, excavation works to remove all fragmentiser waste from the northwest part of the site were undertaken.

Excavations to remove all fragmentiser waste moved from west to east with the area in the southwest corner last to be removed. Excavations extended down to the natural stratum, with a maximum depth reached of 4.00 m bgl. All fragmentiser waste was carefully excavated using controlled mechanical techniques under the strict control of the Lee Ashworth Excavations Site Manager with E3P in part time supervision.

E3P maintained a part-time watching brief during the fragmentiser waste excavation to audit and validate the site enabling works in addition to inspecting all materials removed and identifying any previously unidentified fragmentiser waste.

All fragmentiser waste was stockpiled in the southeast corner of the site before been removed off-site to Wheeldon Brothers waste management facility in Bury. Approximately 19.46 tonnes of fragmentiser waste was removed from site. Waste Transfer notes are included in Appendix VII.

RE-6 – MANAGEMENT OF ASBESTOS IMPACTED SOILS

DATE OF WORKS UNDERTAKEN

July-November 2023

CHEMICAL TESTING

I2 Analytical Report 23-50900-1 (SP101-SP102 – Topsoil and SP103-SP107 – Made Ground)

I2 Analytical Report 23-51541-1 (SP108-SP109) – Made Ground

I2 Analytical Report 23-52956-1 (SP110-SP112) – Made Ground

OVERVIEW OF WORKS

During previous ground investigations, asbestos was identified in several locations as both fibres within the Made Ground matrix and as bulk fragments. As such, it was assumed that asbestos fibres were present throughout the Made Ground on-site.

The remediation strategy detailed that the asbestos impacted material must be buried in line with the E3P Conceptual Site Model detailed within the E3P Remediation Strategy Report (Ref: 13-224-R3-3). JIWG Industry Guidance on the Control of Asbestos Regulations 2012: Interpretation for Managing and Working with Asbestos in Soil and Construction & Demolition Materials (CAR-SOILTM, 2016) indicated that the excavation of the impacted soils at the site was unlikely to be licensable work.



During the remediation and enabling works, samples of processed Made Ground materials were taken from stockpiles, with asbestos concentrations ranging between <0.001% and 0.018% (SP111). Where asbestos was identified at concentrations above >0.001%, the impacted Made Ground materials were placed at depths >1.00 m beneath areas of low sensitivity (i.e. beneath proposed buildings and external hardstanding) in accordance with the E3P Conceptual Site Model.

Specific control measures were also implemented on-site to protect construction workers from potential exposure to asbestos; these included the use of RPE (disposable overalls and EN140 with P3 filter mask, localised mechanical dust suppression and the provision of decontamination facilities.

During the remediation and enabling works, a qualified specialist from Global Asbestos Solutions was in full-time attendance.

Visible ACM was identified during the fragmentiser waste excavations in the northwest part of the site as well as during the turnover of Made Ground materials across the site and in the southwest part of the site.

Visible ACM was removed by a suitably qualified specialist and removed off-site to a suitable waste facility. In total, 74 bags of asbestos bulk fragments were removed from the site to Pilsworth Landfill in Bury. Asbestos records are presented in Appendix VI.

RE-7 – EXCAVATION, BREAKING AND PROCESSING OF BELOW-GROUND STRUCTURES

DATE OF WORKS UNDERTAKEN

Throughout

PHOTOGRAPHS

Plates 13-19

CHEMICAL TESTING

I2 Analytical Report 23-50900-1 (SP101-SP102 – Topsoil and SP103-SP107 – Made Ground)
I2 Analytical Report 23-50901-1 (SP107 - WAC) – Made Ground
I2 Analytical Report 23-51541-1 (SP108-SP109) – Made Ground
I2 Analytical Report 23-52956-1 (SP110-SP112) – Made Ground
I2 Analytical Report 23-55030-1 (SP113-SP115) – Site Won 6F2

GEOTECHNICAL TESTING

Murray Rix Report MRN 4588-94 (SP101-SP102 – Topsoil and SP103-SP106 – Made Ground)
Murray Rix Report MRN 4588-100 (SP108-SP112) – Made Ground
Murray Rix Report MRN 4588-102 (SP113-SP117, Showroom 300 and Showroom 600) – Made Ground

OVERVIEW OF WORKS

Outside of the fragmentiser waste excavation, removal of any relict foundations and concrete slabs moved from north to south, with the area in the southeast corner last to be removed. All sub-structures were excavated using controlled mechanical techniques under the strict control of the Lee Ashworth Excavation site manager with E3P in part-time supervision.

The site was subject to a turnover to the top of the natural stratum to ensure the full removal and excavation of all below ground obstructions and relict foundations. This process allowed for the removal of any oversize materials and the identification of any previously unidentified areas of contamination. Oversized materials and concrete were stockpiled prior to crushing/processing to nominal 6F2 grading with chemical validation in accordance with the validation sampling protocol.



The majority of the Made Ground was cohesive with brick and concrete inclusions. Geotechnical testing of the Made Ground materials was undertaken for PSD, Dry Density, OMC and 4.5kg compaction tests.

Any steel reinforcement present within the concrete hardstanding, or waste in the form of wood, scrap metal and plastic were removed prior to the crushing of demolition material stockpiles, and allocated to skips for subsequent disposal.

E3P maintained a part-time watching brief during the turning and processing of the Made Ground to audit and validate the site-enabling works in addition to inspecting all materials turned over and identifying any previously unidentified contamination hotspots, including Asbestos Containing Materials (ACM).

The chemical analysis results confirm that Made Ground contained concentrations of asbestos ranging between <0.001% and 0.018% (SP111). The main exposure pathway for this determinant is the inhalation of fibres, therefore this pathway will be broken as the material will be placed at depths >1.00m beneath areas of low sensitivity (i.e. beneath proposed buildings and external hardstanding) in accordance with the E3P Conceptual Site Model and will therefore not pose a risk to future end users.

Leachate testing on bulk fill samples recorded elevated levels of heavy metals, however, due to the low mobility of the determinants there is considered to be a low risk to commercial end users and the wider environment.

The chemical analysis results confirmed the 6F2 materials were chemically suitable to be re-used on-site.

RE-8 – CUT-AND-FILLING OF MADE GROUND TO DEVELOPMENT LEVELS

DATE OF WORKS UNDERTAKEN

Throughout

PHOTOGRAPHS

Plate 13-19

GEOTECHNICAL TESTING

Murray Rix Report MRN 4588-94 (SP101-SP102 – Topsoil and SP103-SP106 – Made Ground)

Murray Rix Report MRN 4588-100 (SP108-SP112) – Made Ground

Murray Rix Report MRN 4588-102 (SP113-SP117, Showroom 300 and Showroom 600) – Made Ground

IN-SITU TESTING

E3P NNDG Test Results – 25th August, 1st September, 5th September, 8th September, and 13th September 2023

E3P CBR Test Results – 25th August, 15th September, 25th September, 27th September, and 18th October 2023

OVERVIEW OF WORKS

Lee Ashworth Excavations have undertaken cut and filling of Made Ground development levels at the site.

Hand shear vane tests were completed at formation level. All HSV results indicated a strength with a Cu in excess of 70 kN/m².

Cohesive soils were used as upfill. Compaction testing has been completed where clay soils have been placed.



Non-Nuclear Density Gauge (NNDG) tests were completed throughout the upfill layers, with the materials generally meeting the testing requirements of the geotechnical specification. The NNDG test results are included in Appendix V. The test locations are shown on E3P drawing 13-224-025 in Appendix III.

Lee Ashworth Excavations has produced a Remediation Survey of the site, and this is presented in Appendix III

RE-9 – REPLACEMENT OF MATERIALS, GEOTECHNICAL ENGINEERING REQUIREMENTS

DATE OF WORKS UNDERTAKEN

Throughout

PHOTOGRAPHS

Plates 20-30

GEOTECHNICAL TESTING

Murray Rix Report MRN 4588-94 (SP101-SP102 – Topsoil and SP103-SP106 – Made Ground)
Murray Rix Report MRN 4588-100 (SP108-SP112) – Made Ground
Murray Rix Report MRN 4588-102 (SP113-SP117, Showroom 300 and Showroom 600) – Made Ground
E3P NNDG Test Results – 25th August, 1st September, 5th September, 8th September, and 13th September 2023
E3P CBR Test Results – 25th August, 15th September, 25th September, 27th September, and 18th October 2023

IN-SITU TESTING

E3P NNDG Test Results – 25th August, 1st September, 5th September, 8th September, and 13th September 2023
E3P CBR Test Results – 25th August, 15th September, 25th September, 27th September, and 18th October 2023

OVERVIEW OF WORKS

The enabling works required a large-scale turnover to remove constraints to construction. Where Applicable, all voids were upfilled with materials in accordance with the E3P Remediation and Enabling Works Strategy.

During the remediation and enabling works, a soft spot was identified in the north part of the site within the footprint of the proposed Workshop building. Materials from this area were re-excavated and stockpiled adjacent to the area to allow the materials to dry out. The excavation was then backfilled in accordance with the E3P Remediation and Enabling Works Strategy. To achieve the required compaction, a sheep roller was utilised in this area. A Tensar TX30 grid was also deployed across the Workshop raft.

CBR tests were undertaken at the remediation levels on all rafts, roads and areas of external hardstanding.

All materials were backfilled in strict compliance with the E3P Remediation and Enabling Works Strategy.

CBR testing was completed to demonstrate compliance. Geotechnical testing results are included in Appendix V. The CBR test locations are shown on the E3P drawings 13-224-026 and 13-224-027 and included within Appendix III.



RE-10 – IMPORTATION OF BULK FILL

DATE OF WORKS UNDERTAKEN

Throughout

PHOTOGRAPHS

Plate 31-32

CHEMICAL TESTING

I2 Analytical Report 23-56917-1 (SP118) – Imported 6F2

I2 Analytical Report 23-57674-1 (SP119) – Imported MOT Type 1

GEOTECHNICAL TESTING

Murray Rix Report MRN 4588-109 (SP118) – Imported 6F2

Murray Rix Report MRN 4588-110 (SP119) – Imported MOT Type 1

OVERVIEW OF WORKS

Circa 500 m³ of 6F2 classified crush was imported to the site and utilised for the Workshop and Showroom rafts in the north and east parts of the site. The material was imported from Lee Ashworth Excavations yard. Invoices related to this material are available from the Remediation Contractor on request.

Circa 1868 m³ of MOT Type 1 granular fill was imported to the site and utilised for the Workshop and Showroom rafts in the north and east parts of the site. The material was imported from Whitworth Quarry. Invoices related to this material are available from the Remediation Contractor on request.

E3P undertook sampling of the imported 6F2 bulk fill (SP118) and MOT Type 1 (SP119) samples for confirmation of use within the site and were found to be suitable for use on-site.

It is noted that following the remediation and enabling works, a deficit of 1,583 m³ fill was required to bring site levels up to FFL. As such, additional importation of bulk fill will be required during the Build Phase. Further testing of imported bulk fill will be reported in a supplementary validation letter report.

RE-11 – INDEPENDENT VALIDATION: WATCHING BRIEF

DATE OF WORKS UNDERTAKEN

Throughout

OVERVIEW OF WORKS

Throughout the remediation and enabling works completed by Lee Ashworth Excavations, E3P maintained a part time watching brief in which site visits were undertaken to monitor works and investigate any potential sources of unidentified contamination.

No previously unidentified contamination was encountered.

RE-12 – WASTE SOILS SURPLUS TO REQUIREMENTS

DATE OF WORKS UNDERTAKEN

July-November 2023

OVERVIEW OF WORKS

The following materials were sent to Wheeldons Brothers waste management facility in Bury:

- 19.46 tonnes of fragmentiser waste; and



- 62.22 tonnes of wood, plastic, hardcore and metal.

The following materials were sent to Pilsworth Landfill in Bury:

- 74 bags of asbestos bulk fragments (insulation and cement);

Waste transfer notes are included in Appendix VIII.

RE-13 – VALIDATION OF MATERIALS FOR POTABLE WATER SUPPLY INFRASTRUCTURE

DATE OF WORKS UNDERTAKEN

Throughout

CHEMICAL TESTING

I2 Analytical Report 23-50900-1 (SP101-SP102 – Topsoil and SP103-SP107 – Made Ground)
I2 Analytical Report 23-50901-1 (SP107 - WAC) – Made Ground
I2 Analytical Report 23-51541-1 (SP108-SP109) – Made Ground
I2 Analytical Report 23-52956-1 (SP110-SP112) – Made Ground
I2 Analytical Report 23-55030-1 (SP113-SP115) – Site Won 6F2
I2 Analytical Report 23-56917-1 (SP118) – Imported 6F2
I2 Analytical Report 23-57674-1 (SP119) – Imported MOT Type 1

OVERVIEW OF WORKS

Validation sampling of materials for potable water supply identified exceedances of the PE threshold for EC10-EC16 Aliphatic and Aromatic Hydrocarbons (SP118, 24 mg/kg) and EC16-EC40 Aliphatic and Aromatic Hydrocarbons (SP107 1101 mg/kg and SP118 930 mg/kg). Based on the assessment of current site conditions, it is likely that barrier pipe will be required at the proposed development.



5. POST REMEDIATION BUILD PHASE REQUIREMENTS

This document details the construction works that are required to ensure full compliance with the remediation Strategy, Regulatory Authorities, Building Control & Warranty Providers.

The following should be implemented during the build phase of the development:

- ✚ Laboratory testing of imported topsoil and subsoil for use within soft landscaped areas;
- ✚ Placement and validation of subsoil (clean material) in a 150 mm layer within all soft landscaped areas; and
- ✚ Placement and validation of topsoil (clean material) in a 150 mm layer within all soft landscaped areas.

The validation protocols are presented within the E3P Remediation and Enabling Works Strategy and are presented below.

5.1. PLACEMENT OF COVER SYSTEM

The Remediation and Enabling Works Strategy for the site, with respect to human health of the future site users includes the provision of a chemically suitable clean material to be installed in any soft landscaped areas; the construction of the clean cover / placement of clean material shall consist of:

- ✚ 150mm subsoil; and
- ✚ 150mm topsoil.

In accordance with the current requirements of the regulatory authorities, validation samples will be collected from all materials that are to be imported or re-used on-site to confirm the proposed development will pose no unacceptable risk to human health or the wider environ.

Subsoil and topsoil shall be free of any deleterious materials, such as buildings materials, timber, plastics etc and conform to the requirements of BS 3882:2007.

Initial testing of site won subsoil to classify its re-use on site has been completed as part of the remediation works undertaken. Therefore, further analysis of subsoil will be required to achieve the testing frequencies outlined within the remediation strategy and in the event of importation of additional material during construction.

Testing requirements for topsoil and subsoil are presented in Table 5.1.



TABLE 5.1 SPECIFICATION FOR SOIL TESTING

MATERIAL USE	TESTING FREQUENCY	SUITE OF ANALYSIS
Subsoil Greenfield Source (450 mm Garden Cover)	1 Sample per 200 m ³ *	A/B/C/D
Subsoil Brownfield Source (450 mm Garden Cover)	1 Sample per 50 m ³ *	A/B/C/D
Topsoil Greenfield Source (150 mm Garden Cover)	1 Sample per 200 m ³ *	A/B/C/D
Topsoil Brownfield Source (150 mm Garden Cover)	1 Sample per 50 m ³ *	A/B/C/D
General Engineering Fill (Class 1 and 2 Soil)	1 Sample per 1000 m ³ *	A/B/C/D

Notes:

* Min. 3 samples per source required.

Suites of Analysis:

A. Speciated PAH.

B. Speciated TPH (C5-C35).

C. Asbestos (ID).

D. CLEA Inorganic Heavy Metals

5.1.1. PROCEDURE FOR PLACEMENT OF CHEMICALLY SUITABLE COVER SYSTEM

Soft landscaped areas need to be backfilled with 150 mm chemically validated subsoil, with 150 mm topsoil overlaying this. Topsoil is required to be confirmed as chemically suitable prior to placement. Where subsoil is not placed during Remediation & Enabling works, E3P will be required to return to site and undertake independent validation of the correct placement of subsoil.

The placement of 300 mm of clean material will be undertaken during the build phase works of the project.

The placement of subsoil and corresponding validation will be documented within the Garden Validation Letters (to be issued on completion of the contractor's works).

If proposed utilities are to be placed within the cover system, the clean cover should be placed prior to installation of these utilities.

If natural drift deposits are encountered, excavation can cease here.

E3P will collect photographic evidence of the placement of 150 mm of certified topsoil and 150 mm of subsoil on completion of construction works. This element will also be checked by the Building Control Officer as part of the site completion prior to issuing of a CML certificate.

The garden validation procedure is detailed in Table 5.2.



TABLE 5.2 GARDEN VALIDATION PROCEEDURE

PROCEDURE	METHOD
Chemical Validation	Imported subsoils and topsoil will need to be chemically analysed to confirm suitability for use with the proposed cover system prior to installation and completion of the garden systems. E3P will issue an email to the developer with an assessment of the chemical suitability of both subsoils and topsoils. If acceptable the materials can be installed to the required depth at which time the soft landscaped area will be deemed complete following a validation procedure by a suitability qualified E3P engineer.
Trial Holes	Trial holes are deemed necessary for all areas of soft landscaping given that the 300 mm cover system will need to be placed on each area of soft landscaping during the build phase.
Validation	Photographic evidence will be taken by E3P of the topsoil placement demonstrating the depth of topsoil and practical completion of works are required for each and every area of soft landscaping. For areas of soft landscaping where subsoil depths require validation by E3P during the build phase, photographs will be taken and collated by E3P.
Validation Certificate	Once the photographs of the placement of topsoil (over the clean material) have been provided, E3P will issue specific validation certificates for each area of soft landscaping to demonstrate that the required subsoil and topsoil has been placed in the required soft landscaped areas along with the chemical analysis.
Completion Report	Upon completion of all soft landscaped areas within the development, a Completion Report will be issued providing the confirmation that all remediation requirements have been achieved.

Plate 1 provides an example of a garden validation photographs that will be required for each area of soft landscaping.



PLATE 1 EXAMPLE SOFT LANDSCAPING COVER SYSTEM VALIDATION

Plot No: 4 (Car Park Landscaping)

Depth of Strata (m bgl)	0.00-0.30	Validated TOPSOIL
<i>Depth of Cover System Materials</i>		<i>Depth of Cover System Materials</i>
		

Depth of Cover System at Ground Level and in Relation to Unit / Structure



5.2. POTABLE WATER SUPPLY – CONTAMINANT ASSESSMENT CRITERIA

Table 5.3 provides a summary of the threshold concentrations that must not be exceeded within remediated ground at pipeline depth in order to PE pipe works to be acceptable for the proposed development.

TABLE 5.3 PIPELINE SELECTION PE THRESHOLD CONCENTRATIONS

CONTAMINANT GROUP	PE-THRESHOLD ^A
Total VOC	0.5
Total BTEX And MTBE	0.1
Total SVOCs (Excluding PAH and those substances marked with an *)	2
EC5-EC10 Aliphatic and Aromatic Hydrocarbons	2
EC10-EC16- Aliphatic and Aromatic Hydrocarbons	10
EC16-EC40 Aliphatic and Aromatic Hydrocarbons	500
Phenols (From SVOC Analysis)*	2
Cresols and Chlorinated Phenols (From SVOC Analysis)	2

Notes

A. All concentrations in mg/kg.



6. CONCLUSION

The remediation elements identified within the approved Remediation and Enabling Works Strategy have been completed with validation testing confirming that the works have been completed to the required standard.

As part of the on-going construction works the developer will be required to construct and validate the items listed below in strict accordance with the requirements of the regulatory authorities as documented in detail within this report.

- ✦ Placement of clean subsoil and topsoil in all soft landscaped areas must be a minimum of 300 mm or natural ground (whichever is the shallower).
- ✦ Independent validation of the cover system by a suitably qualified E3P engineer.
- ✦ Provision a suitable water supply infrastructure.

END OF REPORT



APPENDIX I

LIMITATIONS

1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between E3P and the Client as indicated in Section 1.2.
2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information it has been assumed it is correct. No attempt has been made to verify the information.
3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination which are enforced by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.
4. During the site walkover, reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover, no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not been made known or accessible.
5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.
6. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.
7. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials, this is for indicative purposes only and do not constitute or replace full and proper surveys.
8. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.
9. E3P cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by E3P is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by E3P in this connection without their explicit written agreement there to by E3P.
10. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.



APPENDIX II

GLOSSARY

TERMS

ACM	Asbestos-containing material	MMP	Materials management plan
ADS	Acoustic design statement	ND	Not detected
AST	Above-ground storage tank	NDP	Nuclear density probe
BGS	British Geological Survey	NMP	Noise management plan
BSI	British Standards Institute	NPSE	Noise policy statement for England
BTEX	Benzene, toluene, ethylbenzene, xylenes	NR	Not recorded
CA	Coal Authority	PAH	Polycyclic aromatic hydrocarbon
CBR	California bearing ratio	PCB	Polychlorinated biphenyl
CIEH	Chartered Institute of Environmental Health	PI	Plasticity index
CIRIA	Construction Industry Research Association	PID	Photo ionisation detector
CLEA	Contaminated land exposure assessment	POS	Public open space
CML	Council of Mortgage Lenders	PPE	Personnel protective equipment
CoC	Contaminants of concern	ProPG	Professional practice guidance
CSM	Conceptual site model	QA	Quality assurance
DNAPL	Dense non-aqueous phase liquid (chlorinated solvents, PCB)	SGV	Soil guideline value
DWS	Drinking water standard	SPH	Separate-phase hydrocarbon
EA	Environment Agency	SPT	Standard penetration test
EQS	Environmental quality standard	SVOC	Semi-volatile organic compound
FFL	Finished floor level	TPH	Total and speciated petroleum hydrocarbon
GAC	General assessment criteria	TPH CWG	Total Petroleum Hydrocarbon (Criteria Working Group)
GL	Ground level	UKWIR	United Kingdom Water Infrastructure Risk
GSV	Gas screening value	UST	Underground storage tank
HCV	Health criteria value	VCC	Vibro-concrete column
ICSM	Initial conceptual site model	VOC	Volatile organic compound
LEL	Lower explosive limit	VRSC	Vibro-replacement stone columns
LMRL	Lower method reporting limit	VSC	Vibro-stone columns
LNAPL	Light non-aqueous phase liquid (petrol, diesel, kerosene)	WHO	World Health Organisation
MCV	Moisture condition value	WRAP	Waste and Resources Action Programme
MIBK	Methyl isobutyl ketone	WTE	Water table elevation



Land off George Street, Heywood

Remediation and Enabling Works Validation

November 2023

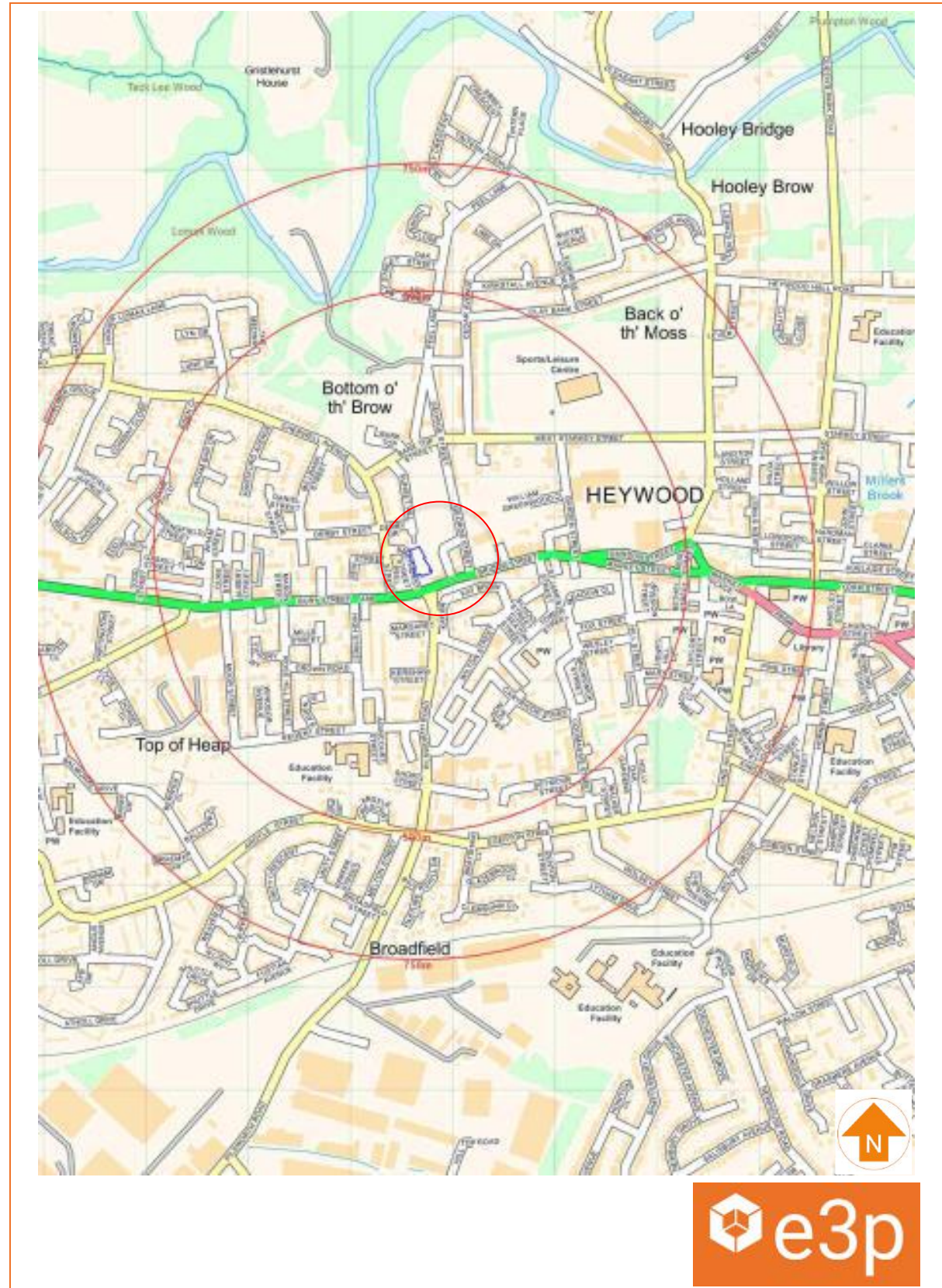
m	Metres	ppm	Parts per million
km	Kilometres	mg/m³	Milligram per metre cubed
% v/v	Percent volume in air	m bgl	Metres below ground level
mb	Millibars (atmospheric pressure)	m bcl	Metre below cover level
l/hr	Litres per hour	mAOD	Metres above ordnance datum (sea level)
µg/l	Micrograms per litre (parts per billion)	kN/m²	Kilonewtons per metre squared
ppb	Parts per billion	µm	Micrometre
mg/kg	Milligrams per kilogram (parts per million)	SSRT	Site Specific Remediation Target
PSD	Particle Size Distribution	DD	Dry Density
CL:AIRE	Contaminated Land: Applications in Real Environments	Mc	Moisture Content
ρ	Bulk Density	GPR	Ground Penetrating Radar
NDP	Nuclear Density Probe	UKWIR	UK Water Industry Research
LEL	Lower Explosive Limit	LOD	Limit of Detection
CIRIA	Construction Industry Research and Information Association		



APPENDIX III

DRAWINGS

DRAWING 13-224-001 – SITE LOCATION PLAN





Notes:				
P1	REVA	03.03.2023	OW	AR
Phase	Issue	Date	Drawn	Checked

Client:	Fleet Grace
Job Title:	George Street, Heywood

Job No:	13-224
Drawing No:	002

Date:	03.03.2023
Scale:	NTS@ A3



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Historical Features	
	Former Reservoir
	Former Brook
	Former Housing
	Former Mill
	Former Mill
	Former Mill
	Former Scrap Yard Buildings
	Former Building
	Former Weighing Machine
	Former Tank
	Electricity Substation
	Former Road
	Former Field Boundary
	Former Scrapyard

Notes:				
P1	REVD	03.03.2023	OW	AR
P1	REVC	28.02.2022	HM	AE
P1	REVB	21.02.2022	LM	ND
P1	REVA	16.11.2021	EB	AE
Phase	Issue	Date	Drawn	Checked

Client:
Fleet Grace
Job Title:
George Street, Heywood

Job No:
13-224
Drawing No:
003
Date:
03.03.2023
Scale:
NTS@ A3
Drawing Title:
Historical Features Plan



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Site Features

- Short Grassland
- Uneven Surface
- Area Cleared
- Electricity Substation
- Stockpiles
- Stockpiles

Notes:

P1	REVC	03.03.2023	OW	AR
P1	REVB	22.02.2022	LM	ND
P1	REVA	16.11.2021	EB	AE
Phase	Issue	Date	Drawn	Checked

Client:

Fleet Grace

Job Title:

George Street,
Heywood

Job No:

13-224

Drawing No:

004

Date:

03.03.2023

Scale:

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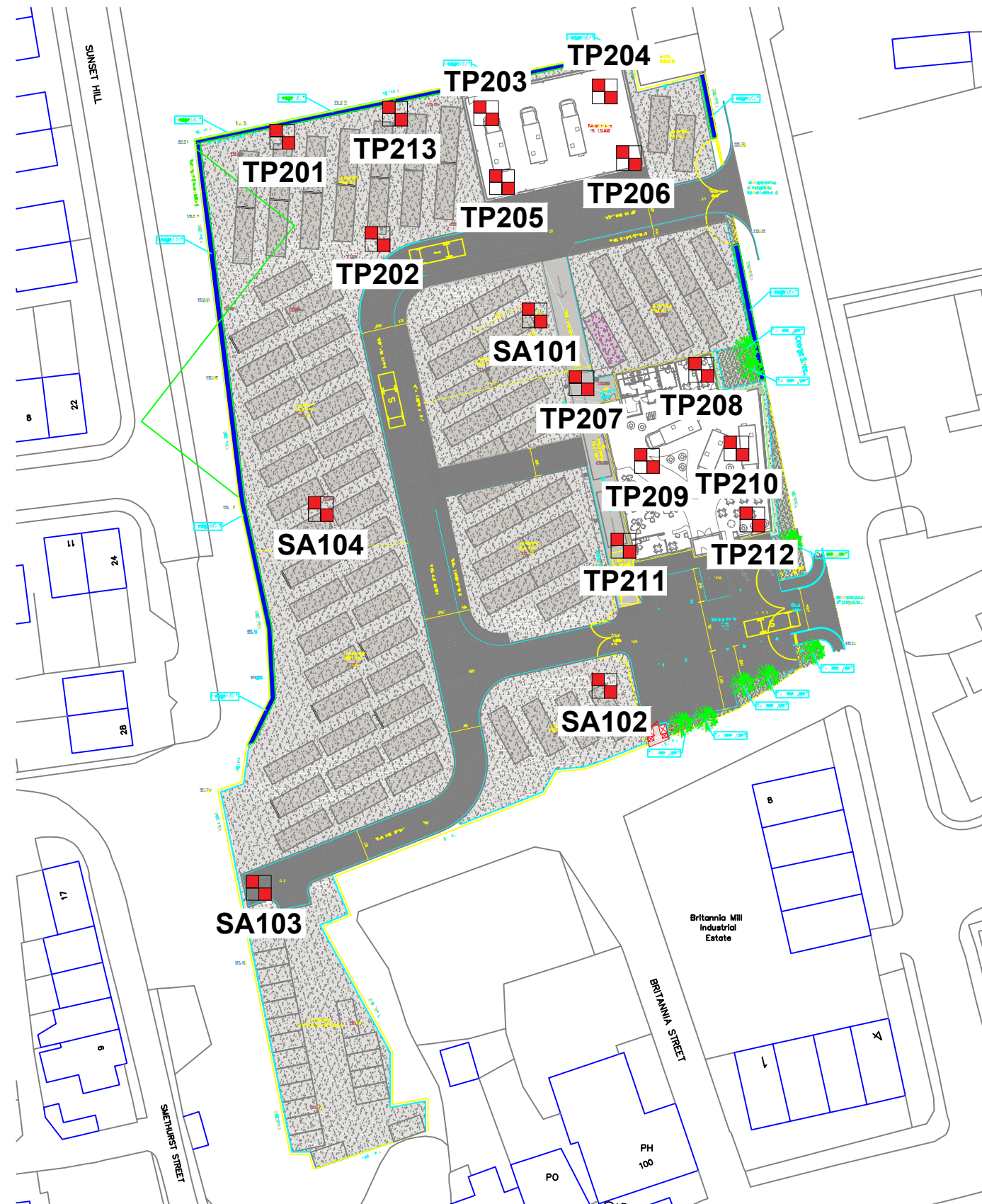


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Drawing Title:

Site Features Plan

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Location Symbols

-  Approximate Trial Pit Location (E3P - 2023)
-  Approximate Soakaway Test Location (E3P - 2023)

Notes:

P1	REVB	02.03.2023	EB	AR
P1	REVA	13.02.2023	EB	AR
Phase	Issue	Date	Drawn	Checked

Client:

Fleet Grace

Job Title:

George Street,
Heywood

Job No:

13-224

Drawing No:

005

Date:

02.03.2023

Scale:

NTS@ A3

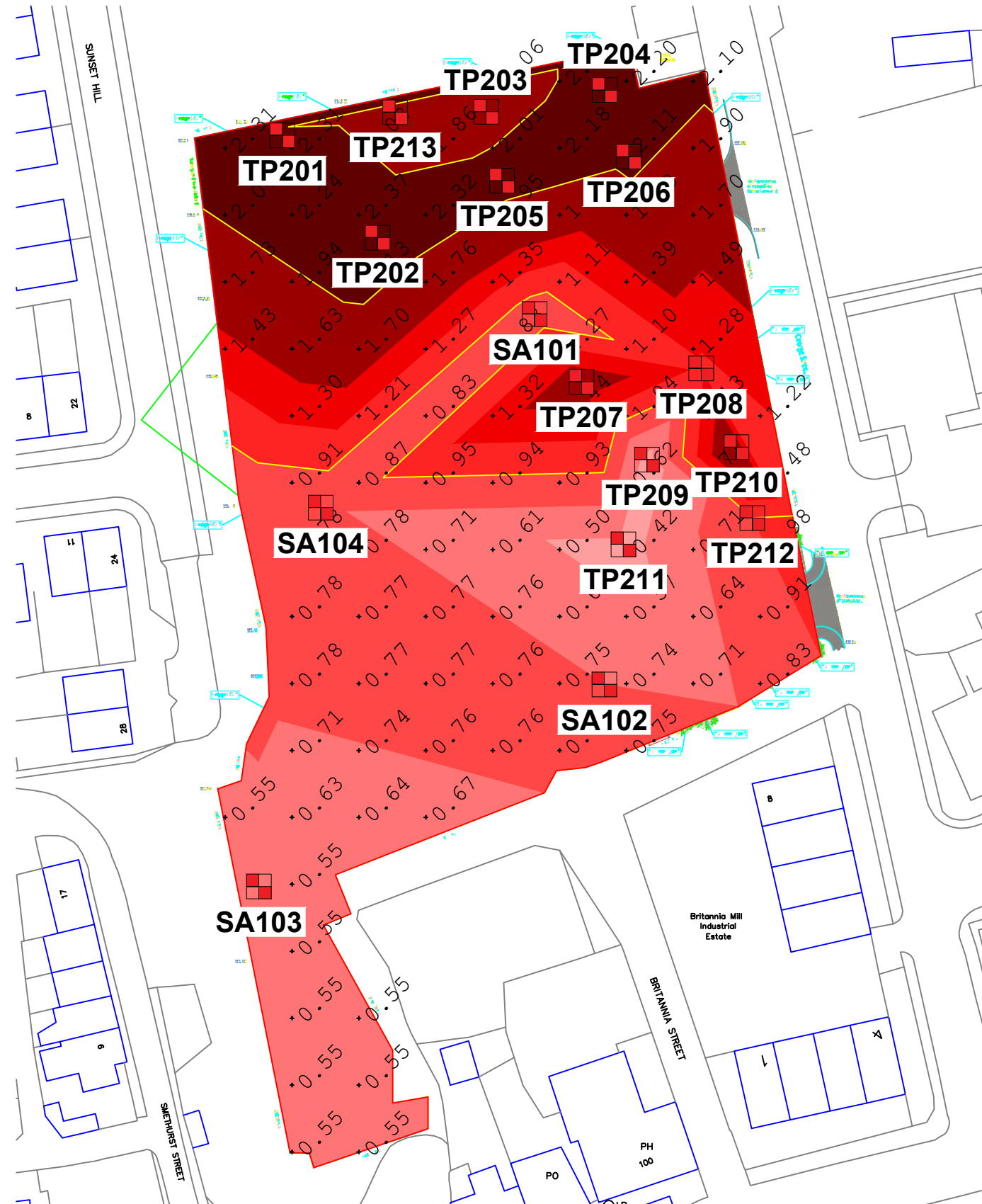
Drawing Title:

Exploratory Hole
Location Plan - 2023



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Location Symbols

TP201 Approximate Trial Pit Location (E3P - 2023)

SA101 Approximate Soakaway Test Location (E3P - 2023)

Made Ground Depth (m)

Depth of Made Ground 0.00 - 0.24m

Depth of Made Ground 0.25 - 0.49m

Depth of Made Ground 0.50 - 0.74m

Depth of Made Ground 0.75 - 0.99m

Depth of Made Ground 1.00 - 1.24m

Depth of Made Ground 1.25 - 1.49m

Depth of Made Ground 1.50 - 1.74m

Depth of Made Ground 1.75 - 1.99m

Depth of Made Ground >2.00m

Notes:				
P1	REVB	02.03.2023	EB	AR
P1	REVA	14.02.2023	EB	AR
Phase	Issue	Date	Drawn	Checked

Client:	
Fleet Grace	
Job Title:	
George Street, Heywood	

Job No:
13-224
Drawing No:
006

Date:
02.03.2023
Scale:
NTS@ A3



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Urmston, Manchester, M41 7JQ
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Drawing Title:
Depth of Made Ground Plan - 2023

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Volumetrics	
	Plot
	Permeable Parking
	Roadway
	Public Open Space
	Attenuation Tank

Summary of Material Movement						
Groups	Depths	Volumes (m³)			Areas (m²)	
		Cut (Material)	Fill (Void)	Balance	Cut	Fill
Plots	900mm	43.5490	-2.2950	41.2560	1163.0730	52.0390
Permeable Parking	-	323.1630	-1893.6830	-1570.5200	1471.5360	3610.7130
Roadway	-	55.6170	-93.2460	-37.6290	561.8130	1198.8870
Public Open Space	-	19.1690	-301.0950	-281.9260	169.4000	765.5480
Attenuation Tank	-	265.3410	0.0000	265.3410	169.9980	0.0000
Total		706.8390	-2290.3170	-1583.4780	3535.8200	5617.1870

Notes:					
Levels have been taken from 'J122_11_Ground Preparation_CAD 04-09-23' - Model has been ran against Lee Ashworth As-Built Levels '187-Lee Ashworth - Remediation Survey - Rev B 28-09-23'.					
P1	REVI	07.11.2023	CB	MD	
P1	REVG	02.11.2023	CB	MD	
P1	REVG	01.11.2023	CB	MD	
P1	REVE	01.11.2023	CB	MW	
P1	REVD	27.10.2023	CB	MD	
P1	REVC	26.10.2023	CB	MD	
P1	REVB	16.06.2023	LM	CB	
P1	REVA	05.06.2023	HM	CB	
Phase	Issue	Date	Drawn	Checked	

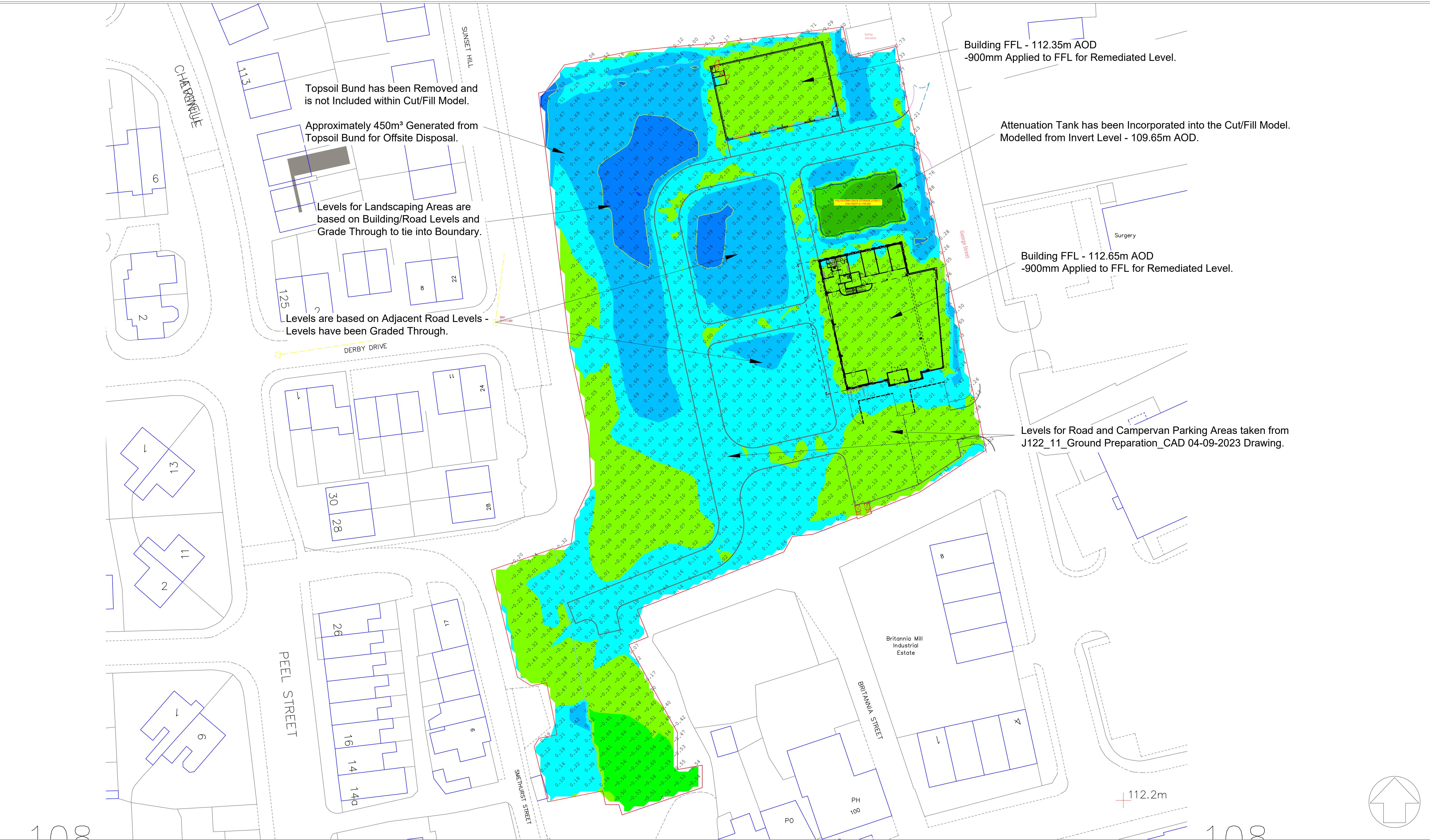
Client:	Emm Bee Motorhomes
Job Title:	George Street, Heywood

Job No:	13-224
Drawing No:	022
Drawing Title:	Indicative Volumetrics Plan

Date:	07.11.2023
Scale:	NTS

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Volumetrics

>3.00m (Fill)	0.00 - 0.49m (Cut)
2.50 - 2.99m (Fill)	0.50 - 0.99m (Cut)
2.00 - 2.49m (Fill)	1.00 - 1.49m (Cut)
1.50 - 1.99m (Fill)	1.50 - 1.99m (Cut)
1.00 - 1.49m (Fill)	2.00 - 2.49m (Cut)
0.50 - 0.99m (Fill)	2.50 - 2.99m (Cut)
0.00 - 0.49m (Fill)	>3.00m (Cut)

Summary of Material Movement						
Groups	Depths	Volumes (m³)			Areas (m²)	
		Cut (Material)	Fill (Void)	Balance	Cut	Fill
Plots	900mm	43.5490	-2.2950	41.2560	1163.0730	52.0390
Permeable Parking	-	323.1630	-1893.6830	-1570.5200	1471.5360	3610.7130
Roadway	-	55.6170	-93.2460	-37.6290	561.8130	1198.8670
Public Open Space	-	19.1690	-301.0950	-281.9260	169.4000	765.5480
Attenuation Basin	-	265.3410	0.0000	265.3410	169.9980	0.0000
Total		706.8390	-2290.3170	-1583.4780	3535.6200	5617.1670

Notes:					
Levels have been taken from 'J122_11_Ground Preparation_CAD 04-09-23' - Model has been ran against Lee Ashworth As-Built Levels '187-Lee Ashworth - Remediation Survey - Rev B 28-09-23'.					
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P1	REVI	02.11.2023	CB	MD	
P1	REVI	01.11.2023	CB	MD	
P1	REVI	01.11.2023	CB	MD	
P1	REVI	01.11.2023	CB	MD	
P1	REVI	27.10.2023	CB	MD	
P1	REVI	26.10.2023	CB	MD	
P1	REVI	16.06.2023	CB	MD	
P1	REVI	05.06.2023	HM	CB	
Phase	Issue	Date	Drawn	Checked	

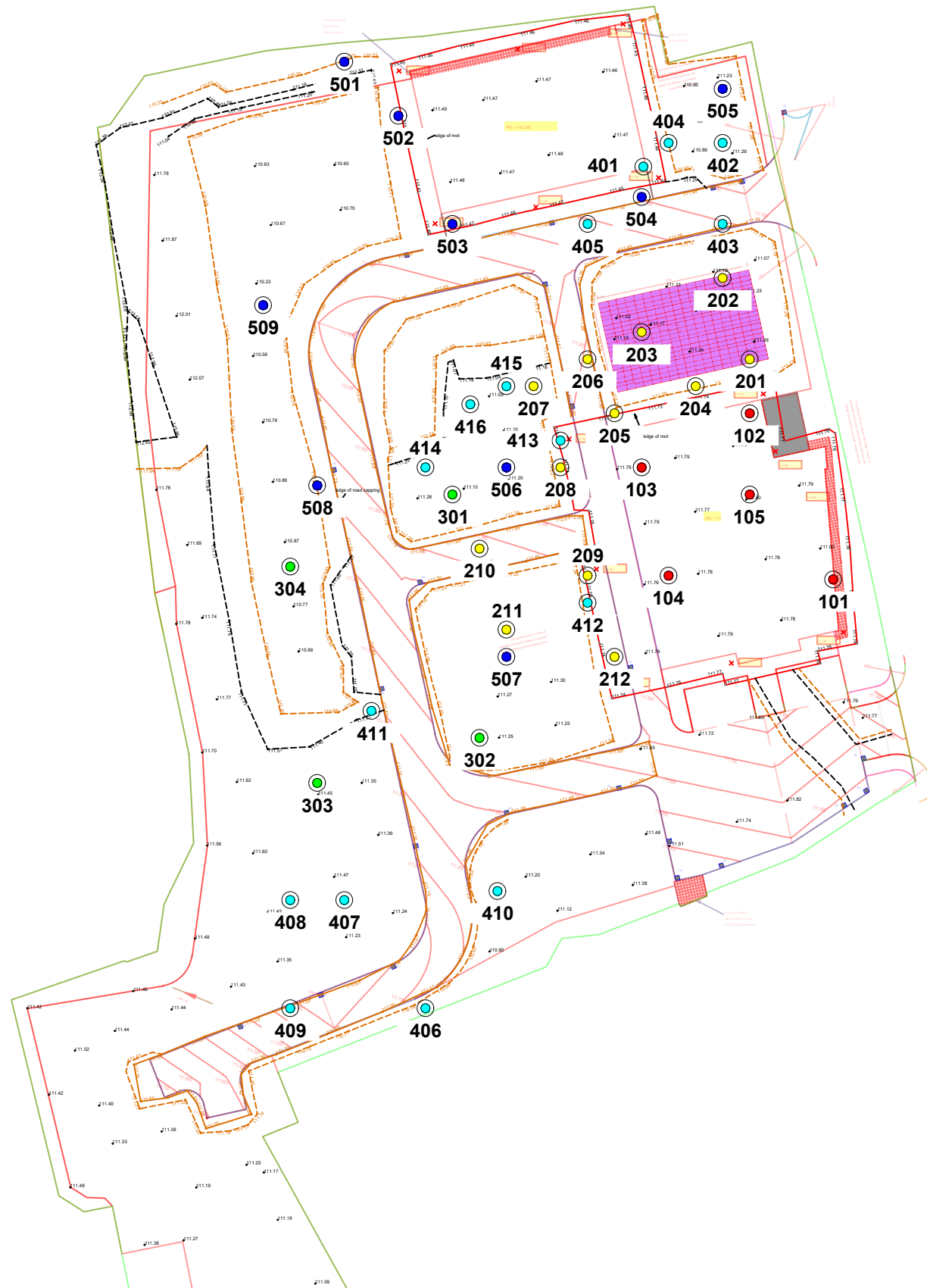
Client:	
Emm Bee Motorhomes	
George Street, Heywood	
Job Title:	

Job No:	13-224	Date:	07.11.2023
Drawing No:	023	Scale:	NTS
Drawing Title:		Isopachyte from Remediation Survey to Formation Depths Plan	



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Location Symbols

- Approximate In-situ Test Location (E3P - 25th August 2023)
- Approximate In-situ Test Location (E3P - 1st September 2023)
- Approximate In-situ Test Location (E3P - 5th September 2023)
- Approximate In-situ Test Location (E3P - 8th September 2023)
- Approximate In-situ Test Location (E3P - 13th September 2023)

Notes:

P1	REVA	14.11.2023	EB	MW
Phase	Issue	Date	Drawn	Checked

Client:

Fleet Grace

Job Title:

George Street,
Heywood

Job No:

13-224

Drawing No:

025

Date:

14.11.2023

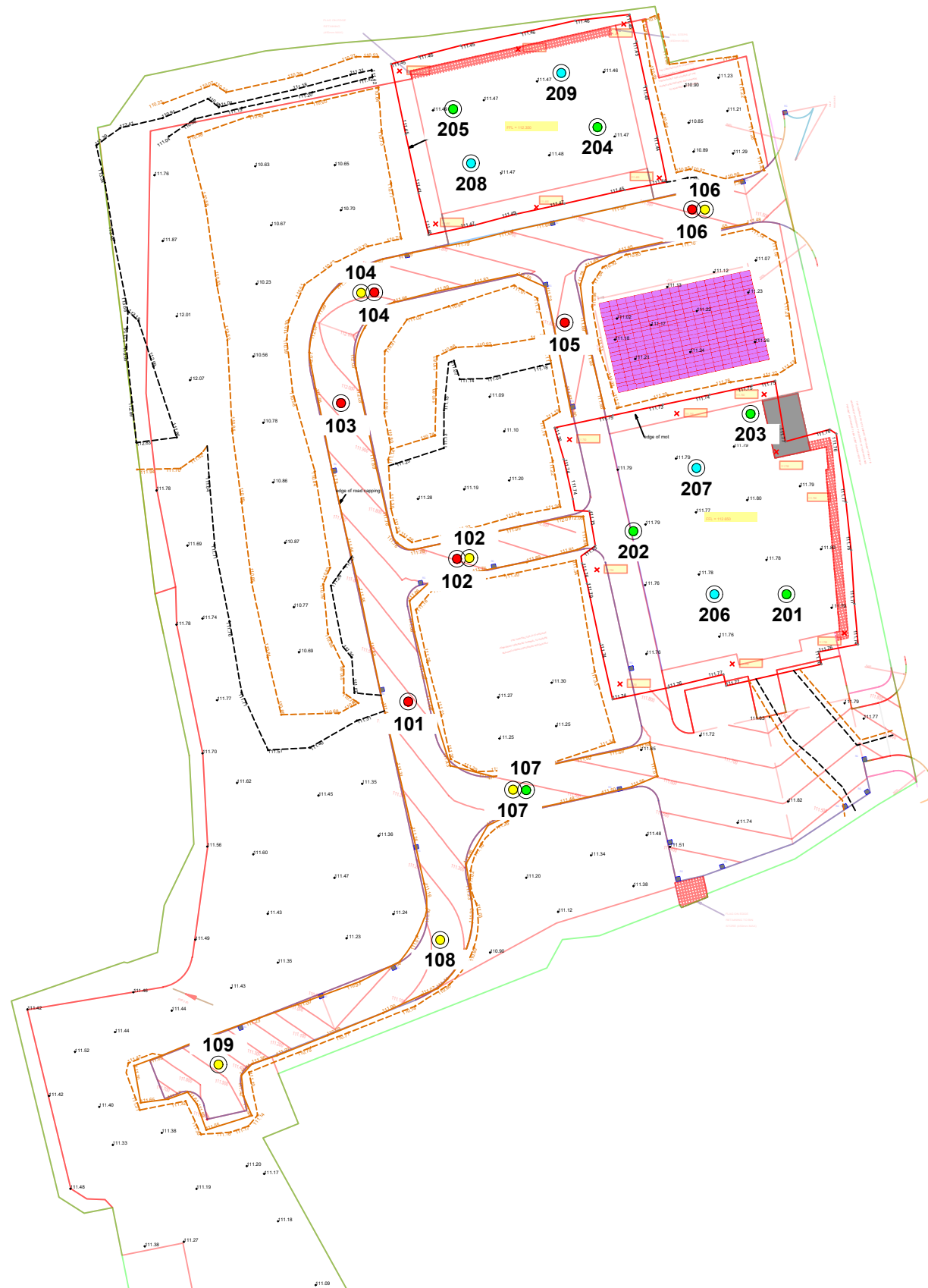
Scale:

NTS@ A3



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Location Symbols

- 101 Approximate In-situ Test Location (E3P - 15th September 2023)
- 201 Approximate In-situ Test Location (E3P - 25th September 2023)
- 301 Approximate In-situ Test Location (E3P - 27th September 2023)
- 401 Approximate In-situ Test Location (E3P - 18th October 2023)

Notes:

P1	REVA	15.11.2023	EB	MW
Phase	Issue	Date	Drawn	Checked

Client:

Fleet Grace

Job Title:

George Street,
Heywood

Job No:

13-224

Drawing No:

026

Date:

15.11.2023

Scale:

NTS@ A3

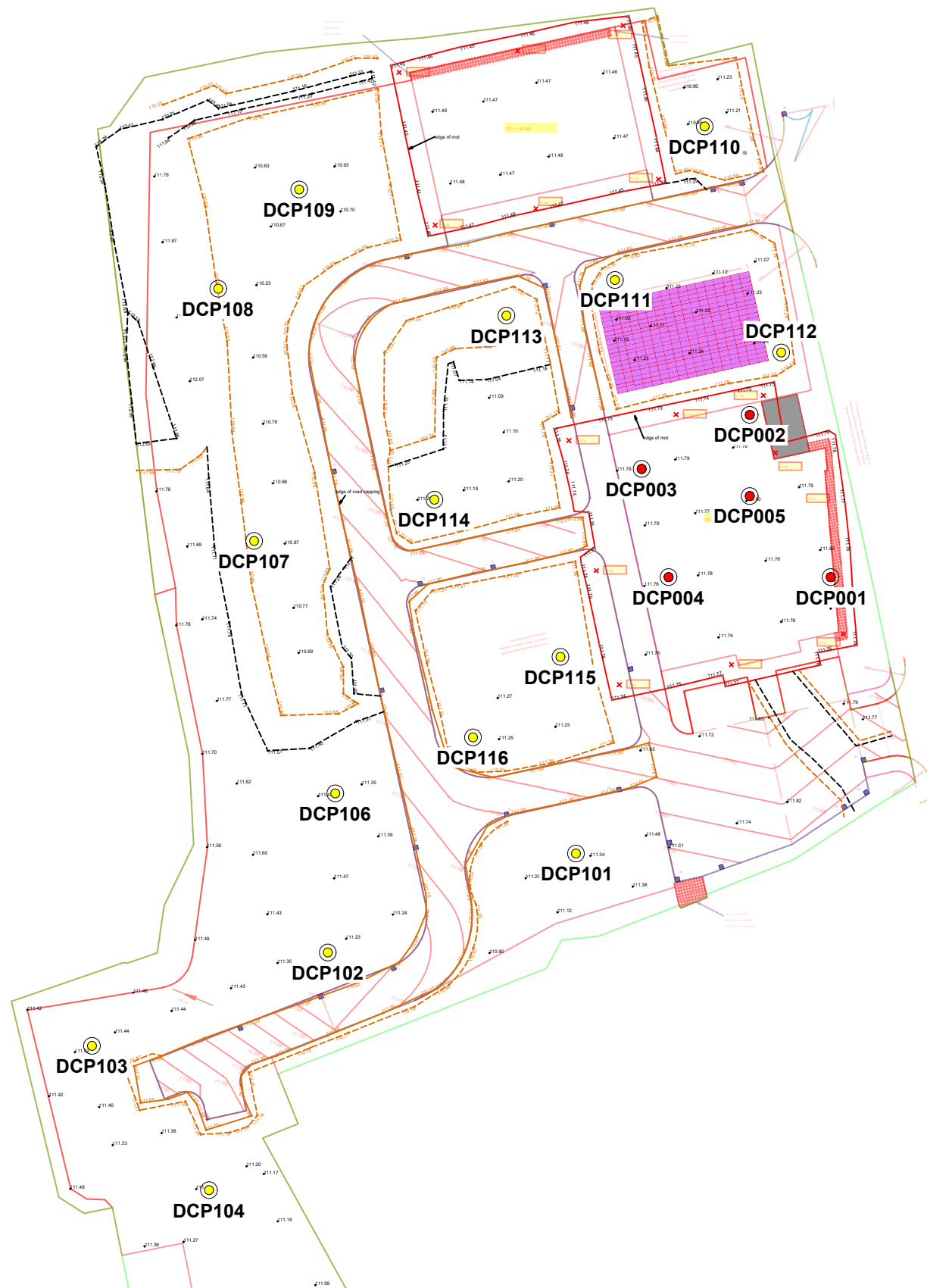


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Drawing Title:

In-situ Test Location Plan - CBR
via Plate Load Test



Location Symbols

- Approximate In-situ Test Location (E3P - 25th August 2023)
- Approximate In-situ Test Location (E3P - 18th October 2023)

Notes:

P1	REVA	15.11.2023	EB	MW
Phase	Issue	Date	Drawn	Checked

Client:

Fleet Grace

Job Title:

George Street,
Heywood

Job No:

13-224

Drawing No:

027

Date:

15.11.2023

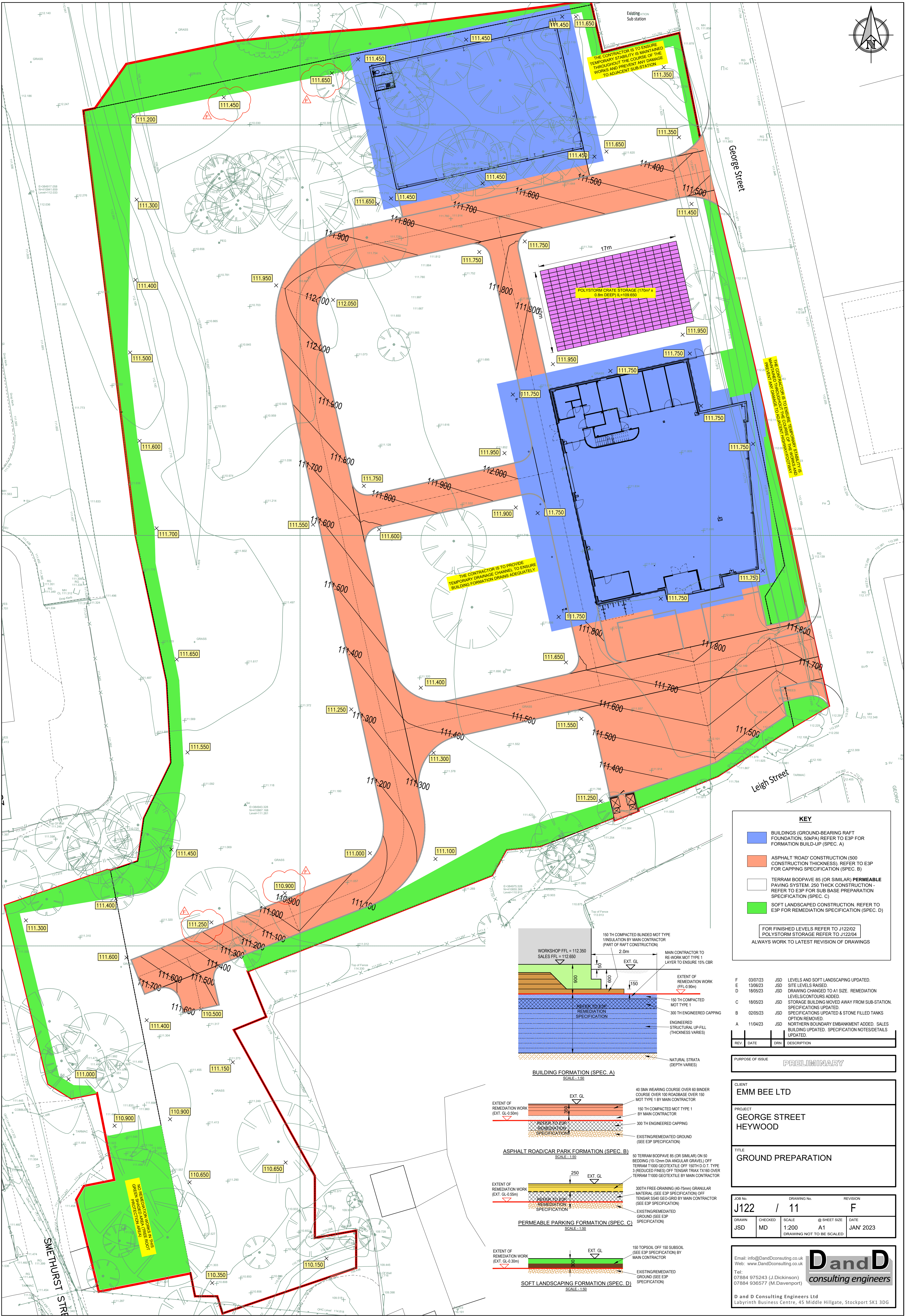
Scale:

NTS@ A3



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KEY

- BUILDINGS (GROUND-BEARING RAFT FOUNDATION, 50KPA) REFER TO E3P FOR FORMATION BUILD-UP (SPEC. A)
- ASPHALT 'ROAD' CONSTRUCTION (500 CONSTRUCTION THICKNESS), REFER TO E3P FOR CAPPING SPECIFICATION (SPEC. B)
- TERRAM BODPAVE 85 (OR SIMILAR) PERMEABLE PAVING SYSTEM, 250 THICK CONSTRUCTION - REFER TO E3P FOR SUB BASE PREPARATION SPECIFICATION (SPEC. C)
- SOFT LANDSCAPED CONSTRUCTION, REFER TO E3P FOR REMEDIATION SPECIFICATION (SPEC. D)

FOR FINISHED LEVELS REFER TO J122/02
POLYSTORM STORAGE REFER TO J122/04
ALWAYS WORK TO LATEST REVISION OF DRAWINGS

F	03/07/23	JSD	LEVELS AND SOFT LANDSCAPING UPDATED.
E	13/05/23	JSD	SITE LEVELS RAISED.
D	18/05/23	JSD	DRAWING CHANGED TO A1 SIZE. REMEDIATION LEVELS/CONTOURS ADDED.
C	18/05/23	JSD	STORAGE BUILDING MOVED AWAY FROM SUB-STATION. SPECIFICATIONS UPDATED.
B	02/05/23	JSD	SPECIFICATIONS UPDATED & STONE FILLED TANKS OPTION REMOVED.
A	11/04/23	JSD	NORTHERN BOUNDARY EMBANKMENT ADDED. SALES BUILDING UPDATED. SPECIFICATION NOTES/DETAILS UPDATED.

REV	DATE	DRN	DESCRIPTION
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PURPOSE OF ISSUE	PRELIMINARY
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CLIENT	EMM BEE LTD
PROJECT	GEORGE STREET HEYWOOD
TITLE	GROUND PREPARATION

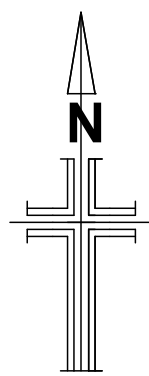
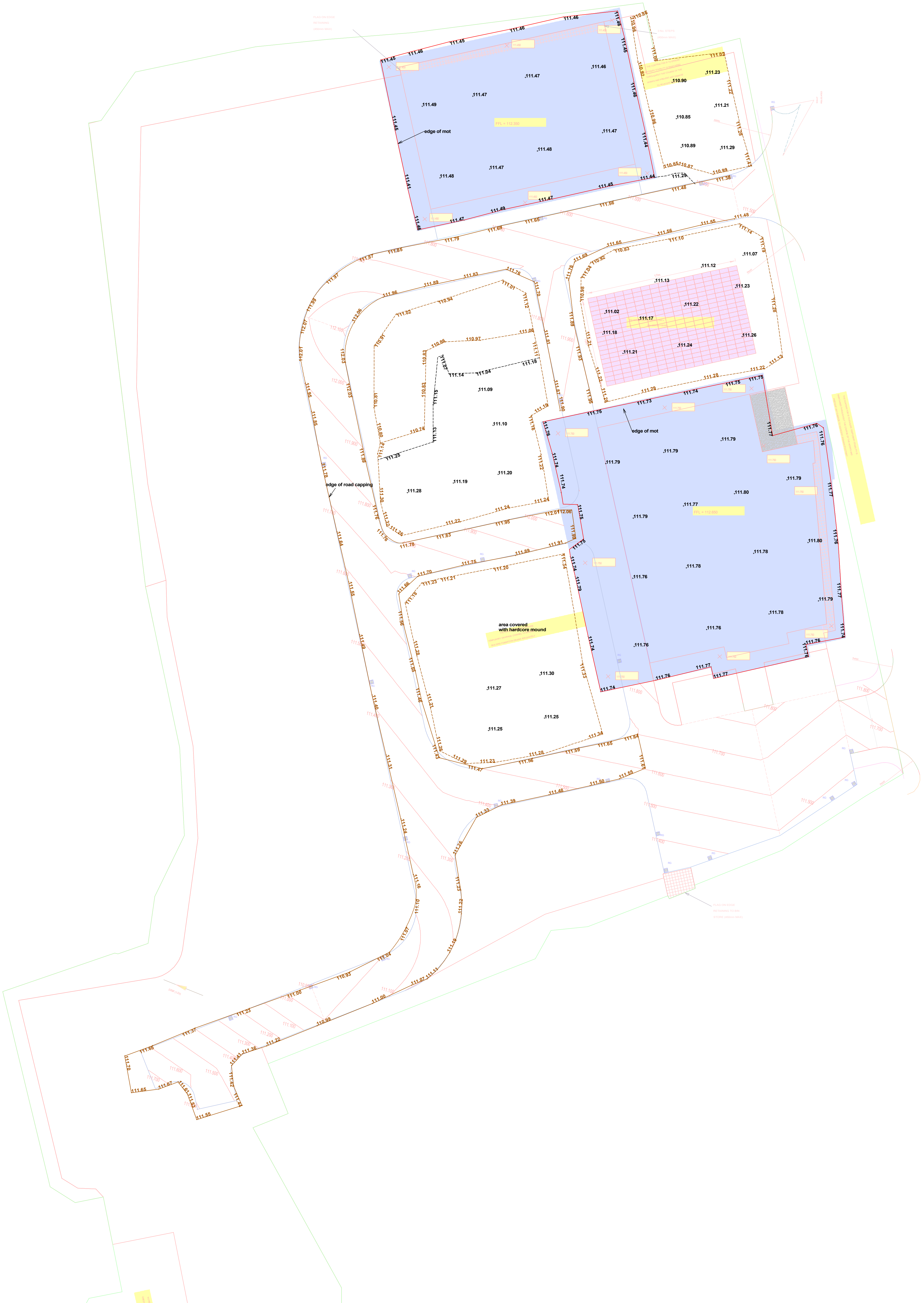
JOB No.	DRAWING No.	REVISION
J122	/ 11	F
DRAWN	CHECKED	SCALE
JSD	MD	1:200
		A1
		DRAWING NOT TO BE SCALED
		DATE
		JAN' 2023

Email: info@DandDconsulting.co.uk
Web: www.DandDconsulting.co.uk

Tel: 07884 975243 (J. Dickinson)
07884 936577 (M. Davenport)

DandD
consulting engineers

D and D Consulting Engineers Ltd
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APPENDIX IV CHEMICAL TESTING RESULTS

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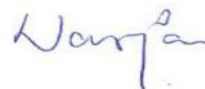
e: mwilson@e3p.co.uk

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Analytical Report Number : 23-50900

Project / Site name:	George Street Haywood	Samples received on:	14/08/2023
Your job number:	13 224	Samples instructed on/ Analysis started on:	14/08/2023
Your order number:	005785	Analysis completed by:	21/08/2023
Report Issue Number:	1	Report issued on:	21/08/2023
Samples Analysed:	7 soil samples		



Signed:

Dominika Warjan
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 23-50900
Project / Site name: George Street Haywood
Your Order No: 005785

Lab Sample Number				2780900	2780901	2780902	2780903	2780904
Sample Reference				SP101	SP102	SP103	SP104	SP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/08/2023	11/08/2023	11/08/2023	11/08/2023	11/08/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	16	16	18	15
Total mass of sample received	kg	0.001	NONE	1.5	1.4	1.3	1.5	1.5

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite	Chrysotile	Chrysotile & Amosite	Chrysotile	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.002	< 0.001	0.009	< 0.001	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	0.002	< 0.001	0.009	< 0.001	< 0.001
Asbestos Analyst ID	N/A	N/A	N/A	WEM	WEM	WEM	WEM	WEM

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8	7.9	7.8	7.9	8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	5.3	1
Total Sulphate as SO4	mg/kg	50	MCERTS	1800	7400	4700	1000	750
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.44	1.8	1.5	0.29	0.099
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	870	3600	3000	580	200
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	437	1780	1490	289	98.6
Sulphide	mg/kg	1	MCERTS	6.5	15	8.7	11	3.9
Total Sulphur	mg/kg	50	MCERTS	910	3300	1800	1600	310
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.2	2.7	2.8	2.6	2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.92	1.3	1.2	1.6	1.3
Acenaphthylene	mg/kg	0.05	MCERTS	0.27	0.13	0.08	0.06	0.17
Acenaphthene	mg/kg	0.05	MCERTS	0.32	0.26	0.67	0.14	0.31
Fluorene	mg/kg	0.05	MCERTS	0.26	0.28	0.42	0.12	0.42
Phenanthrene	mg/kg	0.05	MCERTS	3	3.4	4.4	1	4.2
Anthracene	mg/kg	0.05	MCERTS	0.91	0.84	1.1	0.48	1
Fluoranthene	mg/kg	0.05	MCERTS	9.5	6.2	6.7	2.1	5.4
Pyrene	mg/kg	0.05	MCERTS	9.6	5.3	6	1.9	4.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	4.3	2.7	2.7	0.87	2
Chrysene	mg/kg	0.05	MCERTS	3.9	2.3	2.6	0.96	2
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	5.5	2.9	3	1.3	2.2
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	2.2	1.3	1.3	0.43	0.96
Benzo(a)pyrene	mg/kg	0.05	MCERTS	4.7	2.3	2.4	0.82	1.8
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.7	1.3	1.3	0.51	0.89
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.55	0.38	0.35	0.13	0.23
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.1	1.5	1.5	0.64	1.1

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	51.7	32.4	35.7	12.9	28.7
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Analytical Report Number: 23-50900
Project / Site name: George Street Haywood
Your Order No: 005785

Lab Sample Number	2780900	2780901	2780902	2780903	2780904
Sample Reference	SP101	SP102	SP103	SP104	SP105
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	11/08/2023	11/08/2023	11/08/2023	11/08/2023	11/08/2023
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	19	18	17	19	15
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.2	0.9	1	3.9	2.1
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	64	57	60	53	35
Copper (aqua regia extractable)	mg/kg	1	MCERTS	110	110	110	130	84
Lead (aqua regia extractable)	mg/kg	1	MCERTS	350	430	320	360	210
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.6	0.8	0.9	0.4	0.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	68	68	60	170	120
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	260	290	380	330	210

Petroleum Hydrocarbons

TPH (C5 - C6) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C6 - C8) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) EH CU 1D TOTAL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) EH CU 1D TOTAL	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TPH (C16 - C21) EH CU 1D TOTAL	mg/kg	10	MCERTS	24	21	20	< 10	< 10
TPH (C21 - C35) EH CU 1D TOTAL	mg/kg	10	MCERTS	94	120	130	72	44
TPH (C35 - C40) EH CU 1D TOTAL	mg/kg	10	NONE	27	35	31	59	30
TPH Total C5 - C40 EH CU+HS 1D TOTAL	mg/kg	10	NONE	150	180	190	140	82

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

Analytical Report Number: 23-50900
 Project / Site name: George Street Haywood
 Your Order No: 005785

Lab Sample Number				2780905	2780906
Sample Reference				SP106	SP107
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				11/08/2023	11/08/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	25
Total mass of sample received	kg	0.001	NONE	1.4	1.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.003	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	0.003	< 0.001
Asbestos Analyst ID	N/A	N/A	N/A	WEM	WEM

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8	7.8
Total Cyanide	mg/kg	1	MCERTS	5.9	1.1
Total Sulphate as SO ₄	mg/kg	50	MCERTS	1000	1400
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.1	0.29
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	210	580
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	105	290
Sulphide	mg/kg	1	MCERTS	2.5	11
Total Sulphur	mg/kg	50	MCERTS	450	1200
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2	4.9

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	1.1	2.6
Acenaphthylene	mg/kg	0.05	MCERTS	0.08	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.47	0.24
Fluorene	mg/kg	0.05	MCERTS	0.3	0.21
Phenanthrene	mg/kg	0.05	MCERTS	3.1	2.9
Anthracene	mg/kg	0.05	MCERTS	0.73	1.4
Fluoranthene	mg/kg	0.05	MCERTS	4.5	5.1
Pyrene	mg/kg	0.05	MCERTS	4.1	4.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.8	1.7
Chrysene	mg/kg	0.05	MCERTS	1.9	2.3
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2.1	2.9
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.93	0.93
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.7	1.8
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.96	1.2
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.28	0.3
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.1	1.3

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	25.1	29.3
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Analytical Report Number: 23-50900
Project / Site name: George Street Haywood
Your Order No: 005785

Lab Sample Number				2780905	2780906
Sample Reference				SP106	SP107
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				11/08/2023	11/08/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17	27
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	15	2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	34	90
Copper (aqua regia extractable)	mg/kg	1	MCERTS	110	140
Lead (aqua regia extractable)	mg/kg	1	MCERTS	310	340
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.7	1.6
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	230	110
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	480	500

Petroleum Hydrocarbons

TPH (C5 - C6) HS_ID_TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1
TPH (C6 - C8) HS_ID_TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1
TPH (C8 - C10) HS_ID_TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1
TPH (C10 - C12) EH_CU_ID_TOTAL	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH (C12 - C16) EH_CU_ID_TOTAL	mg/kg	4	MCERTS	< 4.0	< 4.0
TPH (C16 - C21) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	14	11
TPH (C21 - C35) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	69	450
TPH (C35 - C40) EH_CU_ID_TOTAL	mg/kg	10	NONE	29	640
TPH Total C5 - C40 EH_CU+HS_ID_TOTAL	mg/kg	10	NONE	110	1100

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

Analytical Report Number: 23-50900
Project / Site name: George Street Haywood
Your Order No: 005785

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

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

Quantitative Analysis

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

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

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

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2780900	SP101		129	Loose Fibres	Amosite	0.002	0.002
2780901	SP102		149	Loose Fibres	Chrysotile	< 0.001	< 0.001
2780902	SP103		156	Loose Fibres & Loose Fibrous Debris	Chrysotile & Amosite	0.009	0.009
2780903	SP104		127	Bitumen	Chrysotile	< 0.001	< 0.001
2780904	SP105		134	Loose Fibres	Chrysotile	< 0.001	< 0.001
2780905	SP106		123	Loose Fibrous Debris	Chrysotile	0.003	0.003
2780906	SP107		113	Loose Fibrous Debris	Chrysotile	< 0.001	< 0.001

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

Analytical Report Number : 23-50900

Project / Site name: George Street Haywood

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2780900	SP101	None Supplied	None Supplied	Brown clay and loam with gravel and vegetation.
2780901	SP102	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
2780902	SP103	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
2780903	SP104	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
2780904	SP105	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
2780905	SP106	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
2780906	SP107	None Supplied	None Supplied	Brown clay and sand with gravel and vegetation.

Analytical Report Number : 23-50900
Project / Site name: George Street Haywood

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 °C)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

Analytical Report Number : 23-50900
Project / Site name: George Street Haywood

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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Analytical Report Number : 23-50901

Project / Site name:	George Street Haywood	Samples received on:	14/08/2023
Your job number:	13 224	Samples instructed on/ Analysis started on:	14/08/2023
Your order number:	005785	Analysis completed by:	18/08/2023
Report Issue Number:	1	Report issued on:	18/08/2023
Samples Analysed:	10:1 WAC sample		



Signed:

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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



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Environmental Science

i2 Analytical

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Waste Acceptance Criteria Analytical Results							
Report No:	23-50901						
				Client: E3P			
Location	George Street Haywood						
Lab Reference (Sample Number)	2780907 / 2780908			Landfill Waste Acceptance Criteria			
Sampling Date	11/08/2023			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID	SP107						
Depth (m)							
Solid Waste Analysis							
TOC (%)**	4.9			3%	5%	6%	
Loss on Ignition (%) **	9.2			--	--	10%	
BTEX (µg/kg)** ##	< 5.0			600	--	--	
Sum of PCBs (mg/kg)**	< 0.007			1	--	--	
Mineral Oil (mg/kg) EH, ID, CU, AL	370			500	--	--	
Total PAH (WAC-17) (mg/kg)	32.1			100	--	--	
pH (units)**	7.7			--	>6	--	
Acid Neutralisation Capacity (mmol / kg)	3.1			--	To be evaluated	To be evaluated	
Eluate Analysis	10:1		10:1	Limit values for compliance leaching test			
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l		mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)			
Arsenic *	0.0037		0.0368	0.5	2	25	
Barium *	0.101		1.01	20	100	300	
Cadmium *	< 0.0001		< 0.0008	0.04	1	5	
Chromium *	0.0011		0.011	0.5	10	70	
Copper *	0.020		0.20	2	50	100	
Mercury *	< 0.0005		< 0.0050	0.01	0.2	2	
Molybdenum *	0.0078		0.0781	0.5	10	30	
Nickel *	0.0027		0.027	0.4	10	40	
Lead *	0.0033		0.033	0.5	10	50	
Antimony *	< 0.0017		< 0.017	0.06	0.7	5	
Selenium *	< 0.0040		< 0.040	0.1	0.5	7	
Zinc *	0.015		0.15	4	50	200	
Chloride *	0.65		6.5	800	15000	25000	
Fluoride*	0.44		4.4	10	150	500	
Sulphate *	57		570	1000	20000	50000	
TDS*	160		1600	4000	60000	100000	
Phenol Index (Monohydric Phenols) *	< 0.010		< 0.10	1	-	-	
DOC	20.1		201	500	800	1000	
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.5						
Dry Matter (%)	75						
Moisture (%)	25						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation							
** = UKAS accredited (liquid eluate analysis only)							
** = MCERTS accredited							

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Analytical Report Number : 23-50901

Project / Site name: George Street Haywood

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2780907	SP107	None Supplied	None Supplied	Brown clay and sand with gravel and vegetation.

Analytical Report Number : 23-50901
Project / Site name: George Street Haywood

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270.	L064-PL	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025

Analytical Report Number : 23-50901
Project / Site name: George Street Haywood

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	ISO 17025
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

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Analytical Report Number : 23-51541

Project / Site name:	George Street Haywood	Samples received on:	17/08/2023
Your job number:	13 224	Samples instructed on/ Analysis started on:	17/08/2023
Your order number:	005785	Analysis completed by:	24/08/2023
Report Issue Number:	1	Report issued on:	24/08/2023
Samples Analysed:	1 leachate sample - 2 soil samples		

Signed:

Izabela Wójcik
Izabela Wójcik
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

Analytical Report Number: 23-51541
Project / Site name: George Street Haywood
Your Order No: 005785

Lab Sample Number				2784111	2784112
Sample Reference				SP108	SP109
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				16/08/2023	16/08/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	18
Total mass of sample received	kg	0.001	NONE	1.2	1.2

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.01	0.001
Asbestos Quantification Total	%	0.001	ISO 17025	0.01	0.001
Asbestos Analyst ID	N/A	N/A	N/A	JBH	JBH

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.8	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	3500	4400
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	1	1.5
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	2100	3000
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	1030	1510
Sulphide	mg/kg	1	MCERTS	6.6	5.5
Total Sulphur	mg/kg	50	MCERTS	1900	3000
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.3	2.2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.16	0.13
Acenaphthylene	mg/kg	0.05	MCERTS	0.11	0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.34	0.08
Fluorene	mg/kg	0.05	MCERTS	0.22	0.07
Phenanthrene	mg/kg	0.05	MCERTS	2.5	0.76
Anthracene	mg/kg	0.05	MCERTS	0.52	0.19
Fluoranthene	mg/kg	0.05	MCERTS	3.3	1.4
Pyrene	mg/kg	0.05	MCERTS	3	1.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.5	0.84
Chrysene	mg/kg	0.05	MCERTS	1.6	1
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2.1	2.2
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.71	0.53
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.4	0.77
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.78	0.61
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.21	0.13
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.8	0.62

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	19.2	10.8
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Analytical Report Number: 23-51541
Project / Site name: George Street Haywood
Your Order No: 005785

Lab Sample Number	2784111	2784112
Sample Reference	SP108	SP109
Sample Number	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied
Date Sampled	16/08/2023	16/08/2023
Time Taken	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection
		Accreditation Status

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	35	53
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	32	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	160	160
Lead (aqua regia extractable)	mg/kg	1	MCERTS	490	630
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.3	1
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	110	110
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	280	300

Petroleum Hydrocarbons

TPH (C5 - C6) HS ID TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1
TPH (C6 - C8) HS ID TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1
TPH (C8 - C10) HS ID TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1
TPH (C10 - C12) EH CU ID TOTAL	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH (C12 - C16) EH CU ID TOTAL	mg/kg	4	MCERTS	< 4.0	< 4.0
TPH (C16 - C21) EH CU ID TOTAL	mg/kg	10	MCERTS	< 10	< 10
TPH (C21 - C35) EH CU ID TOTAL	mg/kg	10	MCERTS	83	54
TPH (C35 - C40) EH CU ID TOTAL	mg/kg	10	NONE	14	11
TPH Total C5 - C40 EH CU+HS ID TOTAL	mg/kg	10	NONE	110	77

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



Analytical Report Number: 23-51541
Project / Site name: George Street Haywood
Your Order No: 005785

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

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

Quantitative Analysis

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

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

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

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2784111	SP108		157	Loose Fibrous Debris	Chrysotile	0.010	0.010
2784112	SP109		156	Loose Fibrous Debris	Chrysotile	0.001	0.001

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

Analytical Report Number: 23-51541
Project / Site name: George Street Haywood

Your Order No: 005785

Lab Sample Number	2784113			
Sample Reference	SP109			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	16/08/2023			
Time Taken	None Supplied			
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	7.8
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0

Total Phenols

Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2
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Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	4.1
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	5.5
Chromium (dissolved)	µg/l	0.4	ISO 17025	15
Copper (dissolved)	µg/l	0.7	ISO 17025	16
Lead (dissolved)	µg/l	1	ISO 17025	2.8
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	7.5
Selenium (dissolved)	µg/l	4	ISO 17025	6.5
Zinc (dissolved)	µg/l	0.4	ISO 17025	16

Monoaromatics & Oxygenates

Benzene	µg/l	3	ISO 17025	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10

Petroleum Hydrocarbons

TPH1 (C10 - C40) BH_ID_TOTAL_MS	µg/l	10	NONE	< 10
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Analytical Report Number: 23-51541
Project / Site name: George Street Haywood

Your Order No: 005785

Lab Sample Number				2784113
Sample Reference				SP109
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				16/08/2023
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status	
TPH-CWG - Aliphatic >C5 - C6 _{HS,1D,AL}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C6 - C8 _{HS,1D,AL}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C8 - C10 _{HS,1D,AL}	µg/l	1	ISO 17025	< 1.0##
TPH-CWG - Aliphatic >C10 - C12 _{EH,1D,AL,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16 _{EH,1D,AL,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21 _{EH,1D,AL,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35 _{EH,1D,AL,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35) _{HS+EH,1D,AL,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C5 - C7 _{HS,1D,AR}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8 _{HS,1D,AR}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10 _{HS,1D,AR}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C10 - C12 _{EH,1D,AR,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16 _{EH,1D,AR,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21 _{EH,1D,AR,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35 _{EH,1D,AR,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35) _{HS+EH,1D,AR,MS}	µg/l	10	NONE	< 10

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

Analytical Report Number : 23-51541

Project / Site name: George Street Haywood

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2784111	SP108	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
2784112	SP109	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.

Analytical Report Number : 23-51541
Project / Site name: George Street Haywood

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate - LOW LEVEL 1 ug/l	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE

Analytical Report Number : 23-51541
Project / Site name: George Street Haywood

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Total cyanide in leachate - 1µg/l	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector

Analytical Report Number : 23-51541
Project / Site name: George Street Haywood

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
GC	Gas Chromatography				
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))				
CU	Clean-up - e.g. by Florisil®, silica gel				
1D	GC - Single coil/column gas chromatography				
2D	GC-GC - Double coil/column gas chromatography				
Total	Aliphatics & Aromatics				
AL	Aliphatics				
AR	Aromatics				
#1	EH_2D_Total but with humics mathematically subtracted				
#2	EH_2D_Total but with fatty acids mathematically subtracted				
-	Operator - understore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

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Analytical Report Number : 23-52956

Project / Site name:	George Street, Heywood	Samples received on:	24/08/2023
Your job number:	13-224	Samples instructed on/ Analysis started on:	24/08/2023
Your order number:	005785	Analysis completed by:	31/08/2023
Report Issue Number:	1	Report issued on:	01/09/2023
Samples Analysed:	1 leachate sample - 3 soil samples		

Signed:

Izabela Wójcik
Izabela Wójcik
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 23-52956
Project / Site name: George Street, Heywood
Your Order No: 005785

Lab Sample Number	2791848	2791849	2791850
Sample Reference	SP110	SP111	SP112
Sample Number	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied
Date Sampled	23/08/2023	23/08/2023	23/08/2023
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status
Stone Content	%	0.1	NONE
Moisture Content	%	0.01	NONE
Total mass of sample received	kg	0.001	NONE

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile & Amosite	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	0.018	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	0.018	-
Asbestos Analyst ID	N/A	N/A	N/A	JBH	JBH	JBH

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4	8.1	8.3
Total Cyanide	mg/kg	1	MCERTS	1	< 1.0	11
Total Sulphate as SO4	mg/kg	50	MCERTS	2000	5400	1900
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.25	0.22	0.27
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	500	450	540
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	250	224	271
Sulphide	mg/kg	1	MCERTS	6.7	6.3	7.7
Total Sulphur	mg/kg	50	MCERTS	1200	2300	1300
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.4	1.9	2.4

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.22	0.27	0.36
Acenaphthylene	mg/kg	0.05	MCERTS	0.06	0.06	0.07
Acenaphthene	mg/kg	0.05	MCERTS	0.18	0.26	0.3
Fluorene	mg/kg	0.05	MCERTS	0.14	0.22	0.23
Phenanthrene	mg/kg	0.05	MCERTS	1.5	2	1.9
Anthracene	mg/kg	0.05	MCERTS	0.3	0.41	0.47
Fluoranthene	mg/kg	0.05	MCERTS	2.6	3.1	3.5
Pyrene	mg/kg	0.05	MCERTS	2.5	2.9	3.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.3	1.5	1.7
Chrysene	mg/kg	0.05	MCERTS	1.4	1.6	1.7
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.9	2	2.3
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.75	0.62	0.75
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.3	1.3	1.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.75	0.74	0.88
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.21	0.22	0.26
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.83	0.77	0.98

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	15.8	17.9	20.2
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Analytical Report Number: 23-52956
Project / Site name: George Street, Heywood
Your Order No: 005785

Lab Sample Number	2791848	2791849	2791850
Sample Reference	SP110	SP111	SP112
Sample Number	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied
Date Sampled	23/08/2023	23/08/2023	23/08/2023
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	27	23	31
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.2	< 0.2	1.5
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	36	26	51
Copper (aqua regia extractable)	mg/kg	1	MCERTS	230	160	320
Lead (aqua regia extractable)	mg/kg	1	MCERTS	1100	700	680
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5	< 0.3	0.7
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	190	130	660
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	380	250	490

Petroleum Hydrocarbons

TPH (C5 - C6) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
TPH (C6 - C8) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) EH CU 1D TOTAL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) EH CU 1D TOTAL	mg/kg	4	MCERTS	6.4	< 4.0	< 4.0
TPH (C16 - C21) EH CU 1D TOTAL	mg/kg	10	MCERTS	19	14	28
TPH (C21 - C35) EH CU 1D TOTAL	mg/kg	10	MCERTS	87	65	140
TPH (C35 - C40) EH CU 1D TOTAL	mg/kg	10	NONE	< 10	13	37
TPH Total C5 - C40 EH CU+HS 1D TOTAL	mg/kg	10	NONE	120	93	200

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



Analytical Report Number: 23-52956
Project / Site name: George Street, Heywood
Your Order No: 005785

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

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

Quantitative Analysis

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

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

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

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2791849	SP111		156	Loose Fibrous Debris	Chrysotile & Amosite	0.018	0.018

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

Analytical Report Number: 23-52956
Project / Site name: George Street, Heywood

Your Order No: 005785

Lab Sample Number	2791851			
Sample Reference	SP111			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	23/08/2023			
Time Taken	None Supplied			
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	8
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	3.4

Total Phenols

Total Phenols (monohydric)	µg/l	1	ISO 17025	2.2
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2
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Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	6.9
Copper (dissolved)	µg/l	0.7	ISO 17025	13
Lead (dissolved)	µg/l	1	ISO 17025	6.8
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	7.4
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	13

Monoaromatics & Oxygenates

Benzene	µg/l	3	ISO 17025	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0
p & m-xylene#	µg/l	3	NONE	< 3.0
o-xylene#	µg/l	3	NONE	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10

Petroleum Hydrocarbons

TPH1 (C10 - C40) BH_ID_TOTAL_MS	µg/l	10	NONE	< 10
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Analytical Report Number: 23-52956
Project / Site name: George Street, Heywood

Your Order No: 005785

Lab Sample Number				2791851
Sample Reference				SP111
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				23/08/2023
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status	
TPH-CWG - Aliphatic ##>C5 - C6 _{HS_ID_AL}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C6 - C8 _{HS_ID_AL}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic ## >C8 - C10 _{HS_ID_AL}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C10 - C12 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35) _{HS+EH_ID_AL_MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C5 - C7 _{HS_ID_AR}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8 _{HS_ID_AR}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10 _{HS_ID_AR}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C10 - C12 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35) _{HS+EH_ID_AR_MS}	µg/l	10	NONE	< 10

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

Analytical Report Number : 23-52956

Project / Site name: George Street, Heywood

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2791848	SP110	None Supplied	None Supplied	Brown loam and sand with gravel.
2791849	SP111	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
2791850	SP112	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.

Analytical Report Number : 23-52956

Project / Site name: George Street, Heywood

Water matrix abbreviations:

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

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BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate - LOW LEVEL 1 ug/l	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE

Analytical Report Number : 23-52956
Project / Site name: George Street, Heywood

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Total cyanide in leachate - 1µg/l	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector

Analytical Report Number : 23-52956
Project / Site name: George Street, Heywood

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
GC	Gas Chromatography				
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))				
CU	Clean-up - e.g. by Florisil®, silica gel				
1D	GC - Single coil/column gas chromatography				
2D	GC-GC - Double coil/column gas chromatography				
Total	Aliphatics & Aromatics				
AL	Aliphatics				
AR	Aromatics				
#1	EH_2D_Total but with humics mathematically subtracted				
#2	EH_2D_Total but with fatty acids mathematically subtracted				
-	Operator - understore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

- Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

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Analytical Report Number : 23-55030

Project / Site name:	George Street Haywood	Samples received on:	06/09/2023
Your job number:	13 224	Samples instructed on/ Analysis started on:	06/09/2023
Your order number:	005785	Analysis completed by:	12/09/2023
Report Issue Number:	1	Report issued on:	12/09/2023
Samples Analysed:	3 soil samples		

Signed:



Joanna Szwagrak
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 23-55030
Project / Site name: George Street Haywood
Your Order No: 005785

Lab Sample Number				2803035	2803036	2803037
Sample Reference				SP113	SP114	SP115
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				05/09/2023	05/09/2023	05/09/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	80	< 0.1	42
Moisture Content	%	0.01	NONE	7.6	7.6	8.6
Total mass of sample received	kg	0.001	NONE	< 0.001	< 0.001	< 0.001

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SCA	SCA	SCA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	11.6	11.5	11.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	2700	3100	2300
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.13	0.17	0.14
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	260	350	290
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	131	174	143
Sulphide	mg/kg	1	MCERTS	12	6.2	13
Total Sulphur	mg/kg	50	MCERTS	980	1300	1100
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.4	1	0.8

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.24	0.21	0.19
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.06	0.06
Acenaphthene	mg/kg	0.05	MCERTS	0.1	0.26	0.29
Fluorene	mg/kg	0.05	MCERTS	0.1	0.26	0.21
Phenanthrene	mg/kg	0.05	MCERTS	0.72	1.7	1.7
Anthracene	mg/kg	0.05	MCERTS	0.16	0.43	0.49
Fluoranthene	mg/kg	0.05	MCERTS	0.94	2.3	2.1
Pyrene	mg/kg	0.05	MCERTS	0.85	2.1	1.9
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.41	1	0.89
Chrysene	mg/kg	0.05	MCERTS	0.42	1.1	0.91
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.5	1.1	1
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.22	0.67	0.48
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.39	0.92	0.8
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.26	0.61	0.5
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.07	0.18	0.15
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.29	0.72	0.61

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	5.67	13.6	12.3
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Analytical Report Number: 23-55030
Project / Site name: George Street Haywood
Your Order No: 005785

Lab Sample Number	2803035	2803036	2803037
Sample Reference	SP113	SP114	SP115
Sample Number	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied
Date Sampled	05/09/2023	05/09/2023	05/09/2023
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	11	8.1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.7	0.6
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	11	22	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	28	71	400
Lead (aqua regia extractable)	mg/kg	1	MCERTS	58	150	110
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.4	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	83	110
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	58	140	190

Petroleum Hydrocarbons

TPH (C5 - C6) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
TPH (C6 - C8) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) EH CU 1D TOTAL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) EH CU 1D TOTAL	mg/kg	4	MCERTS	4.1	< 4.0	7.7
TPH (C16 - C21) EH CU 1D TOTAL	mg/kg	10	MCERTS	36	40	36
TPH (C21 - C35) EH CU 1D TOTAL	mg/kg	10	MCERTS	44	300	160
TPH (C35 - C40) EH CU 1D TOTAL	mg/kg	10	NONE	< 10	59	44
TPH Total C5 - C40 EH CU+HS 1D TOTAL	mg/kg	10	NONE	88	400	250

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

Analytical Report Number : 23-55030

Project / Site name: George Street Haywood

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2803035	SP113	None Supplied	None Supplied	Brown sand with brick and stones.
2803036	SP114	None Supplied	None Supplied	Brown sand with gravel and vegetation.
2803037	SP115	None Supplied	None Supplied	Brown sand with brick and stones.

Analytical Report Number : 23-55030
Project / Site name: George Street Haywood

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 °C)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphénylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

Analytical Report Number : 23-55030
Project / Site name: George Street Haywood

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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Analytical Report Number : 23-56917

Project / Site name:	George Street, Heywood	Samples received on:	15/09/2023
Your job number:	13-224	Samples instructed on/ Analysis started on:	15/09/2023
Your order number:	006161	Analysis completed by:	21/09/2023
Report Issue Number:	1	Report issued on:	21/09/2023
Samples Analysed:	1 soil sample		


Signed:

Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 23-56917
 Project / Site name: George Street, Heywood
 Your Order No: 006161

Lab Sample Number				2813605
Sample Reference				SP118
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				14/09/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	8.2
Total mass of sample received	kg	0.001	NONE	0.8

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SCA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	12.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	3000
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.024
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	47
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	23.5
Sulphide	mg/kg	1	MCERTS	14
Total Sulphur	mg/kg	50	MCERTS	1400
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.9

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.62
Acenaphthylene	mg/kg	0.05	MCERTS	0.27
Acenaphthene	mg/kg	0.05	MCERTS	2.2
Fluorene	mg/kg	0.05	MCERTS	1.7
Phenanthrene	mg/kg	0.05	MCERTS	12
Anthracene	mg/kg	0.05	MCERTS	4.7
Fluoranthene	mg/kg	0.05	MCERTS	25
Pyrene	mg/kg	0.05	MCERTS	22
Benzo(a)anthracene	mg/kg	0.05	MCERTS	11
Chrysene	mg/kg	0.05	MCERTS	11
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	12
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	5.7
Benzo(a)pyrene	mg/kg	0.05	MCERTS	11
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	5.7
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.3
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	6.8

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	133
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	14
Copper (aqua regia extractable)	mg/kg	1	MCERTS	40
Lead (aqua regia extractable)	mg/kg	1	MCERTS	30
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3

Analytical Report Number: 23-56917
 Project / Site name: George Street, Heywood
 Your Order No: 006161

Lab Sample Number				2813605
Sample Reference				SP118
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				14/09/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.2
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	68

Petroleum Hydrocarbons

TPH (C5 - C6) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1
TPH (C6 - C8) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1
TPH (C8 - C10) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1
TPH (C10 - C12) EH CU 1D TOTAL	mg/kg	2	MCERTS	< 2.0
TPH (C12 - C16) EH CU 1D TOTAL	mg/kg	4	MCERTS	24
TPH (C16 - C21) EH CU 1D TOTAL	mg/kg	10	MCERTS	130
TPH (C21 - C35) EH CU 1D TOTAL	mg/kg	10	MCERTS	550
TPH (C35 - C40) EH CU 1D TOTAL	mg/kg	10	NONE	250
TPH Total C5 - C40 EH CU+HS 1D TOTAL	mg/kg	10	NONE	950

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

Analytical Report Number : 23-56917

Project / Site name: George Street, Heywood

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2813605	SP118	None Supplied	None Supplied	Brown gravelly sand.

Analytical Report Number : 23-56917
Project / Site name: George Street, Heywood

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 °C)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards. Refer to CoA for analyte specific accreditation.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphénylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

Analytical Report Number : 23-56917
Project / Site name: George Street, Heywood

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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WD18 8YS

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e: reception@i2analytical.com

Analytical Report Number : 23-57674

Project / Site name:	George Street, Heywood	Samples received on:	20/09/2023
Your job number:	13-224	Samples instructed on/ Analysis started on:	20/09/2023
Your order number:	006216	Analysis completed by:	26/09/2023
Report Issue Number:	1	Report issued on:	26/09/2023
Samples Analysed:	1 soil sample		



Signed:

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

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

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

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

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

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

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

Analytical Report Number: 23-57674
 Project / Site name: George Street, Heywood
 Your Order No: 006216

Lab Sample Number				2818522
Sample Reference				SP119
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				19/09/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	66
Moisture Content	%	0.01	NONE	4.6
Total mass of sample received	kg	0.001	NONE	0.8

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	EWS

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.9
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	87
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.0084
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	17
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	8.4
Sulphide	mg/kg	1	MCERTS	1.6
Total Sulphur	mg/kg	50	MCERTS	110
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	< 0.1

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80
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Analytical Report Number: 23-57674
 Project / Site name: George Street, Heywood
 Your Order No: 006216

Lab Sample Number				2818522
Sample Reference				SP119
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				19/09/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	2.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	10
Lead (aqua regia extractable)	mg/kg	1	MCERTS	9.8
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	60

Petroleum Hydrocarbons

TPH (C5 - C6) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1
TPH (C6 - C8) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1
TPH (C8 - C10) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1
TPH (C10 - C12) EH, CU, 1D, TOTAL	mg/kg	2	MCERTS	< 2.0
TPH (C12 - C16) EH, CU, 1D, TOTAL	mg/kg	4	MCERTS	< 4.0
TPH (C16 - C21) EH, CU, 1D, TOTAL	mg/kg	10	MCERTS	< 10
TPH (C21 - C35) EH, CU, 1D, TOTAL	mg/kg	10	MCERTS	< 10
TPH (C35 - C40) EH, CU, 1D, TOTAL	mg/kg	10	NONE	< 10
TPH Total C5 - C40 EH, CU+HS 1D, TOTAL	mg/kg	10	NONE	< 10

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

Analytical Report Number : 23-57674

Project / Site name: George Street, Heywood

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2818522	SP119	None Supplied	None Supplied	Grey clay and sand with gravel and stones.

Analytical Report Number : 23-57674
Project / Site name: George Street, Heywood

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 °C)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards. Refer to CoA for analyte specific accreditation.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphénylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

Analytical Report Number : 23-57674
Project / Site name: George Street, Heywood

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

APPENDIX V

PHOTOGRAPHS

PLATE 1 AREA 1 JAPANESE KNOTWEED – PRE-TREATMENT (FACING WEST)



PLATE 2 AREA 2 JAPANESE KNOTWEED – PRE TREATMENT (FACING EAST)



PLATE 3 AREA 2 JAPANESE KNOTWEED – POST TREATMENT (FACING WEST)



PLATE 4 VEGETATION STRIP ACROSS SITE (FACING SOUTHWEST)



PLATE 5 VEGETATION STRIP ACROSS SITE (FACING NORTHWEST)



PLATE 6 TOPSOIL STOCKPILE IN SOUTHWEST CORNER (FACING SOUTHWEST)



PLATE 7 EXCAVATION OF FRAGMENTISER WASTE IN NORTHWEST PART OF SITE (FACING NORTH)



PLATE 8 EXCAVATION OF FRAGMENTISER WASTE IN NORTHWEST PART OF SITE (FACING SOUTH)



Land off George Street, Heywood

Remediation and Enabling Works Validation

November 2023

PLATE 9 EXCAVATION OF FRAGMENTISER WASTE IN NORTHWEST PART OF SITE (FACING NORTHEAST)



PLATE 10 EXCAVATION OF FRAGMENTISER WASTE IN NORTHWEST PART OF SITE (FACING SOUTH)



Land off George Street, Heywood

Remediation and Enabling Works Validation

November 2023

PLATE 11 STOCKPILE OF FRAGMENTISER WASTE IN SOUTHEAST CORNER OF SITE PENDING OFF-SITE DISPOSAL (FACING NORTH)



PLATE 12 STOCKPILE OF FRAGMENTISER WASTE IN SOUTHEAST CORNER OF SITE PENDING OFF-SITE DISPOSAL (FACING SOUTH)



PLATE 13 PROCESSING AND STOCKPIILING OF MADE GROUND (FACING SOUTH)



PLATE 14 TURNOVER / CUT/FILL WORKS IN NORTH PART OF SITE (FACING NORTHEAST)



PLATE 15 PROCESSED MADE GROUND STOCKPILE (FACING NORTH)



PLATE 16 PROCESSING MADE GROUND AND 6F2 STOCKPILE PENDING CRUSHING (FACING EAST)



PLATE 17 TURNOVER / CUT/FILL WORKS IN CENTRAL PART OF SITE (FACING WEST)



PLATE 18 6F2 STOCKPILE PENDING CRUSHING (FACING NORTH)



PLATE 19 6F2 STOCKPILE FOLLOWING CRUSHING (FACING EAST)



PLATE 20 EXCAVATION OF SOFT SPOT IN NORTH PART OF SITE (FACING NORTH)



PLATE 21 SOFT SPOT EXCAVATION IN NORTH PART OF SITE, PENDING BACKFILL (FACING EAST)



PLATE 22 SOFT SPOT LOCATION FOLLOWING BACKFILL AND COMPACTION (FACING NORTHWEST)



PLATE 23 WORKSHOP RAFT WITH 6F2 BUILD UP (FACING NORTH)



PLATE 24 WORKSHOP RAFT WITH MOT TYPE 1 BUILD UP (FACING NORTHEAST)



PLATE 25 SHOWROOM RAFT WITH 6F2 BUILD UP (FACING EAST)



PLATE 26 SHOWROOM RAFT WITH MOT TYPE 1 BUILD UP (FACING EAST)



PLATE 27 6F2 ROAD BUILD UP IN NORTH PART OF SITE (FACING WEST)



PLATE 28 6F2 ROAD BUILD UP IN CENTRE OF SITE (FACING SOUTH)



PLATE 29 6F2 ROAD BUILD UP IN SOUTH PART OF SITE (FACING SOUTHWEST)



PLATE 30 6F2 ROAD BUILD UP IN SOUTHWEST PART OF SITE (FACING SOUTH)



PLATE 31 IMPORTED 6F2 STOCKPILE (FACING NORTHWEST)



PLATE 32 IMPORTED MOT TYPE 1 STOCKPILE (FACING NORTH)



APPENDIX V

GEOTECHNICAL TESTING

RESULTS

TEST REPORT

Client e3p

Address Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contract 13-224 -
George Street,
Heywood

Job Number MRN 4588/94
Date of Issue 23 August 2023
Page 1 of 13

Approved Signatories

S J Hutchings, O P Davies

Notes

- 1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.
- 2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.
- 3 Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.
- 4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted.
- 5 The results included within the report are representative of the samples submitted for analysis.
- 6 This certificate should not be reproduced, except in full, without the express permission of the laboratory.



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Also at: London: 020 8523 1999

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TEST CERTIFICATE
PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

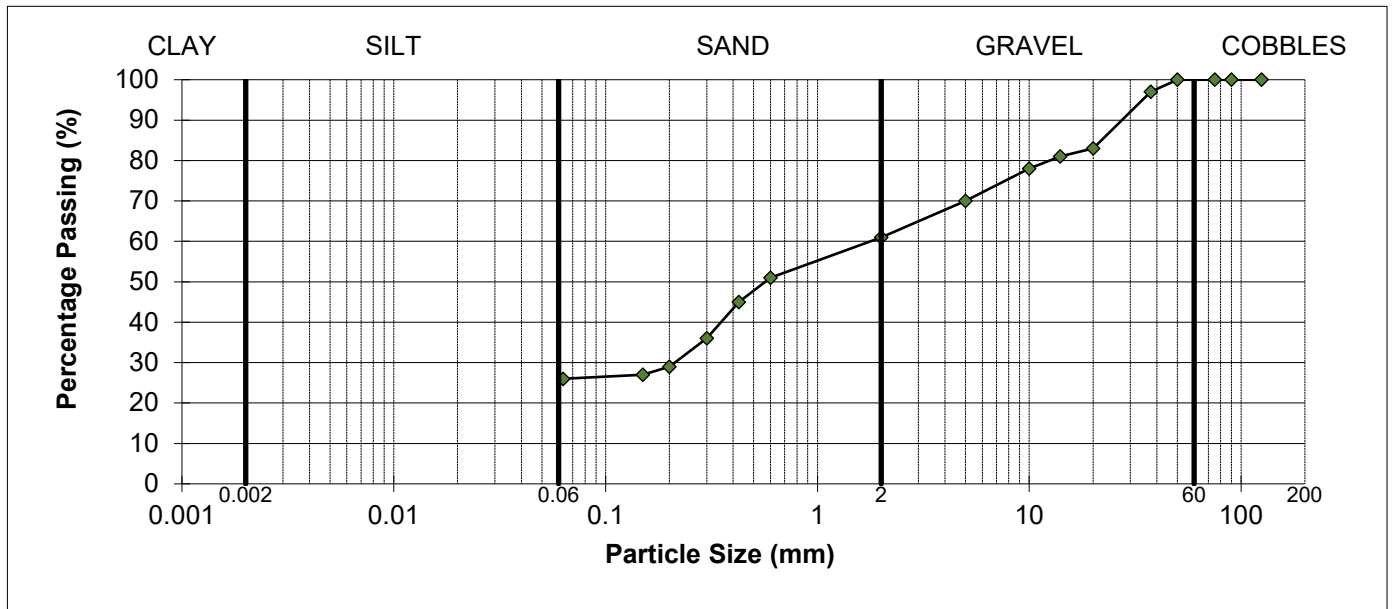
Determination of Water Content in accordance with BS EN ISO 17892-1:2014 (Oven Dry)

CLIENT	e3p
SITE	13-224 - George Street, Heywood
JOB NUMBER	MRN 4588/94

SAMPLE LABEL	SP102	DATE SAMPLED	11-Aug-23
LAB SAMPLE No	129550	DATE RECEIVED	14-Aug-23
DATE TESTED	16-Aug-23	SAMPLED BY	Client

MATERIAL	Sandy gravelly CLAY
ADVISED SOURCE	As client & site above

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	5	70	
90	100		2	61	15-80
75	100		0.6	51	
50	100		0.425	45	
37.5	97		0.3	36	
20	83		0.2	29	
14	81		0.15	27	
10	78		0.063	26	15-80



REMARKS

As received water content = 14.2%

Sample complies with the advised grading specification for a 2C material (SHW 2016)

SIGNED



NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

23-Aug-23

TEST CERTIFICATE
PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

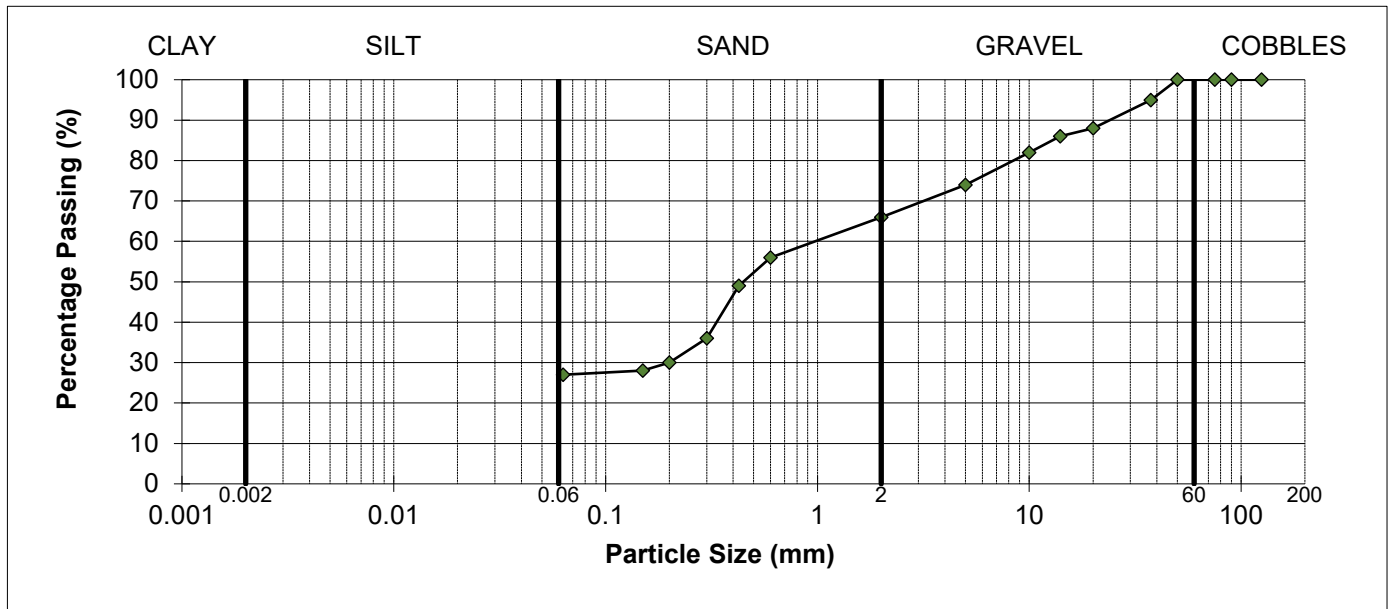
Determination of Water Content in accordance with BS EN ISO 17892-1:2014 (Oven Dry)

CLIENT	e3p
SITE	13-224 - George Street, Heywood
JOB NUMBER	MRN 4588/94

SAMPLE LABEL	SP103	DATE SAMPLED	11-Aug-23
LAB SAMPLE No	129551	DATE RECEIVED	14-Aug-23
DATE TESTED	16-Aug-23	SAMPLED BY	Client

MATERIAL	Sandy gravelly CLAY
ADVISED SOURCE	As client & site above

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	5	74	
90	100		2	66	15-80
75	100		0.6	56	
50	100		0.425	49	
37.5	95		0.3	36	
20	88		0.2	30	
14	86		0.15	28	
10	82		0.063	27	15-80



REMARKS

As received water content = 11.7%

Sample complies with the advised grading specification for a 2C material (SHW 2016)

SIGNED



NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

23-Aug-23

TEST CERTIFICATE
PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

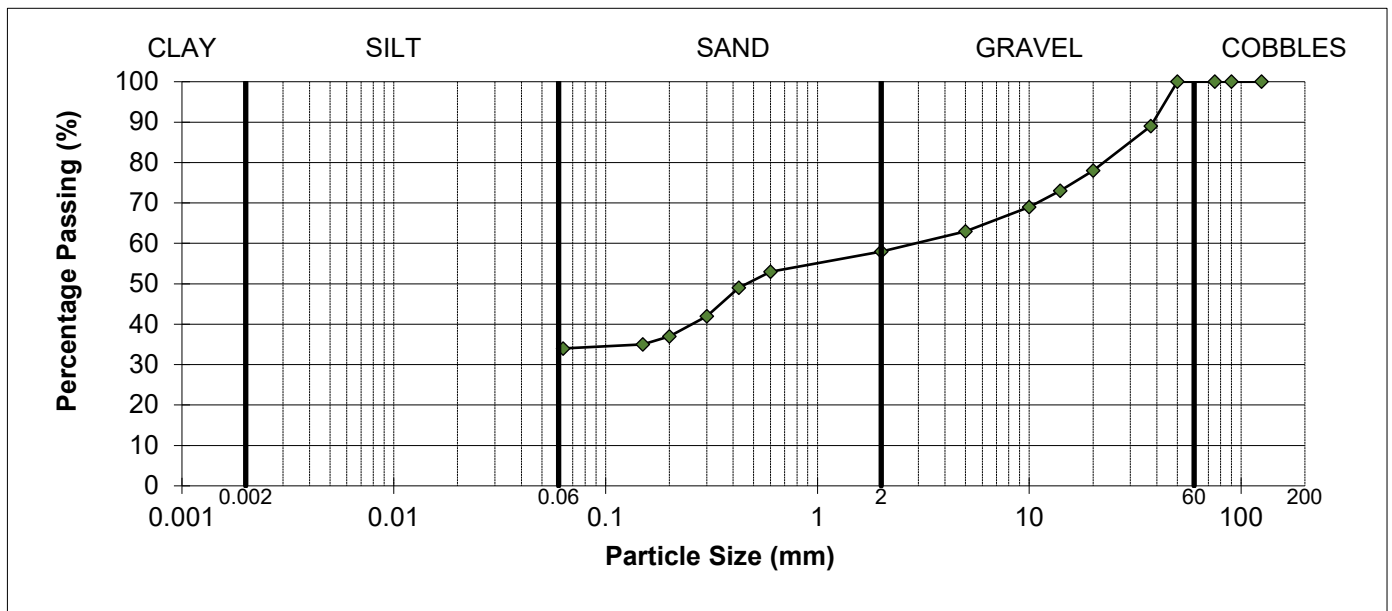
Determination of Water Content in accordance with BS EN ISO 17892-1:2014 (Oven Dry)

CLIENT	e3p
SITE	13-224 - George Street, Heywood
JOB NUMBER	MRN 4588/94

SAMPLE LABEL	SP105	DATE SAMPLED	11-Aug-23
LAB SAMPLE No	129553	DATE RECEIVED	14-Aug-23
DATE TESTED	16-Aug-23	SAMPLED BY	Client

MATERIAL	Sandy gravelly CLAY
ADVISED SOURCE	As client & site above

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	5	63	
90	100		2	58	15-80
75	100		0.6	53	
50	100		0.425	49	
37.5	89		0.3	42	
20	78		0.2	37	
14	73		0.15	35	
10	69		0.063	34	15-80



REMARKS

As received water content = 16.8%

Sample complies with the advised grading specification for a 2C material (SHW 2016)

SIGNED



NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

23-Aug-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 4.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

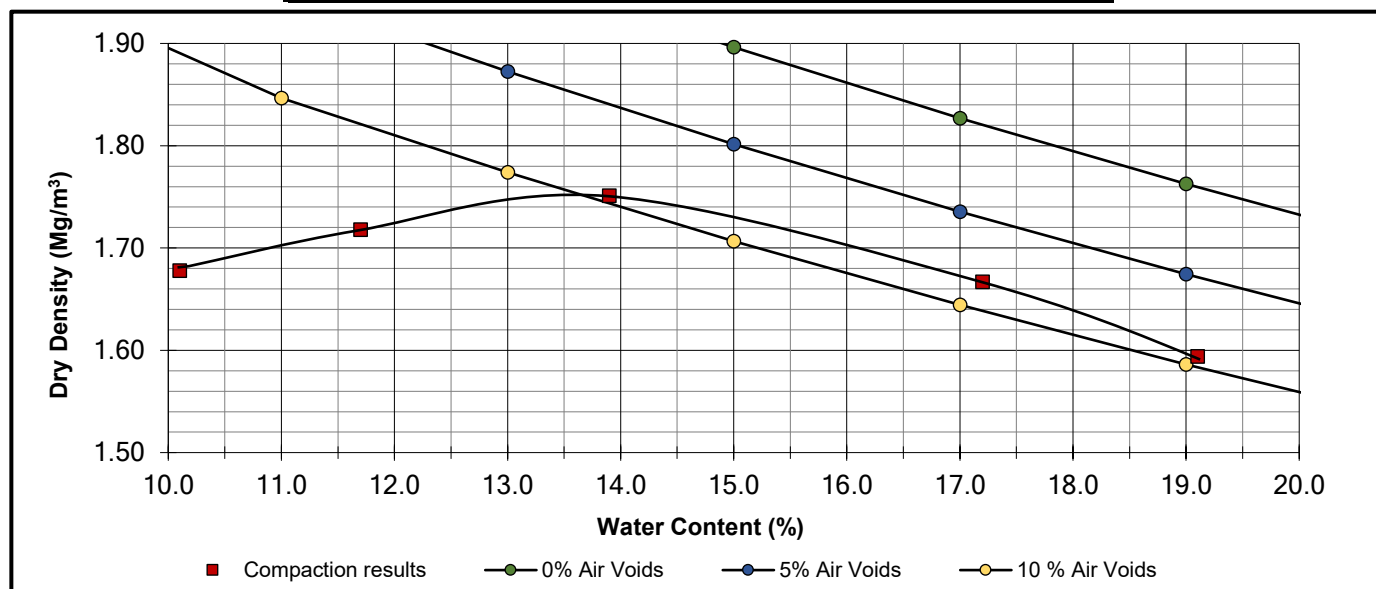
CLIENT	e3p
SITE	13-224 - George Street, Heywood
JOB NUMBER	MRN 4588/94

SAMPLE LABEL	SP102	DATE SAMPLED	11-Aug-23
SAMPLE NUMBER	129550	DATE RECEIVED	14-Aug-23
DATE TESTED	16-Aug-23	SAMPLED BY	Client

MATERIAL	Sandy gravelly CLAY
ADVISED SOURCE	As client and site above
PRE TREATMENT	Air Dried

RETAINED 37.5mm	3 %	GRADING ZONE	Zone 4
RETAINED 20mm	17 %	PARTICLE DENSITY	2.65 Mg/m ³ (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	10.1	1.678
2	11.7	1.718
3	13.9	1.751
4	17.2	1.667
5	19.1	1.594



OPTIMUM WATER CONTENT	14	(%)
MAXIMUM DRY DENSITY	1.75	(Mg/m ³)

REMARKS

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

SIGNED

DATE 23-Aug-23

MURRAY RIX

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DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 4.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

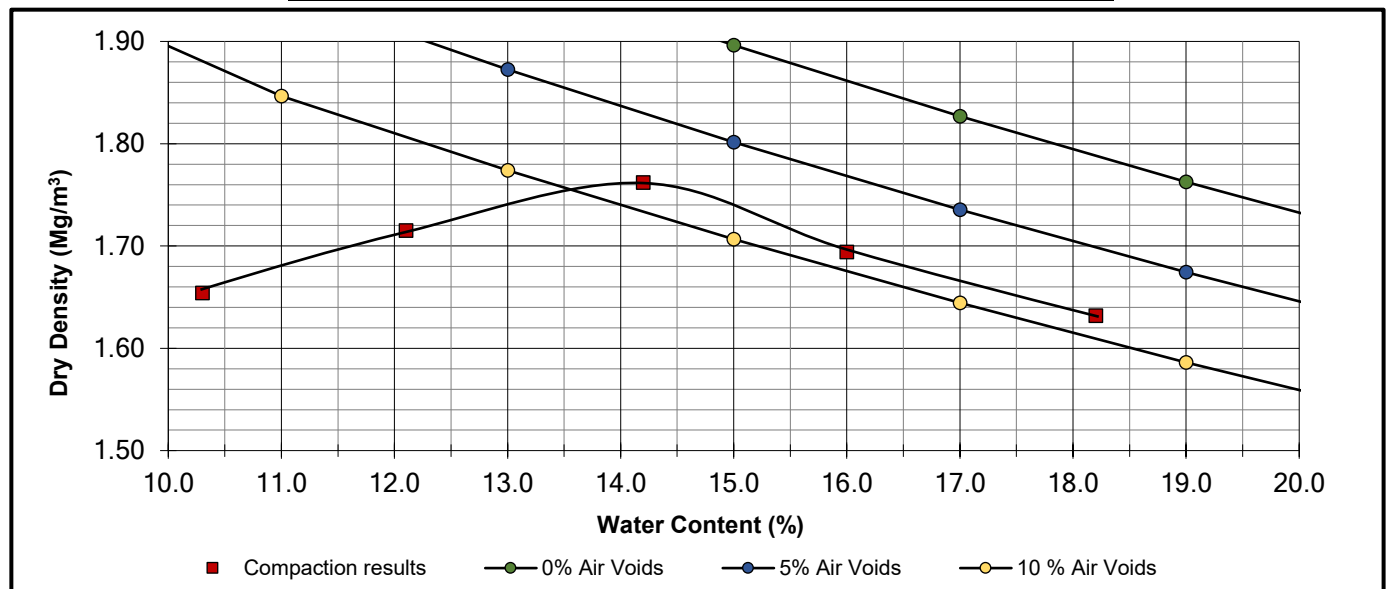
CLIENT	e3p
SITE	13-224 - George Street, Heywood
JOB NUMBER	MRN 4588/94

SAMPLE LABEL	SP103	DATE SAMPLED	11-Aug-23
SAMPLE NUMBER	129551	DATE RECEIVED	14-Aug-23
DATE TESTED	16-Aug-23	SAMPLED BY	Client

MATERIAL	Sandy gravelly CLAY
ADVISED SOURCE	As client and site above
PRE TREATMENT	Air Dried

RETAINED 37.5mm	5 %	GRADING ZONE	Zone 4
RETAINED 20mm	12 %	PARTICLE DENSITY	2.65 Mg/m ³ (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	10.3	1.654
2	12.1	1.715
3	14.2	1.762
4	16.0	1.694
5	18.2	1.632



OPTIMUM WATER CONTENT	14	(%)
MAXIMUM DRY DENSITY	1.76	(Mg/m ³)

REMARKS

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

SIGNED

DATE 23-Aug-23

MURRAY RIX

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TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 4.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

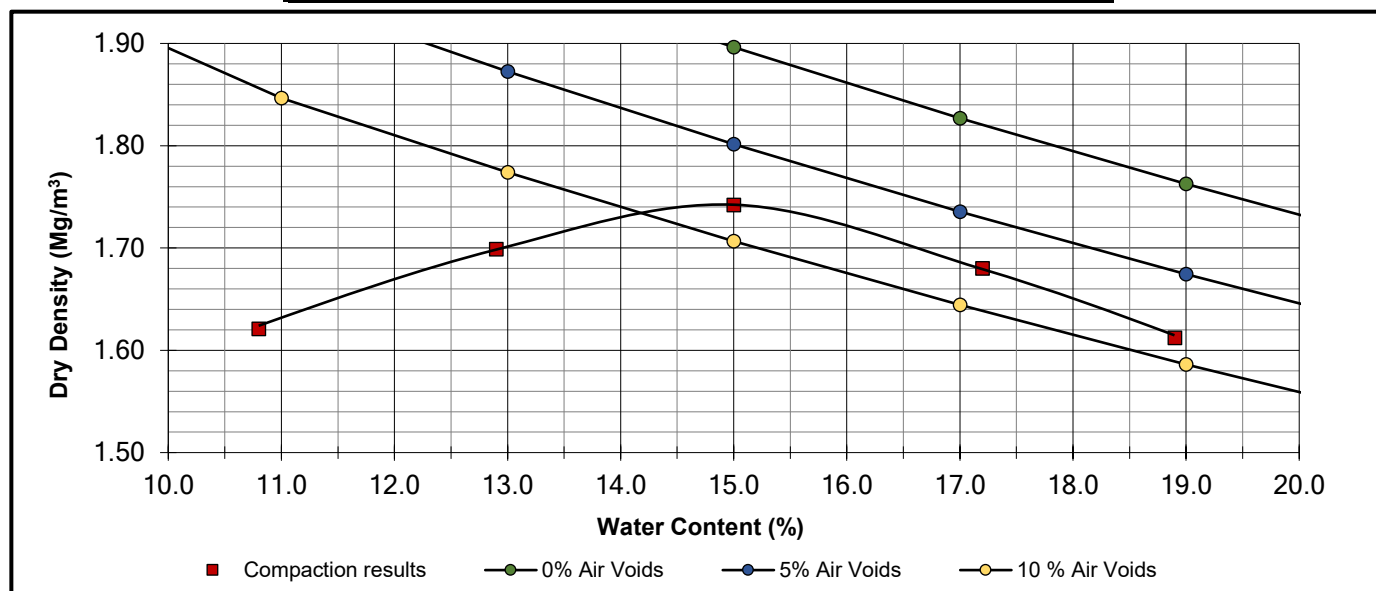
CLIENT	e3p
SITE	13-224 - George Street, Heywood
JOB NUMBER	MRN 4588/94

SAMPLE LABEL	SP105	DATE SAMPLED	11-Aug-23
SAMPLE NUMBER	129553	DATE RECEIVED	14-Aug-23
DATE TESTED	16-Aug-23	SAMPLED BY	Client

MATERIAL	Sandy gravelly CLAY
ADVISED SOURCE	As client and site above
PRE TREATMENT	Air Dried

RETAINED 37.5mm	11 %	GRADING ZONE	Zone X
RETAINED 20mm	22 %	PARTICLE DENSITY	2.65 Mg/m ³ (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	10.8	1.621
2	12.9	1.699
3	15.0	1.742
4	17.2	1.680
5	18.9	1.612



OPTIMUM WATER CONTENT	15	(%)
MAXIMUM DRY DENSITY	1.74	(Mg/m ³)

REMARKS

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

SIGNED

DATE 23-Aug-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

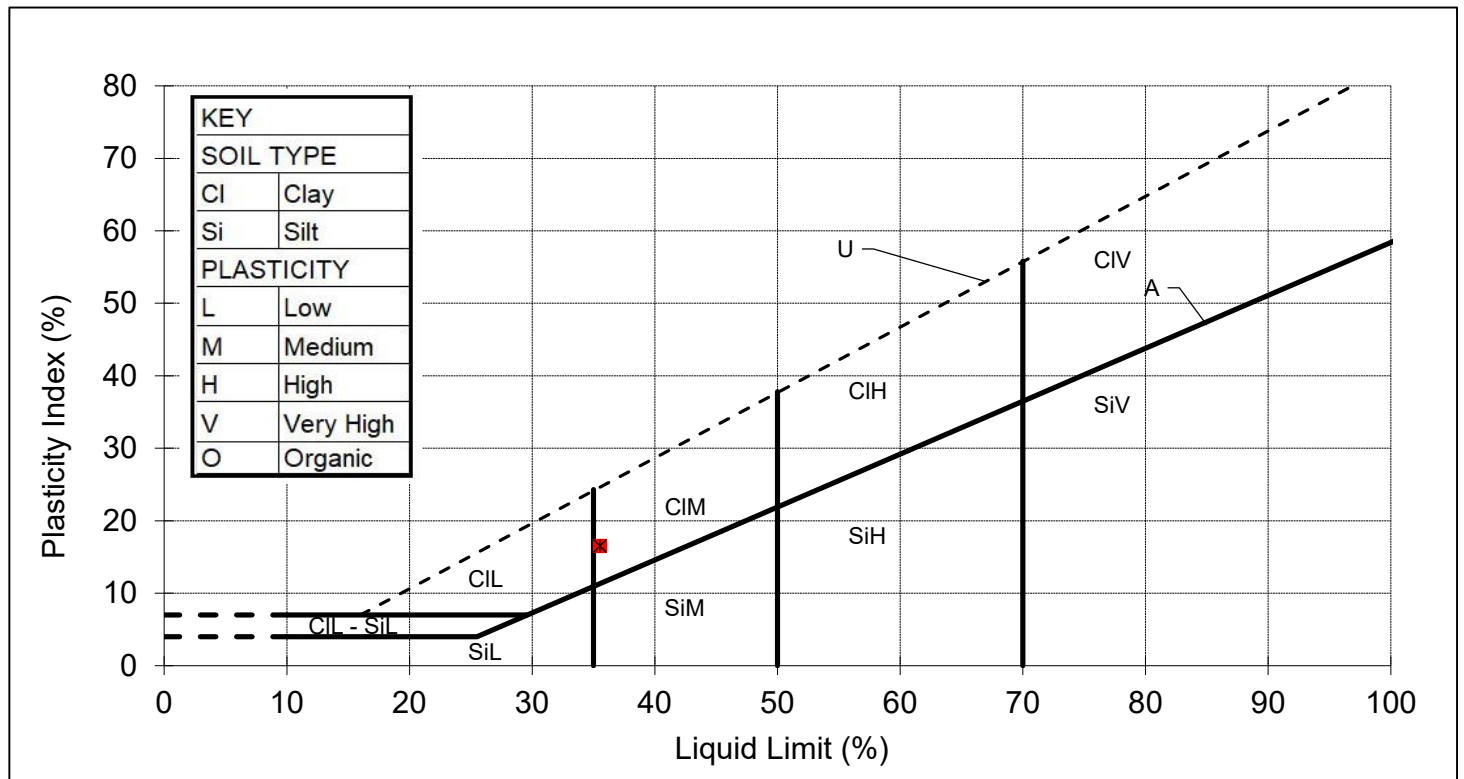
CLIENT	e3p
SITE	13-244 - George Street, Heywood
JOB NUMBER	MRN 4588/94

SAMPLE LABEL	SP101	DATE SAMPLED	11-Aug-23
SAMPLE No.	129549	DATE RECEIVED	14-Aug-23
DATE TESTED	16-Aug-23	SAMPLED BY	Client

MATERIAL	Sandy gravelly CLAY		
ADVISED SOURCE	As client and site above	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	18.7	34.9	1.018	
Determination 2 (avg)	18.9	34.9		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
27.2	36	19	17	51



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

23-Aug-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
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TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

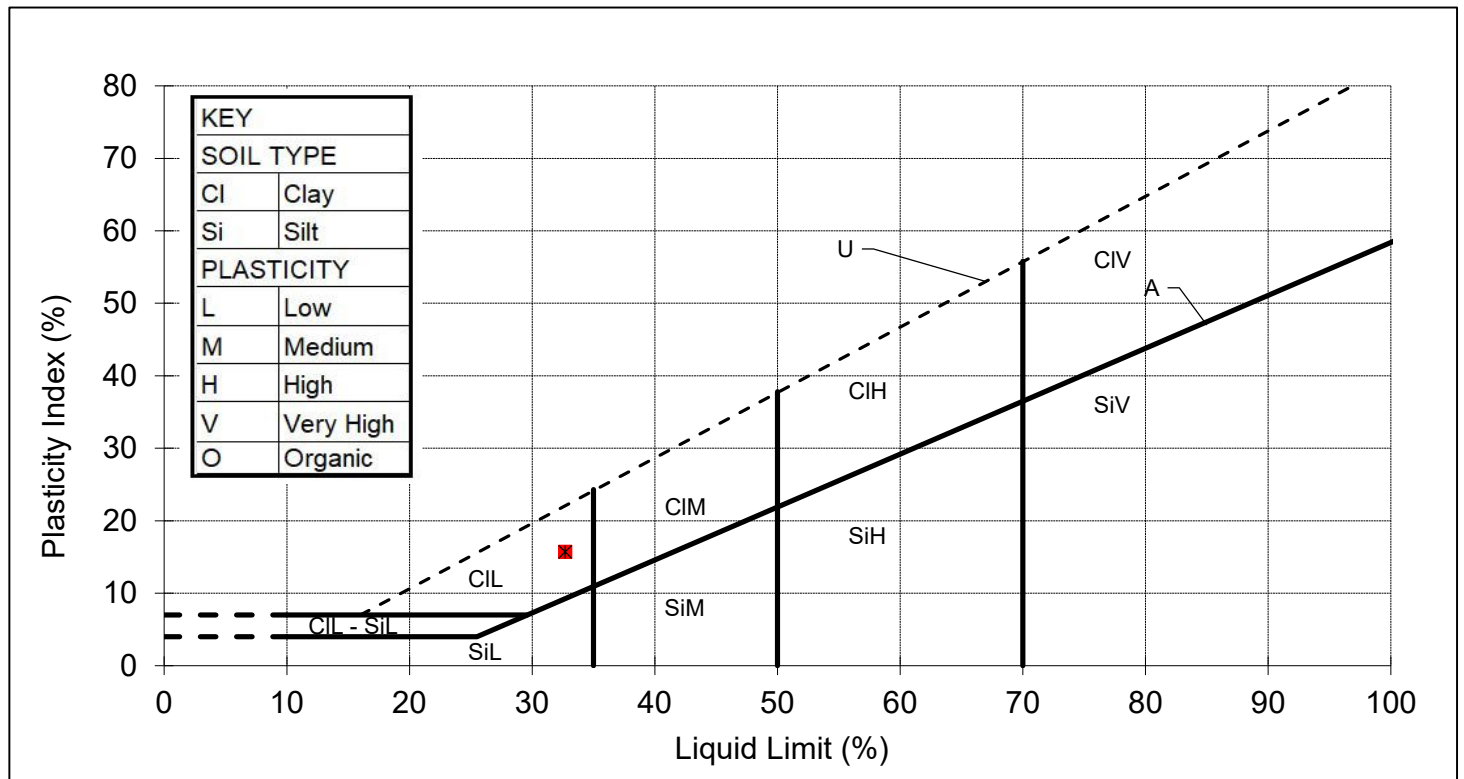
CLIENT	e3p
SITE	13-244 - George Street, Heywood
JOB NUMBER	MRN 4588/94

SAMPLE LABEL	SP102	DATE SAMPLED	11-Aug-23
SAMPLE No.	129550	DATE RECEIVED	14-Aug-23
DATE TESTED	16-Aug-23	SAMPLED BY	Client

MATERIAL	Sandy gravelly CLAY		
ADVISED SOURCE	As client and site above	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	19.5	32.5	1.008	
Determination 2 (avg)	19.5	32.4		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
14.2	33	17	16	45



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

23-Aug-23

MURRAY RIX

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TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

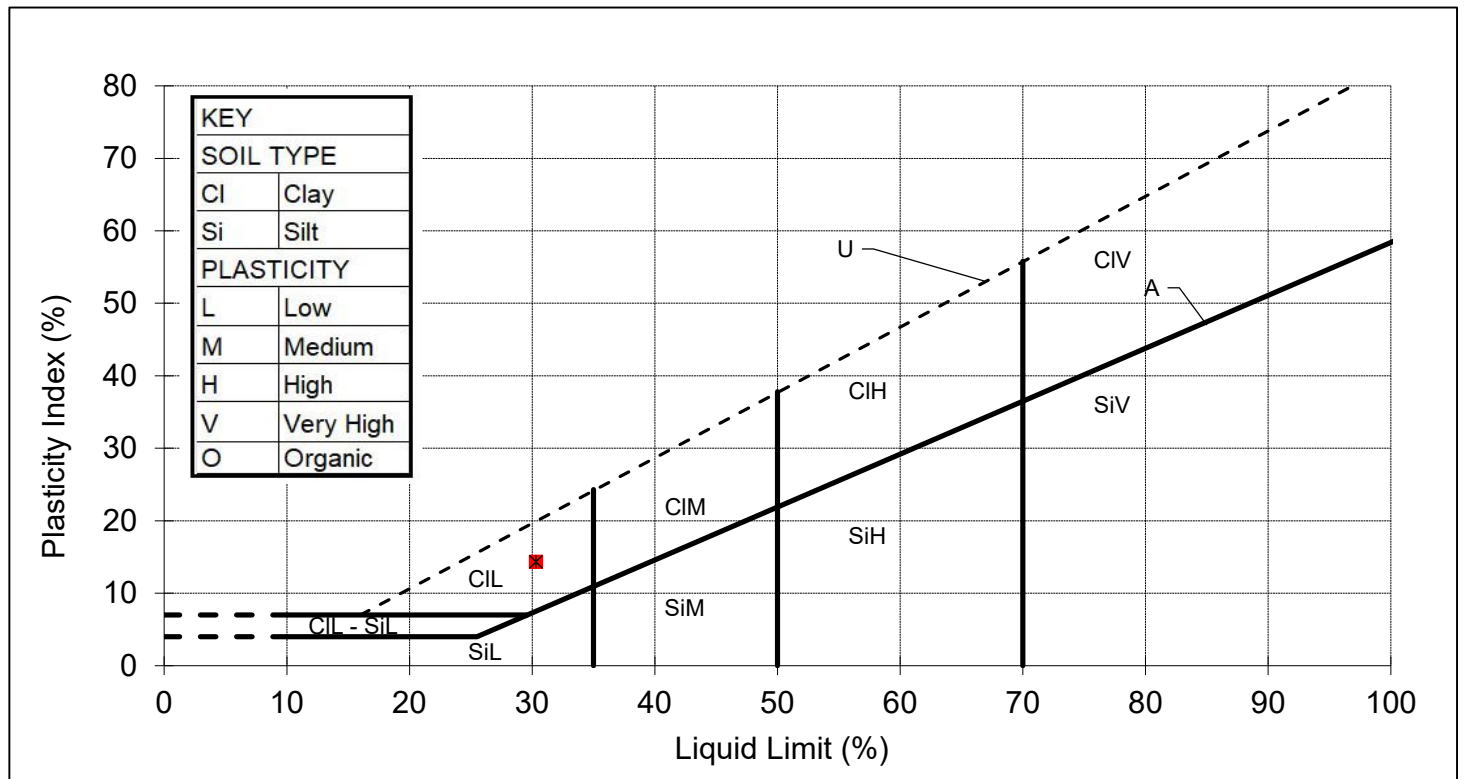
CLIENT	e3p
SITE	13-244 - George Street, Heywood
JOB NUMBER	MRN 4588/94

SAMPLE LABEL	SP103	DATE SAMPLED	11-Aug-23
SAMPLE No.	129551	DATE RECEIVED	14-Aug-23
DATE TESTED	16-Aug-23	SAMPLED BY	Client

MATERIAL	Sandy gravelly CLAY		
ADVISED SOURCE	As client and site above	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	18.4	29.6	1.024	
Determination 2 (avg)	18.4	29.6		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
11.7	30	16	14	49



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

23-Aug-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
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TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

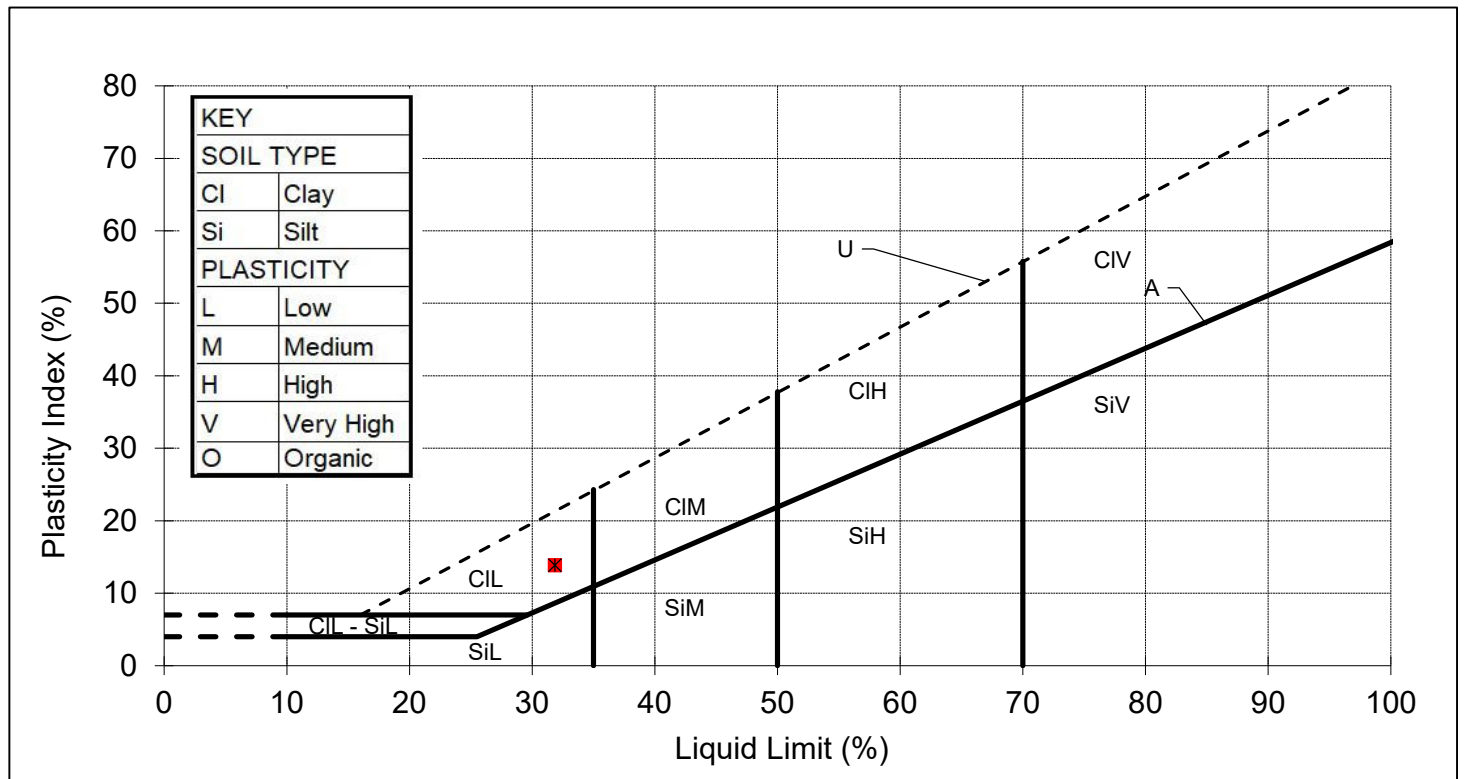
CLIENT	e3p
SITE	13-244 - George Street, Heywood
JOB NUMBER	MRN 4588/94

SAMPLE LABEL	SP104	DATE SAMPLED	11-Aug-23
SAMPLE No.	129552	DATE RECEIVED	14-Aug-23
DATE TESTED	16-Aug-23	SAMPLED BY	Client

MATERIAL	Sandy gravelly CLAY		
ADVISED SOURCE	As client and site above	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	21.2	32.5	0.981	
Determination 2 (avg)	21.2	32.4		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
24.8	32	18	14	51



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

23-Aug-23

MURRAY RIX

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TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

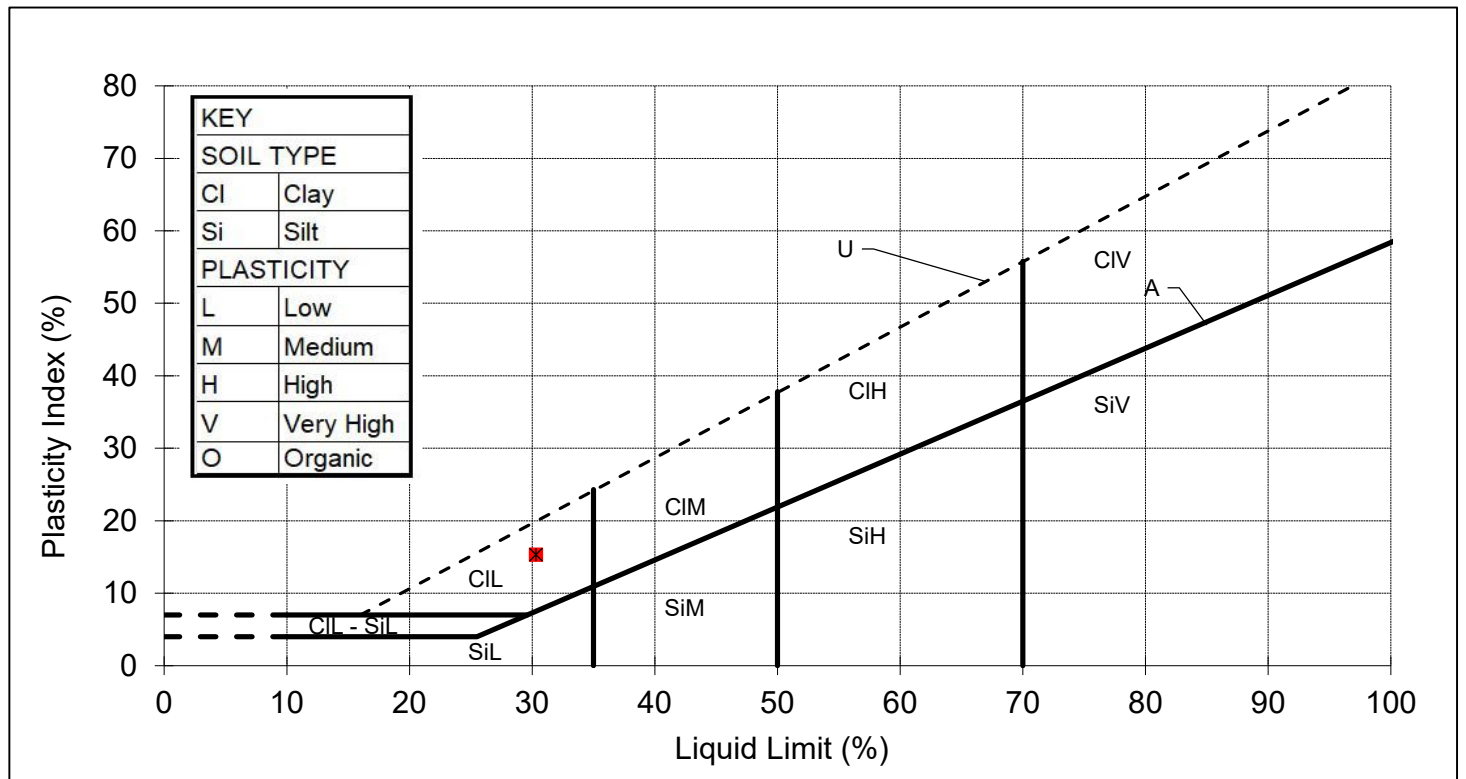
CLIENT	e3p
SITE	13-244 - George Street, Heywood
JOB NUMBER	MRN 4588/94

SAMPLE LABEL	SP105	DATE SAMPLED	11-Aug-23
SAMPLE No.	129553	DATE RECEIVED	14-Aug-23
DATE TESTED	16-Aug-23	SAMPLED BY	Client

MATERIAL	Sandy gravelly CLAY		
ADVISED SOURCE	As client and site above	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	20.0	30.3	1.001	
Determination 2 (avg)	19.9	30.3		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
16.8	30	15	15	49



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

23-Aug-23

MURRAY RIX

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DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

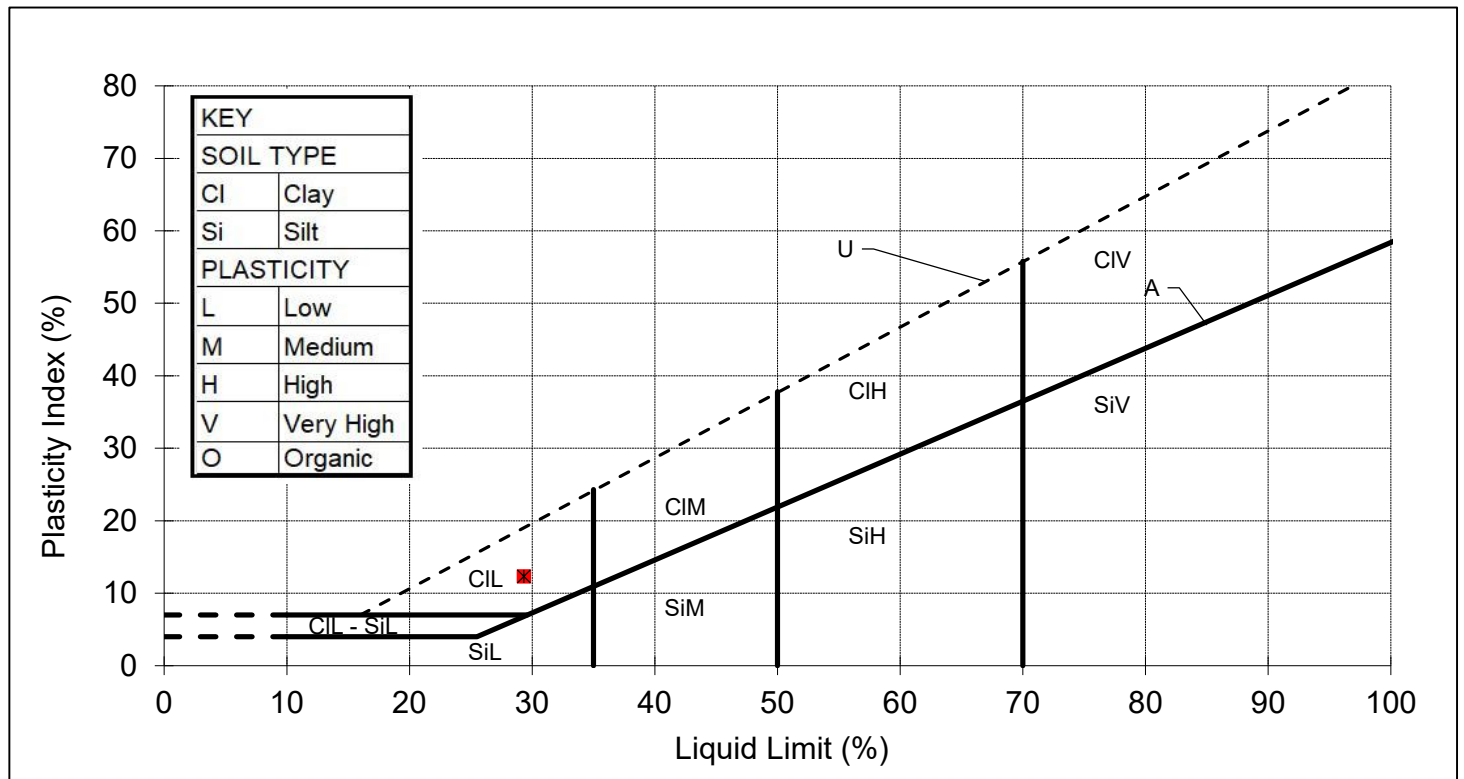
CLIENT	e3p
SITE	13-244 - George Street, Heywood
JOB NUMBER	MRN 4588/94

SAMPLE LABEL	SP106	DATE SAMPLED	11-Aug-23
SAMPLE No.	129554	DATE RECEIVED	14-Aug-23
DATE TESTED	16-Aug-23	SAMPLED BY	Client

MATERIAL	Sandy gravelly CLAY		
ADVISED SOURCE	As client and site above	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	20.8	29.7	0.987	
Determination 2 (avg)	20.8	29.7		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
20.7	29	17	12	54



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

23-Aug-23

TEST REPORT

Client e3p

Address Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contract George Street,
Heywood (13-224)

Job Number MRN 4588/100

Date of Issue 06 September 2023

Page 1 of 10

Approved Signatories

S J Hutchings, O P Davies

Notes

- 1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.
- 2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.
- 3 Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.
- 4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted.
- 5 The results included within the report are representative of the samples submitted for analysis.
- 6 This certificate should not be reproduced, except in full, without the express permission of the laboratory.



Andrew House, Hadfield Street, Dukinfield, Cheshire SK16 4QX Tel: 0161 475 0870
Email: enquiries@murrayrix.com Website: www.murrayrix.com

Also at: London: 020 8523 1999

Murray Rix is the trading name of Murray Rix (Northern) Limited. Registered in England 2878361

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

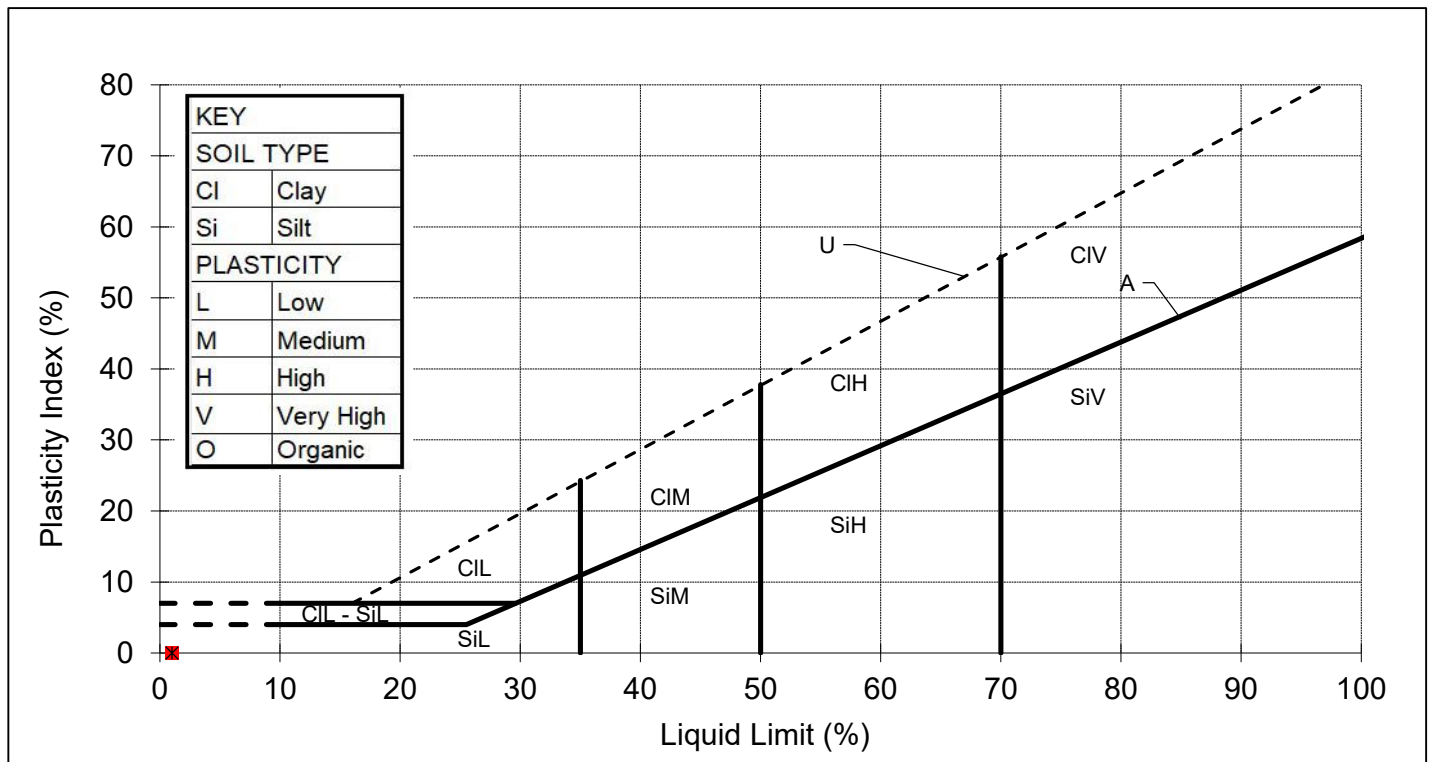
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/100

SAMPLE LABEL	SP108	DATE SAMPLED	16-Aug-23
SAMPLE No.	129784	DATE RECEIVED	17-Aug-23
DATE TESTED	18-Aug-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly gravelly SAND		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	N/A	N/A	N/A	
Determination 2 (avg)	N/A	N/A		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
19.8	N/A	Non Plastic	N/A	54



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

06-Sep-23

TEST CERTIFICATE
PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

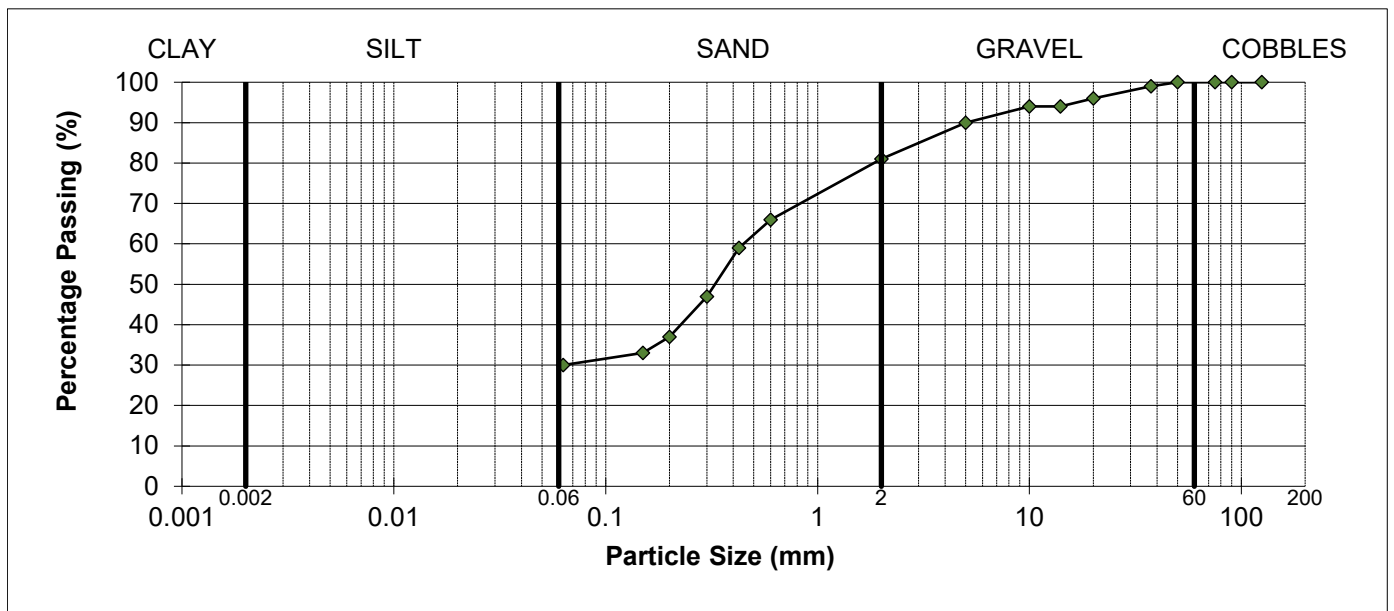
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/100

SAMPLE LABEL	SP109	DATE SAMPLED	16-Aug-23
LAB SAMPLE No	129785	DATE RECEIVED	17-Aug-23
DATE TESTED	18-Aug-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly gravelly SAND
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	5	90	
90	100		2	81	80-100
75	100		0.6	66	
50	100		0.425	59	
37.5	99		0.3	47	
20	96		0.2	37	
14	94		0.15	33	
10	94		0.063	30	15-100



REMARKS

Sample complies with the advised grading specification for a 2A/2B material (SHW 2016)
As received water content = 22.0%

SIGNED



NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

06-Sep-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

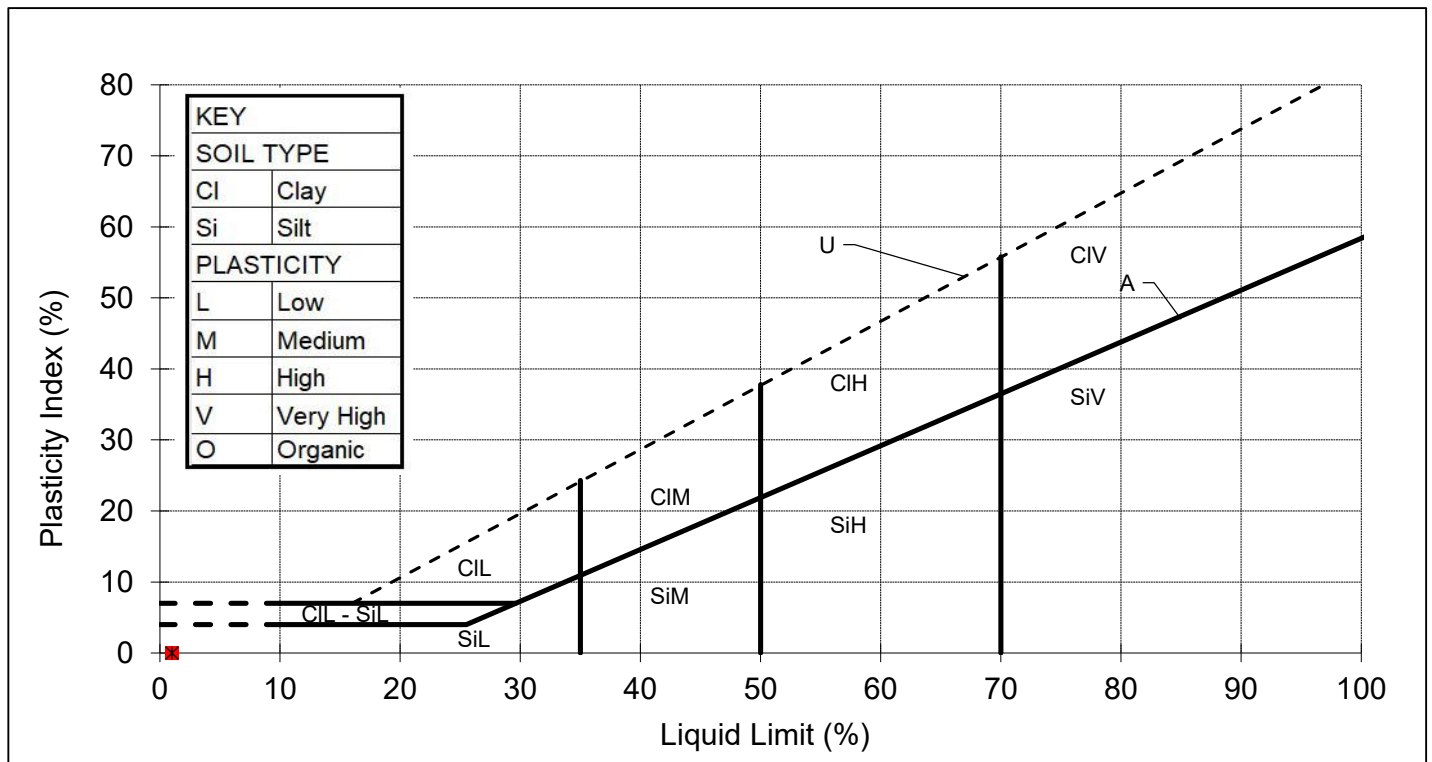
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/100

SAMPLE LABEL	SP109	DATE SAMPLED	16-Aug-23
SAMPLE No.	129785	DATE RECEIVED	17-Aug-23
DATE TESTED	18-Aug-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly gravelly SAND		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	N/A	N/A	N/A	
Determination 2 (avg)	N/A	N/A		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
21.9	N/A	Non Plastic	N/A	59



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

06-Sep-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 4.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

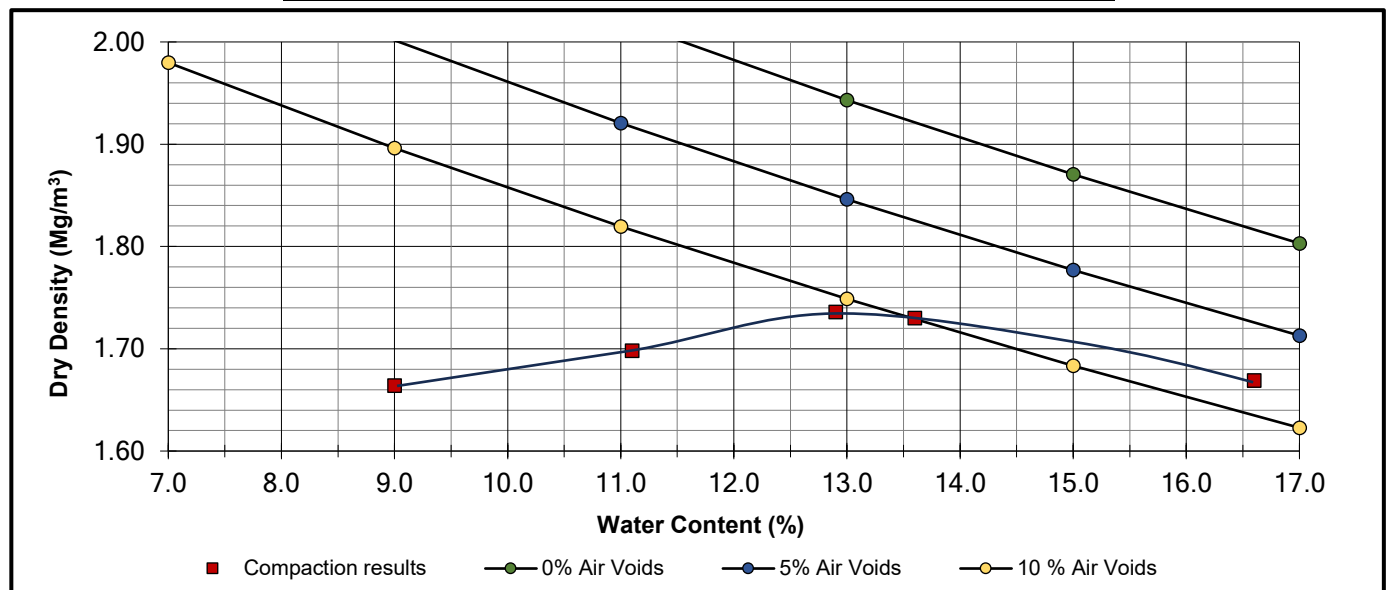
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/100

SAMPLE LABEL	SP109	DATE SAMPLED	16-Aug-23
SAMPLE NUMBER	129785	DATE RECEIVED	17-Aug-23
DATE TESTED	18-Aug-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly gravelly SAND
ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried / Single Sample

RETAINED 37.5mm	1 %	GRADING ZONE	Zone 4
RETAINED 20mm	4 %	PARTICLE DENSITY	2.60 Mg/m ³ (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	9.0	1.664
2	11.1	1.698
3	12.9	1.736
4	13.6	1.730
5	16.6	1.669



OPTIMUM WATER CONTENT	13	(%)
MAXIMUM DRY DENSITY	1.73	(Mg/m ³)

REMARKS

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

SIGNED

DATE 06-Sep-23

MURRAY RIX

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DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

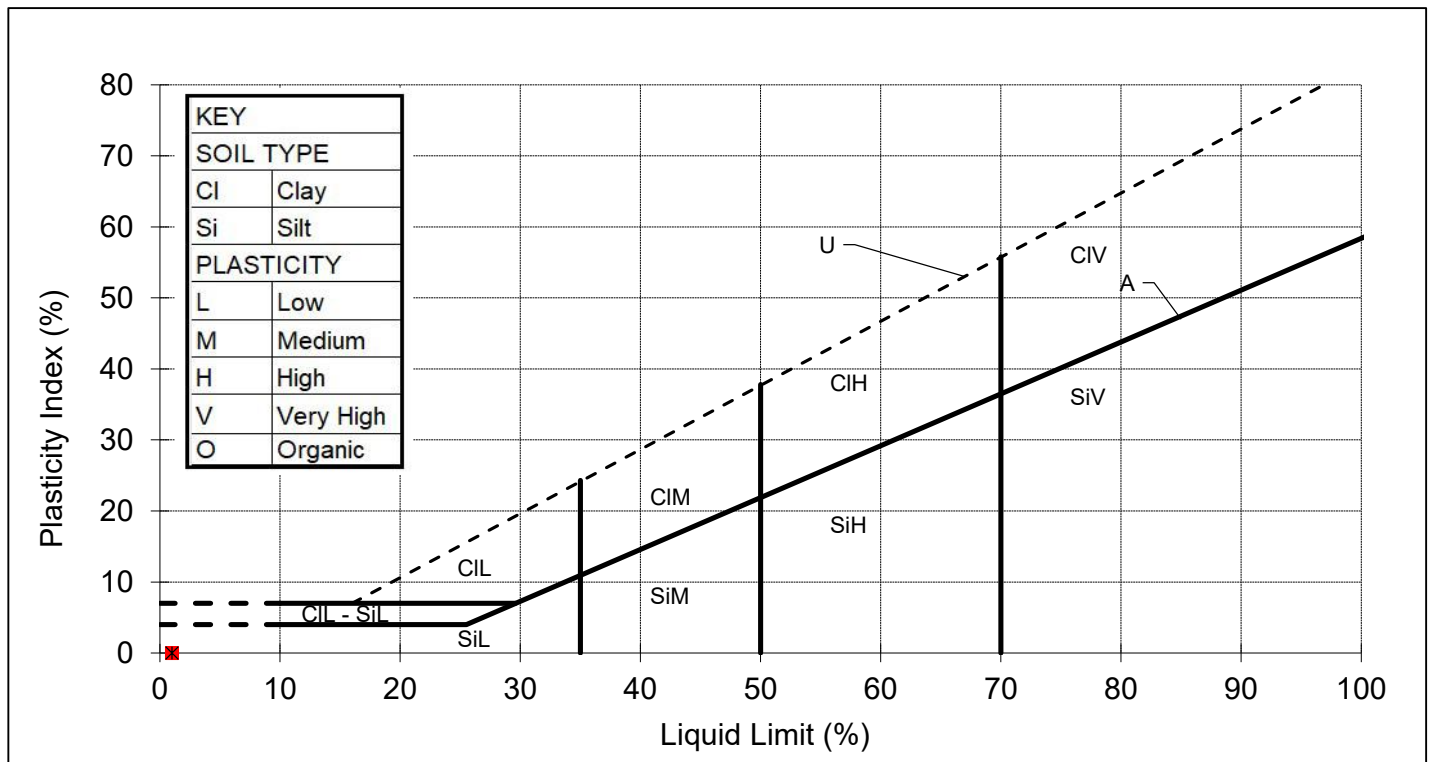
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/100

SAMPLE LABEL	SP110	DATE SAMPLED	23-Aug-23
SAMPLE No.	129968	DATE RECEIVED	23-Aug-23
DATE TESTED	31-Aug-23	SAMPLED BY	Client

MATERIAL	Brown clayey SAND & GRAVEL		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	N/A	N/A	N/A	
Determination 2 (avg)	N/A	N/A		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
18.2	N/A	Non Plastic	N/A	37



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

06-Sep-23

TEST CERTIFICATE
PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

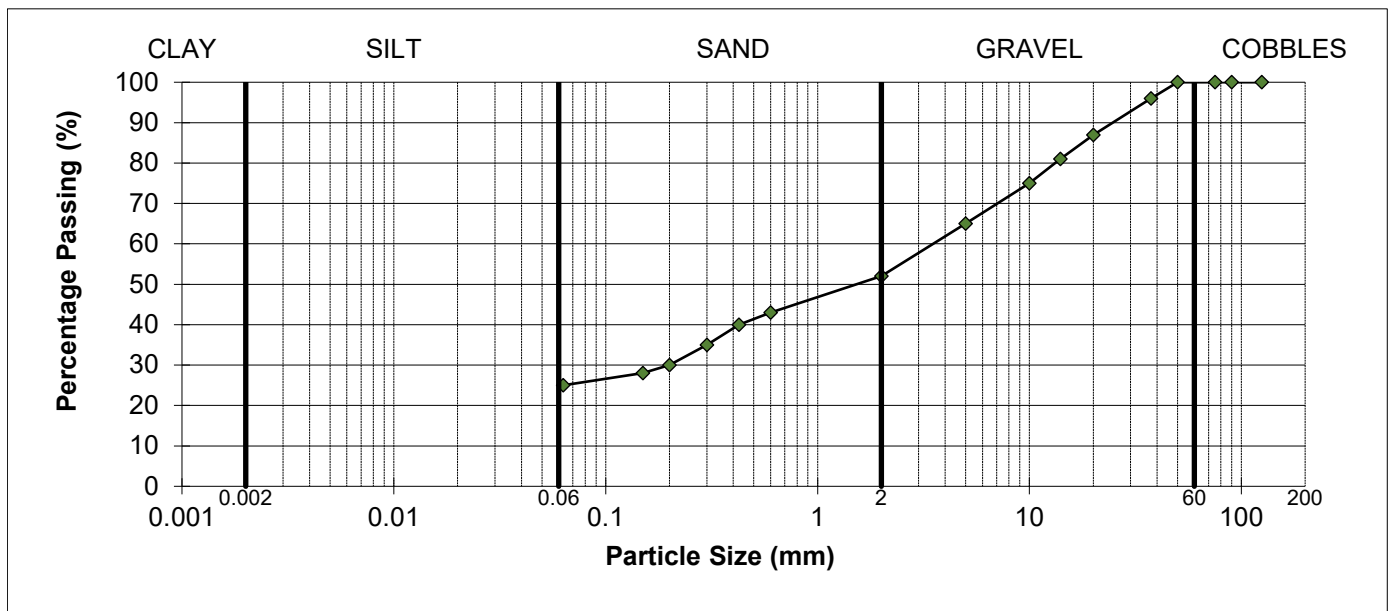
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/100

SAMPLE LABEL	SP111	DATE SAMPLED	23-Aug-23
LAB SAMPLE No	129969	DATE RECEIVED	23-Aug-23
DATE TESTED	29-Aug-23	SAMPLED BY	Client

MATERIAL	Brown clayey SAND & GRAVEL
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	5	65	
90	100		2	52	15-80
75	100		0.6	43	
50	100		0.425	40	
37.5	96		0.3	35	
20	87		0.2	30	
14	81		0.15	28	
10	75		0.063	25	15-80



REMARKS

Sample complies with the advised grading specification for a 2C material (SHW 2016)
As received water content = 16.0%

SIGNED



NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

06-Sep-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

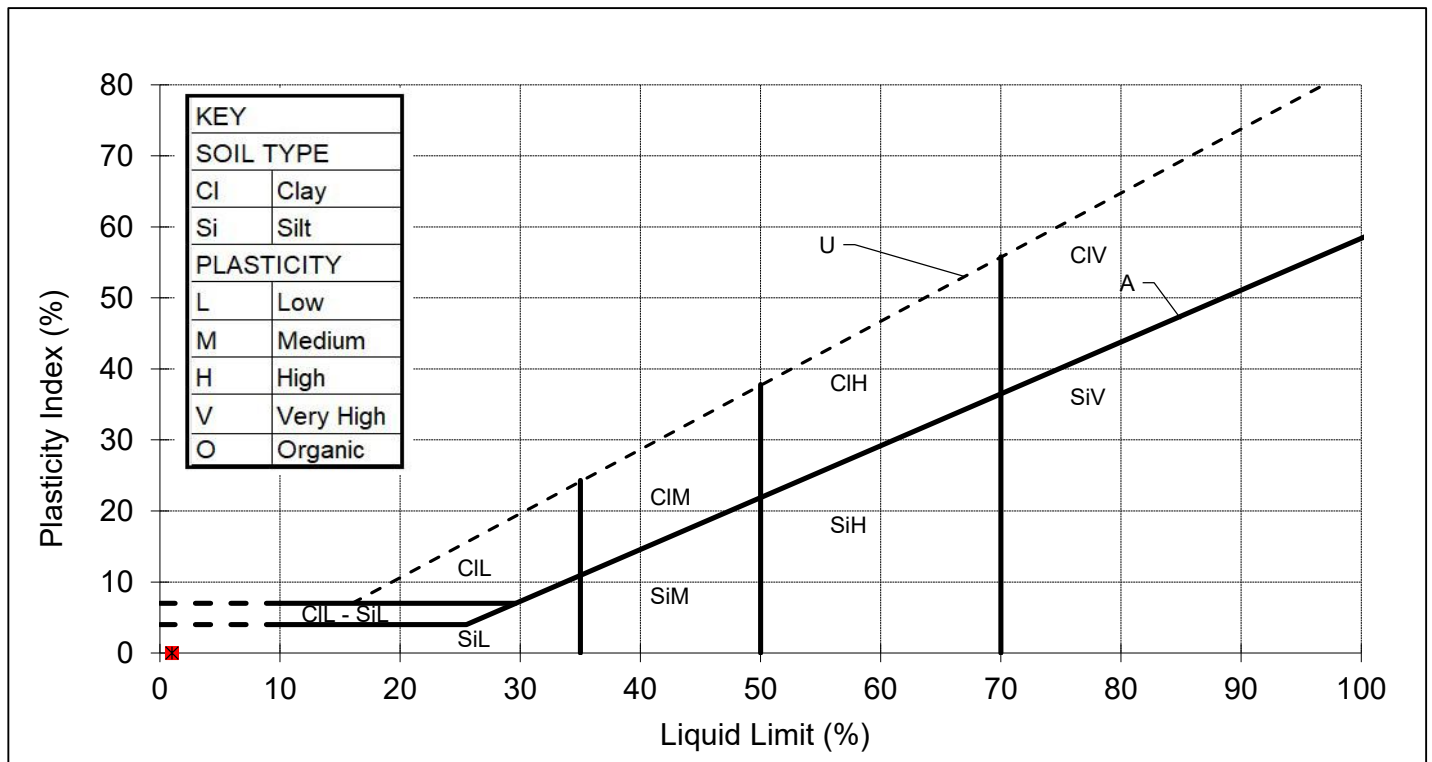
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/100

SAMPLE LABEL	SP111	DATE SAMPLED	23-Aug-23
SAMPLE No.	129969	DATE RECEIVED	23-Aug-23
DATE TESTED	31-Aug-23	SAMPLED BY	Client

MATERIAL	Brown clayey SAND & GRAVEL		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	N/A	N/A	N/A	
Determination 2 (avg)	N/A	N/A		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
15.9	N/A	Non Plastic	N/A	40



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

06-Sep-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 4.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

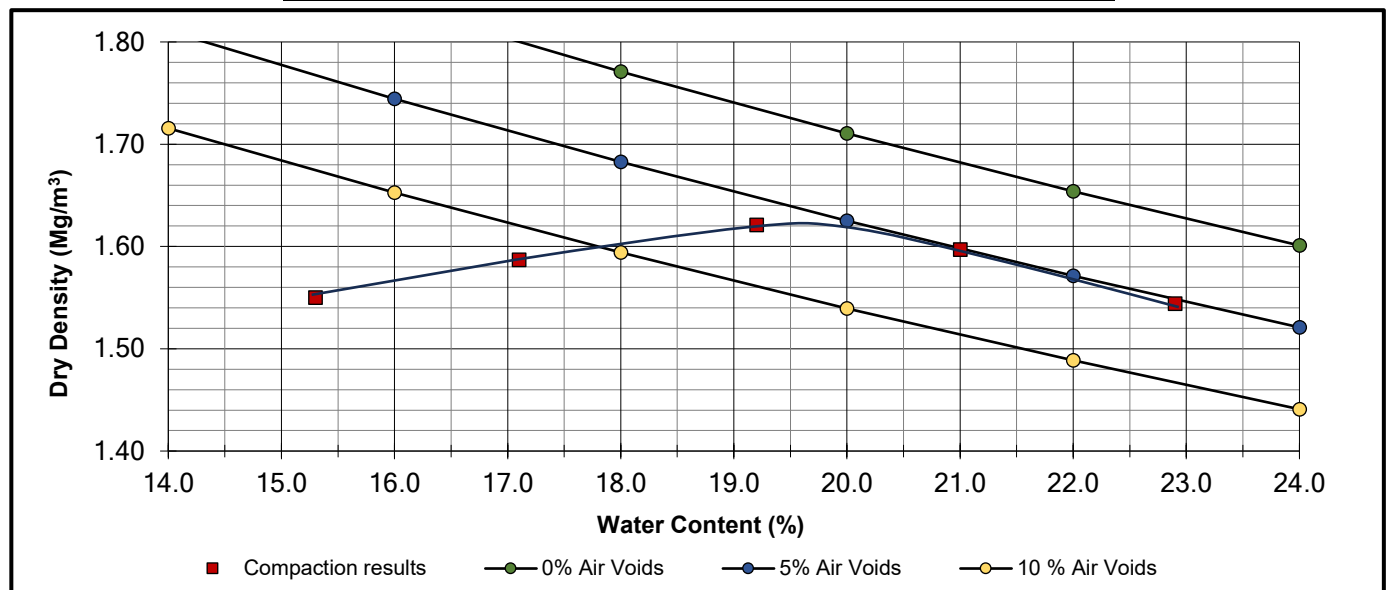
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/100

SAMPLE LABEL	SP111	DATE SAMPLED	23-Aug-23
SAMPLE NUMBER	129969	DATE RECEIVED	23-Aug-23
DATE TESTED	29-Aug-23	SAMPLED BY	Client

MATERIAL	Brown clayey SAND & GRAVEL
ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried / Single Sample

RETAINED 37.5mm	4 %	GRADING ZONE	Zone 4
RETAINED 20mm	13 %	PARTICLE DENSITY	2.60 Mg/m ³ (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	15.3	1.550
2	17.1	1.587
3	19.2	1.621
4	21.0	1.597
5	22.9	1.544



OPTIMUM WATER CONTENT	20 (%)
MAXIMUM DRY DENSITY	1.62 (Mg/m ³)

REMARKS

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

SIGNED

DATE 06-Sep-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

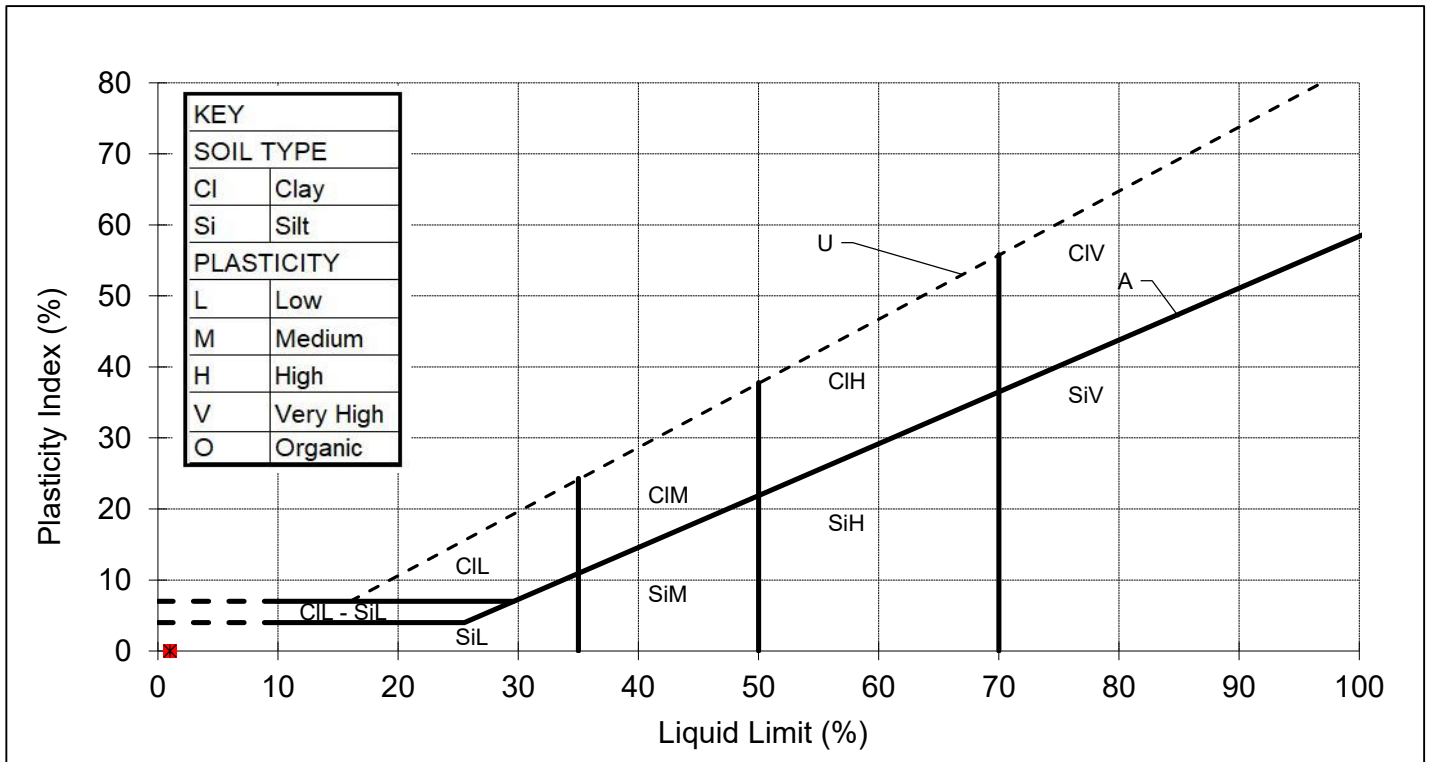
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/100

SAMPLE LABEL	SP112	DATE SAMPLED	23-Aug-23
SAMPLE No.	129970	DATE RECEIVED	23-Aug-23
DATE TESTED	31-Aug-23	SAMPLED BY	Client

MATERIAL	Brown clayey SAND & GRAVEL		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	N/A	N/A	N/A	
Determination 2 (avg)	N/A	N/A		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
15.4	N/A	Non Plastic	N/A	29



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

06-Sep-23

TEST REPORT

Client e3p

Address Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contract George Street,
Heywood (13-224)

Job Number MRN 4588/102

Date of Issue 19 September 2023

Page 1 of 13

Approved Signatories

S J Hutchings, O P Davies

Notes

- 1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.
- 2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.
- 3 Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.
- 4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted.
- 5 The results included within the report are representative of the samples submitted for analysis.
- 6 This certificate should not be reproduced, except in full, without the express permission of the laboratory.



Andrew House, Hadfield Street, Dukinfield, Cheshire SK16 4QX Tel: 0161 475 0870
Email: enquiries@murrayrix.com Website: www.murrayrix.com

Also at: London: 020 8523 1999

Murray Rix is the trading name of Murray Rix (Northern) Limited. Registered in England 2878361

TEST CERTIFICATE
PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

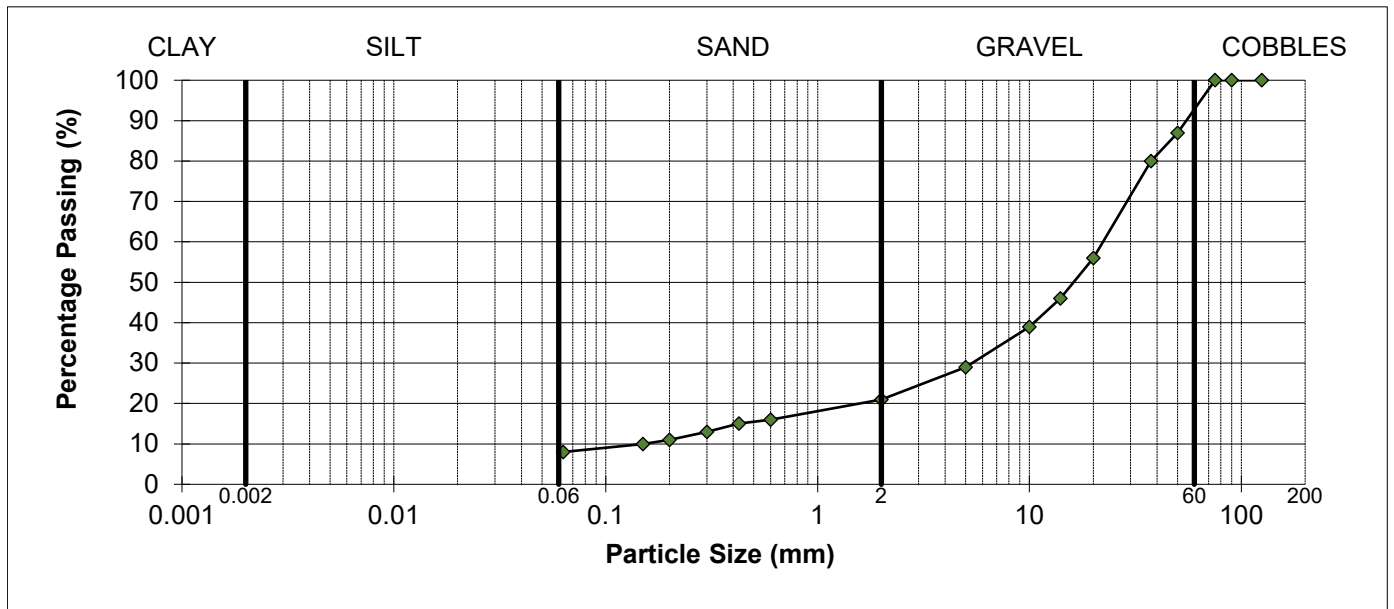
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/102

SAMPLE LABEL	SP113	DATE SAMPLED	05-Sep-23
LAB SAMPLE No	130921	DATE RECEIVED	06-Sep-23
DATE TESTED	06-Sep-23	SAMPLED BY	Client

MATERIAL	Sandy GRAVEL (6F2)
ADVISED SOURCE	Site Won

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	5	29	10-45
90	100	80-100	2	21	
75	100	65-100	0.6	16	0-25
50	87		0.425	15	
37.5	80	45-100	0.3	13	
20	56		0.2	11	
14	46		0.15	10	
10	39	15-60	0.063	8	0-12



REMARKS

Sample complies with the advised grading specification for a 6F2 material (SHW 2016).
As received water content = 9.8%

SIGNED



NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

19-Sep-23

TEST CERTIFICATE
PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

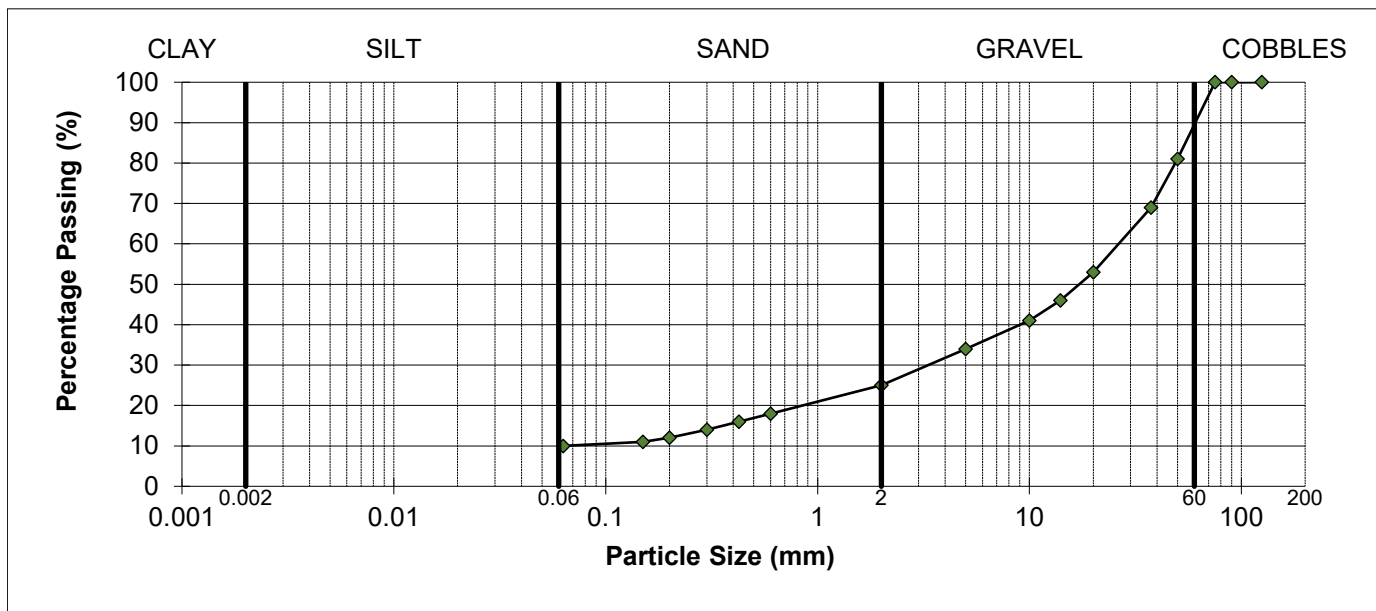
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/102

SAMPLE LABEL	SP114	DATE SAMPLED	05-Sep-23
LAB SAMPLE No	130922	DATE RECEIVED	06-Sep-23
DATE TESTED	06-Sep-23	SAMPLED BY	Client

MATERIAL	Sandy GRAVEL (6F2)
ADVISED SOURCE	Site Won

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	5	34	10-45
90	100	80-100	2	25	
75	100	65-100	0.6	18	0-25
50	81		0.425	16	
37.5	69	45-100	0.3	14	
20	53		0.2	12	
14	46		0.15	11	
10	41	15-60	0.063	10	0-12



REMARKS

Sample complies with the advised grading specification for a 6F2 material (SHW 2016).
As received water content = 10.5%

SIGNED



NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

19-Sep-23

TEST CERTIFICATE
PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

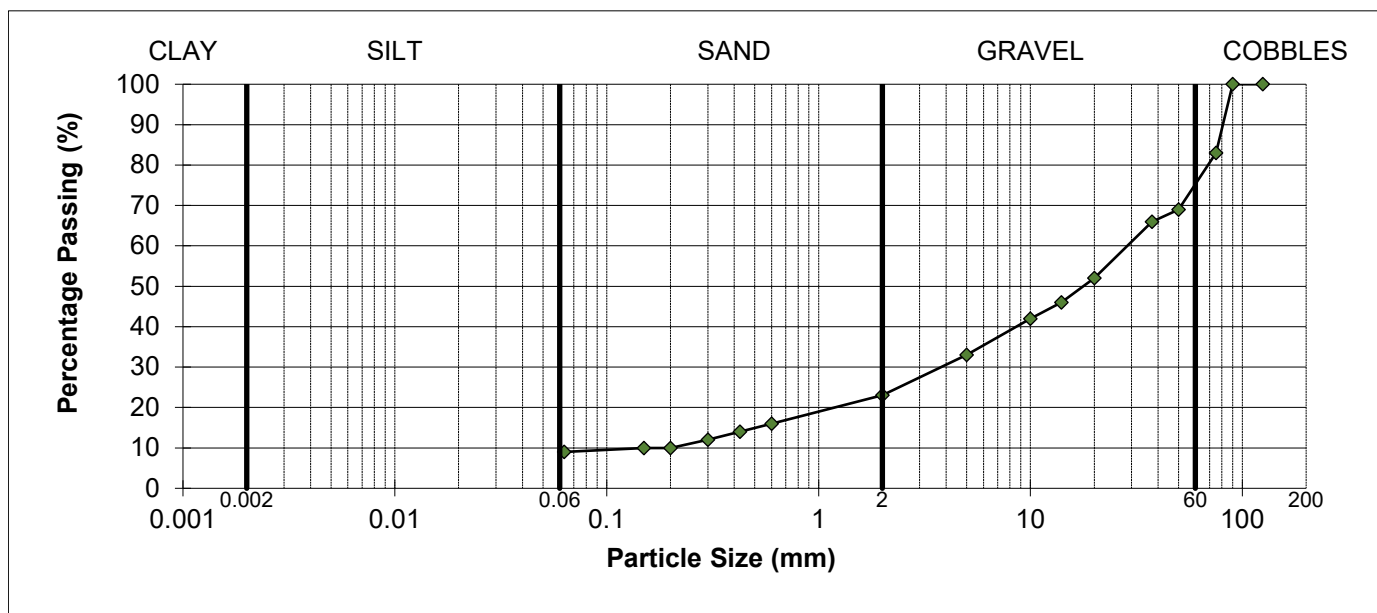
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/102

SAMPLE LABEL	SP115	DATE SAMPLED	05-Sep-23
LAB SAMPLE No	130923	DATE RECEIVED	06-Sep-23
DATE TESTED	06-Sep-23	SAMPLED BY	Client

MATERIAL	Sandy GRAVEL (6F2)
ADVISED SOURCE	Site Won

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	5	33	10-45
90	100	80-100	2	23	
75	83	65-100	0.6	16	0-25
50	69		0.425	14	
37.5	66	45-100	0.3	12	
20	52		0.2	10	
14	46		0.15	10	
10	42	15-60	0.063	9	0-12



REMARKS

Sample complies with the advised grading specification for a 6F2 material (SHW 2016).
As received water content = 10.2%

SIGNED



NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

19-Sep-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 4.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

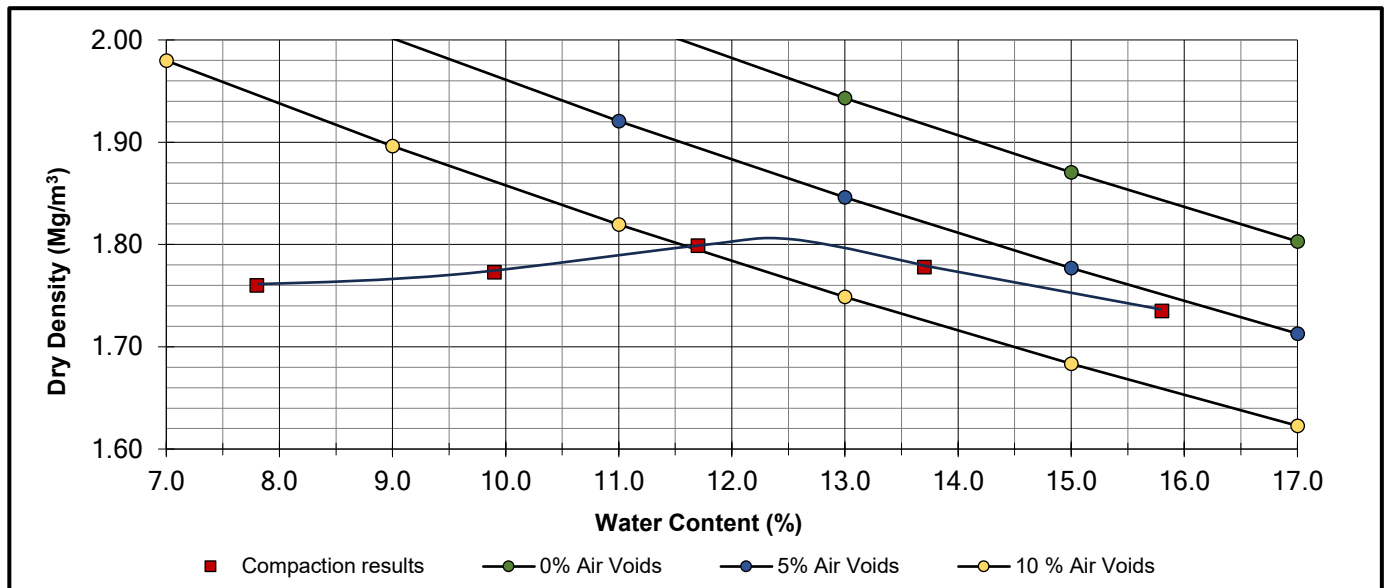
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/102

SAMPLE LABEL	SP113	DATE SAMPLED	05-Sep-23
SAMPLE NUMBER	130921	DATE RECEIVED	06-Sep-23
DATE TESTED	06-Sep-23	SAMPLED BY	Client

MATERIAL	Sandy GRAVEL (6F2)
ADVISED SOURCE	Site Won
PRE TREATMENT	Air Dried / Single Sample

RETAINED 37.5mm	20 %	GRADING ZONE	Zone X
RETAINED 20mm	44 %	PARTICLE DENSITY	2.60 Mg/m ³ (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	7.8	1.760
2	9.9	1.773
3	11.7	1.799
4	13.7	1.778
5	15.8	1.735



OPTIMUM WATER CONTENT	12	(%)
MAXIMUM DRY DENSITY	1.80	(Mg/m ³)

REMARKS

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

SIGNED

DATE 19-Sep-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 4.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

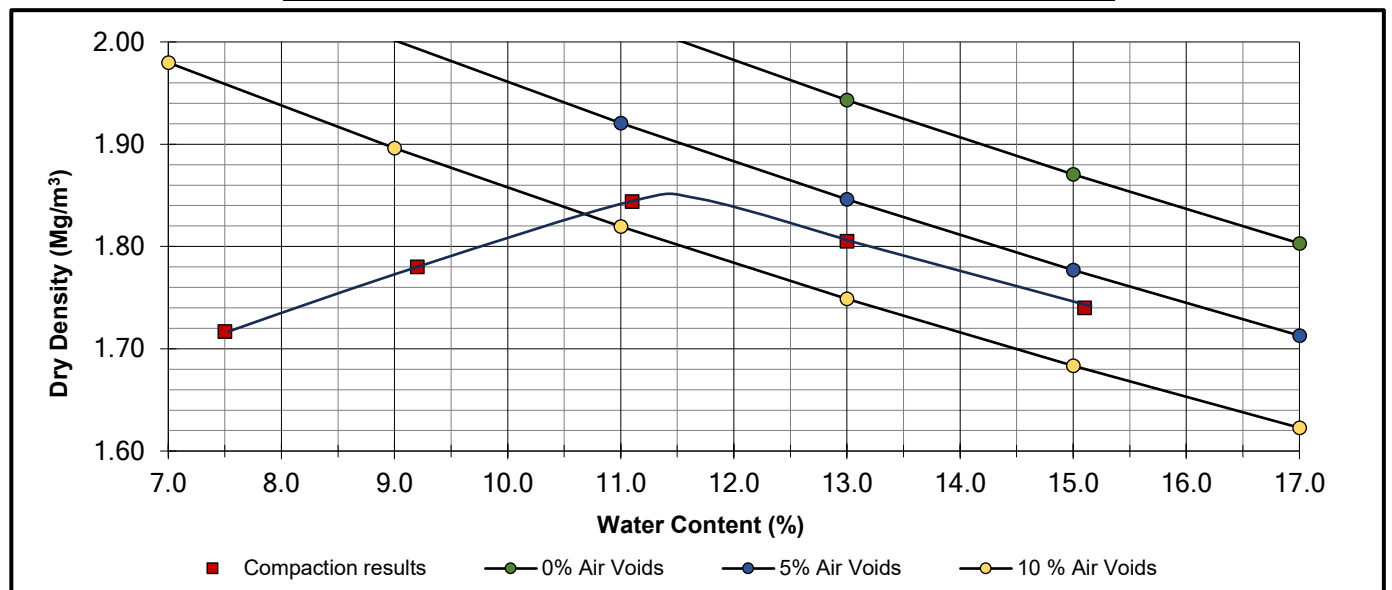
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/102

SAMPLE LABEL	SP114	DATE SAMPLED	05-Sep-23
SAMPLE NUMBER	130922	DATE RECEIVED	06-Sep-23
DATE TESTED	06-Sep-23	SAMPLED BY	Client

MATERIAL	Sandy GRAVEL (6F2)
ADVISED SOURCE	Site Won
PRE TREATMENT	Air Dried / Single Sample

RETAINED 37.5mm	31 %	GRADING ZONE	Zone X
RETAINED 20mm	47 %	PARTICLE DENSITY	2.60 Mg/m ³ (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	7.5	1.717
2	9.2	1.780
3	11.1	1.844
4	13.0	1.805
5	15.1	1.740



OPTIMUM WATER CONTENT	11	(%)
MAXIMUM DRY DENSITY	1.85	(Mg/m ³)

REMARKS

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

SIGNED

DATE 19-Sep-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 4.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

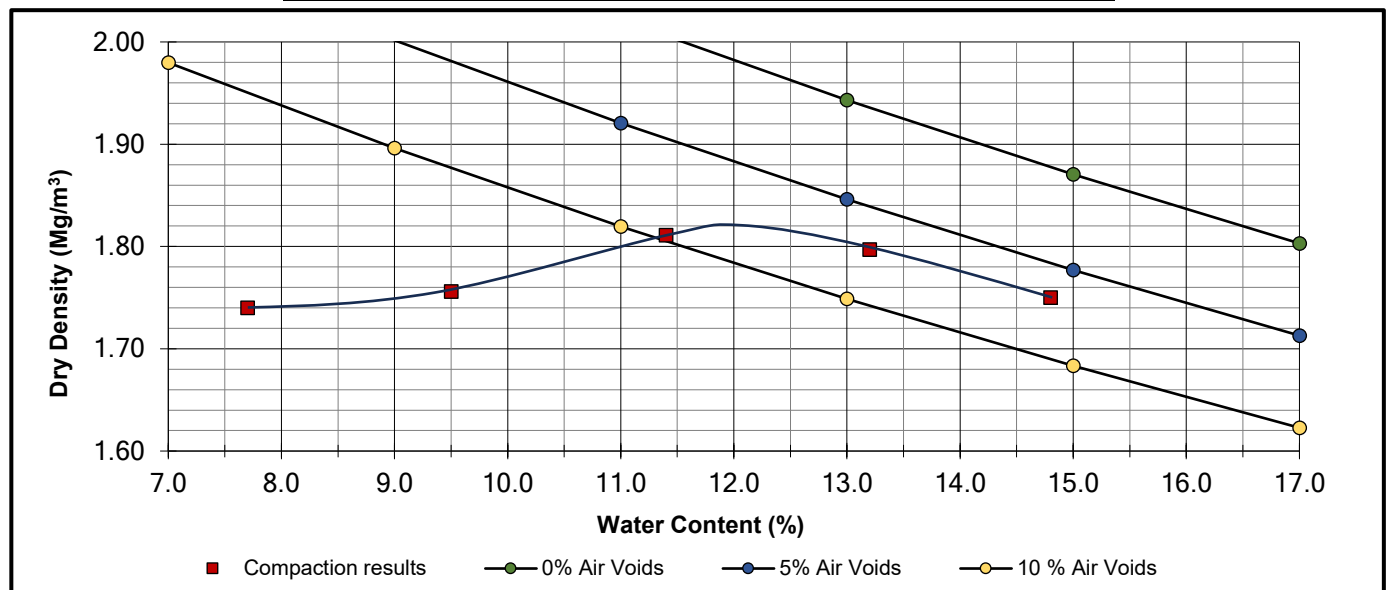
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/102

SAMPLE LABEL	SP115	DATE SAMPLED	05-Sep-23
SAMPLE NUMBER	130923	DATE RECEIVED	06-Sep-23
DATE TESTED	06-Sep-23	SAMPLED BY	Client

MATERIAL	Sandy GRAVEL (6F2)
ADVISED SOURCE	Site Won
PRE TREATMENT	Air Dried / Single Sample

RETAINED 37.5mm	34 %	GRADING ZONE	Zone X
RETAINED 20mm	48 %	PARTICLE DENSITY	2.60 Mg/m ³ (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	7.7	1.740
2	9.5	1.756
3	11.4	1.811
4	13.2	1.797
5	14.8	1.750



OPTIMUM WATER CONTENT	12	(%)
MAXIMUM DRY DENSITY	1.82	(Mg/m ³)

REMARKS

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

SIGNED

DATE 19-Sep-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

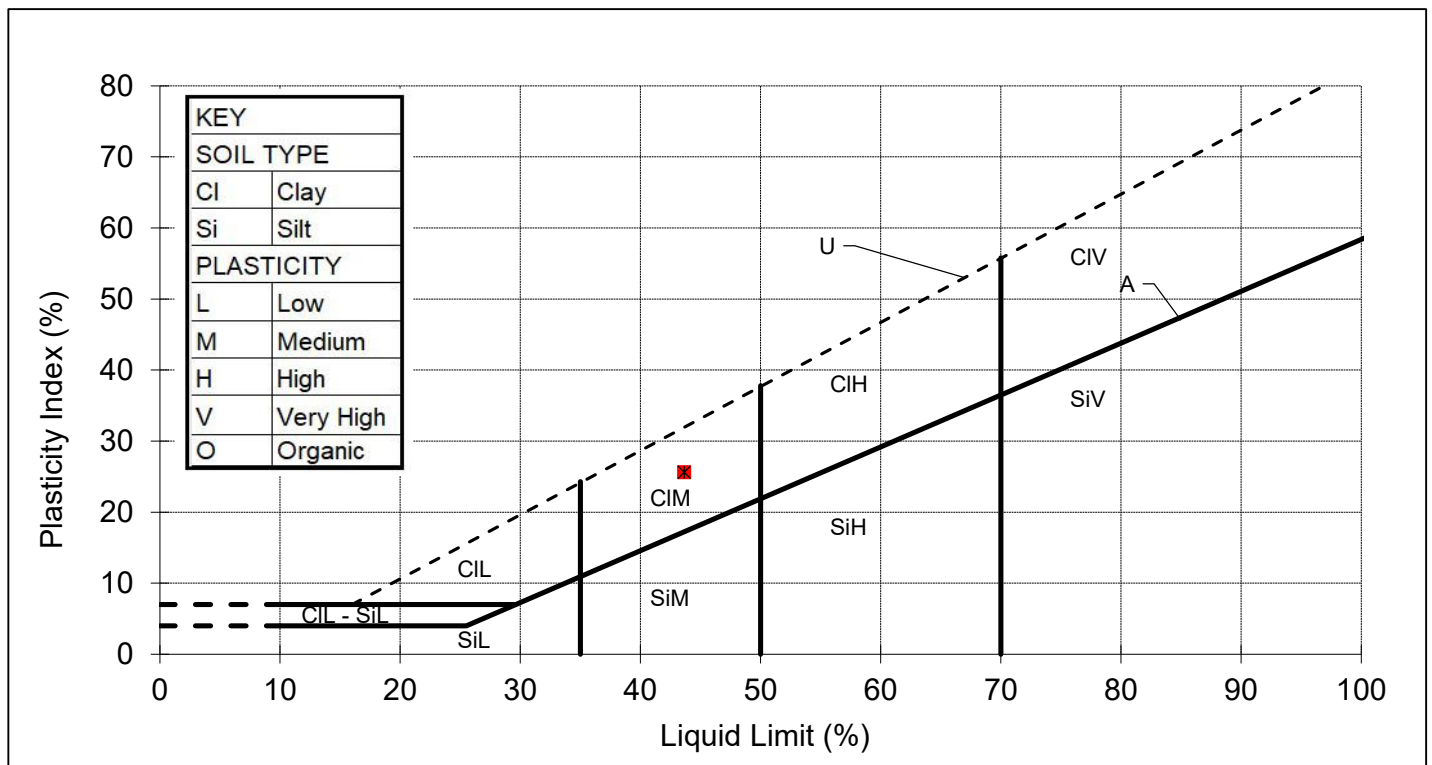
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/102

SAMPLE LABEL	SP116	DATE SAMPLED	06-Sep-23
SAMPLE No.	130925	DATE RECEIVED	06-Sep-23
DATE TESTED	31-Aug-23	SAMPLED BY	Client

MATERIAL	Brown CLAY		
ADVISED SOURCE	Site won	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	18.6	42.8	1.020	
Determination 2 (avg)	19.0	42.8		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
14.2	44	18	26	57



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

19-Sep-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

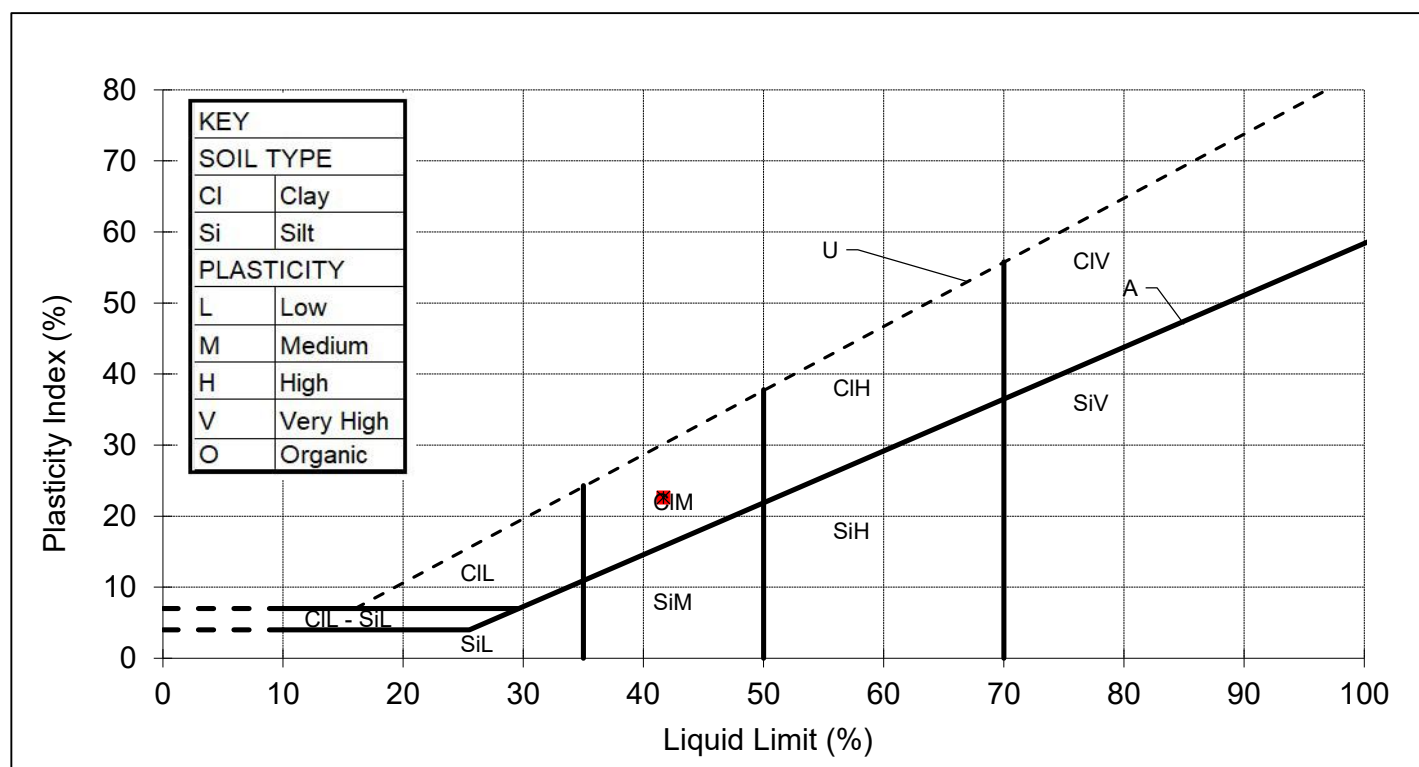
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/102

SAMPLE LABEL	SP117	DATE SAMPLED	06-Sep-23
SAMPLE No.	130926	DATE RECEIVED	06-Sep-23
DATE TESTED	31-Aug-23	SAMPLED BY	Client

MATERIAL	Brown CLAY		
ADVISED SOURCE	Site won	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)	Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	19.2	41.0	1.011
Determination 2 (avg)	19.7	41.4	

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
16.1	42	19	23	69



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

19-Sep-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 2.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

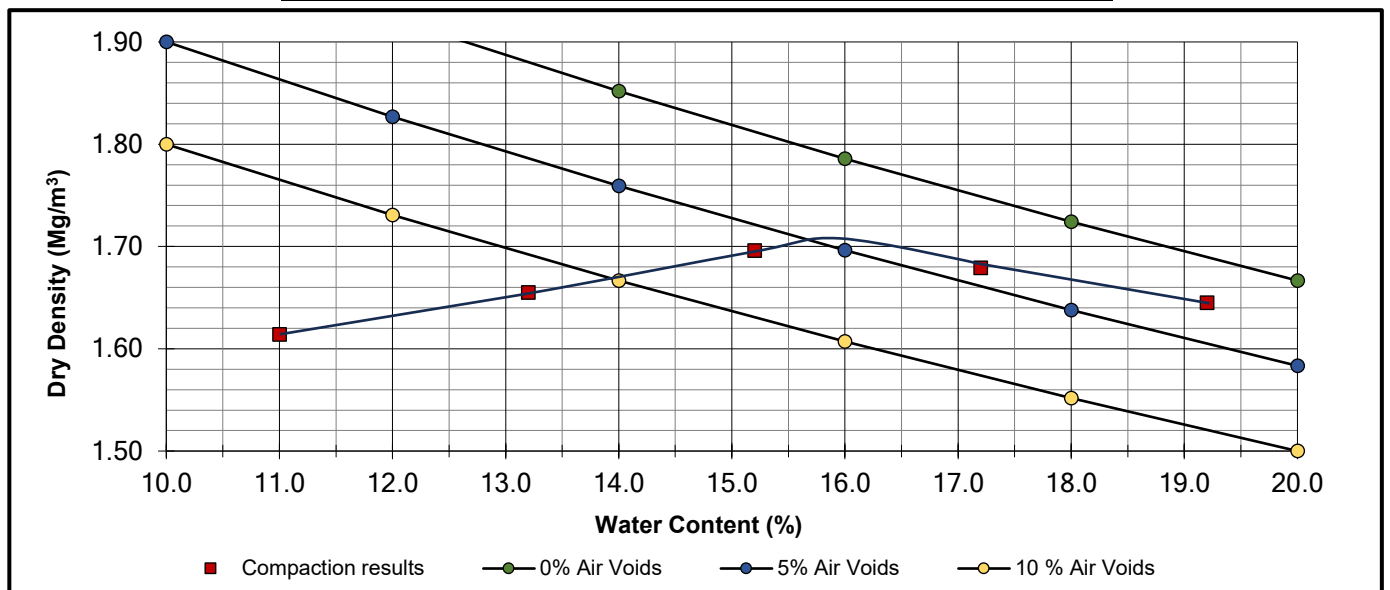
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/102

SAMPLE LABEL	SP116	DATE SAMPLED	06-Sep-23
SAMPLE NUMBER	130924	DATE RECEIVED	06-Sep-23
DATE TESTED	06-Sep-23	SAMPLED BY	Client

MATERIAL	Brown CLAY
ADVISED SOURCE	Site Won
PRE TREATMENT	Air Dried / Single Sample

RETAINED 37.5mm	13 %	GRADING ZONE	Zone X
RETAINED 20mm	20 %	PARTICLE DENSITY	2.50 Mg/m3 (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	11.0	1.614
2	13.2	1.655
3	15.2	1.696
4	17.2	1.679
5	19.2	1.645



OPTIMUM WATER CONTENT	16 (%)
MAXIMUM DRY DENSITY	1.70 (Mg/m ³)

REMARKS

As received water content = 14.2%

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

SIGNED

DATE 19-Sep-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 2.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

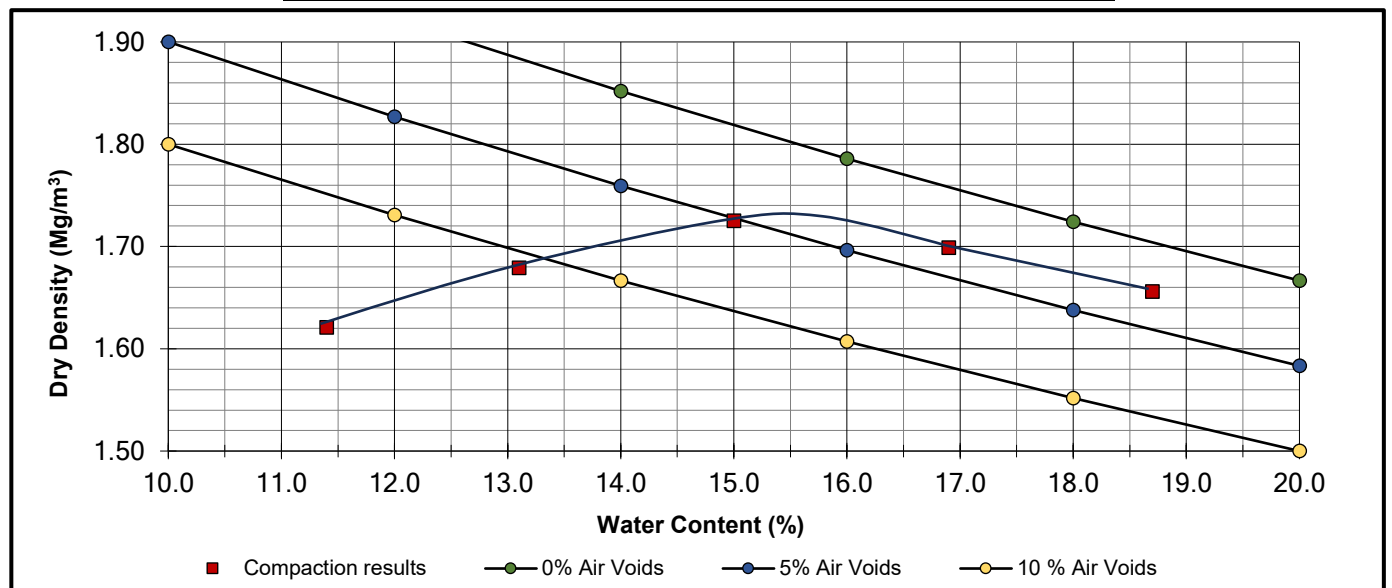
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/102

SAMPLE LABEL	SP117	DATE SAMPLED	06-Sep-23
SAMPLE NUMBER	130925	DATE RECEIVED	06-Sep-23
DATE TESTED	06-Sep-23	SAMPLED BY	Client

MATERIAL	Brown CLAY
ADVISED SOURCE	Site Won
PRE TREATMENT	Air Dried / Single Sample

RETAINED 37.5mm	3 %	GRADING ZONE	Zone 4
RETAINED 20mm	11 %	PARTICLE DENSITY	2.50 Mg/m3 (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	11.4	1.621
2	13.1	1.679
3	15.0	1.725
4	16.9	1.699
5	18.7	1.656



OPTIMUM WATER CONTENT	16 (%)
MAXIMUM DRY DENSITY	1.73 (Mg/m ³)

REMARKS

As received water content = 16.1%

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

SIGNED

DATE 19-Sep-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 2.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

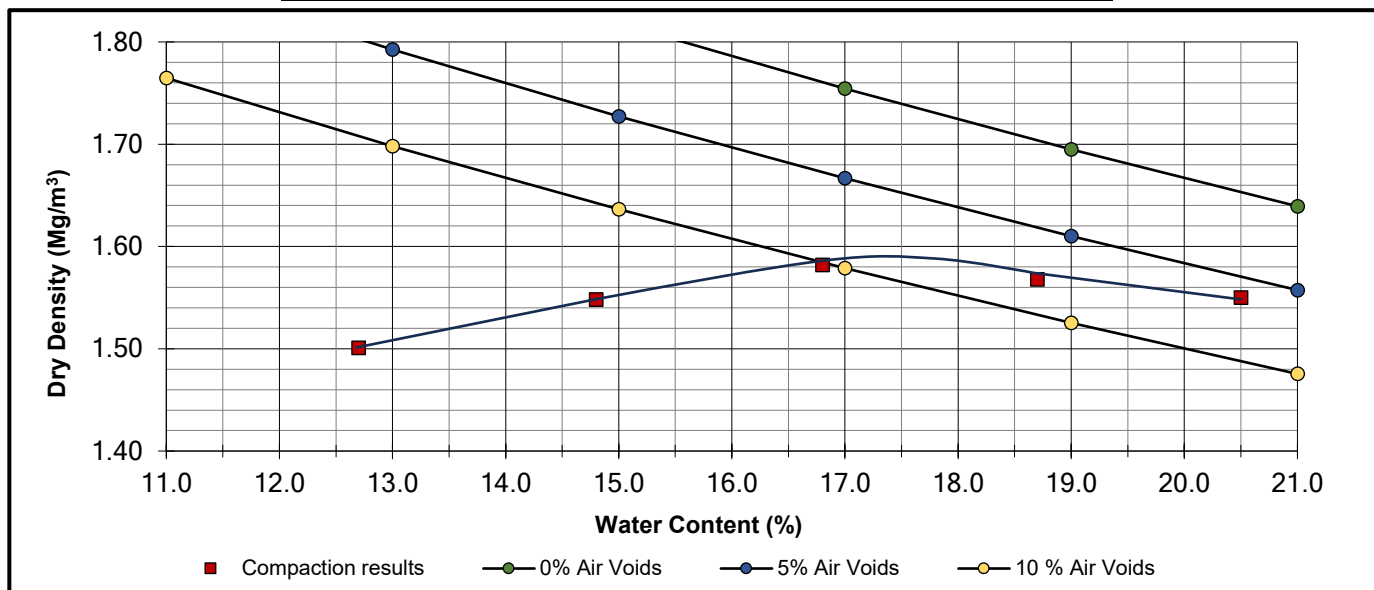
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/102

SAMPLE LABEL	Showroom 300	DATE SAMPLED	05-Sep-23
SAMPLE NUMBER	130926	DATE RECEIVED	06-Sep-23
DATE TESTED	06-Sep-23	SAMPLED BY	Client

MATERIAL	Brown sandy gravelly CLAY
ADVISED SOURCE	Site Won
PRE TREATMENT	Air Dried / Single Sample

RETAINED 37.5mm	6 %	GRADING ZONE	Zone 5
RETAINED 20mm	14 %	PARTICLE DENSITY	2.50 Mg/m3 (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	12.7	1.501
2	14.8	1.548
3	16.8	1.582
4	18.7	1.568
5	20.5	1.550



OPTIMUM WATER CONTENT	17 (%)
MAXIMUM DRY DENSITY	1.59 (Mg/m ³)

REMARKS

As received water content = 15.5%

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

SIGNED

DATE 19-Sep-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 2.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

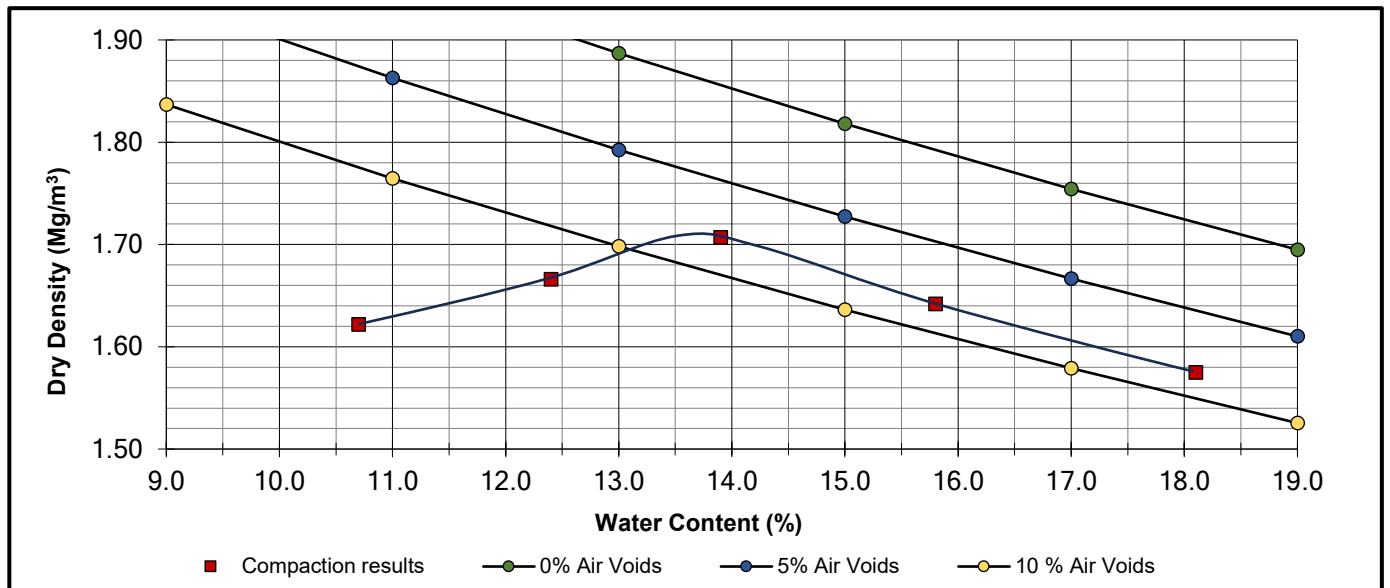
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/102

SAMPLE LABEL	Showroom 600	DATE SAMPLED	05-Sep-23
SAMPLE NUMBER	130927	DATE RECEIVED	06-Sep-23
DATE TESTED	06-Sep-23	SAMPLED BY	Client

MATERIAL	Brown sandy gravelly CLAY
ADVISED SOURCE	Site Won
PRE TREATMENT	Air Dried / Single Sample

RETAINED 37.5mm	15 %	GRADING ZONE	Zone X
RETAINED 20mm	24 %	PARTICLE DENSITY	2.50 Mg/m ³ (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	10.7	1.622
2	12.4	1.666
3	13.9	1.707
4	15.8	1.642
5	18.1	1.575



OPTIMUM WATER CONTENT	14	(%)
MAXIMUM DRY DENSITY	1.71	(Mg/m ³)

REMARKS

As received water content = 13.3%

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

SIGNED

DATE 19-Sep-23

TEST REPORT

Client e3p

Address Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contract George Street,
Heywood (13-224)

Job Number MRN 4588/109

Date of Issue 02 October 2023

Page 1 of 3

Approved Signatories

S J Hutchings, O P Davies

Notes

- 1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.
- 2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.
- 3 Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.
- 4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted.
- 5 The results included within the report are representative of the samples submitted for analysis.
- 6 This certificate should not be reproduced, except in full, without the express permission of the laboratory.



Andrew House, Hadfield Street, Dukinfield, Cheshire SK16 4QX Tel: 0161 475 0870
Email: enquiries@murrayrix.com Website: www.murrayrix.com

Also at: London: 020 8523 1999

Murray Rix is the trading name of Murray Rix (Northern) Limited. Registered in England 2878361

TEST CERTIFICATE
PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

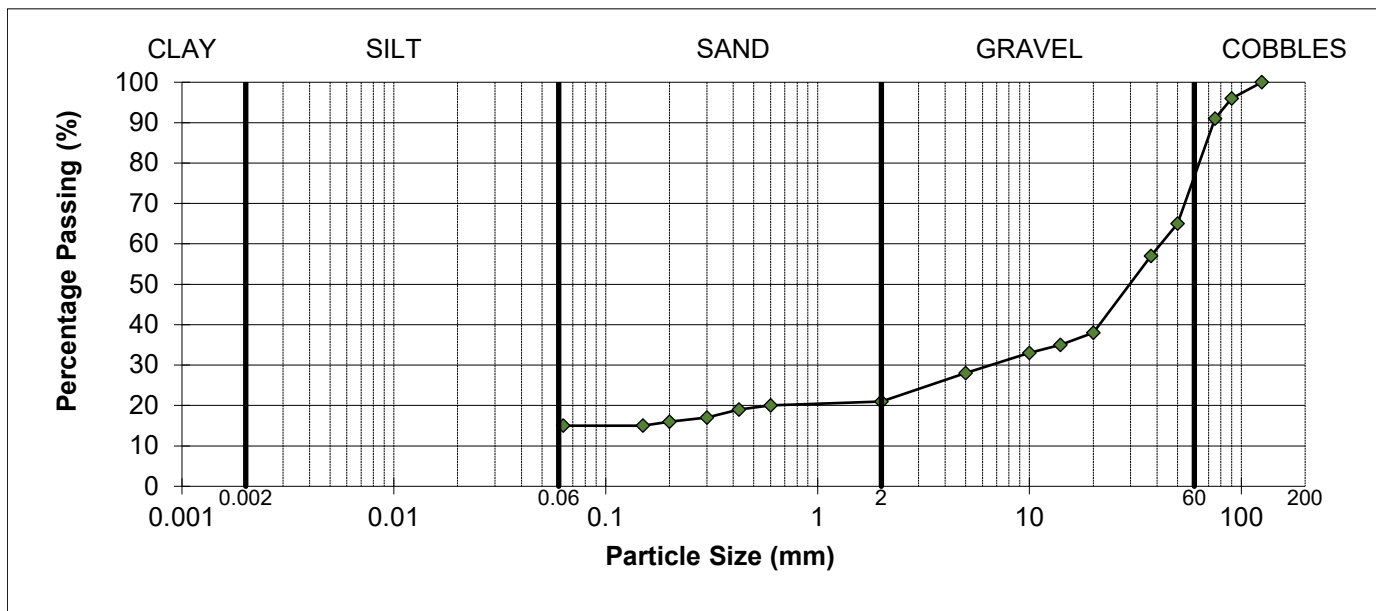
Determination of Water Content in accordance with BS EN ISO 17892-1:2014 (Oven Dry)

CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/109

SAMPLE LABEL	SP118	DATE SAMPLED	14-Sep-23
LAB SAMPLE No	131230	DATE RECEIVED	14-Sep-23
DATE TESTED	18-Sep-23	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Site won

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		5	28	
90	96		2	21	
75	91		0.6	20	
50	65		0.425	19	
37.5	57		0.3	17	
20	38		0.2	16	
14	35		0.15	15	
10	33		0.063	15	



REMARKS

As received water content = 8.5%

SIGNED



NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

02-Oct-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 4.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

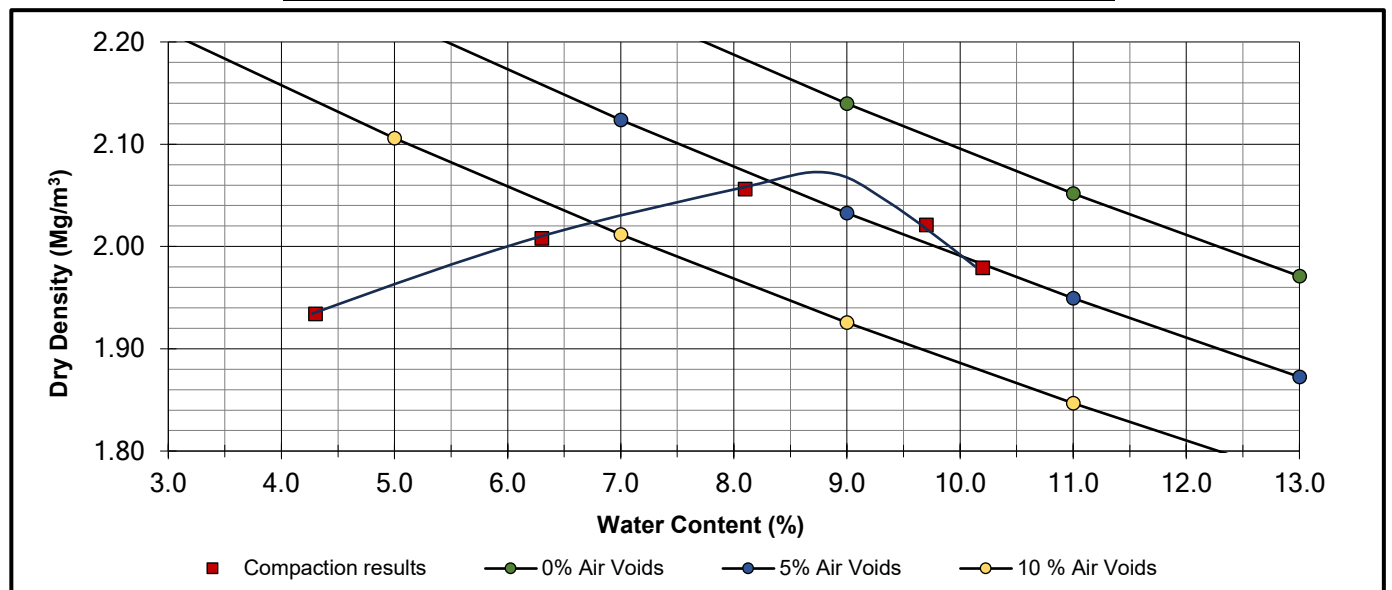
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/109

SAMPLE LABEL	SP118	DATE SAMPLED	14-Sep-23
SAMPLE NUMBER	131230	DATE RECEIVED	14-Sep-23
DATE TESTED	18-Sep-23	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Site won
PRE TREATMENT	Air Dried / Separate Batches

RETAINED 37.5mm	43 %	GRADING ZONE	Zone X
RETAINED 20mm	62 %	PARTICLE DENSITY	2.65 Mg/m ³ (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	4.3	1.934
2	6.3	2.008
3	8.1	2.056
4	9.7	2.021
5	10.2	1.979



OPTIMUM WATER CONTENT	8.8 (%)
MAXIMUM DRY DENSITY	2.07 (Mg/m ³)

REMARKS

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

SIGNED

DATE 02-Oct-23

TEST REPORT

Client e3p

Address Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contract George Street,
Heywood (13-224)

Job Number MRN 4588/110

Date of Issue 02 October 2023

Page 1 of 3

Approved Signatories

S J Hutchings, O P Davies

Notes

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- 4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted.
- 5 The results included within the report are representative of the samples submitted for analysis.
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Also at: London: 020 8523 1999

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TEST CERTIFICATE
PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

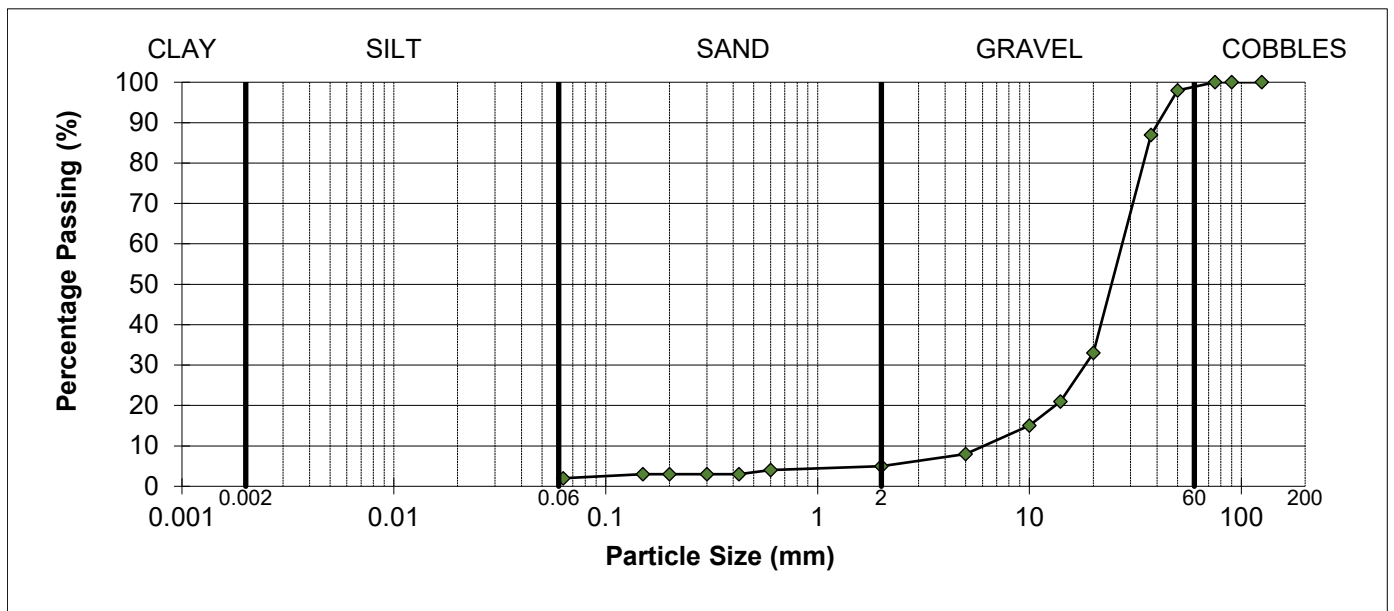
Determination of Water Content in accordance with BS EN ISO 17892-1:2014 (Oven Dry)

CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/110

SAMPLE LABEL	SP119	DATE SAMPLED	19-Sep-23
LAB SAMPLE No	131389	DATE RECEIVED	19-Sep-23
DATE TESTED	20-Sep-23	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Site won

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		5	8	
90	100		2	5	
75	100		0.6	4	
50	98		0.425	3	
37.5	87		0.3	3	
20	33		0.2	3	
14	21		0.15	3	
10	15		0.063	2	



REMARKS

As received water content = 4.5%

SIGNED



NAME

O.P. Davies BA (Hons)
(Laboratory Manager)

DATE

02-Oct-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 4.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

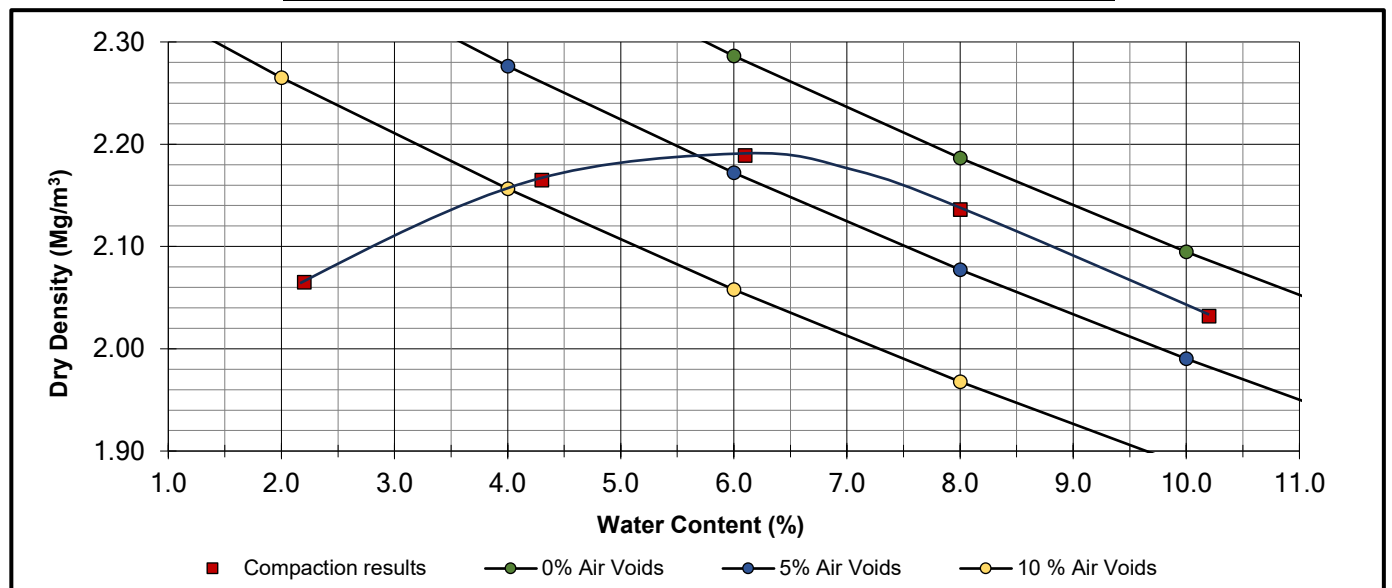
CLIENT	e3p
SITE	George Street, Heywood (13-224)
JOB NUMBER	MRN 4588/110

SAMPLE LABEL	SP119	DATE SAMPLED	19-Sep-23
SAMPLE NUMBER	131389	DATE RECEIVED	19-Sep-23
DATE TESTED	20-Sep-23	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Site won
PRE TREATMENT	Air Dried / Separate Batches

RETAINED 37.5mm	13 %	GRADING ZONE	Zone X
RETAINED 20mm	67 %	PARTICLE DENSITY	2.65 Mg/m ³ (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	2.2	2.065
2	4.3	2.165
3	6.1	2.189
4	8.0	2.136
5	10.2	2.032



OPTIMUM WATER CONTENT	6.2	(%)
MAXIMUM DRY DENSITY	2.19	(Mg/m ³)

REMARKS

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

SIGNED

DATE 02-Oct-23



NNDG Assessment Calculation

IMS Ref: QD38-1

Job Number	13-224
Site Name	George St
Test Date	25/08/2023

OMC/ MDD test Number	DRY Density (Mg/m ³)	OMC (%)	MC (-3%)	MC (+3%)	Classification
SP102	1.75	14.00			Class 2C
SP103	1.76	14.00			Class 2C
SP105	1.74	15.00			Class 2C
SP109	1.73	13.00			Class 2A/2B
SP111	1.62	20.00			Class 2C
SP116	1.70	16.00			Class 2C
SP117	1.73	16.00			Class 2C
Showroom 300	1.59	17.00			Class 2C
Showroom 600	1.71	14.00			Class 2C
Average	1.70	15.44	12.44	18.44	-

NNDG test number	Location id	layer / level (AOD)	Bulk Density (Mg/m ³)	Dry density (Mg/m ³)	Moisture Content (%)	Percentage compaction (%)
101-200	-	111.10	2.02	1.66	21.90	97.47
102-200	-	111.10	2.03	1.66	22.00	97.51
103-200	-	111.10	2.05	1.68	22.10	98.55
104-200	-	111.10	2.06	1.68	22.20	98.73
105-200	-	111.10	2.02	1.66	21.80	97.32
101-600	-	110.70	1.92	1.58	21.30	93.04
102-600	-	110.70	1.94	1.60	21.20	94.19
103-600A	-	110.70	1.84	1.53	20.50	89.69
103-600	-	110.70	1.93	1.59	21.10	93.38
104-600	-	110.70	1.91	1.58	21.00	92.47
105-600	-	110.70	1.91	1.58	20.80	92.78
101-1200	-	110.10	1.82	1.52	19.90	89.03
102-1200	-	110.10	1.79	1.50	19.70	87.92
103-1200	-	110.10	1.80	1.50	20.00	87.93
104-1200	-	110.10	1.83	1.52	20.30	89.40
105-1200	-	110.10	1.85	1.54	19.80	90.70



Job Number	13-224
Site Name	George St
Test Date	01/09/2023

OMC/ MDD test Number	DRY Density (Mg/m³)	OMC (%)	MC (-3%)	MC (+3%)	Classification
SP102	1.75	14.00			Class 2C
SP103	1.76	14.00			Class 2C
SP105	1.74	15.00			Class 2C
SP109	1.73	13.00			Class 2A/2B
SP111	1.62	20.00			Class 2C
SP116	1.70	16.00			Class 2C
SP117	1.73	16.00			Class 2C
Showroom 300	1.59	17.00			Class 2C
Showroom 600	1.71	14.00			Class 2C
Average	1.70	15.44	12.44	18.44	-

NNDG test number	Location id	layer / level (AOD)	Bulk Density (Mg/m³)	Dry density (Mg/m³)	Moisture Content (%)	Percentage compaction (%)
201	-	Engineered Structural Upfill	1.87	1.55	20.60	90.83
202	-	Engineered Structural Upfill	1.92	1.58	21.10	92.92
203	-	Engineered Structural Upfill	1.96	1.61	21.40	94.76
204	-	Engineered Structural Upfill	1.95	1.60	21.40	94.12
205	-	Engineered Structural Upfill	2.01	1.65	21.80	97.04
206	-	Engineered Structural Upfill	1.95	1.60	21.30	94.22
207	-	Engineered Structural Upfill	1.97	1.62	21.50	95.15
208	-	Engineered Structural Upfill	2.02	1.66	21.90	97.44
209	-	Engineered Structural Upfill	2.10	1.71	22.40	100.57
210	-	Engineered Structural Upfill	1.98	1.63	21.60	95.85
211	-	Engineered Structural Upfill	1.99	1.63	21.60	95.96
212	-	Engineered Structural Upfill	1.94	1.59	21.40	93.63



Job Number	13-224
Site Name	George St
Test Date	05/09/2023

OMC/ MDD test Number	DRY Density (Mg/m³)	OMC (%)	MC (-3%)	MC (+3%)	Classification
SP102	1.75	14.00			Class 2C
SP103	1.76	14.00			Class 2C
SP105	1.74	15.00			Class 2C
SP109	1.73	13.00			Class 2A/2B
SP111	1.62	20.00			Class 2C
SP116	1.70	16.00			Class 2C
SP117	1.73	16.00			Class 2C
Showroom 300	1.59	17.00			Class 2C
Showroom 600	1.71	14.00			Class 2C
Average	1.70	15.44	12.44	18.44	-

NNDG test number	Location id	layer / level (AOD)	Bulk Density (Mg/m³)	Dry density (Mg/m³)	Moisture Content (%)	Percentage compaction (%)
301	-	Engineered Structural Upfill	1.94	1.60	21.60	93.71
302	-	Engineered Structural Upfill	1.92	1.58	21.40	92.84
303	-	Engineered Structural Upfill	1.91	1.57	21.40	92.15
304	-	Engineered Structural Upfill	1.93	1.59	21.40	93.23



Job Number	13-224
Site Name	George St
Test Date	08/09/2023

OMC/ MDD test Number	DRY Density (Mg/m³)	OMC (%)	MC (-3%)	MC (+3%)	Classification
SP102	1.75	14.00			Class 2C
SP103	1.76	14.00			Class 2C
SP105	1.74	15.00			Class 2C
SP109	1.73	13.00			Class 2A/2B
SP111	1.62	20.00			Class 2C
SP116	1.70	16.00			Class 2C
SP117	1.73	16.00			Class 2C
Showroom 300	1.59	17.00			Class 2C
Showroom 600	1.71	14.00			Class 2C
Average	1.70	15.44	12.44	18.44	-

NNDG test number	Location id	layer / level (AOD)	Bulk Density (Mg/m³)	Dry density (Mg/m³)	Moisture Content (%)	Percentage compaction (%)
401	-	Engineered Structural Upfill	1.70	1.42	19.60	83.45
402	-	Engineered Structural Upfill	1.68	1.41	19.40	82.53
403	-	Engineered Structural Upfill	1.64	1.38	18.90	80.92
404	-	Engineered Structural Upfill	1.67	1.40	19.40	82.26
405	-	Engineered Structural Upfill	1.62	1.37	18.60	80.38
406	-	Engineered Structural Upfill	1.81	1.50	20.30	88.33
407	-	Engineered Structural Upfill	1.82	1.51	20.50	88.64
408	-	Engineered Structural Upfill	1.67	1.40	19.20	82.05
409	-	Engineered Structural Upfill	1.82	1.51	20.40	88.83
410	-	Engineered Structural Upfill	1.64	1.38	18.80	81.13
411	-	Engineered Structural Upfill	1.68	1.41	19.30	82.73
412	-	Engineered Structural Upfill	1.80	1.50	20.20	87.89
413	-	Engineered Structural Upfill	1.78	1.48	20.20	86.74
414	-	Engineered Structural Upfill	1.79	1.49	20.40	87.21
415	-	Engineered Structural Upfill	1.76	1.47	20.20	86.18
416	-	Engineered Structural Upfill	1.79	1.49	20.10	87.24



Job Number	13-224
Site Name	George St
Test Date	13/09/2023

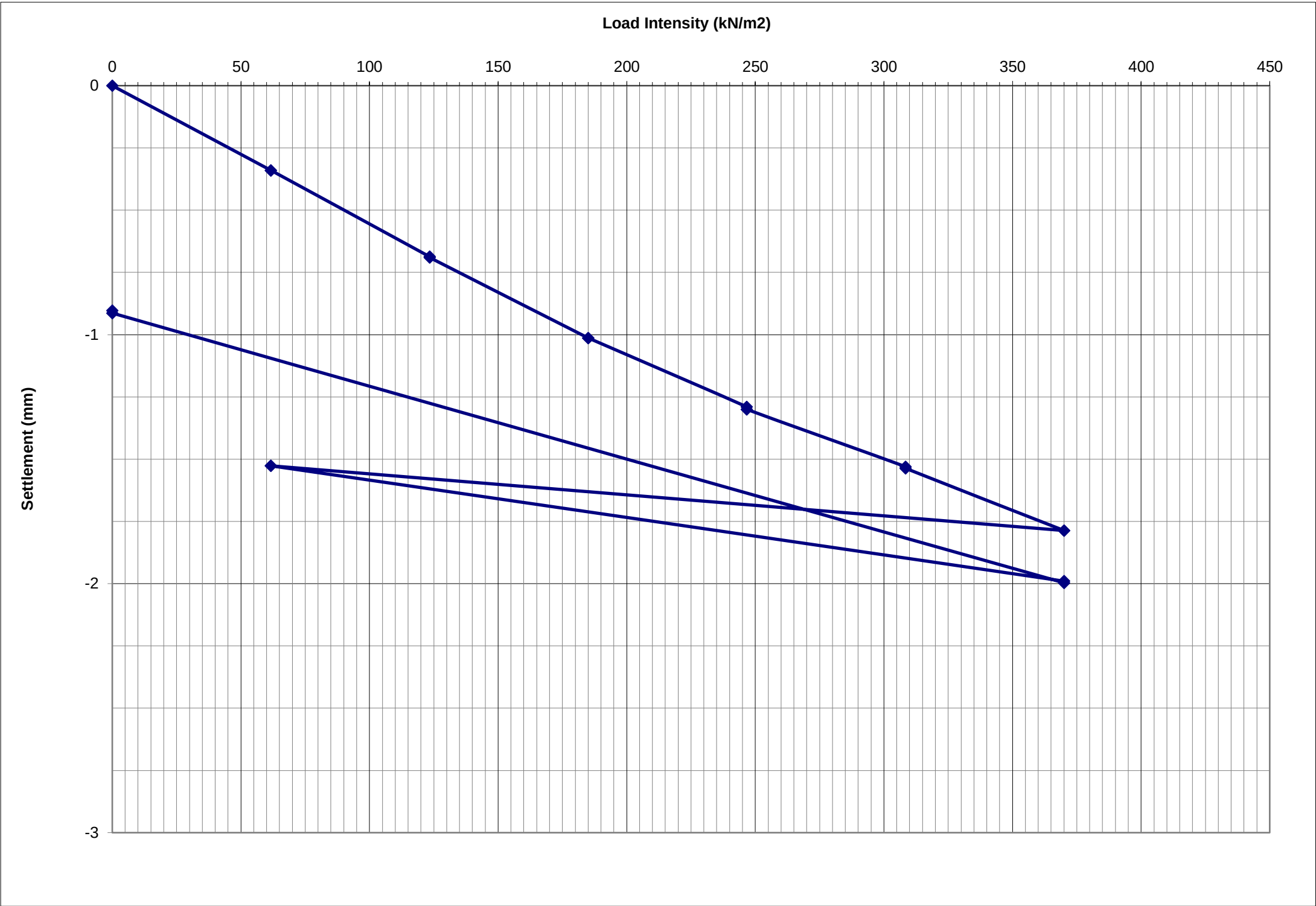
OMC/ MDD test Number	DRY Density (Mg/m³)	OMC (%)	MC (-3%)	MC (+3%)	Classification
SP102	1.75	14.00			Class 2C
SP103	1.76	14.00			Class 2C
SP105	1.74	15.00			Class 2C
SP109	1.73	13.00			Class 2A/2B
SP111	1.62	20.00			Class 2C
SP116	1.70	16.00			Class 2C
SP117	1.73	16.00			Class 2C
Showroom 300	1.59	17.00			Class 2C
Showroom 600	1.71	14.00			Class 2C
Average	1.70	15.44	12.44	18.44	-

NNDG test number	Location id	layer / level (AOD)	Bulk Density (Mg/m³)	Dry density (Mg/m³)	Moisture Content (%)	Percentage compaction (%)
501	-	Engineered Structural Upfill	1.93	1.59	21.50	93.42
502	-	Engineered Structural Upfill	1.94	1.59	21.50	93.61
503	-	Engineered Structural Upfill	2.02	1.66	22.10	97.27
504	-	Engineered Structural Upfill	1.91	1.57	21.20	92.39
505	-	Engineered Structural Upfill	2.01	1.65	21.70	96.95
506	-	Engineered Structural Upfill	1.91	1.58	20.90	92.50
507	-	Engineered Structural Upfill	1.81	1.51	20.30	88.46
508	-	Engineered Structural Upfill	1.83	1.52	20.30	89.48
509	-	Engineered Structural Upfill	1.84	1.53	20.50	89.79



Vertical Deformation Test-Equivalent CBR Value
In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	15/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR101	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384952
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410888
Maximum Deformation (mm):	-2.00	Weather:	Overcast
Strata Description:	6F2		



Equivalent CBR Value of 39%

Comments
Road

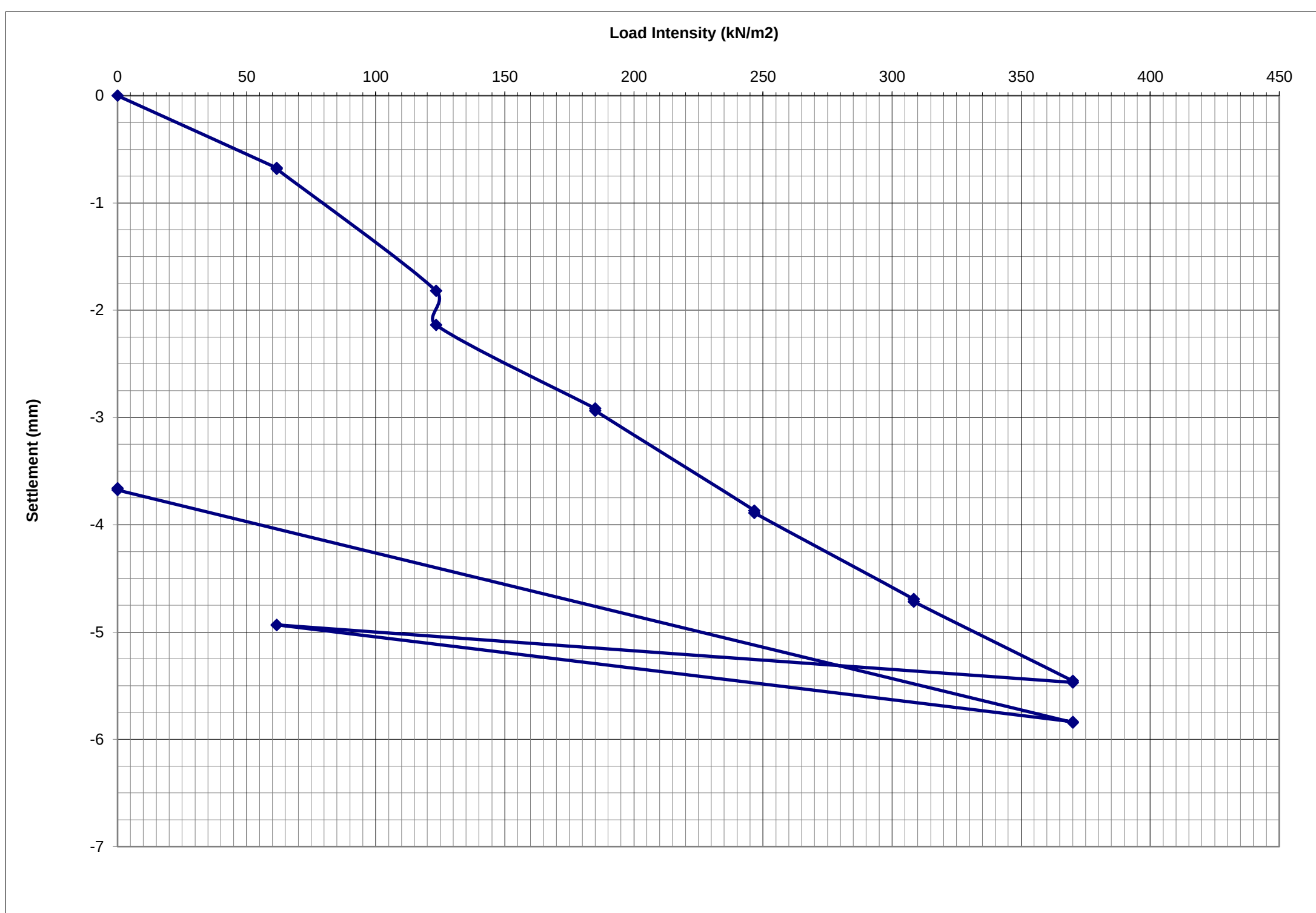
Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	25/09/2023	M. Dyer	25/09/2023



Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	15/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR102	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384963
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410909
Maximum Deformation (mm):	-5.84	Weather:	Overcast
Strata Description:	6F2		



Equivalent CBR Value of 8%

Comments

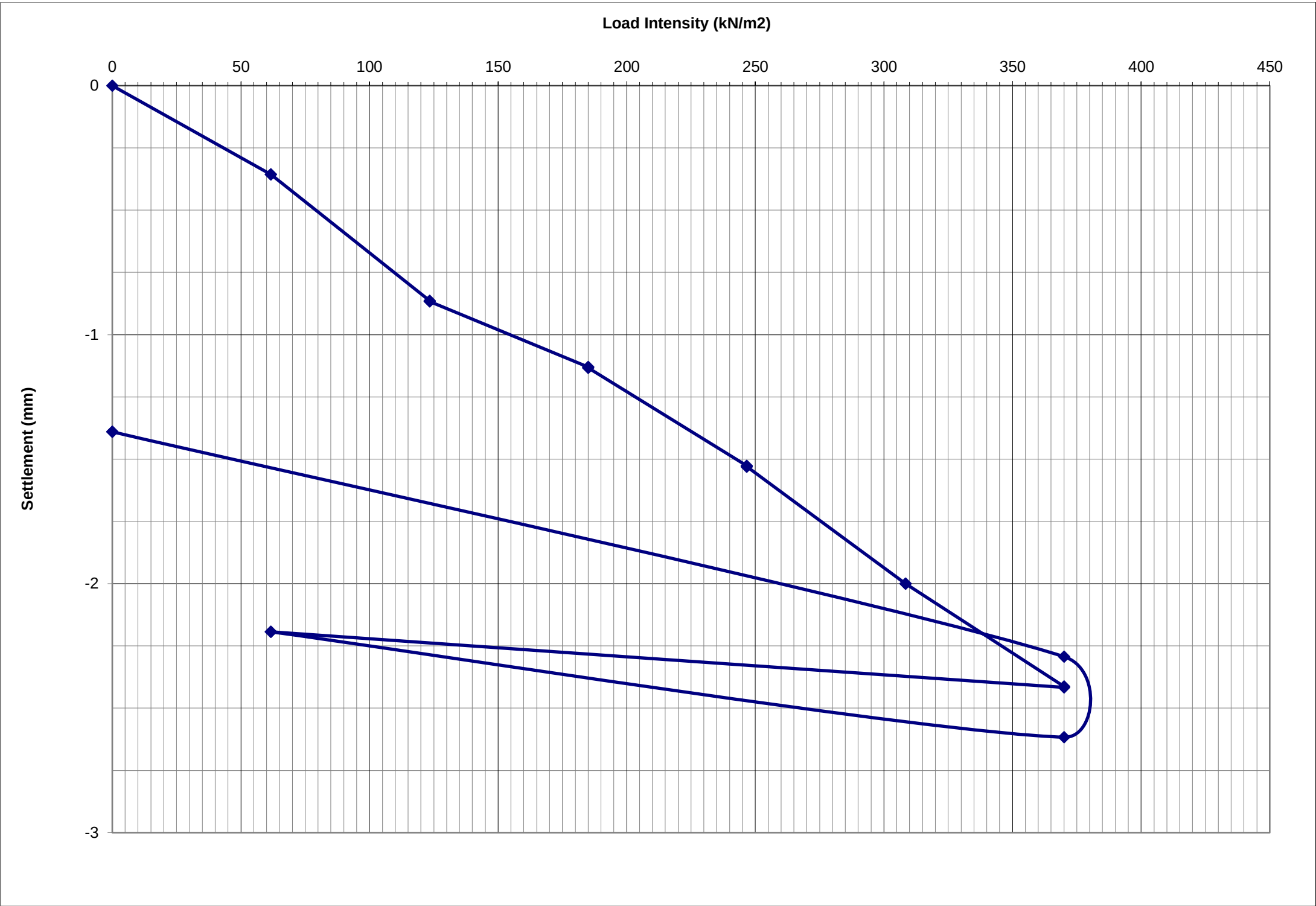
Road

Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	25/09/2023	M. Dyer	25/09/2023



Vertical Deformation Test-Equivalent CBR Value
In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	15/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR103	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384945
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410921
Maximum Deformation (mm):	-2.62	Weather:	Overcast
Strata Description:	6F2		



Equivalent CBR Value of 30%

Comments
Road

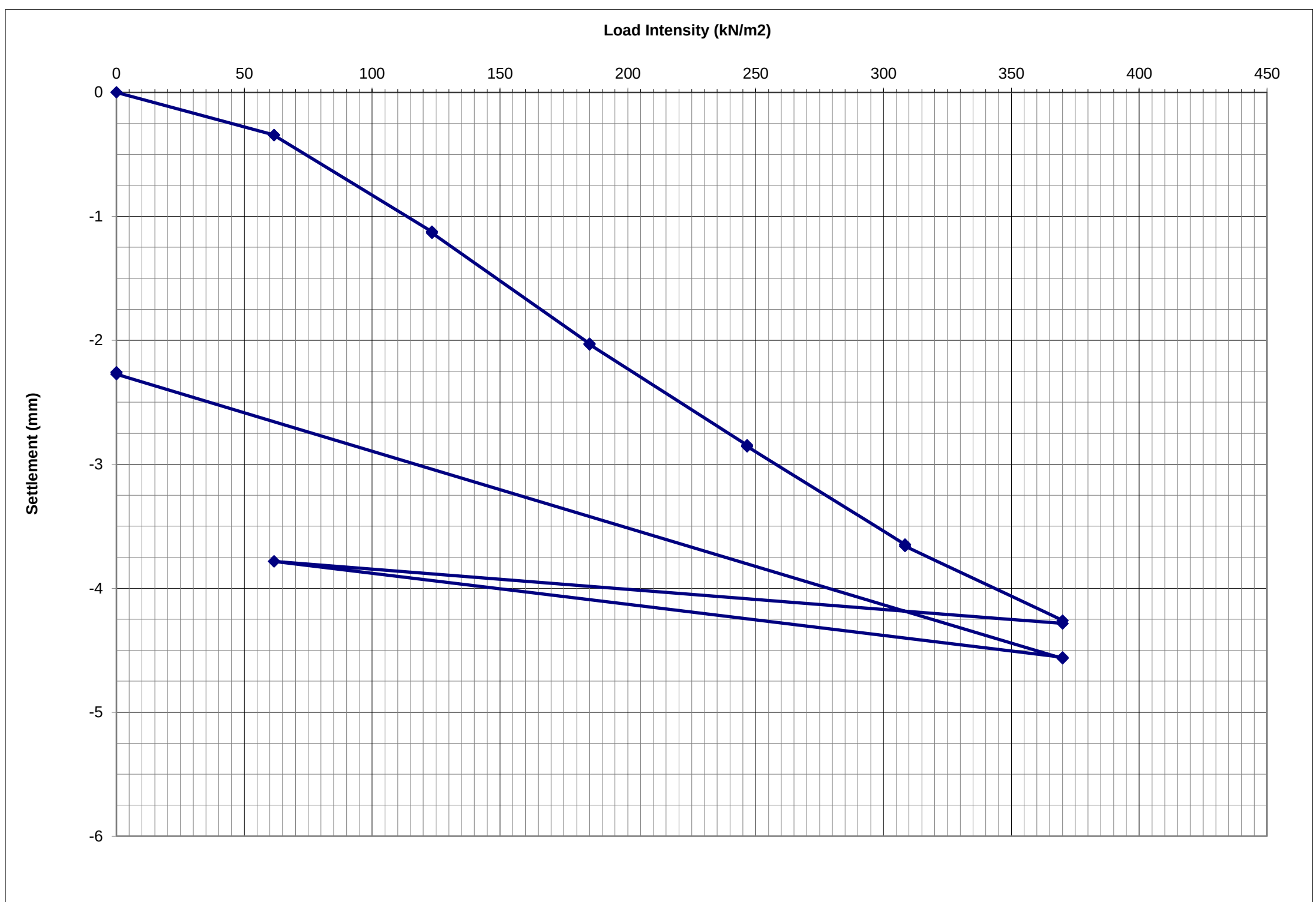
Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	25/09/2023	M. Dyer	25/09/2023



Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	15/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR104	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384955
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410942
Maximum Deformation (mm):	-4.57	Weather:	Overcast
Strata Description:	6F2		



Equivalent CBR Value of 14%

Comments

Road

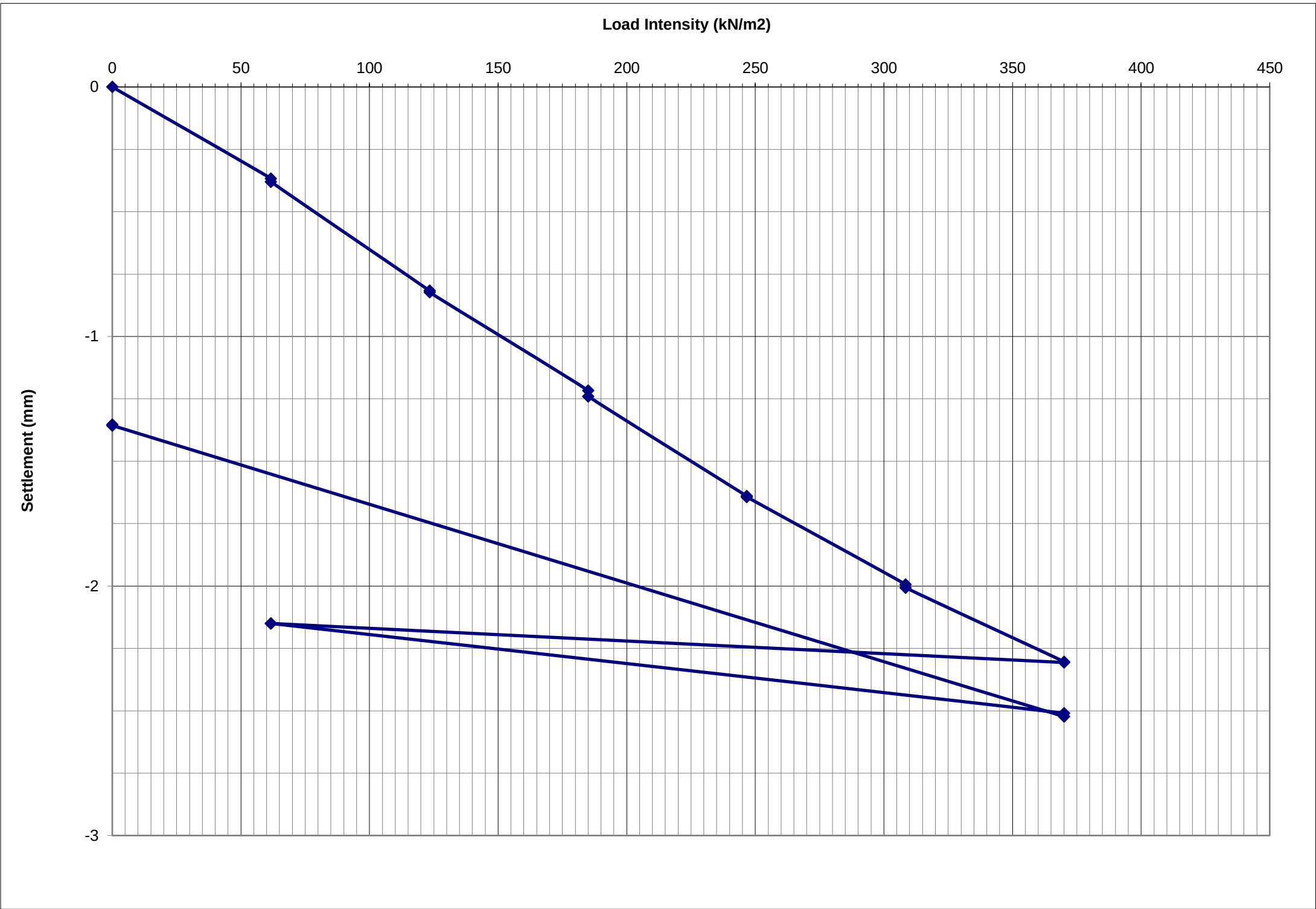
Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	25/09/2023	M. Dyer	25/09/2023



Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	15/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR105	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384973
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410931
Maximum Deformation (mm):	-2.52	Weather:	Overcast
Strata Description:	6F2		



Equivalent CBR Value of 26%

Comments
Road

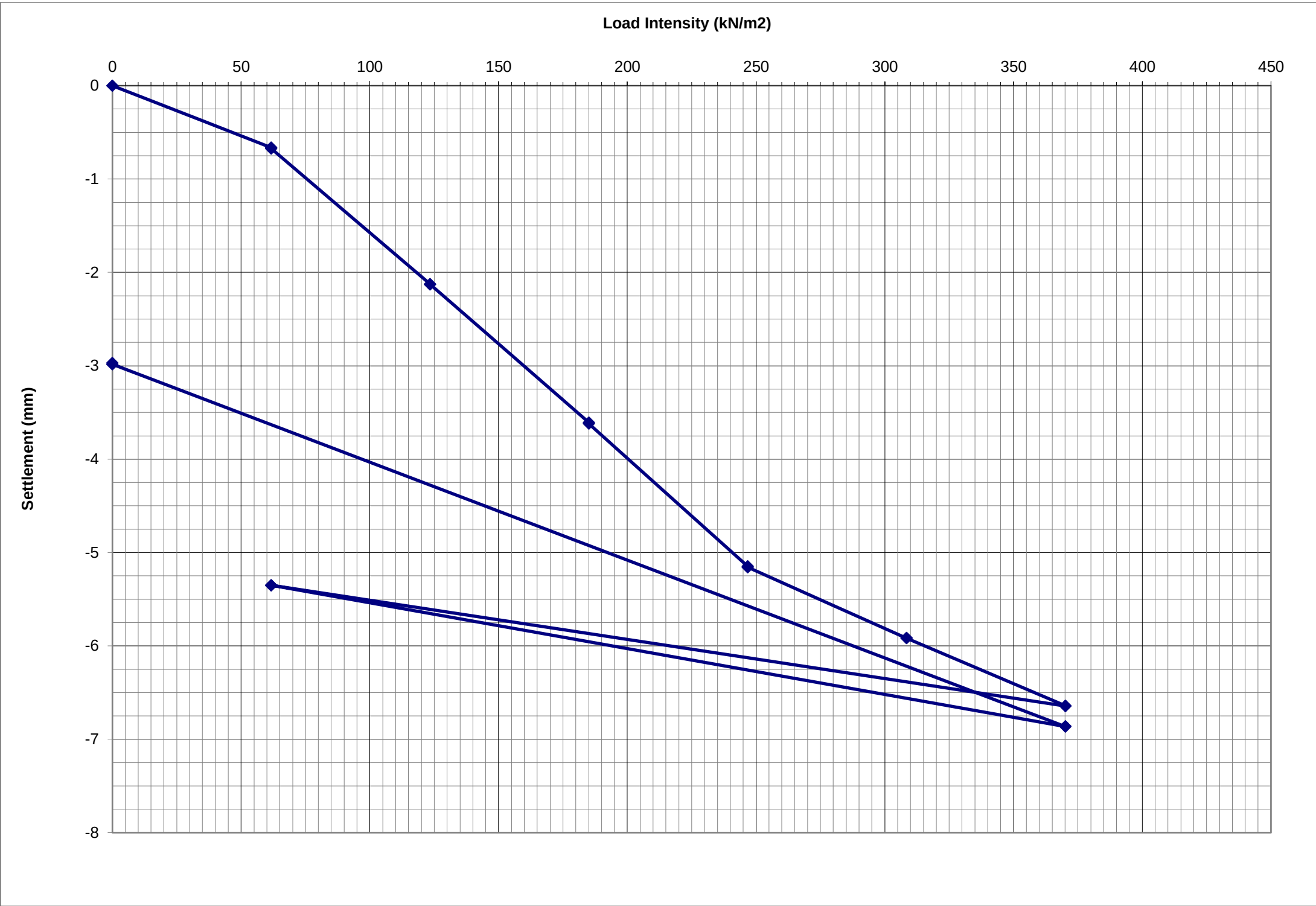
Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	25/09/2023	M. Dyer	25/09/2023



Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	15/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR106	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384984
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410949
Maximum Deformation (mm):	-6.86	Weather:	Overcast
Strata Description:	6F2		



Equivalent CBR Value of 7%

Comments				
Road				

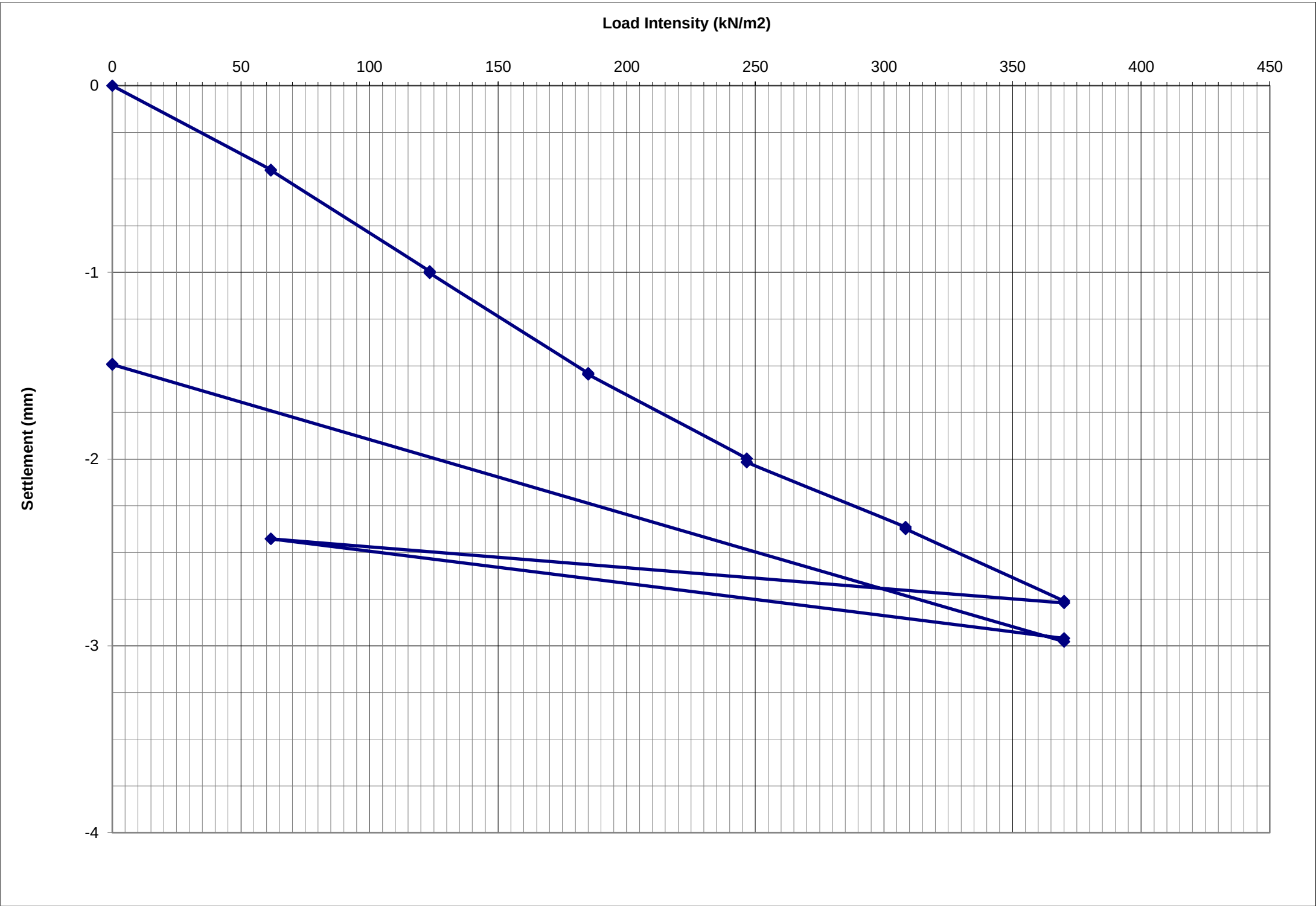
Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	25/09/2023	M. Dyer	25/09/2023



Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	25/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR102	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384963
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410909
Maximum Deformation (mm):	-2.98	Weather:	Dry
Strata Description:	6F2		



Equivalent CBR Value of 18%

Comments				
Road				

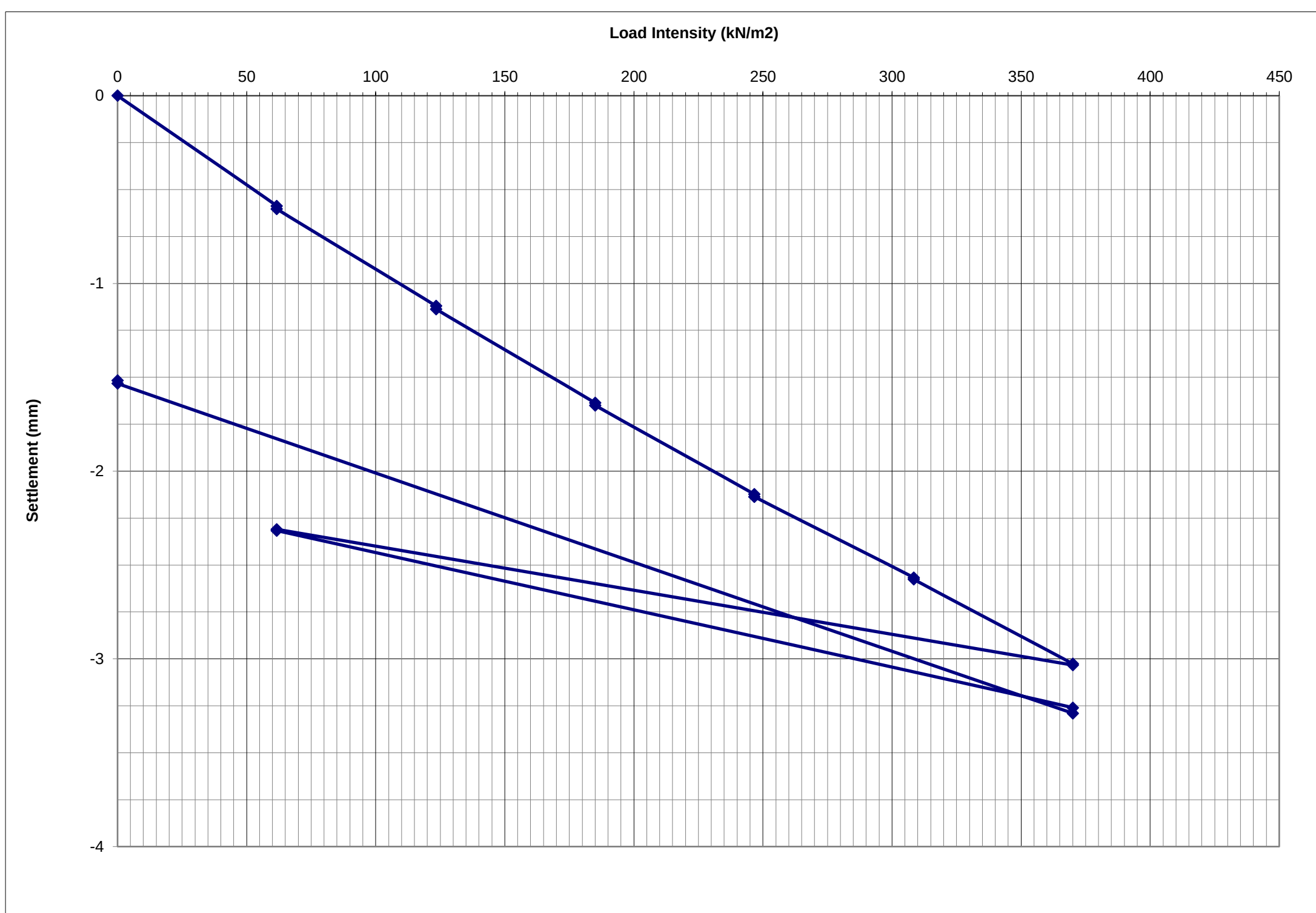
Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	26/09/2023	M. Dyer	26/09/2023



Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	25/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR104	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384955
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410942
Maximum Deformation (mm):	-3.29	Weather:	Dry
Strata Description:	6F2		



Equivalent CBR Value of 15%

Comments

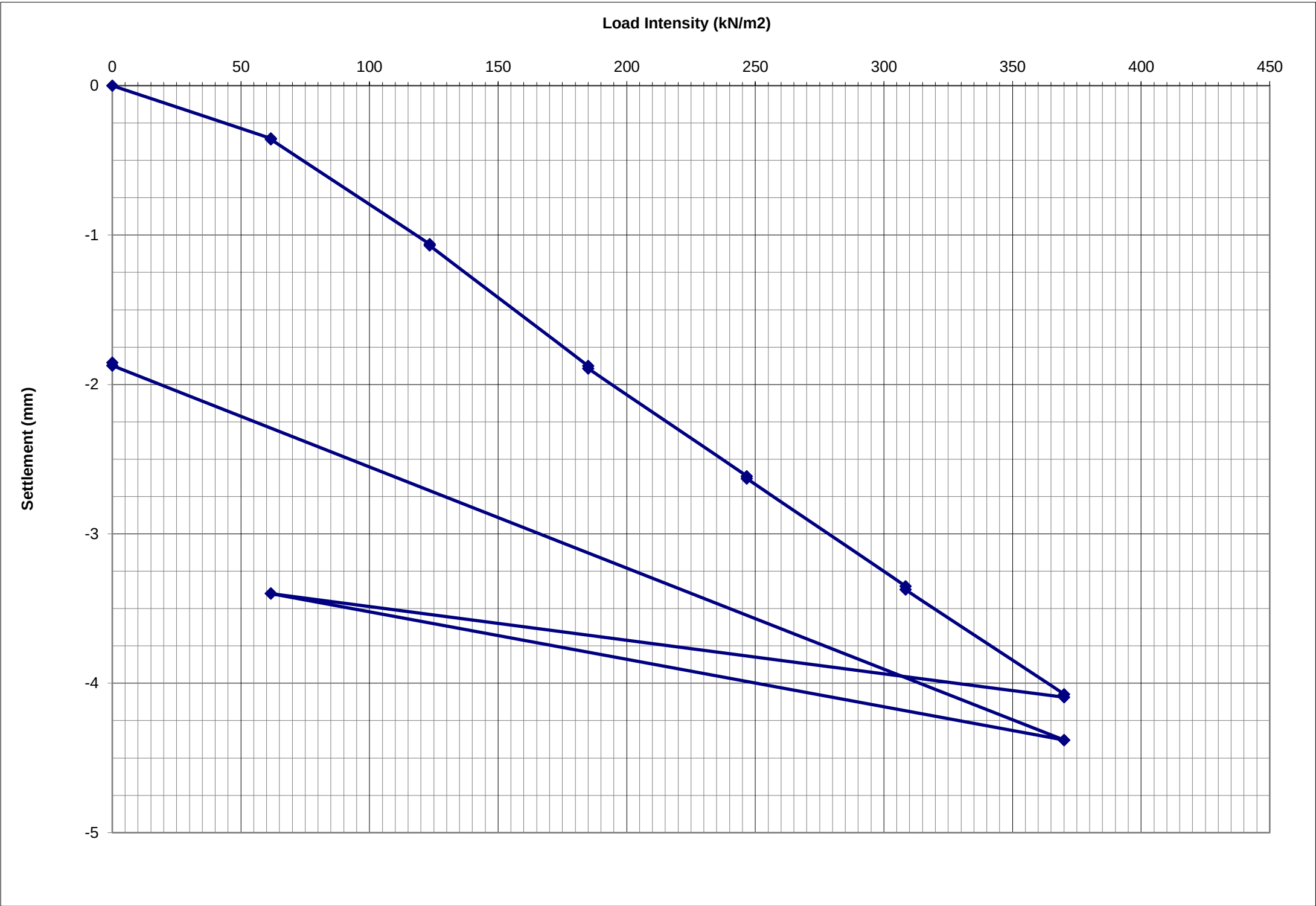
Road

Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	26/09/2023	M.Dyer	26/09/2023



Vertical Deformation Test-Equivalent CBR Value
In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	25/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR106	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384984
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410949
Maximum Deformation (mm):	-4.38	Weather:	Dry
Strata Description:	6F2		



Equivalent CBR Value of 15%

Comments

Road

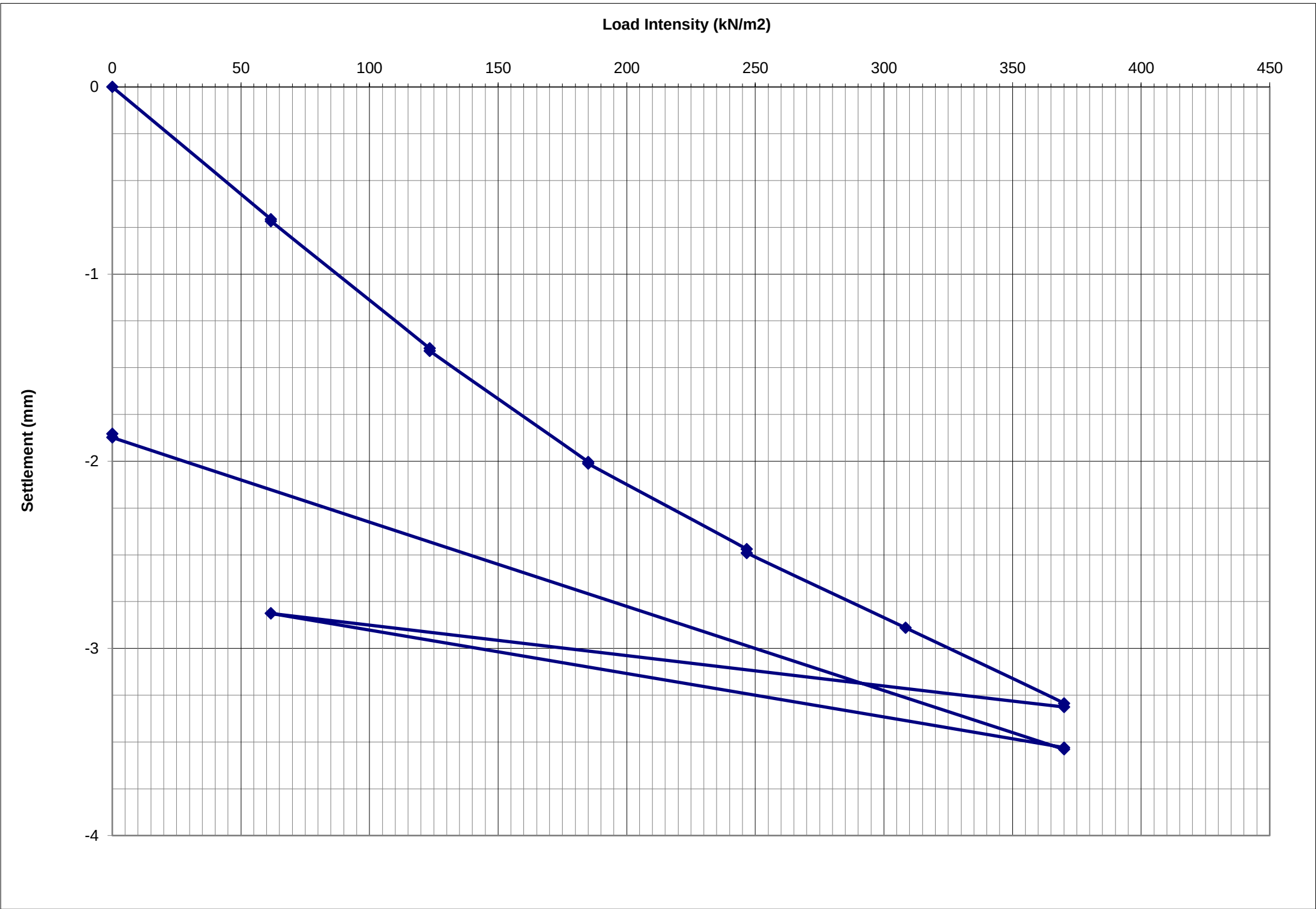
Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	26/09/2023	M. Dyer	26/09/2023



Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	25/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR107	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384969
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410880
Maximum Deformation (mm):	-3.54	Weather:	Dry
Strata Description:	6F2		



Equivalent CBR Value of 10%

Comments
Road

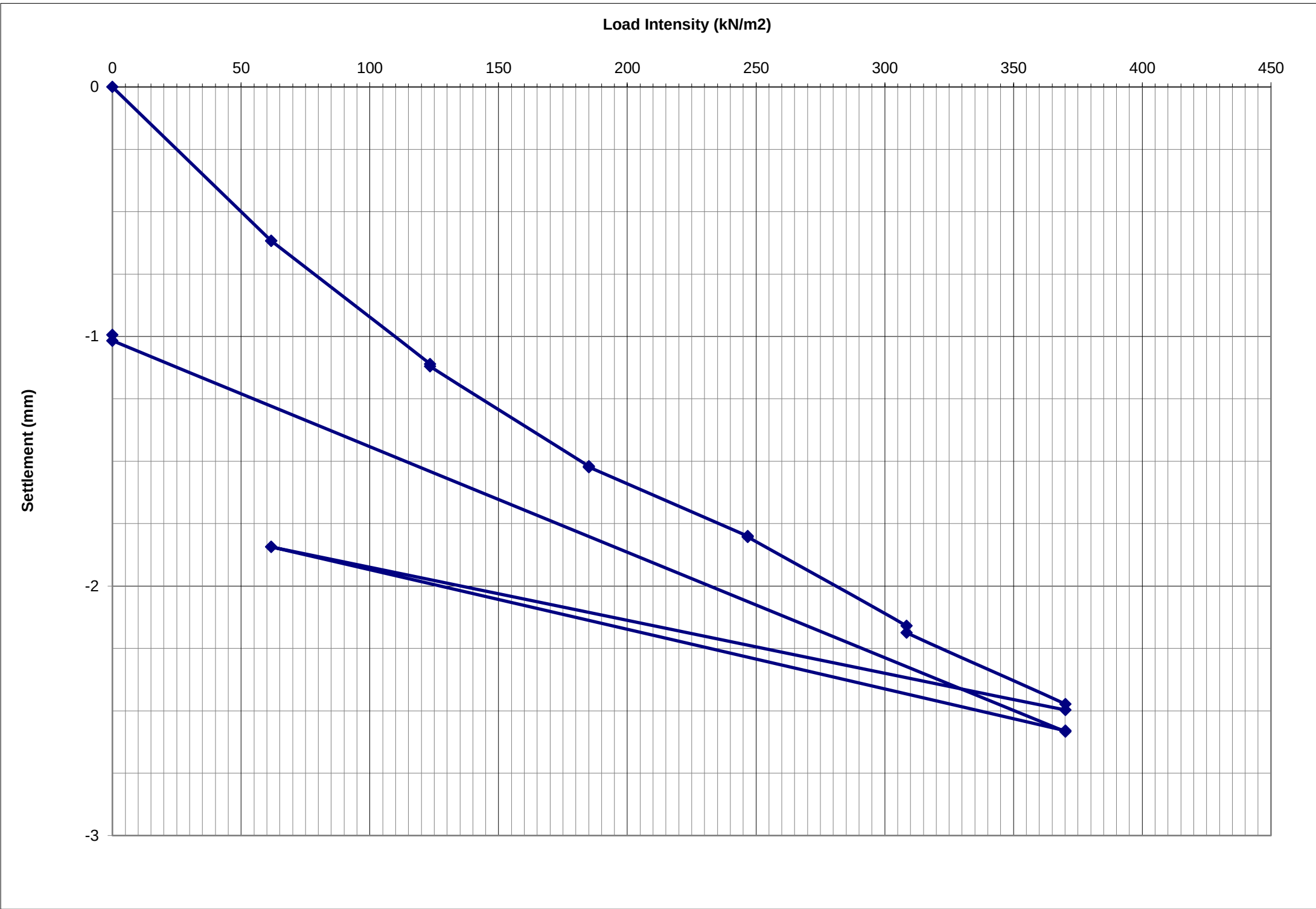
Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	26/09/2023	M. Dyer	26/09/2023



Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	25/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR108	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384957
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410865
Maximum Deformation (mm):	-2.58	Weather:	Dry
Strata Description:	6F2		



Equivalent CBR Value of 16%

Comments
Road

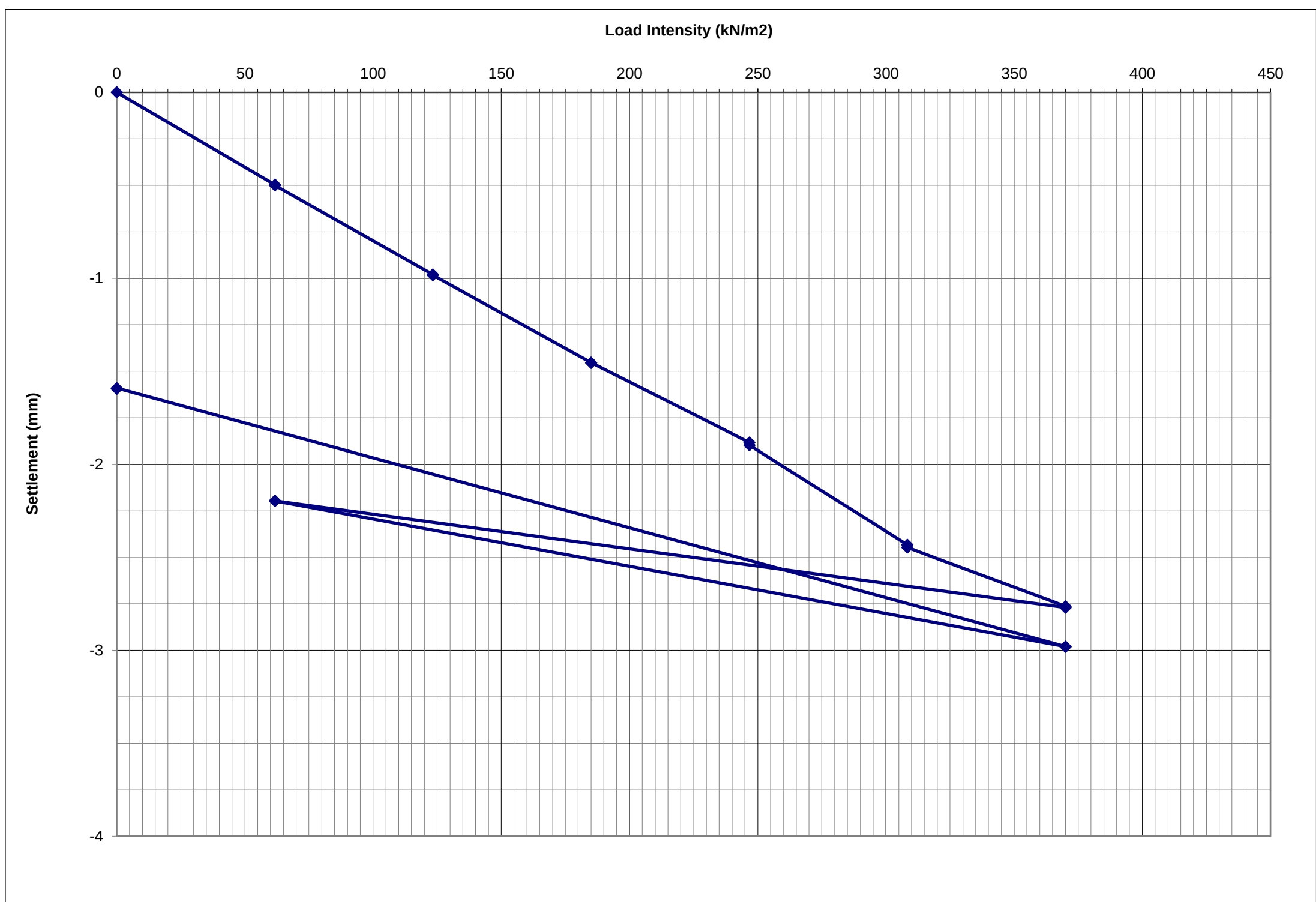
Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	26/09/2023	M. Dyer	26/09/2023



Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	25/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR109	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384937
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410850
Maximum Deformation (mm):	-2.98	Weather:	Dry
Strata Description:	6F2		



Equivalent CBR Value of 20%

Comments

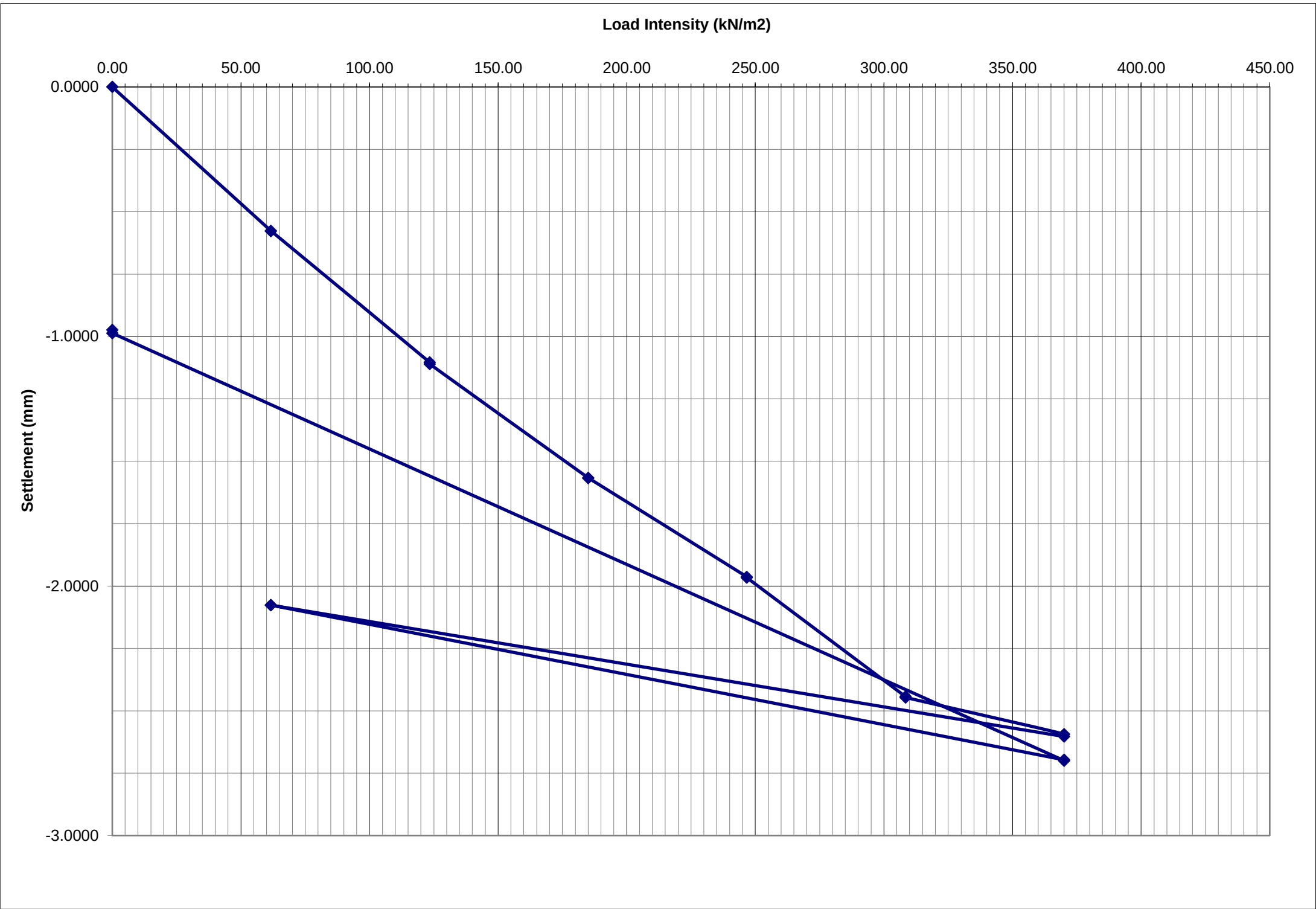
Road

Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	26/09/2023	M. Dyer	26/09/2023



Vertical Deformation Test-Equivalent CBR Value
In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	27/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR107	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384969
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410880
Maximum Deformation (mm):	-2.70	Weather:	Dry
Strata Description:	6F2		



Equivalent CBR Value of 16%

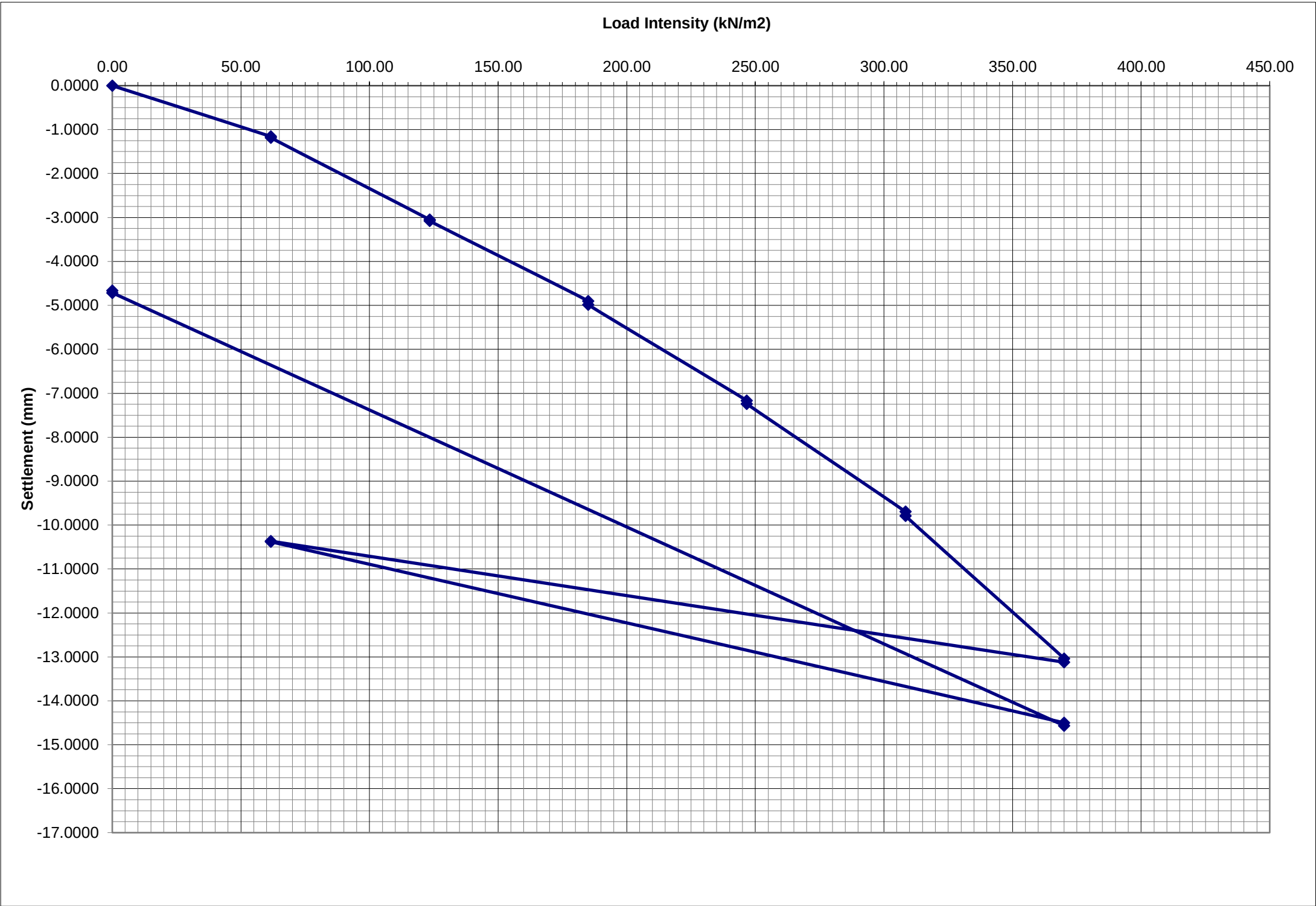
Comments
Road

Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M. Wilson	28/09/2023	M. Dyer	28/09/2023



Vertical Deformation Test-Equivalent CBR Value
In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	27/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR201	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	385000
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410900
Maximum Deformation (mm):	-14.56	Weather:	Dry
Strata Description:	6F2		



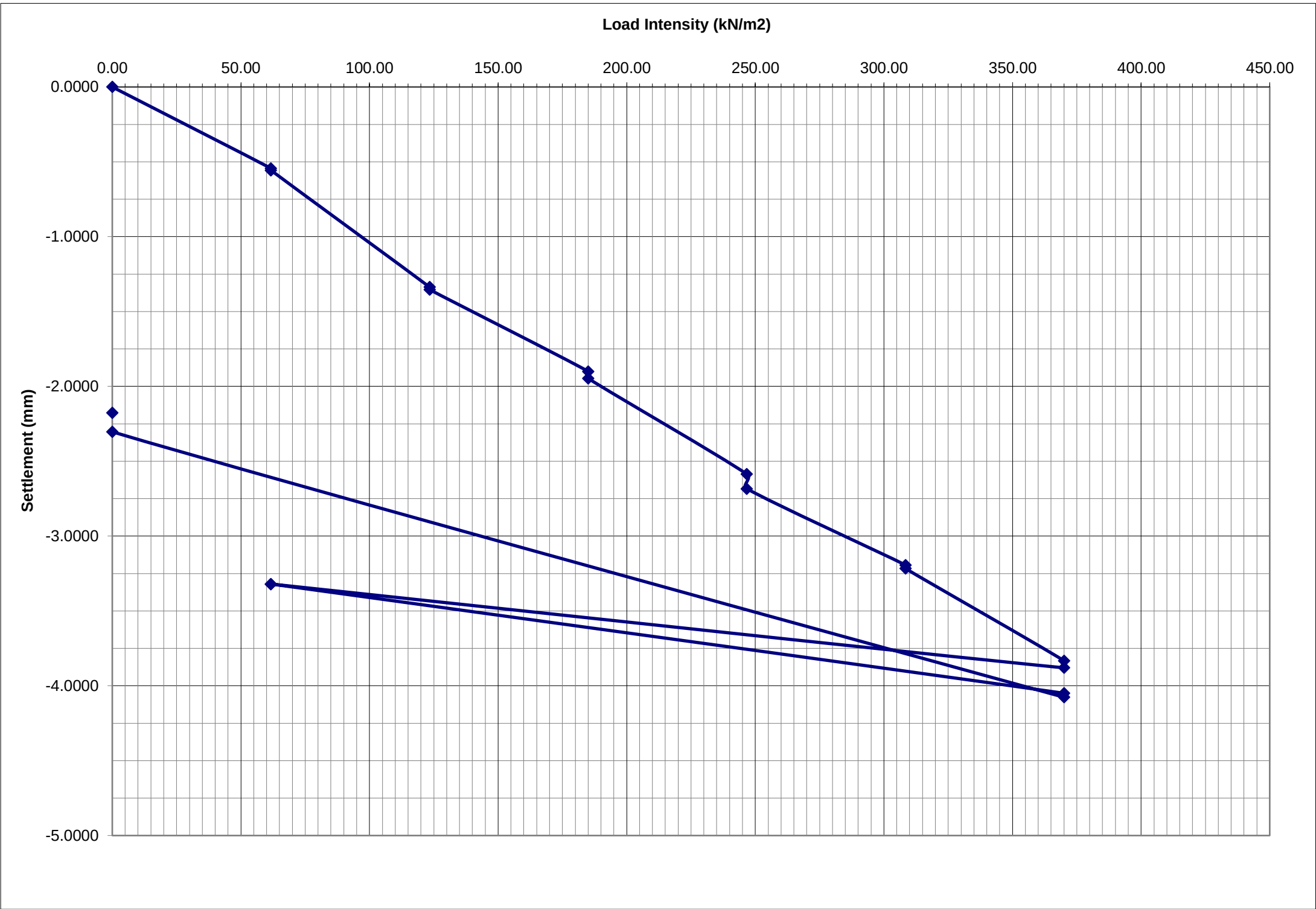
Equivalent CBR Value of 4%

Comments				
Showroom Footprint				
Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M. Wilson	28/09/2023	M. Dyer	28/09/2023



Vertical Deformation Test-Equivalent CBR Value
In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	27/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR202	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384983
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410907
Maximum Deformation (mm):	-4.08	Weather:	Dry
Strata Description:	6F2		



Equivalent CBR Value of 11%

Comments
Showroom Footprint

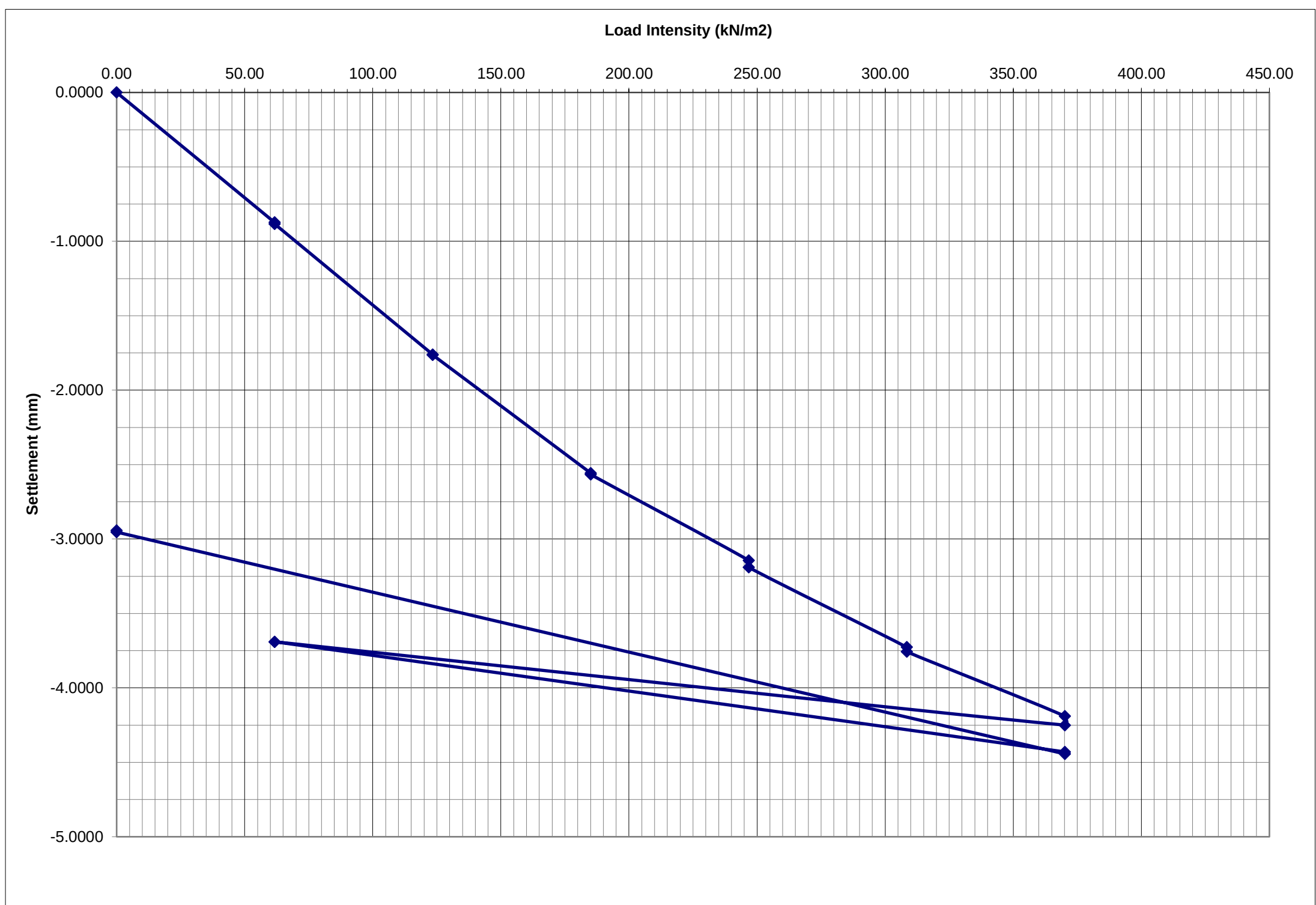
Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M. Wilson	28/09/2023	M. Dyer	28/09/2023



Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	27/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR203	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384996
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410920
Maximum Deformation (mm):	-4.44	Weather:	Dry
Strata Description:	6F2		



Equivalent CBR Value of 7%

Comments

Showroom Footprint

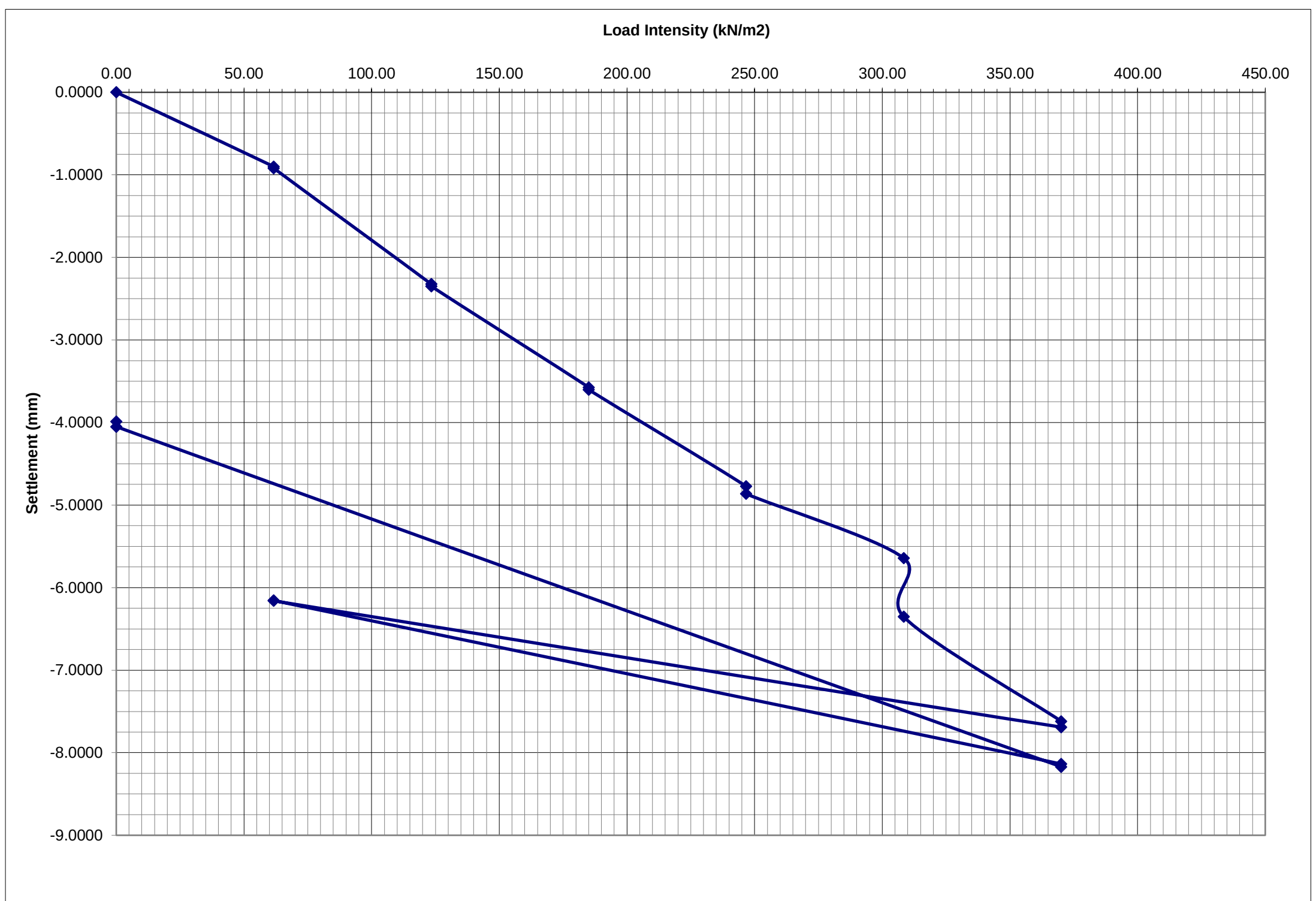
Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M. Wilson	28/09/2023	M. Dyer	28/09/2023



Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	27/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR204	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384976
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410957
Maximum Deformation (mm):	-8.17	Weather:	Dry
Strata Description:	6F2		



Equivalent CBR Value of 5%

Comments

Workshop Footprint

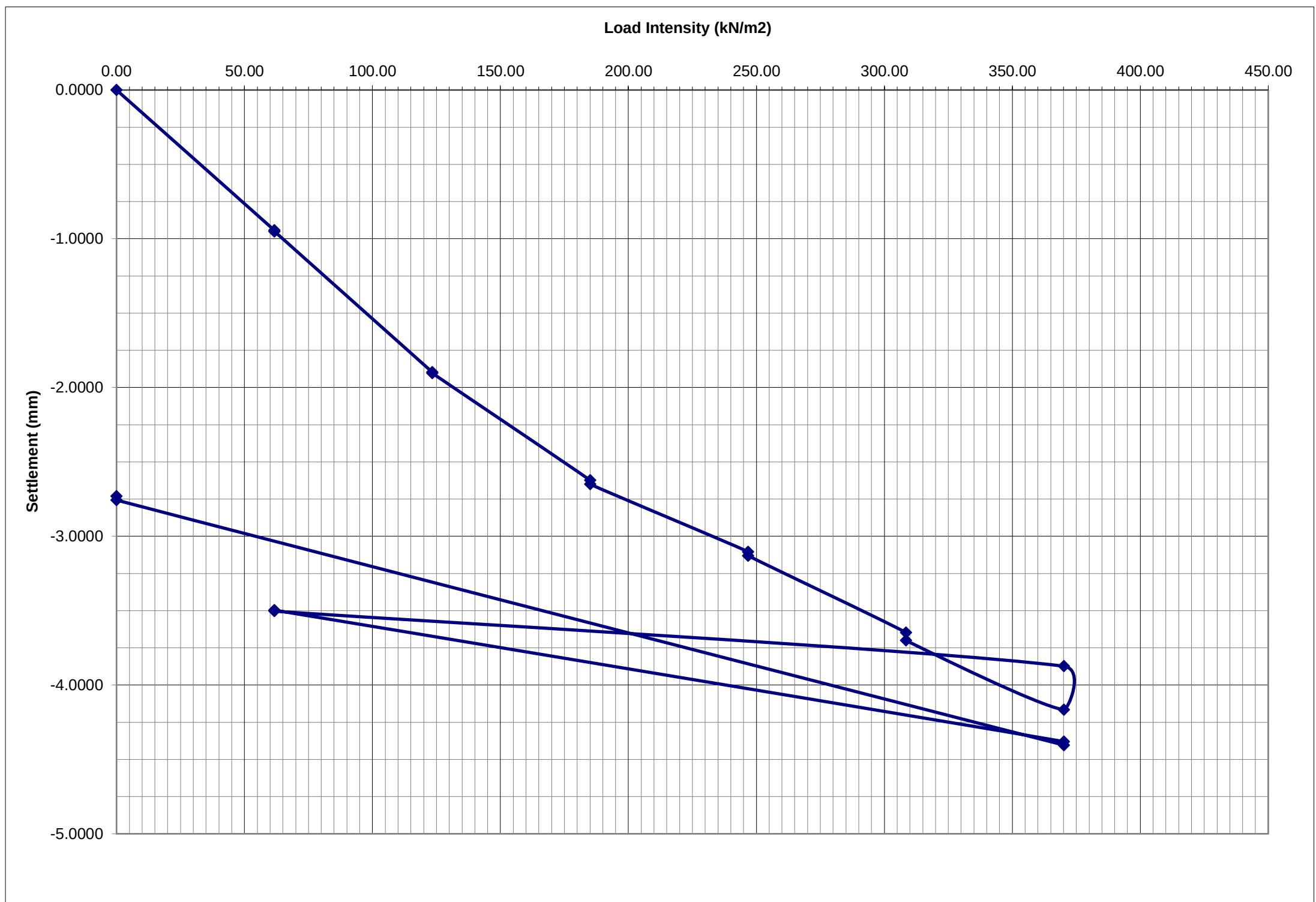
Site Engineer:	Checked By:	Date:	Approved By:	Date:
B. Walley	M. Wilson	28/09/2023	M. Dyer	28/09/2023



Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	27/09/2023
Site Ref:	13-224	Type of Kentledge:	36 Tonne Excavator
Test No.:	CBR205	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384960
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410959
Maximum Deformation (mm):	-4.40	Weather:	Dry
Strata Description:	6F2		



Equivalent CBR Value of 6%

Comments

Workshop Footprint

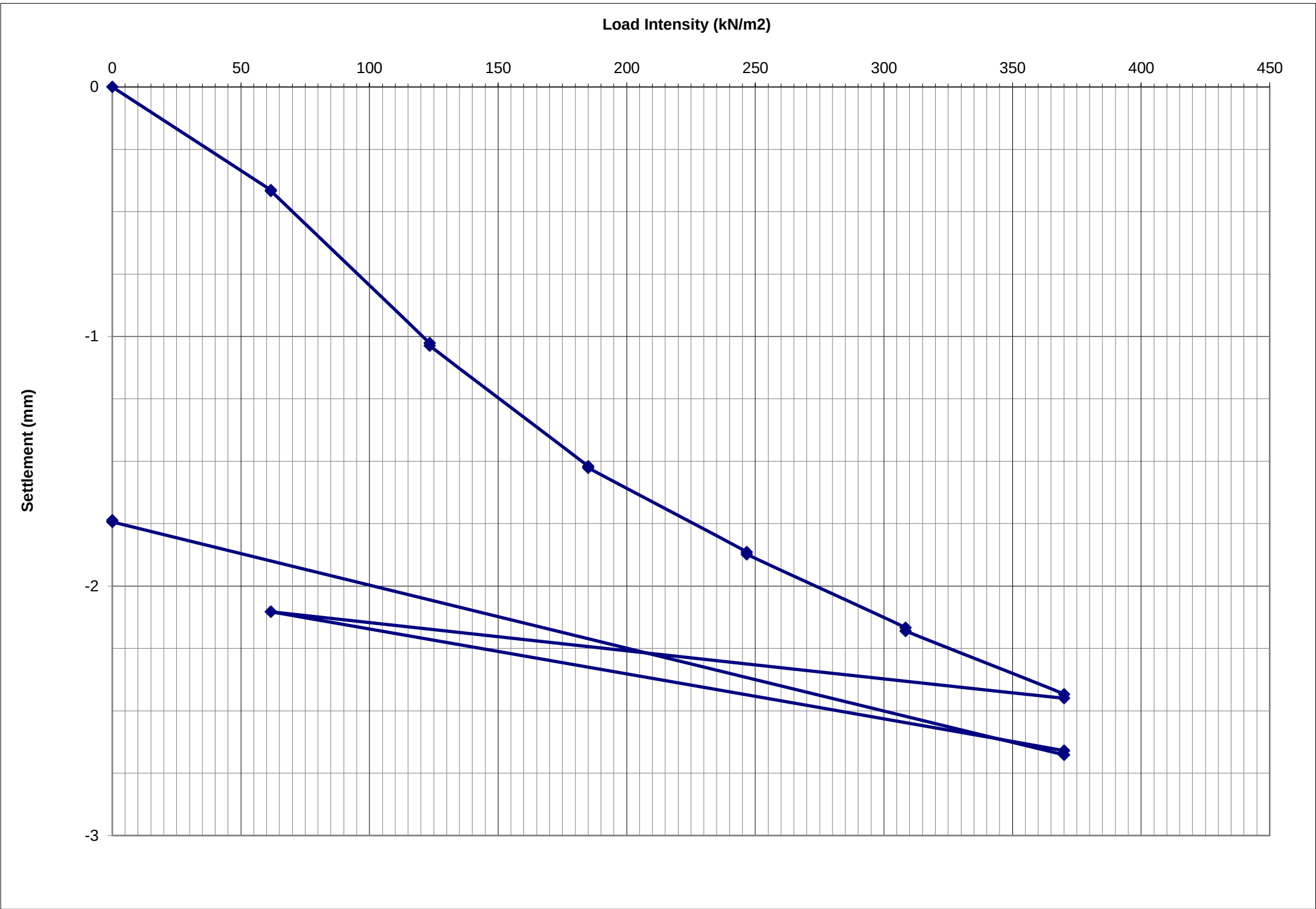
Site Engineer:	Checked By:	Date:	Approved By:	Date:
B. Walley	M. Wilson	28/09/2023	M. Dyer	28/09/2023



Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	18/10/2023
Site Ref:	13-224	Type of Kentledge:	13 Tonne Excavator
Test No.:	CBR206	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384992
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410900
Maximum Deformation (mm):	-2.68	Weather:	Dry
Strata Description:	MOT		



Equivalent CBR Value of 18%

Comments
Showroom Footprint

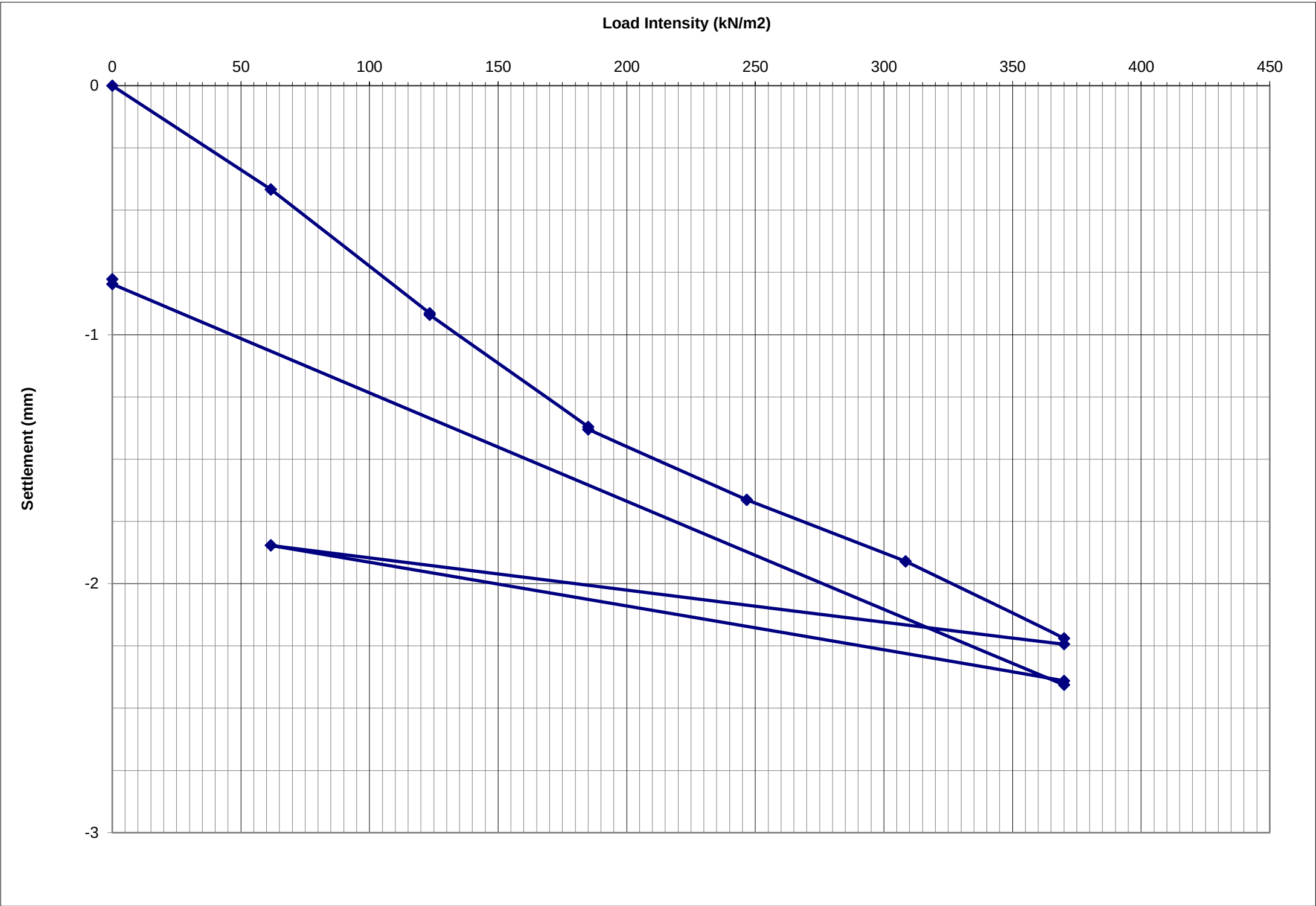
Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	19/10/2023	M.Dyer	19/10/2023



Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	18/10/2023
Site Ref:	13-224	Type of Kentledge:	13 Tonne Excavator
Test No.:	CBR207	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384990
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410914
Maximum Deformation (mm):	-2.41	Weather:	Dry
Strata Description:	MOT		



Equivalent CBR Value of 22%

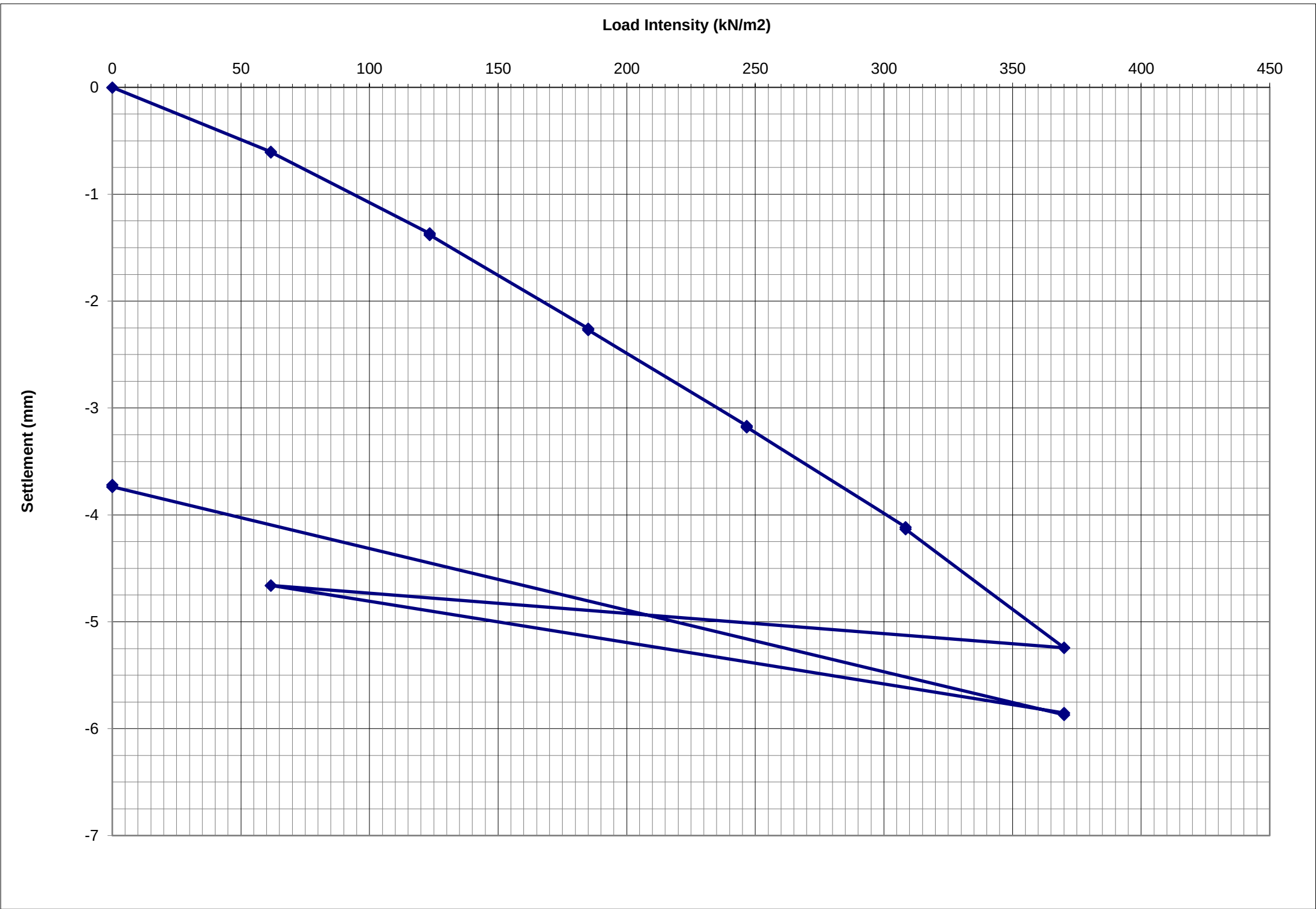
Comments				
Showroom Footprint				

Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	19/10/2023	M.Dyer	19/10/2023



Vertical Deformation Test-Equivalent CBR Value
In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	18/10/2023
Site Ref:	13-224	Type of Kentledge:	13 Tonne Excavator
Test No.:	CBR208	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384962
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410953
Maximum Deformation (mm):	-5.87	Weather:	Dry
Strata Description:	MOT		



Equivalent CBR Value of 11%

Comments
Workshop Footprint

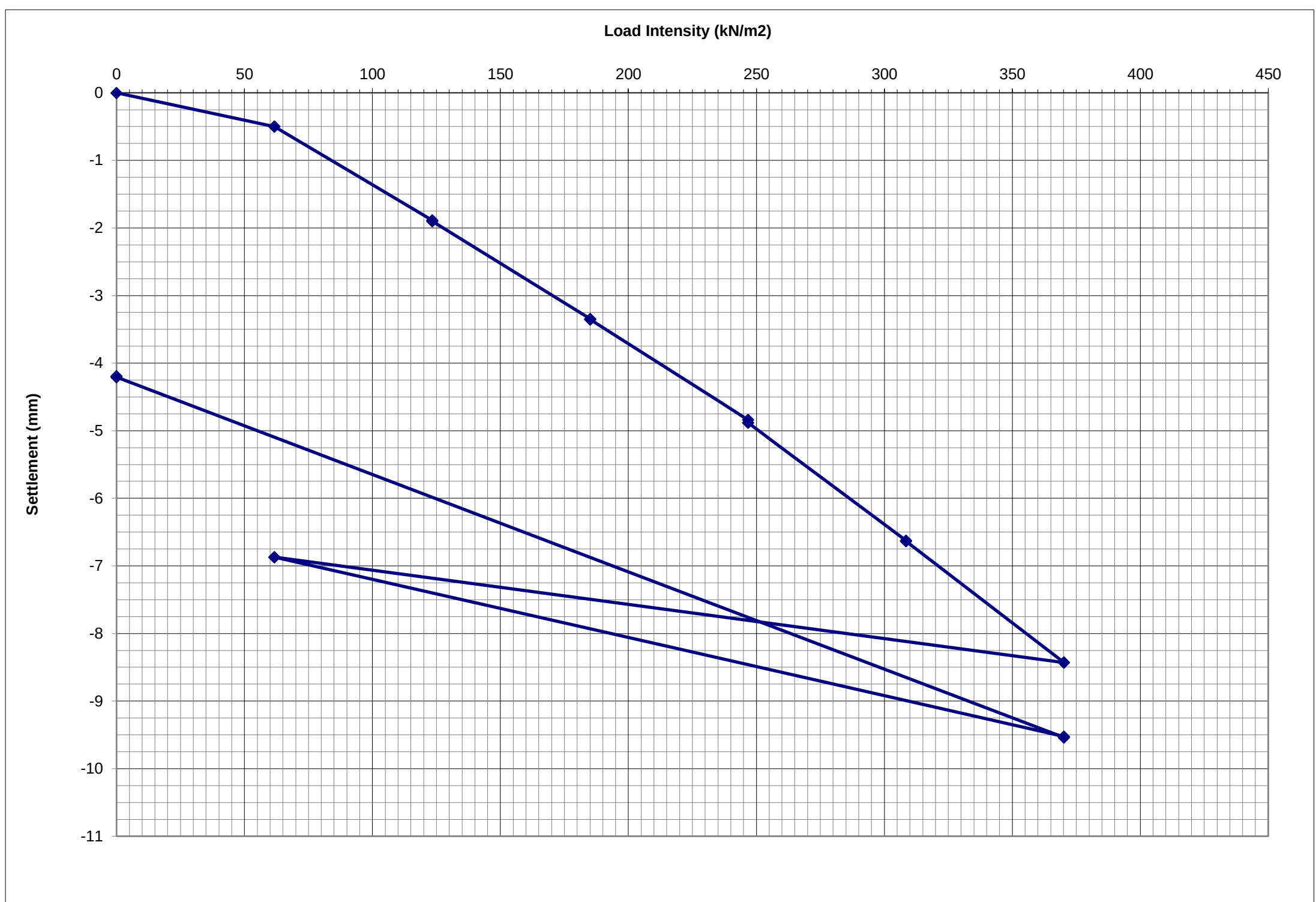
Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	19/10/2023	M.Dyer	19/10/2023



Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	George Street	Test Date:	18/10/2023
Site Ref:	13-224	Type of Kentledge:	13 Tonne Excavator
Test No.:	CBR209	Test Depth (m bgl):	GL
Plate Diameter (mm)	450	Easting:	384972
Maximum Applied Pressure (kN/m2):	370.09	Northing:	410963
Maximum Deformation (mm):	-9.54	Weather:	Dry
Strata Description:	MOT		



Equivalent CBR Value of 8%

Comments

Workshop Footprint

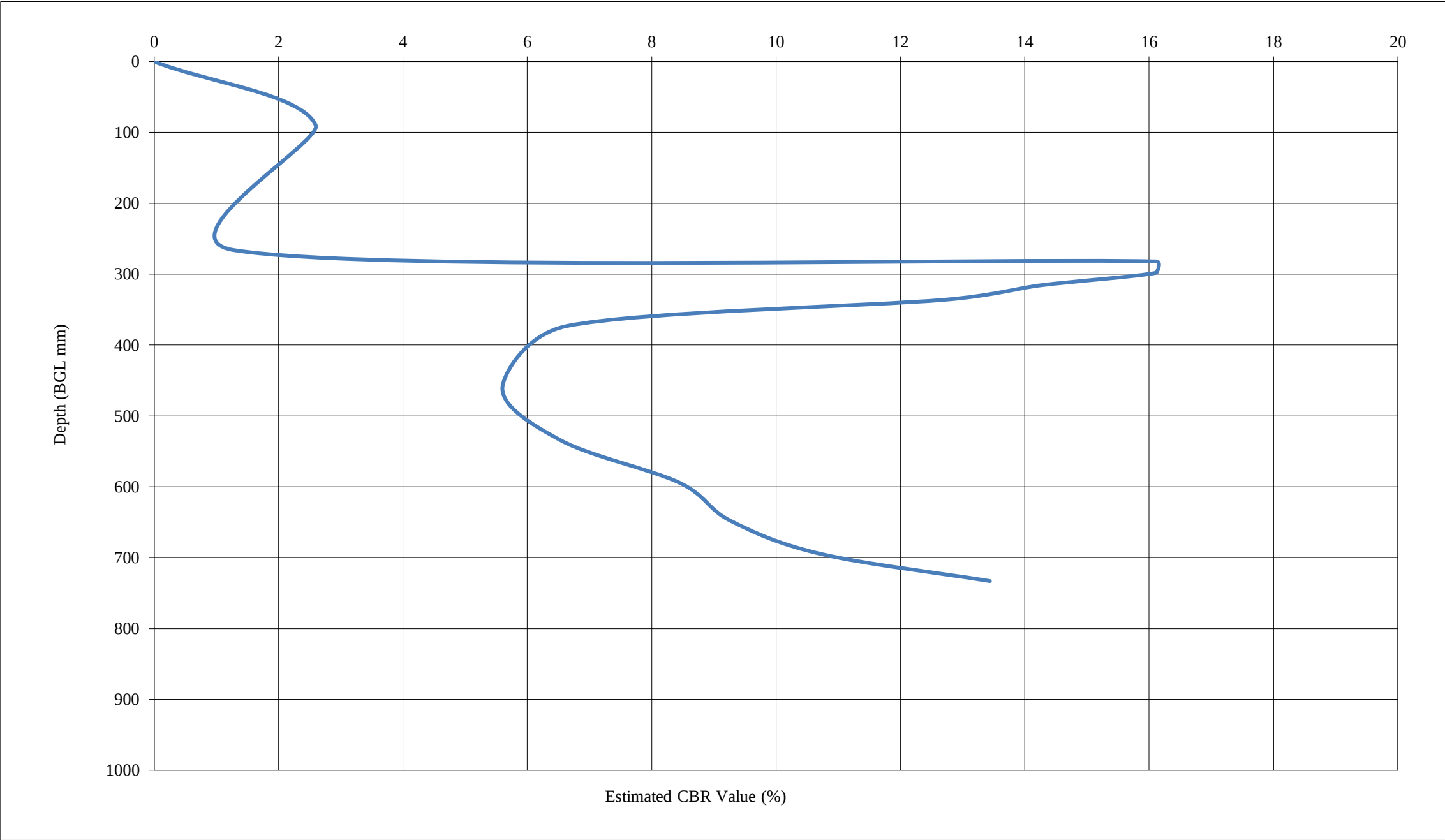
Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	M.Wilson	19/10/2023	M.Dyer	19/10/2023



Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)
Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	25/08/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP001	Easting:	385005
Initial Depth (mm BGL):	180	Northing:	410902
Final Depth (mm BGL):	913		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	266	2	2	133.00	1.72
266	460	9	7	27.71	9.02
460	733	19	10	27.30	9.16

Comments

Showroom Footprint - Natural Strata

Site Engineer:	Checked By:	Date:	Approved By:	Date:
R. Webster	M.Wilson	08/09/2023	S.Ellis	12/09/2023

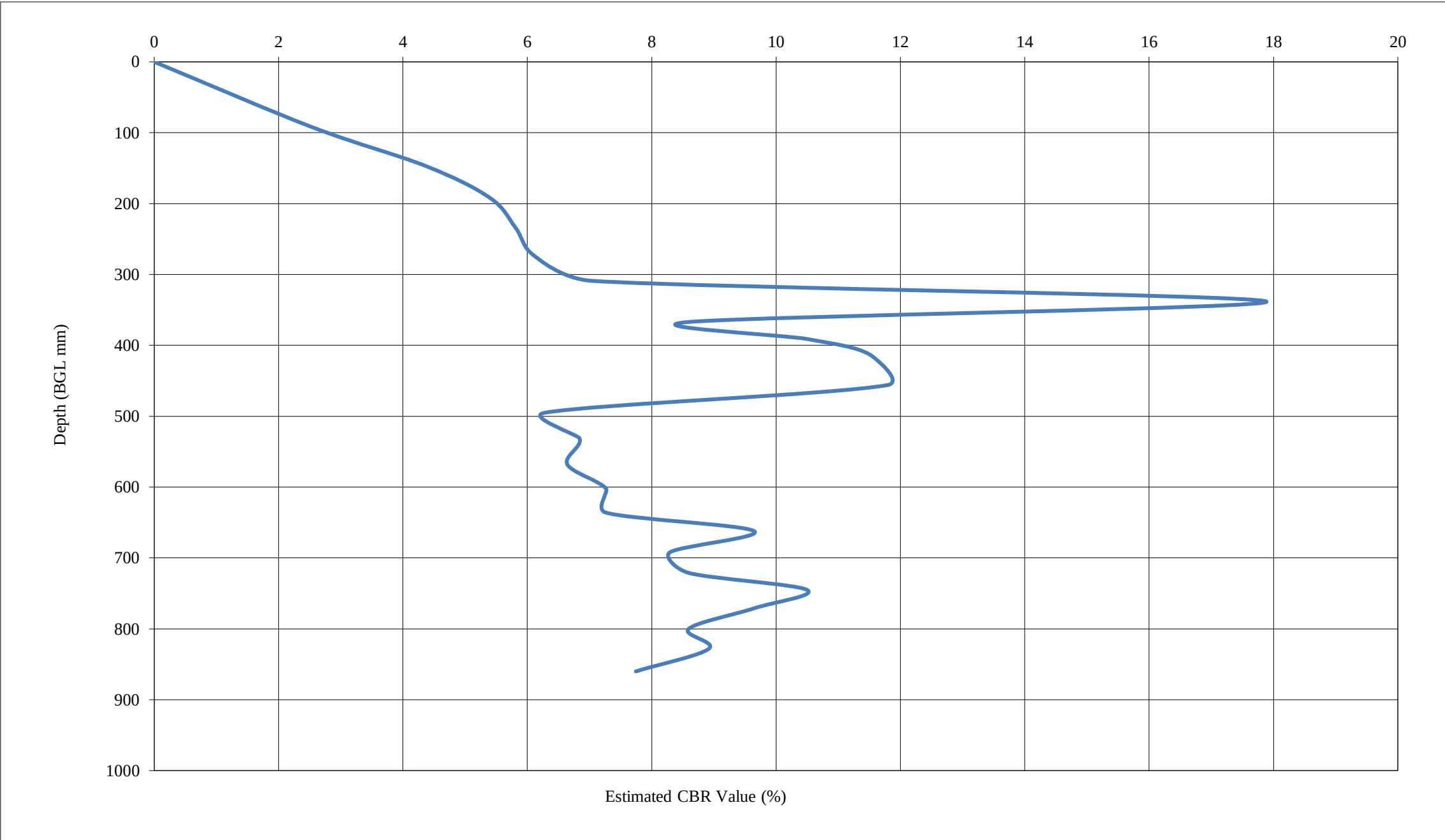


Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	25/08/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP002	Easting:	384996
Initial Depth (mm BGL):	40	Northing:	410920
Final Depth (mm BGL):	900		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	391	10	10	39.10	6.27
391	495	14	4	26.00	9.65
495	860	26	12	30.42	8.17

Comments
Showroom Footprint - Natural Strata

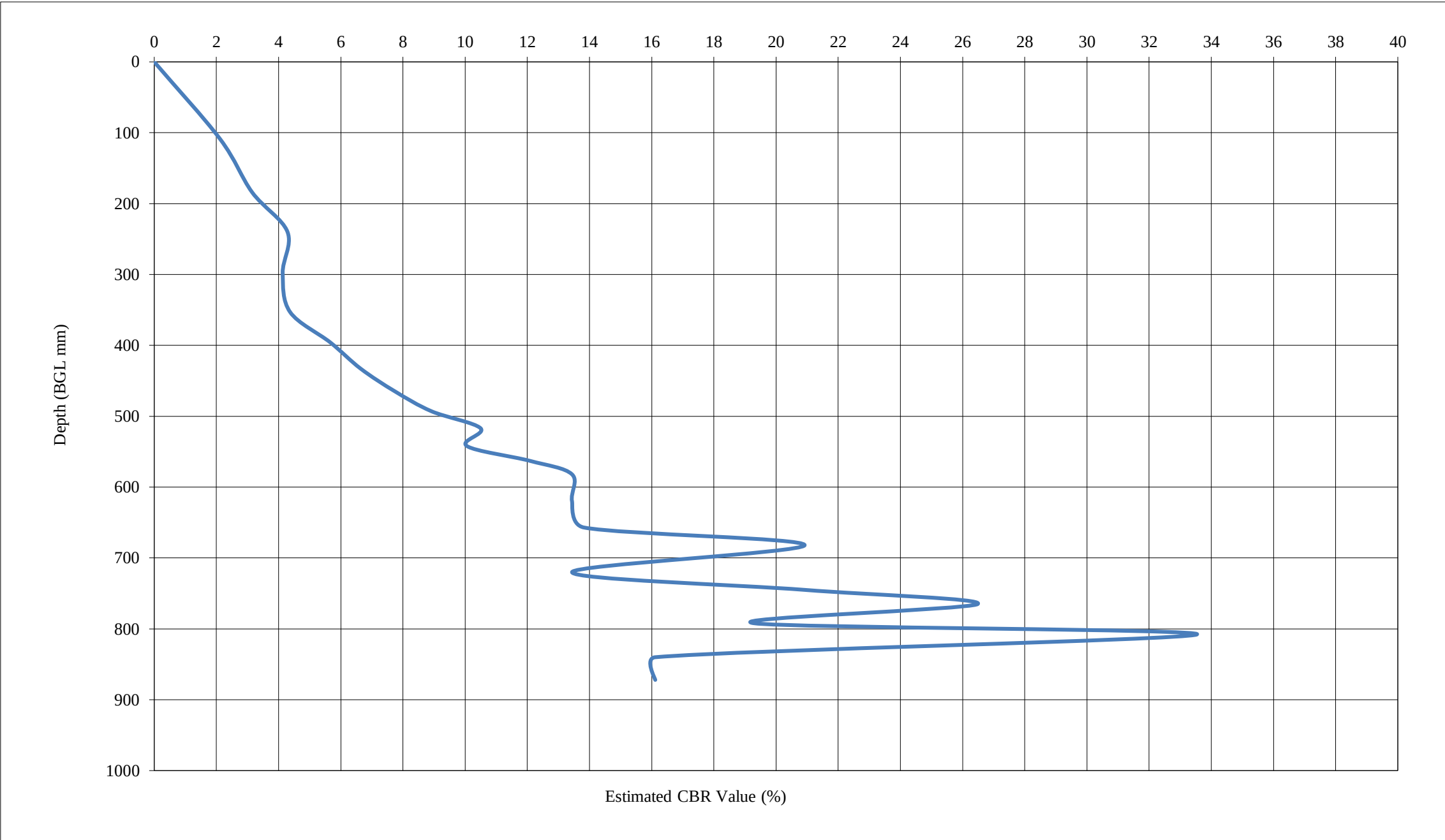
Site Engineer:	Checked By:	Date:	Approved By:	Date:
R. Webster	M.Wilson	08/09/2023	S.Ellis	12/09/2023



Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)
Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	25/08/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP003	Easting:	384984
Initial Depth (mm BGL):	30	Northing:	410914
Final Depth (mm BGL):	902		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	298	4	4	74.50	3.17
298	517	10	6	36.50	6.74
517	872	23	13	27.31	9.16

Comments

Showroom Footprint - Natural Strata

Site Engineer:	Checked By:	Date:	Approved By:	Date:
R. Webster	M.Wilson	08/09/2023	S.Ellis	12/09/2023

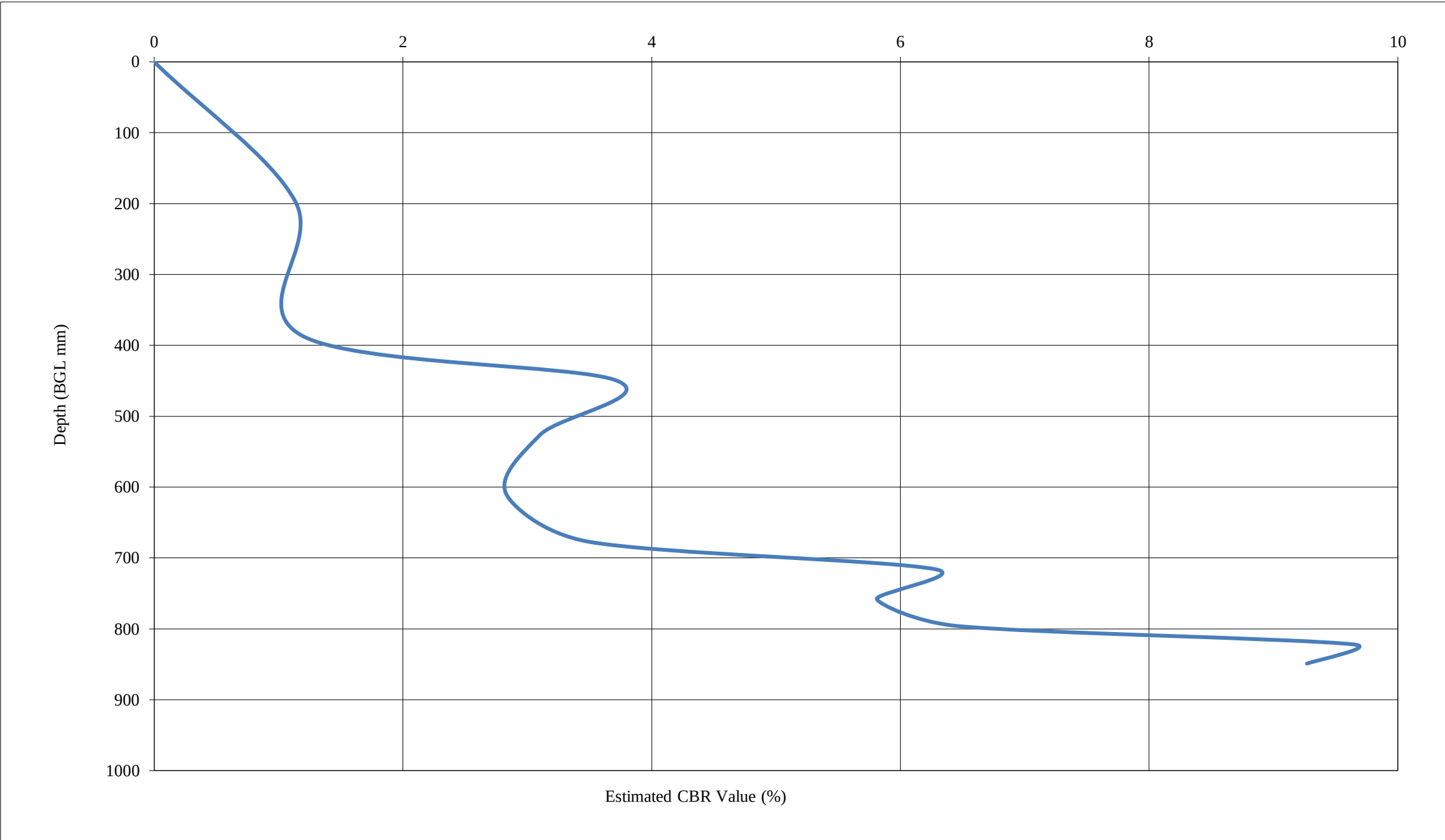


Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	25/08/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP004	Easting:	384987
Initial Depth (mm BGL):	51	Northing:	410902
Final Depth (mm BGL):	900		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	386	2	2	193.00	1.16
386	609	5	3	74.33	3.18
609	758	8	3	49.67	4.87
758	849	11	3	30.33	8.20

Comments
Showroom Footprint - Natural Strata

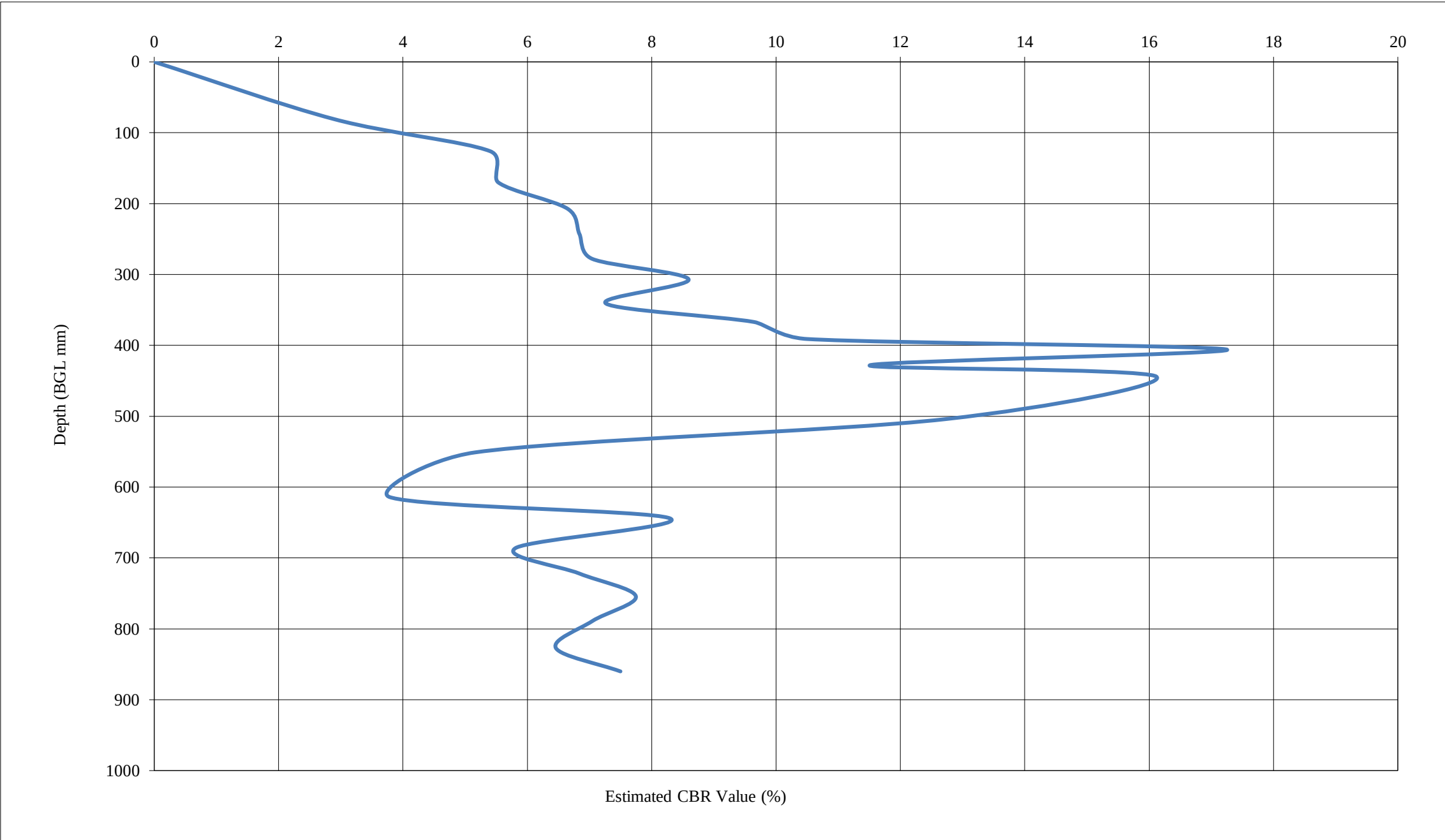
Site Engineer:	Checked By:	Date:	Approved By:	Date:
R. Webster	M.Wilson	08/09/2023	S.Ellis	12/09/2023



Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)
Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	25/08/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP005	Easting:	384996
Initial Depth (mm BGL):	40	Northing:	410911
Final Depth (mm BGL):	900		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	341	8	8	42.63	5.72
341	614	18	10	27.30	9.16
614	860	25	7	35.14	7.02

Comments

Showroom Footprint - Natural Strata

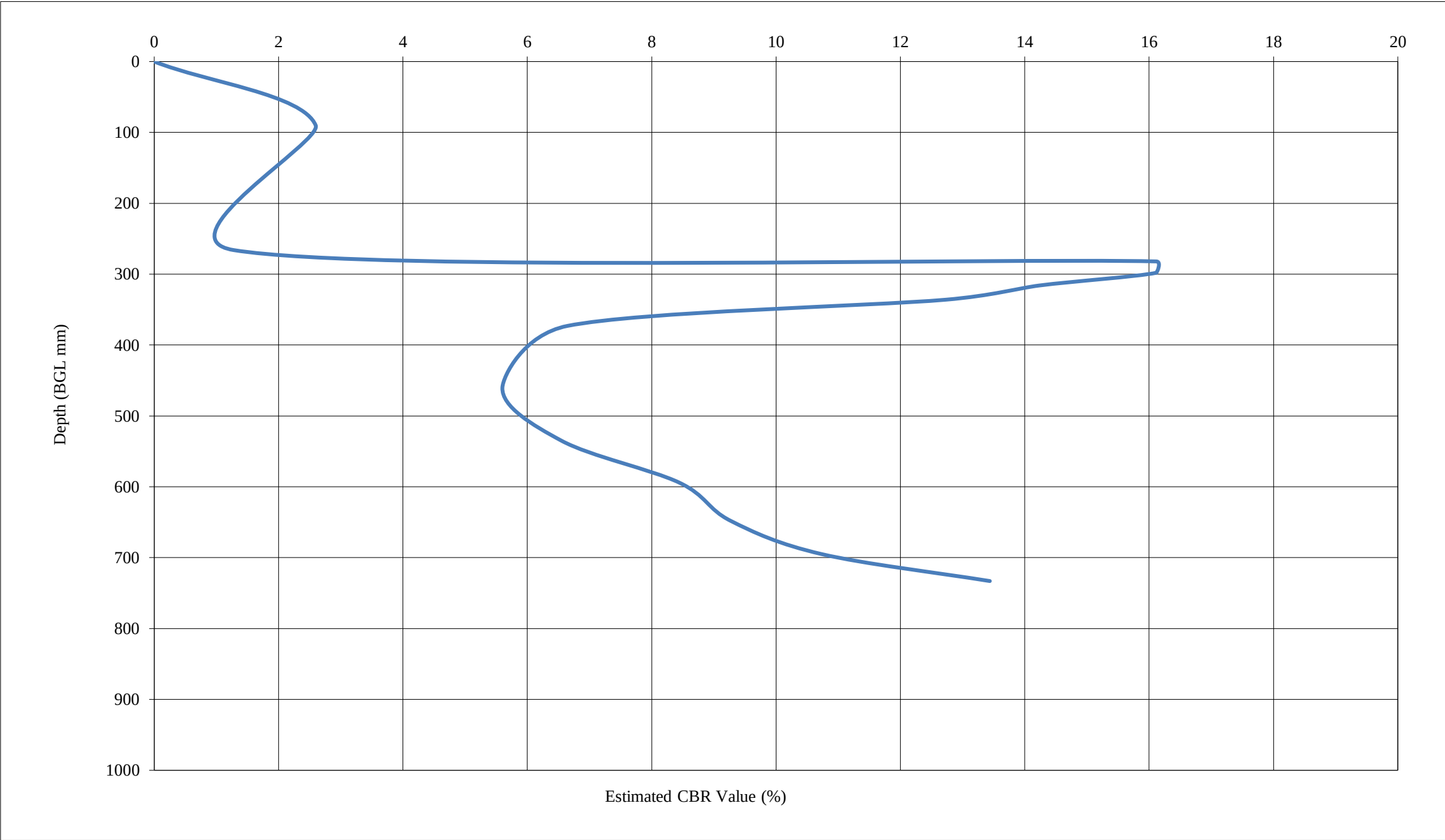
Site Engineer:	Checked By:	Date:	Approved By:	Date:
R. Webster	M.Wilson	08/09/2023	S.Ellis	12/09/2023



Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)
Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP101	Easting:	384970
Initial Depth (mm BGL):	51	Northing:	410856
Final Depth (mm BGL):	890		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	254	17	17	14.94	17.33
254	483	37	20	11.45	22.95
483	890	107	70	5.81	46.98

Comments

External Hardstanding - Engineered Structural Upfill
--

Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023

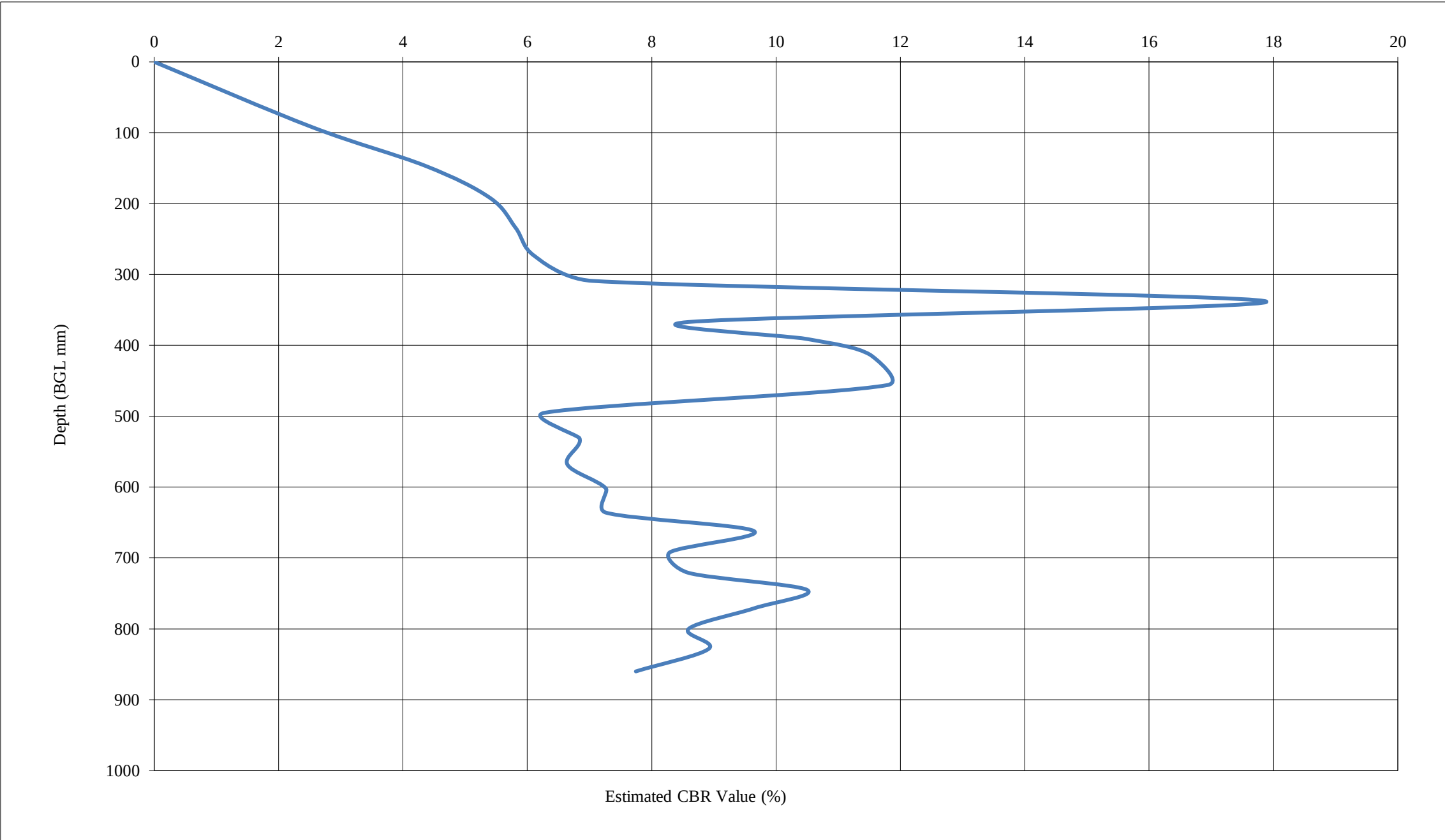


Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP102	Easting:	384955
Initial Depth (mm BGL):	59	Northing:	410857
Final Depth (mm BGL):	883		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	265	2	2	132.50	1.73
265	500	7	5	47.00	5.16
500	883	16	9	42.56	5.73

Comments

External Hardstanding - Engineered Structural Upfill
--

Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023

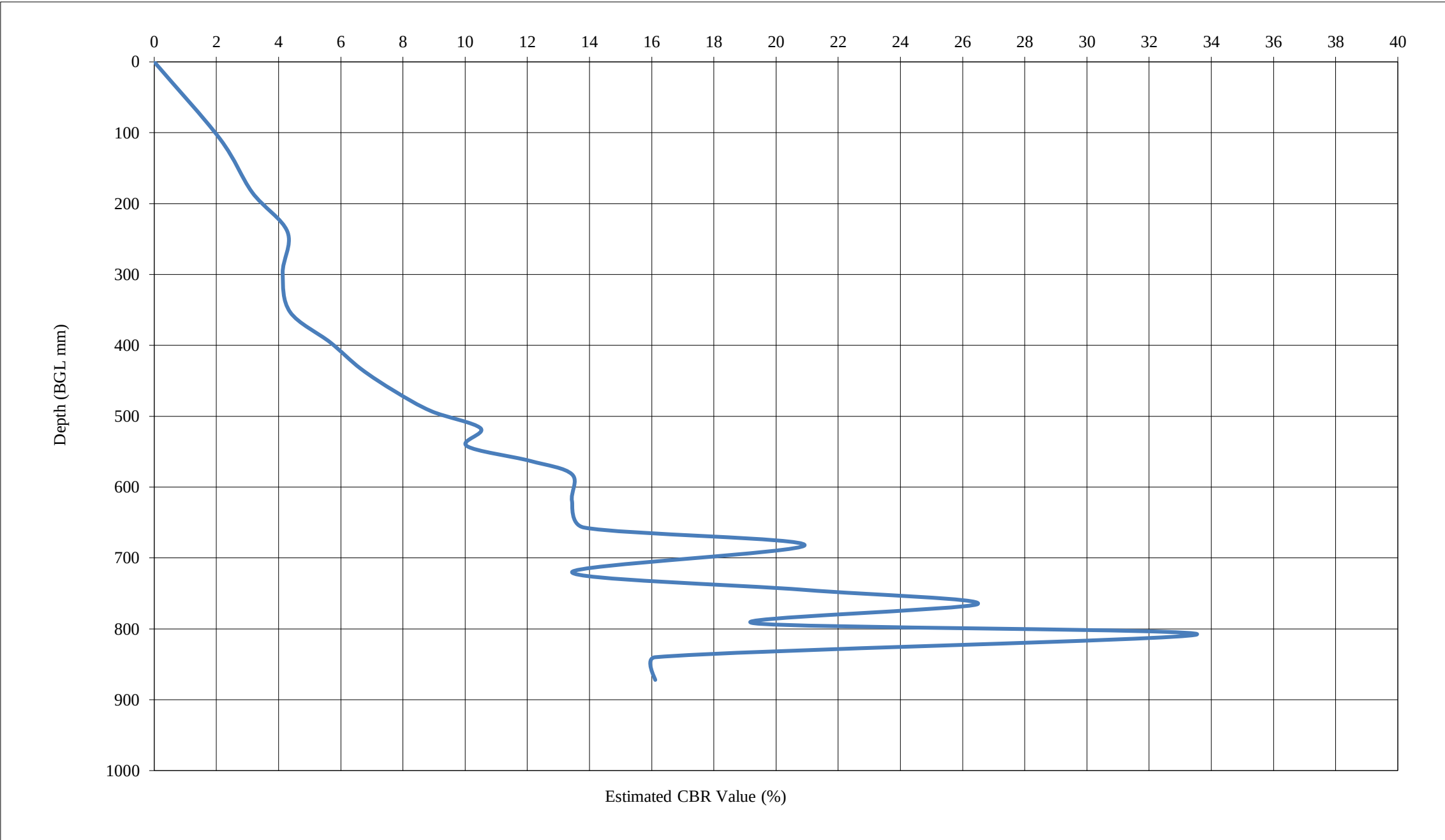


Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP103	Easting:	384923
Initial Depth (mm BGL):	59	Northing:	410850
Final Depth (mm BGL):	863		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	317	15	15	21.13	12.01
317	591	75	60	4.57	60.65
591	863	91	16	17.00	15.12

Comments

External Hardstanding - Engineered Structural Upfill

Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023

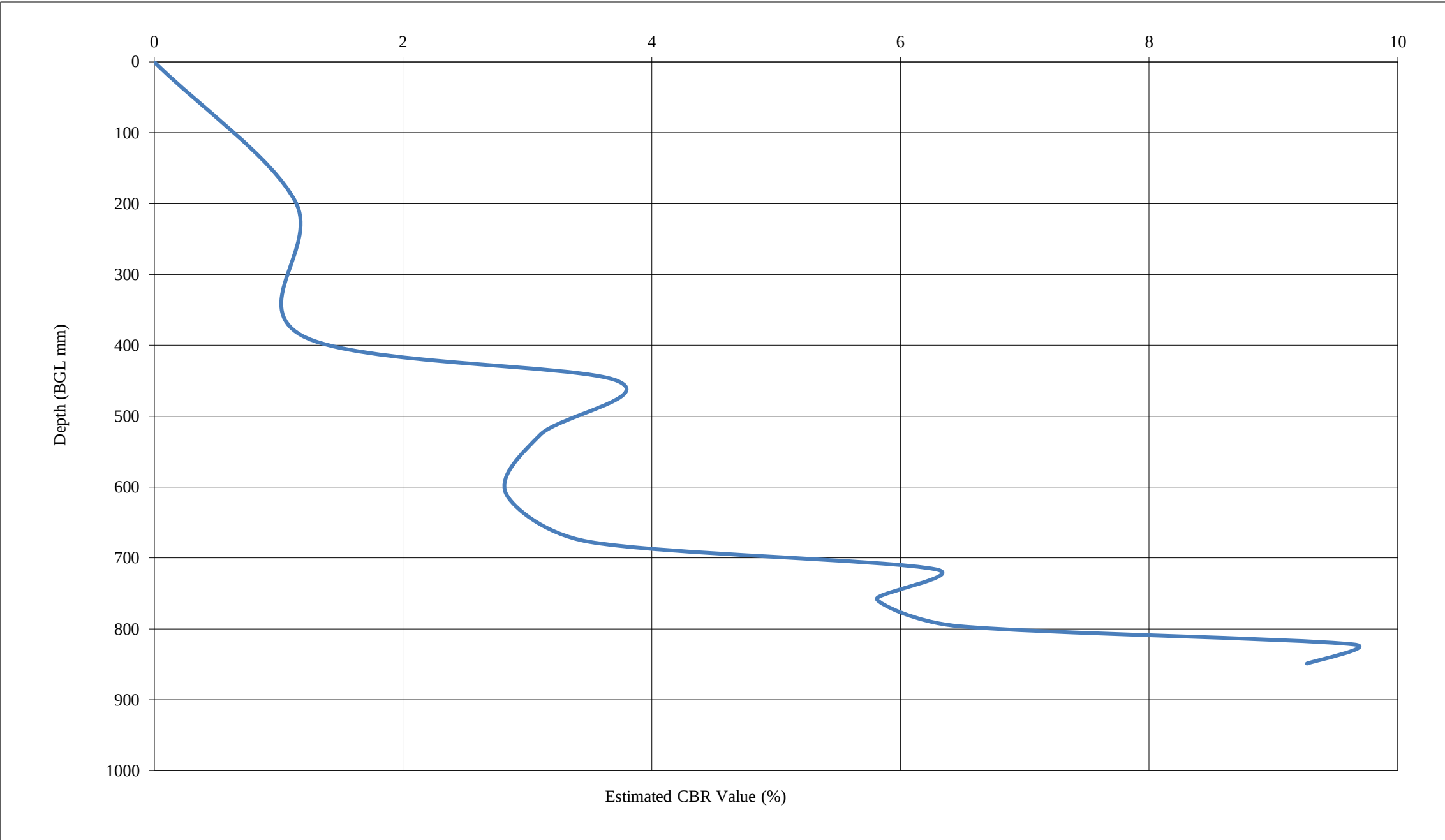


Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP104	Easting:	384936
Initial Depth (mm BGL):	71	Northing:	410834
Final Depth (mm BGL):	800		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	391	18	18	21.72	11.67
391	630	25	7	34.14	7.23
630	800	27	2	85.00	2.76

Comments

External Hardstanding - Engineered Structural Upfill
--

Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023

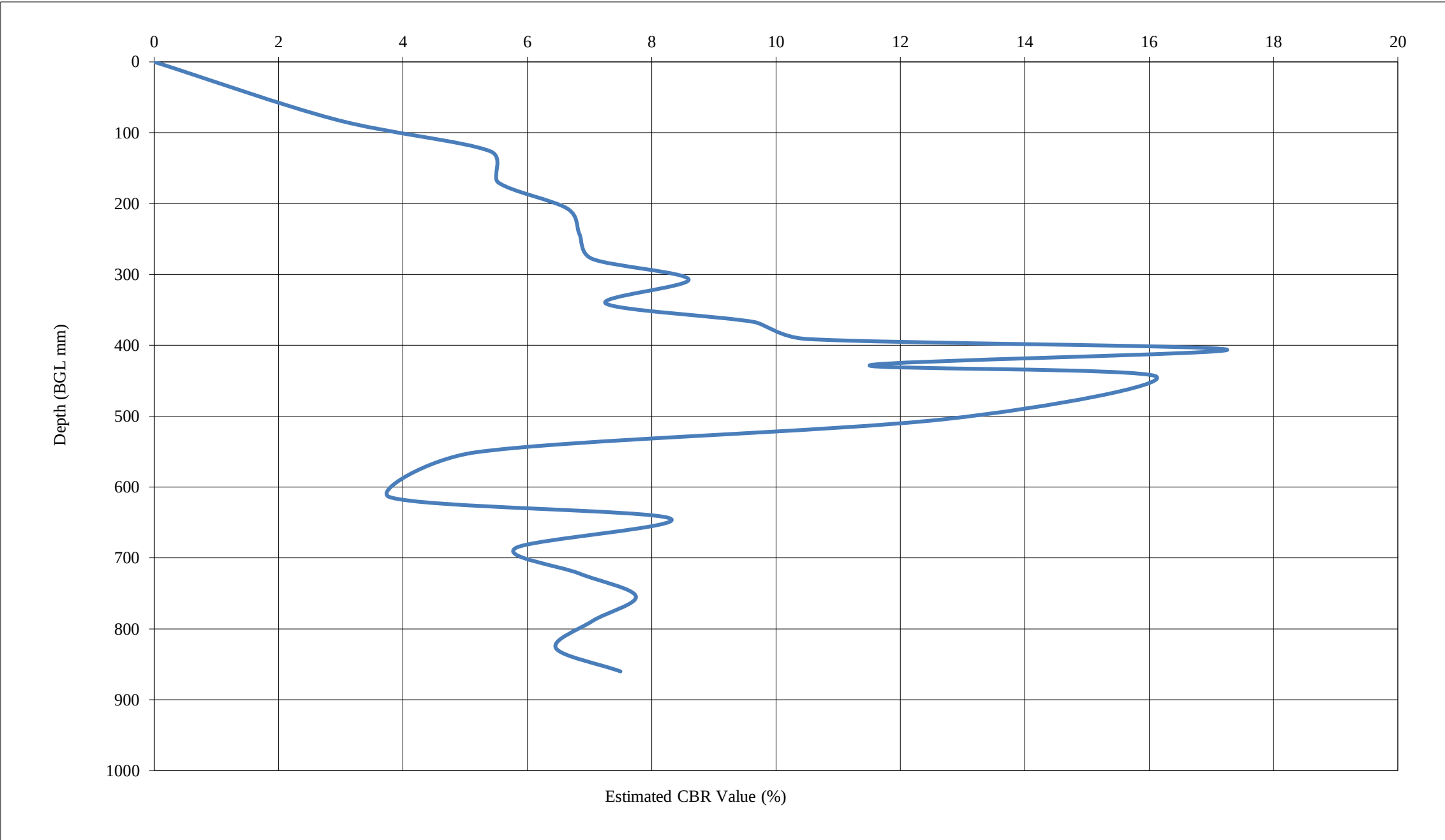


Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP105	Easting:	384982
Initial Depth (mm BGL):	46	Northing:	410818
Final Depth (mm BGL):	927		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	296	6	6	49.33	4.90
296	566	14	8	33.75	7.32
566	927	42	28	12.89	20.25

Comments

External Hardstanding - Engineered Structural Upfill

Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023

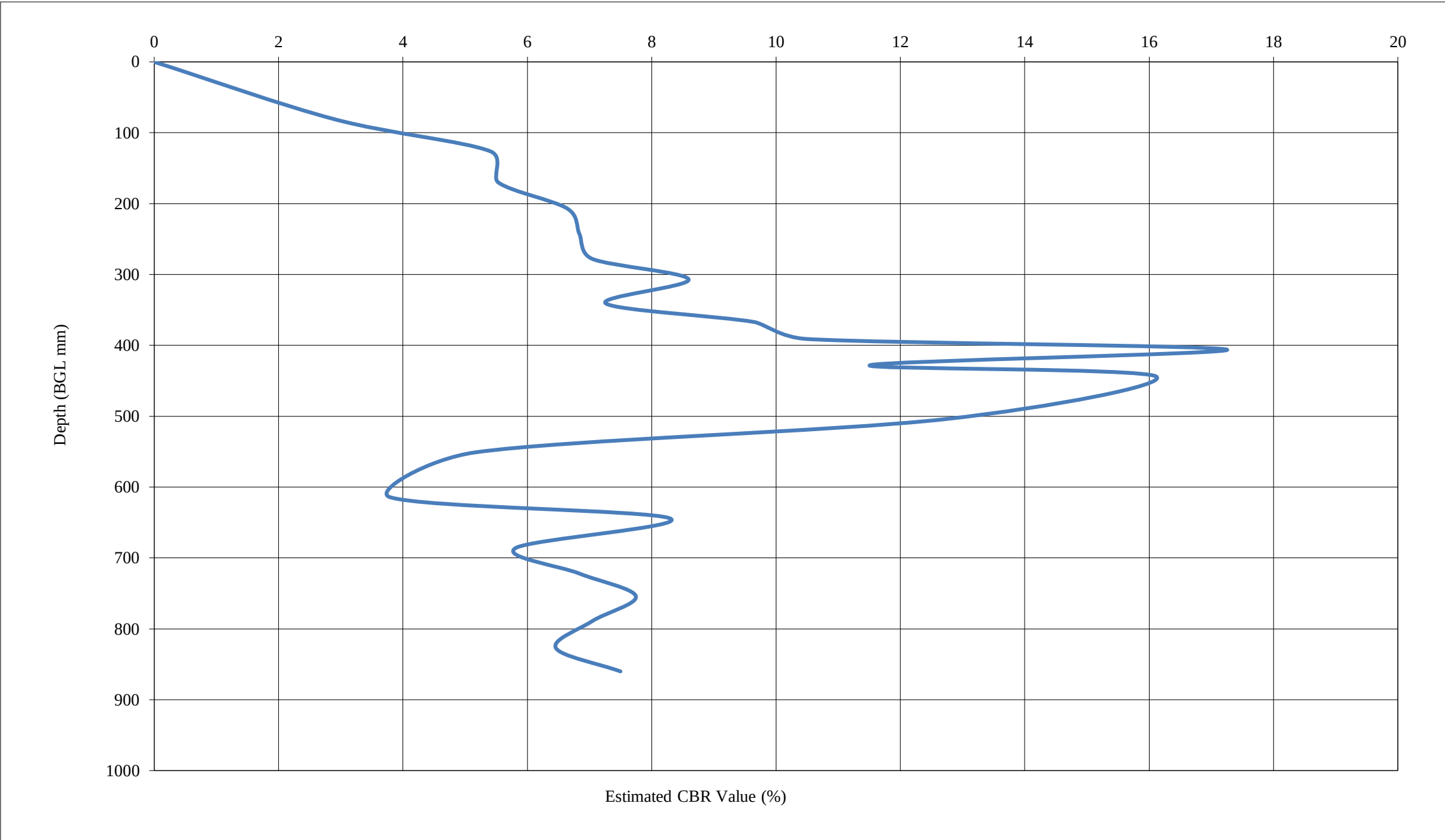


Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP106	Easting:	384950
Initial Depth (mm BGL):	55	Northing:	410878
Final Depth (mm BGL):	888		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	388	28	28	13.86	18.76
388	594	68	40	5.15	53.41
594	888	98	30	9.80	27.06

Comments

External Hardstanding - Engineered Structural Upfill

Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023

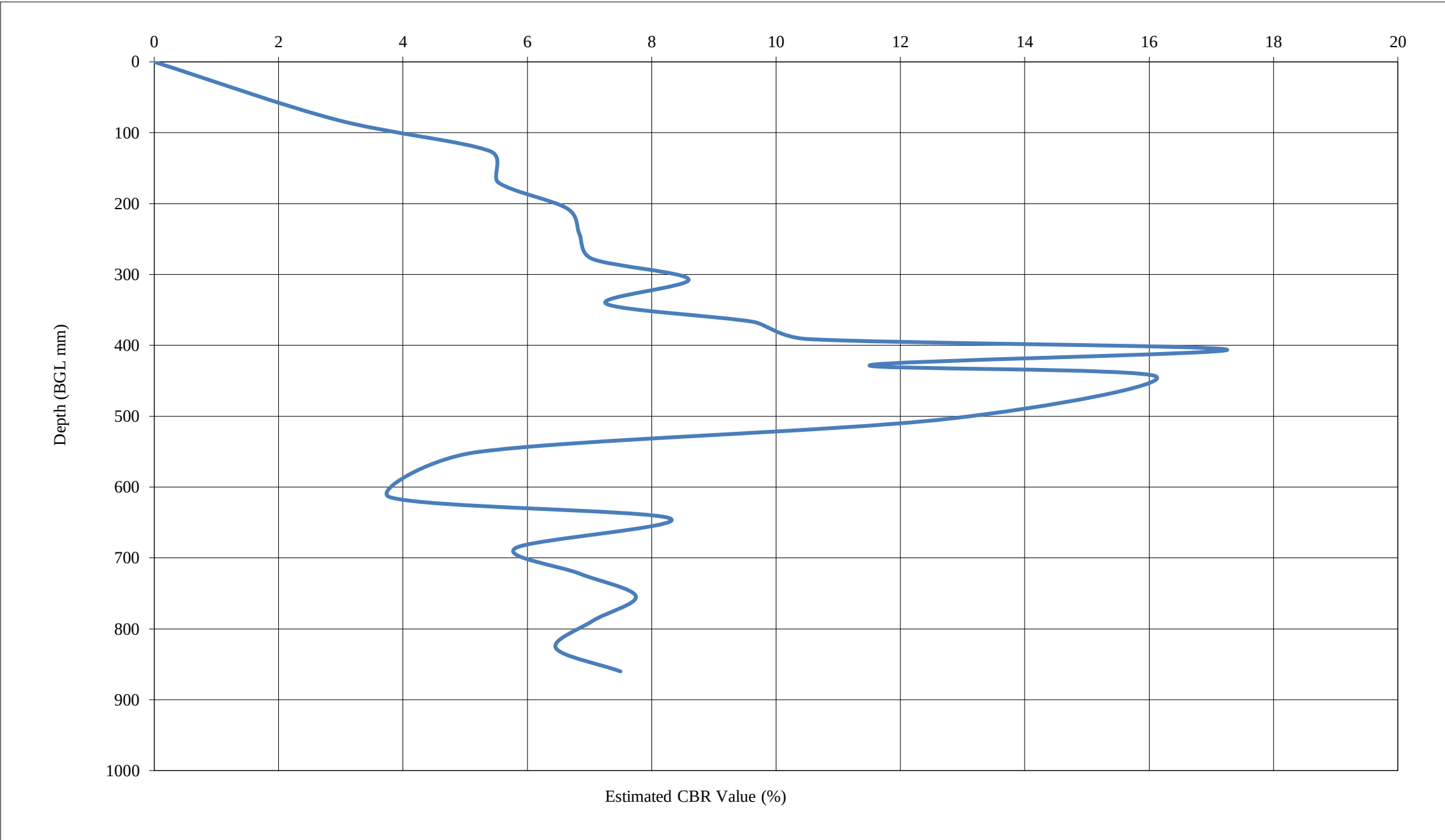


Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP107	Easting:	384941
Initial Depth (mm BGL):	75	Northing:	410906
Final Depth (mm BGL):	913		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	333	6	6	55.50	4.33
333	592	18	12	21.58	11.74
592	913	42	24	13.38	19.48

Comments

External Hardstanding - Engineered Structural Upfill

Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023

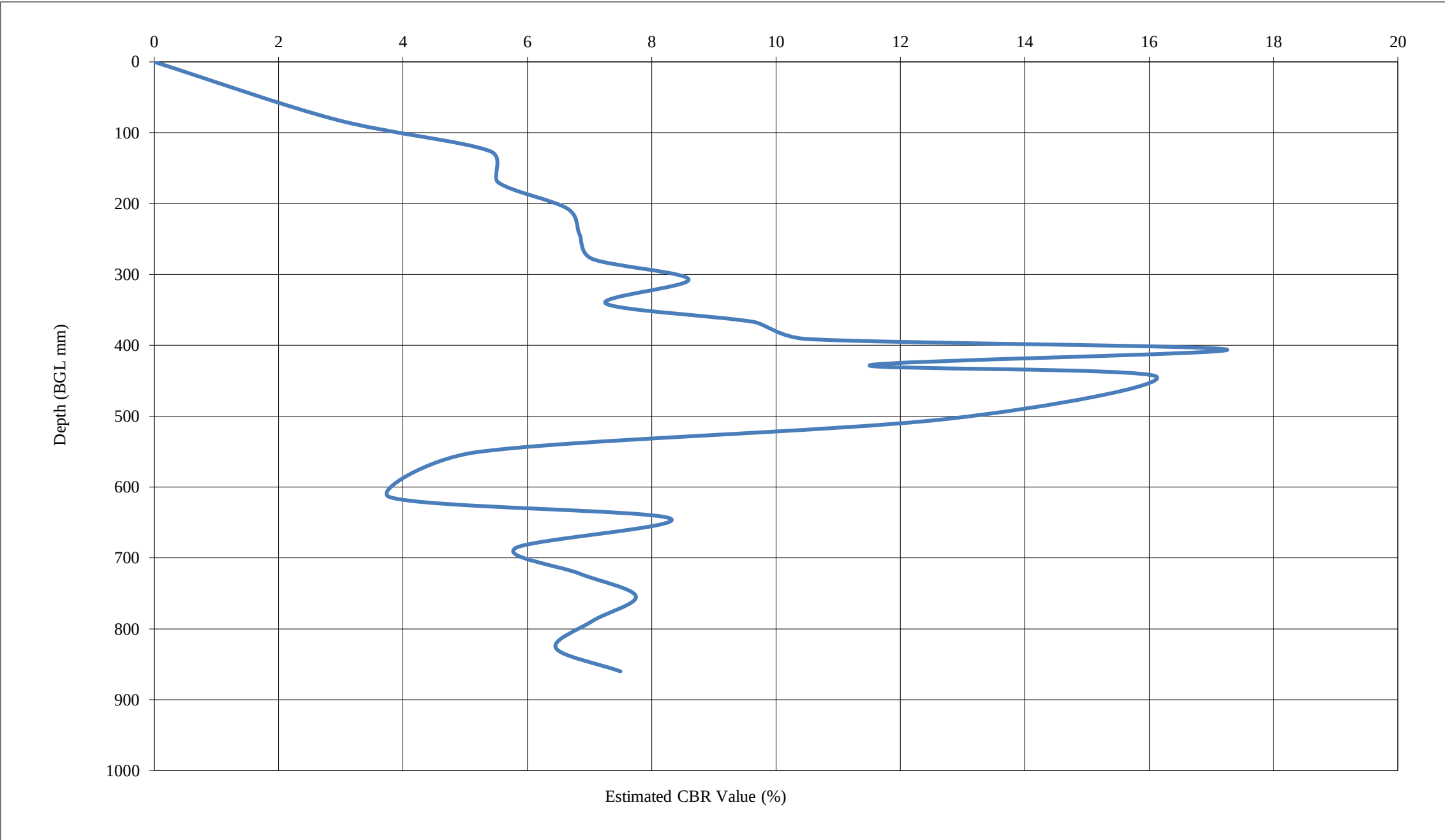


Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP108	Easting:	384937
Initial Depth (mm BGL):	86	Northing:	410934
Final Depth (mm BGL):	891		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	322	5	5	64.40	3.70
322	552	14	9	25.56	9.82
552	891	27	13	26.08	9.62

Comments

External Hardstanding - Engineered Structural Upfill

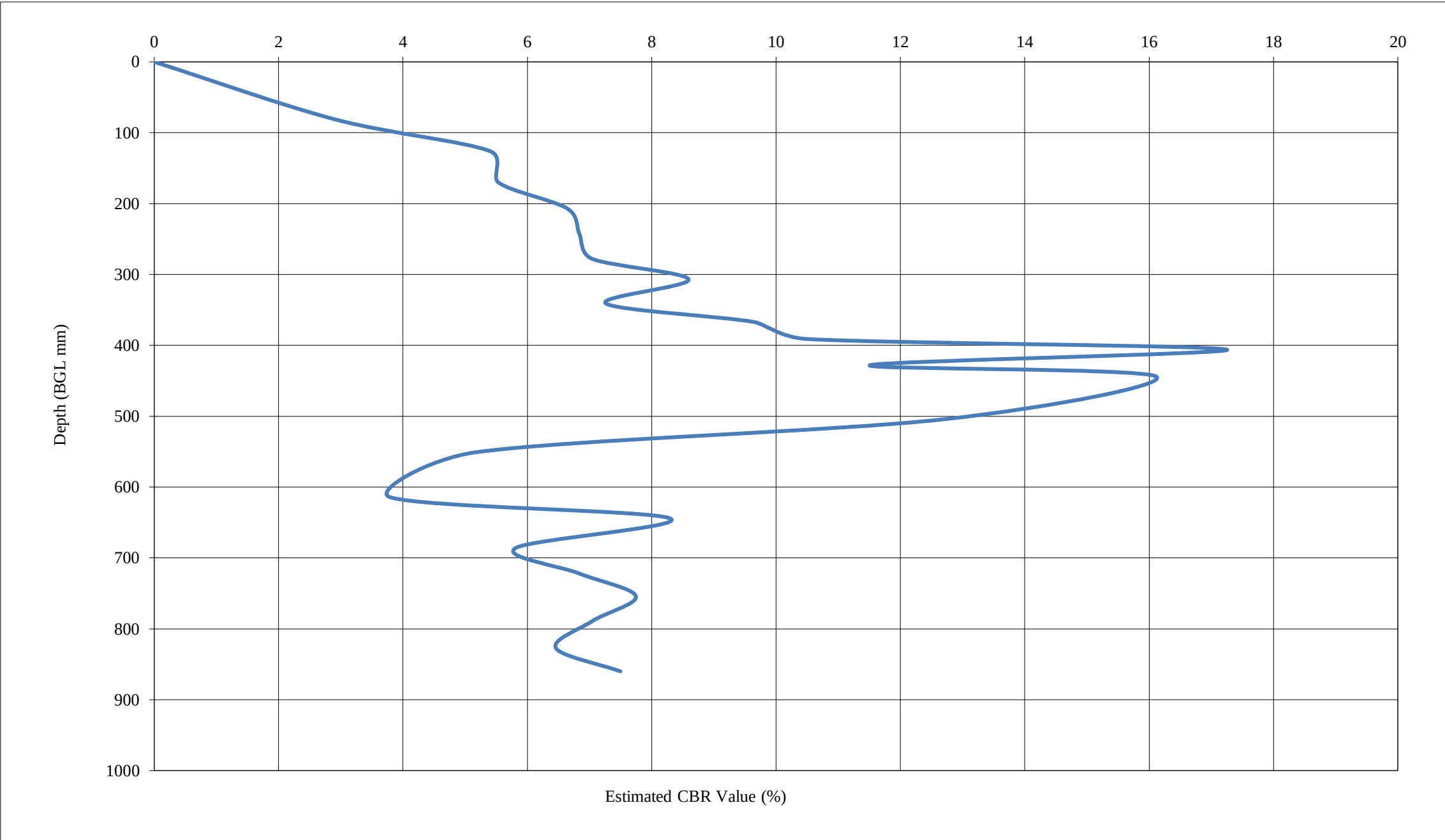
Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023



Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)
Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP109	Easting:	384946
Initial Depth (mm BGL):	130	Northing:	410945
Final Depth (mm BGL):	900		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	348	5	5	69.60	3.41
348	600	11	6	42.00	5.81
600	900	19	8	37.50	6.55

Comments

External Hardstanding - Engineered Structural Upfill

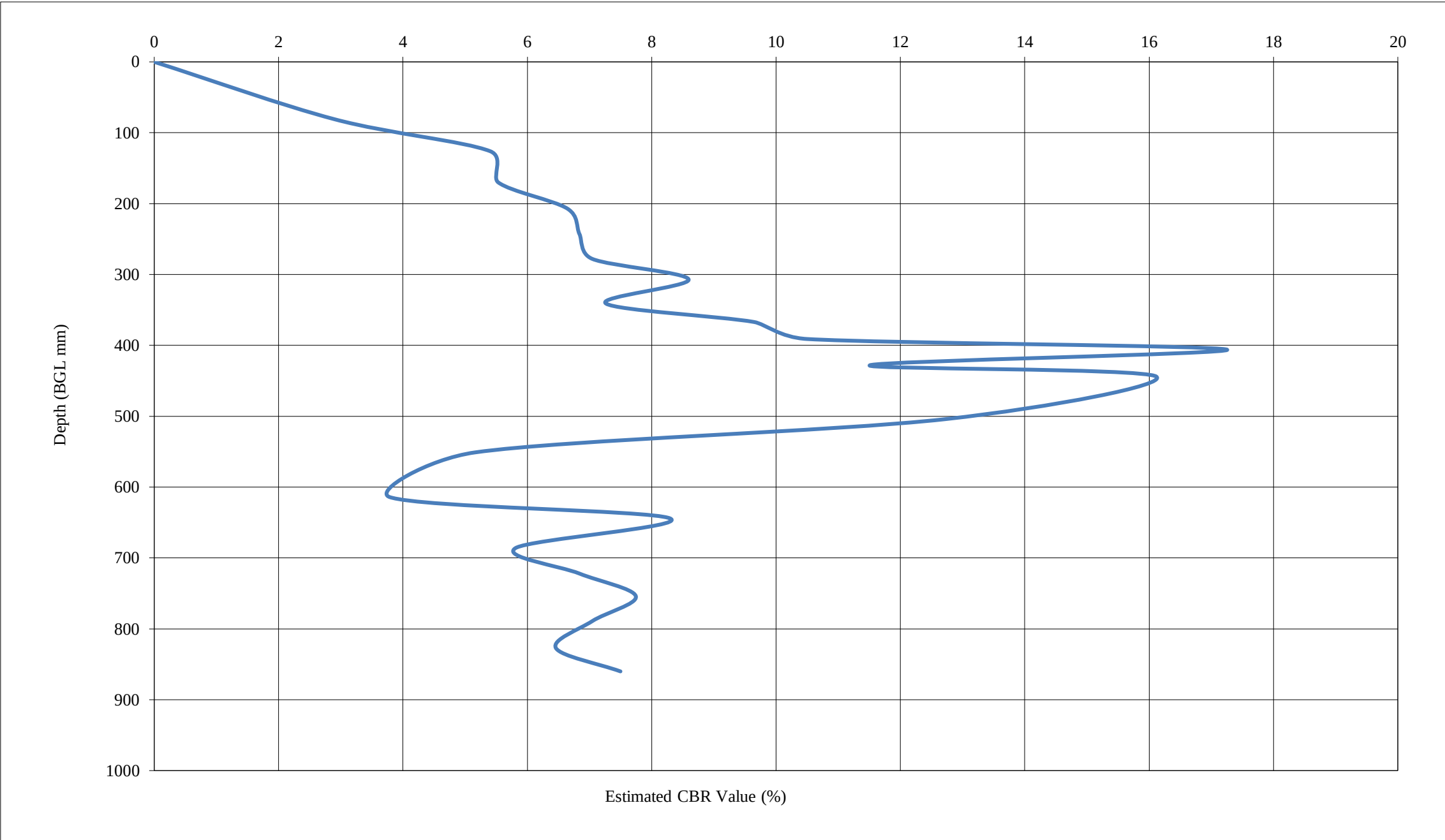
Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023



Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)
Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP110	Easting:	384991
Initial Depth (mm BGL):	46	Northing:	410952
Final Depth (mm BGL):	908		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	344	3	3	114.67	2.01
344	610	12	9	29.56	8.42
610	908	21	9	33.11	7.47

Comments

External Hardstanding - Engineered Structural Upfill

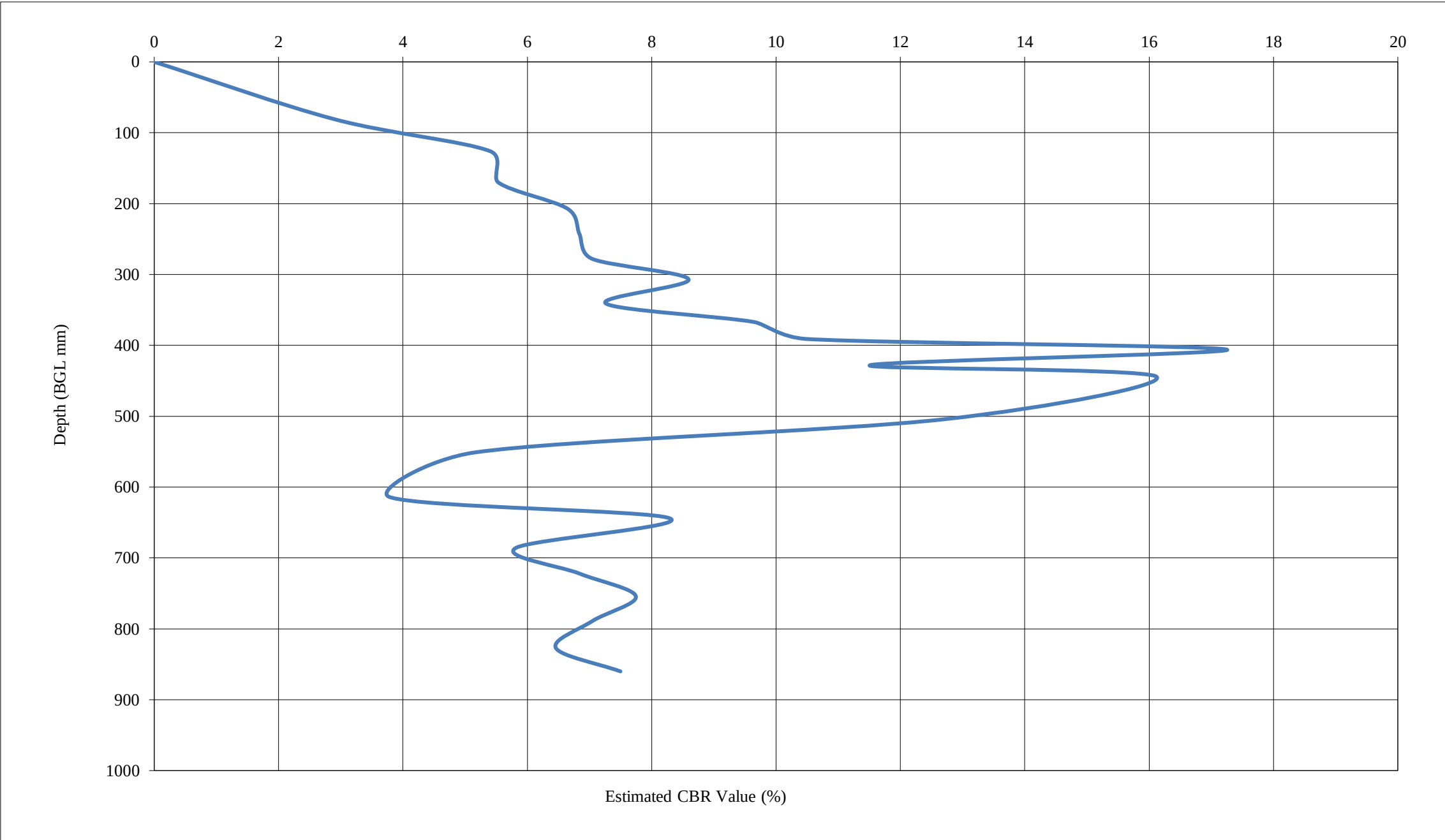
Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023



Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)
Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP111	Easting:	384969
Initial Depth (mm BGL):	55	Northing:	410941
Final Depth (mm BGL):	893		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	360	8	8	45.00	5.40
360	577	23	15	14.47	17.93
577	893	34	11	28.73	8.68

Comments

External Hardstanding - Engineered Structural Upfill

Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023

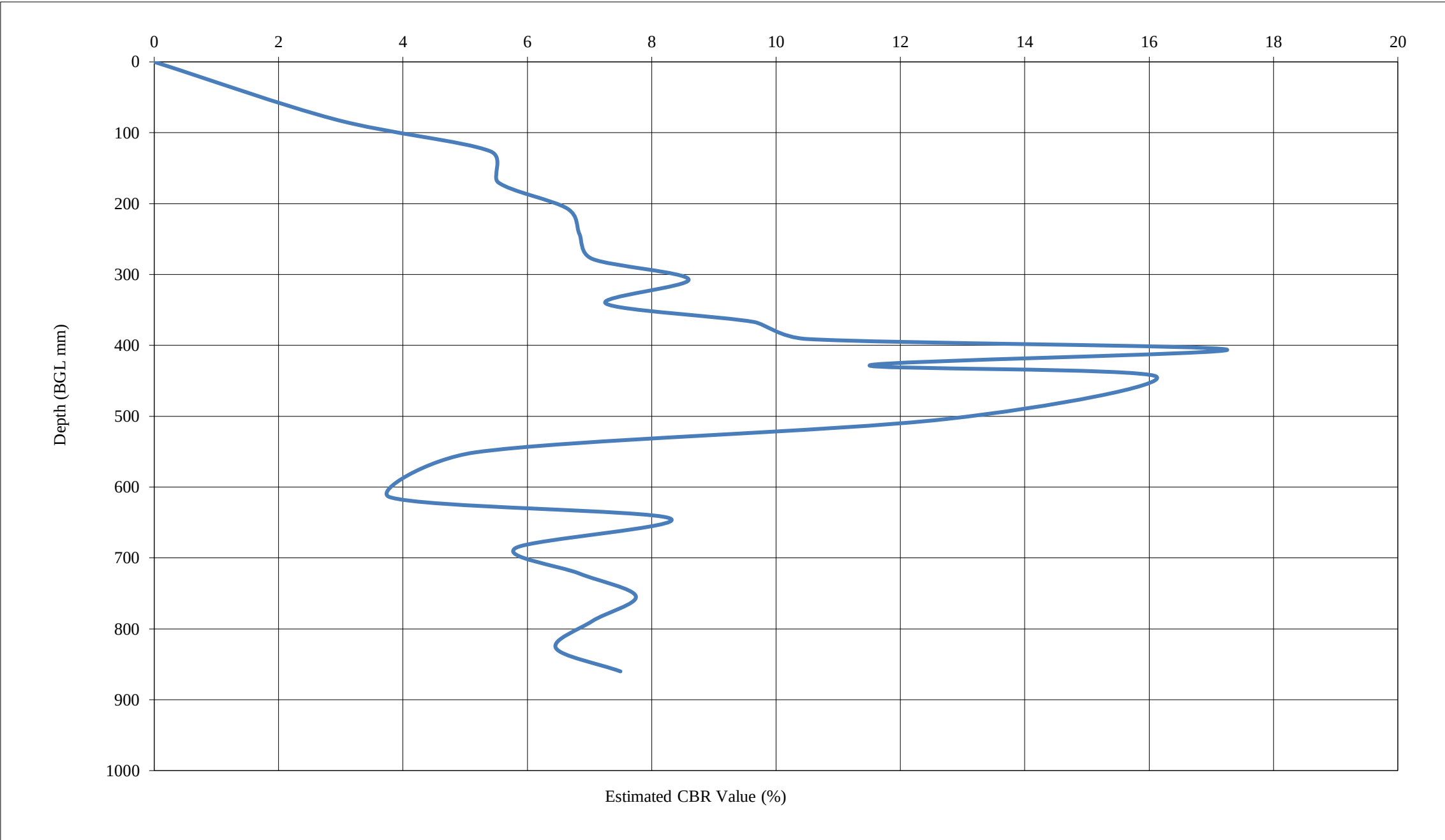


Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP112	Easting:	384987
Initial Depth (mm BGL):	40	Northing:	410918
Final Depth (mm BGL):	760		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	322	21	8	40.25	6.08
322	612	52	31	9.35	28.42
612	760	82	30	4.93	55.89

Comments

External Hardstanding - Engineered Structural Upfill

Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023

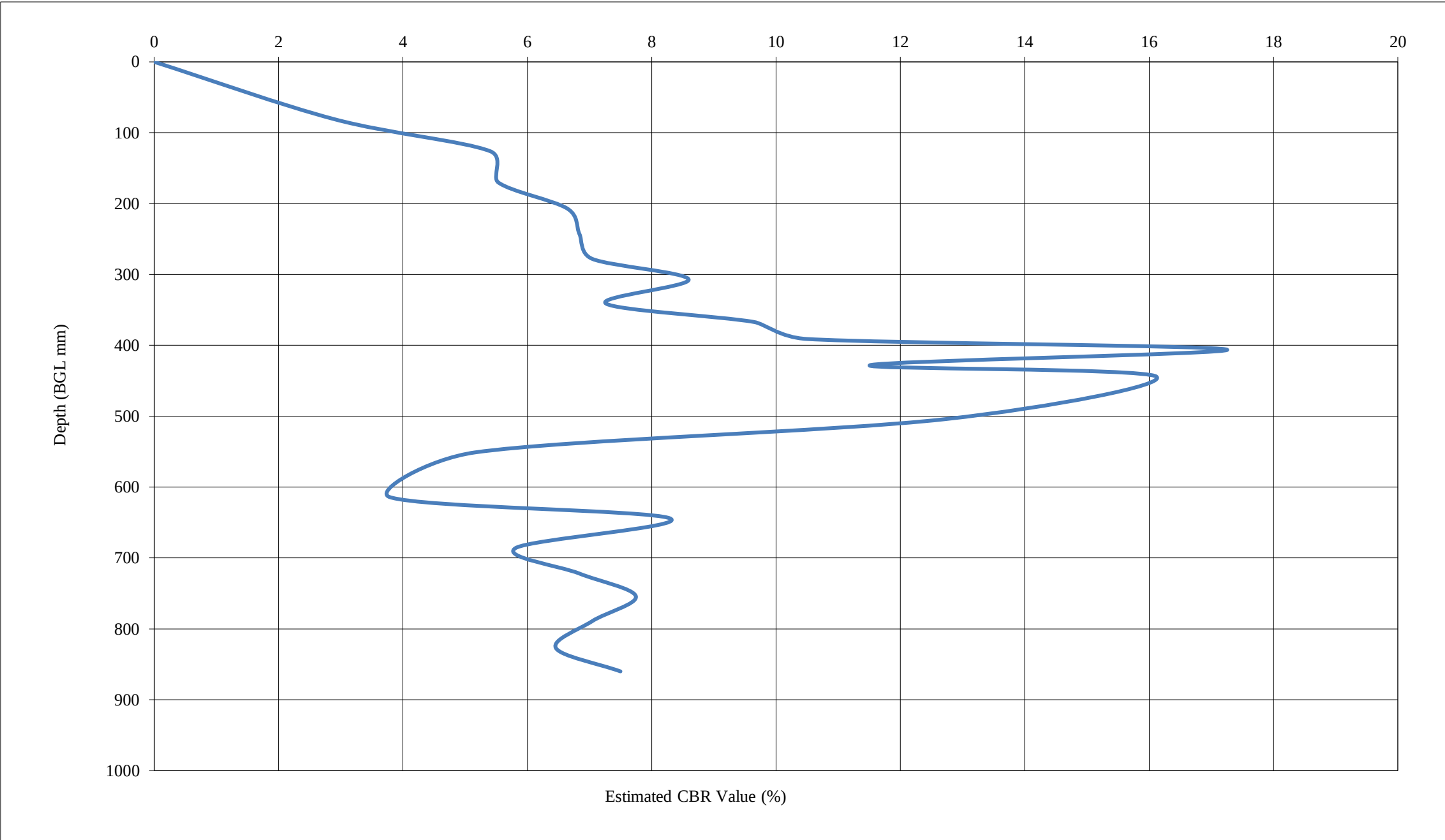


Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP113	Easting:	384969
Initial Depth (mm BGL):	66	Northing:	410931
Final Depth (mm BGL):	903		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	319	20	20	15.95	16.17
319	560	48	28	8.61	31.04
560	903	66	18	19.06	13.40

Comments
External Hardstanding - Engineered Structural Upfill

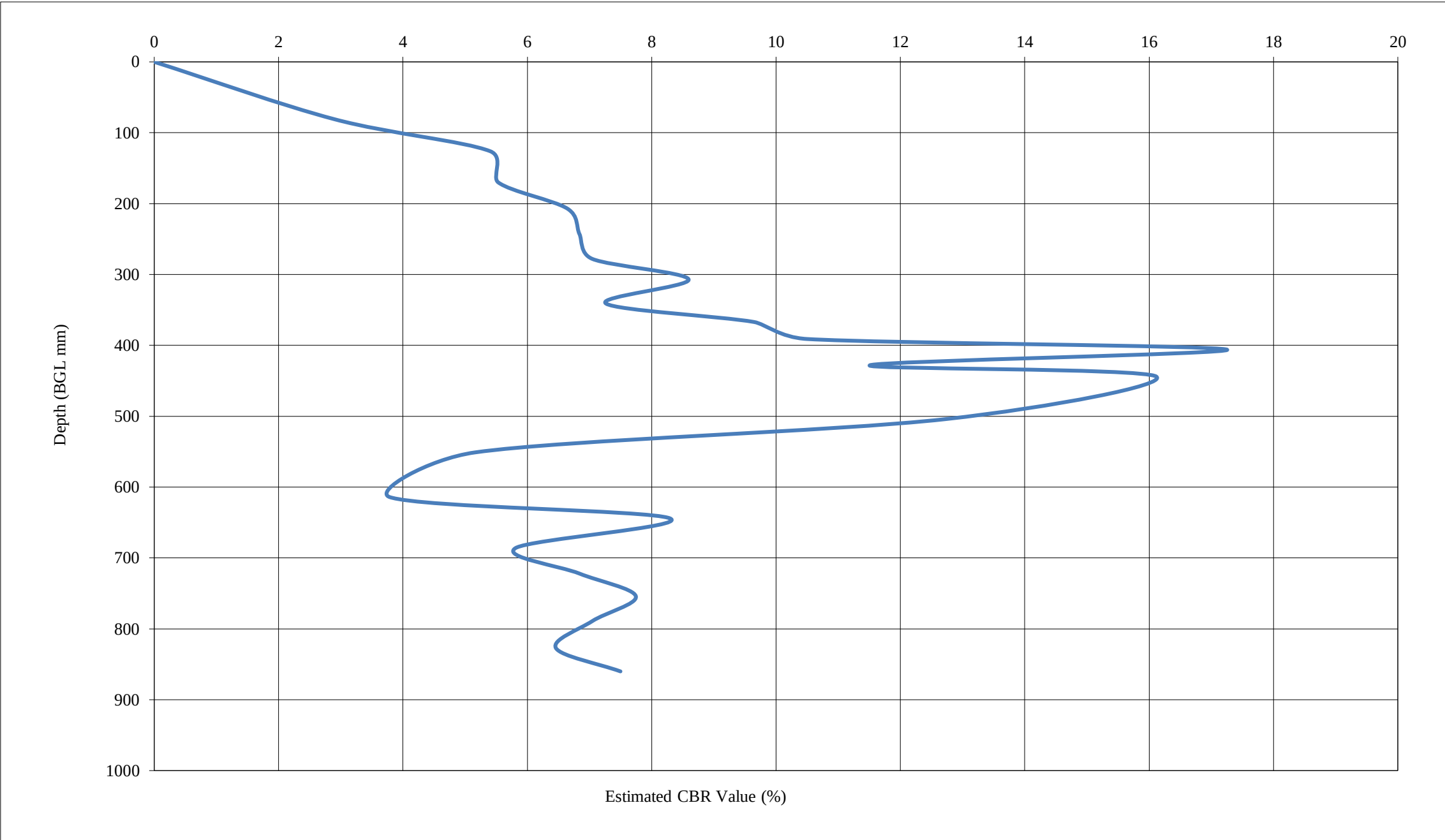
Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023



Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)
Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP114	Easting:	384961
Initial Depth (mm BGL):	47	Northing:	410904
Final Depth (mm BGL):	903		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	366	15	15	24.40	10.32
366	580	27	12	17.83	14.37
580	903	43	16	20.19	12.60

Comments

External Hardstanding - Engineered Structural Upfill

Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023

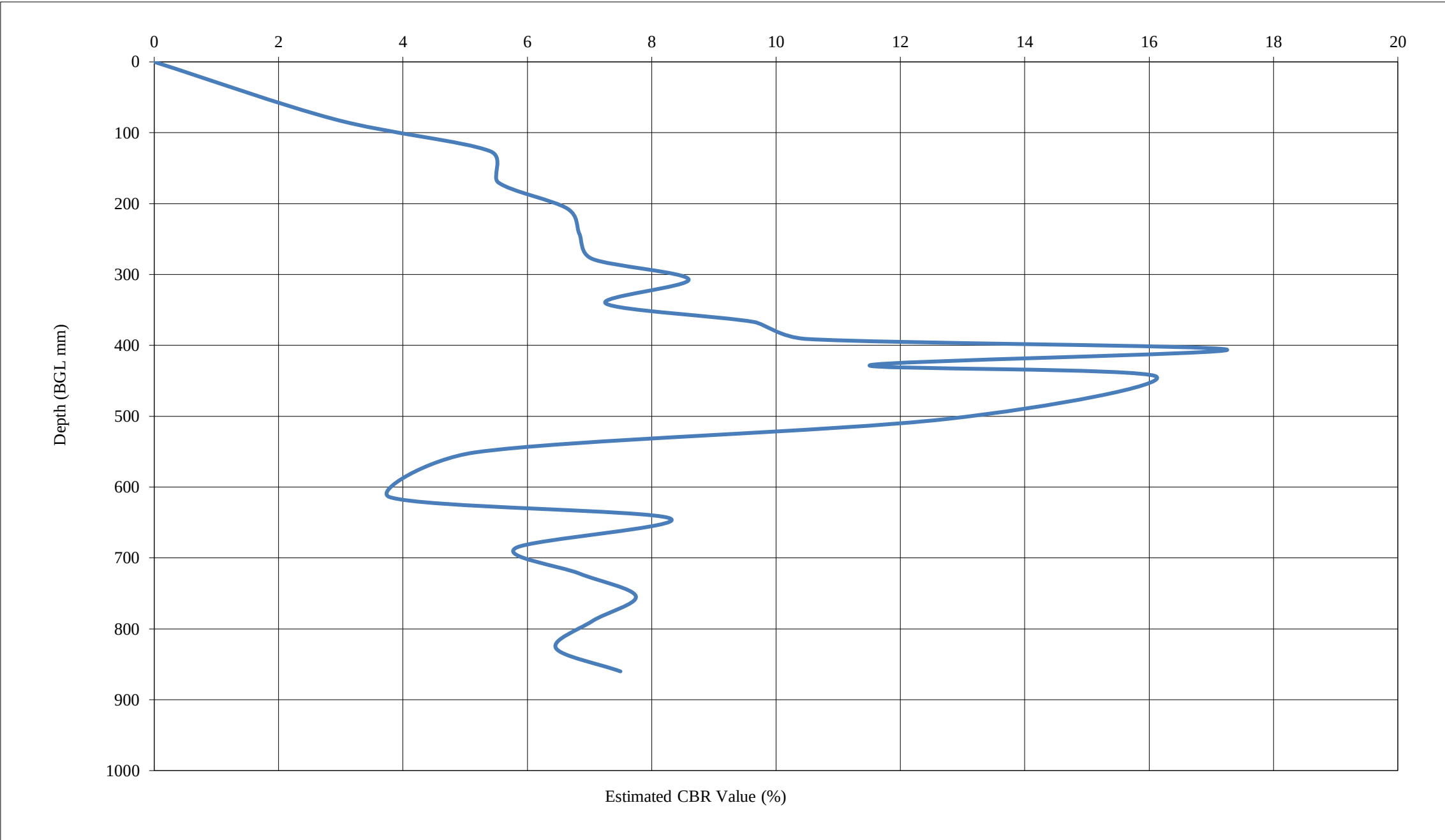


Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP115	Easting:	384978
Initial Depth (mm BGL):	96	Northing:	410894
Final Depth (mm BGL):	904		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	354	25	25	14.16	18.34
354	577	40	15	14.87	17.42
577	904	47	7	46.71	5.19

Comments

External Hardstanding - Engineered Structural Upfill

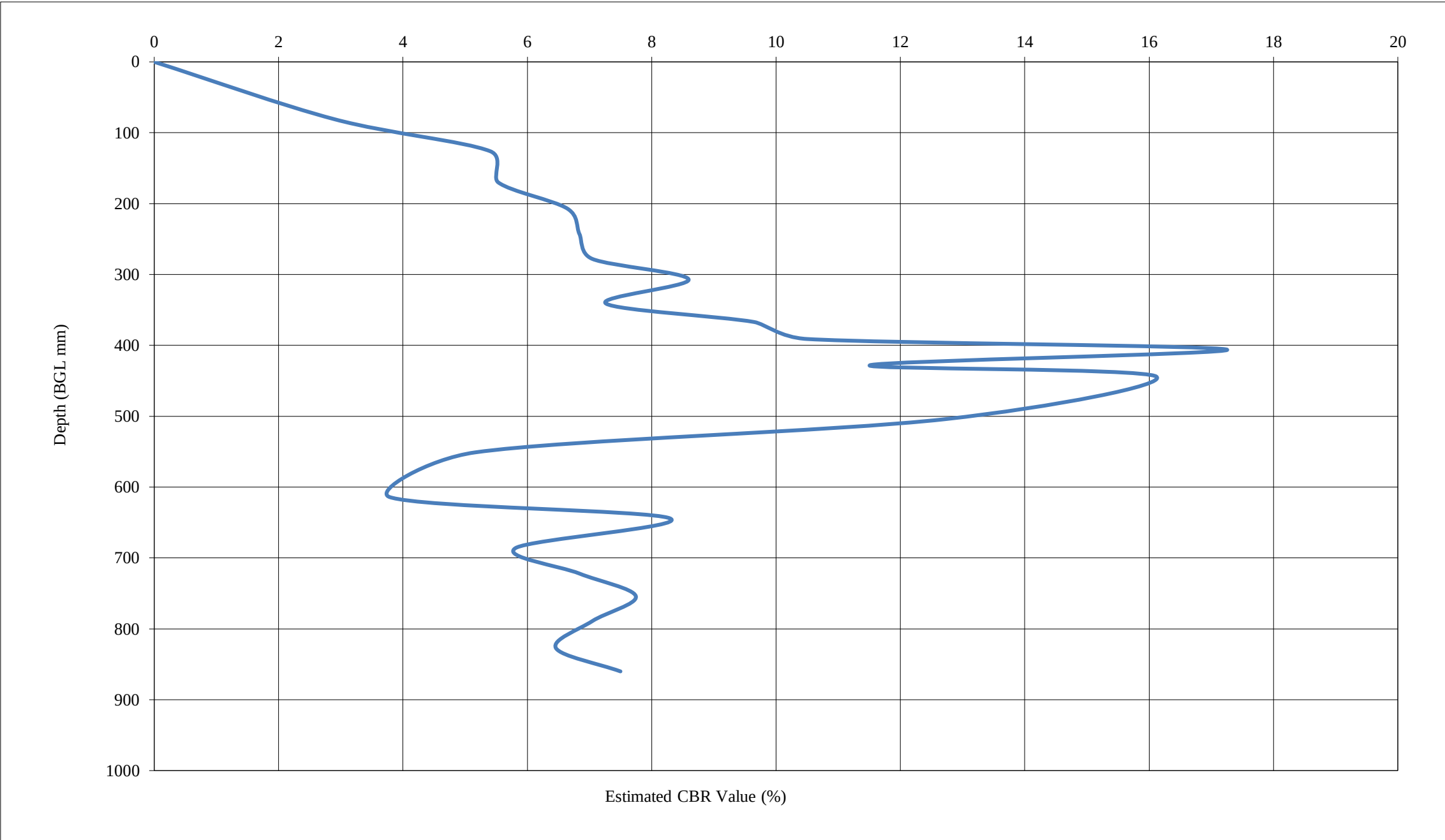
Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023



Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)
Inaccordance with Highways England CS229 Data for Pavement Assessment

Site Name	George Street	Test Date:	18/10/2023
Site Ref	13-224	Test Location:	Heywood
Test No.:	DCP116	Easting:	384964
Initial Depth (mm BGL):	52	Northing:	410882
Final Depth (mm BGL):	906		

Estimated California Bearing Ratio Graph



Start Depth (mm) BGL	Finish Depth (mm) BGL	No. of Blows	Blows Per Layer	DCP mm/Blows	Ave Estimated Layer (CBR %)
0	300	13	13	23.08	10.94
300	582	33	20	14.10	18.42
582	906	49	16	20.25	12.56

Comments

External Hardstanding - Engineered Structural Upfill

Site Engineer:	Checked By:	Date:	Approved By:	Date:
JJ	M.Wilson	23/10/2023	M. Dyer	23/10/2023

APPENDIX VI

ASBESTOS RECORDS

Consignment Note

PART A Notification Details

1. Consignment Note code	GLOBAL / 16082	3. The waste will be taken to (name, address and postcode)
2. The waste described below is to be removed from:		Pilsworth Landfill, Pilsworth Road, Bury, BL9 8QZ
Lee Ashworth Excavations George Street, Heywood, OL10 4PW		4. The waste producer was different was (if different from 2)

PART B Description of the waste

1. The process giving rise to the waste(s) was	REMOVAL	2. SIC for the process giving rise to the waste	4	5	.	2	5		
3. WASTE DETAILS (where more than one waste type is collected all the information given below must be completed for each EWC identified)									
Description of waste	List of wastes (EWC code) (six digits)	Quantity (kg)	The chemical / biological components in the waste and their concentrations are:		Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard Code(s)	Container, type, number and size		
			Component	Concentration (% or mg/kg)					
Insulation	1 7 0 6 0 1	30 Bags	Amosite / Chrysotile	Less Than 15%	Solid	HP5/7	40 Yard Enclosed		
Cement	1 7 0 6 0 5		Chrysotile	Less Than 1%	Solid	HP5	40 Yard Enclosed		
The information below is to be completed for each EWC identified									
EWC Code	UN identification number(s)	Proper shipping name(s)	UN class(es)	Packing group(s)	Special handling requirements				
1 7 0 6 0 1	2212	Asbestos Amosite / Chrysotile	9	II					
1 7 0 6 0 5	2590	Asbestos Chrysotile	9	III					

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for the subsequent carriers. If schedule of carriers is attached tick here ☐)		I certify that the information in A, B and C has been completed and is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labeled correctly and the carrier has been advised of any special handling requirement.	
I certify that I today collected consignment of that the details in A2, A4, and B3 are correct and I have been advised specific handling requirements.		I confirm that I have fulfilled my duty to apply the waste hierarchy as required by regulation 12 of the waste (England and Wales) regulation 2011	
Where this note comprises part of a multiple collection the round number and collection number are:			
1. Carrier Name:	Lee Ashworth Excavations Ltd	1. Consignor name:	Global Asbestos Solutions Ltd
On behalf of (name, address, postcode, telephone, email, facsimile): Lee Ashworth Excavations Ltd, Far Pastures Farm, Burnley Road East, Rossendale, England, BB4 9NH		On behalf of (name, address, postcode, telephone, email, facsimile): Far Pastures Farm, Burnley Road East, Rossendale, England, BB4 9NH	
2. Carrier registration no. / reason for exemption:	CBDU177909 01706254560-enquiries@leeashworthltd.co.uk	Registration - L1 EXC	
3. Vehicle registration no. (or mode of transport, if not road):	L1 EXC		
Signature		Signature	
Date: 05.10.2023	Time: 12.30	Date: 05.10.2023	Time: 12.30

PART E Consignee's Certificate

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code Accepted/Rejected	Waste management operation (R or D code)
170601			
170605			
1. I receive this waste at the address given in A4 on: Date Time			
2. Vehicle registration no. (or mode of transport if not)		Name:	
3. Where waste is rejected please provide details:		On behalf of (name, address, postcode, telephone, email facsimile)	
I certify that were permit/exempt waste operation number:			
authorises the management of the waste described in B at the address given in A4 Where the			
consignment forms part of a multiple collection, as identified in part C. I certify that the total		Signature	
number of consignments forming the collection are		Date	Time

DAILY SITE DIARY

SITE:	George Street			
SITE MANAGER:		DATE	06-11-23	
WEATHER CONDITIONS	Wet	WIND DIRECTION		WIND SPEED
Assess the weather, wind speed and direction. If considered there is a risk of dust or fibre release then the material will be dampened down with water mist and consideration given to cover.				

OPERATIVES/CONTRACTORS ON SITE:			
NAME	SIGNATURE	NAME	SIGNATURE
Aiden Heserwood	A-M		
Ste Crompton	S-C		

TIME	COMMENTS:
06-11-23	Site Set up (digger/decon in place). Start made on digging & picking agreed area. 8 bags picked & skipped.
07-11-23	- Continue digging & picking agreed area, 11 bags picked (AM), 10 Bags Picked (PM)
08-11-23	- Continue digging Contaminated Area (shown on plans) 4 bags picked (AM), 5 bags Picked (PM)
09-11-23	- continue digging Contaminated area (shown on plans) 6 bags picked AM. 11 bags picked (Along fence line shared with skip yard)
	• And picking finished - 44 bags in total.
	• final Sweep over picked land & ground put back in.

VISITOR'S NAME	COMPANY	VEHICLE REG No	TIME IN	TIME OUT	INDUCTION GIVEN (please tick)

PTW : ASBESTOS

Reference Number:

This permit is issued with reference to associated risk assessments and method statements.

Caution! The following must not be worked on – Asbestos Insulation (pipe lagging etc), Textured Coatings containing asbestos and Asbestos Insulation Board (AIB). This Permit to Work allows unlicensed work to be done on Asbestos Containing Materials (ACM's) providing all the conditions of this Permit to Work are met.

Issued to; Aiden Heselwood

Date:06-11-23

Company: Lee Ashworth Excavations Ltd Position:Supervisor

Location of Work:
George Street, Heywood

Asbestos Containing Materials identified:
Chrysotile within identified ground.

The following work is covered by this Permit:
Excavation.

Other:

Hazards existing before work starts:

ASBESTOS

Hazards introduced by the work:

EXPOSURE

Does the work involve any of the following? If yes then the relevant task specific Permit to Work **must** be issued.

Entry to a **Confined Space**.

Yes

No

☐☒

Work involving **Demolition**.

☐☒

Carrying out **Work at Height**.

☐☒

PTW8 - Work on **Plant and Machinery**

☒☐

Mandatory precautions:

Have the following been carried out and evidenced prior to before work commencing?

Asbestos Awareness Training

YES / NO

Site Induction

YES / NO

IF NEITHER HAVE BEEN CARRIED OUT DO NOT PROCEED

The following **Protective Equipment** must be worn / used / available

 Head ☒	 Eyes ☐	 Hands ☒	 Feet ☒	 Hearing ☐	 Body ☒	 Breathing ☒	 Face ☐
 Hi Vis ☒	 Half mask ☒	☐	☐	☐	☐	☐	☐
Signs, Barriers & Guards				Other (Please specify)			

This Permit to Work is valid between:

date: 06-11-23 hrs: 08.00 and ~~08.00~~ date: 09-11-23 hrs: 16.30

Issue of Permit:

I am satisfied that the conditions of this Permit to Work have been met and the work specified in this Permit to Work can proceed. The receiver has been briefed on all relevant emergency procedures:

Signed: *A.M.*
Position: Supervisor
Date: 06-11-23

Print: Aiden Heselwood
Phone number: 0756443176
Time: 08.00 hrs

Acceptance of Permit: (contractor)

I have read, understood and accept the conditions of this Permit to Work:

Signed: *A.M.*
Position: Supervisor
Date: 06-11-23

Print: Aiden Heselwood
Time: 08.00 hrs

Extension of Permit: **Note. The Permit to Work can only be extended on the last day of issue. Work that extends into the following day must have a new Permit to Work.**

This Permit to Work is extended between:

Date: Signed: Print:

Clearance:

The work detailed in this Permit to Work is complete. ☒ Not complete ☐ All persons under my control have been withdrawn and the work / area / equipment detailed in this Permit to Work left in a safe condition.

Signed: *A.M.*
Print: Aiden Heselwood
Time: 14.30 hrs
Date: 09-11-23

Cancellation:

All persons understand that all work covered by this Permit to Work must now cease and the Permit to Work is cancelled.

Signed:
Print:
Time: hrs
Date:

TOOLBOX TALK / SITE INDUCTION



Site: George Street, Heywood **Contract No:**

Date: 06-11-23 **Time:**

Given by: Aiden Heselwood **Position:**

Name:	Signature:	Date:
Aiden Heselwood	A.H.	06-11-23
Steve Crompton	SC	06-11-23
Lee Ashworth	L.A.	6-11-23
John Clegg	J.C.	6-11-23
Shaun Ashworth	S.A.	6-11-23

Topics Covered:	Tick when covered
Site:	
Site Entry	☒
Site Exit	☒
Hazards (Sharps/needles, Rats etc.)	☒
Detail:	
Fire Procedures (Muster points etc.)	☒
Emergency Procedures	☒
Smoking (where designated areas are)	☒
Project:	
Overview	☒
Decontamination Procedure to be used	☒
Overalls to be used (enclosure / transit / other works)	☒
Air Monitoring for the duration of project	☒
Removal Method	☒
Suppression techniques to be used	☒
Other topics covered	
Detail:	☐

SIGNATURE: A.H. **TIME FINISHED:** 08:30

Area where asbestos was found, including 2m clear zone



Consignment Note

PART A Notification Details

1. Consignment Note code	GLOBAL / 16082	3. The waste will be taken to (name, address and postcode)
2. The waste described below is to be removed from:		Pilsworth Landfill, Pilsworth Road, Bury, BL9 8QZ
Lee Ashworth Excavations George Street, Heywood, OL10 4PW		4. The waste producer was different was (if different from 2)

PART B Description of the waste

1. The process giving rise to the waste(s) was		REMOVAL		2. SIC for the process giving rise to the waste		4 5 . 2 5	
3. WASTE DETAILS (where more than one waste type is collected all the information given below must be completed for each EWC identified)							
Description of waste	List of wastes (EWC code) (six digits)	Quantity (Kg)	The chemical / biological components in the waste and their concentrations are:		Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard Code(s)	Container, type, number and size
			Component	Concentration (% or mg/kg)			
Cement	1 7 0 6 0 5	44 Bags	Chrysotile	Less Than 1%	Solid	HP5	40 Yard Enclosed
The information below is to be completed for each EWC identified							
EWC Code	UN Identification number(s)	Proper shipping name(s)	UN class(es)	Packing group(s)	Special handling requirements		
1 7 0 6 0 5	2590	Asbestos Chrysotile	9	III			

PART C Carrier's certificate

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

I certify that I today collected consignment of that the details in A2, A4, and B3 are correct and I have been advised specific handling requirements.

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

1. Carrier Name: **Lee Ashworth Excavations Ltd**

On behalf of (name, address, postcode, telephone, email, facsimile): **Lee Ashworth Excavations Ltd, Far Pastures Farm, Burnley Road East, Rossendale, England, BB4 9NH**

2. Carrier registration no. / reason for exemption: **CBDU177909** **01706254560-enquiries@lecashworthltd.co.uk**

3. Vehicle registration no. (or mode of transport, if not road): **L1 EXC**

Signature: _____

Date: **9-11-23**

PART D Consignor's Certificate

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

I confirm that I have fulfilled my duty to apply the waste hierarchy as required by regulation 12 of the waste (England and Wales) regulation 2011

1. Consignor name: **Global Asbestos Solutions Ltd**

On behalf of (name, address, postcode, telephone, email, facsimile): **Far Pastures Farm, Burnley Road East, Rossendale, England, BB4 9NH**

Registration - L1 EXC

Signature: *D Drabble*

Date: **4.30** Time: **9.11.23**

PART E Consignee's Certificate

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code Accepted/Rejected	Waste management operation (R or D code)
170605			

1. I receive this waste at the address given in A4 on: Date: _____ Time: _____

2. Vehicle registration no. (or mode of transport if not): _____ Name: _____

3. Where waste is rejected please provide details: _____

I certify that were permit/exempt waste operation number: _____

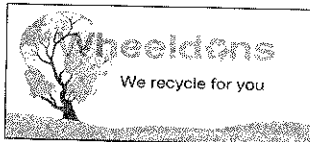
On behalf of (name, address, postcode, telephone, email facsimile): _____

authorises the management of the waste described in B at the address given in A4 Where the consignment forms part of a multiple collection, as identified in part C, I certify that the total number of consignments forming the collection are _____

Signature: _____ Date: _____ Time: _____

APPENDIX VII

WASTE TRANSFER NOTES



Follow us on:

**WASTE TRANSFER NOTE / INVOICE /
WEIGHBRIDGE TICKET**Bridge House, Yeagate Industrial Estate, Heap Bridge, Bury. BL9 7HT
Tel: 0161 764 8888 (4 lines)Email: info@wheeldonsbrothers.co.uk Website: www.wheeldonsbrothers.co.uk
VAT No: 146 2887 42 Carrier Licence No: CBDU95165 ISO14001

Customer Name & Address:

INCHLONAIG LTD

GEORGE STREET

HEYWOOD

Heywood, OL10 4PP

Greater Manchester

Type of Containment: 14YD SKIP

Order No.: A/c No.: C000007578

Vehicle Reg. No.:

Carrier:

SIC Code:

Waste Type: GEN/20 03 01

Description: GENERAL WASTE MAY INCLUDE POPS

Supplementary Note:

Origin/Destination: INCHLONAIG LTD, OL10 4PP

Transfer Note No.:

Tipping Zone: B1

FAIRSWORTH PERMIT NUMBER EPR/CB3508CG	RAMSBOTTOM PERMIT NUMBER EPR/OP3892EN	ROYTON PERMIT NUMBER WML 53932	BURY PERMIT NUMBERS EPR/VP3896CW EPR/VP3294CM
--	--	---	---

Gross	Kg	Seq. No.	Date	Time
11.12			27/09/23	13:05:52
10.5				
0.62				

Gross:	0	VAT:	0	Nett:	0
--------	---	------	---	-------	---

Customer Signature:

Customer Print Name:

ENVIRONMENTAL PROTECTION ACT 1990

Under Section 34 of the Act, persons transporting and disposing of waste will be under a duty of care. A written description of the waste must be kept and handed to the person receiving the waste. Waste must not be transferred to any person not authorised or licensed to receive such waste. Failure to observe the duty will be a criminal offence.

Ticket No.: WT-0273549

Operator No.:

SO-0486719

**The hierarchy of waste has been
considered/applied to this, as
required by regulation 12
of the waste regulations 2011**

Transaction Type: Inbound

Vehicle Description: SKIP WAGON

Carrier No.: Issuing Authority:

Driver's Signature:

PLEASE COMPLETE OUR CUSTOMER SURVEY AT THE BOTTOM OF OUR HOME PAGE. WE VALUE YOUR FEEDBACK.

SKIP ON ROAD PERMIT REQUIRED ☐ NUMBER LIGHTS LEFT ☐ NUMBER CONES LEFT ☐ASBESTOS / DRUMS / CANS FLAMMABLE / TOXIC SUBSTANCES /
ELECTRICAL EQUIPMENT / FLUORESCENT TUBES / TYRES / PLASTERBOARD
MUST BE PREBOOKED & LOADED SEPARATELY.WARNING: DANGEROUSLY LOADED OR OVERLOAD SKIPS WILL NOT BE
REMOVED. LOST JOURNEYS WILL BE CHARGED FOR.

PAID: CASH / CHEQUE / ACCOUNT / CARD (delete as necessary)

CONDITIONS OF HIRE OVERLEAF

EWC CODE	200201	200138	200101	200139	170504	170107	200140
WASTE	GREEN	WOOD	CARD	PLASTIC	SOIL	HARDCORE	METAL
200108	170605	130208	160103	200135	200108	191212	170904
GLASS	ASBESTOS	OIL	TYRES	WEEE	FOOD	TF ST WASTE	ROOF MAT



Follow us on:

**WASTE TRANSFER NOTE / INVOICE /
WEIGHBRIDGE TICKET**Bridge House, Yeagate Industrial Estate, Heap Bridge, Bury, BL9 7HT
Tel: 0161 764 8888 (4 lines)Email: info@wheeldonsbrothers.co.uk Website: www.wheeldonsbrothers.co.uk
VAT No: 146 2887 42 Carrier Licence No: C8DU95165 ISO14001Customer Name & Address:
INCHLONAIG LTD
GEORGE STREET
HEYWOOD
Heywood, OL10 4PP
Greater Manchester
Type of Containment: 35 TO 40YD OPEN ROLONOF**ENVIRONMENTAL PROTECTION ACT 1990**

Under Section 34 of the Act, persons transporting and disposing of waste will be under a duty of care. A written description of the waste must be kept and handed to the person receiving the waste. Waste must not be transferred to any person not authorised or licensed to receive such waste. Failure to observe the duty will be a criminal offence.

Ticket No.: WT-0270825
SO-0481921

Operator No.:

**The hierarchy of waste has been
considered/applied to this, as
required by regulation 12
of the waste regulations 2011**

Order No.: A/c No.: C000007578

Transaction Type: Inbound

Vehicle Reg. No.:

Vehicle Description: ROLONOF WAGON SMALL

Carrier:

Carrier No.: Issuing Authority:

SIC Code:

Driver's Signature:

Waste Type: GEN/20 03 01

Description: GENERAL WASTE MAY INCLUDE POPS

Supplementary Note:

Origin/Destination: INCHLONAIG LTD, OL10 4PP

Transfer Note No.:

Tipping Zone: B1

	Kg	Seq. No.	Date	Time
Gross	21.96		12/09/23	09:56:41
Tare	15.72			
Nett	6.24			

Gross: 594.828 VAT: 99.138 Nett: 495.69

Customer Signature:

Customer Print Name:

FAIRSWORTH PERMIT NUMBER EPRV/CB3508CG	RAMSBOTTOM PERMIT NUMBER EPRV/QP3092EN	ROXTON PERMIT NUMBER WML 53802	BURY PERMIT NUMBERS EPRV/VP3096CH EPRV/AP3294CM
---	---	---	---

PLEASE COMPLETE OUR CUSTOMER SURVEY AT THE BOTTOM OF OUR HOME PAGE. WE VALUE YOUR FEEDBACK.

SKIP ON ROAD PERMIT REQUIRED ☐ NUMBER LIGHTS LEFT ☐ NUMBER CONES LEFT ☐

PAID: CASH / CHEQUE / ACCOUNT / CARD (delete as necessary)

ASBESTOS / DRUMS / CANS FLAMMABLE / TOXIC SUBSTANCES /
ELECTRICALEQUIPMENT / FLUORESCENT TUBES / TYRES / PLASTERBOARD
MUST BE PREBOOKED & LOADED SEPARATELY.WARNING: DANGEROUSLY LOADED OR OVERLOAD SKIPS WILL NOT BE
REMOVED. LOST JOURNEYS WILL BE CHARGED FOR.

EWG CODE	200201	200138	200101	200139	170504	170107	200140
WASTE	GREEN	WOOD	CARD	PLASTIC	SOIL	HARDCORE	METAL
200108	170605	130208	160103	200135	200108	191212	170904
GLASS	ASBESTOS	OIL	TYRES	WEEE	FOOD	TF ST WASTE	ROOF MAT

CONDITIONS OF HIRE OVERLEAF



Follow us on:

**WASTE TRANSFER NOTE / INVOICE /
WEIGHBRIDGE TICKET**

Bridge House, Yeagate Industrial Estate, Heap Bridge, Bury, BL9 7HT

Tel: 0161 764 8888 (4 lines)

Email: info@wheelonbrothers.co.uk Website: www.wheelonbrothers.co.uk

VAT No: 146 2887 42 Carrier Licence No: CBDU95165 ISO14001

Customer Name & Address:

INCHLONAIG LTD

GEORGE STREET

HEYWOOD

Heywood, OL10 4PP

Greater Manchester

Type of Containment:

35 TO 40YD OPEN ROLONOF

Order No.:

A/c No.:

C090007578

Transaction Type:

Inbound

Vehicle Reg. No.:

Vehicle Description:

ROLONOF WAGON

Carrier:

Carrier No.:

Issuing Authority:

SIC Code:

Driver's Signature:

Waste Type:

GEN/20 03 01

Description:

GENERAL WASTE MAY INCLUDE POPS

Supplementary Note:

Origin/Destination:

INCHLONAIG LTD, OL10 4PP

Transfer Note No.:

Tipping Zone:

B1

Gross

Kg

Seq. No.

Date

Time

29.14

Tare 16.74

Nett 12.4

Gross: 1581.78

VAT: 263.63

Nett: 1318.15

Customer Signature:

Customer Print Name:

FAIRSWORTH PERMIT NUMBER EPR/C9350806	BAMSBOTTOM PERMIT NUMBER EPR/OP3082EN	ROYTON PERMIT NUMBER WML 53932	BURY PERMIT NUMBERS EPR/VP3896CW EPR/VP3294CM
--	--	---	---

PLEASE COMPLETE OUR CUSTOMER SURVEY AT THE BOTTOM OF OUR HOME PAGE, WE VALUE YOUR FEEDBACK.

SKIP ON ROAD PERMIT REQUIRED ☐NUMBER LIGHTS LEFT ☐NUMBER CONES LEFT ☐

PAID: CASH / CHEQUE / ACCOUNT / CARD (delete as necessary)

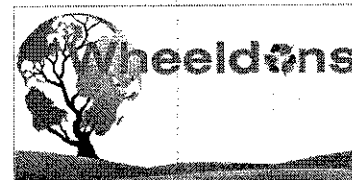
CONDITIONS OF HIRE OVERLEAFASBESTOS / DRUMS / CANS FLAMMABLE / TOXIC SUBSTANCES /
ELECTRICALEQUIPMENT / FLUORESCENT TUBES / TYRES / PLASTERBOARD
MUST BE PREBOOKED & LOADED SEPARATELY.WARNING: DANGEROUSLY LOADED OR OVERLOAD SKIPS WILL NOT BE
REMOVED. LOST JOURNEYS WILL BE CHARGED FOR.

EWC CODE

WASTE

200108
GLASS200201
GREEN170605
ASBESTOS200138
WOOD130208
OIL200101
CARD160103
TYRES200139
PLASTIC200135
WEEE170504
SOIL200108
FOOD170107
HARDCORE191212
TF ST WASTE200140
METAL170904
ROOF MAT

Wheeldon Brothers Waste Ltd
Bridge House
BL97HT Bury
Phone No. 0161 764 8888



INCHLONAIG LTD
GEORGE STREET
HEYWOOD
Heywood, OL10 4PP
GREAT BRITAIN

Document No.: SP-0092802

Document Date: 30. September 2023

Customer No.: C000007578

External Doc.

Num:

INVOICE

Delivery Date	Order No	Description	Task-Site Ext. Ref.	Quantity	Price	Amount
		CTS17659 INCHLONAIG LTD GEORGE STREET HEYWOOD Heywood, OL10 4PP AREA1 GREAT BRITAIN				
04/09/23	SO-0479545	TE 35 TO 40YD OPEN ROLONOF Vehicle License Plate Number: MX16XHW		1	553.68	553.68
07/09/23	SO-0480814	ENR 35 TO 40YD OPEN ROLONOF Vehicle License Plate Number: MV65PYB		3.0001		
07/09/23	SO-0480814	ENR 35 TO 40YD OPEN ROLONOF Vehicle License Plate Number: MV65PYB		9.3999	140.23	1,318.15
07/09/23	SO-0481091	TE 35 TO 40YD OPEN ROLONOF Vehicle License Plate Number: ML18ESF		1	553.68	553.68
12/09/23	SO-0481921	ENR 35 TO 40YD OPEN ROLONOF Vehicle License Plate Number: KU15FNV		3.0001		
12/09/23	SO-0481921	ENR 35 TO 40YD OPEN ROLONOF Vehicle License Plate Number: KU15FNV		3.2399	140.23	454.33
12/09/23	SO-0481921	TYRES SINGLE		11	3.76	41.36
15/09/23	SO-0483585	TE 14YD SKIP Vehicle License Plate Number: SN64TZG		1	322.77	322.77
27/09/23	SO-0486719	ENR 14YD SKIP Vehicle License Plate Number: RX68YNB		0.62		
RECYCLING AND RECOVERY RATES FOR SEPT 2023 93%, WITH WASTE FOR ENERGY AT 21% AND LANDFILL AT 1.5% WASTE IN 13783 TONNES, PAYMENT TERMS 30 DAYS NET						
Total GBP						3,243.97

E-Mail: kay@wheeldonbrothers.co.uk

VAT Reg. No.: 146288742
Sort Code: 20-72-75
Account No.: 70945323

IBAN: GB36 BARC 207275 70945323
BIC/SWIFT: BARCGB22





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Email: info@wheeldonsbrothers.co.uk Website: www.wheeldonsbrothers.co.uk
VAT No: 146 2887 42 Carrier Licence No: CBDU95165 ISO14001

Customer Name & Address:

INCHLONAIG LTD
GEORGE STREET
HEYWOOD
Heywood, OL10 4PP
Site Phone: 07971266234

ENVIRONMENTAL PROTECTION ACT 1990

Under Section 34 of the Act, persons transporting and disposing of waste will be under a duty of written description of the waste must be kept and handed to the person receiving the waste. Waste not be transferred to any person not authorised or licenced to receive such waste. Failure to observe duty will be a criminal offence.

Ticket No.: SO-0479545

Operator No.: Em Bee

The hierarchy of waste has been
considered/applied to this, as required by
regulation 12 of the waste regulations 2011

Type of Containment: 1/35 TO 40YD OPEN ROLONOF

Order No.: A/c No.: C000007578

Transaction Type: Submission

Vehicle Reg. No.: MX16XHW

Vehicle Description: ROLONOF WAGON

Carrier:

Carrier No.:

Issuing Authority:

SIC Code:

Driver's Signature:

Waste Type: GEN/20 03 01

Description:

Supplementary Note: AFTER 8AM 7971266234

Origin/Destination:

Transfer Note No.:

Tipping Zone:

FAILSWORTH PERMIT NUMBER EPR/CB35080G	RAMSBOTTOM PERMIT NUMBER EPR/OP3092EN	ROYTON PERMIT NUMBER WML 53932	BURY PERMIT NUMBERS EPR/VP3896CM EPR/VP3294CM
--	--	---	---

Gross: 664.42 Kg Seq. No. 04/09/2023 Time
Tare
Nett

Gross: 664.42 VAT: 110.74 Nett: 553.68

Customer Signature:

Customer Print Name:

PLEASE COMPLETE OUR CUSTOMER SURVEY AT THE BOTTOM OF OUR HOME PAGE, WE VALUE YOUR FEEDBACK.

PAID: CASH / CHEQUE / ACCOUNT / CARD (delete as nece)

SKIP ON ROAD PERMIT REQUIRED ☐ NUMBER LIGHTS LEFT ☐ NUMBER CONES LEFT ☐

CONDITIONS OF HIRE OVER

ASBESTOS / DRUMS / CANS FLAMMABLE / TOXIC SUBSTANCES /
ELECTRICALEQUIPMENT / FLUORESCENT TUBES / TYRES / PLASTERBOARD
MUST BE PREBOOKED & LOADED SEPARATELY.

EWG CODE	200201	200138	200101	200139	170504	170107	2001
WASTE	GREEN	WOOD	CARD	PLASTIC	SOIL	HARDCORE	MET
200108	170605	130208	160103	200135	200108	191212	1709
GLASS	ASBESTOS	OIL	TYRES	WEEE	FOOD	TF ST WASTE	ROOF

WARNING: DANGEROUSLY LOADED OR OVERLOAD SKIPS WILL NOT BE
REMOVED. LOST JOURNEYS WILL BE CHARGED FOR.



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Email: info@wheeldonsbrothers.co.uk Website: www.wheeldonsbrothers.co.uk
VAT No: 146 2887 42 Carrier Licence No: CBDU95165 ISO14001

Customer Name & Address:

INCHLONAIG LTD
GEORGE STREET
HEYWOOD
Heywood, OL10 4PP
Site Phone: 07971266234

ENVIRONMENTAL PROTECTION ACT 1990

Under Section 34 of the Act, persons transporting and disposing of waste will be under a duty of written description of the waste must be kept and handed to the person receiving the waste. Waste not be transferred to any person not authorised or licenced to receive such waste. Failure to observe duty will be a criminal offence.

Ticket No.: SO-0480814

Operator No.:

The hierarchy of waste has been
considered/applied to this, as required by
regulation 12 of the waste regulations 2011

Type of Containment: 1/35 TO 40YD OPEN ROLONOF

Order No.: A/c No.: C000007578

Transaction Type: Pick-up

Vehicle Reg. No.: MV65PY8

Vehicle Description: ROLONOF WAGON

Carrier:

Carrier No.:

Issuing Authority:

SIC Code:

Driver's Signature:

Waste Type: GEN/20 03 01

Description:

Supplementary Note: 07971266234 asap pls

Origin/Destination:

Transfer Note No.:

Tipping Zone:

FAILSWORTH PERMIT NUMBER EPR/CB35080G	RAMSBOTTOM PERMIT NUMBER EPR/OP3092EN	ROYTON PERMIT NUMBER WML 53932	BURY PERMIT NUMBERS EPR/VP3896CM EPR/VP3294CM
--	--	---	---

Gross: 0.00 Kg Seq. No. 07/09/2023 Time
Tare
Nett

Gross: 0.00 VAT: 0.00 Nett: 0.00

Customer Signature:

Customer Print Name:

PLEASE COMPLETE OUR CUSTOMER SURVEY AT THE BOTTOM OF OUR HOME PAGE, WE VALUE YOUR FEEDBACK.

PAID: CASH / CHEQUE / ACCOUNT / CARD (delete as nece)

SKIP ON ROAD PERMIT REQUIRED ☐ NUMBER LIGHTS LEFT ☐ NUMBER CONES LEFT ☐

CONDITIONS OF HIRE OVER

ASBESTOS / DRUMS / CANS FLAMMABLE / TOXIC SUBSTANCES /
ELECTRICALEQUIPMENT / FLUORESCENT TUBES / TYRES / PLASTERBOARD
MUST BE PREBOOKED & LOADED SEPARATELY.

EWG CODE	200201	200138	200101	200139	170504	170107	2001
WASTE	GREEN	WOOD	CARD	PLASTIC	SOIL	HARDCORE	MET
200108	170605	130208	160103	200135	200108	191212	1709
GLASS	ASBESTOS	OIL	TYRES	WEEE	FOOD	TF ST WASTE	ROOF

WARNING: DANGEROUSLY LOADED OR OVERLOAD SKIPS WILL NOT BE
REMOVED. LOST JOURNEYS WILL BE CHARGED FOR.



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Email: info@wheeldonbrothers.co.uk Website: www.wheeldonbrothers.co.uk
VAT No: 146 2887 42 Carrier Licence No: CBDU95165 ISO14001

Customer Name & Address:

INCHLONAIG LTD
GEORGE STREET
HEYWOOD
Heywood, OL10 4PP
Site Phone: 07971266234

Type of Containment:

1/35 TO 40YD-OPEN-ROLONOF

Order No.:

A/c No.:

C000007578

Transaction Type:

Pick-up

Vehicle Reg. No.:

KU15FNV

Vehicle Description:

ROLONOF WAGON SMALL

Carrier:

Carrier No.:

Issuing Authority:

SIC Code:

Driver's Signature:

Waste Type:

GEN/20 03 01

Description:

Supplementary Note:

Origin/Destination:

Transfer Note No.:

Tipping Zone:

FAILSWORTH PERMIT NUMBER EPR/CB3508CG	RAMSBOTTOM PERMIT NUMBER EPR/OP3092EN	ROYTON PERMIT NUMBER WML 53932	BURY PERMIT NUMBERS EPR/VP3896CW EPR/AP3294CM
--	--	---	---

Gross

Tare

Nett

Gross:

0.00

VAT:

0.00

Nett:

0.00

Customer Signature:

NO ONE TO SIGN

Customer Print Name:

PLEASE COMPLETE OUR CUSTOMER SURVEY AT THE BOTTOM OF OUR HOME PAGE, WE VALUE YOUR FEEDBACK.

SKIP ON ROAD PERMIT REQUIRED ☐NUMBER LIGHTS LEFT ☐NUMBER CONES LEFT ☐

ASBESTOS / DRUMS / CANS FLAMMABLE / TOXIC SUBSTANCES /
ELECTRICALEQUIPMENT / FLUORESCENT TUBES / TYRES / PLASTERBOARD
MUST BE PREBOOKED & LOADED SEPARATELY.

WARNING: DANGEROUSLY LOADED OR OVERLOAD SKIPS WILL NOT BE
REMOVED. LOST JOURNEYS WILL BE CHARGED FOR.

EWC CODE
WASTE
200108
GLASS

200201
GREEN
170605
ASBESTOS

200138
WOOD
130208
OIL

200101
CARD
160103
TYRES

200139
PLASTIC
200135
WEEE

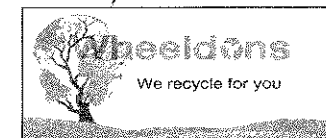
170504
SOIL
200108
FOOD

170107
HARDCORE
191212
TF ST WASTE

200107
ME
170107
ROO

PAID: CASH / CHEQUE / ACCOUNT / CARD (delete as ne)

CONDITIONS OF HIRE OVER



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Bridge House, Yeagate Industrial Estate, Heap Bridge, Bury. BL9 7HT
Tel: 0161 764 8888 (4 lines)
Email: info@wheeldonbrothers.co.uk Website: www.wheeldonbrothers.co.uk
VAT No: 146 2887 42 Carrier Licence No: CBDU95165 ISO14001

Customer Name & Address:

INCHLONAIG LTD
GEORGE STREET
HEYWOOD
Heywood, OL10 4PP
Site Phone: 07971266234

Type of Containment:

1/35 TO 40YD-OPEN-ROLONOF

Order No.:

A/c No.:

C000007578

Vehicle Reg. No.:

ML18ESF

Carrier:

Transaction Type:

Submission

Vehicle Description:

ROLONOF WAGON

Carrier No.:

Issuing Authority:

Driver's Signature:

Waste Type:

GEN/20 03 01

Description:

Supplementary Note: 07971266234

Origin/Destination:

Transfer Note No.:

Tipping Zone:

FAILSWORTH PERMIT NUMBER EPR/CB3508CG	RAMSBOTTOM PERMIT NUMBER EPR/OP3092EN	ROYTON PERMIT NUMBER WML 53932	BURY PERMIT NUMBERS EPR/VP3896CW EPR/AP3294CM
--	--	---	---

Gross

Tare

Nett

Gross: 664.42

VAT: 110.74

Nett: 553.68

Customer Signature:

Customer Print Name:

PLEASE COMPLETE OUR CUSTOMER SURVEY AT THE BOTTOM OF OUR HOME PAGE, WE VALUE YOUR FEEDBACK.

SKIP ON ROAD PERMIT REQUIRED ☐NUMBER LIGHTS LEFT ☐NUMBER CONES LEFT ☐

PAID: CASH / CHEQUE / ACCOUNT / CARD (delete as ne)

CONDITIONS OF HIRE OVER

ASBESTOS / DRUMS / CANS FLAMMABLE / TOXIC SUBSTANCES /
ELECTRICALEQUIPMENT / FLUORESCENT TUBES / TYRES / PLASTERBOARD
MUST BE PREBOOKED & LOADED SEPARATELY.

WARNING: DANGEROUSLY LOADED OR OVERLOAD SKIPS WILL NOT BE
REMOVED. LOST JOURNEYS WILL BE CHARGED FOR.

EWC CODE
WASTE
200108
GLASS

200201
GREEN
170605
ASBESTOS

200138
WOOD
130208
OIL

200101
CARD
160103
TYRES

200139
PLASTIC
200135
WEEE

170504
SOIL
200108
FOOD

170107
HARDCORE
191212
TF ST WASTE

200107
ME
170107
ROO



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Tel: 0161 764 8888 (4 lines)
Email: info@wheeldonsbrothers.co.uk Website: www.wheeldonsbrothers.co.uk
VAT No: 146 2887 42 Carrier Licence No: CBDU95165 ISO14001

Customer Name & Address: INCHLONAIG LTD
GEORGE STREET
HEYWOOD
Heywood, OL10 4PP
Site Phone: 07971266234

WASTE TRANSFER NOTE / INVOICE / WEIGHBRIDGE TICKET

ENVIRONMENTAL PROTECTION ACT 1990

Under Section 34 of the Act, persons transporting and disposing of waste will be under a duty of care. A written description of the waste must be kept and handed to the person receiving the waste. Waste must not be transferred to any person not authorised or licenced to receive such waste. Failure to observe this duty will be a criminal offence.

Ticket No.: SO-0483585 Operator No.:

Type of Containment: 1/14YD-SKIP

Order No.: A/c No.: C000007578

Vehicle Reg. No.:

Carrier:

SIC Code:

Transaction Type: Submission

Vehicle Description: SKIP WAGON

Carrier No.: Issuing Authority:

Driver's Signature:

Waste Type: GEN/20 03 01

Description:

Supplementary Note: 07967366126

Origin/Destination:

Transfer Note No.:

Tipping Zone:

Kg Seq. No. 15/09/2023 Time

Gross

Tare

Nett

Gross: 387.32

VAT: 64.55

Nett: 322.77

Customer Signature:

Customer Print Name:

PLEASE COMPLETE OUR CUSTOMER SURVEY AT THE BOTTOM OF OUR HOME PAGE, WE VALUE YOUR FEEDBACK.

SKIP ON ROAD PERMIT REQUIRED ☐ NUMBER LIGHTS LEFT ☐ NUMBER CONES LEFT ☐

ASBESTOS / DRUMS / CANS FLAMMABLE / TOXIC SUBSTANCES /
ELECTRICAL EQUIPMENT / FLUORESCENT TUBES / TYRES / PLASTERBOARD
MUST BE PREBOOKED & LOADED SEPARATELY.

WARNING: DANGEROUSLY LOADED OR OVERLOAD SKIPS WILL NOT BE
REMOVED. LOST JOURNEYS WILL BE CHARGED FOR.

EWC CODE
WASTE
200108
GLASS

200201
GREEN
170605
ASBESTOS

200138
WOOD
130208
OIL

200101
CARD
160103
TYRES

200139
PLASTIC
200135
WEEE

170504
SOIL
200108
FOOD

170107
HARDCORE
191212
TF ST WASTE

20014
META
17090
ROOF M

PAID: CASH / CHEQUE / ACCOUNT / CARD (delete as necessary)

CONDITIONS OF HIRE OVERLE



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Tel: 0161 764 8888 (4 lines)
Email: info@wheeldonsbrothers.co.uk Website: www.wheeldonsbrothers.co.uk
VAT No: 146 2887 42 Carrier Licence No: CBDU95165 ISO14001

Customer Name & Address: INCHLONAIG LTD
GEORGE STREET
HEYWOOD
Heywood, OL10 4PP
Site Phone: 07971266234

WASTE TRANSFER NOTE / INVOICE / WEIGHBRIDGE TICKET

ENVIRONMENTAL PROTECTION ACT 1990

Under Section 34 of the Act, persons transporting and disposing of waste will be under a duty of care. A written description of the waste must be kept and handed to the person receiving the waste. Waste must not be transferred to any person not authorised or licenced to receive such waste. Failure to observe this duty will be a criminal offence.

Ticket No.: SO-0486719 Operator No.:

Type of Containment: 1/14YD-SKIP

Order No.: A/c No.: C000007578

Vehicle Reg. No.: PF21FWB

Carrier:

SIC Code:

Transaction Type: Pick-up

Vehicle Description: SKIP WAGON

Carrier No.: Issuing Authority:

Driver's Signature:

Waste Type: GEN/20 03 01

Description:

Supplementary Note:

Origin/Destination:

Transfer Note No.:

Tipping Zone:

Kg Seq. No. 27/09/2023 Time

Gross

Tare

Nett

Gross: 0.00

VAT: 0.00

Nett: 0.00

Customer Signature:

Customer Print Name:

PLEASE COMPLETE OUR CUSTOMER SURVEY AT THE BOTTOM OF OUR HOME PAGE, WE VALUE YOUR FEEDBACK.

SKIP ON ROAD PERMIT REQUIRED ☐ NUMBER LIGHTS LEFT ☐ NUMBER CONES LEFT ☐

ASBESTOS / DRUMS / CANS FLAMMABLE / TOXIC SUBSTANCES /
ELECTRICAL EQUIPMENT / FLUORESCENT TUBES / TYRES / PLASTERBOARD
MUST BE PREBOOKED & LOADED SEPARATELY.

WARNING: DANGEROUSLY LOADED OR OVERLOAD SKIPS WILL NOT BE
REMOVED. LOST JOURNEYS WILL BE CHARGED FOR.

EWC CODE
WASTE
200108
GLASS

200201
GREEN
170605
ASBESTOS

200138
WOOD
130208
OIL

200101
CARD
160103
TYRES

200139
PLASTIC
200135
WEEE

170504
SOIL
200108
FOOD

170107
HARDCORE
191212
TF ST WASTE

20014
META
17090
ROOF M

PAID: CASH / CHEQUE / ACCOUNT / CARD (delete as necessary)

CONDITIONS OF HIRE OVERLE



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**WASTE TRANSFER NOTE / INVOICE /
WEIGHBRIDGE TICKET****ENVIRONMENTAL PROTECTION ACT 1990**

Under Section 34 of the Act, persons transporting and disposing of waste will be under a duty of care. A written description of the waste must be kept and handed to the person receiving the waste. Waste must not be transferred to any person not authorised or licenced to receive such waste. Failure to observe the duty will be a criminal offence.

Bridge House, Yeagate Industrial Estate, Heap Bridge, Bury. BL9 7HT
Tel: 0161 764 8888 (4 lines)
Email: info@wheeldonbrothers.co.uk Website: www.wheeldonbrothers.co.uk
VAT No: 146 2887 42 Carrier Licence No: CBDU95165 ISO14001

Customer Name & Address:

INCHLONAIG LTD
GEORGE STREET
HEYWOOD
Heywood, OL10 4PP
Site Phone: 07971266234

Ticket No.: SO-0479545

Operator No.:

**The hierarchy of waste has been
considered/applied to this, as required by
regulation 12 of the waste regulations 2011**

Type of Containment: 1/35 TO 40YD OPEN ROLONOF

Order No.: A/c No.: C000007578

Transaction Type: Submission

Vehicle Reg. No.: MX16XHW

Vehicle Description: ROLONOF WAGON

Carrier:

Carrier No.:

Issuing Authority:

SIC Code:

Driver's Signature:

Waste Type: GEN/20 03 01

Description:

Supplementary Note: AFTER 8AM 7971266234

Origin/Destination:

Transfer Note No.:

Tipping Zone:

FAILSWORTH PERMIT NUMBER EPR/CB3508CG	RAMSBOTTOM PERMIT NUMBER EPR/QP3092EN	ROYTON PERMIT NUMBER WML 53932	BURY PERMIT NUMBERS EPR/VP3896CW EPR/AP3294CM
--	--	---	---

Kg	Seq. No.	Date	Time
Gross		04/09/2023	
Tare			
Nett			

Gross: 664.42

VAT: 110.74

Nett: 553.68

Customer Signature:

Customer Print Name:

PLEASE COMPLETE OUR CUSTOMER SURVEY AT THE BOTTOM OF OUR HOME PAGE, WE VALUE YOUR FEEDBACK.

PAID: CASH / CHEQUE / ACCOUNT / CARD (delete as necessary)

SKIP ON ROAD PERMIT REQUIRED ☐ NUMBER LIGHTS LEFT ☐ NUMBER CONES LEFT ☐**CONDITIONS OF HIRE OVERLEAF**

ASBESTOS / DRUMS / CANS FLAMMABLE / TOXIC SUBSTANCES /
ELECTRICAL EQUIPMENT / FLUORESCENT TUBES / TYRES / PLASTERBOARD
MUST BE PREBOOKED & LOADED SEPARATELY.

**WARNING: DANGEROUSLY LOADED OR OVERLOAD SKIPS WILL NOT BE
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EWC CODE	200201	200138	200101	200139	170504	170107	200140
WASTE	GREEN	WOOD	CARD	PLASTIC	SOIL	HARDCORE	METAL
200108	170605	130208	160103	200135	200108	191212	170904
GLASS	ASBESTOS	OIL	TYRES	WEEE	FOOD	TF ST WASTE	ROOF MAT



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WASTE TRANSFER NOTE / INVOICE /
WEIGHBRIDGE TICKET

ENVIRONMENTAL PROTECTION ACT 1990
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COPY

Bridge House, Yeagate Industrial Estate, Heap Bridge, Bury. BL9 7HT
Tel: 0161 764 8888 (4 lines)
Email: info@wheeldonbrothers.co.uk Website: www.wheeldonbrothers.co.uk
VAT No: 146 2887 42 Carrier Licence No: CBDU95165 ISO14001

Customer Name & Address: INCHLONAIG LTD
GEORGE STREET
HEYWOOD
Heywood, OL10 4PP
Site Phone: 07971266234

Type of Containment: 1/35 TO 40YD OPEN ROLONOF

Order No.: A/c No.: C000007578

Ticket No.: SO-0481091 Operator No.:

The hierarchy of waste has been considered/applied to this, as required by regulation 12 of the waste regulations 2011

Transaction Type: Submission

Vehicle Reg. No.: ML18ESF

Carrier:

SIC Code:

Vehicle Description: ROLONOF WAGON

Carrier No.:

Driver's Signature: [Signature]

Waste Type: GEN/20 03 01

Description:

Supplementary Note: 07971266234

Origin/Destination:

Transfer Note No.:

Tipping Zone:

FAILSWORTH PERMIT NUMBER EPR/CB3508CG	RAMSBOTTOM PERMIT NUMBER EPR/QP3092EN	ROYTON PERMIT NUMBER WML 53932	BURY PERMIT NUMBERS EPR/VP3896CW EPR/AP3294CM
--	--	---	---

Kg	Seq. No.	Date	Time
Gross		07/09/2023	
Tare			
Nett			

Gross: 664.42	VAT: 110.74	Nett: 553.68
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Customer Signature:	Customer Print Name:
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PLEASE COMPLETE OUR CUSTOMER SURVEY AT THE BOTTOM OF OUR HOME PAGE, WE VALUE YOUR FEEDBACK.

PAID: CASH / CHEQUE / ACCOUNT / CARD (delete as necessary)

CONDITIONS OF HIRE OVERLEAF

SKIP ON ROAD PERMIT REQUIRED ☐ NUMBER LIGHTS LEFT ☐ NUMBER CONES LEFT ☐

ASBESTOS / DRUMS / CANS FLAMMABLE / TOXIC SUBSTANCES / ELECTRICAL EQUIPMENT / FLUORESCENT TUBES / TYRES / PLASTERBOARD MUST BE PREBOOKED & LOADED SEPARATELY.

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WASTE	GREEN	WOOD	CARD	PLASTIC	SOIL	HARDCORE	METAL
200108	170605	130208	160103	200135	200108	191212	170904
GLASS	ASBESTOS	OIL	TYRES	WEEE	FOOD	TF ST WASTE	ROOF MAT



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WASTE TRANSFER NOTE / INVOICE / WEIGHBRIDGE TICKET

ENVIRONMENTAL PROTECTION ACT 1990

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Tel: 0161 764 8888 (4 lines)
Email: info@wheeldonbrothers.co.uk - Website: www.wheeldonbrothers.co.uk
VAT No: 146 2887 42 Carrier Licence No: CBDU95165 ISO14001

Customer Name & Address:

INCHLONAIG LTD
GEORGE STREET
HEYWOOD
Heywood, OL10 4PP
Site Phone: 07971266234

Ticket No.: SO-0480814

Operator No.:

**The hierarchy of waste has been
considered/applied to this, as required by
regulation 12 of the waste regulations 2011**

Type of Containment: 1/35 TO 40YD-OPEN ROLONOF

Order No.: A/c No.: C000007578

Transaction Type: Pick-up

Vehicle Reg. No.: MV65PYB

Vehicle Description: ROLONOF WAGON

Carrier: -

Carrier No.: Issuing Authority:

SIC Code:

Driver's Signature:

Waste Type: GEN/20 03 01

Description:

Supplementary Note: 07971266234 asap pls

Origin/Destination:

Transfer Note No.:

Tipping Zone:

FAILSWORTH PERMIT NUMBER EPR/CB3508CG	RAMSBOTTOM PERMIT NUMBER EPR/OP3092EN	ROYTON PERMIT NUMBER WML 53932	BURY PERMIT NUMBERS EPR/VP3896CW EPR/AP3294CM
--	--	---	---

Kg	Seq. No.	Date	Time
Gross		07/09/2023	
Tare			
Nett			

Gross: 0.00	VAT: 0.00	Nett: 0.00
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Customer Signature:

Customer Print Name:

PLEASE COMPLETE OUR CUSTOMER SURVEY AT THE BOTTOM OF OUR HOME PAGE, WE VALUE YOUR FEEDBACK.

PAID: CASH / CHEQUE / ACCOUNT / CARD (delete as necessary)

SKIP ON ROAD PERMIT REQUIRED ☐ NUMBER LIGHTS LEFT ☐ NUMBER CONES LEFT ☐

CONDITIONS OF HIRE OVERLEAF

ASBESTOS / DRUMS / CANS FLAMMABLE / TOXIC SUBSTANCES /
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WASTE	GREEN	WOOD	CARD	PLASTIC	SOIL	HARDCORE	METAL
	200108	170605	160103	200135	200108	191212	170904
GLASS	ASBESTOS	OIL	TYRES	WEEE	FOOD	TF ST WASTE	ROOF MAT

Lee Ashworth excavation ltd

GROUNDWORK, CONSTRUCTION, DEMOLITION, CIVILS, RECYCLED AGGREGATES

FAR PASTURES FARM, WATER, ROSSENDALE, LANCS, BB4 9NH

E. enquiries@leeashworthltd.co.uk T. 01706 231266 www.leeashworthltd.co.uk.

Company No. 4782435 VAT Reg. No. 900 6392 49 Waste Carriers No. CBDU177909

Permit No: EPR/DB3606GH

Customer: George ST

Address: Heefwood

No: 015316

Date: 25/8/23

COLLECTION		DELIVERY	
WASTE CODE	170504	170107	
DESCRIPTION OF PRODUCT	TIME	WEIGHT TONNES	
1 x Scrap Skip		7,560 kg	
TOTAL NO OF LOADS	1		
VEHICLE REG	WEL		
DRIVER	SNOON		
	CUSTOMER		
	RECEIVED BY		

Lee Ashworth excavation ltd

FOUNDWORK, CONSTRUCTION, DEMOLITION, CIVILS, RECYCLED AGGREGATES

FAR PASTURES FARM, WATER, ROSSENDALE, LANCS, BB4 9NH

E. enquiries@leeashworthltd.co.uk T. 01706 231266 www.leeashworthltd.co.uk.

Company No. 4782435 VAT Reg. No. 900 6392 49 Waste Carriers No. CBDU177909

Permit No: EPR/DB3606GH

Customer: GEORGE ST

Address: Heywood

No: 015317

Date: 1/9/23

COLLECTION		DELIVERY	
WASTE CODE	170504	170107	
DESCRIPTION OF PRODUCT	TIME	WEIGHT TONNES	
1x Scrap Skip		11,900kg	
		Not included in CSA Pmt to get credit separately	
TOTAL NO OF LOADS			
VEHICLE REG		CUSTOMER	
DRIVER		RECEIVED BY	

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